

Monetary policy as macroeconomic stabilizer
during the Great Recession

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Monetary policy as an economic stabilizer during the Great Recession

What we now call the Great Recession was a long time in coming. The economic expansion of 2001 to 2007 was dependent to a historically unprecedented degree on a huge increase in private sector debt. This debt was, largely, used to buy homes, which saw historically large price increases. These price increases were borrowed against by homeowners who then used this equity to support consumption – consumer spending as a share of the overall economy rose to its highest level on record during the housing boom of the 2000s.

The bursting of the home-price bubble had straight-forward effects on the economy – residential investment (the act of building homes) inflated to 6% of overall GDP at the peak of the boom then quickly shrank back down below its 3% of GDP average as home-builders realized that they had overbuilt and faced an enormous inventory of unsold homes. This contraction of residential investment reduced overall demand for goods and services in the economy by roughly \$420 billion. A similar (though less extreme) dynamic in commercial real estate reduced economy-wide demand by another \$140 billion. Further, as households saw their net worth decimated by falling home-prices and realized that they would now have to start saving out of current income to meet long-run wealth targets like providing a comfortable retirement or sending kids to college, consumer spending collapsed. The 30% fall in home prices erased roughly \$7 trillion of wealth from American households. The best research indicates that each \$1 fall in housing wealth leads (conservatively) to a \$0.06 fall in consumer spending through a “wealth effect” on consumption; translating into a \$420 billion annual decline in consumer spending.

This \$960 billion negative shock to annual demand for goods and services ($\$420 + \$140 + \$420$) is the Great Recession. **Figure 1** below shows the path of home prices, residential investment as a share of the economy and mortgage equity withdrawals (just one way that households could increase spending through greater housing wealth) during and after the bubble.

Figure 1 here

How monetary policy fights recessions, in theory

There are three policy levers that can be used to stabilize an economy that has suffered such a shock to aggregate demand: exchange-rate policy, fiscal policy, and monetary policy. This hearing is about the last, so I'll focus my attention here. As with fiscal and exchange-rate policies, the goal for monetary policymakers is to stabilize economic activity after a negative shock to aggregate demand by providing a countervailing *positive* spur to demand with the levers they have available to them. The primary lever the Federal Reserve (or Fed, henceforth) has available to them is control over short-term interest rates.

By lowering these “policy” interest rates (generally the Federal Funds Rate, the rate at which banks can lend each reserves at the Fed), the hope is that interest rates up and down the term- and risk-structure will fall through arbitrage. Then, as interest rates on longer-term and riskier debt fall, it becomes cheaper for firms to borrow to finance new expansions to their capital stock and for households to borrow to purchase new homes or durable consumption goods or to pay outstanding credit card balances - freeing up purchasing power for other kinds of consumer spending. Further, lower interest

rates may provide a one-time boost to asset prices – directly to bonds as the Fed begins buying bonds to increase their price and hence lower the interest rates paid on them, and indirectly as lower interest rates on bonds, for example, may increase demand for other types of assets like equities. The boost to asset prices can ease firms' borrowing constraints and allow them to finance new investments that they would otherwise be constrained from doing and can also provide a boost to household wealth that may spur new spending.

In recent decades, it has become the overwhelming consensus in the economics profession that the Federal Reserve is best-placed to fire the first shot in the fight against recessions. The “inside lag” of monetary policy – ie, the lag between when a developing problem is recognized and policymakers act – is much shorter for monetary policy than either of the other stabilization tools. The Fed is, by constitution, as cognizant of upcoming developments in the economy as any other institution and the relative smallness of the decision-making body makes rapid discussion, debate and action possible.

How the Fed policy acted as a shock absorber against the fallout from the bursting housing bubble

This rapid decision-making and action began as the Great Recession approached – the Fed began lowering interest rates in August 2007 and began providing support to failing financial institutions early in 2008 – well before the blowup associated with the fall of Lehman Brothers.

Barely halfway through the Great Recession, however, the Fed had run out of the conventional ammunition it generally uses to stabilize the economy – policy rates were sitting at less than 1% by October 2008. It has been observed often enough to be a cliché, but having an economy mired in a deep recession with policy interest rates sitting just above zero is a very dangerous place to be – the U.S. economy during the Great Depression and Japan in its lost decade of the 1990s are two of the only historical episodes where this has happened. The danger is that zero constitutes a firm lower-bound on interest rates – as nobody would ever accept a negative return on their wealth-holdings (it would essentially be like *paying* the bank to store your money) – yet the economy might “need” short-term rates below zero for a time to generate the spending necessary to keep unemployment from rising.

Luckily, the Fed found ways to provide support through the economy through other means than just its short-term interest rates. First, it began providing extraordinary support for the liquidity of financial institutions through its “alphabet soup” of lending programs. These programs clearly worked to reduce credit-spreads on private-sector debt, largely calming the financial market chaos of late 2008 – see **Figure 2** below for the reduction in credit spreads for automobile asset-backed securities following the beginning of the Term Asset –Backed Securities Loan Facility, or TALF.

Figure 2 here

Second, the Fed undertook two rounds of “quantitative easing” – attempting to lower long-term interest rates directly through the purchase of long-term assets. The first round of quantitative easing was focused on mortgage-backed securities (MBS) - largely through purchases of agency bonds (the debt of

Fannie Mae and Freddie Mac). This first round of quantitative easing had the desired effect and established clearly that when it wanted to, the Fed could indeed lower long-term interest rates – as shown in **Figure 3**.

Figure 3 here

The second-round of quantitative easing was announced in November of 2010 and focused on the debt of the U.S. government instead of MBS. Again, strong anticipation of this move, based on transparent communications from the Federal Open Market Committee (FOMC), led to clear downward movements in the interest rates of not only U.S. government debt, but other interest rates as well. Some on this committee may have noticed that 30-year rates on fixed home mortgages fell to almost 4% a couple of months ago – that was clearly a symptom of this second round of quantitative easing (or as it was popularly dubbed, QE2). **Figure 4** shows that again returns on a range of securities fell with the announcement of QE2.

Figure 4 here

Just to give a sense of the potential of this quantitative easing for spurring purchasing power in the U.S. economy, analysts at JPMorgan Chase have estimated that if all mortgage holders guaranteed by the federal government (through Fannie Mae and Freddie Mac) had been able to refinance when 30-year rates dropped to nearly 4%, this could have added an economic stimulus of more than \$50 billion per year to the economy. Further, since this stimulus would be effectively permanent (the lower mortgage payments would be faced for the life of each holder’s mortgage after refinance), the extra economic output it would have likely spurred would have been very large.

Have the Fed’s actions propped up output and employment?

There is no doubt at all that the Great Recession would have been worse, perhaps much worse, had the Fed kept interest rates at the 5.26 percent that characterized July 2007 – the last month before it was clear that a global financial crisis was in the making. There was, as far as I know, *not a single economist* arguing between July 2007 and June 2009 (the official end of the recession) that the Fed should *not* have lowered its conventional policy rate as the recession approached.

There is a school of thought (to which I’m sympathetic) that argues that while the Fed has great power to rein in an overheating economy through interest rate increases it actually has far less power to spur spending in an economy that is deflating – the vivid metaphor often used to explain this asymmetry is “pushing on a string”. And there are reasons to think the Fed’s conventional tools were especially ill-suited to the fallout of the most current recession. For example, increased housing activity is a key traditional channel through which interest rate cuts spur economic activity. Given the massive overbuilding and plummeting home prices resulting from the burst housing bubble, it was always very unlikely that increased activity in the housing sector – regardless of what the Fed was doing – was going to be a primary channel for pulling the U.S. economy out of recession.

However, noting this asymmetry in the Fed's power does not argue that interest rate loosening cannot work at all or is somehow the *wrong* thing to do. As households, for example, look to pay down debt in the wake of lost housing wealth, low interest rates can provide immediate space for them to do by lowering auto, credit card, and even some mortgage loans (and often can afford the possibility of re-finance).

And in the past, monetary loosening has clearly been a key ingredient in spurring rapid economic recovery, even from severe recessions. Romer (1992), for example, finds that expansionary monetary policy was a key ingredient in helping the U.S. economy escape from the Great Depression in the 1930s. Posen (2009) similarly argues that the strong performance of the Japanese economy between 2002 and 2008 was a result of loosening monetary policy as well. **Figure 5** below shows the performance of economic growth in the year following a change in the federal funds rate. The precise statistical link between these variables is tough to pin down outside of careful econometrics because the Fed changes these rates precisely in reaction to changing economic conditions. Yet, the figure shows that large increases in the federal funds rate over a year tends to lead to slower growth in the subsequent year and vice-versa.

