

**The Evolving U.S. Economy and Household Debt**  
**Remarks for Household Debt Tipping Points Research Symposium**  
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I want to start by thanking the conference organizers, both for inviting me and for putting together such an interesting program.

It is a pleasure to be given an opportunity to pull together themes from two areas that I have done a lot of thinking about—household debt and the evolution of the broader economy. I specialized in household debt for many years while I was at the Federal Reserve Board, having joined a group that focused on household finances in the early 2000s (when that topic was still seen as a sleepy backwater issue!). And, I have just finished 3½ years as the chief economist of the U.S. Treasury Department, where the causes and implications of broad economic trends were a key part of my work.

I will spend the first part of my talk on what I see as the implications of some trends in the economy for household debt tipping points. Some of these trends are probably making households more vulnerable to reaching tipping points, others make it more difficult for policymakers to mitigate the immediate macroeconomic fallout from reaching tipping points, and yet others make the longer-term effects of hitting tipping points more consequential than they have been in the past.

You will note that I am starting with the negative aspects of the situation, and I wanted to do that precisely because I have a captive group of smart researchers as an audience. My goal is not so much to alarm you but rather to motivate the need to continue to build on the excellent research that has already been done—before we reach the next tipping point.

In the second part of my talk, I will offer some more positive thoughts. In my view, there is good news regarding both the current state of household balance sheets as well as progress in financial regulation and other areas that should better protect households and the economy from household debt tipping points.

I will conclude with some unfinished policy business as well as other things we should be doing to reduce the likelihood that we reach tipping points and mitigate the consequences when we do so.

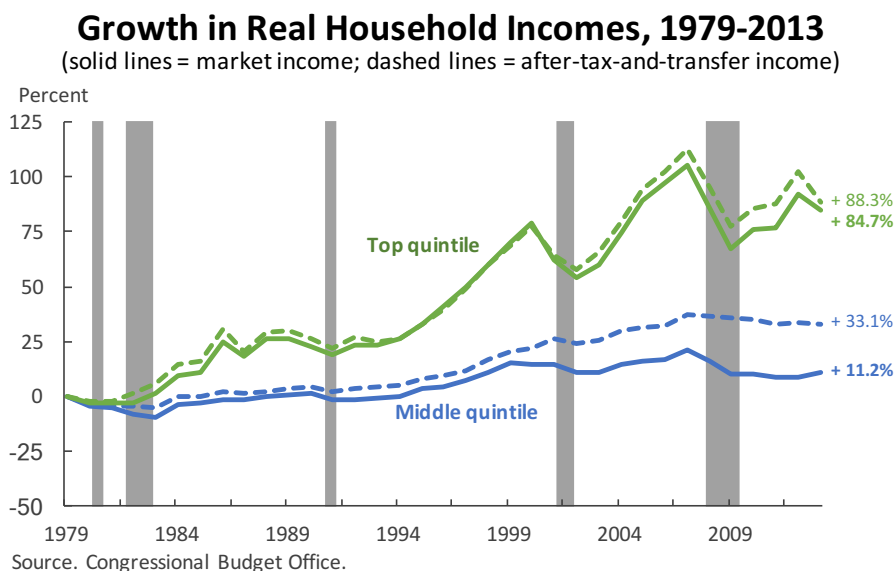
**Part 1: Economic Trends and Household Debt Tipping Points**

*Trends that are Probably Making Households More Vulnerable to Reaching Tipping Points*

I will begin with some broad trends that, all else equal, have probably made U.S. households more vulnerable to hitting tipping points when it comes to their use of debt.

The first is the limited growth in household incomes over the past few decades across much of the distribution. The chart below shows growth in real household income from 1979 to 2013 for two different parts of the income distribution. These series are from the [Congressional Budget Office \(CBO\)](#), and they are thought to be the most comprehensive of the available measures because they are designed to capture all types of income, including benefits and other noncash income. The solid lines are market income and the dashed lines are after-tax-and-transfer income.

The blue lines in the chart show household income growth in the middle quintile—essentially capturing the experience of the typical household, although I will note that the story is not too different for most of the middle and lower part of the distribution. The typical household has seen little income growth over the 34 years for which we have data—just 11 percent for market income and 33 percent for after-taxes-and-transfer income. These rates of growth are far lower than what the top income quintile (shown in green) experienced—let alone the top 1 percent (not shown) which saw growth roughly double that for the top quintile.

