



## *Housing and Economic Recovery*

**Eric S. Rosengren**  
**President & Chief Executive Officer**  
**Federal Reserve Bank of Boston**

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It is a great pleasure to be in Sweden to participate in today's session on the current economic outlook and tomorrow's conference on capital markets in the post-crisis environment. It is vital that policymakers and practitioners study and apply the recent lessons of the global economy and financial interdependence, so I am glad to be able to join you in these discussions.

I should note, of course, that the views I express today are my own, and not necessarily those of my colleagues on the Federal Reserve's Board of Governors or the Federal Open Market Committee (the FOMC).

On a personal note, I should mention that my grandfather John Johanson left Sweden at the age of six, changing his name to Rosengren and joining his father – who was deploying what he had learned as a gardener in Sweden to open greenhouses in America. My relatives were able to take what they had learned in Sweden and apply it – with perhaps some variation – in the United States. In

a similar way, there is much to consider about the economic experience in Europe and the U.S. over the past four years. What is similar? What is different? And what can be learned and applied?

The window into these broader questions that I would like to use today is housing. One of the hallmarks of the recent financial crisis, and subsequent economic disruption, has been the very significant role played by unusually large movements in residential real estate values, within and across countries.

Given our setting today, let me start by comparing U.S. and Swedish home price movements since 1995, shown in **Figure 1**. In the U.S., house prices increased steadily and reached a peak in 2006, before beginning an unprecedented decline – not just in selected regions of the country, but *nationally* – resulting in aggregate declines of more than 30 percent. In contrast, Swedish real estate prices increased even more substantially, and have not experienced any substantial decline. Indeed, they continued to rise after the global financial crisis.

While the U.S. housing price decline was a nationwide phenomenon, there were relatively more severe declines in some parts of the country, such as the so-called “sand states” of Florida, Arizona, Nevada, and California. **Figure 2** shows the home price declines in various metropolitan areas (a subset of those included in the S&P/Case-Shiller 20-city composite index) and the lines drop furthest and fastest for the metro areas in Nevada, Arizona, Florida, and California.

As I talk with economists from countries whose housing values have risen markedly but not experienced sharp declines, I have been struck by two things. First, they are often confident that national (versus regional) house-price reductions are unlikely. And secondly, most assume that a decline in house prices would have a measured impact on the economy should that in fact occur. But the experience of Japan in recent decades and the U.S. more recently<sup>1</sup> should provide some caution – given that the economic retrenchment that followed these significant declines in home values exceeded most people’s expectations.

While sustained rapid increases in house prices are frequently followed by significant declines, I am certainly not predicting price declines in any country, given my limited knowledge of market characteristics. But I do recommend a thoughtful consideration of the recent U.S. experience, given its severity and the fact that it was not foreseen. Indeed, while residential investment<sup>2</sup> now comprises only 2.2 percent of Gross Domestic Product (GDP) in the U.S., our housing problems have had a tremendously disproportionate impact on economic performance and on the recovery of growth and employment.

I would like to discuss some of the reasons for that disproportionate impact today. By way of preview, let me mention that I plan to highlight the following points.

First, while housing is a small component of U.S. GDP, it is also quite volatile. Historically, an outsized proportion of U.S. economic growth in the first two years of a recovery from a recession is generated by residential investment. The sector is very responsive to monetary policy<sup>3</sup> since the ability to purchase a home can be quite sensitive to the interest rate and the resulting cost of financing.

Second, the characteristics of a country's mortgage-finance market determine the impact that will come from a change in the rates directly influenced by monetary policy. In the U.S., most homes are financed by 30-year fixed-rate mortgages, so a fall in long-term interest rates really only affects existing home owners to the extent they refinance. As a result, the U.S. gets less effect from the movement of short-term, monetary policy interest rates compared to countries where the primary mortgage financing instruments are floating-rate loans. In countries with this institutional feature, both new and existing home buyers get more immediate boosts from lower short-term rates. **Figure 3** helps to illustrate this by showing the greater responsiveness of U.S. adjustable-rate mortgage rates to the target federal funds rate, versus 30-year fixed-rate loans.

Third, many U.S. financial institutions have significant exposure to real estate, either through direct lending or through the purchase of mortgage-backed securities. As a result, declines in real

estate prices can have a substantial impact on the capital of financial institutions, which impacts their ability to finance not only the housing sector, but also other sectors of the economy.<sup>4</sup>

Fourth, falling home prices have not only impaired the capital of many financial institutions, but in a very real sense have disrupted the transmission of monetary policy. This is because falling home prices have brought about a situation where the *availability* of credit is more important in many cases than the *cost* of credit. Borrowers may not qualify for lower rates – in other words, the credit might not be available to them – because their household balance sheet is weaker than prior to the recession, because the collateral values of homes and commercial real estate have fallen, and because lender perception of risks inherent in the economy and in collateral valuations has risen – all at a time when lenders' capital has been depleted.

Fifth, I will argue that changes in some housing policies in the U.S. could make it less difficult for monetary policy to affect the economy when housing prices have fallen.

I will also discuss the actions taken last week at the FOMC to promote a faster recovery in the housing sector and the economy more broadly. I am very supportive of these actions.

Let me stress that I know housing markets have critical institutional features that differ greatly across countries – including financing arrangements, mortgage insurance, the role of government, tax treatment, mortgage servicing, and borrower liability in foreclosure. This makes it difficult to generalize from the U.S. experience.

What may be transferable, however, is the observation that sharp declines in housing prices can have additional negative effects, with broad implications for macroeconomic outcomes and monetary policy – broader, perhaps, than may be assumed and incorporated into most statistical models of the economy. I don't intend to talk about whether housing prices will fall, but rather want to emphasize that when they do fall the effect on the economy is often much greater than many people expect.

Let me pause to mention at the outset that a number of my colleagues at the Federal Reserve are studying and speaking about these important issues. Most recently Elizabeth Duke, a member of the Fed's Board of Governors and herself a former banker, spoke at the Board's *Policy Forum on the Housing Market Going Forward* and I recommend her address to you.<sup>5</sup> I share Governor Duke's view that in the U.S. we "currently have a housing market that is so severely out of balance that it is hampering our economic recovery." I may not be as convinced as she is about one possible remedy – that banks may be suitable landlords upon converting foreclosed properties to rentals – but I recommend absorbing her perspectives on things that can be done in the near term to help the housing market stabilize and rebalance.<sup>6</sup>

Also, colleagues at the Boston Fed including Paul Willen and Chris Foote have done a great deal of empirical work on these issues, and are exploring the key institutional characteristics of the housing market that play important roles in the current problems. Among other things, they are working on estimates of the macroeconomic effects of possible refinancing plans.

### **The Role of Housing in the Slow U.S. Recovery**

The decline in housing prices has created a multitude of difficulties for the U.S. economic recovery. I would like to provide some evidence of the problem, and discuss its origins.

The housing sector in the U.S. played a major role in the recent financial crisis, and in making the recovery from the resulting recession so anemic. In the U.S. we had seen regional declines in home prices during previous recessions, but had not seen a *national* decline in house prices in the post-war era. So for most lenders, investors, and homeowners, the sustained and substantial decline in home prices was not anticipated. Even sophisticated investors had placed only a very small probability on such a correlated decline. A key lesson from the past several years is that homes are

not riskless investments – and that highly rated, regionally-diversified mortgage securities do not necessarily carry low risk.

As mentioned earlier, even though residential investment is a small share of GDP (today only 2.2 percent), it is quite interest-sensitive – it can decline quite dramatically as interest rates rise, and expand quickly when interest rates are relatively low. So it has been a disproportionately important part of the monetary policy transmission mechanism.

In the current situation, however, U.S. mortgage rates are quite low but residential investment has *not* been the engine of growth that it normally is in economic recoveries. As shown in **Figure 4**, exports have been a source of strength in the first two years of the U.S. recovery, and business fixed investment has grown at approximately the same rate in this recovery as in the previous three. Yet the household sector has been particularly weak. Consumption, which accounts for approximately 70 percent of U.S. GDP, has grown only about half as much in the first two years of the recovery as it did in the previous three recoveries. And the shortfall for residential investment is even more striking. In the previous three recoveries, residential investment grew over 30 percent on average in the first years of the recovery – but has actually *decreased* in the first two years of this recovery.

**Figure 5** explores this pattern further by showing the contributions to total GDP growth that residential investment has provided in the first and second years of recent recoveries. In the past three recoveries, residential investment on average contributed more than 20 percent of GDP growth in the first year and 10 percent of growth in the second. So in the typical recovery, residential investment contributes much more to growth in the first two years of the recovery than would be expected given its share of GDP. This reflects the fact that interest rates generally fall during a recession and the initial stages of a recovery – and residential investment is usually quite responsive to interest rates.

In this recovery, residential investment was only a small share of the growth in the first year of the recovery and *declined* in the second year. So the unusually slow recovery is, in part, due to the uncharacteristically muted response of residential investment to very low interest rates.

More than one observer has commented that we are seeing a different pattern this time that equates almost to a “negative feedback loop.” High unemployment leads to risk aversion, which decreases demand for new housing. But without construction activity we are not seeing the typical uptick in housing-related jobs.

Having said a bit about residential investment and the slow recovery, I would like to now touch on other problems that stem from the decline in housing prices. Because residential investment is not the only facet of the economy that is affected by the drop in home values.

Indeed, the decline in housing prices has contributed to a sharp decline in household wealth. In fact, **Figure 6** shows (in both dollar and percent terms) that there was a significant decline in household net worth from 2005 to 2009, and that it particularly impacted racial and ethnic minorities in the U.S.<sup>7</sup> These insights are drawn from a Pew Research Center study that used data from the Census Bureau's *Survey of Income and Program Participation*.<sup>8</sup>

To explore this a bit more, **Figure 7** shows that while homes are an important component of net worth for Americans regardless of racial and ethnic group, African American and Hispanic households are particularly reliant on home values as a share of their wealth (between 50 and 60 percent, versus between 30 and 40 percent for White and Asian households in the U.S.). While stock prices have increased substantially from their crisis lows, those households whose primary source of wealth is their home have been disproportionately affected by the decline in house prices. And intuitively, households whose net worth has been significantly impacted are likely to reduce their consumption levels by more than households whose net worth has recovered.

**Figure 8** shows the erosion in home equity for U.S. households, again in both dollar and percent terms. Home equity is not only a source of funds to finance consumer purchases, but also frequently serves as a source of funds for individuals starting new businesses. With the decline in home equity, many entrepreneurs do not have that route available to finance start-ups or to expand existing small businesses.

The weak housing sector also has an impact on employment. **Figure 9** shows that far fewer jobs have been created in the first two years of this recovery (the left bar in each pair) than in previous recoveries (the right bar in the pair). In fact, construction jobs have continued to decline during the first two years of this recovery – we have lost over a half a million construction jobs since the recovery began. While construction employment is typically volatile during a recovery, on average the sector adds roughly 150,000 jobs.

Indeed, **Figure 10** shows that employment in construction has declined by 9 percent in the first two years of this recovery compared to growth over 4 percent during the previous three recoveries. And weak construction employment and activity also reduces the demand for labor in sectors that support construction.

**Figure 11** highlights that the rate of mortgage delinquency in the U.S. has been much greater during this recession than in previous ones. Despite two years of recovery (albeit a very slow one), the mortgage delinquency rate remains well above the peak level seen over the previous 30 years. And **Figure 12** shows that with significant foreclosures and a weak economy, both the housing vacancy rate and the rental vacancy rate remain quite high by historical standards.

So the problems in housing have greatly complicated the recovery in the U.S. Not only has residential investment been unusually weak, but “to add insult to injury” consumption, business formation, and employment have also been affected by problems in the housing sector.



