Who Owns Stock in American Corporations?[a]

EDWARD N. WOLFF
Professor of Economics
New York University

1. Introduction

It is often believed that the stock market benefits most American households. Is this true? Has the situation changed with the Great Recession? These are the major themes of the current paper. These themes are particularly prescient in light of the work of Gomory and Sylla (2013). As they report in their historical appraisal of the role of the American corporation, a radical shift away from pursuing *stakeholder value* to pursuing *stockholder value* has occurred. The former refers to the goal of attempting to benefit a range of corporate constituencies, including employees, customers, the community, and stockholders. The latter, on the other hand, is exclusively aimed at maximizing the returns on corporate stock. This shift occurred in the United States around 1980.

If this is the case and corporations are now maximizing shareholder value, who benefits from this? Are these gains widely shared in the U.S. population (*shareholder democracy*), or are they heavily concentrated among the rich? The empirical work contained in the current paper will shed light on this issue. Has the situation changed with the Great Recession? In particular, has the stock ownership rate and the degree of stock concentration in the population gone up or down over these years?

Before looking at the actual wealth data, it might be helpful to say a few words about what happened to both house and stock prices over the last two and half decades. Although the median house price in real terms was virtually the same in 2001 as in 1989[1], house prices suddenly took off from 2001–2007, with the median sales price rising by 19% in real terms. Then, the Great Recession hit and home prices plummeted

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by 24% in real terms from 2007–2010. This drop was followed by a partial recovery, with median house prices rising by 7.8% in real terms through September 2013, though still way below the median house price level in 2007. In contrast to the housing market, the stock market boomed during the 1990s. On the basis of the S&P 500 Index, stock prices in real terms surged 171% between 1989 and 2001.[2] However, from 2001–2007, the S&P 500 was up only 6% in real terms, and during the Great Recession, it nosedived 26% in real terms. In this case, a strong recovery occurred after 2010, with stock prices up by 41% through September 2013 in real terms.

What have these asset price movements, particularly the plunge in stock prices, wrought in terms of stock ownership over the Great Recession and then recovery? This topic is the second major subject of the paper.

2. Plan of the Paper

The current paper is organized as follows. The first part provides some background on wealth trends over the last 30 years or so. The next section, Section 3, discusses the measurement of household wealth and describes the data sources used for this study over the period from 1983–2010. Section 4 presents time trends in median and average wealth holdings, Section 5 on changes in wealth concentration, and Section 6 on the composition of wealth for the same time period. In Section 7, I provide an analysis of the effects of leverage on wealth movements over time. In the second part of the paper, Section 8 provides data on the expansion of defined contribution (DC) pension plans, since this is one of the key factors explaining widening stock ownership. Section 9 then explores stock ownership trends more fully. A summary and conclusion are provided in Section 10.

The most telling finding of the first part of the paper is that median wealth plummeted by 47% over the years 2007–2010. The inequality of net worth, after almost two decades of little movement, was also up sharply between 2007 and 2010. Relative indebtedness continued to expand during the late 2000s for the middle class, though the proximate causes were declining net worth and income rather than an increase in absolute indebtedness. In fact, the average debt of the middle class in real terms was down by 25%. The sharp fall in median net worth and the rise in its inequality from 2007–2010 are traceable to the high leverage of middle class families and the high share of homes in their portfolio.

The stock ownership rate in the United States peaked at 51.9% in 2001, in the aftermath of the stock market bubble of the late 1990s.

Many journalists declared that a shareholder democracy had finally been reached. However, by 2010, the stock ownership rate had fallen to 46.9% as many small stockholders got "chased out" by the Great Recession. Total stocks as a share of total assets also peaked in 2001 at 24.5%, but then plummeted to 17.8% in 2010. However, stocks remained highly concentrated. In 2010, the top 1% of wealth holders owned 35% of all stocks, and the top 10% owned 81%. The latter figure is up from 77% in 2001.

3. Data Sources and Methods

The primary data source used for this study over years 1983–2010 is the Survey of Consumer Finances (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 is selected as a list sample derived from tax data from the Internal Revenue Service's Statistics of Income.

Wealth (net worth) is defined as the current value of all marketable assets less debt. *Total assets* are defined here as the sum of (1) homes; (2) other real estate; (3) bank deposits, certificates of deposit, money market accounts, and life insurance plans (collectively, *liquid assets*); (4) financial securities; (5) pension plans, including IRAs and 401(k) plans; (6) corporate stock and mutual funds; (7) unincorporated business equity; and (8) trust funds. *Total liabilities* are the sum of (1) mortgage debt and (2) other personal debt.

This measure reflects wealth as a store of value and, therefore, a source of potential consumption. Consumer durables, such as automobiles, are excluded here, as these items are not easily marketed, with the possible exception of vehicles, or their resale value typically far understates the value of their consumption services to the household.[3]

Stock ownership comes in two forms. First, there is the *direct ownership* of corporate shares, such as IBM or General Motors. Second, there is *indirect ownership*, which occurs through three principal vehicles: (1) mutual funds; (2) trust funds; and (3) IRAS, Keogh plans, 401(k) plans, and other DC retirement accounts. *Total stock ownership* is the sum of direct and indirect ownership, but we will return to this concept in Section 9 below.

