

# America's Debt Problem:

How Private Debt Is Holding Back Growth and Hurting the Middle Class

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# Part I: A Debt-Dependent Economy

Over time, the US economy has become more dependent on debt to fuel economic growth. American households, in particular, have become dependent on debt to maintain their standard of living in the face of stagnant wages. Rising levels of private debt have also fueled consecutive investment asset bubbles, whose bursting not only caused the Great Recession but also left a large and burdensome debt overhang that is still being dealt with today.

The entirety of America's debt build-up from the 1990s to 2008 was the result of a dramatic increase in private debt, not public debt. Federal government debt as measured by debt to GDP did not increase during this period. Federal debt rose only after the onset of the Great Recession.

The rise of America's debt-dependent economy has coincided with greater income and wealth inequality. As labor's share of income has declined, private household debt has increased. The increase in private debt is not only a reflection of changes in the distribution of income but also a cause of those changes as indebted households transfer income to wealthier creditors.

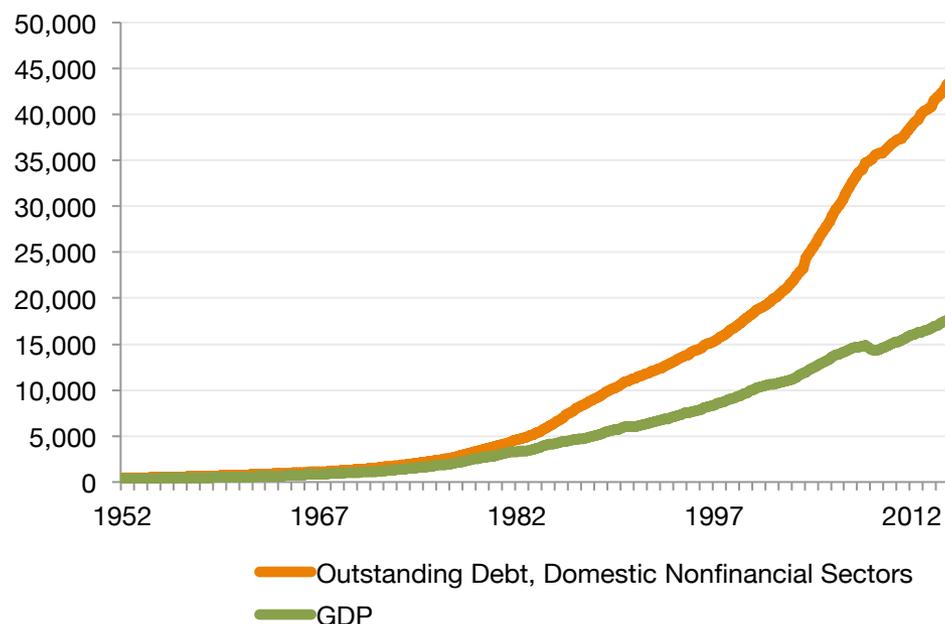
# The US economy has become more dependent on debt.

From the end of World War II until the late 1970s, the increase in total debt in the economy closely tracked GDP. Starting in the late 1970s, however, debt decoupled from GDP and started rising much more quickly.

Debt rose even faster during the period from the early 1990s until the financial crisis in 2007-08, reflecting the development of the housing and credit bubble.

The entirety of this debt increase was in the private household and business sectors. Federal government debt-to-GDP did not increase at all from 1990 to 2008.

Total debt versus GDP, 1952 to 2015Q2



Source: BEA and Federal Reserve; data in billions

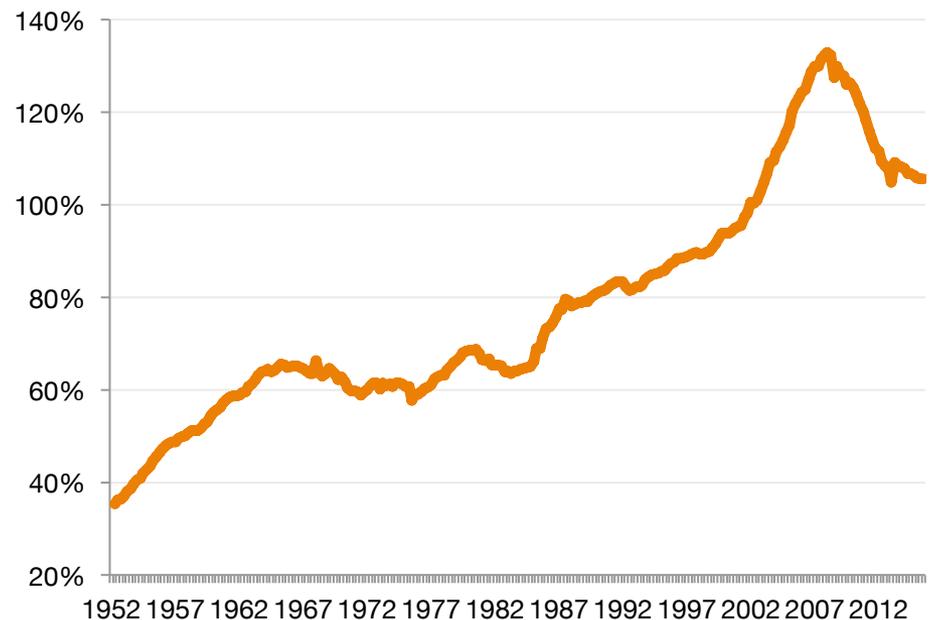
# American households have become dependent on debt.

**During the credit boom period, the ratio of household debt to disposable income expanded dramatically, from 60% in 1977 to 128% at the peak of the bubble in 2008.**

Household debt increased most rapidly starting in the late 1990s. From the beginning of the decade to the beginning of 2008, household debt-to-GDP increased nearly 50%.

The big increase in household debt from 2000 to 2008 was made possible by rising home prices, which allowed homeowners to borrow against the value of their homes.

Household debt to disposable income



Source: Author's calculations from BEA and Federal Reserve data

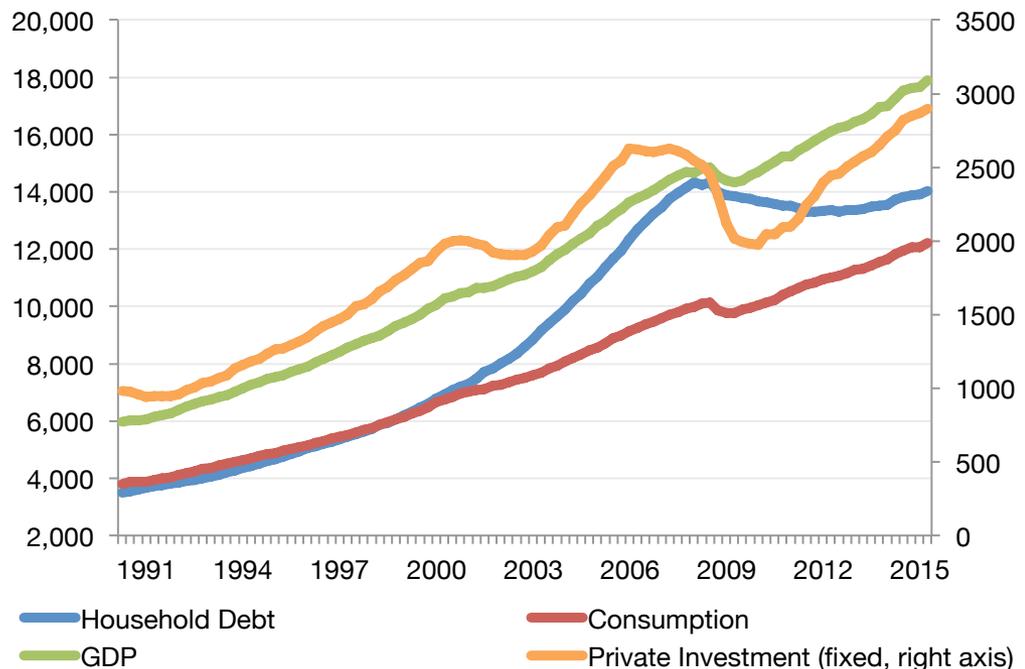
# Debt was used to finance investment, but not necessarily productive investment.

The increase in private debt helped support higher levels of both consumption and investment during the pre-crisis period.

The rise in household debt enabled the living standards of many Americans to continue to rise even as wages and incomes stagnated.

Private debt was used to increase consumption, but it was also used to finance investment. In fact, it fueled more growth in investment than it did growth in consumption – but not necessarily for productive investment. The sizeable spike in investment from 1997 to 2008 reflects consecutive bubbles in tech and housing.

Household debt vs. consumption and investment



Source: Author's Calculations from BEA and Federal Reserve Data

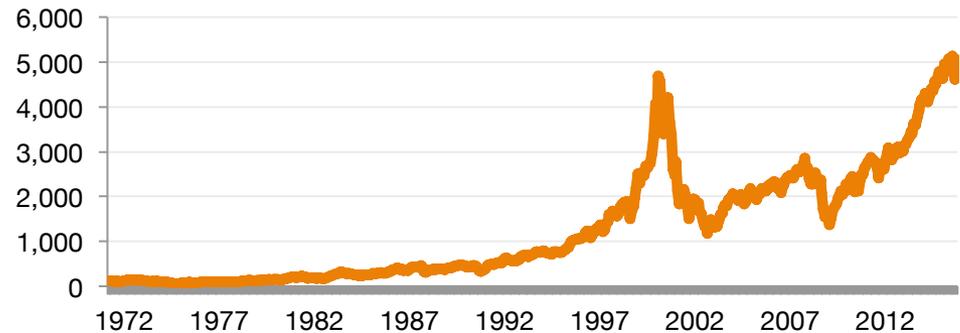
# Debt-led growth has led to big investment booms and busts.

The increase in debt and investment is inextricably linked to asset bubbles – first, the tech bubble in the late 1990s and then the housing bubble that followed.

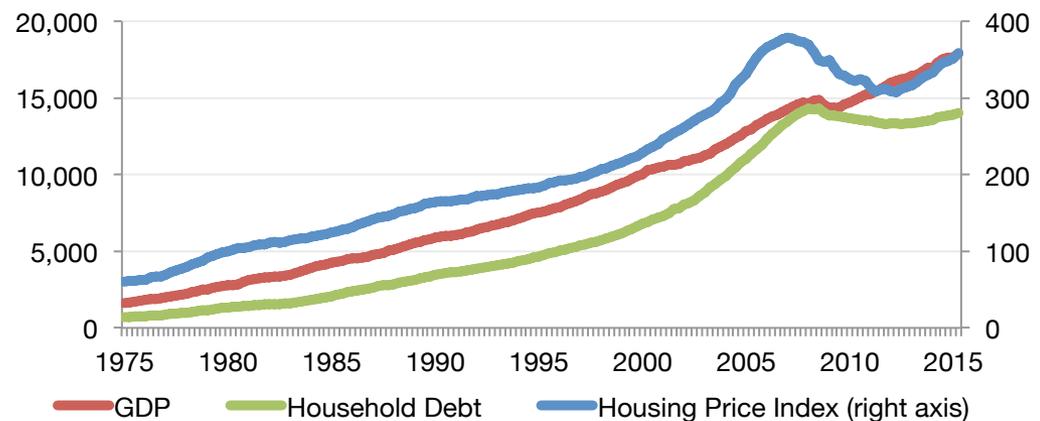
Much of the increase in investment in the last decade was due to investment in housing. In the period 2000-2007, average residential investment was 30% of total private fixed investment, up from 25% in the 1980s and 1990s. Investment and debt rose together during the boom before investment fell hard.

What this suggests is that much of the investment over the past several decades has been wasted in that it has not resulted in a comparable increase in the capacity to generate income.