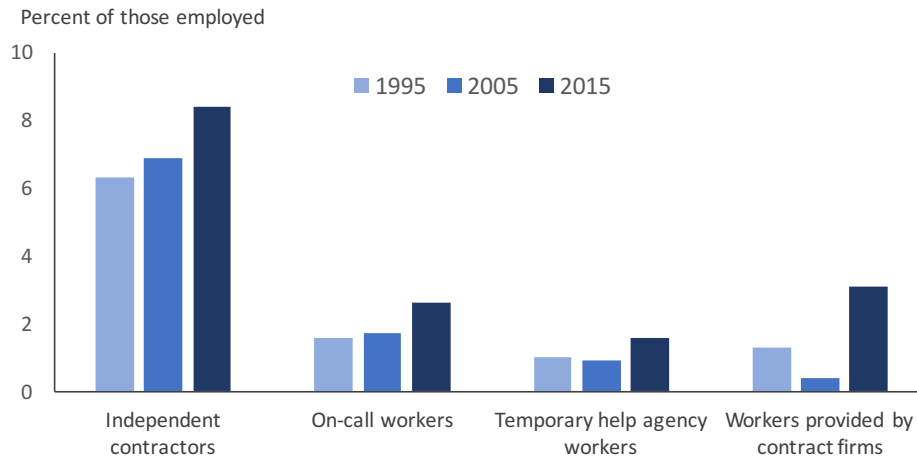


The second trend is that changes in the workplace in this country in recent decades imply that income has become less predictable for many households. You have probably read about this in the press, and there is a growing academic literature exploring the rise of “alternative work arrangements”—including the so-called “gig” economy as well as other types of freelancers and those doing contract work for companies. The chart below shows you estimates from Katz and Krueger of the evolution of the share of the workforce accounted for by independent contract workers, “on call” workers, temporary help agency workers, and workers provided by contract firms from 1995 (the lightest blue bar) to 2015 (the darkest blue bar).<sup>1</sup> Altogether, the share of workers in alternative work arrangements has risen by nearly 50 percent over the past two decades, from around 11 percent in 1995 to about 16 percent in 2015.

<sup>1</sup> Katz, Lawrence F. and Alan B. Krueger (2016), “[The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015](#),” National Bureau of Economic Research Working Paper No. 22667.

Many of these arrangements have less predictable hours than a traditional arrangement. In addition, there is literature, led by David Weil, a Brandeis professor and former Labor Department official, exploring how these workers lack many of the other protections and benefits that workers have in more traditional employment arrangements.<sup>2</sup>

### Individuals with Alternative Work Arrangements



Source: Katz and Krueger (2016); 2015 figures are the "alternative weights" estimates.

A third trend that I want to highlight is that more students are borrowing to attend colleges that tend to add little to their earnings prospects. There is a lot of talk about the overall rise in student debt (and I will return to the topic later), but what I want to focus on here is a finer point within that broader trend. Specifically, there has been an enormous rise in borrowing by students who are attending colleges that have poor records in terms of the future labor market outcomes of their students. The graphic below is based on work by Adam Looney and Constantine Yannelis for Brookings, and it shows the colleges whose students owed the most in 2000 (on the left) and in 2014 (on the right).<sup>3</sup>

I want to highlight two things about this graphic. First, note the huge increase in magnitudes—outstanding loans for the top 5 entries in 2000 ranged from 1½ to 2 billion dollars and loans for the top 5 entries in 2014 ranged from 8 to 36 billion dollars. Second, note just how much more of the money is going to for-profit higher education institutions, which are highlighted in yellow.

While the problem are not exclusively at for-profit colleges (nor are all for-profit colleges poor performers), the Looney and Yannelis paper finds that students at for-profit colleges *generally*

<sup>2</sup> Weil, David (2014) *The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It*, Harvard University Press

<sup>3</sup> Brookings (2015) "[Media Summary of ‘A Crisis in Student Loans? How Changes in the Characteristics of Borrowers and the Institutions They Attend Contributed to Rising Loan Defaults’ by Adam Looney and Constantine Yannelis.](#)"

experience materially worse completion rates and go on to have materially higher unemployment rates and materially lower incomes relative to their counterparts at many other types of schools.<sup>4</sup>

