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This report has been prepared for inclusion in an edited book to be published in 2013 by Russell Sage Foundation: John R. Logan, Changing Times: America in a New Century

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It has been peer-reviewed by an external reviewer and a member of the US2010 Advisory Board.

The Middle Class: Losing Ground, Losing Wealth

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July 2013

I. Introduction

We Americans see ourselves not so much as a class-less society, but as a resolutely middle class one, where ordinary people, working hard, obeying the rules, behaving decently, will prosper. “Middle class” connotes not simply income, but a mindset. Americans from a range of incomes, from occupations ranging from blue collar to white collar to executive collar, 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.” And, for voters who feel shut out of the middle class – particularly the poor and minorities – the politicians have promised to broaden opportunities – in short, to close the gap, to push them into the middle class.

Until the start of the Great Recession in 2007, the economic statistics –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, at least, a lot of us were wealthy – at least wealthy enough to borrow on those homes. Some of us used our homes as ATM machines. And borrowing was easy: second mortgages, home equity loans, credit cards. We could turn on the spigots to buy a second car, a bigger house, more amenities.

The stock market too was up, with many of us turning into “investors” ourselves. Indeed, we were seguing from “defined benefit” pensions to “defined contribution” plans like IRAs and 401ks.

The financial marketplace emerged as a wondrous complex creation. Banks were no longer the local savings-and-loan of George Bailey’s day. Instead, banks had merged into monolithic entities, some headquartered overseas. And 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 loans (no income, no job, no assets), variable rates, balloon payments at the end of the loan. If a person had poor credit and could not quality for “prime” rates, no problem: a sub-prime market of lenders rose up to meet demand. Some prime-rate lenders established lucrative sub-prime businesses.

Starting in 2007, that wondrous creation didn’t look so wonderful. Some homeowners discovered that they couldn’t pay 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. And Americans watched their own wealth plummet. The news media reported sad tales of layoffs, bankruptcies, foreclosures. And the personal financial setbacks 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 performance of the loans. Not surprisingly, they made loans to borrowers who couldn't meet the terms. A subset of sub-prime lenders – dubbed predatory lenders – expressly lured vulnerable people, especially minorities, into taking loans that they couldn't 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 grim statistics - the stock market, employment, housing - are pushing upward, and the economy is moving toward recovery, it is important to look at the middle class, to assess its losses over the Great Recession.

This paper traces the impact of the Great Recession on the middle class, focusing mainly on their 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 paper charts their further deterioration over the Great Recession, investigating trends in wealth inequality, changes in the racial wealth gap, wealth differences by age, 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 fall-out from the financial crisis and subsequent recession.

2. Plan of the Paper, Data Sources and Methods

The paper addresses six 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) home-ownership and home equity, 6) stock ownership, and7) variations in trends by race, ethnicity, and age.

The primary data sources used for this study are the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 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 IRS Statistics of Income. This second sample was designed to disproportionately select families that were likely to be wealthy (see, for example, Kennickell, 2001, for a discussion of the design of the list sample in the 2001 SCF). 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 from the high-income supplement. In the 2007 SCF the standard multi-stage area-probability sample contributed 2,915 cases while the high-income supplement contributed another 1,507 cases.[1]

The principal wealth concept used 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;

[1] See Appendix Table 2 for sample sizes by year and household characteristic.

(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 ("fungible" ones) 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.[2] 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 their standard definition of household wealth (see, for example, Kennickell and Woodburn, 1999).

Also excluded is the value of future Social Security benefits 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 their direct control and cannot be marketed.[3] In contrast, the Defined Contribution (DC) plans (largely IRAs and 401(k)s) are

[2] 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 (see Section 8 for calculations of the overall rate of return on the household portfolio).

[3]See Wolff (2011b) for estimates of Social Security and pension wealth.

included. (Including the latter, but not the former, leads to an understatement of household wealth.)

Three other data sources are used. 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 over-samples 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 (see Wolff, 1987, for details on the adjustments). The second is a synthetic dataset, the 1969 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 (see Wolff, 1980, for details). The third dataset is the Panel Study of Income Dynamics (PSID), which spans the years from 1984 to the present, basically a representative sample with a special supplement on house foreclosures and "distressed" mortgages.

3. The Great Recession Sets In

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

Homeownership trends

In the years leading up to the Great Recession, home-ownership was on the rise. From 1989 to 2001, the median house price remained virtually the same in real terms.[4] But more

[4] The source for housing price data, unless otherwise indicated, is Table 935 of the *2009 Statistical Abstract*, US Bureau of the Census, available at [http://www.census.gov/compendia/statab/].

Americans were buying homes: the home ownership rate shot up from 62.8 percent in 1989 to 67.7 percent in 2001 according to data from the Survey of Consumer Finances (SCF).

But house prices did not stay set. Starting in the early part of the 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 sub-prime ones), the home ownership rate expanded, from 67.7 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, the outstanding mortgage loans as a share of house value rose from 0.334 to 0.349, despite the 19 percent gain in real housing prices (Table 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 became delinquent on their mortgages, followed by foreclosure (Table 7).

At the end of 2007, the dream (and assets) were problematic. From 2007 to 2010, the median price of existing homes nose-dived by 24 percent in real terms.[5] Moreover, for the first time in 30 years, the share of households owning their home fell, from 68.6 to 67.2 percent.

[5] The source is National Association of Realtors, "Median Sales Price of Existing Single-Family Homes for Metropolitan Areas," 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.

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&P) 500 index showed prices surging 171 percent between 1989 and 2001.[6] Just as home-ownership rose, so did stock ownership: by 2001 over half of U.S. households owned stock either directly or indirectly. 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. And so did median household income, as more Americans found themselves job-less. Briefly, real wages, after stagnating for many years, finally grew 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.[7] Employment also surged over these years, growing by 16.7 percent.[8] The (civilian) unemployment rate remained relatively low, at 5.3 percent in 1989, 4.7

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[6] The source for stock price data is Table B-96 of the *Economic Report of the President, 2012*, available at http://www.gpoaccess.gov/eop/tables12.html.

[7] The wage figures are based on the Bureau of Labor Statistics (BLS) hourly wage series. The source is Table B-47 of the *Economic Report of the President, 2012*, available at *op. cit.* The source for the income data is Table B-33 of the *Economic Report of the President, 2012*, available at *op. cit.*

[8] The figure is for civilian employment. The source is Table B-36 of the *Economic Report of the President, 2012*, available at *op. cit.*

percent in 2001, with a low point of 4.0 percent in 2000, and averaging 5.5 percent over this time.[9] 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 and an average value of 5.2 percent.

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: 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 the Great Recession, the country was morphing into a nation of debtors. Between 1989 and 2001, total consumer credit outstanding in 2007 dollars surged by 70 percent; from 2001 to 2007 it rose another 17 percent.[10] 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.[11] 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

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[9] The source is Table B-42 of the *Economic Report of the President, 2012*, available at *op. cit.*

[10] These figures are based on the Federal Reserve Board's Flow of Funds data, Table B.100, available at: http://www.federalreserve.gov/releases/Z1/.

[11] Unfortunately, no data on educational loans are available in the 2001 SCF.

2007, then by another 14 percent to $25,865 in 2010. The median value rose by 19 percent from $10,620 in 2007 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, was one of the factors (though not the principal one) which led to a precipitous decline in their net worth between 2007 and 2010.

Wealth Trends

The switch from DB pensions to DC 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 defined benefit (DB) pension plan, which guarantees a steady flow of income upon retirement. By 2007 that figure was down to 34 percent. For younger households (under age 46), the decline was steep: 38 to 23 percent; for middle-aged households (ages 47 to 64), from 57 to 39 percent. With defined contribution (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. Younger households holding DC plans went from 31 percent to 50 percent; middle-aged households, 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 7-fold from $10,600 to $76,800 (all figures are in 2007 dollars).[12] 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

[12] The computation of DB pension wealth is based on the present value of expected pension benefits upon retirement. See Wolff (2011b) for details.

marketable household wealth whereas DC wealth *is* included, the new pensions overstate the "true" gains in household wealth (see Wolff, 2011b, for more discussion).