4. Median Wealth Plummets over the Late 2000s

Figure 1 shows a robust growth in wealth from 1983–2007. Median wealth grew at 1.1% per year from 1983–1989, 1.3% per year between 1989 and 2001, and then at 2.9% per year from 2001–2007, even

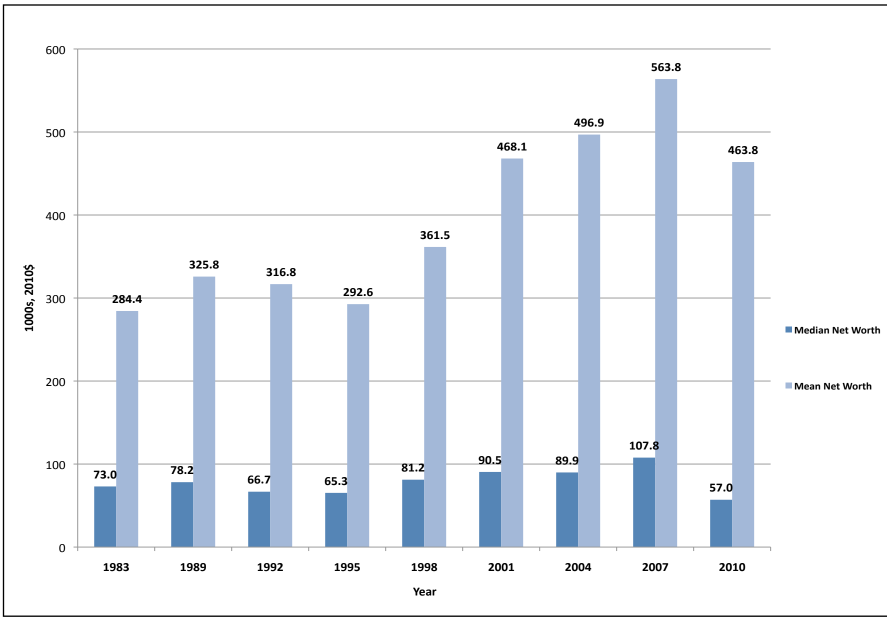

FIGURE 1. Mean and Median Net Worth, 1983–2010.

faster than during the 1980s or 1990s. Then between 2007 and 2010, median wealth plunged by a staggering 47%! The primary reasons, as we shall see below, were the collapse in the housing market and the high leverage of middle class families.

Mean net worth also grew vigorously from 1983–1989, at 2.3% per year, and then at 3% per year from 1989–2001, and at 3.1% per year from 2001–2007. A point of note is that mean wealth grew more than twice as fast as the median between 1983 and 2007, indicating widening inequality of wealth over these years. The Great Recession also saw an absolute decline in mean household wealth. However, whereas median wealth plunged by 47%, mean wealth fell by (only) 18%. Here, too, the relatively faster growth in mean wealth than median wealth (that is, the latter's more moderate decline) from 2007–2010 was coincident with rising wealth inequality.

Median income in real terms, based on the Current Population Survey (CPS), after gaining 11% between 1983 and 1989, grew by only 2.3% (in total) from 1989–2001 and another 1.6% (in total) from 2001–2007 (Figure 2). From 2007–2010, it fell off by 6.4%. This reduction was not nearly as great as that in median wealth. Mean income surged by 15% from 1983–1989, advanced by another 12% from 1989–2001, and then dipped by –0.8% from 2001–2007. Mean income also dropped in real terms from 2007–2010, by 5%, slightly less than that of median income.

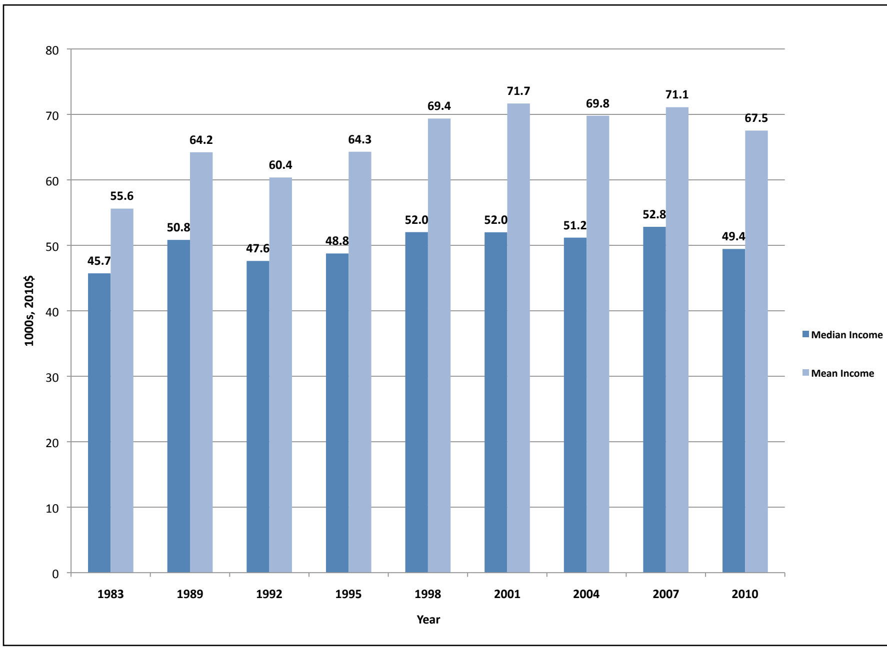

FIGURE 2. Mean and Median Household Income, 1983–2010.

5. Wealth Inequality Jumps in the Late 2000s

Figure 3 shows that the Gini coefficient, after rising steeply between 1983 and 1989 from 0.80 to 0.83, remained virtually unchanged from 1989–2007 at 0.83. In contrast, the years of the Great Recession saw a very sharp elevation in wealth inequality, with the Gini coefficient rising to 0.87.

The time trend for income inequality contrasts with that for wealth inequality. Income inequality showed a sharp rise from 1982–1988, with the Gini coefficient expanding from 0.48 to 0.52 (income in each survey year, such as 1983, is for the preceding year), and again from 1988–2006, with the Gini index advancing to 0.57. Perhaps, somewhat surprisingly, the Great Recession witnessed a rather sharp contraction in income inequality. The Gini coefficient fell from 0.574 in 2006 to 0.549 in 2009. One of the puzzles we have to contend with is the fact that wealth inequality rose sharply over the Great Recession while income inequality contracted. I will return to this question in Section 7 below.