## Where Student Loans are Going:

Colleges whose students owe the most, 2000 vs. 2014

For-Profit Non-Profit or Public

2000			2014		
Institution	Total Debt (Billions)		Institution	Total Debt (Billions)	
1 New York University	\$2.2		1 University of Phoenix-Phoenix Campus	\$35.5	
2 University of Phoenix-Phoenix Campus	\$2.1		2 Walden University	\$9.8	
3 Nova Southeastern University	\$1.7		3 Nova Southeastern University	\$8.7	
4 Pennsylvania State University	\$1.7		4 DeVry University-Illinois	\$8.2	
5 University of Southern California	\$1.6		5 Capella University	\$8.0	
6 Ohio State University-Main Campus	\$1.5		6 Strayer University-Global Region	\$6.7	
7 Temple University	\$1.5		7 Kaplan University-Davenport Campus	\$6.7	
8 Arizona State University	\$1.4		8 New York University	\$6.3	
9 Michigan State University	\$1.3		9 Argosy University-Chicago	\$6.2	
10 University of Minnesota-Twin Cities	\$1.3		10 Ashford University	\$5.9	
11 Boston University	\$1.3		11 Grand Canyon University	\$5.9	
12 The University of Texas at Austin	\$1.3		12 Liberty University	\$5.7	
13 University of Florida	\$1.2		13 University of Southern California	\$5.3	
14 University of California-Los Angeles	\$1.2		14 Pennsylvania State University	\$5.3	
15 University of Michigan-Ann Arbor	\$1.1		15 Arizona State University	\$4.9	
16 Columbia University in the City of New York	\$1.1		16 ITT Educational Services Inc System Office	\$4.6	
17 University of Pittsburgh-Pittsburgh Campus	\$1.1		17 Ohio State University-Main Campus	\$4.4	
18 Indiana University-Bloomington	\$1.1		18 Temple University	\$4.3	
19 Rutgers University-New Brunswick	\$1.1		19 DeVry University's Keller Graduate School	\$3.9	
20 University of Pennsylvania	\$1.0		20 American InterContinental University-Online	\$3.7	
21 University of Arizona	\$1.0		21 University of Minnesota-Twin Cities	\$3.7	
22 University of Wisconsin-Madison	\$1.0		22 Michigan State University	\$3.6	
23 Florida State University	\$1.0		23 Rutgers University-New Brunswick	\$3.4	
24 Virginia Commonwealth University	\$1.0		24 Colorado Technical University-Colorado Springs	\$3.3	
25 University of Washington-Seattle Campus	\$1.0		25 Indiana University-Purdue U.-Indianapolis	\$3.1	

BROOKINGS

**NOTES:** This figure ranks institutions by student loans outstanding in 2000 and 2014. For each year, the first column shows the institution name and the second column shows the total volume of student loans outstanding.

**SOURCE:** US Treasury tabulations of 4 percent NSLDS sample.

Why do these trends likely making households more vulnerable to tipping points? As has been suggested by Rajan and others, limited income growth may engender more borrowing to “keep

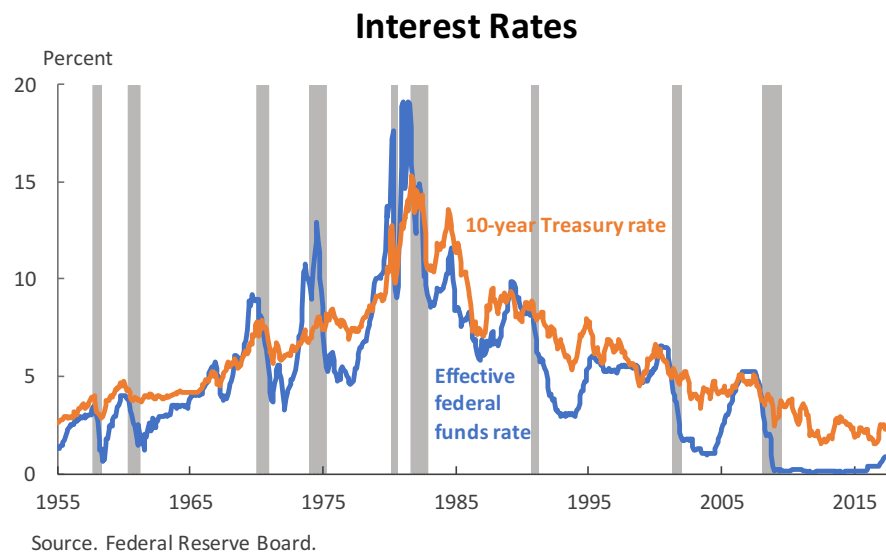
<sup>4</sup> Looney, Adam and Constantine Yannelis (2015) “[A Crisis in Student Loans? How Changes in the Characteristics of Borrowers and in the Institutions They Attended Contributed to Rising Loan Defaults,](#)” *Brookings Papers on Economic Activity*.