4. Median wealth plummets over the late 2000s

My previous research (see Wolff, 1994, 1998, 2002a, 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. However, most of the wealth gains from 1983 to 2007 were concentrated among the richest 20 percent of households.

Consider median wealth. From 1962 to 2007, it grew steadily (see Table 1, also Figure 1). From 1962 to 1983, in real terms it increased at an annual rate of 1.63 percent; between 1983 and 1989, 1.13 percent; between 1989 and 2001, 1.32 percent; from 2001 to 2007, 2.91 percent (a rate comparable to the 1960s). 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 below, were the collapse in the housing market and the high leverage of middle class families.[13]

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, 18.6 percent (Figure 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.

[13] The percentage decline in net worth from 2007 to 2010 is lower when vehicles are included in the measure of wealth – "only" 39 percent. The reason is that automobiles comprise a substantial portion of middle class wealth.

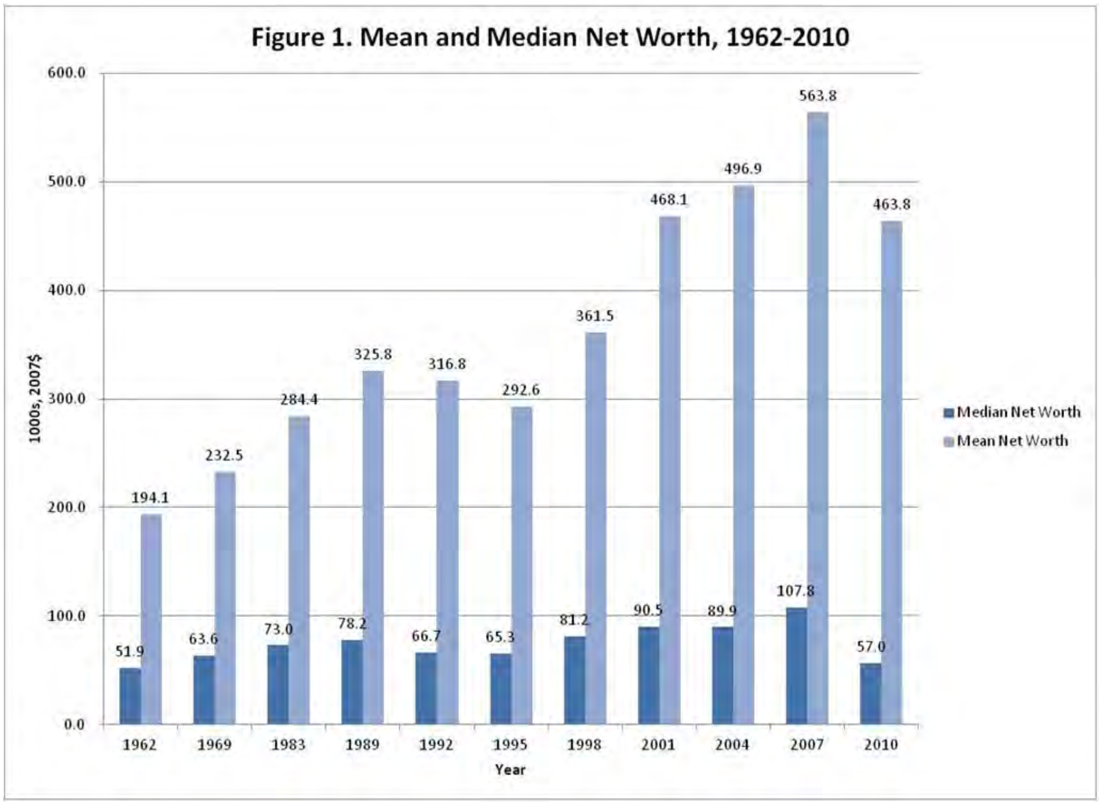
Table 1: Mean and Median Wealth and Income, 1962-2010											
Values (1000s)	1962	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Net Worth											
Median	51.9	63.6	73.0	78.2	66.7	65.3	81.2	90.5	89.9	107.8	57.0
Mean	194.1	232.5	284.4	325.8	316.8	292.6	361.5	468.1	496.9	563.8	463.8
Percent with 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
Non-home Wealth											
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
Percent with zero or negative non-home wealth	25.9	23.5	25.7	26.8	28.2	28.7	25.7	25.5	28.0	27.4	30.9
Income (CPS)[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
Non-home 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 (CPS)[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: own computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF
Additional sources are the 1962 Survey of Financial Characteristics of Consumers (SFCC) and the 1969 MESP file.
Wealth figures are deflated using the Consumer Price Index (CPI-U).

[a] Constant 1995 Dollars.
[b]Source for household income data: U.S. Census of the Bureau, Current Populations Surveys, available on the Internet.
http://www.census.gov/hhes/www/income/data/historical/household/
The 1962 figures are based on family income and the rate of change of family income between 1962 and 1969.

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, at 2.27 percent; from 1989 and 2001, at 3.02 percent; 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 housing comprised 28 percent and (total) stocks made up 25 percent of total assets in 2001. But it is important to note that mean wealth grew about twice as fast as the median between 1983 and 2007, indicating widening inequality of wealth. 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.[14] Again, the more moderate decline of mean wealth signaled rising wealth inequality; in short, the wealthy suffered much less from the fall-out from the Great Recession.



Household income is another dimension of well-being; indeed, insofar as rising levels of unemployment affect household income, policy-makers 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).

[14] The decline in mean net worth is 15 percent when vehicles are included in net worth.