6. Household Debt Remains High

In 2010, homes accounted for 31% of total assets among all households (Figure 4). However, *net home equity*—home value minus

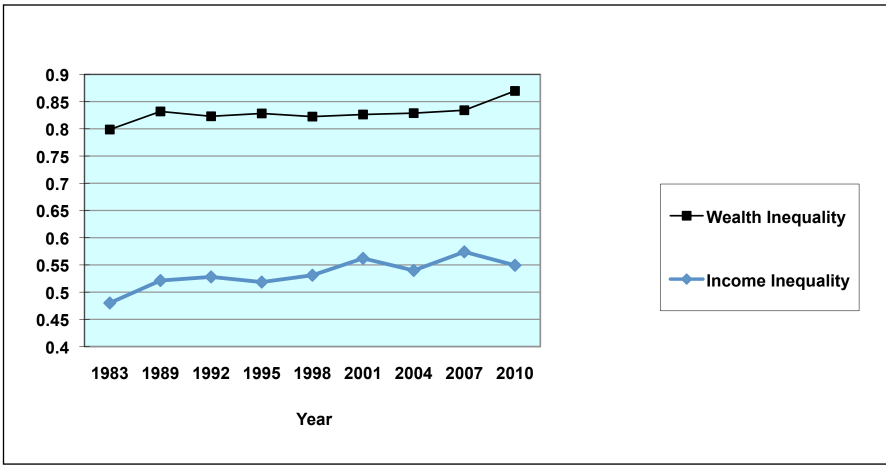

FIGURE 3. Wealth and Income Inequality, 1983–2010 (Gini coefficients).

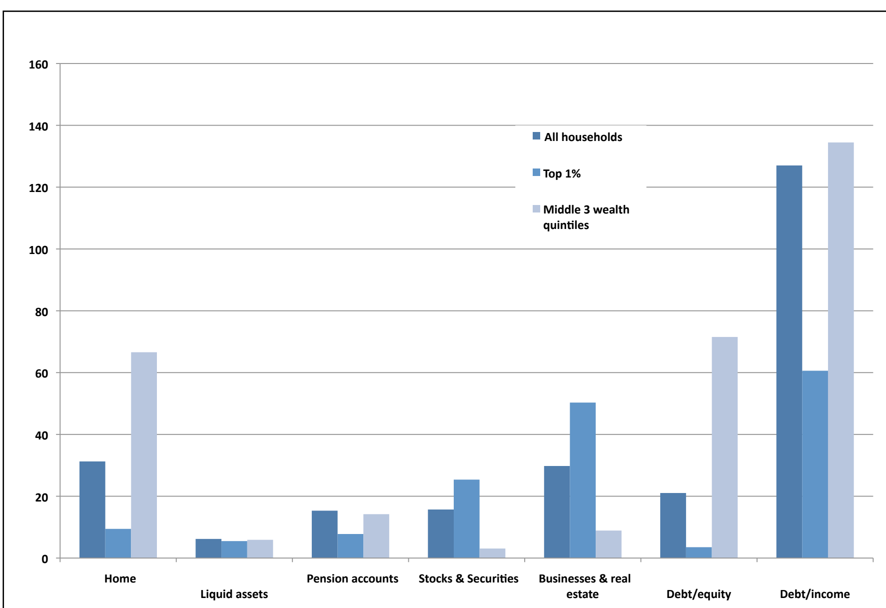

FIGURE 4. Composition of Household Wealth by Wealth Class, 2010 (% of gross assets).

mortgage debt—amounted to only 18% of total assets. Liquid assets made up 6% and pension accounts 15%. *Investment assets* (i.e., non-home real estate, business equity, financial securities, corporate stock, mutual funds, and trust funds) collectively amounted to 45%. The *debt-equity ratio* (i.e., the ratio of debt to net worth) was 0.21, and the *debt-income ratio* was 1.27.

There are marked differences in portfolio composition by wealth class. As shown in the second column of Figure 4, the wealthiest one percent invested over three quarters of their savings in investment assets. Housing accounted for only 9%, liquid assets for 5%, and pension accounts for 8%. The debt-equity ratio was only 0.03, the debt-income ratio was 0.61, and the ratio of mortgage debt to house value was 0.19.

In contrast, 67% of the assets of the middle three wealth quintiles was invested in their home. However, home equity amounted to only 32% of total assets, a reflection of their large mortgage debt. Another 20% went into monetary savings and pension accounts. Together, housing, liquid, and pension assets accounted for 87%, with the remainder in investment assets. Their debt-equity ratio was 0.72, and their debt-income ratio was 1.35, both much higher than that of the top quintile. Finally, their mortgage debt amounted to a little more than one half of the value of their home.

The rather staggering debt level of the middle class in 2010 raises the question of whether this was a recent phenomenon. There was a sharp rise in the debt-equity ratio of the middle class from 0.37 in 1983 to 0.61 in 2007, mainly a reflection of a steep rise in mortgage debt. The debt-income ratio more than doubled from 1983–2007, from 0.67 to 1.57. The rise in the debt-equity ratio and the debt-to-income ratio was much steeper than for all households. In 1983, the debt-income ratio was about the same for middle class as for all households, but by 2007, the ratio was much larger for the middle class.[4]

Then, the Great Recession hit. The debt-equity ratio continued to rise, reaching 0.72 in 2010, but there was actually a retrenchment in the debt-income ratio, falling to 1.35. The reason is that from 2007–2010, their mean debt actually contracted by 25% in constant dollars. Mortgage debt fell by 23% as families paid down their outstanding balances, and other debt dropped by 32% as families paid off credit card balances and other consumer debt. The steep rise in the debt-equity ratio was due to the sharp drop in net worth, whereas the decline in the debt to income ratio was almost exclusively due to the sharp contraction of overall debt.