Figure 5 here

More recently in U.S. history, an examination of the very sharp (though thankfully very brief) recession of 1981-1982 also provides clear evidence of the efficacy of expansionary monetary policy. The unemployment rate in December 1982 actually peaked at 10.8% - higher than at any point in the Great Recession.¹ Yet 12 months later payroll employment was back to its pre-recession level. What contributed to this extraordinarily rapid recovery in jobs and unemployment? The simplest answer is very rapid output growth – GDP grew in the 2 years following the trough in 1982 at an annual average rate of 6.7% - in the 6 quarters since the trough of the most recent recession growth rates have averaged well under half this pace.

This rapid output growth, in turn, was driven by an extraordinary degree of monetary easing – the policy rate controlled by the Fed fell nearly 10 percentage points between the business cycle peak of 1981 and the recession's trough of November 1982. The Fed continued cutting rates for the next 6 months following this trough – and by November 1983 payroll employment had completely recovered its pre-recession level. Figure 6 below shows the path of the federal funds rate and economic growth between 1981 and 1984 – the reduction in the federal funds rate at the end of 1982 is clearly associated with a return to growth, while the slight uptick in these rates in 1984 sees these growth rates moderating.

Figure 6 here

¹ Of course, the labor force in 1982 was younger and less-educated so should have, all else equal, had higher unemployment rates in general. Baker and Schmitt (2009) have pointed out that age-adjusting the U.S. workforce to match the 1982 age distribution results in higher unemployment rates being reached during the most recent recession.

It's true that there was also a large fiscal stimulus injected into the economy in those years, but this stimulus was particularly ill-suited for spurring output growth, as most of it took the form of tax-cuts aimed a group (high-income individuals and businesses) that were likely to have lower propensities to consume out of current income than others. In short, it is clear that the very rapid monetary easing was largely responsible for "morning in America".

While there was less scope for this degree of *conventional* easing in the latest recession (because interest rates were lower going into it), the unconventional actions of the Fed have been able to provide a spur to spending even over and above what was provided by the move of federal funds rates to zero. Gagnon et al. (2010) argue that the unconventional actions of the Fed lowered interest rates across the term and risk-structure. Chung et al. (2011) then undertake a simulation exercise based on the historical relationships between these interest rates and components of GDP. They find that the \$600 billion in Treasury purchases recently undertaken by the Fed is likely to boost GDP by up to a full percentage point, which translates into roughly 1 million full-time equivalent jobs supported by these actions. It should again be noted that this is just the effect of the most recent Fed asset purchase – not the full range of effects spurred by their conventional easing in the early parts of the recession and the first round of quantitative easing – Chung et al. (2011) estimate that the full effect of all large-scale asset purchases undertaken by the Fed probably supported nearly 3 million jobs and will have lowered measured unemployment by 1.5 percentage points through the end of 2012.

Has the Fed done enough?

All this said, I don't have to remind anybody on this panel that the U.S. economy is far from healed – unemployment was 9.0% as of January 2011 (and will almost surely reach over 9.5% again before the labor-market recovery is complete) and if most private and public-sector forecasts are to be believed, will only fall slowly over the next couple of years – reaching a level comparable to its immediate pre-recession peak in 2015.

This begs the question – did the Fed do enough?

My short-answer to this is not yet, but it is on the right track. For one, the jobs-crisis is far from over and the economy far from stabilized. Until unemployment returns to tolerably low levels and the economy is much closer to producing at its potential level, the Fed should remain very aggressive in its policy stance: keeping policy-rates low, following through with the full round of QE2 and preferably engaging in more asset purchases after the initial \$600 billion is exhausted. However, absent support from the other levers of macroeconomic stabilization – fiscal and exchange-rate policies, the Fed is limited in how much it can contribute to recovery. If, for example, Congress acted to provide a new, significant round of effective fiscal support to the economy, the Fed could act to enhance the effectiveness of this support as well as keeping it from adding to the national debt held by the public by simply buying the new debt issues and holding them on its balance sheet.

This action should ameliorate the concerns of those worried that more fiscal support to the economy would lead to high debt burdens for the U.S. government in the future – if the Fed owns the newly-created debt that provides fiscal support, interest on this debt would be paid to the Fed and recycled back to the U.S. Treasury. This is not a strategy that can be continued when the economy is near full-employment – it would surely lead to inflation. But there is no danger of that happening today, with vast numbers of unused resources available to match new production to new money creation.

Again, the Fed has clearly acted with more urgency than any of our other macroeconomic policymaking institutions to the Great Recession and continues to treat the jobs-crisis as the number one priority in setting its policy; this is to its great credit. It should continue with this aggressive pro-growth stance until a full economic recovery is reached. However, unless more support is forthcoming from *other* levers of macroeconomic stabilization, its ability to do much more than continue its current stance is limited.

In short, the Fed (a) saw the economic downturn coming before any other major macroeconomic policymaking body, (b) acted more aggressively than any other, and (c) continues to attack the problem of sluggish recovery in both output and employment with greater urgency than any other team of economic policymakers. If our fiscal and exchange-rate policies were as aggressive as our monetary policy in historical terms, we could well have an unemployment rate 2-3 percentage points lower today and hundreds of billions of dollars of additional economic output.

Criticisms of the expansionary monetary policy I: did low interest rates cause the bubble?

Given the absolutely central role played by the housing price bubble in generating the Great Recession and given as well that some critics of the current aggressively pro-growth stance taken by the Fed have tried to blame accommodative monetary policy on the *creation* of this bubble, it seems worthwhile to examine the case for and against the role of too-low interest rates in inflating home-prices in the 2000s.

The argument that low interest rates are a prime suspect in creating the bubble rests simply on the fact that as the bubble inflated in the early 2000s, these interest rates were kept unusually low by historical standards. As low interest rates should (all else equal) encourage borrowing, and mortgage debt is by far the single largest category of household borrowing, the case continues that easy credit engineered by the Fed pumped up the demand for homes and inflated the bubble. The corollary to this argument is often presented that it is obvious that the Fed should have considerably tightened monetary policy very quickly after the 2001 recession ended.

There are a number of reasons to reject this diagnosis and the proposed cure.

First, interest rates *should* have been low in the early 2000s – employment growth following the 2001 recession was, by far, the weakest of any recovery since the Great Depression. Between 1948 and 1990, it took an average of 13 months from the end of a recession to fully regain all employment losses. Yet it took 38 months following the 2001 recession (see **Figure 7** below). In fact, employment growth did not even turn consistently *positive* until August 2003, 21 months after the official end of the recession. The

notion that interest rates should have been sharply increased even while jobs were still being shed in the economy is hard to credit.

Figure 7 here

This can be seen more formally by invoking a standard “Taylor Rule” of prescriptive Fed behavior. The Taylor rule argues that policy rates should be changed based on a weighted average of expected inflation and productive slack in the economy. As expected inflation rises, the Taylor rule argues for rates to rise in response to cool the economy; when productive slack (or, the measured “output gap”) rises, rates should be lowered to spur spending to tighten this slack. Applying a Taylor rule that weights inflationary expectations every bit as heavily as concerns over the economy underperforming potential actually would have led to a path of policy interest rates *very much like* what was actually pursued by the Fed in the early 2000s, as shown below in **Figure 8**.

Figure 8 here

Second, the timing of rising home-prices and low interest rates is much less clear than proponents of the “it was too-low interest rates” theory of bubble-inflation generally admit. Home prices began rising in the late 1990s – as *interest rates were being increased*. The pace of price-growth did rise in the early 2000s as interest rates were lowered, but, then the pace of growth remained torrid between 2004 and 2006 – as interest rates were being sharply *increased*. In short, the sharp rise in prices began in a period of rising rates and persisted nearly undiminished during a period of rising rates; this makes it hard to sustain the argument that low rates were the key driver of the housing price bubble. **Figure 9** shows this by displaying the change in the federal funds rate and annual home-price appreciation for periods of rising and falling rates.

Figure 9 here

Third, the bubble in equity markets in the 1990s in the U.S. accelerated just after a sharp increase in policy interest rates beginning near the end of 1993. The bubble got larger and larger even as rates stayed generally steady throughout the late 1990s (see **Figure 10** below).² Very few (I could find none) argued in real-time that the Fed had *caused* the equity-price bubble (some argued that they should have raised interest rates to smother it, but that’s a different question) – leading one to conclude at least that excessively low interest rates are not a necessary condition for asset-price bubbles.

Figure 10 here

Fifth, we can use the fact that the housing bubble of the 2000s was not unique to the U.S. economy to see if there is a durable connection between rising home prices and interest rates. France, Denmark, and the UK (among others) all saw home-price appreciation faster than the U.S. from 2001 to 2006. Yet these nations also saw monetary policy that was tighter than in the U.S. relative to what should have been expected from a Taylor rule based on their national inflation and output-gap indicators. In short,

² There was a dip in policy rates in 1998, largely in reaction to crises in East Asia and the Russian bond defaults. This dip was quickly reversed, however.

these countries more closely followed the diagnosis of interest rate tightening (relative to current economic conditions) yet still saw larger increases in home-price growth during the 2000s (see **Figure 11**).