NASDAQ Composite Index



Housing prices vs. GDP



Source: top: NASDAQ OMX Group; bottom: FHFA, BEA, Federal Reserve

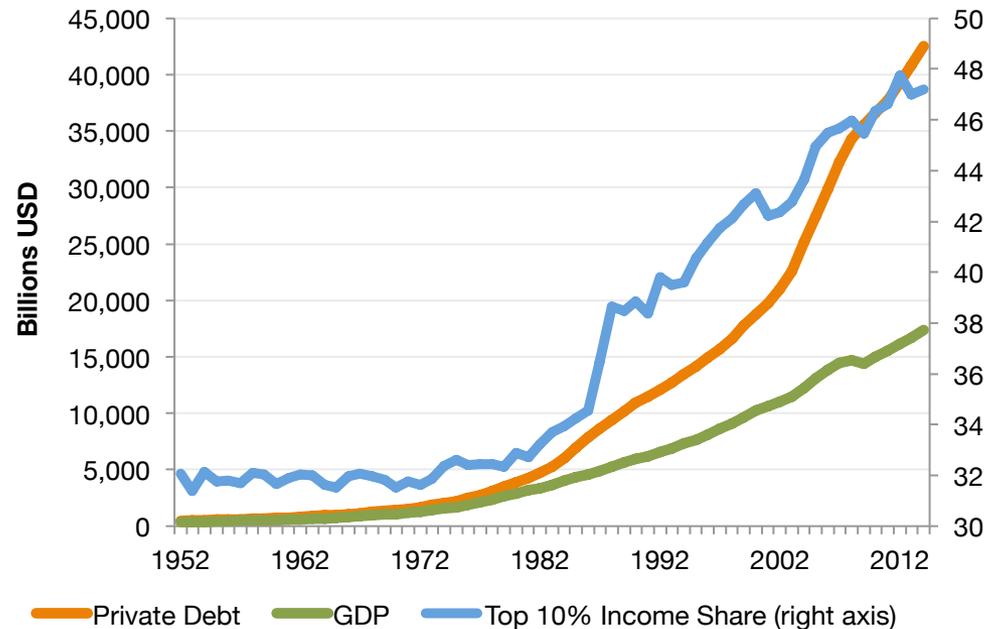
# Debt-led growth has coincided with greater income inequality.

The reliance on debt to drive economic growth correlates with changes to the income distribution. Since the early 1970s, the top 10% of income earners – and particularly the top 1% of income earners – have taken a much larger share of overall income.

The share of income going to the top 10% increased from 32% in 1952 to 48% at the peak of the boom. The top 1% share of income is now almost 20%, double what it was 60 years ago.

The distribution of income is also related to the volatility of booms and busts: the greater share of capital income concentrated at the top has led to larger swings in income tied to the bubbles that burst in 2001 and 2007-08.

Income share of the top 10% and private debt



Source: Author's Calculations from BEA and Federal Reserve Data, Piketty and Saez World Top Incomes Database

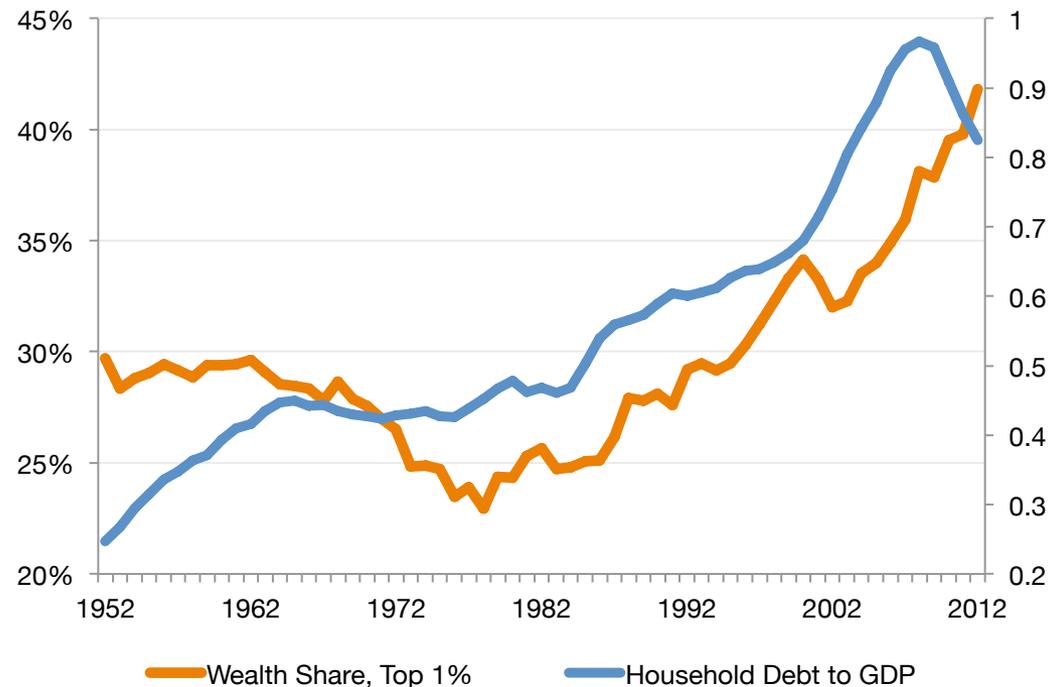
# Debt-led growth has coincided with greater wealth inequality.

The share of wealth owned by the top 1% increased from the 1970s through the 2008 crisis. The top 1% now owns more than 40% of the wealth, up from a quarter four decades ago.

An increase in private debt is not only a reflection of distributional changes in the economy but also a cause of those changes. The upward redistribution of wealth tends to result in the transfer of income from debtors to high-income creditors, further exacerbating inequality and slowing economic growth.

Wealth inequality declined briefly with the 2008 crisis but is increasing again as stocks and other assets have recovered much more strongly than have income and wages.

Household debt vs. wealth share of top 1%



Source: Author's Calculations from BEA and Federal Reserve Data, Gabriel Zucman

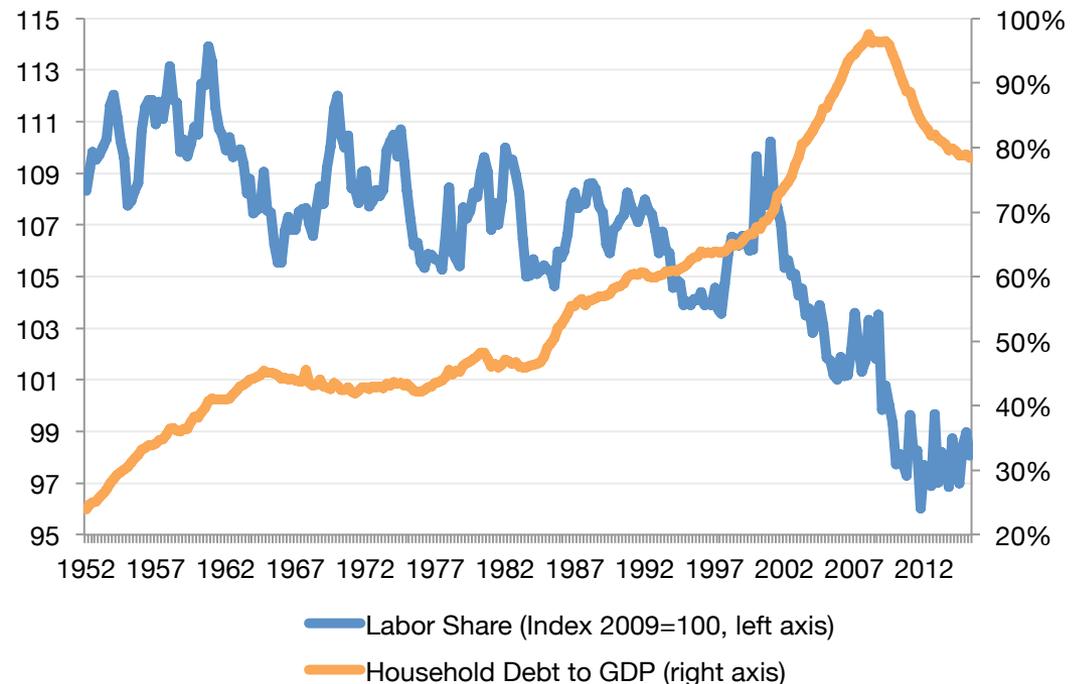
# Debt-led growth has coincided with the decline of labor's share of income.

The decline of labor's share of total income mirrors the rise of private debt. From 2000 to 2009, labor's share dropped 9%, while household debt-to-GDP increased 48%.

A lower labor share in the economy means less bargaining power for workers, which translates into lower wages.

The decline of labor's share supports the thesis that households were only able to maintain consumption levels by taking on more debt – which was made possible by rising housing prices.

Labor share declined as household debt grew



Source: Author's Calculations from BEA and Federal Reserve Data

## Part II: Paying Down the Debt

In the aggregate, households have paid down some of the huge increase in private debt that occurred over the past several decades. But household debt levels remain much higher than they were in the 1990s before the tech and housing bubbles. Overall levels of debt in the economy also remain well above earlier levels. Public sector debt has increased as households have deleveraged, so total debt has declined only modestly.

The debt-servicing burden of households has fallen more than household debt levels because of historically low interest rates. Household equity has also improved with the recovery of housing prices, and delinquencies have become less common. But mortgage difficulties remain.

The current level of household debt is sustainable only if interest rates remain low and housing values continue to rise. Many indebted households remain exposed to a rise in interest rates. More household deleveraging may therefore be needed.

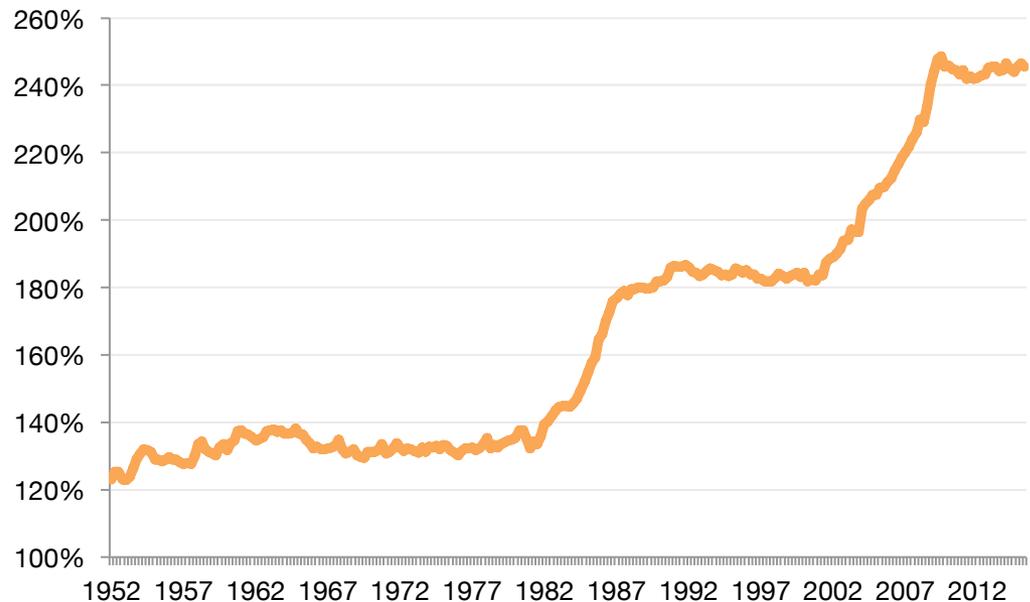
# Overall debt has declined, but not by very much.

Total nonfinancial debt in the economy declined modestly from 248% of GDP at its peak in the beginning of 2009 to 242% in the second quarter of 2011 before gradually rising again to 246% as of 2Q2015.

Most deleveraging took place in the financial sector as banks were forced to increase capital and reduce leverage.

Private nonfinancial debt has remained stable at a high level. For the last six quarters, it has fluctuated around 245-246%, basically unchanged since the peak.

Total nonfinancial debt-to-GDP



Source: Author's calculation of BEA and Federal Reserve data

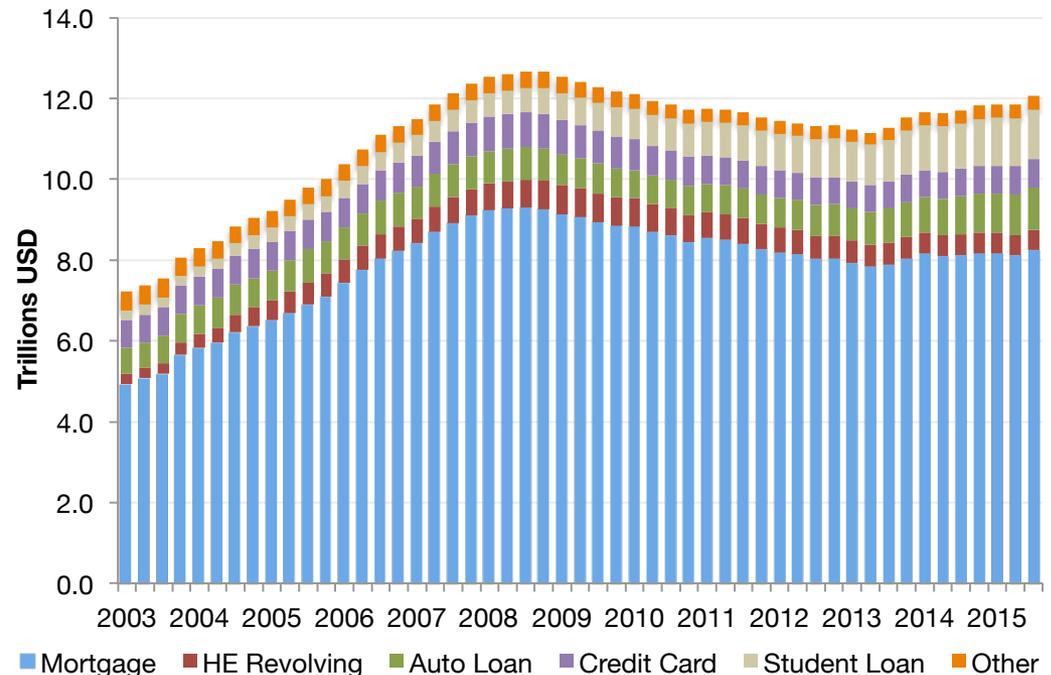
# Households have decreased debt burdens some.