up with the Jones's.”<sup>5</sup> It may also increase the incentive for politicians to favor easy credit policies to compensate for their constituents’ lack of income growth. Less predictable incomes may increase the need for short-term expensive credit among people with limited financial assets so that they can sustain spending in the face of unanticipated income shortfalls (with the caveat that the rise of the gig economy may also help people buffer those shortfalls by, for example, putting in extra hours driving for ride-hailing services). And, growth in enrollment and borrowing colleges with poor outcomes means that more people will struggle to pay off student debt.

### *Trends that Make It More Difficult to Mitigate the Immediate Macroeconomic Fallout from Reaching Tipping Points*

Now let me turn to some trends that make it more difficult for policymakers to mitigate the immediate macroeconomic fallout from reaching household debt tipping points.

First, nominal interest rates are quite low now—partly (of course) because of accommodative monetary policy but also because there has been a decades-long downtrend. The chart below shows the decline in short-term rates (in blue) and 10-year rates (in orange). Rates should rise from here as the stance of monetary policy normalizes, but most economists agree that the new normal will be lower than it was a decade or two ago.

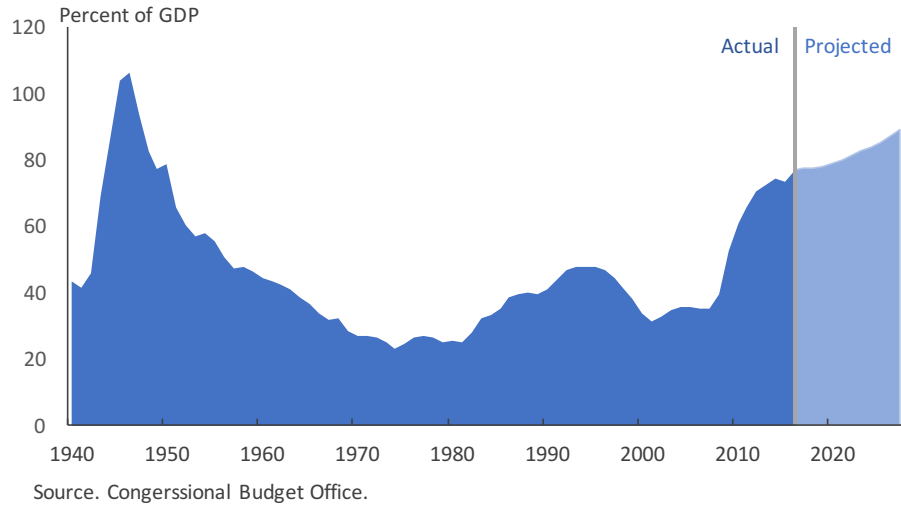


The second trend is that government debt has risen and is projected to rise further. The chart below shows actual and projected federal debt relative to GDP from the [Congressional Budget Office](#). Debt rose during the financial crisis and is projected to rise further in coming years because of population aging and ongoing increases in the cost of health care.

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<sup>5</sup> Rajan, Raghuram (2009) *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press.

## Federal Debt Held by the Public



I show you these trends because they make it harder for policymakers to mitigate the short-run harms of reaching household debt tipping points. Academic work has demonstrated that the downtrend in nominal interest rates means that the Fed will hit the zero lower-bound more often, complicating the use of countercyclical monetary policy to support economic activity.<sup>6</sup> Low interest rates also mean that inflation is likely to fall short of the Fed’s target more often, which means that there is less scope for inflation to erode nominal debt burdens.

And, of course, high levels of government debt make it harder to use fiscal policy to counteract a downturn in the economy.

### *Trends that Make the Longer-term Effects of Hitting Tipping Points More Consequential than in the Past*

The last two trends that I want to highlight are ones that make the longer-term effects of hitting tipping points more consequential than in the past.