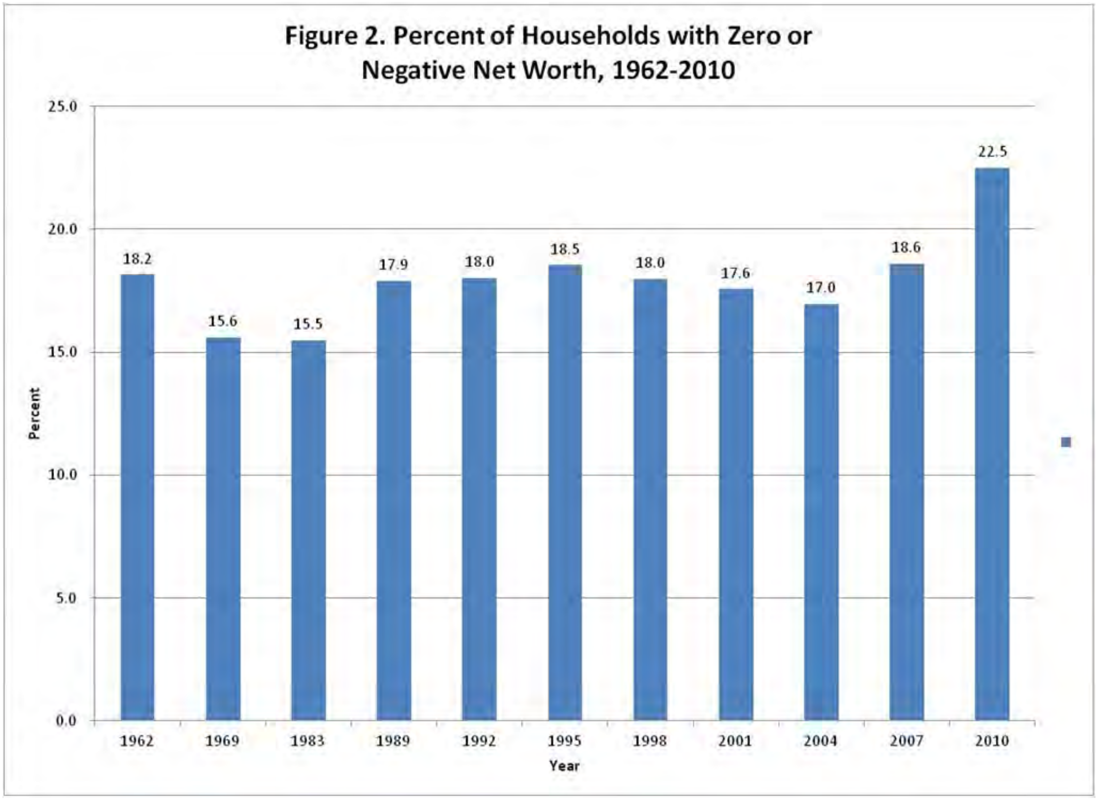


Figure 2. Percent of Households with Zero or Negative Net Worth, 1962-2010
Percent
Year
1962 1969 1983 1989 1992 1995 1998 2001 2004 2007 2010
18.2 15.6 15.5 17.9 18.0 18.5 18.0 17.6 17.0 18.6 22.5

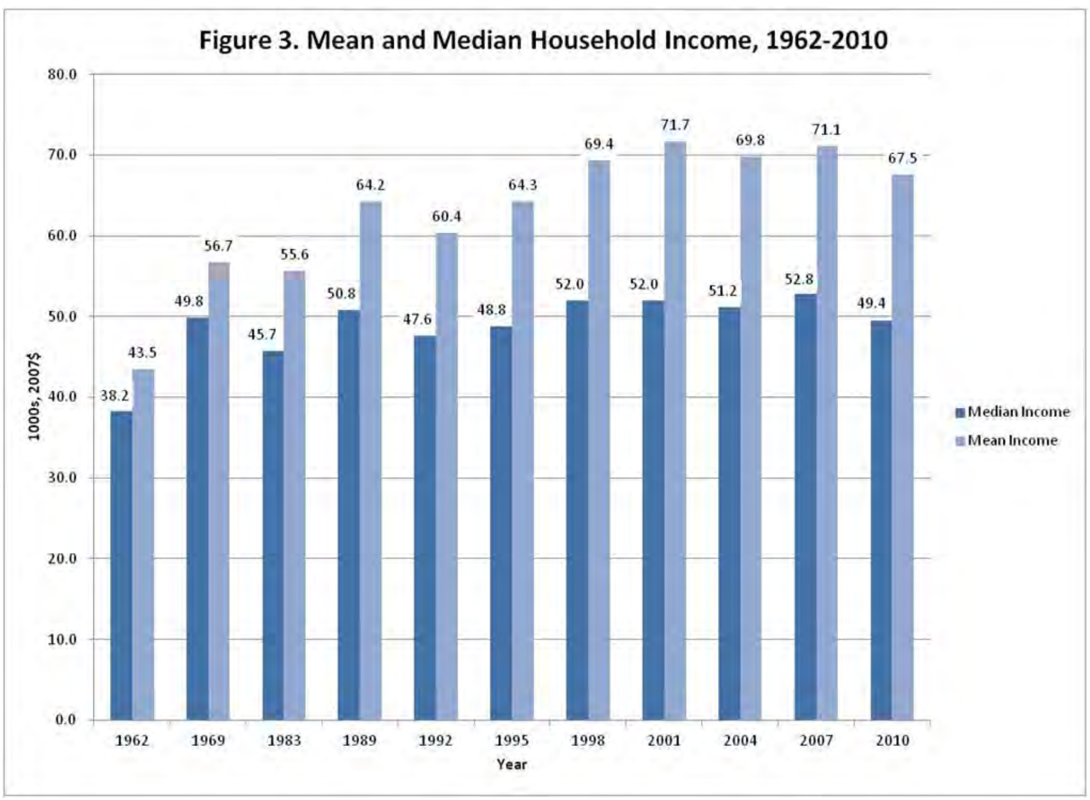


Figure 3. Mean and Median Household Income, 1962-2010
1000s, 2007$
Year
Median Income
Mean Income
1962 1969 1983 1989 1992 1995 1998 2001 2004 2007 2010
38.2 43.5 49.8 56.7 45.7 55.6 50.8 64.2 47.6 60.4 48.8 64.3 52.0 69.4 52.0 71.7 51.2 69.8 52.8 71.1 49.4 67.5

Until 2007, household income rose (from 1989 to 2001, it grew by 2.3 percent; from 2001 to 2001, 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; 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 that of 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.

5. 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 (Table 2, Figure 4).[15] After rising steeply between 1983 and 1989, it remained virtually unchanged from 1989 to 2007. The share of wealth held by the 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

[15] This is not to say that there was no change in wealth inequality over these years. Indeed, on the basis of estate tax data, Wolff (2002a) documents a sharp reduction in wealth inequality from about 1969 to 1976 and then an equally sharp rise from 1976 to 1983.

and the S&P 50 Index in real terms was up by 62 percent, whereas median home prices increased by a mere

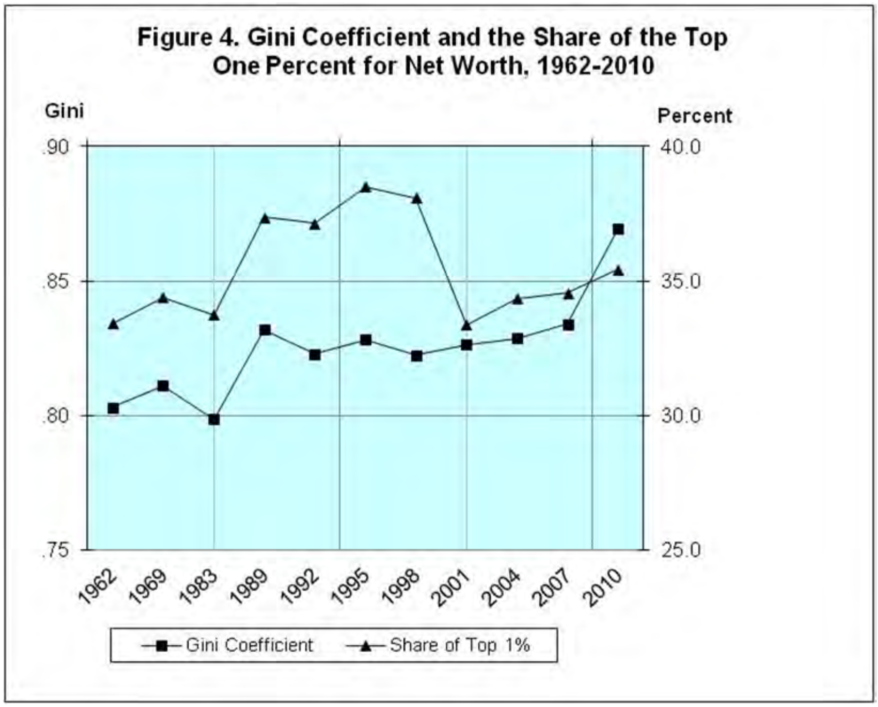
Table 2. The Size Distribution of Wealth and Income, 1962-2010

		Percentage Share of Wealth or Income held by:								
Year	Gini Coefficient	Top 1%	Next 4%	Next 5%	Next 10%	Top 20%	4th 20%	3rd 20%	Bottom 40%	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: own 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. 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.

two 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 the top percentile actually declined, from 37.4 to 34.6 percent, though this was more than compensated for by an increase in the share of the next four percentiles. As a result, the share of the top five 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.[16] 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 point. Overall, the Gini coefficient was virtually unchanged -- 0.832 in 1989 and 0.834 in 2007. [17]



The Great Recession spurred a sharp elevation in wealth inequality: the Gini coefficient rose from 0.83 to 0.87. Interestingly, the share of the top percentile showed less than a one percentage point gain.[18] Most of the rise in wealth took place in the remainder of the top quintile.

