# The Squeeze Before the Storm 

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parked and fueled by the subprime mortgage crisis, falling home prices, and havoc in the stock market, the current Great Recession is likely to be remembered as a period of enormous wealth destruction. Though comprehensive wealth data for the Great Recession period are not yet available, housing and stock prices both show a marked deterioration in the current recession. Housing prices have fallen by 23.5 percent in real terms since July 2007, and the Standard \& Poor (S\&P) 500 index was down by 40.9 percent in real terms over the same period. According to my estimates, while mean wealth (in 2007 dollars) fell by 17.3 percent between 2007 and 2009 (to $\$ 443,600$ ), median wealth plunged by an astounding 36. I percent (to $\$ 65,400$, about the same level as in 1992!).

The purpose of this article is to put such recent and spectacular wealth destruction in context by examining longer-term trends in wealth and its distribution. Conventional wisdom has it that this precursor period was simply one of great wealth creation; in truth, it was one of both wealth and debt creation, at least for the middle class. I begin by laying out a stylized economic history of the last two decades, and I then more formally trace trends in wealth inequality during this period. The objective throughout is to show how trends in wealth and debt creation set the stage for the Great Recession.

## A Stylized Economic History

The booming stock market of the i99os is perhaps the most relevant feature of the pre-crash landscape. According to the S\&P 500 index, stock prices surged I7I percent between I989 and 200I. Stock ownership spread, and by 200I, over half of U.S. households owned stock either directly or indirectly. Real wages, after stagnating for many years, finally grew in the late i990s. According to U.S. Bureau of Labor and Statistics (BLS) figures, real mean hourly earnings surged 8.3 percent between I995 and 2001. The current period of wealth destruction must of course be partially understood in the context of this enormous wealth creation and democratization that occurred in the i990s.

Although the last decade of the $20^{\text {th }}$ century was one of remarkable growth, the story was somewhat different between 2000 and 2007. In 200I, the U.S. saw a recession, albeit a short one. The stock market peaked in 2000 and then dropped steeply from 2000 to 2003 before recovering somewhat in 2004. Between 200I and 2004, the S\&P 500 was down by only 5.3 percent in nominal terms and I 2.0 percent in real terms-a very real decline, but one that pales in comparison to the enormous growth that occurred over the i990s. Likewise, real wages rose very slowly from 200 to 2004 (only i. 5 percent according to the BLS), and median household income dropped in real terms by I. 5 percent. Despite this relative stagnation, housing prices rose
sharply. The median sales price of existing one-family homes rose by 16.9 percent in real terms nationwide.

The other big story was that household debt, particularly that of the middle class, skyrocketed during these years, as I discuss below. Thus, while wealth and income creation largely stalled, family liabilities exploded, creating substantial declines in overall net worth. If the I990s created a mountain of new wealth, the first years of the new millennium witnessed its erosion.

From 2004 to 2007, the stock market rebounded. The S\&P 500 rose 31 percent in nominal terms and i9 percent in real terms. Real wages remained stagnant, with the BLS real mean hourly earnings rising by only i.O percent. Median household income continued to grow in real terms over this period, rising by 3.2 percent. From 2004 to 2007 , housing prices slowed, with the median sales price of existing one-family houses nationwide advancing only 1.7 percent in real terms over these years. So from 2004 to 2007, the net worth of Americans was improving somewhat. Although the longer period from 2001 to 2007 was one in which many middle-class Americans likely became accustomed to newfound wealth, the rapidly increasing debt squeeze would portend bad things to come.

## Trends in wealth

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## The Primacy of Wealth

It may be useful to step back at this point and ask whether such evidence on wealth matters all that much. It is of course more typical to examine the distribution of well-being or its change over time in terms of income. Family wealth, however, is also an important indicator of well-being, independent of the direct financial income it provides. This is true for at least four reasons. First, owner-occupied housing provides services directly to the owner (shelter, security). Second, wealth is a source of con-
sumption, independent of the direct money income it provides, because assets can be converted directly into cash and thus provide for immediate consumption needs. Third, the availability of financial assets can provide liquidity to a family in times of economic stress, such as those occasioned by unemployment, sickness, or family breakup. Fourth, in a representative democracy, the distribution of power is often related to the distribution of wealth.