7. The Role of Leverage

Two major puzzles emerge. The first is the steep plunge in median net worth in real terms of 47% between 2007 and 2010 despite an only moderate drop in median income of 6.4% and less steep declines in housing and stock prices of 24% and 26%, respectively. The second is the steep increase of wealth inequality of 0.035 Gini points despite

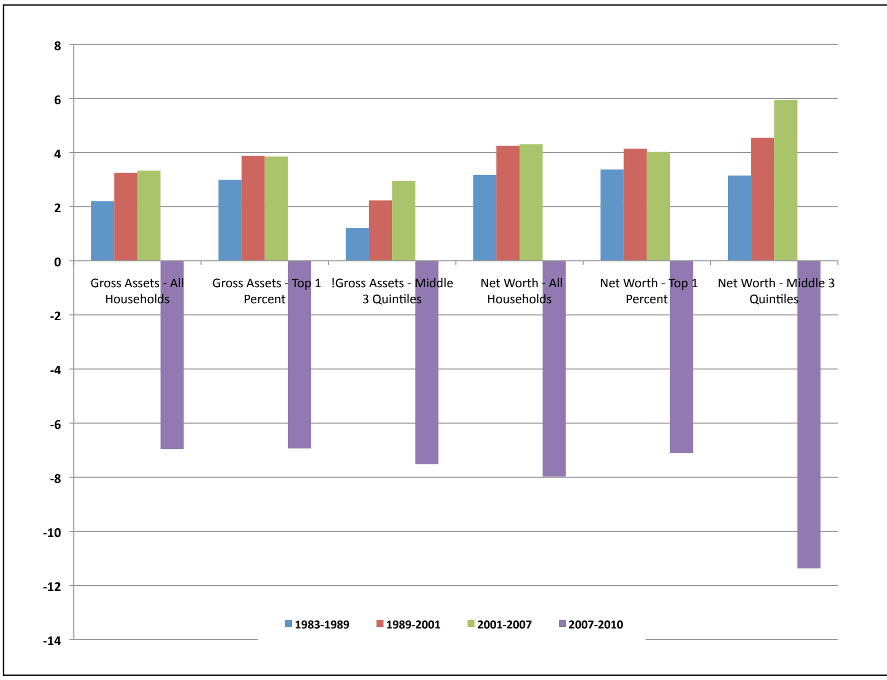

FIGURE 5. Average Annual Rates of Return by Period and Wealth Class (%).

a decline in income inequality of 0.025 Gini points and a virtually unchanged ratio of stock to housing price. As shown in Wolff (2002), wealth inequality is positively related to income inequality and also to the ratio of stock to house prices, as the former is heavily concentrated among the rich and the latter is the chief asset of the middle class.

Changes in median wealth and wealth inequality from 2007–2010 can be explained to a large extent by *leverage* (i.e., 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.

Figure 5 shows average annual real rates of return for both gross assets and net worth over the period from 1983–2010 (see Wolff, Zacharias, and Masterson, 2009, for sources and methods, with updates to 2010 provided by the current author). Results are based on the average portfolio composition over the period. It is first of interest to look at the results for all households. The overall annual return on gross assets rose from 2.2% in the 1983–1989 period to 3.25% in the 1989–2001 period, and then to 3.34% in the 2001–2007 period before plummeting to –6.95% from 2007–2010.[5]

The average annual rate of return on net worth among all households also increased from 3.17% in the first period to 4.25% in the second and to 4.31% in the third but then fell off sharply to –7.98% in the last period. It is first of note that the returns on net worth are uniformly higher—by about one percentage point—than those on gross assets over the first three periods, when asset prices were generally rising. However, in the 2007–2010 period, the opposite was the case, with the annual return on net worth 1.03 percentage points 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 0.87 percentage points higher than that on gross assets.

There are striking differences in returns by wealth class. The returns on gross assets were generally higher for the top 1% than the middle three quintiles. The differences are quite substantial. Over the full 1983–2010 period, the average annual rate of return on gross assets for the top 1% was 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 (Figure 4).

This pattern is almost exactly reversed for returns on net worth. In this case, in the first three periods, the return was higher for the middle quintiles (except for the 1983–1989 period when its return was slightly lower than that of the top 1%), but in the 2007–2010 period, the middle three quintiles registered a lower (that is, more negative) return. Differences in returns between the top 1% and the middle quintiles were quite substantial in some years. In the 2001–2007 period, the annual return was 1.92 percentage points higher for the middle quintiles, whereas in the 2007–2010 period, it was 4.27 percentage points lower. The spread in returns between the top 1% and the middle quintiles reflects the much higher leverage of the middle class (Figure 4).

The huge negative rate of return on net worth of the middle quintiles was largely responsible for the precipitous drop in median net worth between 2007 and 2010. This factor, in turn, was attributable to the steep drop in housing prices and the very high leverage of the middle class. Likewise, the very high rate of return on net worth of the middle three quintiles over the 2001–2007 period (almost 6% 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 returns on net worth between the middle quintiles and the top percentile (over four percentage points) 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.

8. DC Pension Wealth Continues to Rise

As noted in Section 2 of the current paper, one of the key factors accounting for the spread in stock ownership was the rise in DC pension accounts. Despite the extreme downturn in the stock market from 2007–2010, DC pension accounts continued to advance over these years. DC accounts include not only 401(k) and other employer-provided retirement plans but also IRAs, Keogh plans, and similar government-sponsored plans. Table 1 charts the development of these accounts over selected years from 1983–2010. There was a huge increase in the share of households holding these accounts from 1983–2001 both overall and by individual age group. Overall, the proportion skyrocketed from 11% to 52%. The mean value of these plans climbed dramatically. Overall, 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 first established in 1974. This was 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 in the workplace until about 1989.

From 2001–2007, the share of households with a DC plan leveled off, and then from 2007–2010, the share fell modestly. Overall, the proportion declined from 52.6% to 50.4%, or by 2.2 percentage points, from 2007–2010. The average value of DC plans in constant dollars continued to grow after 2001. Overall, it advanced by 21% from 2001–2007 and then by 11% from 2007–2010 among account holders and by 22% and 7%, respectively, among all households. Thus, despite the stock market collapse of 2007–2010 and the 18% decline of overall mean net worth, the average value of DC accounts continued to grow after 2007. The reason is that households shifted their portfolio out of other assets and into DC accounts.