Debt in the household sector has fallen from a peak of 97.6% of GDP in 1Q2008 to 78.4% of GDP in 2Q2015. These levels are much higher than previous eras. In the 1980s, household debt averaged 50% of GDP and in the 1990s it averaged 61%.

Total outstanding household credit peaked at \$12.7 trillion in 2008 before declining to \$11.2 trillion in 2013 and then rising again.

Households have deleveraged primarily by reducing mortgage debt and, to a lesser degree, credit card and home equity debt. Households have increased their debt in the form of student loans and auto loans.

Household debt balances are nearing 2009 peak



Source: New York Federal Reserve

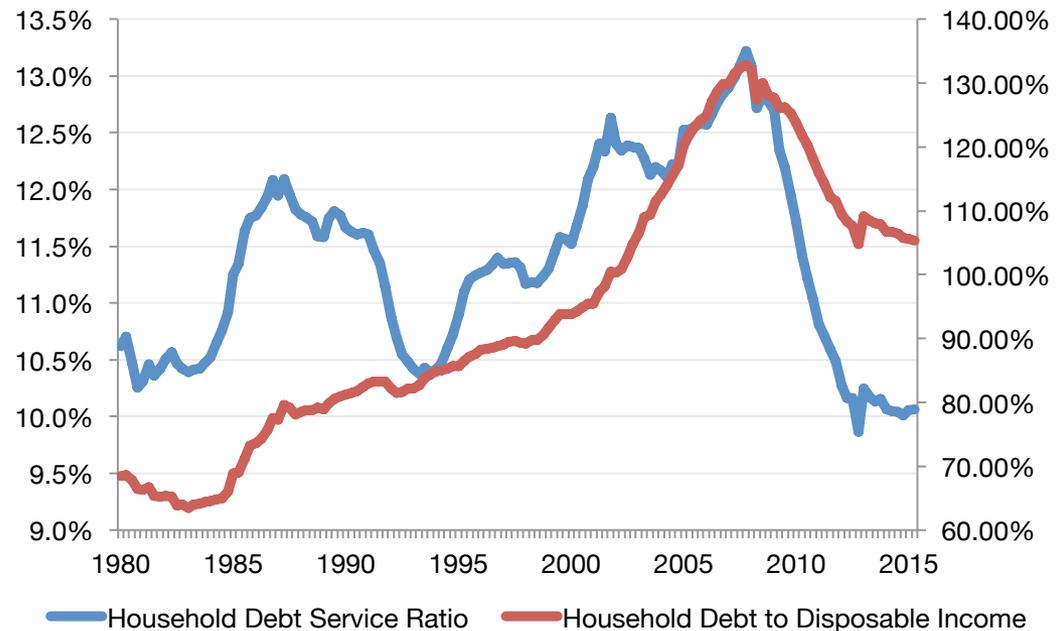
# Households' debt servicing burden has declined because of low interest rates.

Household debt service has fallen from more than 13% in 2007 to 10% today, its lowest level since the Federal Reserve began calculating the debt service ratio in 1980.

The low debt service burden is primarily due to low interest rates rather than debt deleveraging, however. The yield on the 10-year treasury has dropped from 5.1% in June 2007 to 2.2% in December 2015.

Debt-to-income has fallen far less than the debt service burden. Therefore, households remain exposed to rising interest rates. Household debt to income has fallen from a peak of 132% in 2007 to 106% in 4Q2015.

Household debt service dropped much faster than overall debt to income ratio



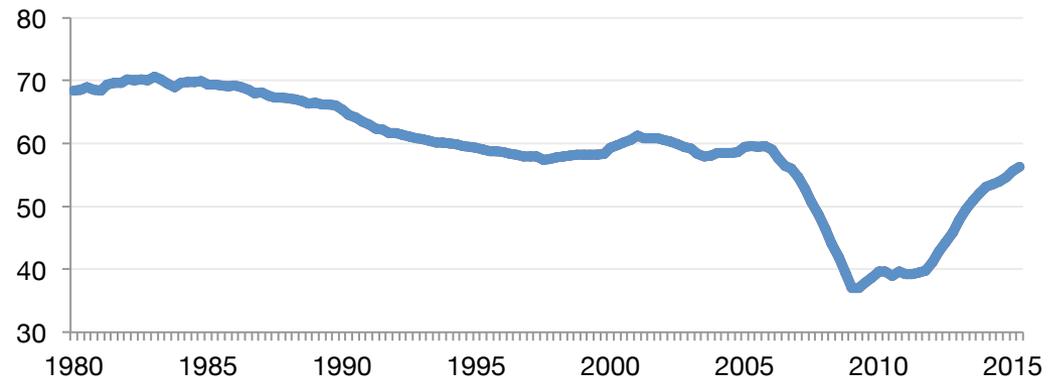
Source: Author's Calculations from BEA and Federal Reserve data

# Home equity has improved from the depths of crisis.

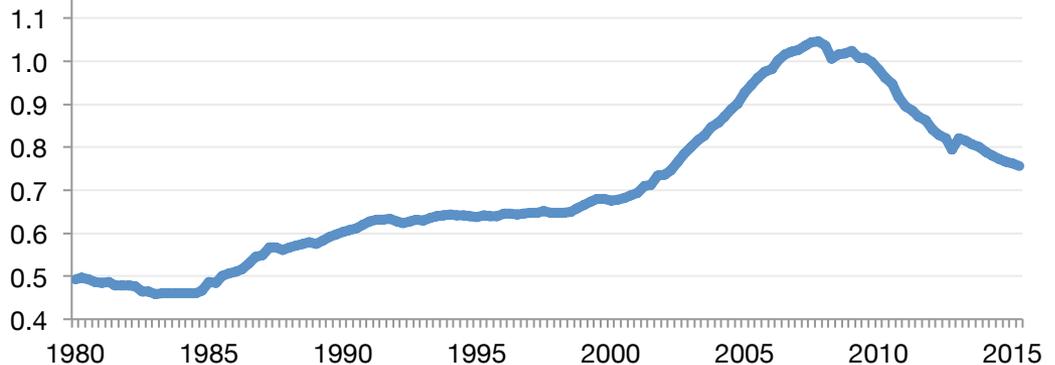
The recent rise in equity values has been positive news for household balance sheets. Aggregate equity to value has risen from a low of 37% in mid-2009 back to 56% in the second quarter of 2015, inching closer to 1990s pre-bubble levels.

Mortgage debt-to-income has also improved as more households have decreased their mortgage balances, either by default, refinancing, or paying down debt. But mortgage debt remains above pre-bubble levels: household mortgage debt-to-income is now 71%, compared to an average of 59% in the 1990s, before the bubble began.

Homeowner equity to value



Household mortgage debt to income



Source: Federal Reserve

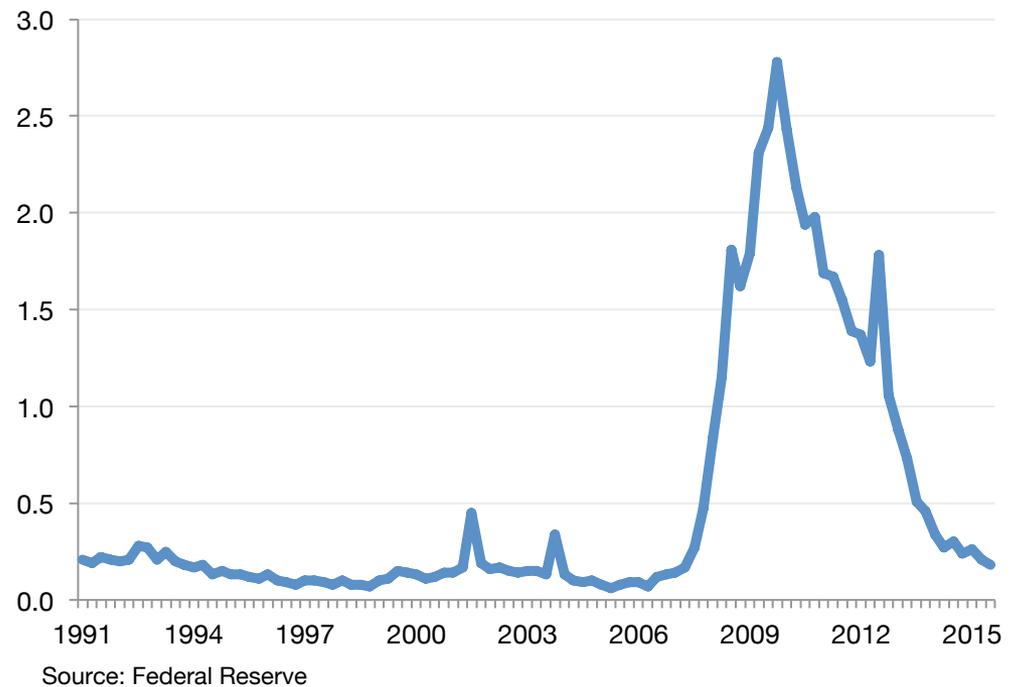
# Deleveraging has been achieved by default.

At the beginning of the recovery process, much of the deleveraging that took place was not through paying down debt but by defaulting on mortgages. The charge-off rate on single-family residential mortgages climbed as high as 2.75% in the third quarter of 2009.

The decline in charge-offs after 2010 is one reason that deleveraging has since slowed.

While charge-offs have declined almost back to pre-crisis levels, residential mortgage delinquencies remain high relative to their pre-bubble levels. See next slide.

Charge-off rate, single family residences



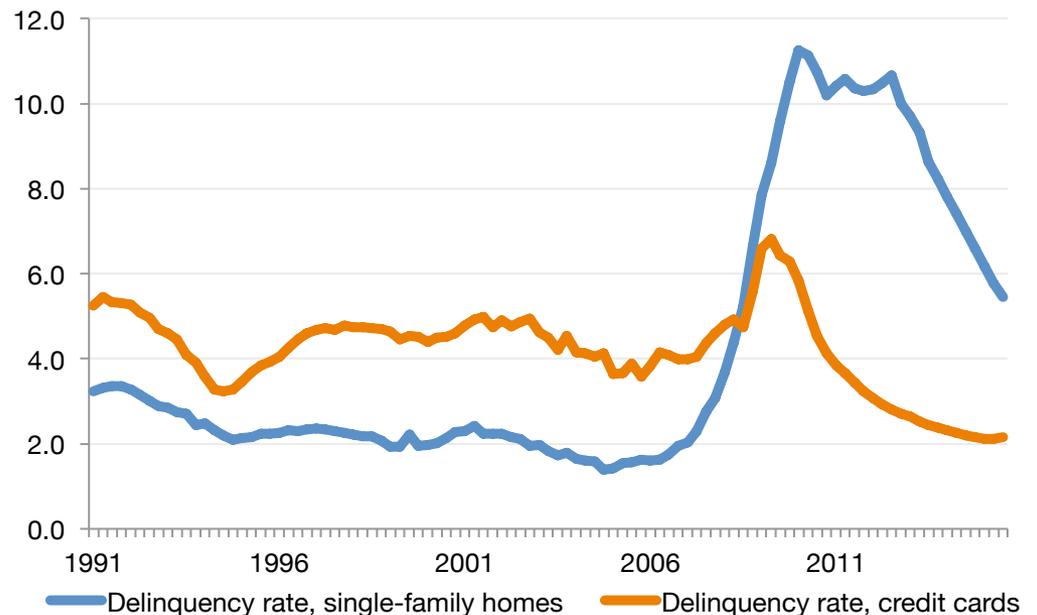
# Delinquencies have fallen, but mortgage difficulties remain.

Total delinquent loans (past 30 days overdue) have declined from a peak of 7.4% of all loans to 2.3% today.

Credit card delinquencies are lower than any other time since the Federal Reserve began tracking delinquencies in 1991.

Residential mortgage delinquencies have fallen from more than 10% in the 2010-2011 period to under 6% today, but are far above the average of 2% during the 1990s.