Figure 11 here

Criticisms of expansionary monetary policy II: It will cause inflation and that's bad

Lastly, there is commonly-voiced concern that the Fed's current aggressive actions to spur growth and jobs in the economy will instead give rise to rapid inflation. It is true that large-scale money creation would indeed translate mostly into higher prices and not higher output in an economy characterized by no productive slack (with no productive slack, output could not, by definition, be increased in the short-term). This is why the short-hand definition for inflation is often stated as "too much money chasing too few goods".

However, the key phrases in the formulations above are "no productive slack" and "too few goods". There is significant productive slack in the U.S. economy right now, as evidenced by very high rates of unemployment of labor and non-utilization of productive capacity. Given this, it seems hard to frame the problem of "too few goods" being chased by "too much" money – if there is excess demand for ("too much money chasing") new goods and services, *we should make more of these goods and services* to solve concerns over inflation.

The simplest way to assuage fears of incipient inflation is just to look at the price-data. We should be clear here what data we're looking at and why. Inflation is, by definition, a *generalized* rise in prices. The prices of individual goods or services rise and fall all of the time. Cherry-picking a single good (or select basket of goods) to "prove" that prices overall are falling or rising makes no sense – it is, by definition, not a measure of inflation.

Additionally, it is the overwhelming consensus in empirical macroeconomics that measures of "core" inflation are the proper ones to examine when gauging the impact of monetary policy on price growth. The simplest forms of these "core" measures exclude the costs of food and energy. As food and energy prices are volatile and change often and are often dramatically affected by idiosyncratic supply-side influences (bad weather, closing of shipping lanes, refinery fires), they are a very bad measure of the inflation *momentum* building up in an economy.

When firms set those prices that are less volatile than food or energy (wages in the case of workers), they take the overall state of inflationary expectations into account. For example, if a worker desires real (ie, inflation-adjusted) wage stability, if she expects overall inflation to run at 2 percent for the forthcoming year, she'll need to ask for a 2% raise to insure this real (inflation-adjusted) wage stability. And when a grocer wants his sales to finance the same living standard he purchased for himself last year, he needs to raise his prices by 2% if he expects overall prices in the economy to rise this much. If

rapid money creation does occur during times of little productive slack, this could well lead to increases in prices across-the-board and hence to rising expectations of inflation, which become self-fulfilling.

Scare-stories (sometimes true) about central banks unleashing inflation upon their economies are about this inflationary momentum, not about discrete jumps in single-prices.

Further, because it is not just food and energy prices that are volatile and non-informative about the embedded state of inflationary expectations, there are a number of measures of “core” inflation. Import prices can rise or fall sharply based on movements in the value of the dollar. In some countries, changes in national sales taxes (or value-added taxes) can lead to large one-time jumps in the price-level without causing permanently higher inflationary expectations. In short, good measures of “core” inflation seek to exclude those prices that do not convey much useful information about the real inflationary momentum in the economy.

Luckily, *all* measures of core inflation are telling the same story – the last couple of years have seen rapid disinflationary pressures in the U.S. economy (see **Figure 12** for a range of commonly-used core measures of inflation). In short, the data from the recent past argues that worrying about rampant price-growth is profoundly misguided.

Figure 12 here

Further, forward-looking measures of inflationary expectations used by forecasters and market participants are telling largely the same story. The spread between real and nominal 10-year Treasury securities is one commonly-used proxy for inflationary expectations – this spread has shown no upward trend in the past couple of years (see **Figure 13** below).

Figure 13 here

Importantly, the data showing disinflation and very low rates of expected inflation in coming years are not a surprise – they are in fact exactly what conventional macroeconomic theory would lead one to expect. High unemployment rates and large output gaps (again, measures of productive slack) are historically correlated with low rates of inflation. The reason is simple; as the economy cools and consumers and businesses stop spending, firms see output piling up unsold and hence lose the ability to raise prices and workers lose the ability to demand large wage-increases when they see many of their peers out of work.

Figure 14 below shows the relationship between unemployment and inflation in the U.S. over the 2000s – with the last 4 quarters highlighted . This short-run relationship between prices and unemployment replicates a common pattern within business cycles – periods of high unemployment rarely see growing price pressure. The one recent historical counter to this trend, the “stagflation” of the 1970s (high unemployment accompanied by high inflation) can be largely explained developments on the supply-side of the economy – an oil price-shock combined with very rapidly decelerating trend productivity growth in the economy.

Figure 14 here

We can reassure ourselves that there is little evidence of a similar fall in productivity that could lead to upward price-pressures on the horizon. Another key predictor of inflation is a rise in unit labor costs – the labor cost of each additional unit of output. This cost rises as labor compensation rises, but falls as productivity increases (as each worker can now produce more output). **Figure 15** below shows a plot of inflation versus unit labor costs for the U.S. economy since 1959, with the most recent quarters highlighted. As can be seen, a price-push from the supply-side looks very unlikely.

Figure 15 here

Lastly, it should be noted that the current rates of inflation are undesirably low for the U.S. economy. For example, the price deflator for core personal consumption expenditures rose by less than 1% over the past year – the first time in the history of this indicator that it has fallen under 1%. Disinflation is bad because as inflation falls, real interest rates tend to rise – and given that the economy needs more spending from households and businesses right now, rising interest rates will not help this.

Further, the debt-driven nature of the Great Recession would make higher inflation rates desirable right now. Both households and businesses are operating underneath a very large overhang of debt accumulated during the last 15 years. Over time, debt fixed in nominal terms (like mortgage debts) actually becomes less and less burdensome relative to other prices and wages in the economy so long as there is positive inflation. For example, if your mortgage payment is \$1,000 per month and inflation runs at 4% per year, by the 30th year your mortgage payment has actually shrunk by just under 70% relative to all other prices and wages in the economy. If, instead, inflation only rises by 1%, then the mortgage payment will only have shrunk by 25% by the 30th year (and deflation, falling prices, would actually cause one's mortgage burden to *rise*). Given the very high debt burden currently afflicting American households and business (see **Figure 16** below for household debt measures), inflation rates of under 1% will allow them to dig out of this debt overhang very slowly indeed.

Figure 16 here

Conclusion

What we now call the Great Recession can be described simply in the terms of macroeconomics – it was a huge negative shock to economy-wide demand for goods and services caused by the bursting of the housing bubble. Since this shock, the Federal Reserve has, as would be recommended by the vast majority of professional macroeconomists, attempted to lean against this negative shock to demand and spur spending with its policy levers. It has done this through conventional (lowering the short-term policy interest rates it controls) and unconventional (direct purchases of longer-term securities) means.

Its actions have clearly helped. They have also clearly *not* been accompanied with the same degree of urgency on the part of policymakers in charge of the other levers of macroeconomic stabilization policy (fiscal and exchange-rate policy). Because of this, we remain today at intolerably high levels of

unemployment. However, blaming the Fed for this is quite odd – they have been by far the policymaking institution that has responded most forcefully and in the timeliest manner to the crisis.

Arguments that the Fed actions have been in the *wrong direction* are even odder. Here a (strained) analogy might help. Say that the economy in the midst of the housing bubble burst is akin to a man who has fallen out of a third-story window. The actions by Fed in response can be thought of as throwing a mattress underneath him to break the fall; the mattress will surely help but may not be thick enough to prevent all damage from the fall. Criticizing the Fed for flirting with inflation with its actions during the current crisis would be like arguing that the mattress thrown under our falling man is *too thick and too plush*: if slept on for a long time our falling man may eventually develop an achy back.

Going into the recession, the overwhelming consensus among professional macroeconomists was that the Fed could be an effective part of stabilization policy and through forceful actions could make recessions shallower and shorter. Absolutely nothing that has happened in the past three years has shaken that belief.