## Housing's Impacts on the Policy Response

Monetary policy in the U.S., entrusted to the Federal Reserve by Congress, has responded aggressively to both the severe recession and the weak recovery. Short-term interest rates were cut essentially to zero.

Hitting the so-called “zero lower bound” has certainly brought challenges to the ability of monetary policy to stimulate the economy. However, once the zero lower bound was reached, the Federal Reserve used a variety of tools to try to push down longer-term interest rates, as merited by economic conditions. Our efforts have included asset purchases both traditional (Treasury securities) and nontraditional (mortgage-backed securities). We have also altered our communications strategy. At the August FOMC meeting we announced that the Fed expects to maintain short-term interest rates (the target range for the federal funds rate) near the zero bound at least through mid-2013 unless there is a significant improvement in economic conditions relative to our forecast, and as long as the inflation outlook remains subdued.<sup>9</sup> At the September FOMC meeting we announced a plan to extend the maturity of our holdings of securities and reinvest principal payments from our holdings of agency debt and agency mortgage backed securities in agency mortgage-backed securities. The recent actions have helped lower long-term interest rates significantly, which is intended to promote growth in interest-sensitive sectors of the economy such as housing.

**Figure 13** shows that in the U.S. the 10-year Treasury rate, and 30-year mortgage rates, have reached historically low levels. **Figure 14** illustrates that the combination of low rates and falling house prices significantly improved the affordability of homes.<sup>10</sup> In addition, **Figure 15** shows that both population and household formation in the U.S. have continued to rise over the past five years.<sup>11</sup>

The problem is, while many households have been able to refinance and some new home buyers have taken advantage of the improved affordability of houses, falling home prices have made many unable to refinance, and many unable or unwilling to purchase a home. While the housing

market would have been more severely impacted (and housing prices fallen more substantially) had the Federal Reserve not eased monetary policy aggressively, the impact of our policies on the economy has clearly been impaired by falling housing prices.

Monetary policy would have had a greater impact if households were able to respond to the lower interest rates as if house prices had not fallen. The data can help one gauge the scope of the potential. The widely followed CoreLogic estimate is that as of the second quarter, 10.9 million, or 22.5 percent, of all mortgaged residential properties had negative equity, where the debt exceeds the value of the house.<sup>12</sup> These so-called upside-down homeowners typically have a much harder time refinancing than owners with positive equity.

Along these lines, CoreLogic estimates that about three-quarters of owners with negative equity are paying "above-market" interest rates, which the company defines as rates above 5.1 percent.<sup>13</sup> By contrast, slightly more than half of positive-equity owners are paying above-market rates. All in all, CoreLogic estimates that there are about 28 million borrowers who are paying above-market rates and thus might potentially benefit from a refinance.<sup>14</sup>

There are several proposals that attempt to facilitate refinancing for homeowners who have been negatively impacted by the drop in housing prices. These proposals do face hurdles, including how to address private mortgage insurance and second liens. However, a program that made it possible for many homeowners to refinance, even if they were upside down, would likely provide significant reductions in mortgage payments to individuals who are likely to have a relatively high propensity to consume. Clearly getting more money into the hands of homeowners who would spend it could help to fuel GDP growth. This would reduce one of the impediments to a more significant effect from the monetary policy actions taken to date.

I hasten to add that there is already a government program to allow underwater borrowers to refinance, the Home Affordable Refinance Program (HARP). This program allows underwater

borrowers with Fannie Mae or Freddie Mac loans to refinance at lower rates. Unfortunately, the program has helped fewer borrowers than was originally hoped. Fed Governor Betsy Duke outlined some of the potential reasons why, in the talk I mentioned earlier. They include loan-level price adjustments (LLPAs) that raise interest rates for many borrowers and thereby reduce the benefit of refinancing; originator worries about “buybacks” forced on them by Fannie Mae and Freddie Mac; junior lien-holder resistance to re-subordinating their loans; and mortgage insurance policies.

The Federal Housing Finance Agency (FHFA) is now investigating whether there are ways to enhance the program to benefit more borrowers.<sup>15</sup> As this work proceeds, I hope the FHFA considers dropping or reducing LLPAs in cases when a GSE loan is refinanced into another GSE loan. Such a refinance actually reduces the GSE’s credit risk (they already guarantee the existing mortgage and the homeowner will be able to take advantage of lower rates, freeing up cash flow).

A second potential way to help resuscitate the housing sector would be to facilitate the reduction in the number of vacant homes.<sup>16</sup> One way to do this would be to help responsible investors purchase vacant homes and then convert them into rental properties. Today, a majority of investor deals are financed with cash, which suggests that there is room for improvement in the financing of investor properties.

A step in the right direction is a new loan product from Fannie Mae that allows a cash-out refinance of properties purchased with cash within the past six months, helping to “recycle” investor dollars through the market. But more could be done. Two possibilities include allowing investors to access FHA 203(k) purchase-rehab loans and increasing the cap on the number of Freddie Mac loans that are available to a single investor. In short, improving access to credit for responsible investors to purchase and improve properties would not only help provide affordable rental housing. It would also help to boost housing demand and limit some of the collateral problems from the large supply of vacant homes.<sup>17</sup>

A third way to help today's housing market would be to provide as much certainty as possible regarding future government policy in this area. The GSEs are likely to play a different role in the new system.<sup>18</sup> The uncertainty has real effects on how well our current system works. A case in point concerns GSE repurchase requests on delinquent loans.<sup>19</sup>

Finally, I would like to be able to guarantee that the United States will never again suffer a significant house-price decline. But instead I can suggest some improvements that could make the housing market of the future more robust in the face of disruptive shocks. One suggestion concerns speeding up<sup>20</sup> the resolution of delinquent mortgages that have no hope of becoming current again. The government's Home Affordable Foreclosure Alternative program (HAFA) is intended to speed the resolution of troubled homeownerships by offering monetary incentives to borrowers and servicers who agree to short sales or deeds-in-lieu of foreclosure. But like the larger HAMP program, take-up rates for HAFA have been disappointing.<sup>21</sup>

The ultimate solution may be to rethink the foreclosure process from the start, and economic theory could play a role here.<sup>22</sup> By influencing the costs and benefits of non-foreclosure transfers, a new system of ownership transfer might better align the incentives of borrowers and lenders, while still protecting the legitimate property rights of homeowners. If so, society as a whole would benefit.

## **Concluding Observations**

In conclusion, I would reiterate that problems in the housing sector of the U.S. economy have been a major impediment to recovery. As you know, we took significant actions last week at the FOMC to promote a faster recovery in the housing sector and the economy more broadly.<sup>23</sup>

I am very supportive of the actions, which were designed to promote stronger growth and reduce unemployment rates, consistent with our dual mandate, by putting downward pressure on

longer-term interest rates and helping make financial conditions more accommodative. The actions announced last week involve extending the average maturity of our holdings of securities, by selling \$400 billion of Treasury securities with maturities of less than three years, and purchasing \$400 billion in securities with maturities of from six to thirty years. I would highlight that 29 percent of the securities being purchased are in the maturity range over 20 years.

The FOMC also announced that to support conditions in mortgage markets we will now reinvest principal payments from our holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities, rather than purchasing Treasury securities.

There was a substantial market reaction to the announcement. Thirty-year Treasury yields declined by 18 basis points and thirty-year mortgage rates declined by 22 basis points that day – and fell further the following day.

Pictured in **Figure 16** is the spread between the 30-year mortgage yield (a wholesale yield) and the 10-year Treasury yield. The spread illustrates in part what the Fed's actions are addressing – the upward movement in the spread since mid 2011 – and the market's reaction, a 17-basis-point drop in the spread, following the Fed's announcement. Since some of this action had been anticipated and already reflected in market prices, I view this as a very significant decline.

While there are a variety of impacts that lower long-term Treasury and mortgage yields can have, certainly one is encouraging more refinancing and home purchases than would happen in the absence of action. In my own view, the Federal Reserve should continue to closely monitor spreads between mortgage and Treasury yields and consider taking action if that spread widens significantly, as it had recently.

While the housing sector and the economy would have been weaker in the absence of the Fed's actions to lower rates, I believe it is equally important to examine housing policies that might be changed to reduce the impediments to monetary policy and more generally help facilitate recovery.

There should be strong encouragement for the GSEs to focus on the housing recovery so home buyers and those that already have loans can fully benefit from the lower interest rates generated by our monetary policy action. Given that Fannie Mae and Freddie Mac are currently under conservatorship by the U.S. government, I believe they should play a larger role in achieving the public policy goals inherent in addressing these housing-market problems.

While monetary policy cannot fully offset the many problems stemming from the recession, it can certainly mitigate some of the effects. A policy action that, for instance, reduces the unemployment rate by half a percent over time will not return the economy to full employment, of course, but will still mean 750,000 jobs that would not have been created in the absence of the action. Of course, carefully weighing the potential costs of additional action with the expected potential benefits involves a high degree of uncertainty, given we have not operated at the zero bound with falling housing prices in the post-war period. However, with unemployment at 9.1 percent and with inflation in the medium term expected to remain below 2 percent, monetary and fiscal policies should be focused on returning the economy to full employment.

Given what I have laid out today, let me close with this. We need to recognize the urgency of the situation and the broader economic implications of housing's continued struggles. All parties in these markets should redouble their efforts, given the broader economic effects and their painful toll.

Thank you.

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<sup>1</sup> Not to mention some European countries.

<sup>2</sup> Residential investment is the housing component of Gross Domestic Product (GDP). GDP is essentially the value of goods and services put in place during a time period. "The main indicator of the quantity of new housing supplied to the economy is the residential fixed investment series from the national income and product accounts. Residential investment is made up of new construction put in place, expenditures on maintenance and home improvement, equipment purchased for use in residential structures (e.g., washers and dryers purchased by landlords and rented out to tenants), and brokerage

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commissions.” (Source: “Residential Investment over the Real Estate Cycle” by John Krainer, in the Federal Reserve Bank of San Francisco’s Economic Letter #2006-15; June 30, 2006).

<sup>3</sup> And, of course, monetary policy is very responsive to business cycles.

<sup>4</sup> For a broader discussion of the problems that can emerge and inhibit financial flows, see my talk on financial stability available at <http://www.bostonfed.org/news/speeches/rosengren/2011/060311/index.htm>. For a description of credit crunch problems in the early 1990s see Peek and Rosengren, “The Capital Crunch: Neither a Borrower nor a Lender Be,” *Journal of Money, Credit and Banking*, vol. 27, no. 3 (August 1995): 625-638.

<sup>5</sup> Governor Duke’s remarks are available on the Board’s website at <http://www.federalreserve.gov/newsevents/speech/duke20110901a.htm>. Other recent housing-related speeches by members of the Board are available at <http://www.federalreserve.gov/newsevents/speech/2011speech.htm>.

<sup>6</sup> “An immediate priority is balancing supply and demand in a market overwhelmed by financially stressed homeowners, tight credit conditions, and an unusually high number of foreclosed homes. [...] In addition, we must think carefully about longer-term policy and market changes that may affect Americans’ housing options for years and even decades to come.” [<http://www.federalreserve.gov/newsevents/speech/duke20110901a.htm>]

<sup>7</sup> The figures for Asian households are impacted by immigration over the 2005-2009 period. Excluding immigrants, the decline in median net worth is a lesser 31 percent, to \$116,555. Immigration does not have a similar effect on estimates for white, black, or Hispanic households.