Delinquency rates, single family residences and credit cards



Source: Federal Reserve

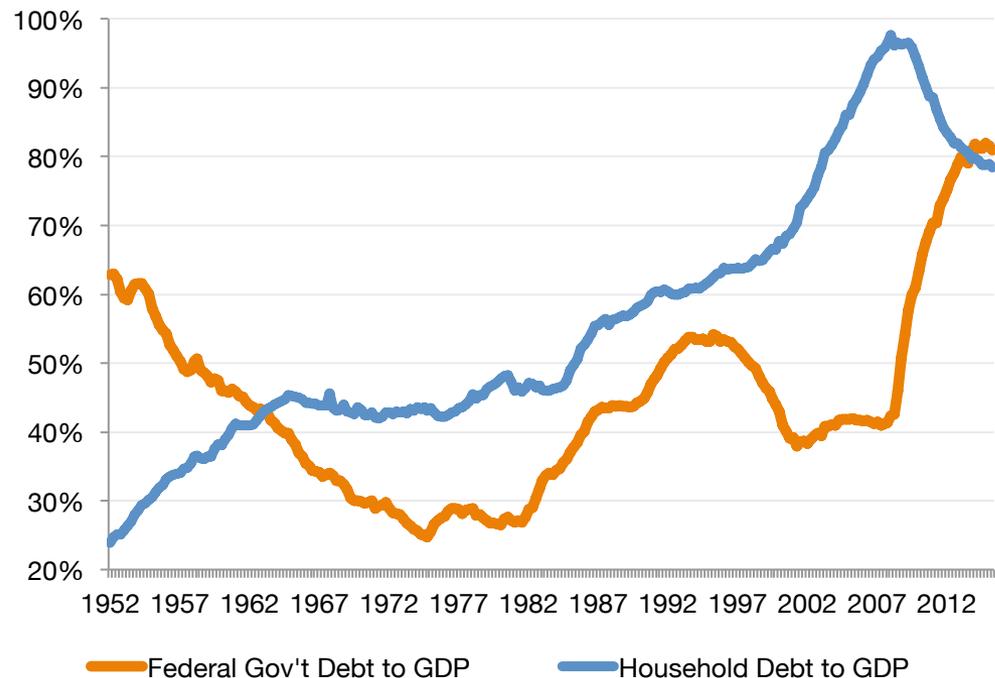
# Federal government debt has increased to offset household deleveraging.

**Outstanding federal government debt held by the public nearly doubled from 41% of GDP in 2007 to 81% today.**

By taking on more debt, the public sector allowed private households to pay down as much debt as they did without plunging the economy into depression.

Unlike the federal government, state and local governments were forced to deleverage because of balanced budget requirements. Federal borrowing has thus also supported a decline in state debt levels. Since 2010, state and local governments have decreased their debt loads from 20% to 17% of GDP.

**Federal gov't debt offsets private sector deleveraging**



Source: Author's Calculations from BEA and Federal Reserve Data

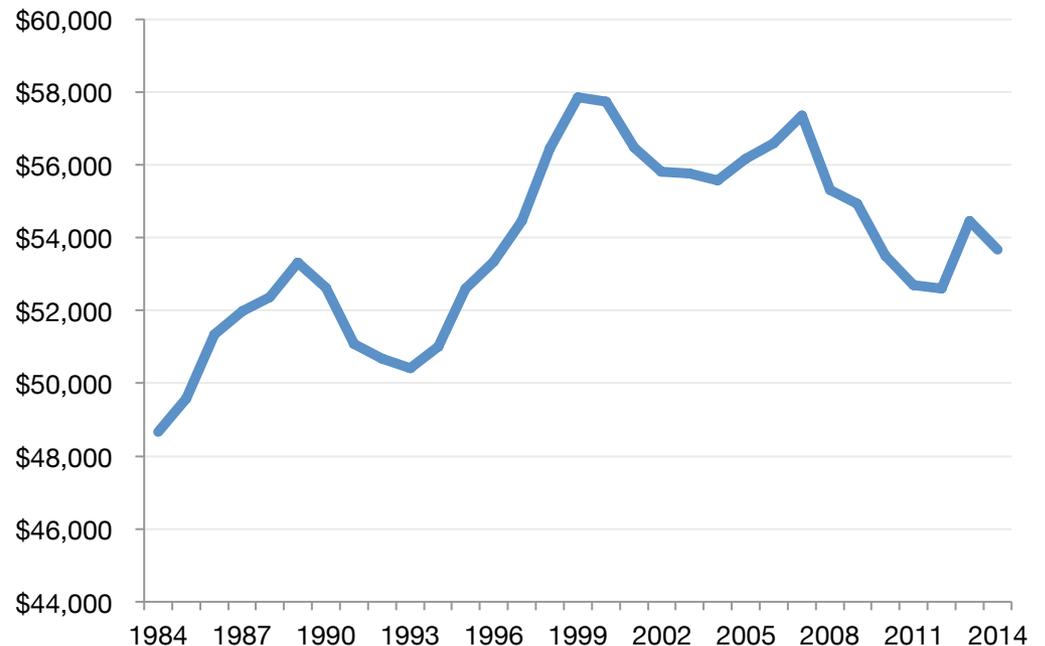
# Wages and income have remained stagnant.

**From 2008 through 2014, wages have stagnated and median family incomes have actually declined, making the process of paying down debt more difficult and contributing to economic weakness.**

Median household income in 2012 had fallen to virtually the same level it was in 1995. The median household earned \$51,017 in 2012 compared to \$50,978 in inflation-adjusted dollars in 1995. After rising in 2013, household income fell again in 2014.

Since March 2009, real hourly wages for all private sector workers have grown only modestly—by 2% cumulatively. From 2009 to 2012, real wages actually declined by 1%.

Median household income, 2014 dollars



Source: Census Bureau

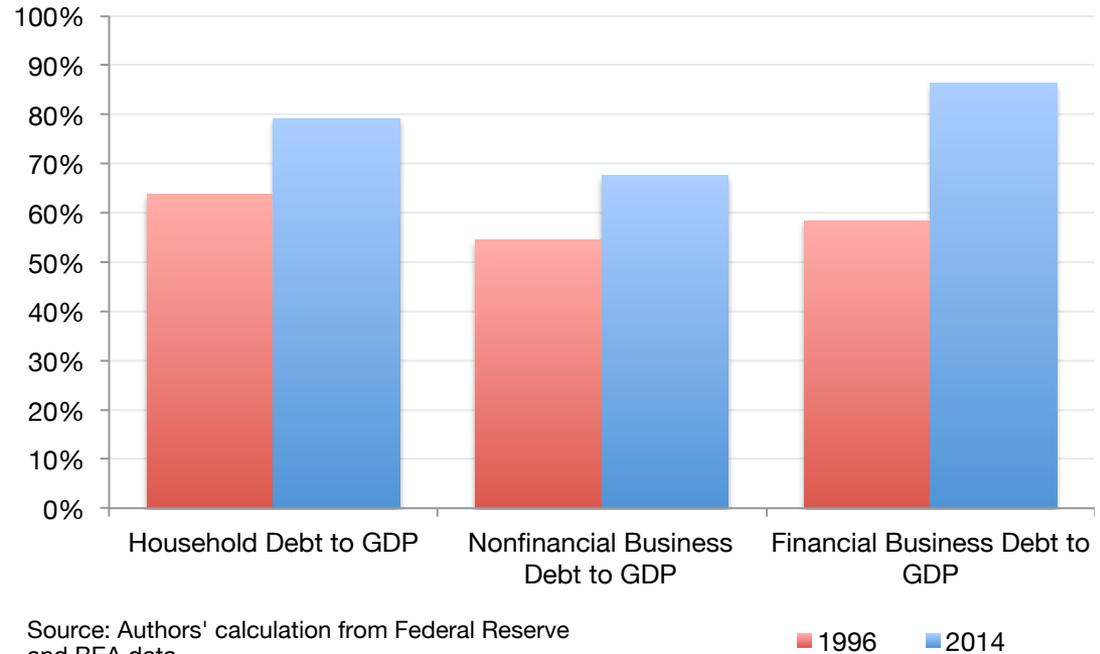
# More household deleveraging is needed.

Even though households have again started to take on more debt, they may not have deleveraged enough before doing so. Household debt levels are still much higher than they were prior to the tech and housing bubbles.

To return to debt levels of 1996, households would have to reduce debt by another \$2.5 trillion, or 15% of GDP.

The current level of household debt is sustainable only if interest rates remain low, housing prices continue to rise, and wages and incomes grow.

Debt to GDP balances much higher than pre-bubble period



Source: Authors' calculation from Federal Reserve and BEA data

## Part III: America's Debt-Burdened Bottom and Middle

While some deleveraging has occurred in the aggregate, the lower and middle classes still face a serious debt burden. Lower and middle-income households have much higher debt burdens than do upper-income groups.

The deleveraging process has been difficult for the lower and middle classes because of the lack of wage and income growth. Indeed, for families with the lowest incomes, the debt-servicing burden has actually increased in spite of low interest rates.

Households have paid down mortgage and credit card debt but have taken on more student loan and auto debt. Total student debt has increased substantially. Not only are students taking out more debt but more students are borrowing. As a result, student loan delinquencies are rising as well.

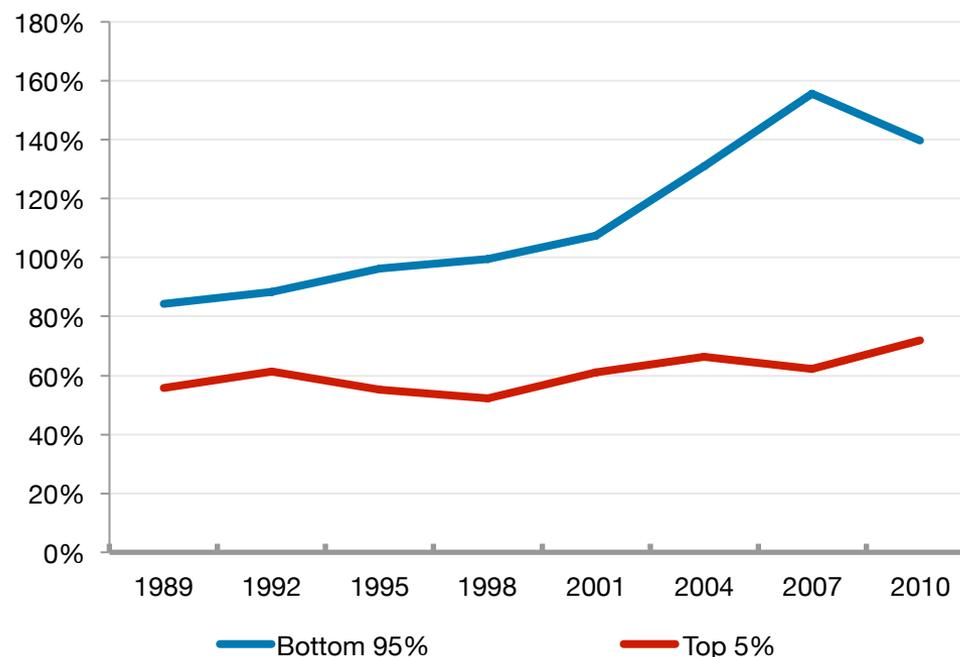
# All but the very wealthiest households remains burdened with debt.

**Much of the debt boom was concentrated in households in the bottom 95% of the income distribution, according to data from Barry Cynamon and Steven Fazzari.**

From 2001 to 2007, debt for the bottom 95% of households rose from 107% to 156% of income. Meanwhile, household debt-to-income for the top 5% of households remained essentially flat.

Since the 2008 crisis, the bottom 95% of households have been forced to pay down debt and cut consumption, while the top 5% have taken on slightly more debt and increased consumption.

Debt-to-income, bottom 95% vs. top 5%



Source: Cynamon and Fazzari, "Inequality, the Great Recession, and Slow Recovery" via Sherraden and Schwenninger

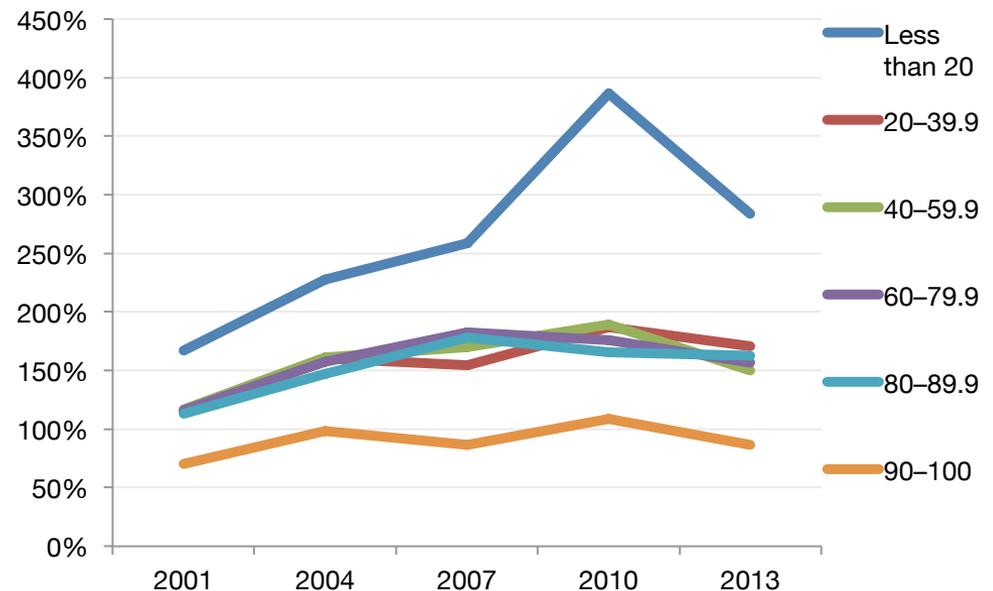
# Debt is more heavily concentrated in households in the middle and bottom.