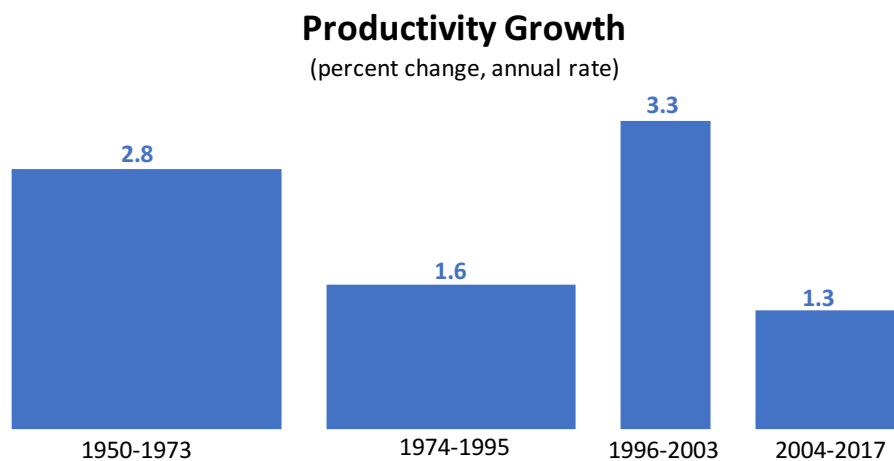
First of all, productivity growth—the output produced per unit of labor—has been low. Productivity growth tends to be volatile from quarter to quarter but has trends over longer periods. The chart below shows four eras of productivity growth identified by economists, with the width of the bars corresponding to the length of the period. From left to right you can see a long post-World-War-II boom, a slump from the mid-1970s to the mid-1990s, a brief pickup in the late 1990s with the information-technology boom, and then low growth again beginning in the early 2000s.

Of all macro challenges that concern me, I put low productivity growth at the top of the list, partly because productivity is such an important determinant of household income. Other factors, such as labor force participation and trends in income inequality also influence the income of the

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<sup>6</sup> See Kiley, Michael T. and John M. Roberts (2017) “[Monetary Policy in a Low Interest Rate World](#),” *Brookings Papers on Economic Activity*.

typical household, but slower productivity growth is the main reason why middle-class incomes went from growing briskly in the first 25 years after World War II to experiencing very limited growth over the past few decades.<sup>7</sup>



Note: Nonfarm business sector. Time ranges correspond to different "eras" of productivity growth; width of each bar corresponds to the duration of time.  
Source: Bureau of Labor Statistics.

Relatedly, there has been a concerning downtrend in dynamism in the U.S. economy. The chart below shows data on business-sector dynamism from a paper by Decker and co-authors.<sup>8</sup> The blue line shows a pronounced drop over the past few decades in the share of firms that are young, from 50 percent in the early 1980s to 35 percent in 2011. The orange line shows a similar drop in the share of employment associated with young firms. The rate of business start-up (not shown) also shows a material decline over the past few decades.

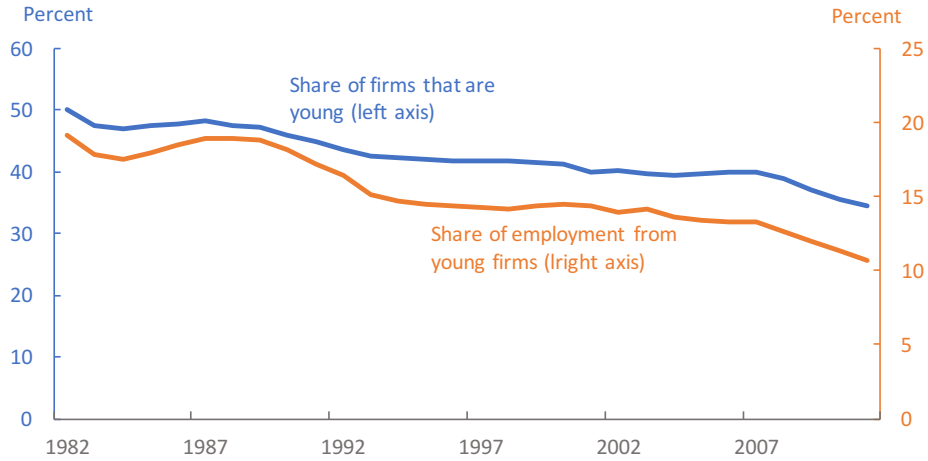
This trend is important because less dynamism means less reallocation of resources to more productive uses. While reallocation can be disruptive for firms and workers, it turns out to significantly contribute to productivity growth. Indeed, Decker and coauthors conclude that young firms are critical to innovative activity in our economy.