<sup>8</sup> The Pew study by Rakesh Kochhar, Richard Fry and Paul Taylor was published on July 26, 2011, and entitled “Wealth Gaps Rise to Record Highs Between Whites, Blacks and Hispanics.” See <http://pewsocialtrends.org/2011/07/26/wealth-gaps-rise-to-record-highs-between-whites-blacks-hispanics/>

<sup>9</sup> The statement, available at <http://www.federalreserve.gov/newsevents/press/monetary/20110809a.htm>, noted that consistent with its mandate, “The Committee now expects a somewhat slower pace of recovery over coming quarters than it did at the time of the previous meeting and anticipates that the unemployment rate will decline only gradually toward levels that the Committee judges to be consistent with its dual mandate” to foster maximum employment and price stability. “The Committee also anticipates that inflation will settle, over coming quarters, at levels at or below those consistent with the Committee’s dual mandate.” The Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent and “currently anticipates that economic conditions – including low rates of resource utilization and a subdued outlook for inflation over the medium run – are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.”

<sup>10</sup> Given median income, relative to the income needed to purchase the median priced home.

<sup>11</sup> And if anything, household formation has not kept up with population growth, suggesting a growing pent-up demand for homes.

<sup>12</sup> See <http://www.corelogic.com/about-us/news/new-corelogic-data-reveals-q2-negative-equity-declines-in-hardest-hit-markets-and-8-million-negative-equity-borrowers-have-above.aspx>

<sup>13</sup> CoreLogic gets the 5.1 percent number by noting that the current mortgage rate is roughly 4.1 percent, then adding a 100 basis-point “refinance trigger.” Refinances are costly even under normal circumstances, so there has to be a non-trivial difference between the existing rate and the new rate in order for a refinance to make financial sense.

<sup>14</sup> The fraction of negative-equity mortgages paying above 5.1 percent is 74.3 percent (8.1 million out of a total 10.9 million underwater mortgages). For positive-equity mortgages the figure is 53.1 percent (19.9 million out of 37.5 million positive-equity mortgages). Again, see CoreLogic’s release, at <http://www.corelogic.com/about-us/news/new-corelogic-data-reveals-q2-negative-equity-declines-in-hardest-hit-markets-and-8-million-negative-equity-borrowers-have-above.aspx>.

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<sup>15</sup> See the statement of the agency's acting director at <http://www.fhfa.gov/webfiles/22607/HARPSTMT9911.pdf>

<sup>16</sup> Vacant homes frequently are vandalized and poorly maintained, quickly reducing the value of the home as well as impacting homes in the surrounding area. A large stock of vacant homes is likely to continue to put downward pressure on houses in many areas.

<sup>17</sup> Separately, see the proceedings of the conference REO and Vacant Properties: Strategies for Neighborhood Stabilization, cosponsored by the Federal Reserve Banks of Boston and Cleveland and the Federal Reserve Board, available at <http://www.bostonfed.org/commdev/REO-and-vacant-properties/index.htm>

<sup>18</sup> In February, the Obama administration released a roadmap for fundamental GSE reform that outlined three potential approaches, but there is still substantial uncertainty about what will happen next. This document, titled "Reforming America's Housing Finance Market: A Report to Congress," is available at <http://www.treasury.gov/initiatives/Documents/Reforming%20America%27s%20Housing%20Finance%20Market.pdf>.

<sup>19</sup> The GSEs regularly review delinquent loans to ensure that their loan files are consistent with the representations and warranties made by originators. In cases where the GSEs believe the loan file does not match what the originator promised, the GSEs can issue a repurchase request. As delinquencies have risen, so have the number of these buyback requests. Many have argued that concern over buybacks has made originators less willing to issue certain types of loans. Over the long run, economic theory would predict that market participants could work out a solution to this problem. For example, third-party firms could arise to offer insurance to originators against buybacks. Alternatively, the originators and the GSEs could find ways of doing business that would better capture the mutual gains from trade. But these market solutions are less likely to come about if mortgage-market participants are uncertain about the future role of the GSEs.

<sup>20</sup> According to the August 2011 Mortgage Monitor, published by Lender Processing Services, Inc., foreclosure timelines have lengthened significantly during the past three years. In July 2011, the average mortgage in foreclosure was delinquent for 599 days, up from 319 days in January 2009 [The LPS Mortgage Monitor, published by LPS Applied Analytics, is available at <http://www.lpsvcs.com/LPSCorporateInformation/ResourceCenter/PressResources/Pages/MortgageMonitor.aspx>. The August 2011 Monitor includes data through the end of July. The days-delinquent statistic quoted in the text appears on slide 3.J]. Also, foreclosure delays tend to be especially serious in states that require judicial involvement.

<sup>21</sup> A report from the Special Inspector General for the Troubled Asset Relief Program (which funds HAFA) reports that far more short sales and deeds-in-lieu have taken place outside of HAFA than in it. See p. 67 of the SIGTARP's July 2011 Quarterly Report to Congress, available at [http://www.sig tarp.gov/reports/congress/2011/July2011\\_Quarterly\\_Report\\_to\\_Congress.pdf](http://www.sig tarp.gov/reports/congress/2011/July2011_Quarterly_Report_to_Congress.pdf). This report states: "As of June 30, 2011, which according to Treasury is the latest data available, approximately \$37.9 million from TARP had been paid to investors, borrowers, and servicers in connection with 10,280 short sales or deeds-in-lieu of foreclosure transfers completed under HAFA. As of May 31, 2011, which according to Treasury is the latest data available, Treasury reported that the 10 largest servicers alone had completed 112,525 short sales and deeds-in-lieu outside HAMP for borrowers whose HAMP trial modifications had failed, borrowers who had chosen not to participate, or were ineligible for the program." The most recent data on the number of HAFA transactions is available from the U.S. Treasury at <http://www.treasury.gov/initiatives/financial-stability/results/MHA-Reports/Pages/default.aspx>. While documentation requirements and other regulations in HAFA may be responsible for much of this difference, the Special Inspector General's report suggests that the difference could result in part by the ability of servicers to collect fees and deficiency judgments for non-HAFA transactions. Deficiency judgments are not permitted in the HAFA program. Notably, many HAFA requirements have recently been relaxed. For example, as of February 1, servicers of non-GSE mortgages participating in HAFA are no longer required to verify a borrower's financial information, or to determine that his monthly mortgage payment exceeded 31 percent of his monthly income. However, servicers must continue to obtain a signed affidavit indicating that the borrower has experienced some sort of financial hardship. See page 2 of the Making Home Affordable Program's Supplemental Directive 10-18 (<https://www.hmpadmin.com/portal/programs/docs/hafa/sd1018.pdf>).

<sup>22</sup> Borrowers currently have few incentives to speed the transfer of ownership. They can live "rent free" during the foreclosure process, and recent research from the Fair Issac Corporation (FICO) suggests that short sales and deeds-in-lieu



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with deficiencies are just as damaging to credit scores as foreclosures. [For the effect of foreclosure alternatives on FICO scores, see “Research Looks at How Mortgage Delinquencies Affect Scores,” on FICO’s *Banking Analytics* blog: <http://bankinganalyticsblog.fico.com/2011/03/research-looks-at-how-mortgage-delinquencies-affect-scores.html>. This research was posted on March 24, 2011 and was accessed on September 21, 2011. See also the “Credit Q&A” from FICO at <http://www.myfico.com/crediteducation/questions/foreclosure-credit-score.aspx>.] For lenders, allowing borrowers to hand over their keys probably improves the resale value of the collateral, but a formal policy of forgoing future deficiency judgments may encourage borrowers to walk away from deeply underwater mortgages.

<sup>23</sup> The FOMC statement is available at <http://www.federalreserve.gov/newsevents/press/monetary/20110921a.htm>



# Housing and Economic Recovery

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Eric S. Rosengren  
President & CEO  
Federal Reserve Bank of Boston