**Lower income households have much higher debt burdens. Every income group outside of the top 10% of households has an average debt-to-income ratio higher than 150%.**

From 2007 to 2010, debt rose from 134% to 203% for the bottom 80% of households. Meanwhile, households in the 80<sup>th</sup> to 90<sup>th</sup> percentile lowered their debt-to-income ratio from 159% to 147%.

Households in the bottom income quintile deleveraged from 2010 to 2013. But their overall debt-to-income levels are still nearly double that of middle and upper-middle income groups, and three times that of the top 10%.

**Debt to income has decreased, but huge gap remains (by income quintile)**



Source: Author's calculations from Survey of Consumer Finance data

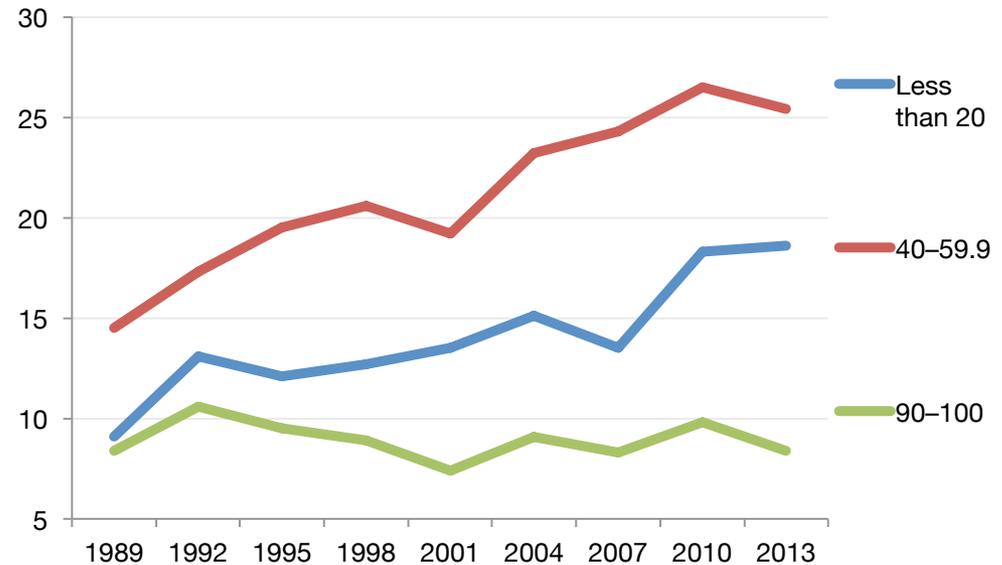
# The household balance sheet of the bottom and middle has deteriorated.

The decline in housing values since 2007 has badly damaged the financial position of lower and middle income households.

The leverage ratio for the poorest 20% of households increased from 13.5% in 2001 to 18.6% in 2013. For the middle income quintile (40<sup>th</sup> – 60<sup>th</sup> percentile), it increased from 19.2% to 25.4% over the same time period.

A higher leverage ratio puts more pressure on households and gives them less flexibility in case of income shocks or a decline in asset values.

Leverage ratio (debt to assets) highest for bottom and middle



Source: Survey of Consumer Finances, Federal Reserve

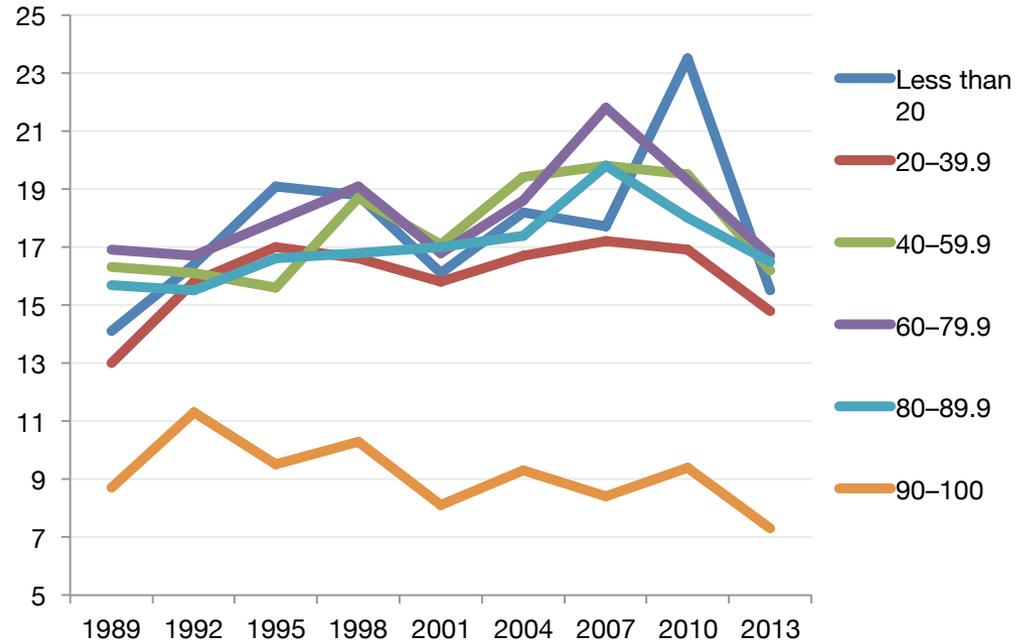
# The debt service burden is greater for low- and moderate income families.

Even though aggregate debt service burdens have been falling due to lower interest rates, this change has not been equally distributed.

All income level groups reduced their debt service burden from 2010 to 2013. For all groups outside of the top 10% of households by income, debt service remains at 15% of income or higher. Debt service for the highest echelon of households is less than half, at 7%.

Only after six years of deleveraging have middle class household debt service burdens returned to where they were in the 1990s, when they averaged 17.9% of income for the middle quintile of households.

Debt service by income level



Source: Author's calculations from Survey of Consumer Finance data

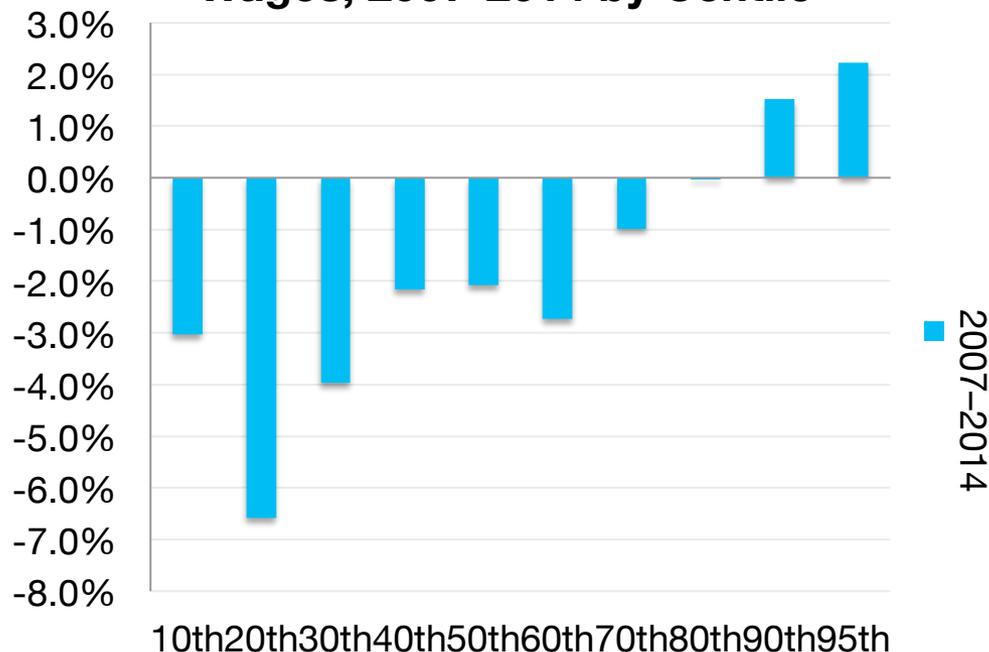
# The debt burden of lower income families has been exacerbated by stagnant wages.

The overhang of debt is especially problematic for lower income households, who have until recently experienced wage declines since the Great Recession.

According to the Economic Policy Institute, only the top 10% of workers have enjoyed overall wage increases since the bubble peak. From 2009 through 2014, workers in the 20<sup>th</sup> percentile of the income distribution saw their wages drop 6.6%, and even those in the 50<sup>th</sup> percentile experienced a 2.1% decline in wages.

Since 2009, the combination of high levels of debt and lower wages has created a more precarious financial situation for most households.

Cumulative Percent Change in Real Wages, 2007-2014 by Centile



Source: Economic Policy Institute

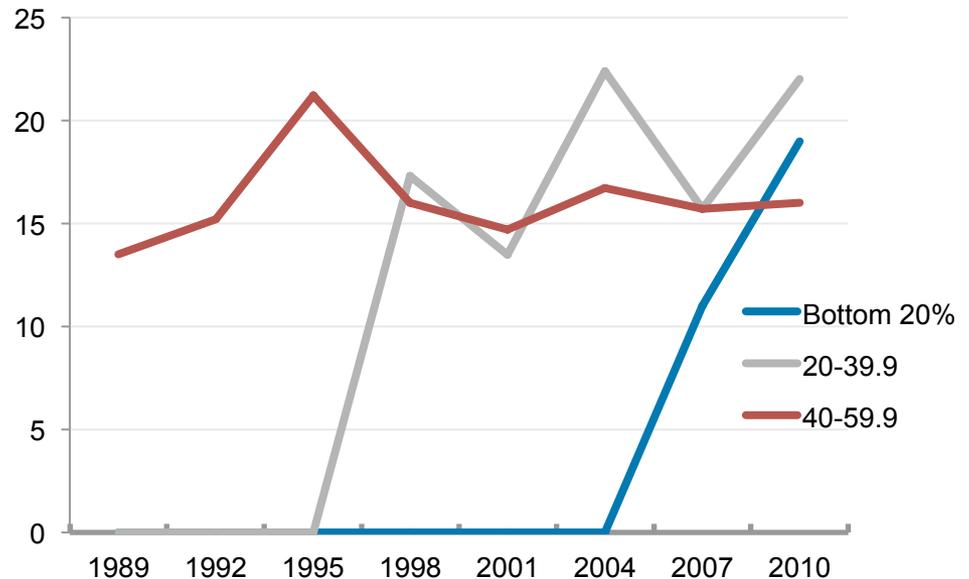
# Lower income households became dependent on home equity borrowing.

With the rise of housing prices before the crisis, home equity lines of credit (HELOC) became a more important source of credit for income-constrained households.

The rise in HELOCs was particularly large for lower income households: in 2004, the median debt secured by HELOCs was zero. By 2010, that number had become almost \$20,000.

But with the decline in housing values since 2007, many households that took out HELOCs have found themselves with negative equity and thus in serious financial difficulty.