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[16] Actually, the big slippage in the share of the top one percent occurred between 1998 and 2001. The main reason appears to be a sizeable drop in the share of households in the top one percent owning their own business, from 72 to 66 percent. Whereas the mean net worth of the top one 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.

[17] It might seem somewhat surprising that wealth inequality remained relatively unchanged during the latter part of the George Bush administration, the Clinton administration, and the George W. Bush administration. However, as we shall see in Section 8, stability in wealth inequality over these years was due largely to the sharp increase in the relative indebtedness of the middle class.

[18] Once again, the main culprit explaining the rather meager increase in the share of the top one 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 their mean net worth.

Its 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 in 2009 and the top 20 percent accounted for 59 percent – large figures but lower than the corresponding wealth shares.[19] 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 one percent from 8.4 to 12.8 percent.[20] 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 one percent from 12.8 to 16.6 percent. There was very little change between 1988 and 1997. However, between 1997 and 2000, 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.[21] This was followed by a modest uptick in income inequality, with the Gini coefficient advancing from 0.562 in 2000 to 0.574 in 2006. All in all, years 2001 to 2007 witnessed moderate rises in both wealth and income inequality.

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[19] It should be noted that the income in each survey year (say 2007) is for the preceding year (2006 in this case).

[20] 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.

[21] 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 a share of the top *five* percent of 22.1 percent and a Gini coefficient of 0.462. The difference is primarily due to three factors. First, the SCF oversamples the rich (as noted above), 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 five percent rising from 18.9 to 22.1 percent and the Gini coefficient from 0.431 to 0.462.

During the Great Recession, however, income inequality contracted. The Gini coefficient fell from 0.574 to 0.549 and the share of the top one 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 noted above, actually rose over these years, though 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.[22] One of the puzzles we have to contend with is the fact wealth inequality rose sharply over the Great Recession while income inequality fell. I will return to this question later.

From 1983 to 2010, the economy had clear winners and losers (see Table 3). The top one 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 the fourth quintile by 21 percent. The middle quintile, on the other hand, lost 18 percent. The poorest 40 percent lost 270 percent!

Let us calculate the proportion of the total increase in real household wealth between 1983 and 2010 accruing to different wealth groups. (This is computed by dividing the increase in 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

[22] The CPS data, in contrast, shows little change in household income inequality, with the Gini coefficient falling slightly from 0.470 in 2006 to 0.468 in 2009. The source for the CPS data is: http://www.census.gov/hhes/www/income/data/historical/household/2010/H04_2010.xls. However, the work of Emmanuel Saez and Thomas Piketty, based on IRS tax data, reveals a sizeable decline in income inequality from 2007 to 2010. In particular, incomes at the 99.99th, 99.9th, and 99th percentile drop sharply over these years (the source is: *New York Times*, October 24, 2012, page A14).

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. However, it should be noted that in these calculations, the households found in a given group may be different in the two years.) The richest one percent received over 38 percent of the total gain in marketable wealth over the period from 1983 to 2010. This proportion was greater than the share of wealth held by the top one percent in any of the 9 years. The next 4 percent received 36 percent of the total gain and the next 15 percent 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.[23]

Table 3. Mean Wealth Holdings and Income by Wealth or Income Class, 1983-2010
(In thousands, 2010 dollars)

Variable	Top 1%	Next 4%	Next 5%	Next 10%	Top 20%	4th 20%	3rd 20%	Bottom 40%	All
Net Worth									
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
% change	71.3	101.1	83.0	52.1	78.3	21.4	-17.9	-269.7	63.1
% of gain[a]	38.1	35.8	16.0	10.8	100.7	4.3	-1.5	-3.8	100.0
Non-home Wealth									
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
% change	83.3	119.6	100.6	78.3	95.3	32.1	-25.7	--	86.9
% of gain[a]	41.1	34.6	14.2	9.9	99.8	2.9	-0.5	-2.5	100.0
Income									
1982	827	214	133	100	167	70	46	20	64
2009	1,318	317	164	112	226	72	42	17	77
% change	59.4	48.4	23.6	12.5	35.4	3.3	-8.4	-12.9	19.3
% of gain[a]	39.4	41.6	12.7	10.1	103.7	3.6	-3.1	-4.1	100.0

Source: own computations from the 1983 and 2010 Survey of Consumer Finances.
For the computation of percentile shares of net worth, households are ranked according to their net worth; for percentile shares of non-home wealth, households are ranked according to their non-home 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.

[23] Almost all of the increase in the share of the total wealth gains accruing to the top one percent and 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.

Income data show the same skewed pattern. A similar calculation using the SCF income data reveals that households in the top one 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, over a quarter for the next highest 5 percent and by 13 percent for the next highest ten 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 one 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 one percent.

6. 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 4 and Figure 5), home equity -- the value of the house minus any outstanding mortgage -- amounted to only 18 percent of total assets. Real estate, other than owner-occupied housing, comprised 12 percent, and business equity 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 percent. Bonds and other financial securities amounted to 2 percent; corporate stock, including mutual funds, to 11 percent; and trust equity to 2 percent.

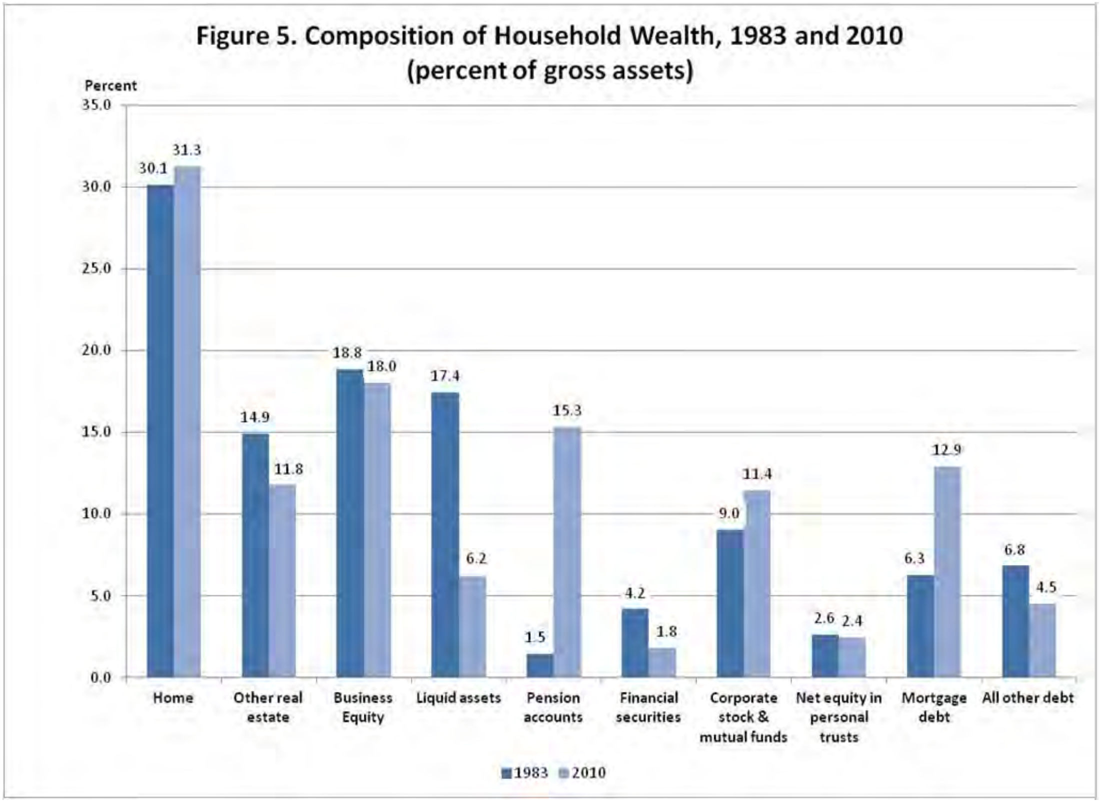
The composition of household wealth shifted from 1983 to 2010. First, the share of gross housing wealth in total assets, after fluctuating between 28.2 and 30.4 percent from 1983 to

Table 4. Composition of Total Household Wealth, 1983 - 2010
(Percent 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 & 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 in percent:									
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: own 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 non-residential real estate.**
[b] **Net equity in unincorporated farm and non-farm 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**

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, picked up 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 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 – a decline that varied by region, with some parts of the country particularly hurt.