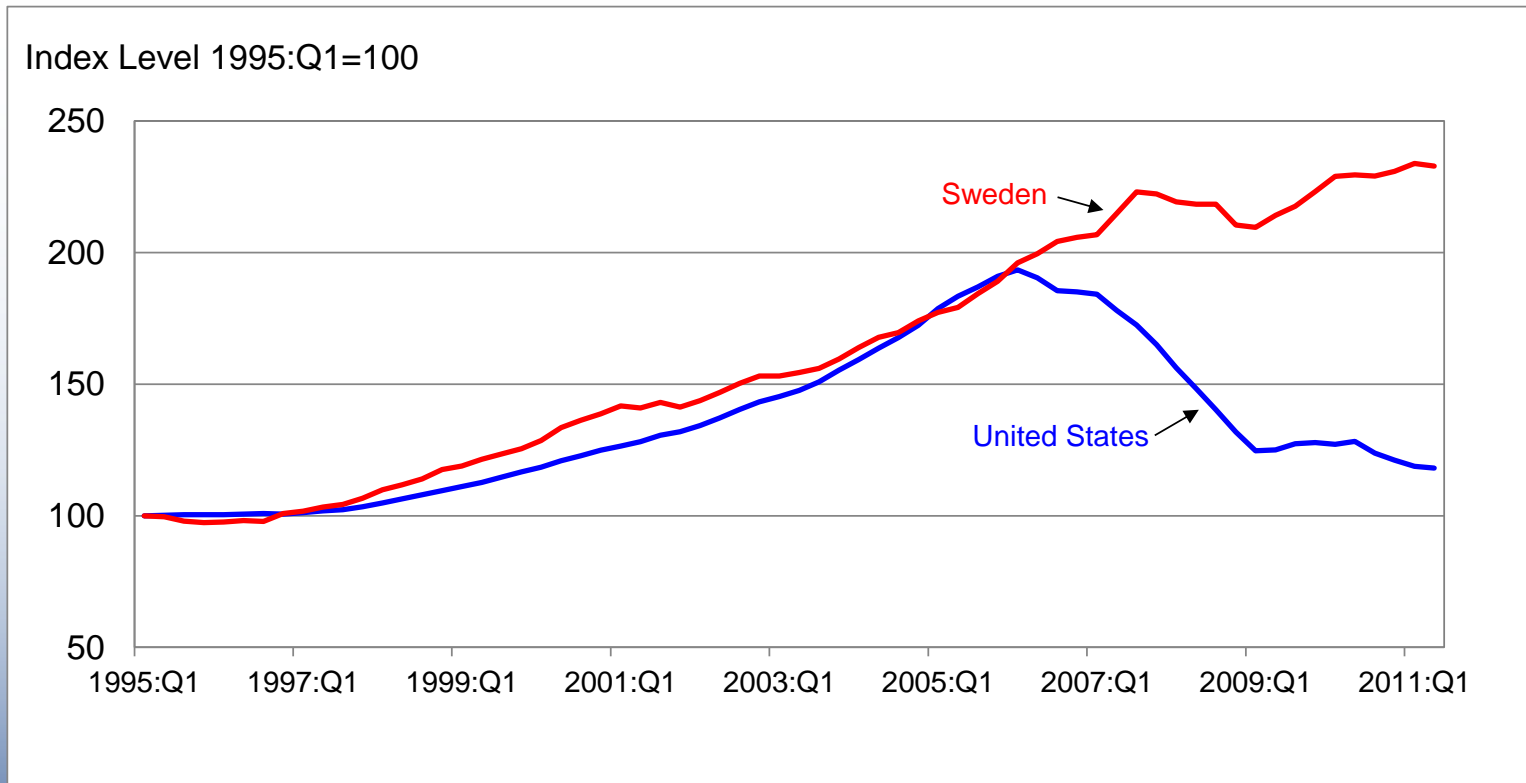
Stockholm, Sweden  
September 28, 2011

# Figure 1

## Real House Prices

### in the United States and Sweden

1995:Q1 - 2011:Q2



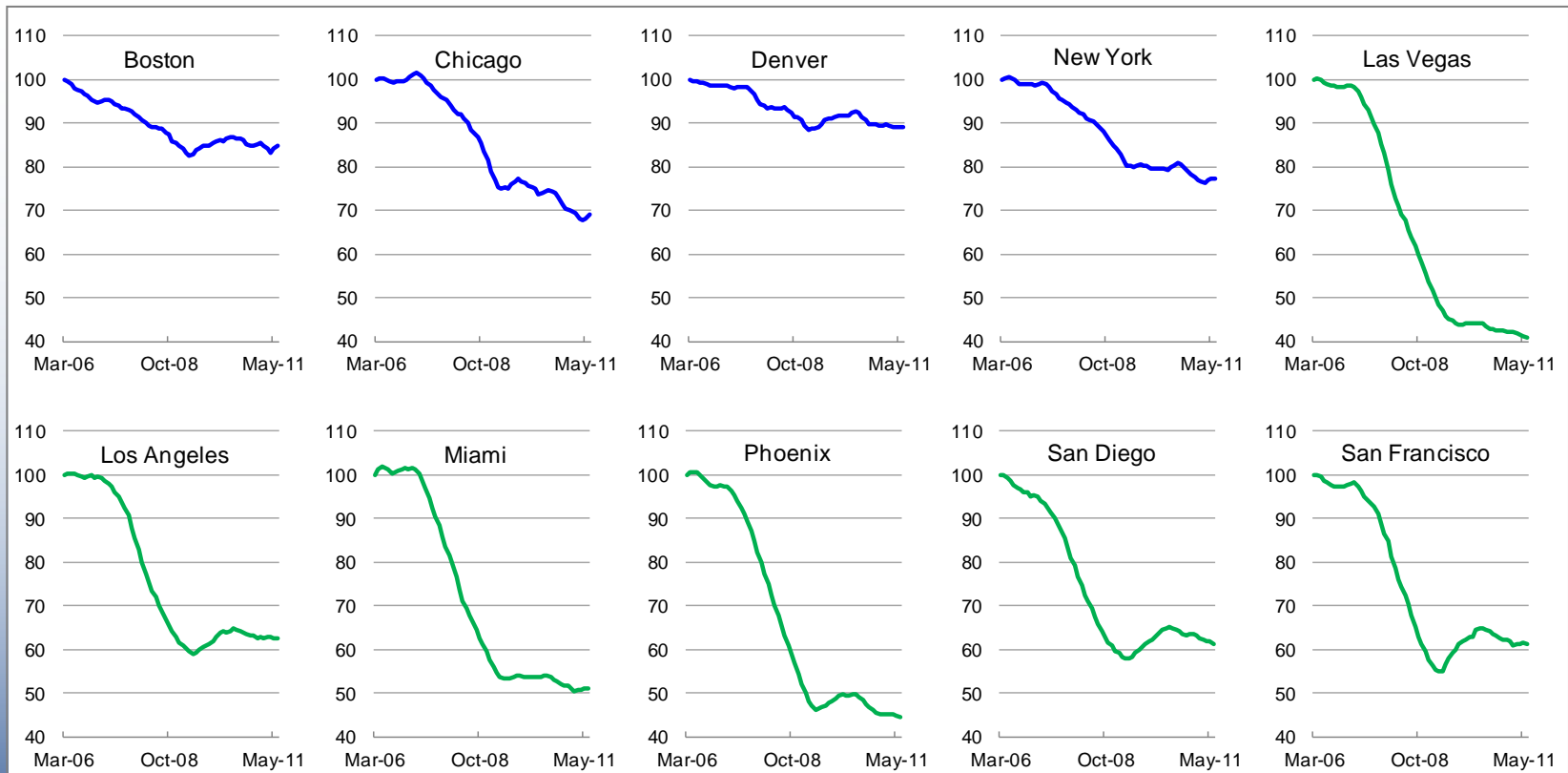
Source: OECD, Statistics Sweden, S&P/Case-Shiller, BEA / Haver Analytics