Median Debt Secured by HELOC by Income Quintile



Source: Federal Reserve and Bureau of Economic Analysis data

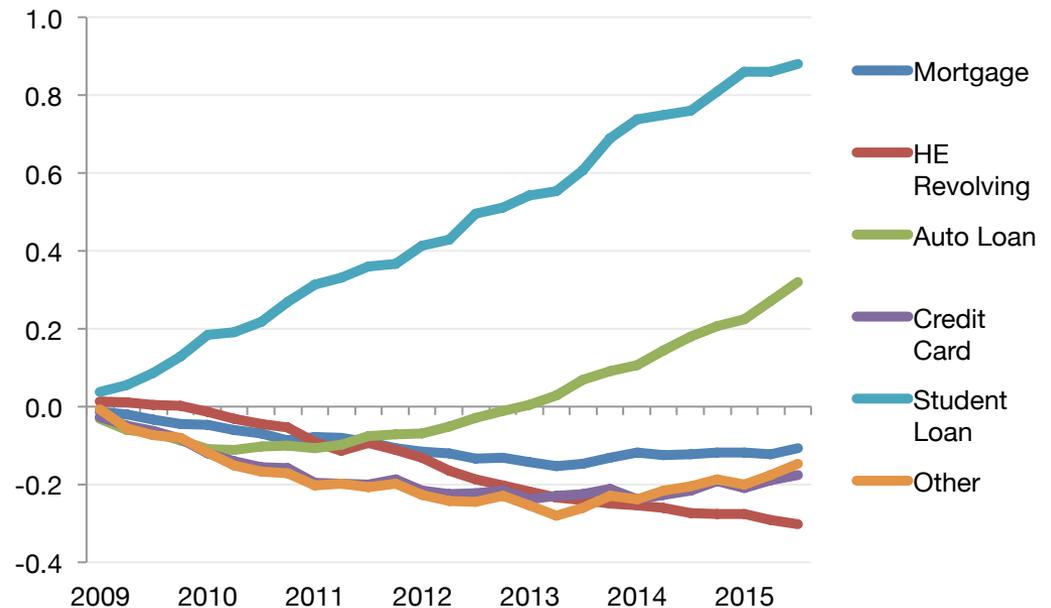
# Student loans: the new home equity line of credit?

**Households – particularly upper-middle income households – have paid down mortgage and credit card debt but have taken on more student loan and auto debt.**

Student loan debt has increased steadily since the beginning of the overall deleveraging process, acting as a crutch for some households trying to pay down other kinds of debt.

With HELOCs no longer available due to the housing crisis, the data suggest that households have turned to student loans to provide a new source of readily available credit.

**Cumulative deleveraging since debt peak, by type**



Source: Authors' calculations from New York Federal Reserve data

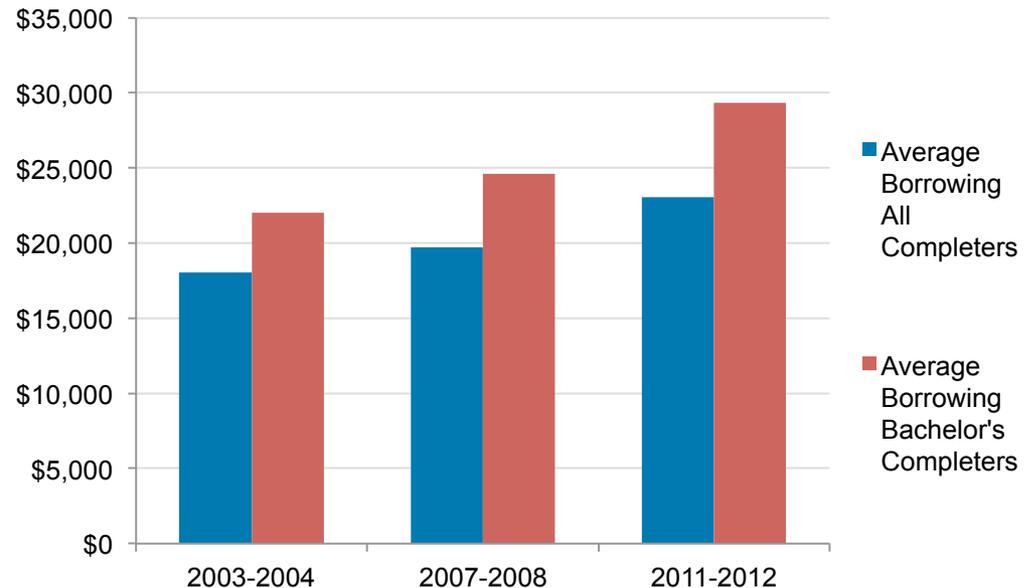
# Total student debt has increased.

**Student loan debt has increased to \$1.2 trillion outstanding, and has risen throughout the overall deleveraging process.**

The increase in student loan debt is not just in the aggregate: per-student borrowing has also increased. The average borrower across all institutions borrowed \$18,032 in 2003 but that increased to \$23,053 in 2011 (in constant 2012 dollars).

The increase has been even higher for average borrowers completing a bachelor's degree. Bachelor's graduates borrowed \$21,990 in 2003; nine years later, that figure had risen to \$29,304 in constant dollars.

**Average Student Debt, College Graduates**



Source: Department of Education, NPSAS via New America Foundation

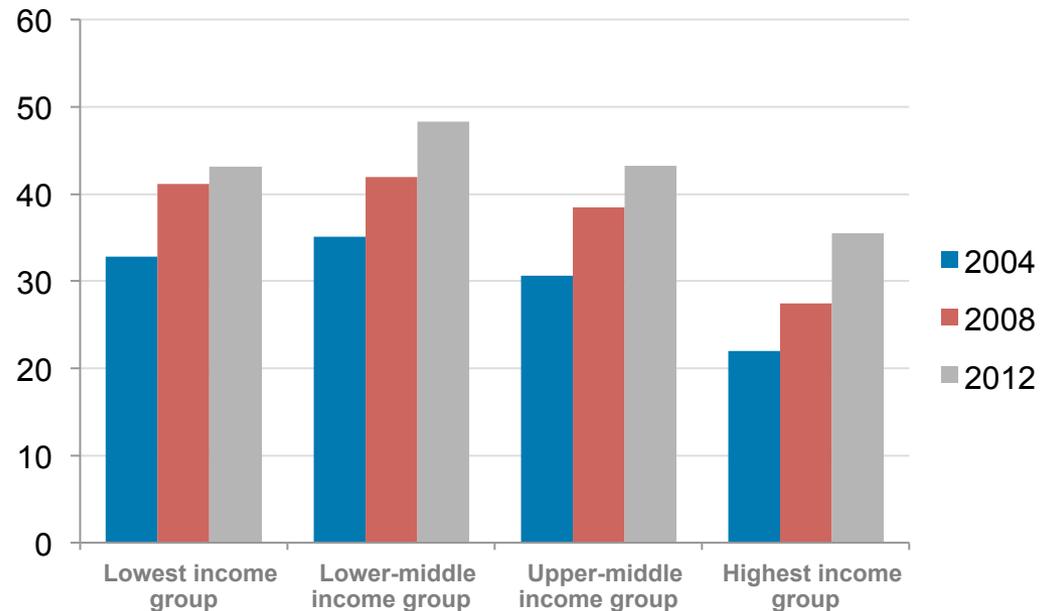
# More students are borrowing.

Not only are students taking out more debt to go to school, more students are borrowing.

Nearly 50% of students at four-year universities from lower-middle income backgrounds now borrow more than \$10,000 for undergraduate education, up more than 10 percentage points over the decade.

More than 40% of all students not from high-income backgrounds borrow more than \$10,000 to pay to attend a four-year college or university.

Share of Students Borrowing > \$10K at 4-Year Schools, by Income Quartile



Source: Department of Education, NPSAS

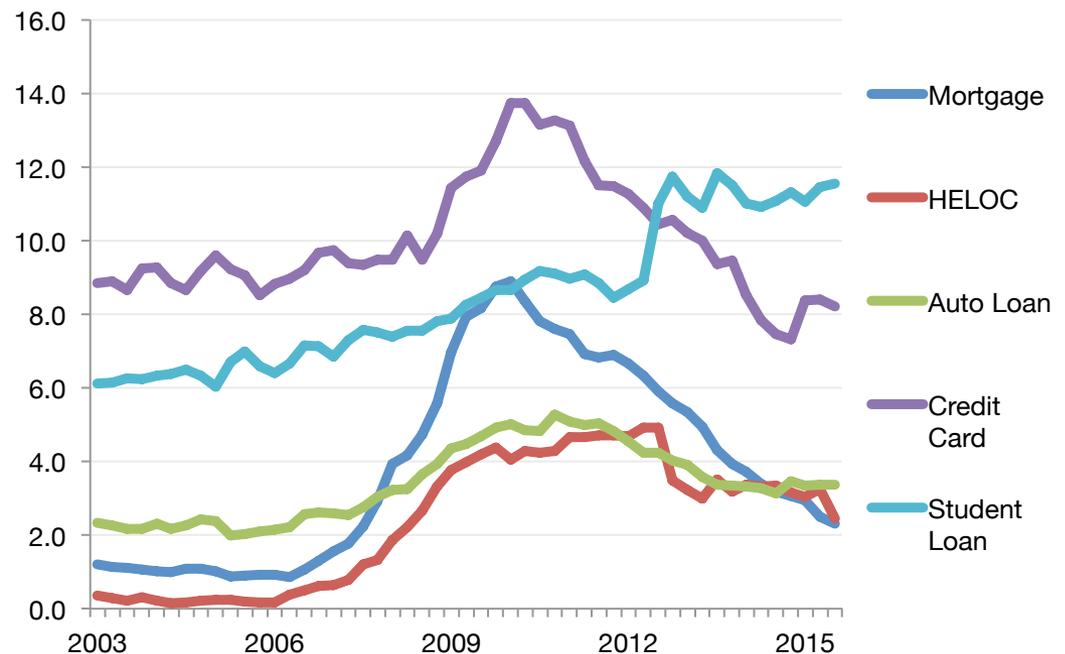
# Student loan delinquencies are rapidly on the rise.

**As a result of the rising student debt burdens, the level of repayment difficulty has also increased.**

Severe loan delinquency has decreased for every other type of loan since deleveraging began, but has increased for student loans. At the beginning of 2012, the share of the loan balance 90-or-more days delinquent was 8.7%. Now, more than 11.5% of the balance is severely delinquent.

The share of delinquent student loan debt is now almost twice what it was in 2003, when the NY Fed began tracking household credit data.

Percent of balances 90+ days delinquent



Source: Author's calculations from Survey of Consumer Finance data

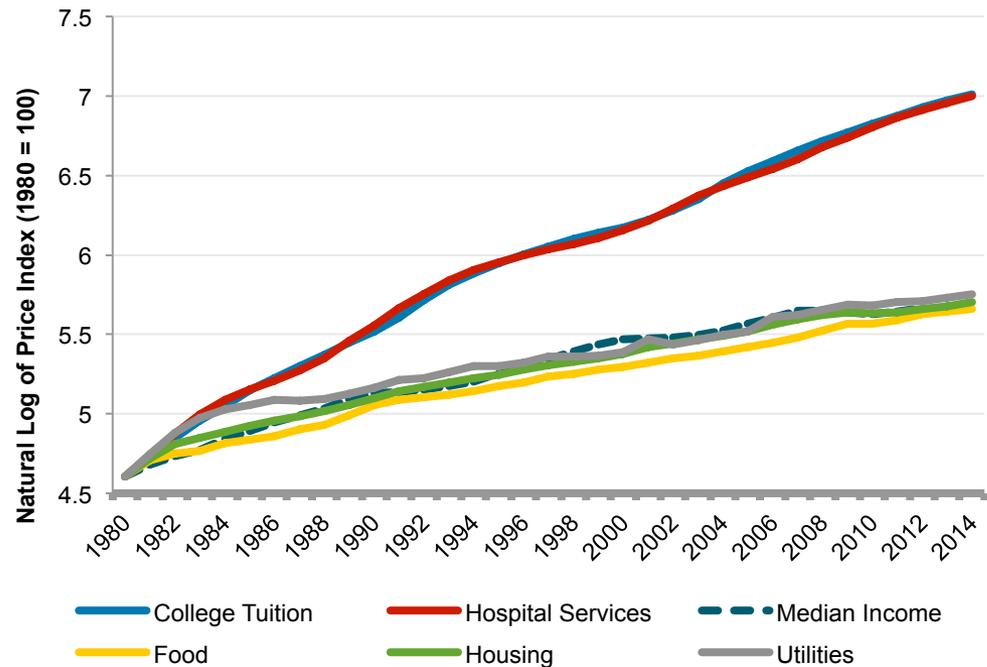
# Households are reluctant to take on new debt, but that might be the only option.

Lower and middle income households already with high debt levels and stagnant wages are not in a good position to take on more debt.

A study by the Kansas City Fed found that people in higher income areas have been more likely to take on new mortgage, credit card, and HELOC debt.

Meanwhile, the prices of many services increasingly central to maintaining a middle class quality of life, such as higher education and healthcare, are outpacing income growth. Households thus have few ways of keeping up except for taking on more debt.

Growth in Prices and Median Income  
United States, 1980 to 2014



Source: Bureau of Labor Statistics and Census Bureau data, via Freedman (2014)

## Part IV: Implications for Economic Growth

America's private sector debt overhang has far-reaching implications for economic growth. Household deleveraging has hurt consumption and housing, two of the main drivers of economic growth. As a result of high debt burdens and weak wage growth for low and middle-income households, the economy is becoming more of a plutonomy, an economy dependent on high-end consumption.