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Figure 1

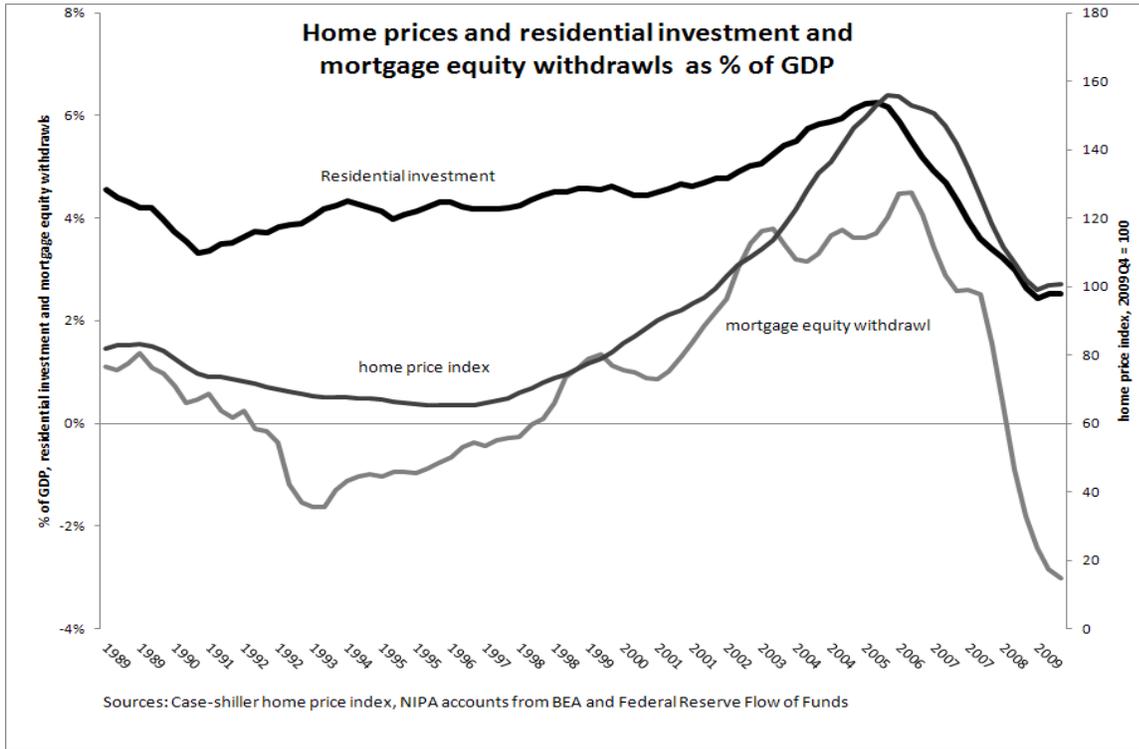
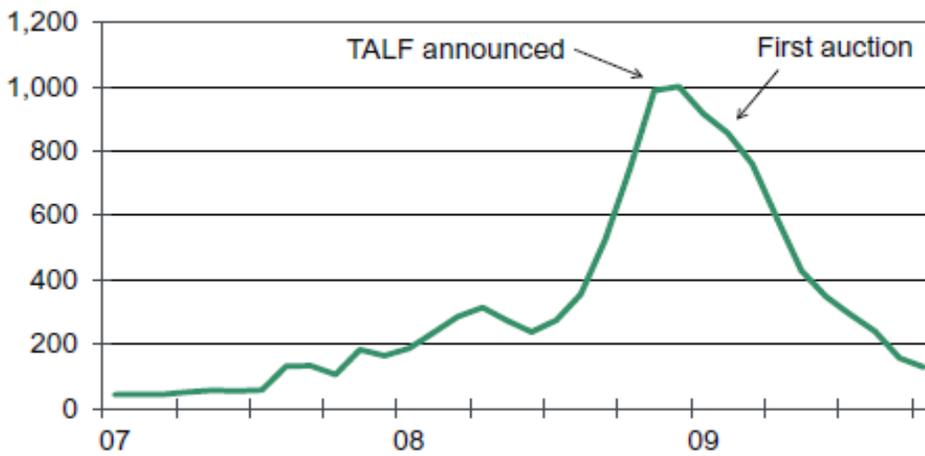


Figure 2

Chart 2: TALF Caused ABS Spreads to Narrow

Automobile ABS, option-adjusted spread, bps



Source: BofA Merrill Lynch

Figure 3

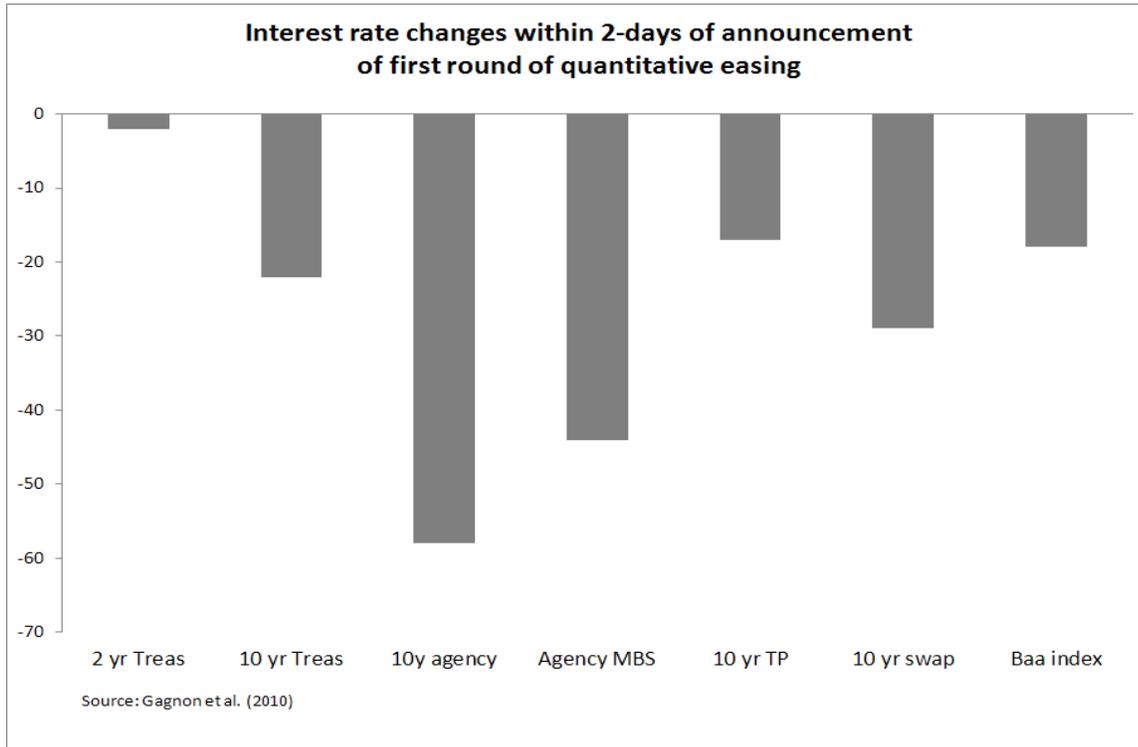


Figure 4

Table 2: Responses of U.S. Interest Rates to News about the Second Round of Asset Purchases

Date	10-Year Treasury Yield	10-Year TIPS Yield	30-Year MBS Yield	10-Year BBB Corporate Bond Yield
Aug. 10, 2010	-7	-9	-2	-1
Aug. 11 to Nov. 2, 2010	-11	-47	-9	-23
Nov. 3, 2010	3	2	-2	2

Note: The table displays basis point changes from close of business on the day before the announcement to close of business on the day of the announcement, with the exception of Aug. 11 to Nov. 2, 2010, which shows the interperiod change. Changes in the 10-year nominal Treasury yield are computed using a smoothed yield curve estimated by staff from off-the-run Treasury coupon securities. Changes in the yield on 10-year Treasury inflation-protected securities (TIPS) are computed by staff using a smoothed inflation-indexed yield curve. Changes in the yield on 30-year mortgage-backed securities (MBS) are computed using Bloomberg data on securities issued by Fannie Mae. Changes in the yield on 10-year BBB corporate bonds are computed using a smoothed yield curve estimated by staff using Merrill Lynch data.