The pattern of change was similar for middle-aged households (ages 47 to 64) and older households (65 and older). However, the story was quite different for younger households (46 and younger). Their average DC wealth among account holders was almost unchanged from 2001–2007 and then fell by 2.5% from 2007–2010, whereas among all households in the age group, average DC wealth declined by 7% from 2001–2007 and by another 7% from 2007–2010

Table 1. Defined Contribution Pensions by Age Group (1983–2010)
(in thousands, 2010 dollars)

	1983	1989	2001	2007	2010	% Change 1983–2010
All Households						
- Percent with a DC account	11.1	24	52.2	52.6	50.4	
- Mean DC pension wealth (pension holders only)	43.9	46.4	126.5	153.5	170.9	288.8
- Mean DC pension wealth (all households in group)	4.9	11.1	66.1	80.8	86.1	1669.6
46 and Younger						
- Percent with a DC account	13.7	31.2	53.8	49.9	47.8	
- Mean DC pension wealth (pension holders only)	22.7	31.1	64.6	64.7	63.1	178.2
- Mean DC pension wealth (all households in group)	3.1	9.7	34.8	32.3	30.2	867.6
Ages 47–64						
- Percent with a DC account	12.3	28.3	62	63.8	59.6	
- Mean DC pension wealth (pension holders only)	82.9	76	191.9	220.7	241.5	191.2
- Mean DC pension wealth (all households in group)	10.2	21.5	118.9	140.8	144	1314.1
65 and Older						
- Percent with a DC account	2	1.3	35	40.8	41.1	
- Mean DC pension wealth (pension holders only)	105.5	183.0	188.5	218	256.7	143.4
- Mean DC pension wealth (all households in group)	2.2	2.4	65.9	88.9	105.5	4793.9

Note: Current author's computations from the 1983, 1989, 2001, 2007, and 2010 Survey of Consumer Finances (SCF).
Defined contribution (DC) pensions include Individual Retirement Accounts (IRAs), Keogh Plans, 401(k) plans, and other employer-provided DC plans.
Households are classified into age groups by the age of the head of household.

(the difference reflecting the reduction in the share of young households holding pension accounts). Thus, in terms of DC accounts, there was no deterioration in retirement preparedness from 2007–2010 among middle-aged and older households, although there was among younger households. The fall-off among younger workers is likely due to their high unemployment rate and relatively low wages among those who did have a job.

9. Stock Ownership First Rises and Then Falls

Tables 2a and 2b report on overall stock ownership trends from 1983–2010 (see also Figure 6). The proportion of households who

Table 2a. Stock Ownership (1983 and 1989)
(Percent of households holding stocks)

Stock Type	1983	1989	% Change 1983–1989
Direct stock holdings only	13.7	13.1	
Stocks and mutual funds			
- Any holdings	24.4	19.9	
- Holdings worth $5,000 or more[a]	14.5	14.6	
- Holdings worth $10,000 or more[a]	10.8	12.3	
- Holdings worth $25,000 or more[a]	6.2	8.4	
Memo			
- Stocks plus mutual funds as a percent of total assets	9	6.9	
- Percentage change in S&P 500 Index, in constant dollars over period			61.7

Source: Current author's computations from the 1983 and 1989 SCF.
[a]1995 dollars

Table 2b. Stock Ownership (1989–2010)
(% of households holding stocks)

Stock Type	1989	1992	1995	1998	2001	2004	2007	2010	% Change 1989–2010
Direct stock holdings only	13.1	14.8	15.2	19.2	21.3	20.7	17.9	15.1	
Indirect stock holdings only	23.5	29.3	34.8	43.4	47.7	44	44.4	43.4	
- Through mutual funds	5.9	8.4	11.3	15.2	16.7	14.1	10.6	8.3	
- Through pension accounts	19.5	24.8	29.2	37.4	41.4	38	40.2	40	
- Through trust funds	1.6	1.2	1.9	2.4	5.1	4.7	4.1	4.2	
All stock holdings[a]									
- Any holdings	31.7	37.2	40.4	48.2	51.9	48.6	49.1	46.9	
- Stock worth $5,000 or more[b]	22.6	27.3	29.5	36.3	40.1	34.9	34.6	33.6	
- Stock worth $10,000 or more[b]	18.5	21.8	23.9	31.8	35.1	29.8	29.6	28.8	
- Stock worth $25,000 or more[b]	10.5	13.1	16.6	24.3	27.1	22.5	22.1	21.6	
Memo									
- Direct plus indirect stocks as a percent of total assets	10.2	13.7	16.8	22.6	24.5	17.5	16.8	17.8	
- Percentage change in S&P 500 Index index in constant dollars over period		13.8	20	87.3	1.3	–11.2	19	–26.6	116.7

Source: Current author's computations from the 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF. Also, *Economic Report of the President, 2012*, Table B-96.
[a]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.
[b]1995 dollars

owned corporate stock shares directly declined a bit between 1983 and 1989, from 13.7% to 13.1%, whereas the share that owned any stocks or mutual funds fell from 24.4% to 19.9%.[6] In contrast, the share of households owning stocks and mutual funds worth $5,000 or more (in 1995 dollars) was stable over this period; and, indeed, the proportion with holdings of $10,000 or more and with $25,000 or more actually rose. These changes over the 1983–1989 period might reflect the steep drop in the stock market in 1987 and the consequent exit of small fund holders after 1987. However, despite a 62% real increase in stock prices (as measured by the S&P 500 Index), stocks plus mutual funds as a share of total household asset actually dipped form 9% in 1983 to 6.9% in 1989—probably because a lot of investors were scared off from the stock market by the mini stock market crash of 1987.

In contrast, the years 1989–2001 saw a substantial increase in stock ownership (Table 2b). The share of households with direct ownership of stock climbed from 13.1% in 1989 to 21.3% in 2001, whereas the share with some stock owned either outright or indirectly through mutual funds, trusts, or various pension accounts surged from 31.7% to 51.9%. Much of the increase was fueled by the growth in pension accounts, such as IRAs, Keogh plans, and 401(k) plans. Between 1989 and 2001, the share of households owning stock through a pension account more than doubled, accounting for the bulk of the overall increase in stock ownership. Indirect ownership of stocks through mutual funds also greatly expanded over the 1989–2001 period, from 5.9% to 16.7%, as did indirect ownership through trust funds, from 1.6% to 5.1%. All told, the share of households with indirect ownership of stocks more than doubled, from 23.5% in 1989 to 47.7% in 2001.