# Figure 2

## U.S. Regional Home Price Declines: S&P/Case-Shiller Metro Area Indexes

March 2006 - June 2011

Index Level March 2006 = 100

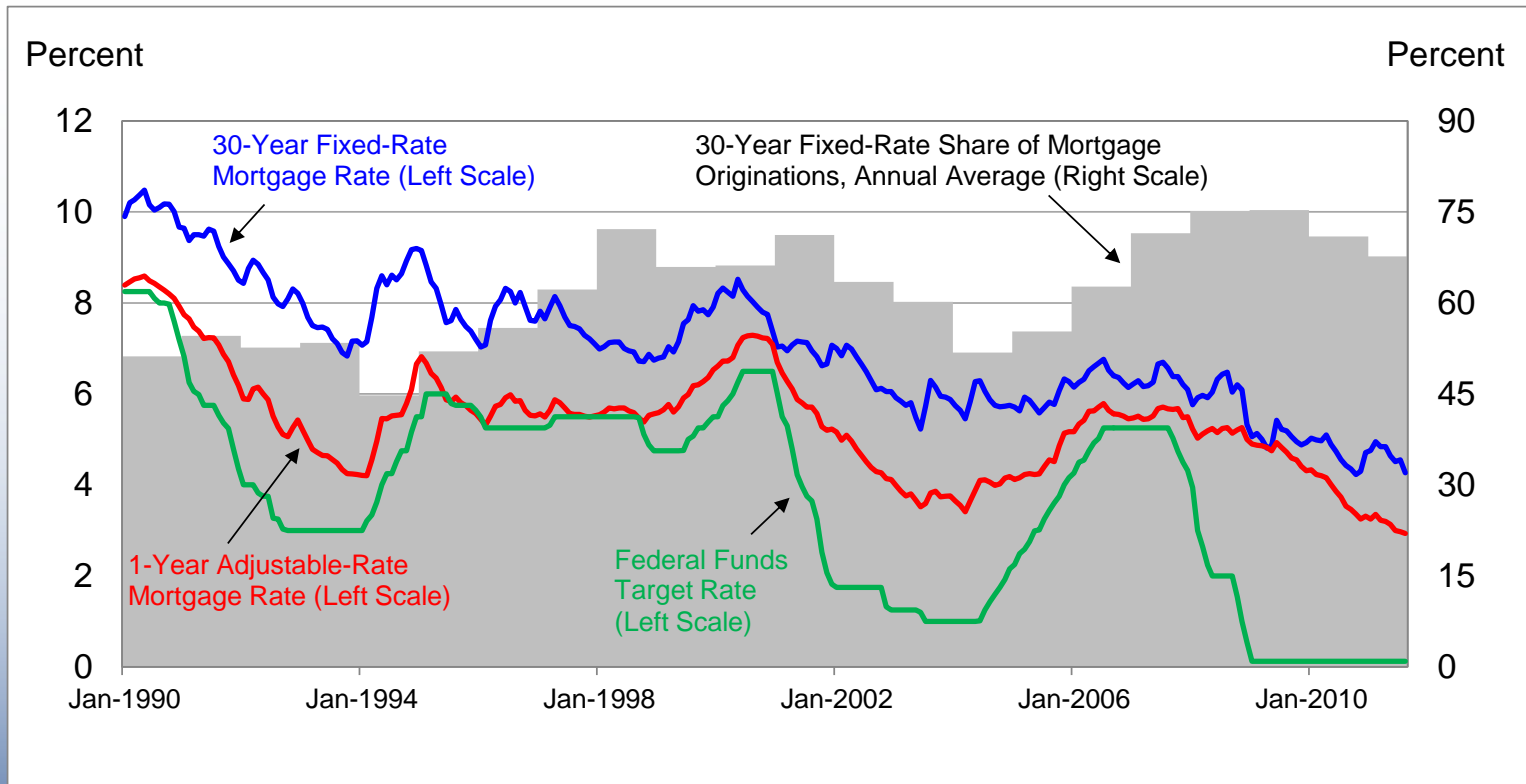


Source: S&P/Case-Shiller / Haver Analytics

# Figure 3

## 30-Year Fixed-Rate Share of Mortgage Originations and Selected Interest Rates

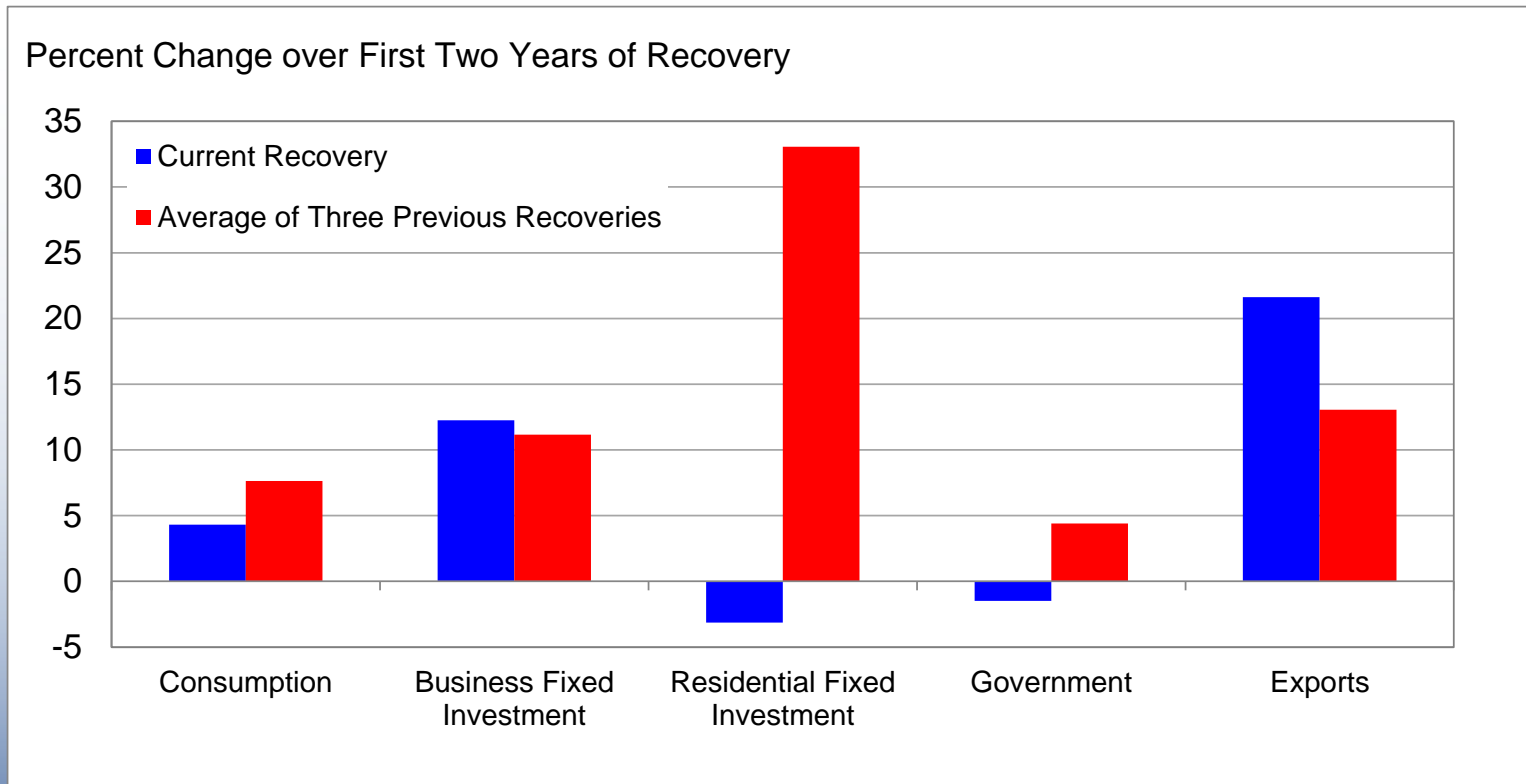
January 1990 - August 2011



Source: FHLMC, FHFA, Federal Reserve Board / Haver Analytics

# Figure 4

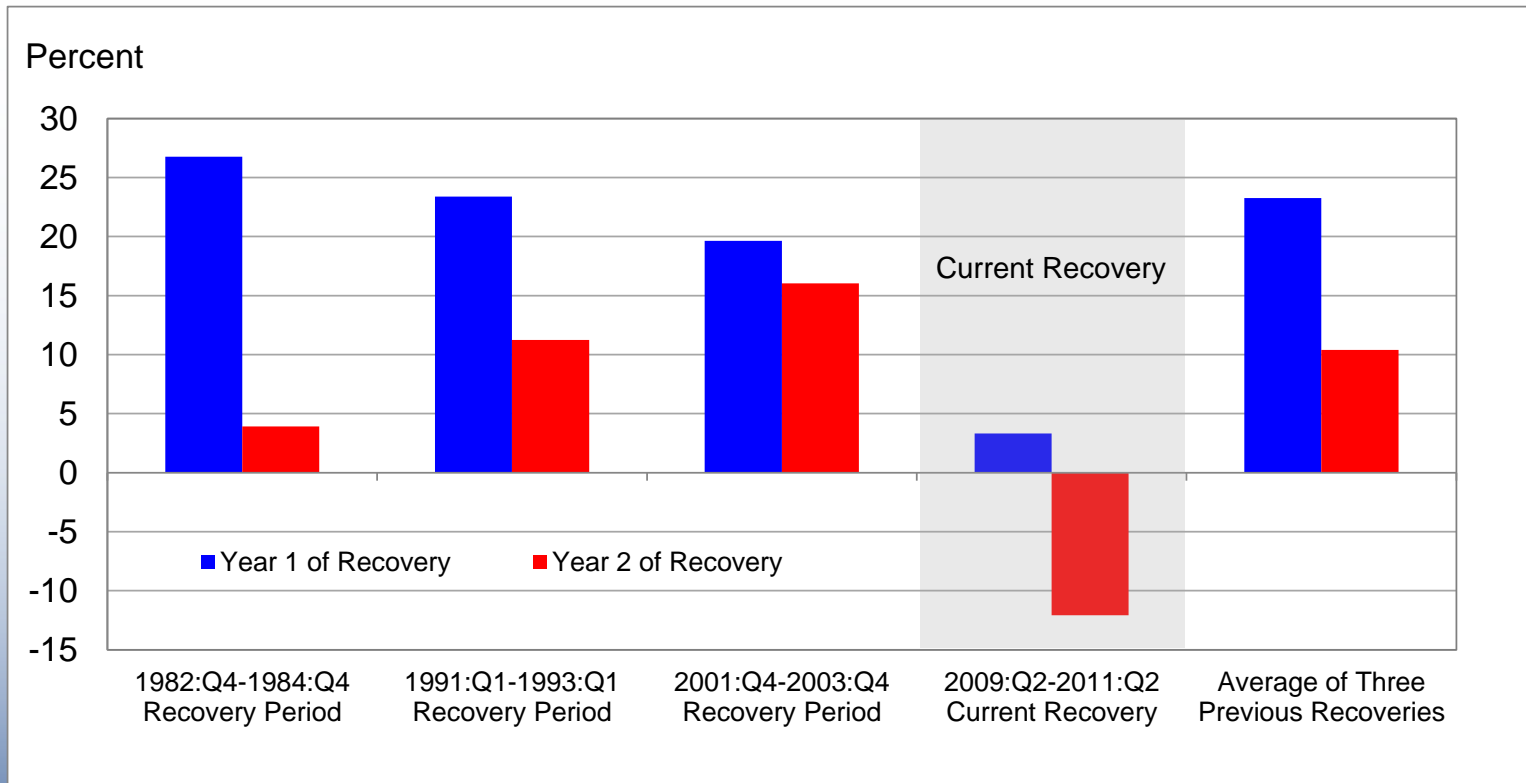
## Growth in Real GDP Components: Current and Three Previous Recoveries



Source: BEA, NBER / Haver Analytics

# Figure 5

## Residential Investment Share of GDP Growth: Current and Three Previous Recoveries

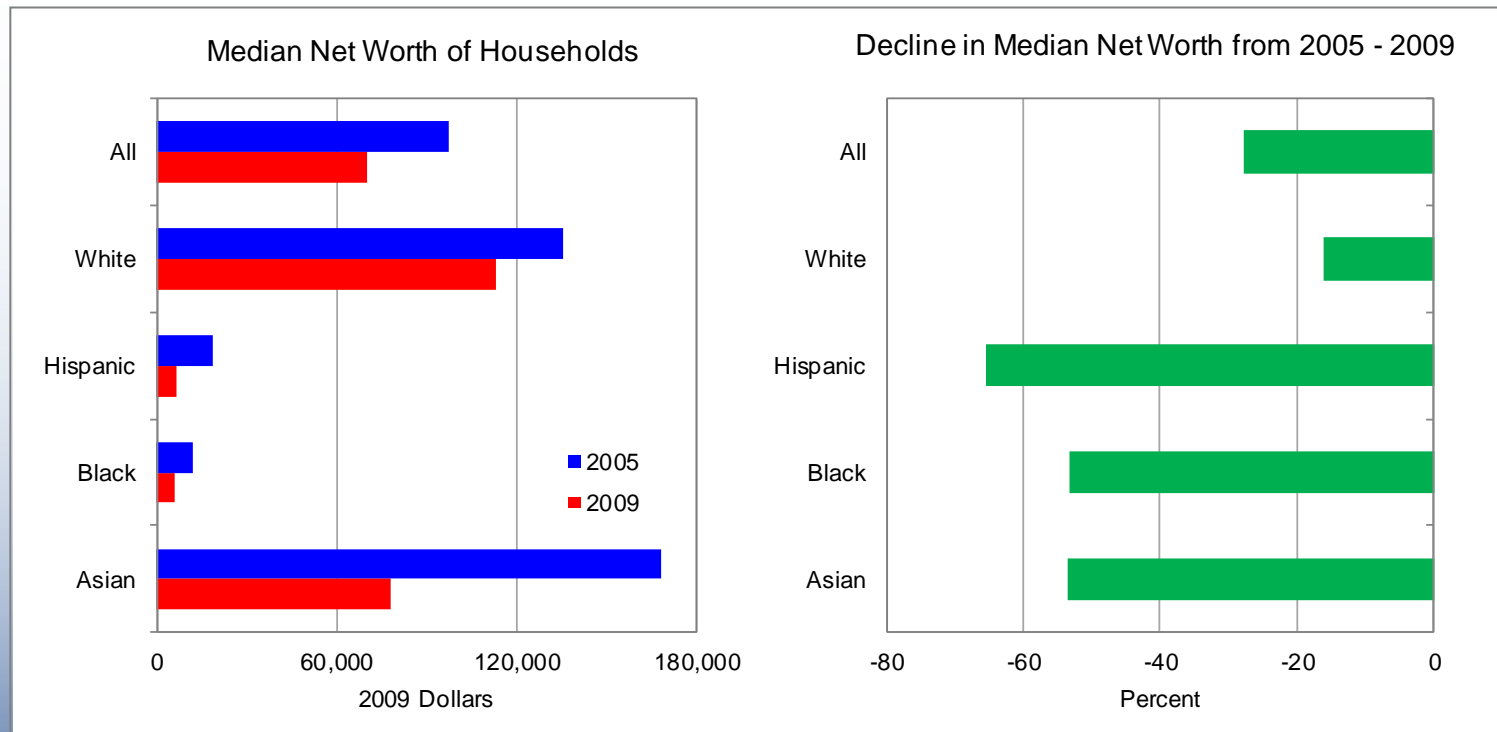


Source: BEA, NBER / Haver Analytics

# Figure 6

## Median Net Worth of Households by Race and Ethnicity

2005 - 2009



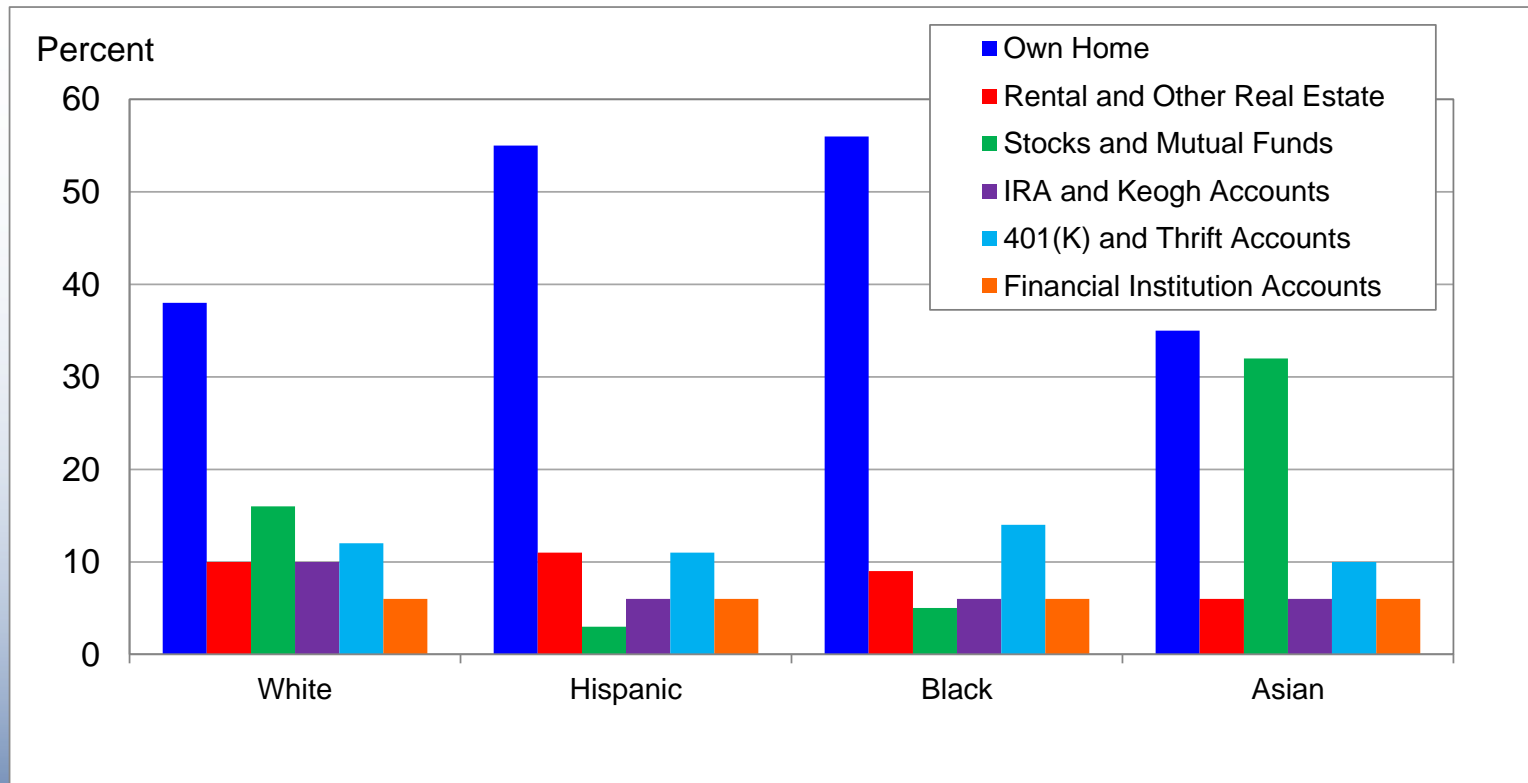
Source: Pew Research Center tabulations of the Census Bureau's Survey of Income and Program Participation Data