In my view, what these last two trends imply is that the longer-term effects of hitting tipping points are more consequential than in the past. To be specific, hitting tipping points causes households and businesses to lose access to credit, and access to credit is key determinant of productivity growth and business dynamism because people need to borrow to invest in human capital and people need to borrow to invest in new businesses.

<sup>7</sup> See Table 1-3 of the [Economic Report of the President \(2015\)](#).

<sup>8</sup> See Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda (2014), "[The Role of Entrepreneurship in US Job Creation and Economic Dynamism](#)," *Journal of Economic Perspectives* 28(3).

## Activity Measures for Young Firms (Age 5 or Less)



Source: Decker, Haltiwanger, Harmin, and Miranda (2014).

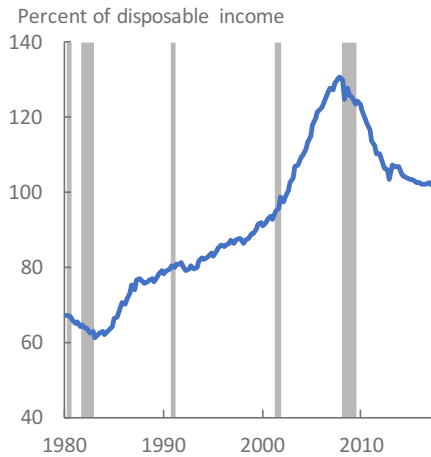
That is a list of the things that are keeping me up at night (actually, it's a very incomplete list but most of the other things are not directly related to this topic!). What I want to do now is spend a little time on what I view as better news related to the topic of household debt tipping points.

### Part 2: Some Better News

#### *The Current State of U.S. Household Balance Sheets*

Let me start with the current state of household balance sheets

#### Household Debt to Income Ratio



Source: Federal Reserve Board.

#### Household Debt Service Ratio



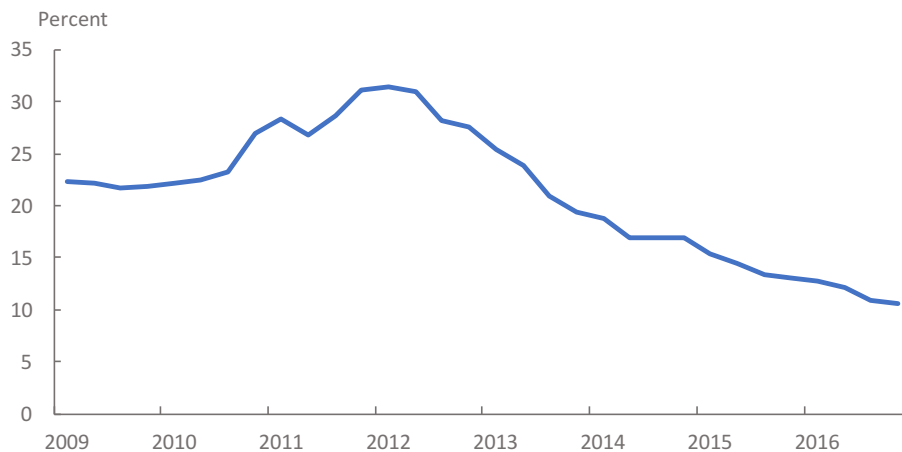
Source: Federal Reserve Board.



As you can see from the charts above, the traditional indicators—the main tools that we used to assess the state of household balance sheets when I started working on the topic in the early 2000s—show enormous improvement. The aggregate debt-to-income ratio, on the left, is down from a peak of 130 percent in 2007 to 102 percent right now, matching its level in late 2002. And, reflecting both the drop in debt and the drop in interest rates, the aggregate debt service ratio, on the right, is near its lowest level in the more than 35-year history of the series

Now, it would be a big mistake to just focus on the traditional aggregate indicators. One of the lessons of the financial crisis is that one does not just want to watch households on average—one needs to look at especially vulnerable groups. With that in mind, the next chart on the next page shows underwater mortgages. As can be seen, the share of mortgages with negative equity has dropped substantially, from more than 30 percent at its peak in 2012 according to Zillow to about 10 percent now.