Weak demand along with uncertainty about future demand has led to weak investment, and weak investment in turn has resulted in weak productivity growth.

Even more worrying, many types of debt have increased but productive investment has not as much. More private and public debt has been used for non-productive purposes. Since the beginning of the Great Recession, government debt has risen but government investment has actually fallen. And corporate debt has been used increasingly for share buybacks and dividend payments rather than for new investment. As a result, the economic growth potential of the economy has declined – a worrying sign for the future.

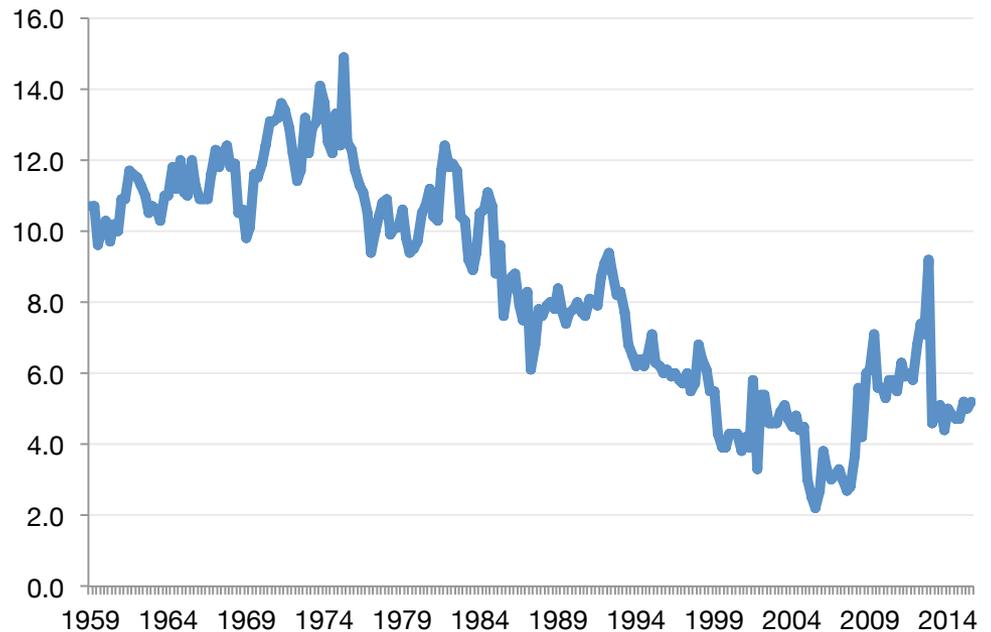
# Household deleveraging and inequality has hurt consumption.

**In order to pay down debt, households have to increase savings. The personal savings rate has risen back to 5% from its low point of 2-3% in 2005.**

But in order to increase savings to pay down debt without cutting consumption, wages and incomes must rise.

The lack of wage increases and the decline in income has meant that consumption has suffered as a result. Debt-burdened households in the bottom and middle of the income distribution are not in a position to increase consumption, which is the main driver of economic growth.

Personal savings rate



Source: BEA

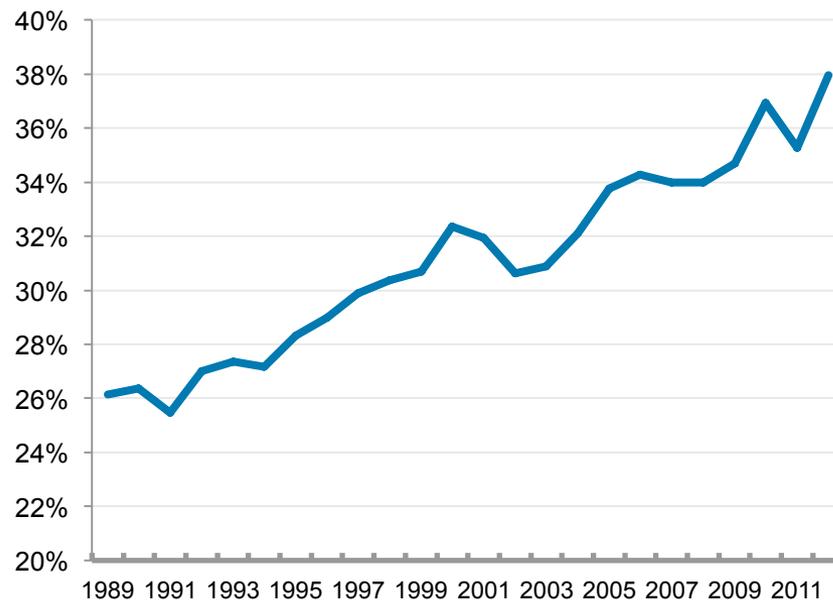
# The economy is becoming a plutonomy, dependent on high-end consumption.

**The consumption share of the top 5% increased from 26% in 1989 to 38% in 2012.**

The wealthy buy more expensive luxury items, but they have a lower marginal propensity to consume overall. Atif Mian and Amir Sufi found that households making less than \$35,000 in income were three times more likely to spend an additional dollar of income than those making over \$200,000.

An economy more dependent on high-end consumption means slower growth. If the bottom and middle are constrained because they have to save, and the wealthy have a lower marginal propensity to consume, consumption will lag. In the emerging plutonomy, consumption can no longer be the major driver of demand and economic growth.

**Consumption share of the top 5%**



Source: Cynamon and Fazzari, "Inequality, the Great Recession, and Slow Recovery"

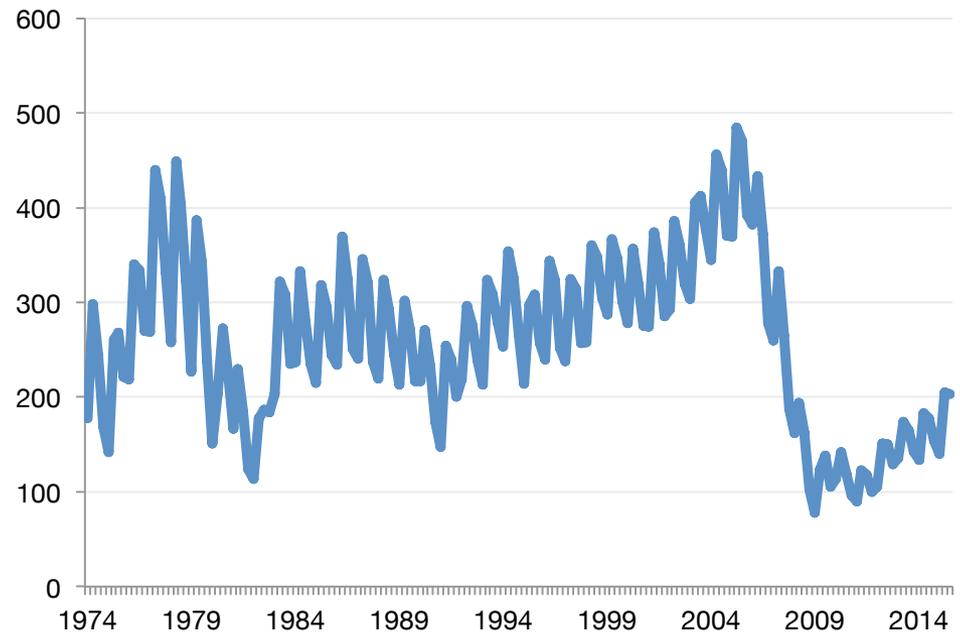
# Deleveraging and debt overhangs have hurt housing growth.

**Single family housing starts since 2010 have averaged 141,000 per quarter, lower than any other time since the early 1980s.**

Even among homes that are being built, a rising share of buyers are not middle class buyers but investors or wealthy individuals willing to pay all cash.

Young people are struggling to enter the housing market as well. From 2000 to 2013, the percentage of households led by 25 years or younger declined from 14.1% to 10.3%. Young, debt-burdened consumers have reduced demand for new housing, slowing the economy.

Single family housing starts slow to rebound



Source: Census Bureau

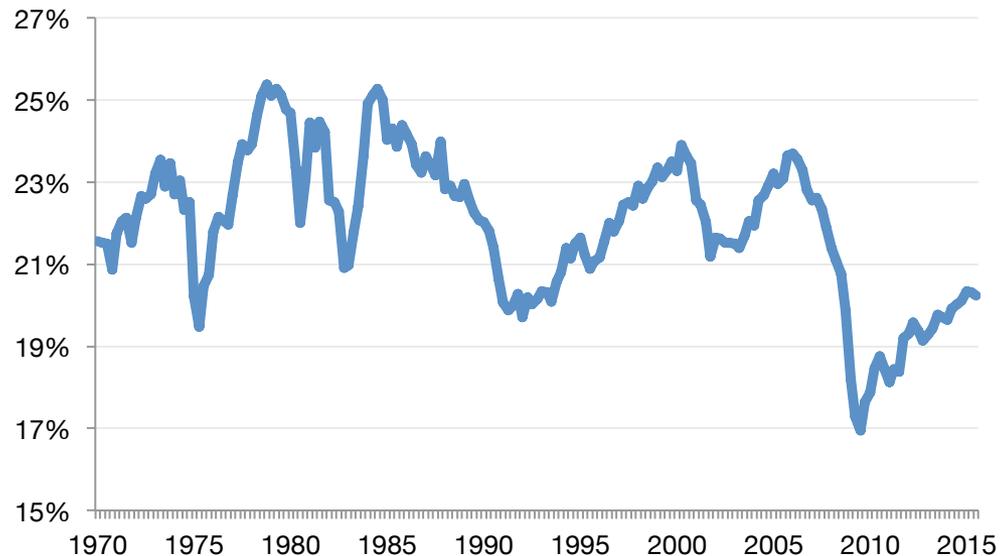
# Weak demand has led to weak private investment.

Gross private fixed investment in 2014 was \$2.63 trillion, lower than its peak of \$2.66 trillion in 2006. Private fixed investment was \$541.4 billion in 2014, well below its peak of \$889.5 billion in 2005.

Because the economy has grown but investment has not kept up, investment is much lower as a share of the economy than in the past.

Due to weak demand and uncertainty about future demand, companies are sitting on cash rather than investing. The ratio of cash to net assets among U.S. nonfinancial non-utility companies was approximately 12% in 2011, double the rate during the 1990s.

Gross domestic investment to GDP



Source: Author's calculations BEA data

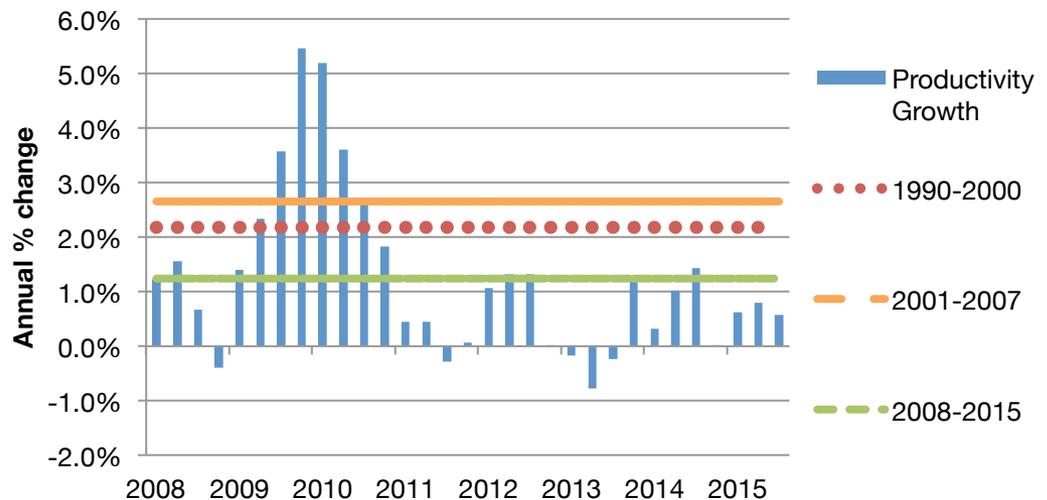
# Unproductive debt is a harbinger for weak growth in the future.

Debt that finances productive investment can lead to higher productivity growth, which is the foundation of a strong economy. But much of the debt over the past decade has been for unproductive purposes. Not surprisingly, productivity growth has slowed.

Productivity growth in previous recoveries ranged from 2% to 4%. During the Great Recession, however, productivity growth has averaged under 2%. It has been even lower recently, averaging 0.7% since 2014.

Lower productivity growth has begun to reduce the economic growth potential of the economy.