# Figure 7

## Composition of Household Net Worth: Selected Components

2009

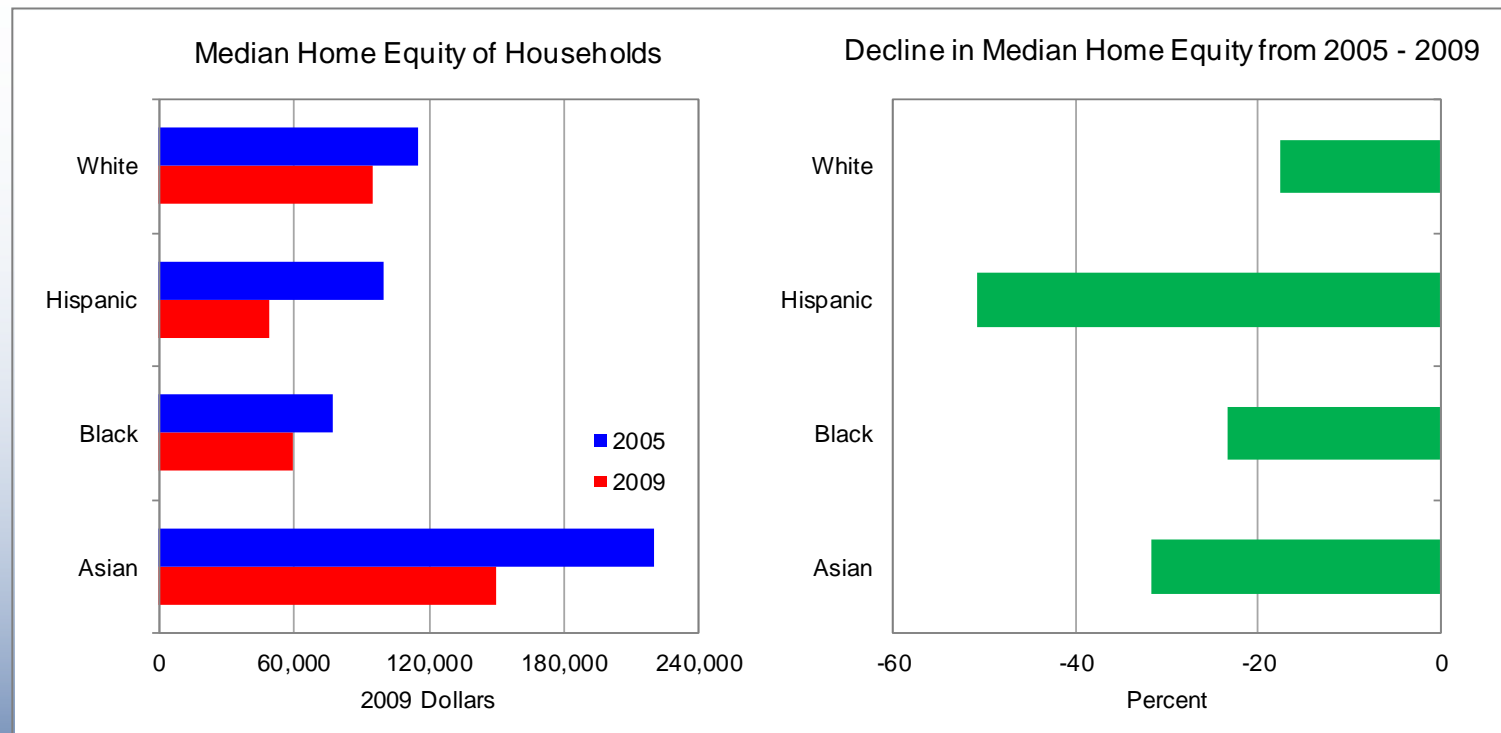


Source: Pew Research Center tabulations of the Census Bureau's Survey of Income and Program Participation Data

# Figure 8

## Erosion of Home Equity of Households by Race and Ethnicity

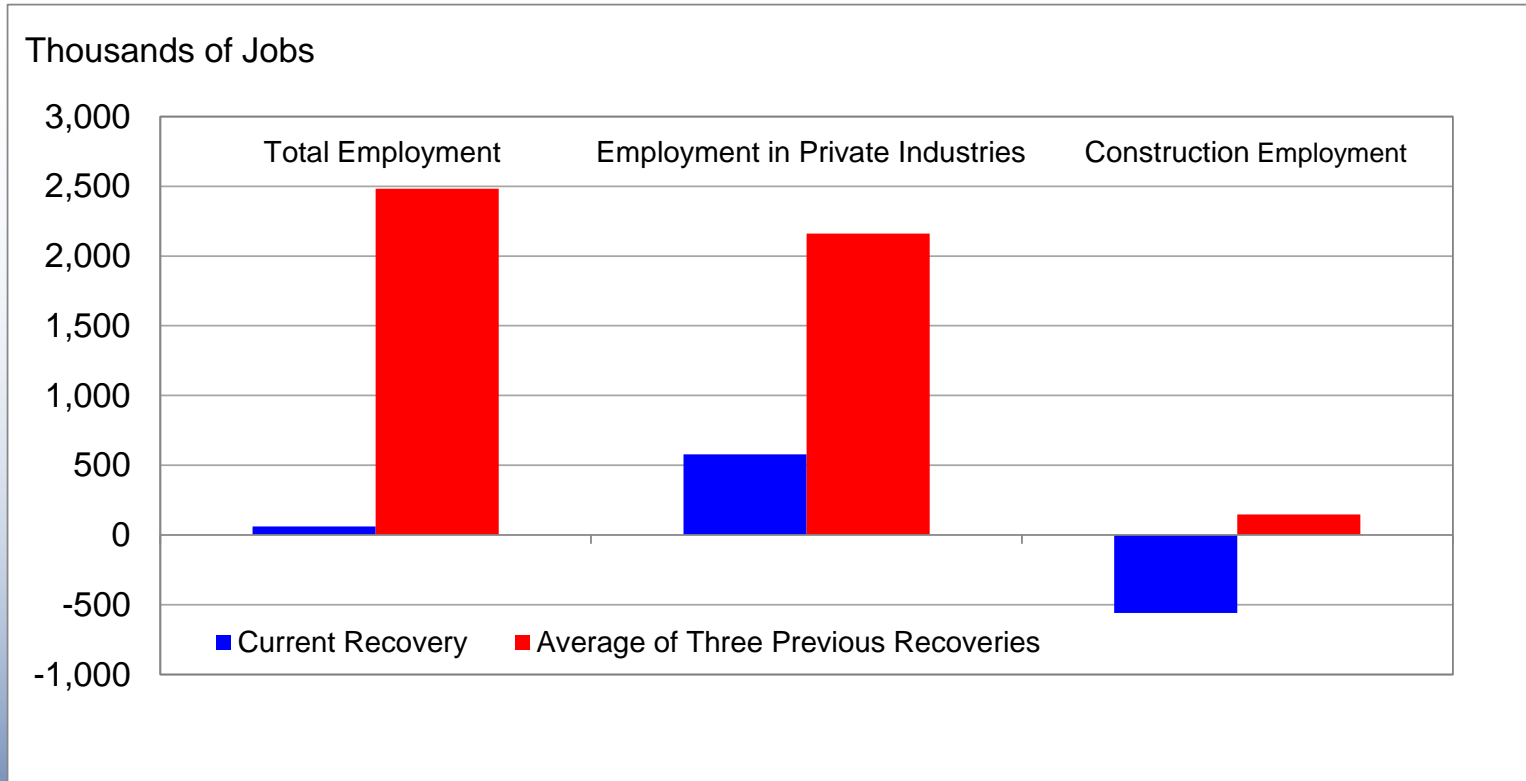
2005 - 2009



Source: Pew Research Center tabulations of the Census Bureau's Survey of Income and Program Participation Data

# Figure 9

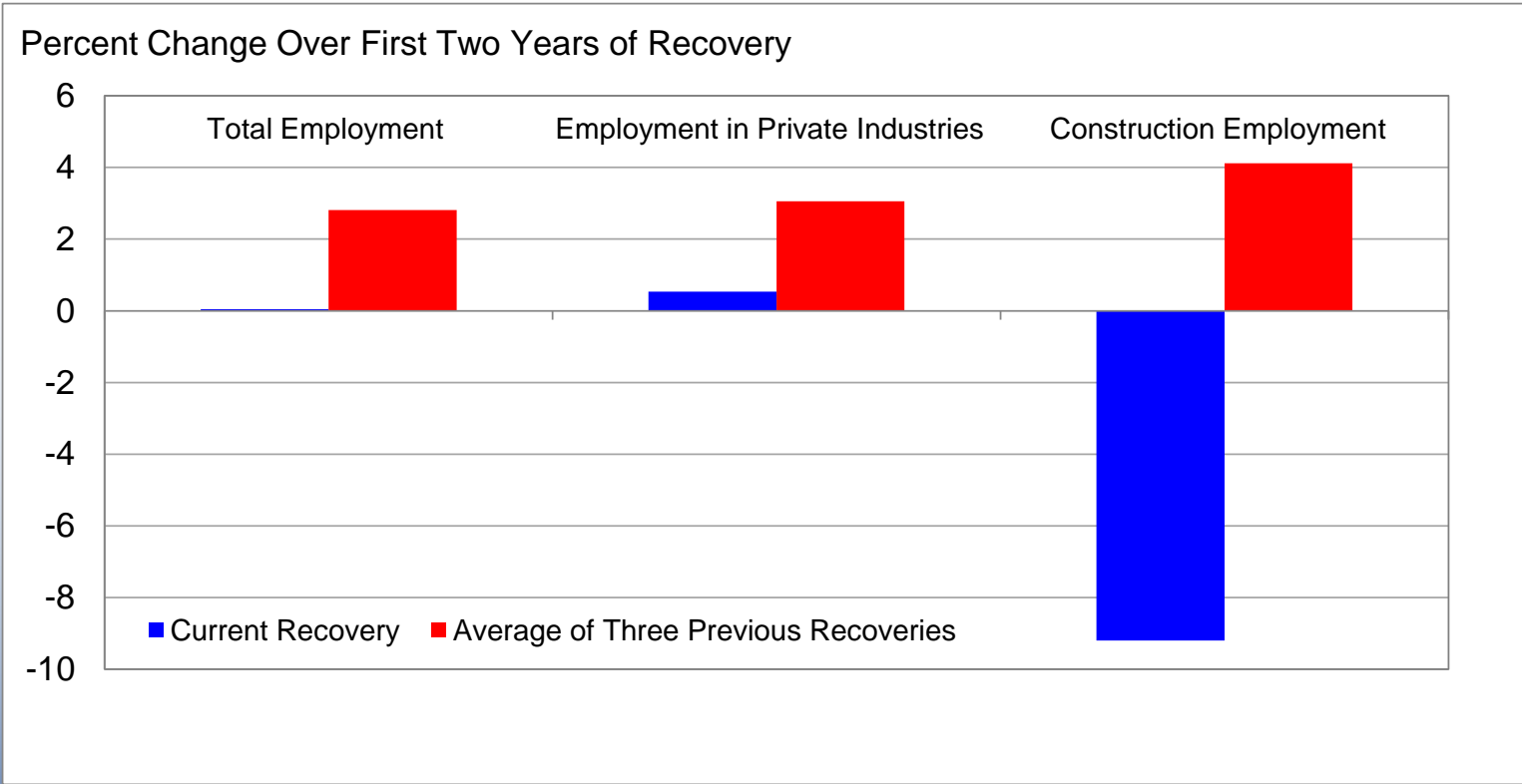
## Job Growth: Current and Three Previous Recoveries