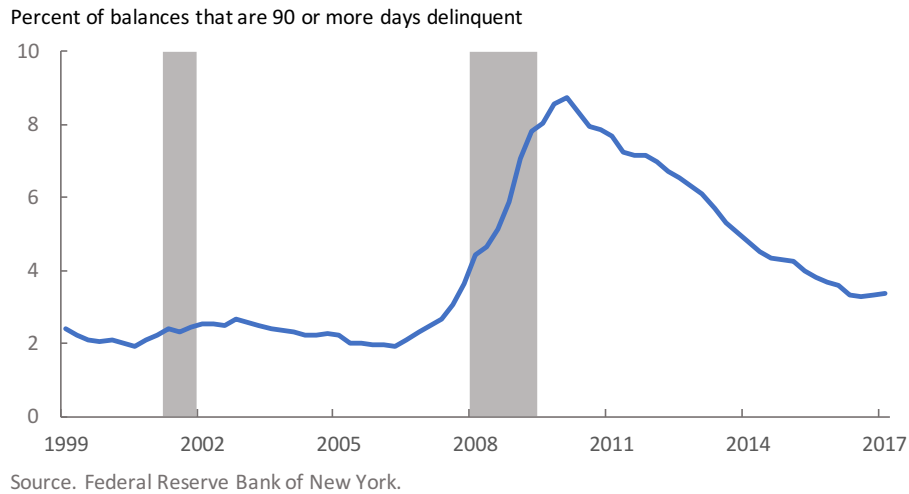
### Share of Mortgages with Negative Equity



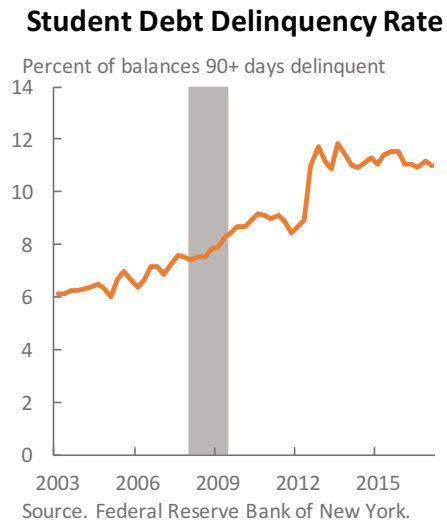
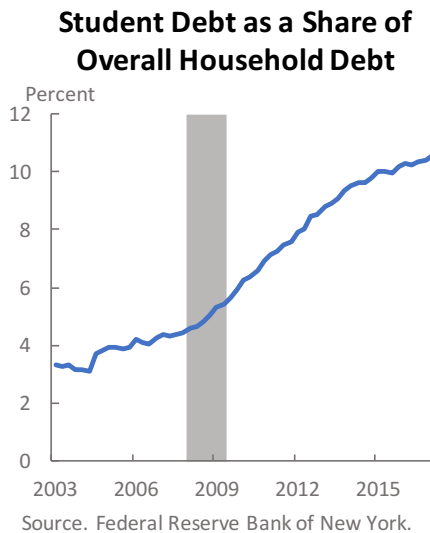
Source: Zillow.

Delinquency rates also speak to how vulnerable groups are doing. The slide below shows that the overall household serious delinquency rate as estimated by the New York Fed has largely normalized. Even though the rate has stabilized at a level that is a bit above its pre-crisis range, the pattern is consistent with a very large drop in the number of borrowers who are distressed.

## Overall Household Debt Delinquency Rate



To be sure, there are some areas of concern. The most important in my view is student debt. As shown in the panel on the left below, student debt as a share of overall household debt, at around 10 percent, is about triple what it was in the earlier 2000s. As shown in the panel on the right, the delinquency rate on student debt rose in the wake of the Great Recession and has receded only a little bit since then. This lack of significant improvement is partly why the overall delinquency rate that I showed you in the last slide has not reverted to its previous norms.



To be clear, as I mentioned earlier, my chief concern is not about student debt broadly. For the typical student, college remains an excellent investment, even taking account of rising costs (and borrowing).<sup>9</sup> My concern is about the students that have taken out material amounts of student debt to finance educations that are not likely to pay off.

<sup>9</sup> See Abel, Jaison R. and Richard Deitz (2014) "[Do the Benefits of College Still Outweigh the Costs?](#)" Federal Reserve Bank of New York.

Another noteworthy feature of the student loan situation is who is at risk on the lender side. These days, most student lending is funded by the federal government not private investors. So, while defaults on student loans incur costs on U.S. taxpayers, they do not pose the same sort of spillover risk to the financial system that, say, subprime mortgage lending did.