The next nine years, 2001–2010, generally saw a retrenchment in stock ownership. This trend probably reflected the sharp drop in the stock market from 2000–2001, its rather anemic recovery through 2004, its subsequent rebound from 2004–2007, and its even sharper fall off from 2007–2010. Direct stock ownership declined only slightly from 21.3% in 2001 to 20.7% in 2004, but then plummeted in 2007 to 17.9% and then to 15.1% in 2010. Indirect stock ownership fell by 4.3 percentage points from 2001–2010. This trend was largely due to a sharp decline in stock ownership through mutual funds (down by 8.4 percentage points). Stock ownership through pension accounts was down by 3.4 percentage points from 2001–2004, but then rose by 2.2 percentage points from 2004–2007 as the stock market recovered. Interestingly, despite the collapse of stock prices from 2007–2010, the share of households holding stocks through pension accounts remained essentially unchanged.

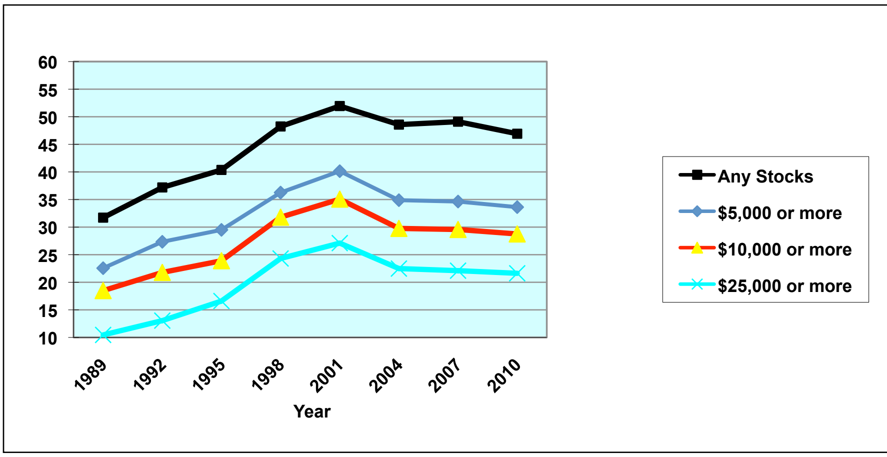

FIGURE 6. Share of Households Owning Stock, 1989–2010 (%).

By 2004, the share of households who owned stock directly or indirectly dipped below one half, down to 48.6, about the same level as in 1998 and down from its peak of 51.9% in 2001. However, the share did increase slightly to 49.1% in 2007 before dropping to 46.9% in 2010. Moreover, many of these families had only a minor stake in the stock market in 2010, with only 34% with total stock holdings worth $5,000 (in 1995 dollars) or more, down from 40% in 2001; only 29% with holdings worth $10,000 or more of stock, down from 35% in 2001; and only 22% with holdings worth $25,000 or more, down from 27% nine years earlier.

Direct plus indirect ownership of stocks as a percent of total household assets did more than double from 10.2 in 1989 to 24.5 in 2001. This increase may reflect in large measure the 171% surge in stock prices in constant dollars over these years. However, between 2001 and 2007, the share plummeted to 16.8%, though it did recover slightly to 17.8% in 2010. This change is a result not only of the relative stagnation of the stock market over these years but also of the withdrawal of many families from the stock market.

Table 2c shows the distribution of total stocks owned by vehicle of ownership. Here, there are very marked time trends. Direct stock holdings as a share of total stock holdings fell almost continuously over time, from 54% in 1989 to 31% in 2010. The only deviation occurred in 1998, when direct stock ownership took an upward spike. This may reflect the stock market frenzy of the late 1990s. In contrast, stock held in mutual funds as a share of total stock rose almost continuously over time, from 8.5% in 1983 to 23% in 2010, while that held in trust funds declined by 6.7 percentage points.

Table 2c. Distribution of Stock Ownership by Asset Type (1989–2010)
(% of total stock held in each asset type)

Stock Type	1989	1992	1995	1998	2001	2004	2007	2010	% Change 1989–2010
Direct stock holdings	54	49.4	36.7	42.6	38.5	37.1	37.1	30.6	−23.3
Indirect stock holdings only	46.0	50.6	63.3	57.4	61.5	62.9	62.9	69.4	23.3
- Through mutual funds	8.5	10.9	17.9	16.3	16	21.9	21.3	22.7	14.2
- Through pension accounts	24.4	34.1	37.9	32.9	33.5	30.9	31.4	40.2	15.8
- Through trust funds	13.2	5.6	7.6	8.2	12.0	8.1	7.2	6.5	−6.7
Memo									
- Stocks held in pension accounts/ total value of pension accounts	32.6	44.8	67.5	64.1	66.3	45.6	43.6	46.8	14.2

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

The most interesting pattern is with regard to stock held in pension accounts (including IRAs). Its share of total stocks first increased from 24% in 1989 to 38% in 1995, fell off to 31% in 2007, but then shot up to 40% in 2010. The trend from 1995–2007 seems to reflect a substitution of stock holdings in mutual funds for those in pension plans as investors looked for safer retirement accounts (see below). The reversal from 2007–2010 is likely due to two factors. First, interest rates were very low over these years, so that pension holders substituted stocks for bonds in their retirement portfolio, despite the sharp drop in stock prices. Second, there was an overall shift in portfolios away from other assets toward pension accounts (the share of pensions in total assets increased from 12.1% to 15.3%). Likewise the share of the total value of pension plans held as stock more than doubled between 1989 and 1995, from 33% to 68%, remained at this level through 2001, and then plummeted to 44% in 2007. The sharp tail-off in stock ownership in pension plans between 2001 and 2004 likely reflects the lethargic performance of the stock market over this period (and its precipitous fall from 2000–2002) and the search for more secure investments among plan holders. However, from 2007–2010, the share of pensions invested in stocks rose from 44% to 47%, as interest rates dropped precipitously and investors shifted their portfolio out of bonds.