Source: BLS, NBER / Haver Analytics

# Figure 10

## Employment Growth: Current and Three Previous Recoveries

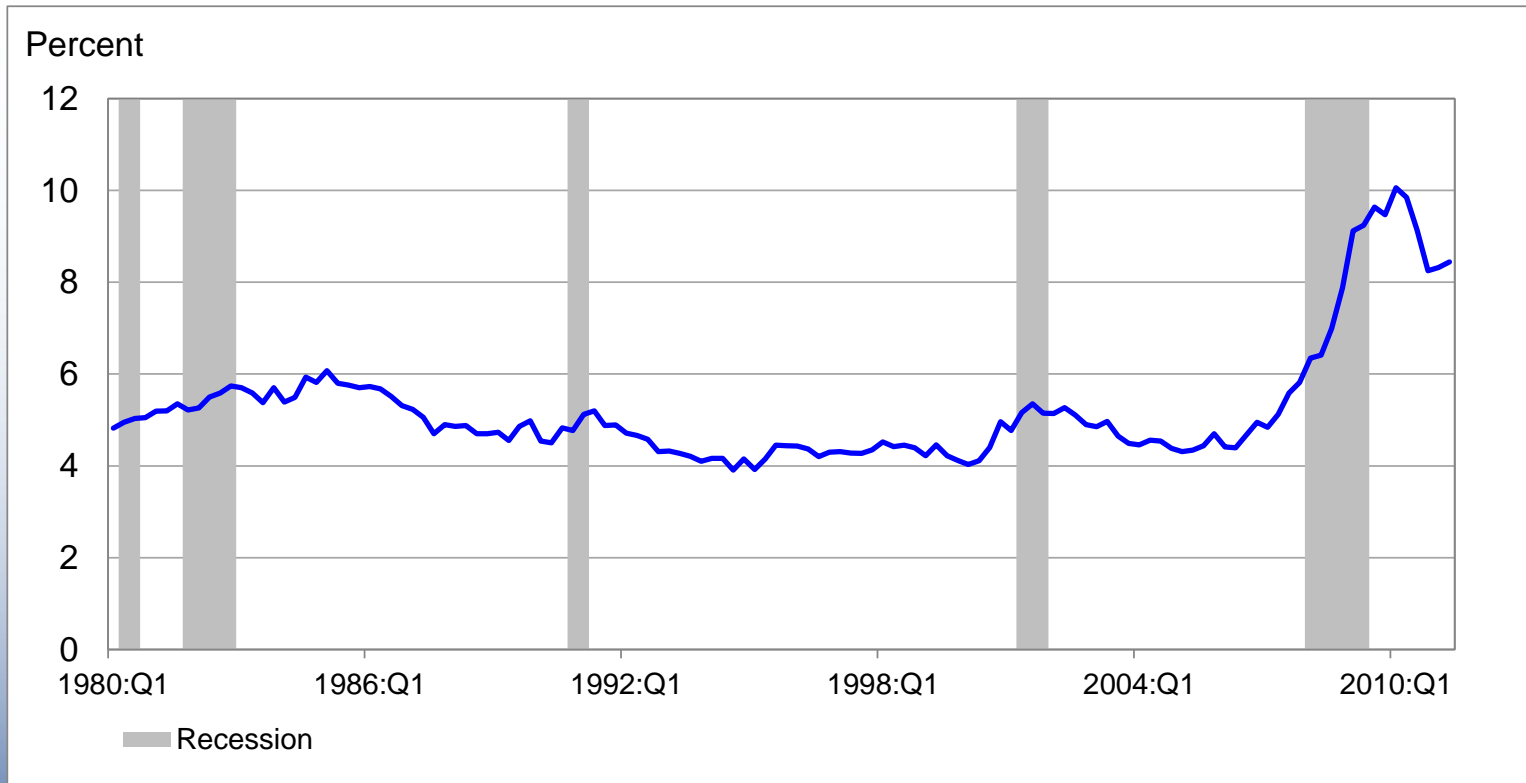


Source: BLS, NBER / Haver Analytics

# Figure 11

## Delinquency Rate: 1-4 Family Mortgage Loans 30 or More Days Past Due

1980:Q1 - 2011:Q2

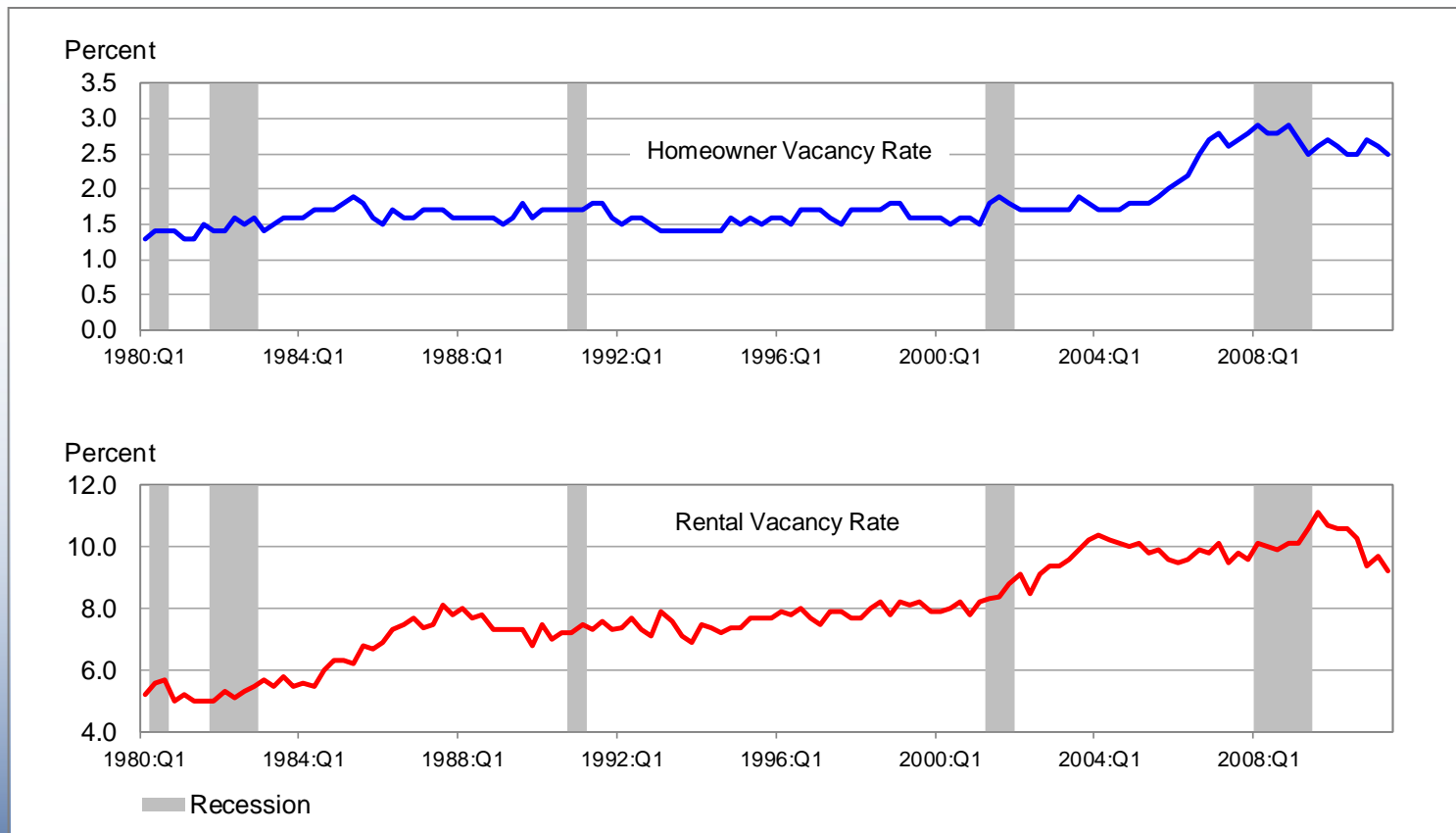


Source: Mortgage Bankers Association, NBER / Haver Analytics

# Figure 12

## Homeowner and Rental Vacancy Rates

1980:Q1 - 2011:Q2

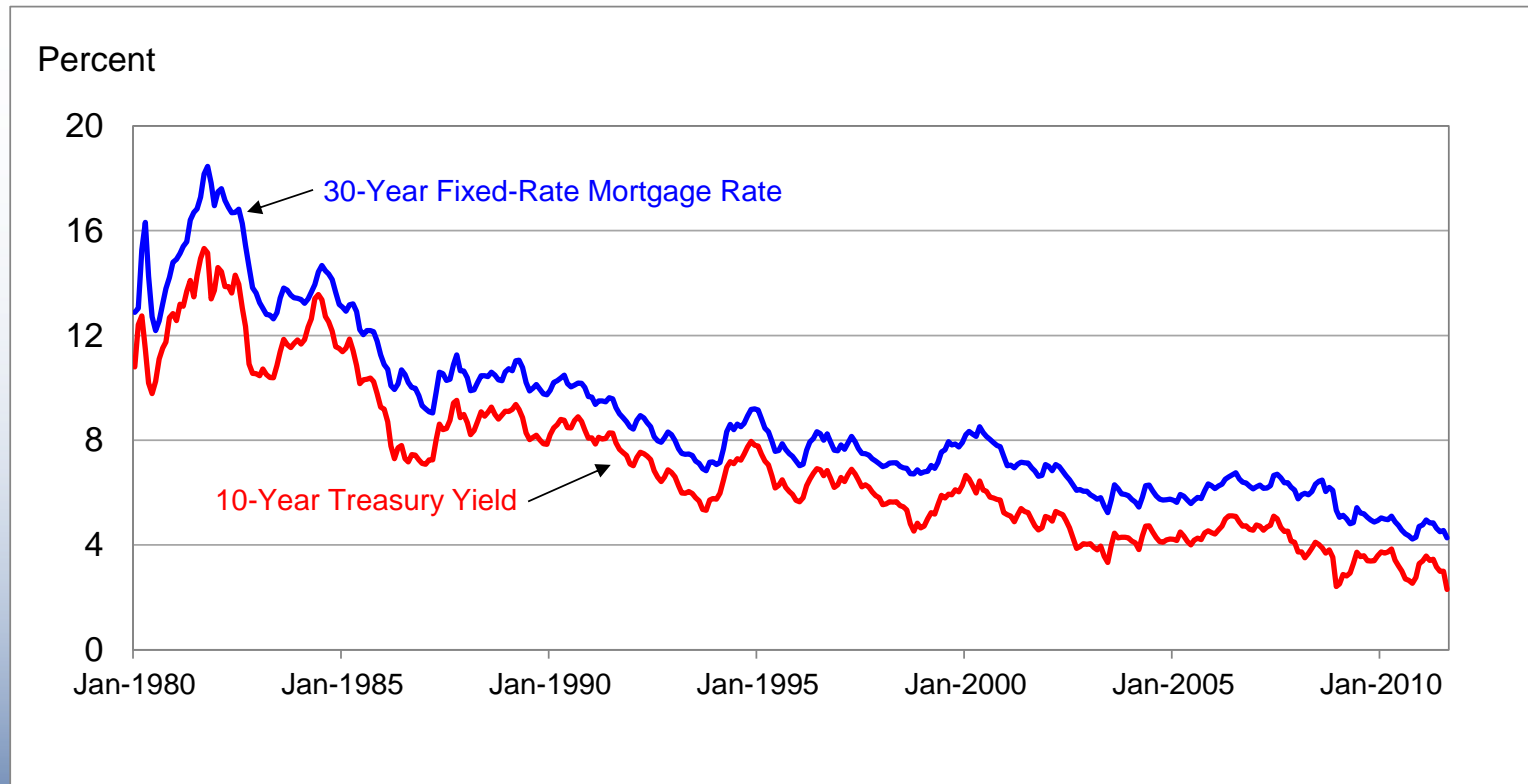


Source: Census Bureau, NBER / Haver Analytics

# Figure 13

## 30-Year Fixed-Rate Mortgage Rate and 10-Year Treasury Yield

January 1980 - August 2011