So, all in all, student loans are problem for the individual borrowers who have used loans to finance educations that are not enhancing their earnings prospects, and we can see evidence of that in their higher default rates. There is also some academic evidence that student debt may be delaying homeownership (although it is unclear how important the effects are from a macroeconomic point of view).<sup>10</sup> The defaults are also imposing costs on taxpayers. For both these reasons, I think we need better regulation of student loans. However, the available evidence suggests that student loans do not post an immediate threat to macroeconomic stability.

To summarize, the current state of household balance sheets is, on the whole, good. The odds of reaching a household debt tipping point in the near future is low, although we should certainly keep monitoring the situation. We should be concerned about some aspects of student loans, but the immediate risk to the macroeconomy from student loans is limited. There are a few other problem areas (e.g. subprime auto lending)—and we should be watching them—but they are not large by macro standards.

### *Progress in Financial Regulation and Other Areas*

The other piece of good news is that the improvement in household balance sheets have accompanied by important progress in financial regulation and other areas. Banks are lending more prudently (with lending perhaps too conservative in some areas but that is a topic for another day). Banks are also better capitalized and so better able to withstand households reaching tipping points.

In addition, the new Consumer Financial Protection Bureau has taken constructive steps in terms rule-writing, financial institution supervision, and that collectively should better protect households from reaching debt tipping points.

Lastly, in conducting mortgage market interventions in the last crisis, through, for example, the Home Affordable Modification Program and the Home Affordable Refinance Program, the government learned valuable lessons about how to best design the programs to reach as many struggling borrowers as possible. So it is better equipped to deal with another crisis.

## **Conclusion**

Let me conclude with a few thoughts on areas where more work needs to be done to reduce the risk and consequences of hitting household debt tipping points.

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<sup>10</sup> See Mezza, Alvaro, Daniel R. Ringo, Shane M. Sherlund, and Kamila Sommer (2016) “[On the Effect of Student Loans on Access to Homeownership](#),” Federal Reserve Board Finance and Economics Discussion Series 2016-010.

There is important unfinished policy business related to household debt. We need legislation that does comprehensive mortgage finance reform in order to put in place a new system that provides broad ongoing access to mortgage credit without the incentives for excess risk-taking that characterized the pre-crisis system.

We also need better regulation for student loans to address the problems that I discussed earlier. I think the top priority here should be taking steps to hold colleges more accountable for the quality of the services they offer. The so-called “gainful employment” regulations put in place by the last Administration are a step in this direction, but I believe that we need something broader and stronger like the “risk sharing” program that was proposed in a recent Brookings Hamilton Project paper by Chou, Looney and Tara Watson.<sup>11</sup>

There are also some items we should be thinking about outside of policy. The first is the potential for so-called “fintech” innovations to improve household debt management. It is great that young adults have applications that help them track their income, assets, and liabilities that my cohort did not have at their age. I hope these types of applications will get even better over time.

The second is the scope for the private sector to develop new mortgage products that might better protect households from reaching dangerous debt tipping points. For example, Eberly and Krishnamurthy propose fixed-rate mortgages that have an option to convert to an adjustable-rate loans even when the loans are underwater so that strained borrowers can more easily enjoy the benefits of lower rates when the Fed eases in response to a downturn.<sup>12</sup>

And, finally, we need to keep pushing for more publicly available data for tracking and researching household debt tipping points. This conference helps to demonstrate just how far we have come from the days in which the topic household debt was a sleepy backwater topic for researchers and policy analysts. And, the amount of household debt data that is internally tracked and analyzed by many policy institutions is probably orders of magnitude larger than prior to the crisis. But, I think it would be very constructive to have more indicators and data for research in the public domain so there can be a fuller discourse among economists and analysts. In that regard, I will close by commending the St. Louis Fed for developing its relatively new [Quarterly Debt Monitor](#), joining a few other parts of the Federal Reserve System and the government who have been taking steps in this direction.

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<sup>11</sup> See Chou, Tiffany, Adam Looney and Tara Watson (2017) “[A Risk Sharing Proposal for Student Loans](#)” Brookings Hamilton Project Proposal 2017-04.

<sup>12</sup> See Eberly, Janice, and Arvind Krishnamurthy (2014) “[Efficient Credit Policies in a Housing Debt Crisis](#)” *Brookings Papers on Economic Activity*.