Third, relative indebtedness increased, as the debt-equity (net worth) ratio climbed: 15 percent in 1983, 18 percent in 2007, 21 percent in 2010. Likewise, the ratio of debt to total income surged: 68 percent in 1983, 119 percent in 2007, and 127 percent in 2010, its high for this period. Mortgage debt is the culprit. If mortgage debt on 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 ratio 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 1, both mean net worth and mean income fell over the three years. 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. The key factors: fewer people took out mortgages (influenced by higher down payments, less access to credit, and a feeling of uncertainty), fewer people took out home equity loans, and, finally, foreclosures erased a portion of the overall debt.

A fourth change is a dramatic increase in pension accounts: 1.5 percent of total assets in 1983, 12 percent in 2007, 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 non-profits 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, from 2007 to 2010, fell modestly, 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 into DC accounts.

Portfolio composition by wealth class

The middle class and the rich invest their wealth differently. The richest one 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 (Table 5, also see Figure 6). Corporate stocks, either directly or indirectly owned, comprised 21 percent. Housing accounted for only 9 percent of their wealth, liquid assets 5 percent, and pension accounts 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 comprised 30 percent of their total assets, liquid assets 7 percent, and pension assets 21 percent. Investment assets – non-home real estate, business equity, stocks, and bonds – made up 41 percent and 20 percent was in the form of stocks directly or indirectly owned. Debt amounted to 14 percent of their net worth and 118 percent of their income, and the ratio of mortgage debt to house value was 30 percent.

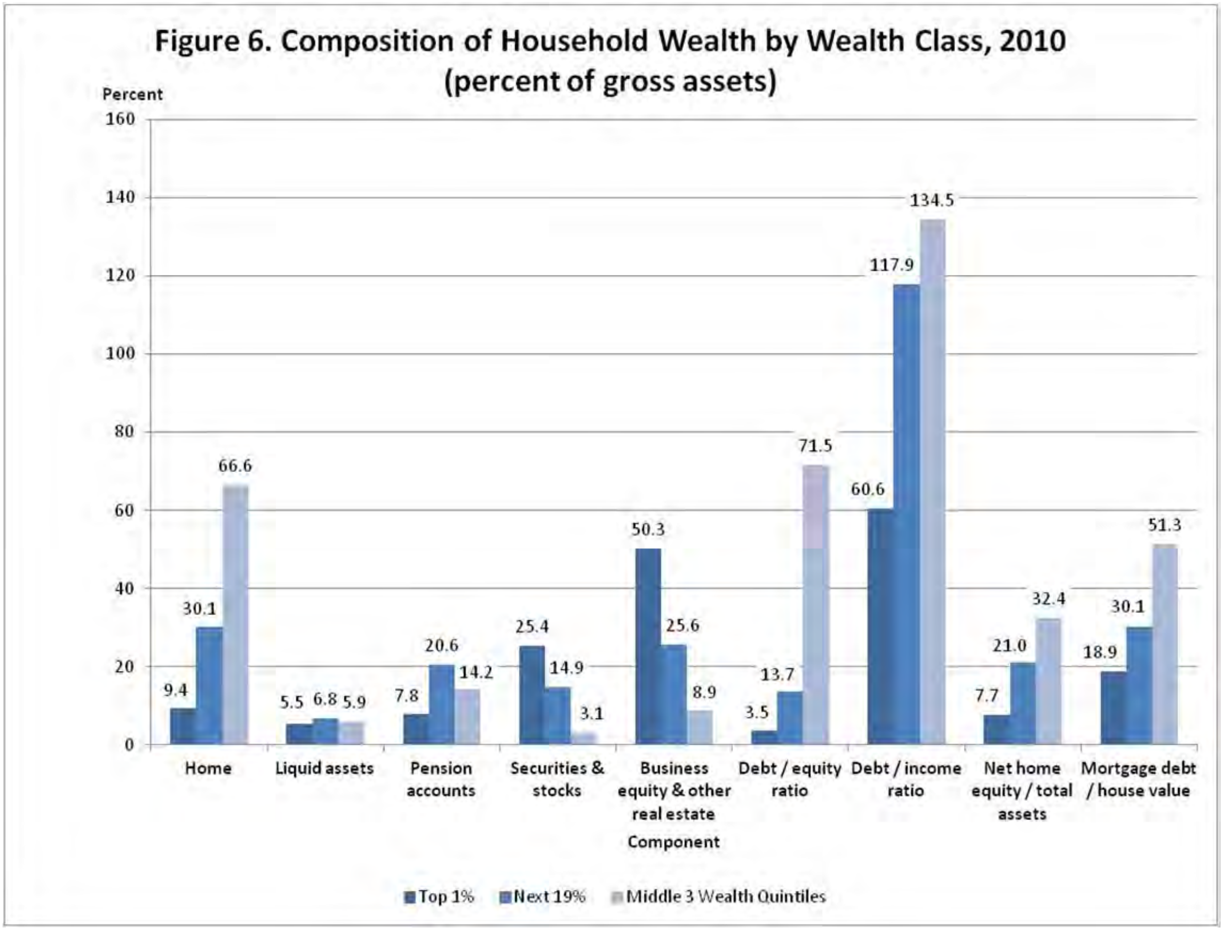
In contrast, almost exactly two thirds of the wealth of the middle three quintiles of households was invested in their homes in 2010. However, home equity amounted to only 32 percent of total assets, a reflection of their large mortgage debt. Another 20 percent went into monetary savings of one form or another and 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 amounted to only 8 percent of their total assets. The debt-equity ratio was 0.72, substantially higher than that for the richest 20 percent, and their ratio of debt to income 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.

Table 5. Composition of Household Wealth by Wealth Class, 2010

(Percent of gross assets)

	All Households	Top One Percent	Next 19 Percent	Middle 3 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 in percentages				
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 valu	41.2	18.9	30.1	51.3
All stocks / total assets[b]	17.8	20.6	20.1	8.2
Ownership Rates (Percent)				
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: own computations from the 2010 SCF. Households are classified into wealth class according to their net worth. Brackets for 2010 are:
Top one 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.
Also, see Notes to Table 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.



Almost all households among the top 20 percent of wealth holders owned their home, 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. 74 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.

The staggering debt level of the middle class in 2010 raises the question of whether this is a recent phenomenon or whether it has been the norm. Table 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 13 percentage points from 1983 to 2010 while liquid assets declined as a share by 16 percentage points. These changes paralleled that of 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 41 percentage points between 1983 and 2007 but fell off sharply by almost 8 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, with all of the increase occurring 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 than for all households. In 1983, for example, the debt to income ratio was about the same for middle class as for all households. By 2007 the ratio was much larger for the middle class.

Table 6. Composition of Household Wealth of the Middle Three Wealth Quintiles, 1983-2010
(Percent 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 in percent:							
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 (Percent)							
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: own computations from the Survey of Consumer Finances. Households are classified into wealth class according to their net worth. Also, see Notes to Table 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.