There are also some interesting differences in stock ownership patterns by demographic group. In 2010, stocks amounted to 18.3% of the total assets of white households, compared to 5% for African-Americans and 5.1% for Hispanics. Older Americans also have a larger concentration of stocks in their portfolios than younger Americans. Stocks as a share of total assets rose from 5.9% for the younger than 35 age group to 11.2% for the 35–44 age group, 15.1% for the 45–54 age group, 19.4% for the 55–64 age group, 21.5% for the 65–74 age

Table 3a. Concentration of Stock Ownership by Wealth Class (2010)

	% of Households Owning Stock Worth More Than			% of Stock Owned		
Wealth Class	Zero	$4,999	$9,999	Shares	Cumulative	Cumulative (2001)
Top 1%	94.9	94.3	94.3	35	35	33.5
Next 4%	93.1	89.5	89.1	32.1	67.1	62.3
Next 5%	88.2	85.3	83.4	13.7	80.8	76.9
Next 10%	79	73.7	70.5	10.9	91.6	89.3
Second quintile	59.7	50.3	44.1	5.9	97.5	97.1
Third quintile	44.6	30.6	24.7	1.8	99.3	99.3
Fourth quintile	23.9	11.1	6.5	0.3	99.6	99.8
Bottom quintile	21.8	7.9	4.5	0.4	100	100
All	46.9	36.1	31.6	100		

Note: Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAS, Keogh plans, 401(k) plans, and other retirement accounts. All figures are in 2010 dollars.

group, and 20% for the 75 and older age group. The 55–64 age group accounted for 31.9% of total stocks owned in the country, compared to 2.3% for the younger than 35 age group, 9.4% for the 35–44 age group, 23.3% for the 45–54 and 65–74 age groups, and 12.9% for the 75 and older age group.

Looking over time, we see that the concentration of stock ownership fell dramatically from 1983–1989, with the share of total stock owned by the top 10% of wealth holders declining from 90% to 81%. This reflected in large measure, as we saw above, the rise in IRAs, 401(k) plans, and other DC accounts. The share of stocks directly or indirectly owned then fell from 81% in 1989 to 77% in 2001 as more and more families were drawn into stock ownership as a result of the bull market of the late 1990s. However, it then rose to 81% in 2010 as small investors withdrew from the stock market, likely scared off by the stock market crash during the Great Recession.

Stock ownership is also highly skewed by wealth and income class. As shown in Table 3a, 95% of the very rich (the top 1%) reported owning stock either directly or indirectly in 2010, compared to 45% of the middle quintile and 22% of the poorest 20%. Although 94% of the very rich also reported stocks worth $10,000 or more (in current dollars), only 25% of the middle quintile and 5% of the bottom quintile did so. The top 1% of households owned 35% of all stocks, the top 5% owned 67%, the top 10% owned 81%, and the top quintile owned 92%.

Stock ownership also tails off by income class (Table 3b). Whereas 94% of households in the top 3.6% of income recipients (those who earned $250,000 or more) owned stock in 2010, 40% of the middle class (incomes between $25,000 and $50,000), 18% of the lower middle class (incomes between $15,000 and $25,000), and only 10%

Table 3b. Concentration of Stock Ownership by Income Class (2010)

Income Level	Share of Households	% of Households Owning Stock Worth More Than: Zero	$4,999	$9,999	% of Stock Owned: Shares	Cumulative	Cumulative (2001)
$250,000 or more	3.6	94.3	93.3	92.8	50.3	50.3	40.6
$100,000–$249,999	14.4	82.2	75.5	70.8	26.1	76.4	68.6
$75,000–$99,999	10.1	66.8	53.3	46.9	6.5	82.9	77.4
$50,000–$74,999	18.1	56	41.4	34.6	8.4	91.3	89.3
$25,000–$49,999	27.7	39.9	24.6	19.1	5.5	96.8	97.6
$15,000–$24,999	14	17.9	10.3	8.5	1.2	98	98.9
Under $15,000	12.1	10	5.4	4.8	2	100	100
All	100	46.9	36.1	31.6	100		

Note: Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts. All figures are in 2010 dollars.

of poor households (income under $15,000) reported stock ownership. The comparable ownership figures for stock holdings of $10,000 or more are 93% for the top income class, 19% for the middle class, 9% for the lower middle class, and 5% for the poor. Moreover, 83% of all stocks were owned by households earning $75,000 or more (the top 28%), and 91% was owned by those earning $50,000 or more in terms of income.

Another notable development in the 2000s was an increase in the concentration of stock ownership. The share of total stock owned by the richest one percent in terms of wealth increased from 33.5% in 2001 to 35% in 2010, and that of the richest 5% from 62.3% to 67.1%. In terms of income, the share of total stock owned by the top income class jumped from 40.6% to 50.3% (although it should be noted their share of total households also rose, from 2.7% to 3.6%), and that of the top two income classes increased from 68.6% to 76.4%. One result of the stock market bust of the early and late 2000s was a withdrawal of middle class families from the stock market.

Thus, in terms of wealth or income, substantial stock holdings have still not penetrated much beyond the reach of the rich and the upper middle class. The big winners from the stock market boom of the late 1990s (as well as the big losers in the early and late 2000s) were these groups, whereas the middle class and the poor did not see sizable benefits from the bull market (or losses when the stock market tanked from 2000–2002 and 2007–2010). It is also apparent which groups benefit the most from the preferential tax treatment of capital gains.

10. Summary and Concluding Remarks

Median wealth showed robust growth during the 1980s and 1990s and an even faster advance from 2001–2007. However, from 2007–2010,

house prices fell by 24% in real terms, stock prices by 26%, and median wealth by a staggering 47%. Median income also dropped but by a relatively modest 6.4%.