For all of these reasons, trends in wealth inequality are reflective of trends in the unequal chances of Americans to get by and get ahead in American society. Some of my prior work on wealth presented evidence of sharply increasing household wealth inequality between I 983 and I 989 , followed by a more modest rise between 1989 and 1998. Both mean and median wealth holdings climbed briskly over the 1983-1989 period. From 1989 to 1998, mean wealth continued to surge while median net worth rose at an anemic pace. Indeed, the only segment of the population to experience large gains in wealth after i983 was the richest 20 percent of households. Moreover, despite the buoyant economy of the i990s, overall indebtedness continued to rise among American families. Stocks and pension accounts also rose as a share of total household wealth, with offsetting declines in bank deposits, investment real estate, and financial securities. Thus, over this time period, it was primarily the case that only the most affluent benefited from the massive wealth accumulation underway, and much of this wealth accumulation occurred in the types of wealth that are typically more volatile and insecure.

In the remainder of this article, I update my prior analyses on the ownership of household wealth up to 2007. I find here that the early and mid-2000s (200I-2007) witnessed both exploding debt and a middle-class squeeze. Median wealth grew briskly in the late i990s and even faster in the 2000 s. Inequality in net worth was also up slightly after 2000. Indebtedness, which fell substantially during the late i990s, skyrocketed in the early and mid-2000s. Among the middle class, the debt-to-income ratio would reach its highest level in 24 years. Thus, in the years leading up to the current crisis, the fruits of wealth accumulation continued to accrue mainly to the most affluent, while the typical American family found itself living increasingly in the red.

## Trends in Household Wealth

To examine trends in household wealth, I use the Survey of Consumer Finances (SCF), which is conducted by the Federal Reserve Board every three years, with 2007 the latest year available. Each survey consists of a core representative sample combined with a high-income supplement, making it ideal to study wealth (given such high levels of wealth concentration among the rich).

The wealth concept I use here is marketable wealth (or net worth), defined as the current value of all marketable or fungible assets less the current value of debts. Total assets are defined as the sum of: (I) owner-occupied housing; (2) other real estate;
(3) cash and demand deposits, time and savings deposits, certificates of deposit, and money market accounts; (4) bonds and other financial securities; (5) life insurance; (6) pension plans, including IRAs, Keogh, and $401(\mathrm{k})$ plans; (7) corporate stock and mutual funds; (8) unincorporated businesses; and (9) trust funds. Total liabilities are the sum of: (I) mortgage debt; (2) consumer debt, including auto loans; and (3) other debt.

## A. Median wealth rose briskly during the 2000 s

Figure i documents a robust growth in wealth during the i990s. After rising by 7 percent between 1983 and 1989 , median wealth (the wealth of the household in the middle of the distribution) was i6 percent greater in 200I than in 1989. As a result, median wealth grew slightly faster between 1989 and 2001 ( I .32 percent per year) than between 1983 and i989 (I.I3 percent per year). However, between 200I and 2007, median wealth grew by a sizeable 20 percent, even faster than during the i990s and i980s. Note that this growth in the 2000 s was entirely concentrated in the latter years of the period, 2004-2007. From 2001 to 2004 , median wealth actually fell.

On the surface, it seems surprising that median wealth fell from 200I to 2004 when housing prices rose so rapidly and increased so quickly during that period. As shown in Section C (see below), houses comprise the majority of the wealth of middle-class families (almost exactly two-thirds of the gross assets of the middle three wealth quintiles). From the increase in housing prices alone, median net worth should have risen by about 12 percent between 200I and 2004. (The decline in stock prices would have lowered median net worth by 0.9 percent, for a net gain of almost in percent over this period.) Median net worth failed to increase because of the enormous increase in middle-class household debt over these three years (see Section C below). The surge in median wealth from 2004 to 2007 is a bit of a mystery. The spike in stock prices accounts for only a small part of the increase (about I .4 percentage points). There was also a slight decline in the debt-to-asset ratio in the middle three wealth quintiles (see below), which accounts for some, but not all, of the increase. One remaining possibility is that middle class savings expanded over these years.