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, falling 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' non-mortgage 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 fall off in home prices.

The "middle class squeeze"

Nowhere is the middle class squeeze more vividly demonstrated than in their 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, to 0.61 in 2007. Correspondingly, their debt-to-income rose from 0.67 in 1983 to 1.00 in 2001, and 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 and/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 huge 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 or 86 percent of the growth in wealth. Instead, it appears that middle class households, experiencing stagnating incomes, expanded their debt to finance normal consumption expenditures.

The large build-up 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 larger mortgage debt than the value of their home. This factor, coupled with the loss of income emanating from the recession, led many home owners 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.

7. The housing market

The housing sector plummeted. The prime culprits were the plethora of "creative" mortgages with often onerous terms, faulty credit rating agencies, 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 above, from 2007 to 2010, the median price of existing homes plummeted by 24 percent in real terms. Because housing comprises about two thirds of the assets for the middle class, any economic downturn in the housing market will erode the wealth of the middle class.[24]

As noted, the overall home ownership rate declined from 68.6 percent in 2007 to 67.2 percent in 2010 according to the SCF data (see Table 7). This change seems modest, given all the media hype about home foreclosures. **(**However, there were huge regional variations, with the South and West 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 (actually a net increase); for high school graduates (4.3 percentage points) than other educational groups; younger age groups in comparison to age group 75 and over (a large net increase); and for households with annual incomes below $25,000 and, surprisingly, 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 "underwater" or with negative home equity. By 2010, only 8.2 percent of homeowners were "underwater." As discussed, though 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 home owners (including those with no mortgages) underwater in 2010.[25]

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[24] Also see Rosenbaum (2012) for additional analysis of recent trends in home ownership.

[25] Perhaps, this may not be surprising after all. The home owners who fell underwater were those who bought homes recently when prices were at an all-time high. The collapse in home prices put these home owners underwater.

Table 7. Share of Homeowners with Negative Home Equity and Delinquent on their Mortgageby Household Characteristic, 2007-2010						
	Home Ownership Rate [%]	Percent of Home-Owners with Negative Home Equity			Percentage Decline in Average Home Equity for Home Owners	Percent of Home-Owners Delinquent on Their Mortgage
	2007	2010	2007	2010	2007-2010	2009
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 couples	79.0	77.5	1.9	8.4	22.8	4.6
Single males	51.4	48.9	3.0	7.5	24.7	3.7
Single females	55.1	55.5	0.9	7.8	26.9	7.8
Years of Schooling[b]						
Less than 12 years	52.8	54.3	0.4	5.0	29.7	11.8
12 Years	68.9	64.6	2.4	8.4	27.2	6.0
13-15 years	62.3	61.5	2.1	10.5	31.8	5.0
16 or more years	77.8	76.5	1.4	7.8	23.9	1.6
Age Class[c]						
Under 35	40.7	37.5	5.5	16.2	58.7	4.6
35-44	66.1	63.8	2.6	13.8	48.7	6.5
45-54	77.3	75.2	1.4	8.5	27.4	5.6
55-64	81.0	78.1	0.9	5.3	13.6	4.7
65-74	85.5	82.5	0.4	3.5	29.6	1.0
75 and over	77.0	81.3	0.0	2.7	9.3	3.9
Income Class [2007$]						
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 5 columns are from authors' computations from the 2007 and 2010 SCF.
The sixth column is authors' 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.

In general, the less expensive the house, the less likely the owner was to find him/herself 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

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However, *most* homeowners 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 home owners had homes that in 2010 were worth less than in 2005-2006 but much more than when they originally bought their homes.

single males had a somewhat lower incidence of negative home equity among homeowners than married couples. The reason: they had less expensive houses, and lower mortgage debt. Similarly, owners with the lowest education (less than 12 years of schooling) had the smallest incidence of negative home equity, 5 percent.[26] In contrast, 8 to 11 percent among high school graduates, those with some college, and college graduates found themselves under water, 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. Only 3 percent of owners ages 75 and older had negative equity, while owners under age 35 had the highest incidence: 16 percent.[27] The pattern by income is U-shaped. The lowest (under $15,000 of annual income) and highest ($250,000 or more) income classes 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 re-financing, secondary mortgages, and home equity lines of credit, relative to their homes' value, compared to the poor or rich (as shown above in Table 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.[28] It was the contraction of

[26] 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.

[27] On the basis of the 2007 SCF, the overall debt to net worth ratio declines sharply with age, from 93 percent for the under 35 age group to 2 percent for the age 75 and over group (see Table 14 below).

[28] 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 decline by 24 percent and mortgage debt remains fixed, then average home equity falls to $77,000, for a decline of 43 percent.

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 home owners experienced a somewhat larger percentage decline than white home owners. Single female households experienced a somewhat larger decline than single males or married couples. The less-schooled 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 had “only” a 9 percent decline.

This pattern probably reflects the timing of Hispanic, black, and younger homebuyers, 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 income 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 12 months). Results on the share of home owners who were delinquent on their mortgages in 2009 are shown in the last column of Table 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, though, 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: 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 percent that were likely to continue to be behind or 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 percent 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.

The lower your education, the lower your income (the two are correlated), and the younger you are, the more likely you were to default on your 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 $25,000 to $50,000, a rate of 8.4 percent; those with income $50,000 to $75,000, 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 ages 65 to 74 was 1.0 percent, compared to 4.7 to 6.5 percent for non-elderly owners. Unemployment is a factor. 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 incurred mortgage debt years ago, may not have refinanced and may no longer have mortgages.

8. Leveraging: the fall in wealth and rise in wealth inequality

Two puzzles emerge from the preceding analysis. The first is the steep 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 but less steep declines in housing and stock prices of 24 and 26 percent in real terms, respectively.

The second is the steep increase of 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 shown in 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 one percent of households (WLTH) on the share of income received by the top five percent of families (INC), and the ratio of the Standard and Poor 500 index to housing prices (RATIO), with 21 data points between 1922 and 1998, yields:

$$(1) \qquad \mathrm{WLTH} = \underset{(0.9)}{5.10} + \underset{(4.2)}{1.27}\,\mathrm{INC} + \underset{(2.5)}{0.26}\,\mathrm{RATIO}, \quad R2 = 0.64, \quad N = 21$$

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 with 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 class.[29]

Two arithmetic examples

A simple arithmetical example illustrates the effects of leverage. Suppose average assets are 50 and average debt is zero (see Table 8a). 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 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 arithmetical example illustrates the effects of differential leverage (see Table 8b). 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 zero, for a net worth of 100. For the "middle class",

[29] 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.

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).

Table 8a. The Effects of Leverage on the Rate of Return

	Year 1	Year 2	% Change
"The Rich"			
Assets	50	60	
Debt	0	0	
Net Worth	50	60	20
% Increase in Asset Prices			20
"The Middle Class"			
Assets	50	60	
Debt	40	40	
Net Worth	10	20	100
% Increase in Asset Prices			20

Table 8b. The Effects of Differential Leverage on the Rate of Return

	Year 1	Year 2	% Change
"The Rich"			
Stocks	50	40	
Other Assets	50	50	
Debt	0	0	
Net Worth	100	90	-10
% Change in Stock Prices			-20
"The Middle Class"			
Housing	60	48	
Other Assets	10	10	
Debt	30	30	
Net Worth	40	28	-30
% Increase in Asset Prices			-20

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), for a net worth of 90. The total assets of the middle falls to 58 (48 in housing and 10 in other) 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 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 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 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 (1989-2001), to 3.34 percent (2001-2007), before plummeting to -6.95 percent over the Great Recession. As shown in Appendix Table 1, the largest declines in asset prices over the years 2007 to 2010 occurred for residential real estate and the category businesses and non-home 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.