Figure 5

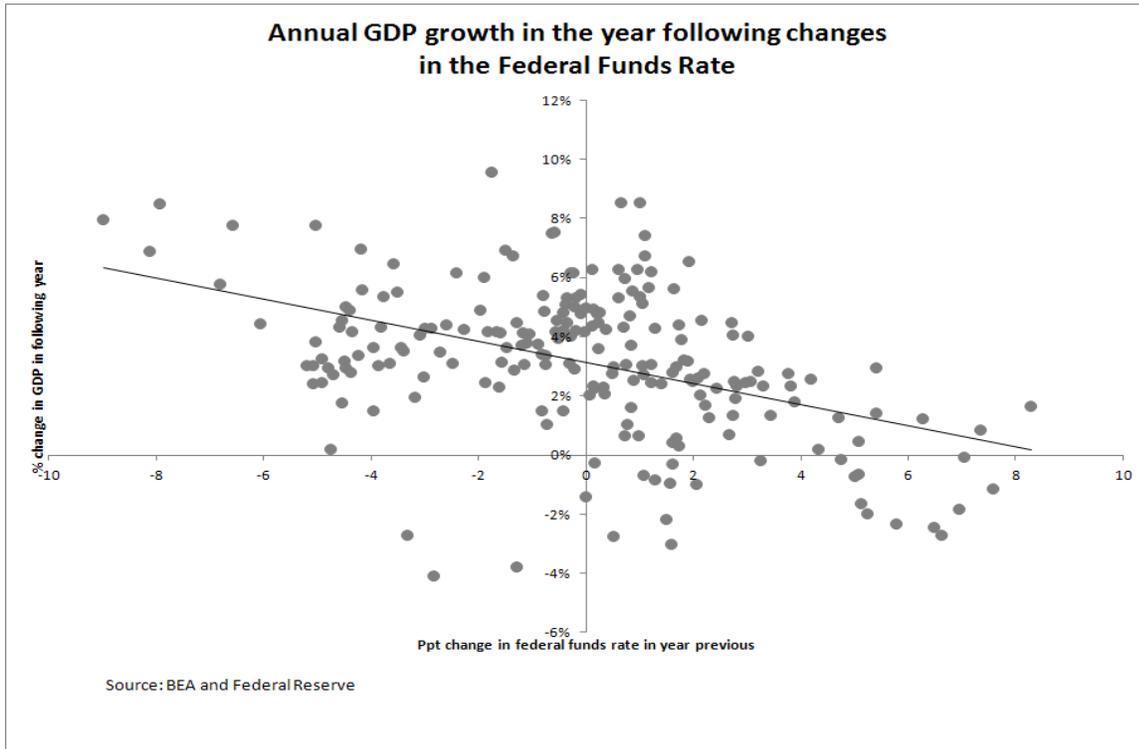


Figure 6

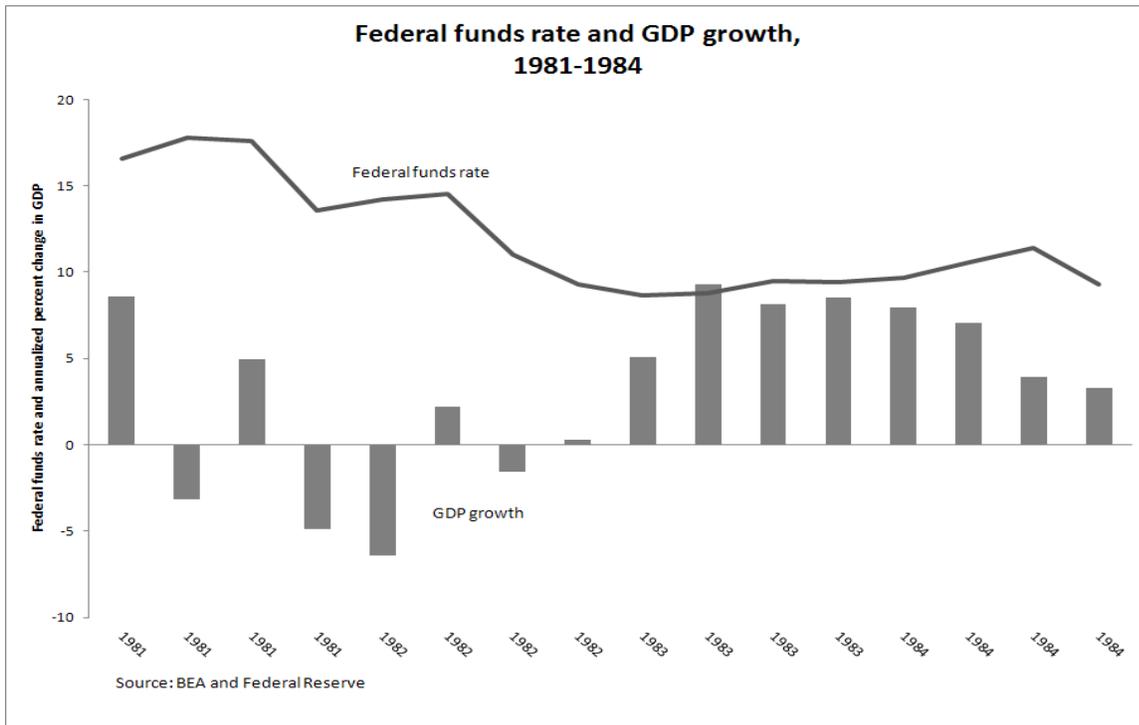


Figure 7

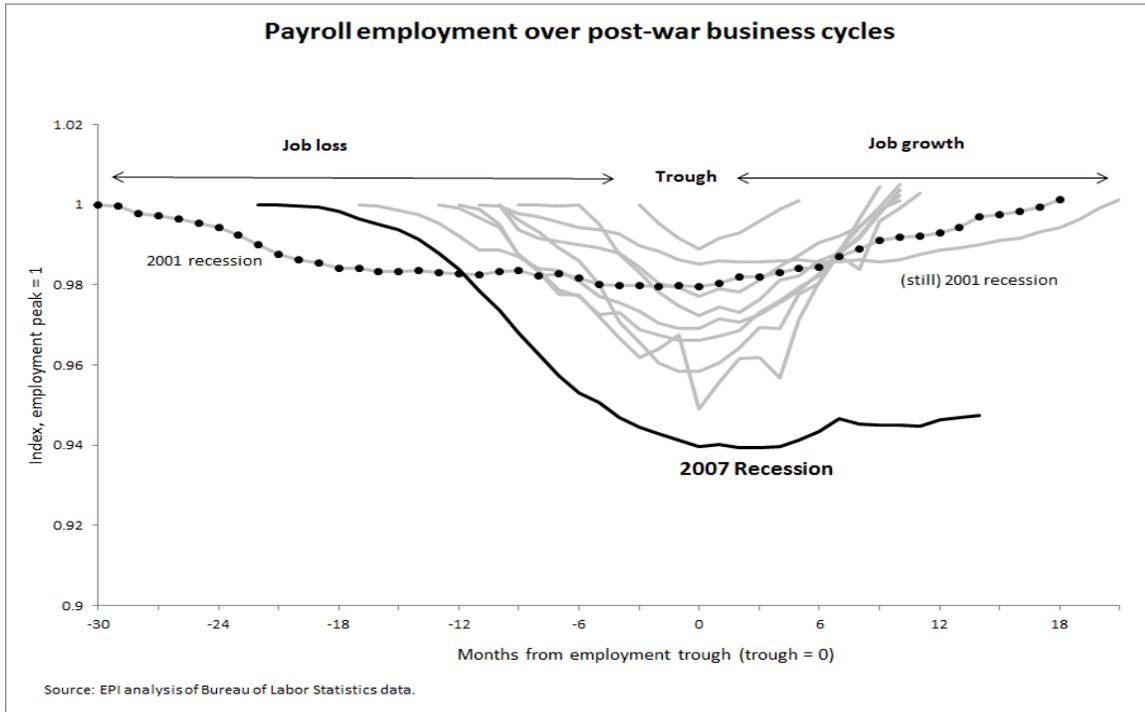


Figure 8

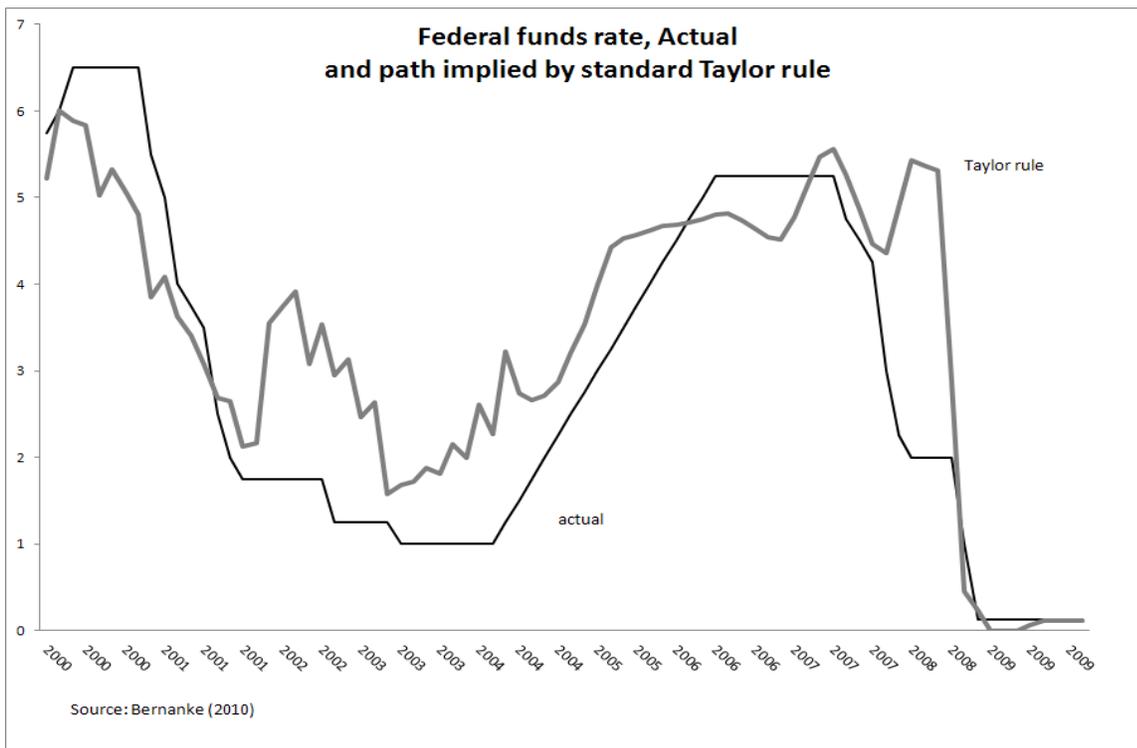


Figure 9

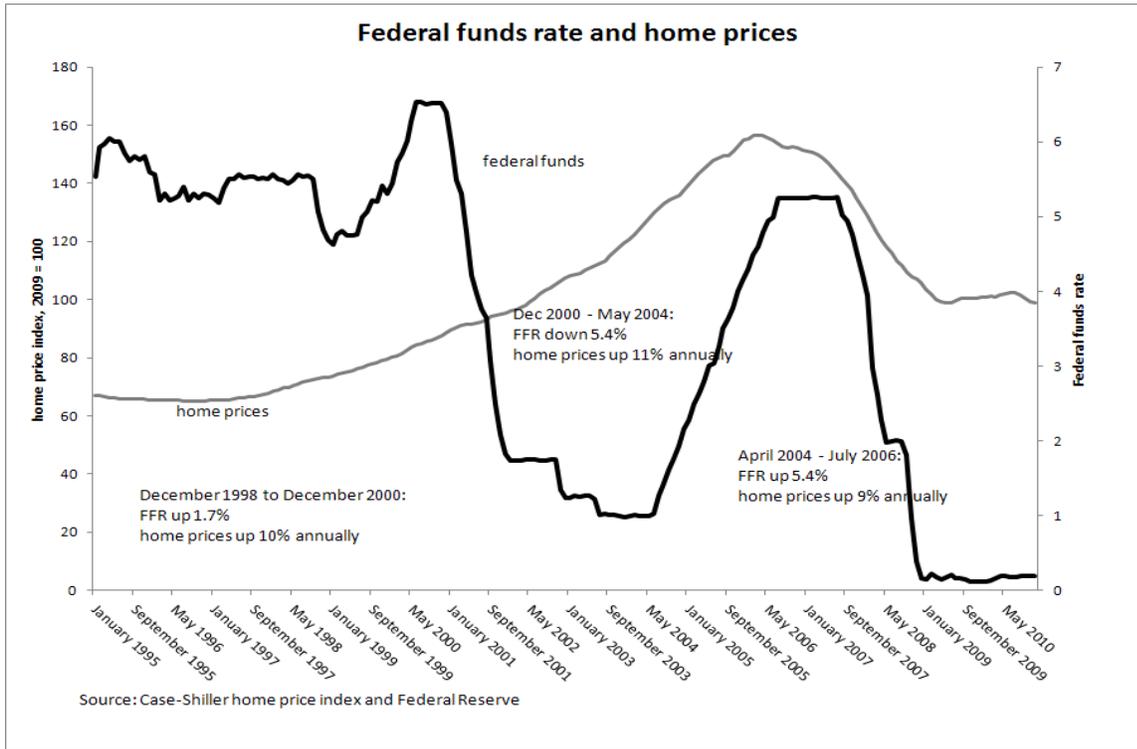


Figure 10

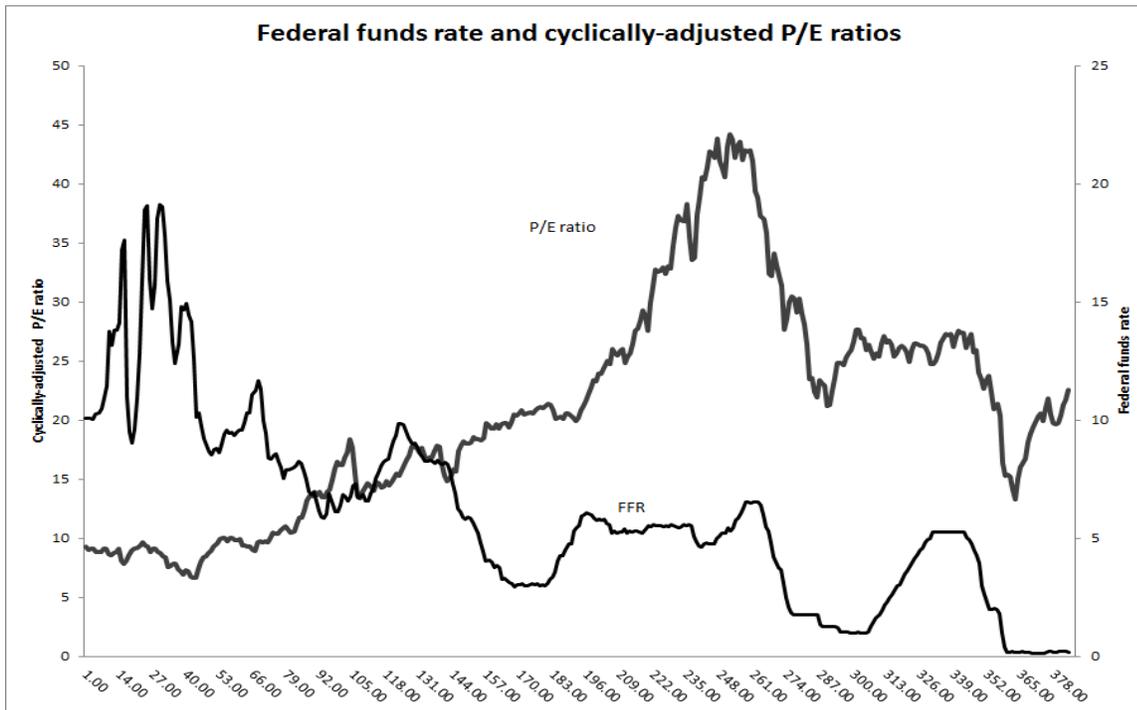


Figure 11

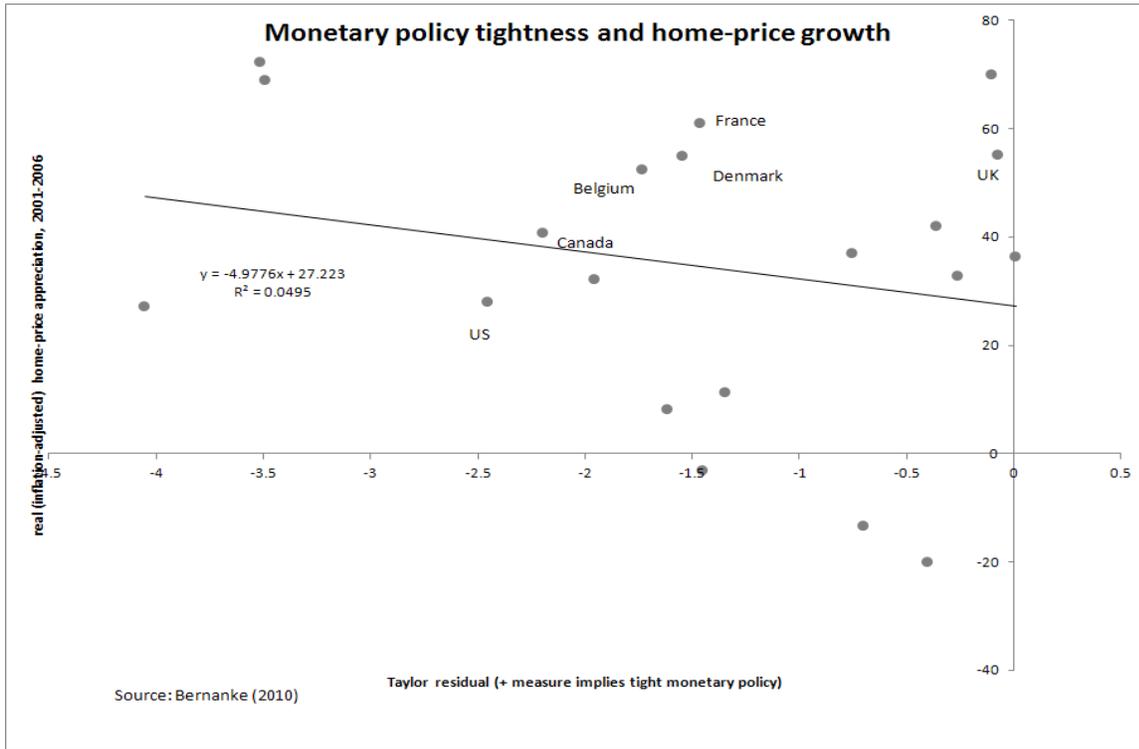