Mean wealth grew faster between 1989 and 2001, at 3.0 percent per year, than from 1983 to 1989 , when it grew at 2.3 percent per year. There was then a slight acceleration in wealth growth from 200I to 2007 , to 3 .I percent per year. This acceleration arose because the reduced growth in stock prices between 2001 and 2007 (in comparison with the 1989 to 2001 period) was counterbalanced by the rapid increase in housing prices (19 percent in real terms after 2001). Given that housing comprised 28.2 percent and (total) stocks made up 24.5 percent of total assets in 200I, this counterbalancing resulted in a net acceleration of wealth growth after 200I. Note here that mean wealth grew more than twice as fast as median wealth between 1983 and 2007, indicating a widening inequality of wealth over these years. Overall, mean wealth in 2007 was almost double mean

FIGURE 1. Percentage Growth, Median and Mean Wealth and Income


Source: Survey of Consumer Finances

FIGURE 2. Wealth Inequality


Source: Survey of Consumer Finances
wealth in i9 83 and about three quarters larger than mean wealth in 1989.

All of these developments contrast starkly with analogous trends in household income. Median household income (based on Current Population Survey data), after gaining iI percent between 1983 and I989, grew by only 2.3 percent from I989 to 200 I and another I. 6 percent from 2001 to 2007 , for a net change of 16 percent from 1983 to 2007 . In contrast, mean income rose by I 6 percent from 1983 to I 989 , by another I 2 per-
cent from 1989 to 200 I , and then fell by 0.8 percent from 200 I to 2007 , for a total change of 28 percent from 1983 to 2007 . Between I983 and 2007, mean income grew less than mean net worth, and median income grew at a much slower pace than median wealth.

In sum, while household income virtually stagnated for the average American household over the i990s and 2000s, median net worth grew strongly over these years. In the 2000s, in particular, mean and median income changed very little, while mean and median net worth were up sharply. But who reaped the fruits of this expansion?

## B. Wealth inequality shows a modest increase over the 2000 s

Figure 2 shows that wealth inequality, after rising steeply between i983 and i989, remained virtually unchanged from i989 to 2007 . The share of wealth held by the top I percent rose by 3.6 percentage points from 1983 to 1989, and the Gini coefficient-an index that goes from zero (no inequality) to one (complete inequality)-increased from 0.80 to 0.83 . Between 1989 and 2007 , the share of the top percentile actually declined sharply, 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 6 I .8 percent in 2007 , and the share of the top quintile rose from 83.5 to 85.0 percent. Overall, the Gini coefficient was virtually unchanged-0.832 in 1989 and 0.834 in 2007.

Despite the relative stability in overall wealth inequality dur-

FIGURE 3. Wealth Composition of Middle Three Wealth Quintiles


Source: Survey of Consumer Finances
ing the i990s, there was a near explosion in the number of very rich households. The number of millionaires almost doubled between 1989 and 2001, the number of "penta-millionaires" ( $\$ 5,000,000$ or more) increased three-and-a-half times, and the number of "deca-millionaires" (\$10,000,000 or more) grew more than fivefold. Much of the growth occurred between i995 and 200I and was directly related to the surge in stock prices. The number of the very rich continued to increase between 200I and 2007 at about the same pace, with the number of millionaires growing by 23 percent, the number of penta-millionaires by 37 percent, and the number of deca-millionaires by 37 percent as well.

## C. Debt surges in the 2000 s

The portfolio composition of household wealth shows the ways in which households save. Here I concentrate on the "middle class," defined as the middle three wealth quintiles ( 60 percent) of households. In 2007, owner-occupied housing was this group's most important household asset, accounting for 65 percent of total assets (see Figure 3). However, net home equity (the difference between the market value and outstanding mortgages on the property) amounted to only 35 percent of total assets, a reflection of their correspondingly large mortgage debt. Liquid assets (demand deposits, time deposits, money market funds, CDs, and life insurance) made up 8 percent and pension accounts another 13 percent. All together, housing, liquid assets, and pensions accounted for 86 percent of the middle class's total assets. The remainder was about evenly split between non-home real estate, business equity, various financial securities, and corporate stock. Stocks directly or indirectly owned amounted to only 7 percent of the middle class's total assets. The middle class's ratio of debt to net worth ("equity") was 6I percent, substantially higher than for the richest 20 percent. Its ratio of debt to income was 157 percent, also much higher than for the top quintile. Finally, the middle class's mortgage debt amounted to almost half the value of their principal residences.