Table 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 3 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 3 Quintiles	3.15	4.55	5.95	-8.89	3.06

Source: own computations from the 1983, 1989, 2991, 2007, and 2010 SCF.
Rates of return by asset type are provided in Appendix 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.

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 fell off sharply to -7.39 percent in the last period. The annual rates of return on net worth are uniformly higher – by about one percentage point – than those of gross assets over the first three periods, when asset prices were generally rising. However, in the 2007-2010 period, the opposite was the case, with the annual return on net worth 0.44 percent lower than that on gross assets. These results illustrate the effect of leverage, raising the return when asset prices rise and lowering the return when asset prices fall. Over the full 1983-2010 period, the annual return on net worth was 0.83 percentage points higher than that on gross assets.[30]

There are striking differences in returns by wealth class. The top one 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 one 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 one 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 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 one percent had the highest return. The reason was the substantial spread in returns on gross assets between the top one percent and the middle three quintiles –

[30] An earlier analysis was conducted by the author for the 1969-1975 period in the U.S. See Wolff (1979) for details.

1.79 percentage points. Interestingly, returns for the top one percent were greater than that of the next 19 percent and for the same reason.

Differences in returns between the top one 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 -7.10 percent for the top one percent and -8.89 percent for the middle three quintiles – a differential of 1.78 percentage points. The spread in rates of return between the top one 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 one 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 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 a point and a half 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.

9. The racial divide widens over the Great Recession

The racial/ethnic divide widens during the Great Recession. Tables 10 and 11 divide households into (i) non-Hispanic whites ("whites" for short), (ii) non-Hispanic African-Americans ("blacks" for short), and (iii) Hispanics.[31] As shown Table 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.[32] The homeownership rate for black households was 49% in 2007, a little less than two thirds that among whites, and the percentage of black households with zero or negative net worth stood at 33, more than double that among 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 but 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.[33] The contrast in time trends between the ratio of means and that of medians reflects the huge increase in

[31] The residual group, American Indians and Asians, is excluded here because of its small sample size.

[32] It should be noted that the unit of observation is the household, which includes both families (two or more related individuals living together), as well as 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.

[33] 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 2).

income for a relatively small number of white households – a result of rising income inequality among whites.

Table 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 (1000s, 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 (1000s, 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 (in Percent)						
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			
Percent 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: own computations from the 1983, 1989 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF. Households are divided into four racial/ethnic groups: (I) non-Hispanic whites; (ii) non-Hispanic blacks; (iii) Hispanics; and (iv) 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 whites or blacks.

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 1998-2001 years, at 1.55 percent per year, than in the preceding 15 years, at 1.47 percent per year. However, between 2001 and 2007, 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 that 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). However, in the ensuing six years the share rose back to 33 percent in 2007 (though relative to white households remained largely unchanged).

Table 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 (1000s, 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 (1000s, 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 (in Percent)						
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			
Percent 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: own computations from the 1983, 1989 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.
See footnote to Table 12 for details on racial/ethnic categories.

The picture differs for Hispanics (see Table 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 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, that 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 home ownership 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 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 black households), and the share relative to white household 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 of the order of 50 percent, mean wealth ratios were of the order of 20-25 percent and the share with zero or negative net worth was around a third, in contrast to 15 percent among 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 portfolio) in the 2001-2007 period. However, all three racial/ethnic groups saw an increase in their debt-to-asset ratio from 2001 to 2007.

Table 12. Composition of Household Wealth by Race and Ethnicity, 2007
(Percent 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 in percentages:			
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: own 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

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 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 12). This factor explained the steeper fall in mean net worth for black households than white households.[34]

The Great Recession hit Hispanic households much harder than blacks 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 in 2010 dollars of Hispanics 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 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 home owners (see Table 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

[34] There was almost no change in the relative home ownership rates of the two groups – both experienced moderate losses – while the share of households with non-positive net worth actually increased more in relative terms for white households than black ones. Unfortunately, there are no data available to separate out actual declines in house prices for white, black, and Hispanic homeowners.

disproportionately large percentage drop in their home equity. Second, Hispanic home owners clustered in regions where home prices fell the most, like Arizona, California, Arizona, and Nevada (the “sand states”) and Florida.

There was also a steep drop in the home ownership rate among Hispanic households: 1.9 percentage points from 2007 to 2010. Indeed, after catching up on 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 7 showing that Hispanics had by far the highest percent of home owners who were delinquent in their mortgage payments in 2009 of any group. Also, the “sand states” and Florida suffered especially large hikes in unemployment.

10. **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 13). Mean wealth increases with age up through age 65, then falls off. Home ownership rates have a similar profile, though the fall-off after the peak age is much more attenuated than for the wealth numbers (in 2004 they actually show a steady rise with age). In 2010, the wealth of elderly households (age 65 and over) was 2.1 times as high as that of the non-elderly and their homeownership rate was 19 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 35 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 a student loan outstanding, still 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, 35-44, 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, 45-54, also declined, from 1.53 in 1983 to 1.19 in 2007. The relative wealth of age group 55-64 was about the same in 2007, 1.69, as in 1983,1.67. The relative net worth of age group 65-74 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 75 and over, gained ground, from only 5 percent above the mean in 1983 to 16 percent in 2007.

Table 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 35	0.21	0.29	0.20	0.16	0.22	0.19	0.14	0.17	0.10
35-44	0.71	0.72	0.71	0.65	0.68	0.64	0.65	0.58	0.41
45-54	1.53	1.50	1.42	1.39	1.27	1.25	1.21	1.19	1.14
55-64	1.67	1.58	1.82	1.81	1.91	1.86	1.91	1.69	1.81
65-74	1.93	1.61	1.59	1.71	1.68	1.72	1.57	1.86	1.74
75 & over	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 35	0.17	0.28	0.18	0.14	0.21	0.19	0.12	0.15	0.09
35-44	0.59	0.68	0.69	0.62	0.67	0.61	0.64	0.54	0.39
45-54	1.53	1.48	1.45	1.43	1.31	1.27	1.24	1.19	1.14
55-64	1.72	1.60	1.89	1.86	1.99	1.94	1.97	1.80	1.89
65-74	2.12	1.69	1.60	1.75	1.66	1.74	1.61	1.86	1.76
75 & over	1.10	1.27	1.14	1.26	1.00	1.11	1.08	1.10	1.27
Homeownership Rate (in Percent)									
All ages	63.4	62.8	64.1	64.7	66.3	67.7	69.1	68.6	67.2
Under 35	38.7	36.3	36.8	37.9	39.2	40.2	41.5	40.8	37.5
35-44	68.4	64.1	64.4	64.7	66.7	67.6	68.6	66.1	63.8
45-54	78.2	75.1	75.5	75.4	74.5	76.1	77.3	77.3	75.2
55-64	77.0	79.2	77.9	82.3	80.6	83.2	79.1	80.9	78.1
65-74	78.3	78.1	78.8	79.4	81.7	82.5	81.2	85.5	82.5
75 & over	69.4	70.2	78.1	72.5	76.9	76.2	85.1	77.0	81.3

Source: own computations from the 1983, 1989 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF. Households are classified according to the age of the householder.

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 35 and 44 of age actually fell by 2.3 percentage points, and that of age group 45 to 54 years of age declined by 0.9 percentage points. The older groups reported the big gains in homeownership: 3.9 percentage points for those ages 55-64, 7.1 percentage points for ages 65-74, and 7.6 percentage points for the oldest group.[35] By 2007, homeownership rates rose monotonically with age up to age 65-74 and then dropped for the oldest age group. The statistics point to a relative shifting of home ownership away from younger towards 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 27 year period (the lowest occurred in 1995),[36] while the relative wealth of age group 35-44 shrank from $325,00 to $190,000 - its lowest point over the whole 1983 to 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 age group 55-64 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 age group 65 to 74 declined absolutely, and fell in absolute dollars as well, from $1,048,600 to $808,500). Home ownership rates fell for all age groups from 2007 to 2010

[35] As with racial minorities, the sample size is relatively small for the oldest age group, so that the 9 percentage point increase in their homeownership rate from 2001 to 2004 may be due to sampling variation (see Appendix Table 2).