Productivity growth in the recovery weaker than in the past



Source: Bureau of Labor Statistics

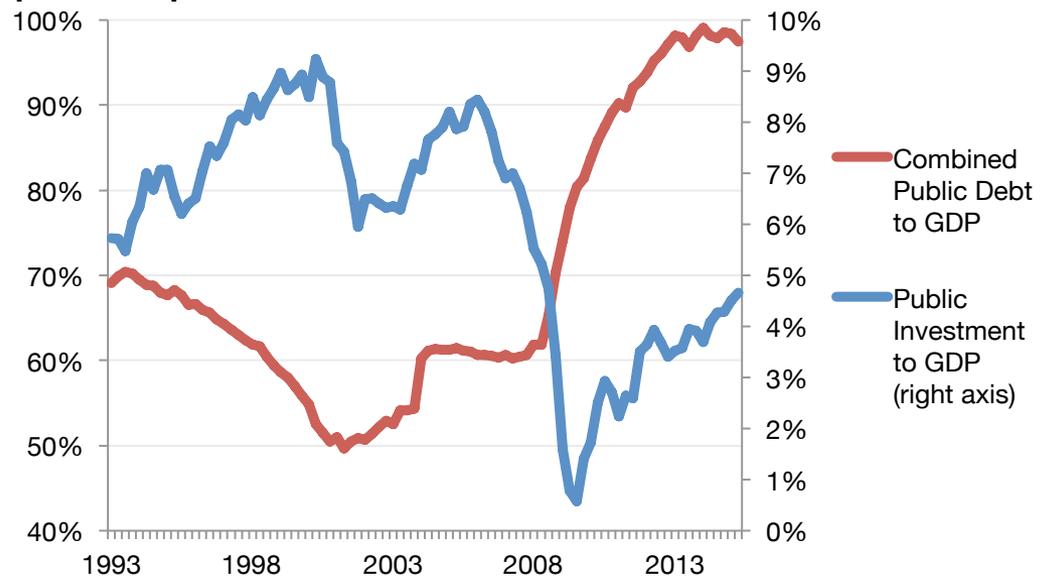
# Weak productivity growth is the result of weak and unproductive investment

**Public investment financed by public borrowing could be the centerpiece of a stronger economic recovery. But while public debt has increased, public investment has still not caught up.**

The public sector has taken on debt to help the private sector pay down its overhang. Combined federal and state/local public debt-to-GDP increased from 62% in the second quarter of 2008 to 97% today.

Yet public investment is still lower than it was during the boom suggesting that much of the increase in debt was the result of weaker tax revenues or went to “unproductive” purposes like temporary tax cuts.

**Government investment remains low compared to pre-crisis period**



Source: Author's calculations from BEA data

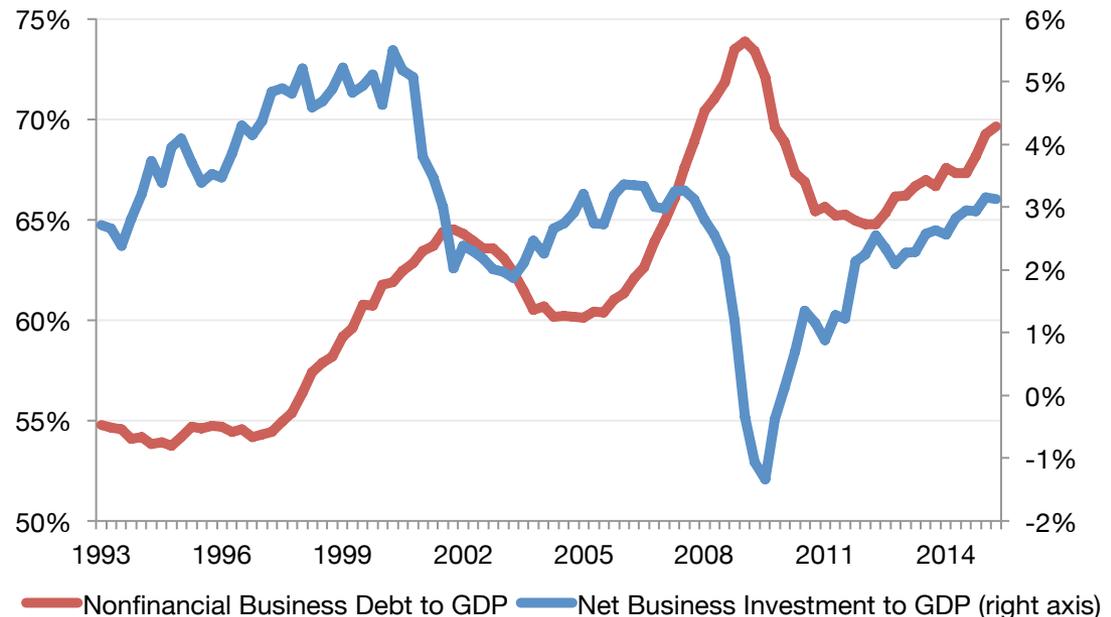
# Corporate debt has not contributed to long-term productivity.

**Corporate debt is being used less for productive investment. Investment decoupled from debt a decade ago and has since continued to lag the increase in debt.**

Debt is increasingly being used for buybacks. From a low point in 2009, buybacks and dividends have increased 198%.

In a month-to-month comparison, the investment group Birinyi found that buyback authorizations in February 2013 were the highest since they began tracking data in 1985 and nearly three times as high as the peak levels reached during the tech bubble.

**Business investment decoupled from investment until recently**



Source: Author's calculations from BEA data

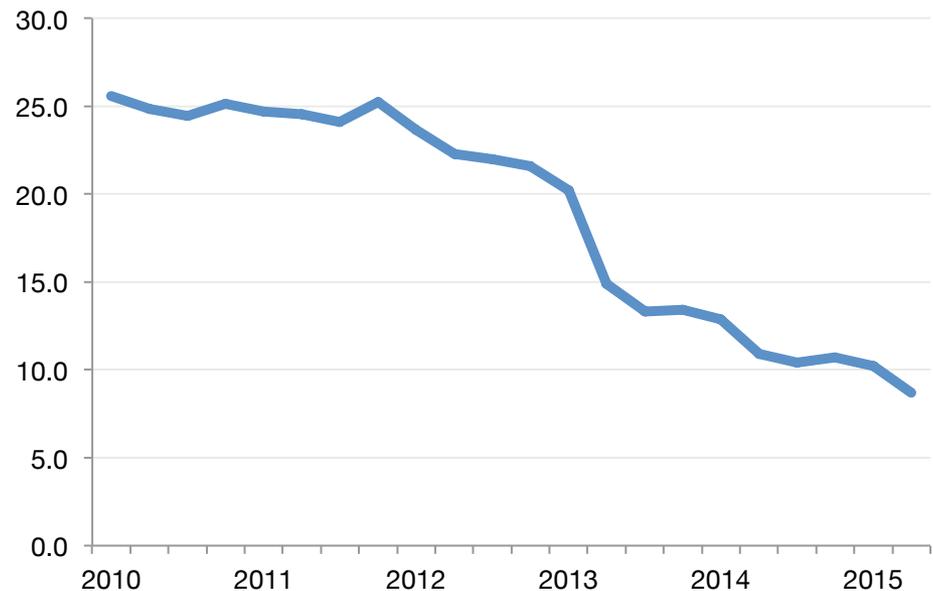
# Household debt has not contributed to long-term productivity.

**Much of the increase in household debt went to buy overvalued and over-sized homes, leading to more than 25% of homes being underwater in 2010. Only after five years of deleveraging are homes beginning to emerge from negative equity in a meaningful way.**

Overvalued homes were also used to take out new lines of credit, creating temporary financial support for many households but not for building a better future economy.

Households also began to buy larger homes than they needed. This trend has continued in the wealth-driven recovery. Average square footage of new single family homes has grown steadily from 2,341 in the first quarter of 2009 to 2,736 today.

Share of homes underwater



Source: CoreLogic

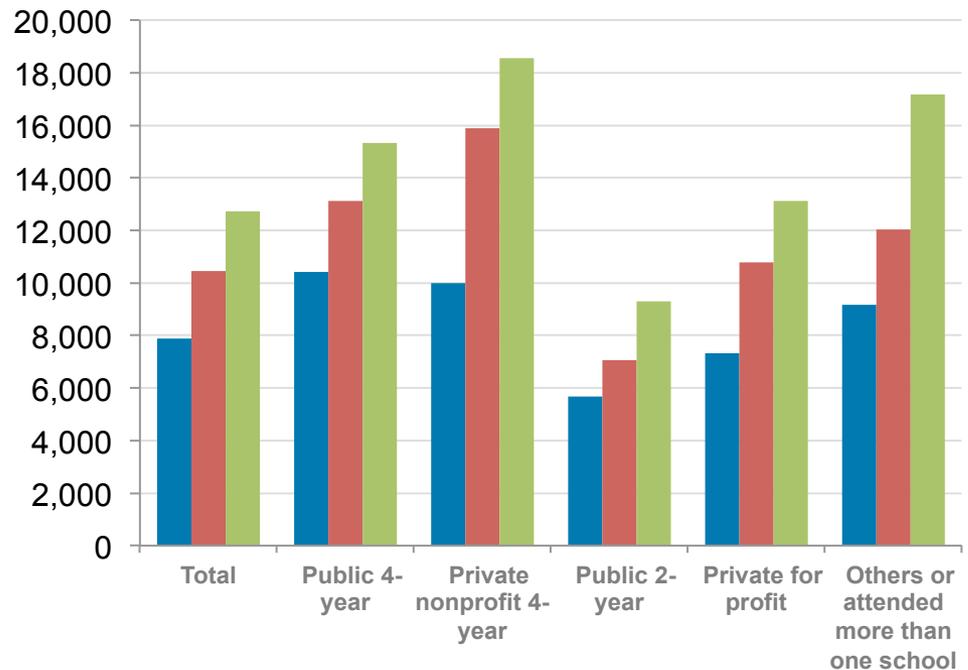
# More student debt, questionable economic prospects.

Higher education can be an important personal, economic, and social investment. But an increasing share of students who take on debt to pay for school do not graduate.

Student loan debt is nearly impossible to discharge in bankruptcy, creating a long-term economic drag and limited benefit for non-completers.

As of November 2015, 9.6% of 20-24 year olds are unemployed. For graduates, underemployment is also high: the share of recent graduates working in jobs that do not require a college degree reached 44% in 2012, according to a study by the New York Fed.

Debt and No Degree: Average Student Debt, Non-completers Who Borrowed



Source: Department of Education, NPSAS ■ 2004 ■ 2008 ■ 2012

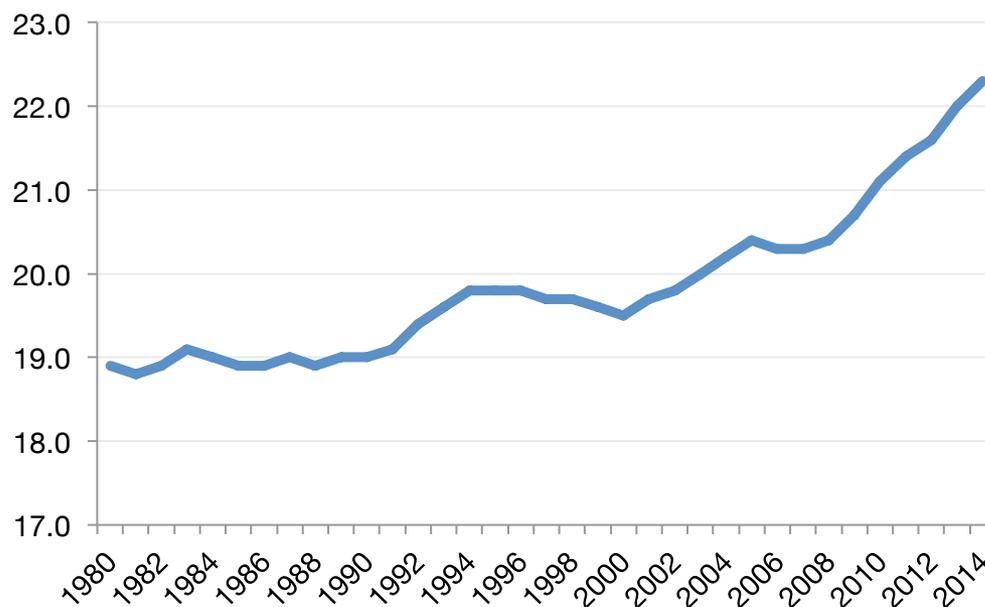
# An aging capital stock is a prescription for weaker productivity growth.

**While debt has increased, the economy's public and private capital stock, including its public and private infrastructure, has deteriorated. An aging capital stock is a function of an investment deficit.**

The age of private fixed assets has increased steadily. The average age of fixed assets in the United States is now 22.3 years – 14% higher than the average during the 1990s.

Combined with many workers leaving the labor market and young workers unable to get a footing, the lack of investment is a prescription for weaker growth in the years ahead.

**Age of private fixed assets continues to rise**



Source: BEA

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