Wealth inequality after remaining relatively stable from 1989–2007 showed a steep increase over the Great Recession, with the Gini coefficient climbing from 0.834 to 0.870. In contrast, income inequality, after rising moderately from 2000–2007 (an increase of 0.012 Gini points), dropped substantially from 2006–2009 (a decrease of 0.025 Gini points).

The years 2001–2007 also saw a sharply rising debt- income ratio for the middle three wealth quintiles, from 1.00 to 1.57, and also debt-equity ratio from 0.46 to 0.61. The debt-equity ratio was also much higher among the middle quintiles in 2007, at 0.61, than among the top 1% (0.028).

The key to understanding the plight of the middle three wealth quintiles 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 return on their net worth (–11.4% per year). This, in turn, was attributable to their excessive leverage and the precipitous fall in home prices. 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 percentile (over four percentage points) also largely explains why wealth inequality increased steeply from 2007–2010 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% 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 overall stock ownership rate (either directly or indirectly through mutual funds, trust funds, or pension plans), after rising briskly from 32% in 1989 to 52% in 2001, fell off moderately to 49% in 2007 and then to 47% in 2010. Similar time trends are evident for the share of households with $5,000 or more of stocks and with $10,000 or more of stocks. The fall off from 2007–2010 was surprisingly modest in light of the very steep decline in stock prices over those years. There appear to be two reasons for this. First, many American households were entrenched in stocks due to having 401(k) plans and other DC retirement accounts. There are penalties for withdrawing money from these accounts before retirement age (typically, age 65). Second,

although the stock market plunged during the Great Recession, house prices were also way down, bond yields were low, and the interest on liquid assets was near zero. Stock ownership is also sensitive to the yields on alternative investments. This factor helps account for why stock ownership did not plunge over the Great Recession but fell modestly.

However, the concentration of stocks generally remained as high in 2010 as during the previous two and a half decades. About 80% of the total value of stock shares were held by the top 10% of households. Stock ownership is also highly skewed by wealth and income class. The top 1% of households classified by wealth owned 35 percent of all stocks in 2010, the top 10% owned 81%, and the top quintile 92%. Moreover, 83% of all stocks were owned by households earning $75,000 or more and 91% by households with incomes of $50,000 or more.

Two main forces appear responsible for the spread of stock ownership after 1983. The first is the rise in DC plans, beginning with IRAs, first established in 1974, and then 401(k) plans and the like, first available in 1978. The availability of DC plans also helps account for the decline in the concentration of stock ownership from 1983–1989 (from a 90% share owned by the top 10% of wealth holders to 81%). The second is the rise in the stock market (at least relative to other asset yields). Stock ownership tends to expand when the stock market is rising, as more and more people are drawn into stock ownership. Conversely, declines in stock prices appear to reduce stock ownership. This trend likely explains the decrease in the stock ownership rate from 2001–2010.

The main conclusion is that the rise in the stock market certainly does not benefit the average households. The reason is that stock ownership, including 401(k) plans, is highly skewed. The average household in 2010 owned only $13,000 in equities.

One might ask: What about defined benefit (DB) pension plans? In DB plans, the benefit level is determined by a formula that includes the earnings history of the worker, years of service, and the like and is fixed once the worker has retired. The value of DB plans is excluded from the standard definition of household wealth. DB plans also own a substantial share of stocks in the United States. Should the value of these stocks also be allocated to the household sector? Although retirement benefits from DB plans are paid directly to individuals, a rise in the stock market does not add to the retirement benefits of individual workers, as these are formula-based. Rather, it is the company that benefits from a rise in the stock market, as it means that the company has to put less money into these pension funds. As a result, a rise in the

stock market helps company profits and its shareholders, not pension beneficiaries.

References

Gomory, Ralph, and Richard Sylla, "The American Corporation," *Daedalus* 142, no. 2, Spring 2013, 102–118.

Wolff, Edward N. *TOP HEAVY: A Study of Increasing Inequality of Wealth in America.* Newly updated and expanded edition. New York: The New Press, 2002.

Wolff, Edward N., Ajit Zacharias, and Thomas Masterson. "Long-Term Trends in the Levy Institute Measure of Economic Well-Being (LIMEW), United States, 1959–2004," Working Paper No. 556, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY, 2009.

Endnotes

1. The source for housing price data for 1989–2007 is Table 935 of the *2009 Statistical Abstract*, U.S. Bureau of the Census, available at http://www.census.gov/compendia/statab/. The source for 2007–2013 is National Association of Realtors, Median Sales Price of Existing Single-Family Homes, available at: http://www.realtor.org/topics/metropolitan-median-area-prices-and-affordability. The data are for metropolitan areas only.

2. The source for stock price data is Table B-96 of the *Economic Report of the President, 2013*, available at http://www.gpoaccess.gov/eop/tables13.html, with updates to September 2013 provided from http://www.bloomberg.com/quote/.

3. The present value of future Social Security benefits (*Social Security wealth*) and that from private pension plans (*pension wealth*) are also excluded. Although these funds are a source of future income to families, they are not in their direct control and cannot be marketed.

4. This new debt took two major forms. First, because housing prices went up, families refinanced their primary mortgage and took out home equity loans, and the ratio of mortgage debt to total assets climbed from 29% in 1983 to 47% in 2007, and home equity as a share of total assets fell from 44% to 35%. Second, because of their increased availability, families ran up large debt on their credit cards.

5. The largest declines in asset prices over the years 2007–2010 occurred for residential and non-residential real estate and businesses. Financial assets, including stocks and securities, registered an annual return of "only" –2.23% because interest rates on corporate and foreign bonds continued to remain strong over these years. The value of pension accounts had a –2.46% annual return, reflecting the mixture of bonds and stocks held in pension accounts.

6. The 1983 data do no permit an estimation of indirect stock ownership, so we present the results for 1983 and 1989 separately from the other years.