[36] As in 2007, the principal source of debt was mortgage debt, which comprised 70 percent of the total debt for the youngest age group in 2010. However, educational loans now amounted to 15 percent of their total liabilities, up from 10 percent in 2007, and 40 percent of households in this age group had an outstanding student loan in 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 14 for the year 2007. Homes comprised over half the value of total assets for age group 35 and under, and the share declined to about a quarter for age group 55-64, 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 age group 55 to 64 and fell to 5 percent for the oldest age group. This pattern reflects the build-up of retirement assets until

Table 14. Composition of Household Wealth by Age Class, 2007
(Percent of gross assets)

	All	Under 35	35-44	45-54	55-64	65-74	75 & over
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
Memo (selected ratios in percent):							
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: own computations from the 2007 Surveys of Consumer Finances. 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
[c] Financial securities exclude U.S. government savings bonds in this tabulation.

retirement age, when retirees begin to liquidate those assets.[37] 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, 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, from 1.68 to 0.30; and mortgage debt as a share of house value, 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 group.

Younger households were thus more heavily invested in homes and more heavily in debt, while the portfolio of older households was skewed to 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 to 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 declined, particularly housing prices. 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 7). This factor, in turn, led to a much steeper fall in net worth.

The story is very similar for age group 35 to 44. Their debt-equity ratio was 0.41 in 2007; their ratio of mortgage debt to house value, 0.51; their share of housing in gross assets, 0.44. All were much higher than average. As with the youngest age group, the drop in home prices from

[37] 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.

2007 to 2010 caused a large fall in home equity (49 percent), which in turn caused a steep fall in their relative net worth.

11. Summary and concluding remarks

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 but by a relatively modest 6.4 percent. The percent of households with non-positive net worth rose sharply from 18.6 to 22.5.

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. The upper 20 percent, particularly the top one percent, enjoyed the greatest gains. Between 1983 and 2010, the top one percent received 38 percent of the total growth in net worth and 39 percent of the total increase in income. The figures for the top 20 percent are 101 percent and 104 percent, respectively – that is to say, the upper quintile got it all!.

The years 2001 to 2007 also saw a sharply rising debt to income ratio, reaching its highest level in almost 25 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 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 one 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 by 23 percent, and other debt 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 home owners declined by 26 percent. This reduction would have been higher except for the contraction of mortgage debt noted above. 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 Direct Contribution (DC) 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. However, among middle class families, 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 home. 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 their very high degree of leverage. 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, moreover, suggests that middle class households went into debt partly in order to increase their leverage and to 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. However, the Great Recession hit black households much harder than whites and the ratio of mean wealth between the two groups plunged from 0.19 in 2007 to 0.14 in 2010, mainly due 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 are 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 sizeable 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. However, in a reversal of fortunes, the Great Recession decimated Hispanic households' gains. Their mean net worth plunged in half, the ratio of mean net worth with white households fell from 0.26 to 0.15, their home ownership 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 are 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 35 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. Among age group 35-44, the ratio of their 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 (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, the latest data from Saez and Piketty, based on IRS tax data, indicates 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, with median house prices rising 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 in the paper, middle-class households found themselves way over-leveraged 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 will argue below, the credit market was rife with perverse incentives that helped to precipitate the Great Recession.

As noted above, loose credit allowed prospective home owners to obtain mortgages that were not justifiable by the income (and expected) income of the household. 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. Once, again, perverse incentives were at work since credit rating agencies were paid directly by the bond issuer, so that they had a strong motivation to collude with the bond issuer and provide a high rating to such suspect bonds.

As a result, George W. Bush's well-intentioned effort to promote minority home ownership 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 that were not credit-worthy 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 home owners, mainly minority and low income households. Such predatory lending led to the excessive use of sub-prime 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 credit-worthiness of these loans. The FHA played a subsidiary role during these years, which insured mortgage loans that they had no right to do so.

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, while they may appear harmful when people are trying to buy a home, may in the long run prove beneficial 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, twenty-percent down payments and higher FICO scores are now standard. However, regulations need to be put in place 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. The Dodd Frank provisions for Qualified Mortgages (QM) have already been issued but are not yet in effect, while those for Qualified Residential Mortgages (QRM) have not yet been issued (at least, as of March 2013).

New restrictions must also be placed on 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 that are issued (say, five percent). This will ensure that the financial institution retains some “skin in the game” and gives it a strong incentive to issue only credit-worthy 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. One proposal for an oversight committee might make a lot of sense. The credit-rating agencies like Standard & Poor must also be subject to greater scrutiny. The existing legal system may actually be the best way to handle this problem. Already, numerous lawsuits to collect damages have been filed against these agencies, and the adverse outcome of such suits may provide these agencies 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” home owners has so far proved a disappointment, though the settlement was so recently reached that it might be too early to judge it a failure. The purpose is to prevent foreclosures by reducing the outstanding balances on mortgage loans. However, most banks have shown a reluctance to reduce the outstanding principal on first mortgages. As reported in the *New York Times* on February 25, 2013 (page A17), 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 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 *New York 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 in, or about to enter, the foreclosure pipeline. There is, of course, an economic impact of forgiving loans. First, there is, of course, the well-known problem of moral hazard – forgiving loans today may encourage reckless behavior on the part of potential home owners in the future. Second, even loan “forgiveness” may impair the credit ratings of these home owners, 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, will likely 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” home owners.

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Appendix Table 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 + Non-Home 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
Non-mortgage 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

[a] Series begins in 1986.

Source: 1983-2007 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: *Statistical Abstract of the United States, 2009*, Table 943, Median Price of Existing One-Family Homes Sold, 1968 to 2005. Updated with data from the National Association of Realtors, Washington, DC: Median Sales Price of Existing Single-Family Homes for Metropolitan Areas, at www. Realtor.org/research.

Business and Non-Home 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), available at: http://www.federalreserve.gov/releases/Z1/

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 1-month CD (taken from the table "H.15 Selected Interest Rates" published by the Federal Reserve and available at: http://www.federalreserve.gov/releases/h15/data.htm) 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 1-month Finance paper (taken from the table H.15 "Selected Interest Rates" published by the Federal Reserve and available at: http://www.federalreserve.gov/releases/h15/data.htm). The data for the rates of return on other assets are taken from the *Economic Report of the President 2009*, table B.73. 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 percent 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 bonds, 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 (DC) Accounts: Net acquisition of financial assets (taken from the Flow of Funds table F.119c) divided by total financial assets of private defined-contribution plans (taken from the Flow of Funds table L.119c).

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

Appendix Table 2. Sample Sizes by Household Characteristic 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 35	1,157	542	805	886	837	810	757	702	1,178
35-44	777	688	830	908	926	929	886	812	1,182
45-54	680	612	775	907	956	1,064	1,081	1,014	1,492
55-64	673	569	595	657	687	733	919	930	1,362
65-74	527	452	574	560	522	499	512	549	748
75 & over	289	280	327	381	377	407	364	411	520
Education[c]									
Less than 12 years	1,281	667	613	608	613	615	547	503	658
12 years	1,151	787	921	1,086	1,037	1,059	1,057	1,075	1,821
13-15 years	742	548	737	920	913	874	880	861	1,101
16 years of more	1,088	1,141	1,635	1,685	1,742	1,894	2,035	1,979	2,902

Note: own 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 head of household.

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