Figure 12

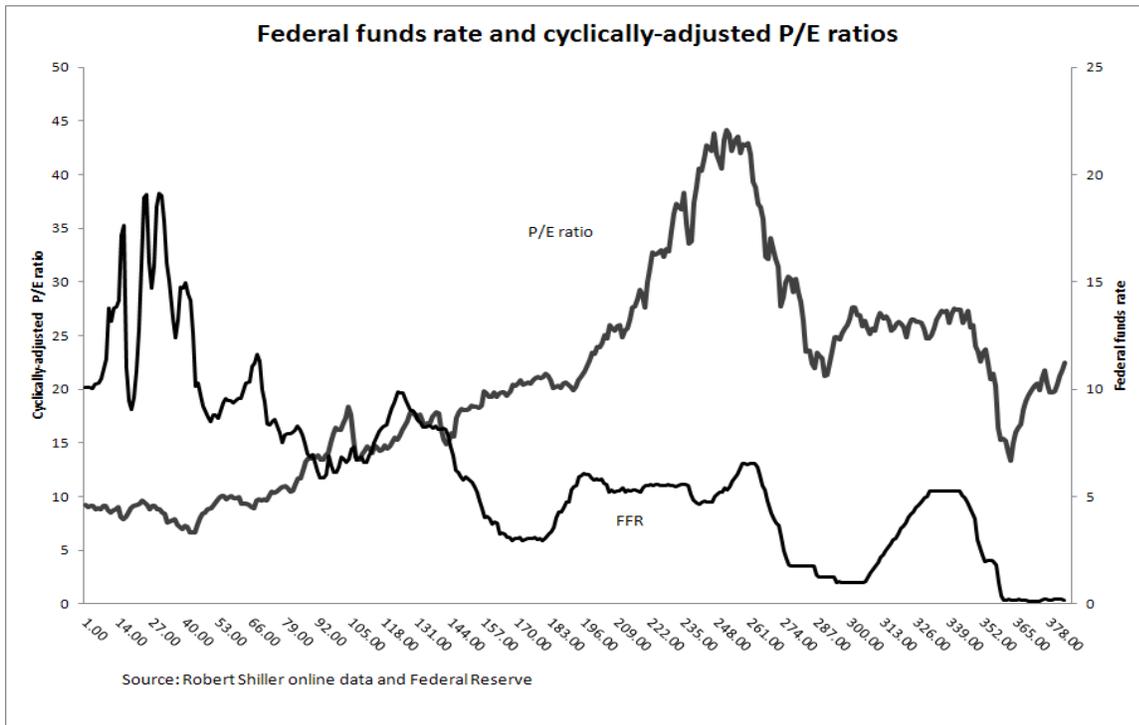


Figure 13

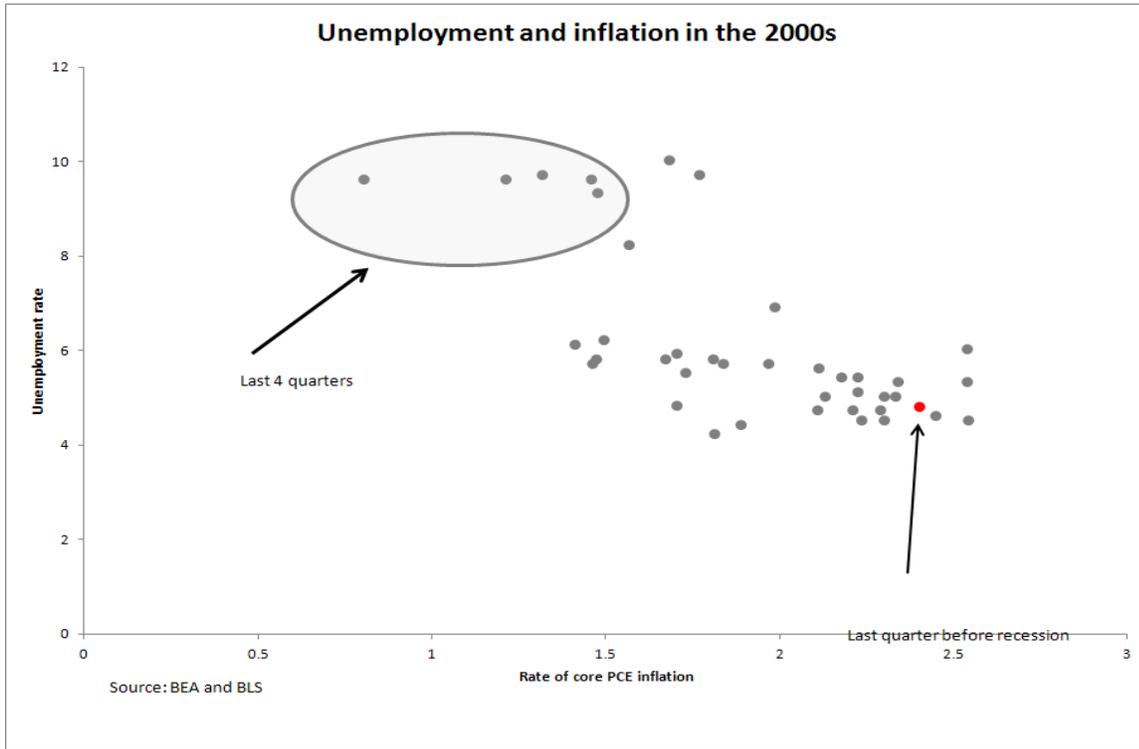


Figure 14

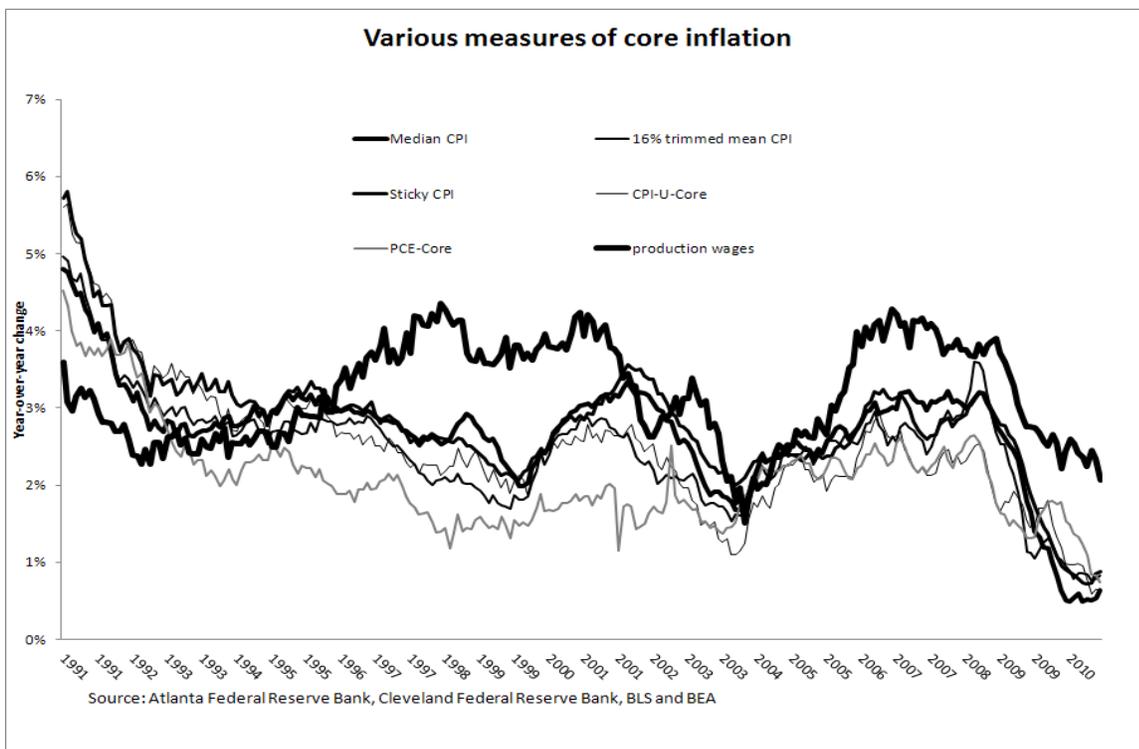


Figure 15

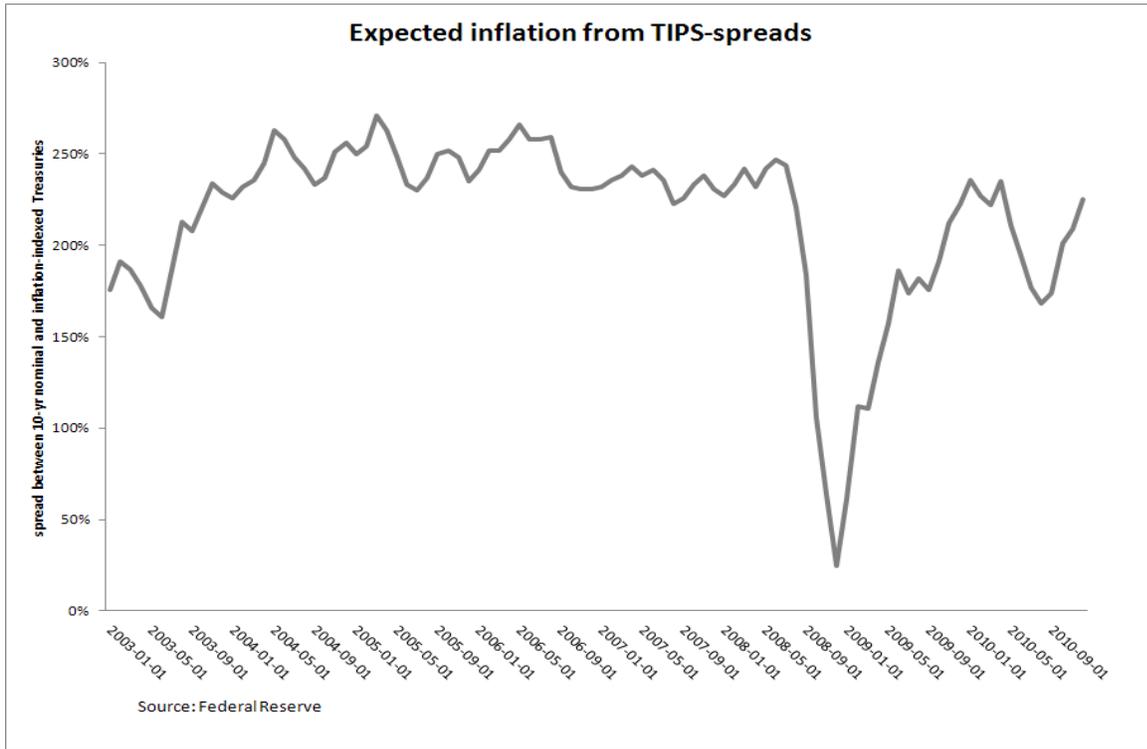


Figure 16

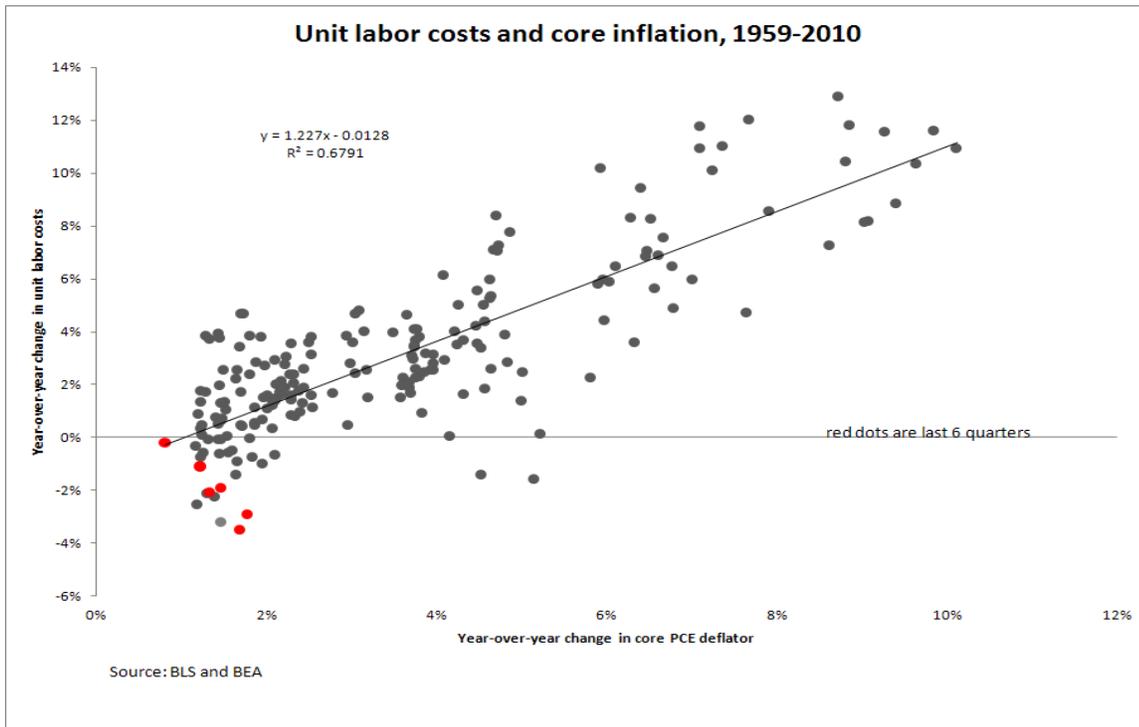
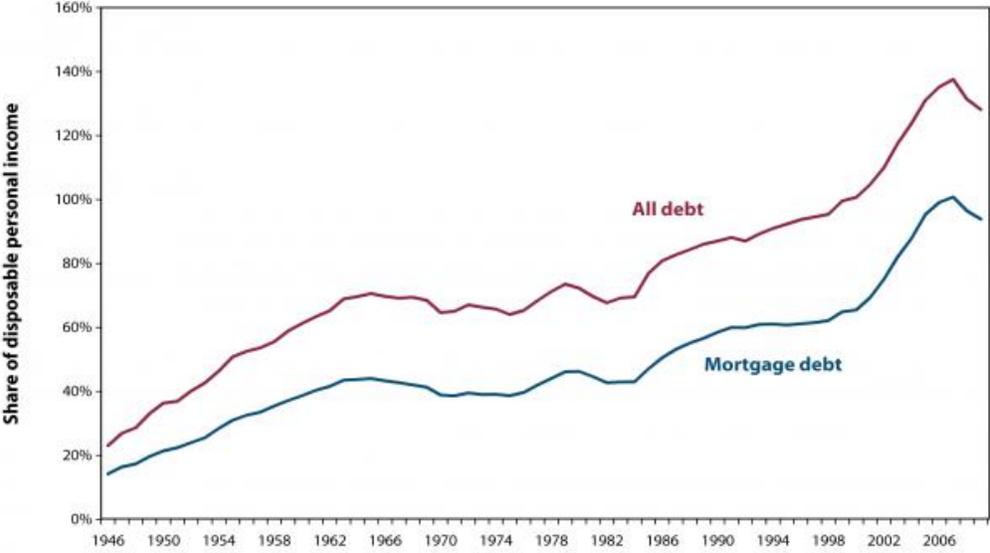


Figure 16

Household debt soars in recent decades