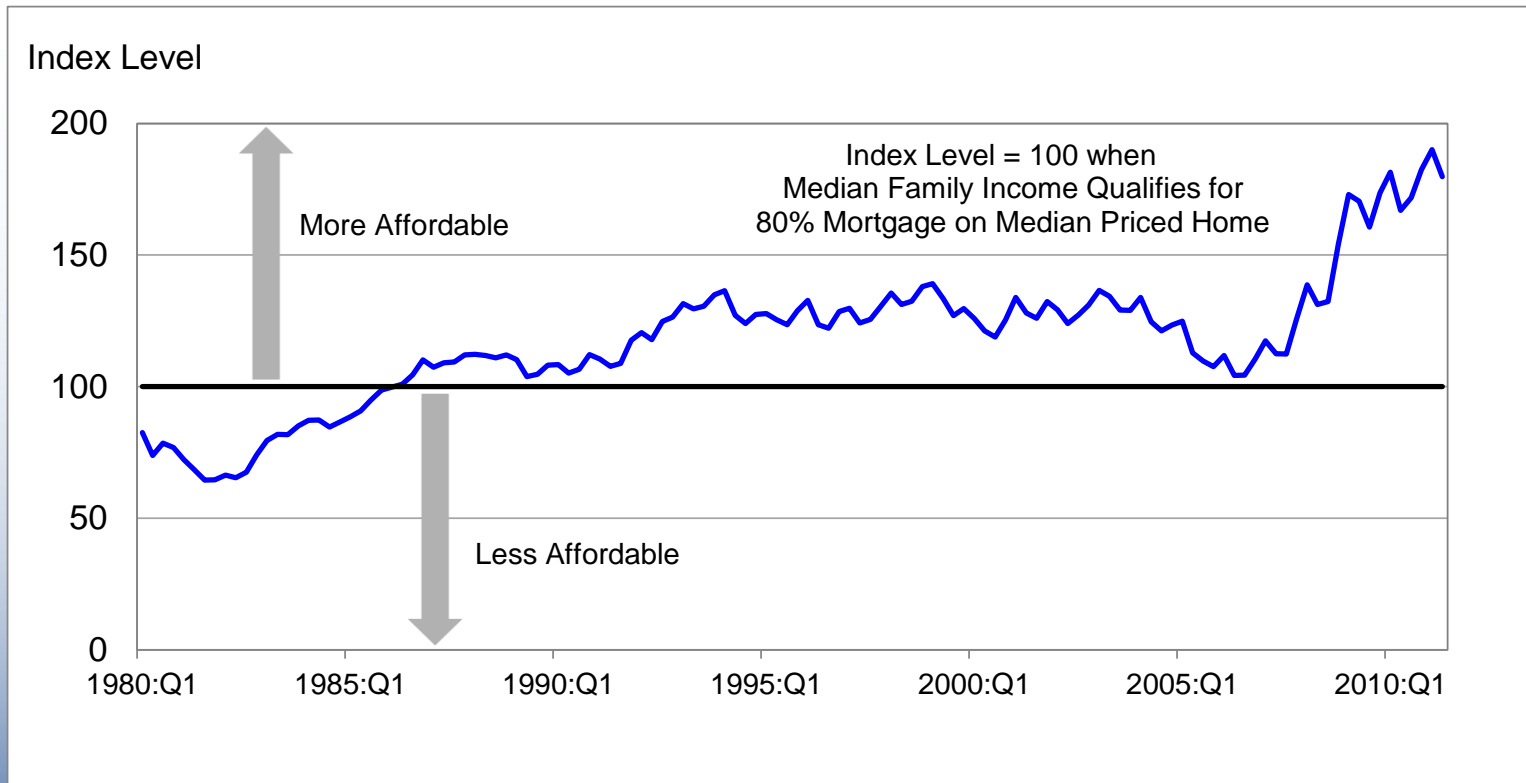


Source: FHLMC, Federal Reserve Board / Haver Analytics

# Figure 14

## Housing Affordability: Median Income Relative to Income Needed to Purchase Median Priced Home

1980:Q1 - 2011:Q2



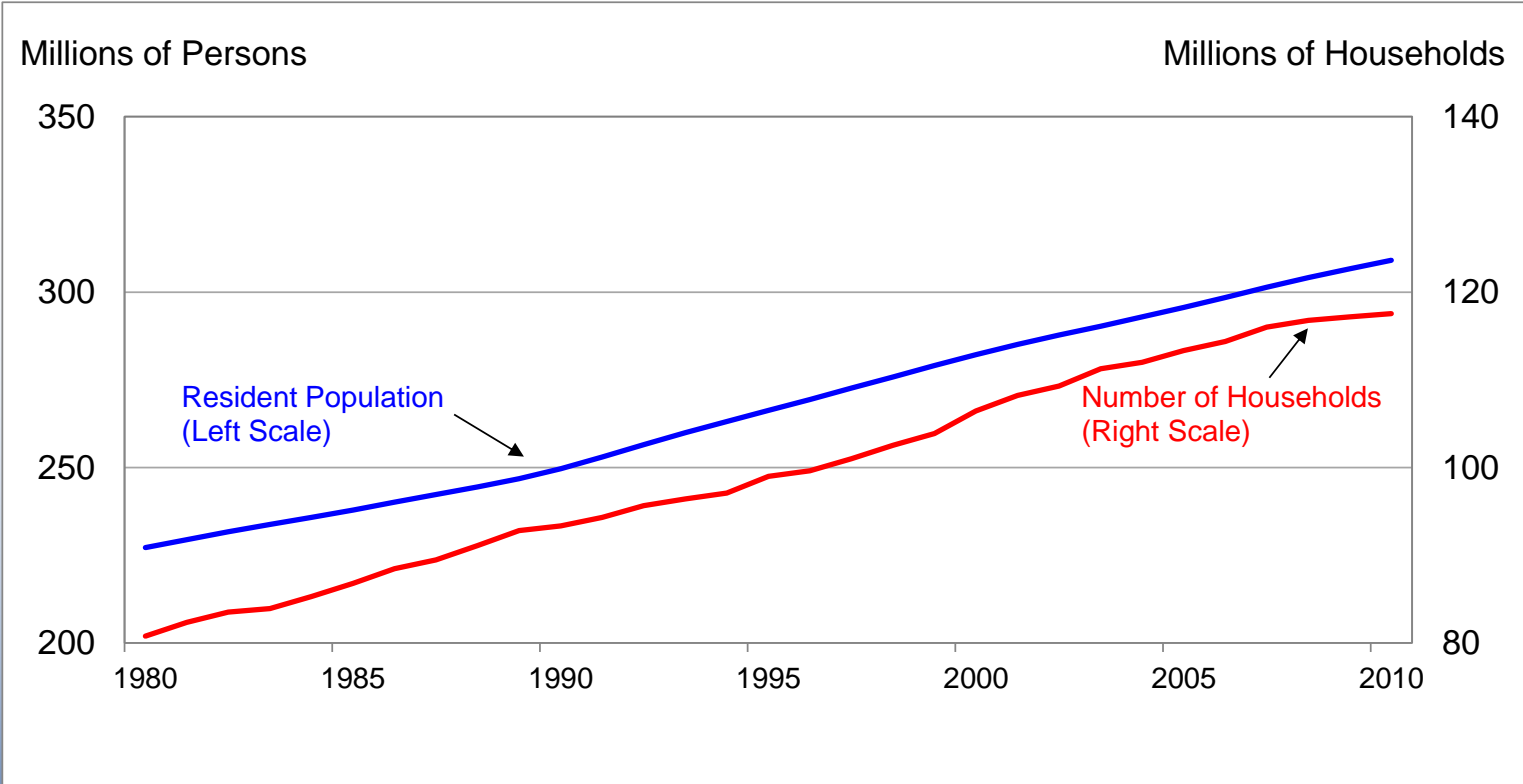
Source: National Association of Realtors / Haver Analytics



# Figure 15

## Population and Households

1980 - 2010

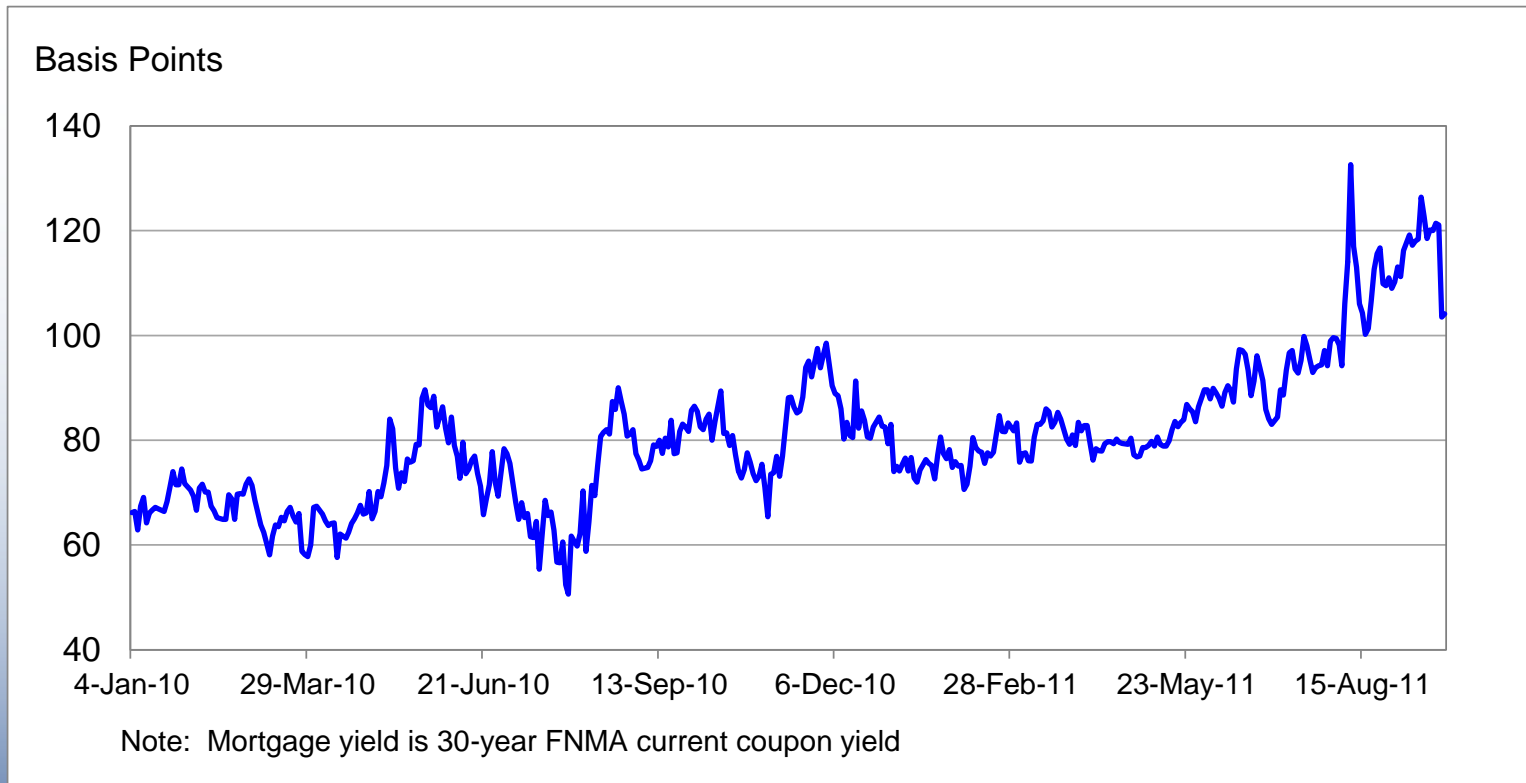


Source: Census Bureau / Haver Analytics

# Figure 16

## Spread: 30-Year Mortgage Yield to 10-Year Treasury Yield

January 4, 2010 - September 22, 2011



Source: Bloomberg, Federal Reserve Board / Haver Analytics