There have been some notable changes in the composition of household wealth within the middle class over the period between 1983 and 2007 . The first is the rise in the share of gross housing wealth among total assets. After remaining at about 60 percent from i983 to 200I, the
ratio jumped to 65 percent in 2007 . There are two factors behind this. The first is the rise in the homeownership rate from 72 percent in 1983 to 77 percent in 2007 . The second is the sharp increase in housing prices from 200I to 2004, as noted above.

A second, related trend is that net equity in owneroccupied housing fell almost continuously from 44 percent of total assets in 1983 to 35 percent in 2007. The difference between the two series' (gross versus net housing values as a share of total assets) is attributable to the changing magnitude of mortgage debt on homeowners' properties, which increased from 29 percent in 1983 to 47 percent in 2007.

Third, overall indebtedness increased substantially, despite a dip around the turn of the century. The debt-equity ratio leaped from 37 percent in 1983 to 5 I percent in 1998 before falling to 46 percent in 200I. It then jumped, however, to 6I percent in 2007, its highest level over these 24 years. Likewise, the ratio of debt to total income surged from 67 percent in 1983 to ioo percent in 200 I and then skyrocketed to 157 percent in 2007, also its high for this period. If mortgage debt on principal residence is excluded, then the ratio of other debt to total assets actually fell from 9.5 percent in 1983 to 7.6 percent in 2007 . One implication is that over time families used tax-sheltered mortgages and home equity loans, rather than consumer loans and other forms of consumer debt, to finance their normal consumption.

A fourth change is that pension accounts rose from 1.2 to I2.9 percent of total assets from 1983 to 2007 . This increase largely offset the decline in total liquid assets, from 21.4 to 7.8 percent, such that a reasonable conclusion is that households have largely substituted tax-deferred pension accounts for taxable savings deposits.

Fifth, if we include the value of stocks indirectly owned through mutual funds, trusts, IRAs, $401(\mathrm{k})$ plans, and other retirement accounts, then the value of total stocks owned as a share of total assets increased more than fivefold from 2.4 percent in I983 to 12.6 percent in 200I, but then tumbled to 7.0 percent in 2007 . The rise during the i990s reflected the bull market in corporate equities as well as increased stock ownership,
 small rise in the stock market over this period (particularly relative to housing prices), as well as a drop in stock ownership. The change in stock prices by itself would have caused the share of total stocks in assets to fall by 2.9 percentage points between 200I and 2007, compared to the actual decline of 5.6 percentage points. Most of the decline in the share of stocks in total assets was due to sales of stocks and withdrawals from stock funds.

Overall, then, the growth in wealth over this period was accompanied by just as significant an expansion in household debt. While the numbers of the super rich continued to expand, and wealth increased and became more democratized over this period, middle-class wealth holders found themselves saddled with debt. This segment of the population accordingly became vulnerable to the current economic crisis.

## Squeezed Out

Trends in wealth since 200I document an explosion of household debt and the rise of the middle-class squeeze. There was a middle-class squeeze in the sense that, for the middle three wealth quintiles, there was a substantial increase in the debt-toincome ratio and in the debt-equity ratio.

As a postscript, we can see how the rising debt of the middle class made them vulnerable to income shocks and set the stage for the mortgage crises of 2008 and 2009 and the resulting financial meltdown. The rapid decline in housing prices over these two years (on the order of 20 percent) has left many middle-class families "underwater" (i.e., with greater mortgage debt than the value of their homes) and, coupled with a spike in unemployment, unable (or unwilling) to repay their mortgage loans. Recent years, then, can best be seen as the "squeeze before the storm."

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