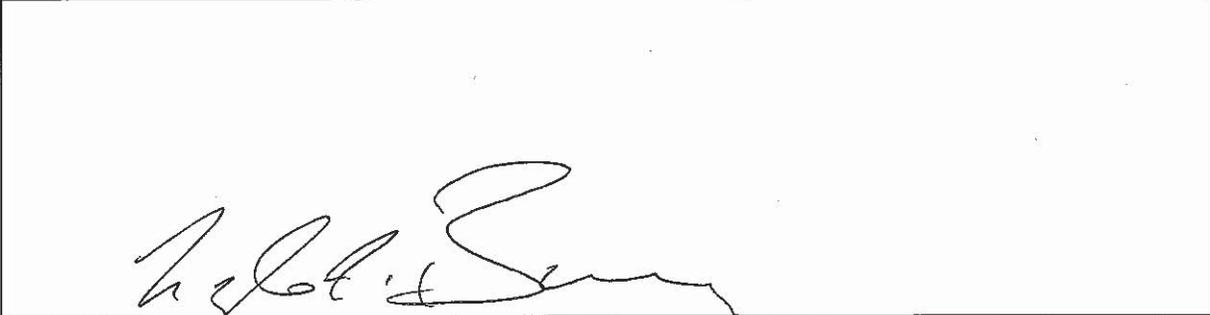
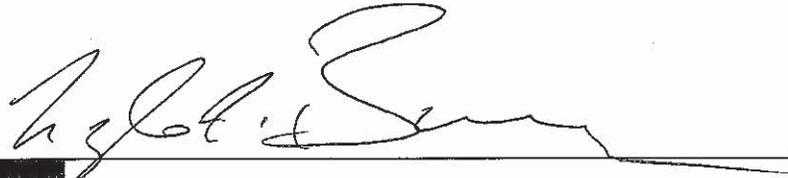


Source: EPI analysis of U.S. Federal Reserve Board, Flow of Funds Accounts of the United States.

United States House of Representatives
Committee on Financial Services

“TRUTH IN TESTIMONY” DISCLOSURE FORM

Clause 2(g) of rule XI of the Rules of the House of Representatives and the Rules of the Committee on Financial Services require the disclosure of the following information. A copy of this form should be attached to your written testimony.

Lyle Joshua Bivens		Economic Policy Institute (EPI)	
			
			
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
			
			
			
			

Please attach a copy of this form to your written testimony.