The Office of Economic Policy

HOUSING DASHBOARD

April 19, 2016

Since last summer, housing starts overall have moved sideways on net, as further increases in single-family starts have about offset a moderation in multifamily starts. However, the flatness in housing starts has yet to show through to residential investment because of the lags associated with housing construction. Residential investment rose at an annual rate of 10 percent in 2015Q4, contributing 0.3 percentage point to GDP growth, and available indicators suggest that residential investment saw another track for another sizable gain in 2016Q1. Meanwhile, residential construction employment has continued to rise steadily.

Home price appreciation has moderated—from a double-digit pace in late 2013 and early 2014 to a more sustainable mid-single-digit pace now. This moderation occurs as high home values, in some areas, challenge affordability for potential homebuyers. However, access to credit continues to slowly expand to reach borrowers with lower credit quality. In addition, home price valuations look to be somewhat elevated relative to pre-bubble norms.

Although some mortgage borrowers continue to struggle in the wake of the crisis, delinquency and foreclosure rates are closing in on their pre-crisis ranges. The number of distressed sales also continues to drop.

This month's dashboard includes a special topic that explores the degree to which the rebound in home prices since the Great Recession has supported consumer spending and how this "housing wealth effect" depends on the availability of credit and other factors.

Housing Market Flash

Tuesday, April 19, 2016

		Pre-bubble norm (2000-2002 average)	Trough	Current level	Current 12-month average versus year-earlier value		Current level versus pre-bubble norm (2000-2002 average)
Single-family homes							
Sales (thousands)	**New**	**921**	**270**	**512**	**9.1%**	Improved	**-44.4%**
			Feb-11	Feb-16			
	Existing	**4,779**	**3,060**	**4,510**	**6.8%**	Improved	**-5.6%**
			Jul-10	Feb-16			
Inventory of homes available for sale (thousands)	**New**	**311**	**142**	**240**	**19**	Improved	**-71**
			Jul-12	Feb-16	*thousands*		*thousands*
	Existing	**1,836**	**1,550**	**1,650**	**-41**	Weakened	**-186**
			Dec-15	Feb-16	*thousands*		*thousands*
Construction activity (thousands)	**Housing starts**	**1,289**	**353**	**764**	**14.5%**	Improved	**-40.7%**
			Mar-09	Mar-16			
	Building permits	**1,257**	**337**	**727**	**9.3%**	Improved	**-42.2%**
			Jan-09	Mar-16			
Prices (index, Jan 2000 = 100)	**CoreLogic HPI**	**115.7**	**137.3**	**188.4**	**5.3%**	Improved	**62.8%**
			Nov-11	Feb-16			
	Inflation-Adjusted CoreLogic HPI	**111.6**	**101.9**	**138.1**	**6.3%**	Improved	**23.8%**
			Nov-11	Feb-16			
Housing affordability (NAR, index=100 when median family income qualifies for 80% LTV mortgage on a median priced home)		**127**	**101.1**	**174.9**	**-2.3%**	Weakened	**38.2%**
			Jul-06	Feb-16			
Sentiment							
Homebuilder (NAHB, over 50 means majority view conditions positively)		**59**	**8**	**58**	**6**	Improved	**-1**
			Jan-09	Apr-16	*point(s)*		*point(s)*
Home-buying conditions (Reuters/Umich, index = good time - bad time + 100)		**152**	**117**	**153**	**-1**	Weakened	**1**
			Oct-08	Apr-16	*point(s)*		*point(s)*
Demographics							
Household formation (thousands)		**1113**	**100**	**461**	**290**	Improved	**-653**
			2008-Q4	2015-Q4	*thousands*		*thousands*
Homeownership rate (percent)		**67.7**	**63.5**	**63.7**	**-0.8**	Weakened	**-4**
			2015-Q2	2015-Q4	*percentage point(s)*		*percentage point(s)*

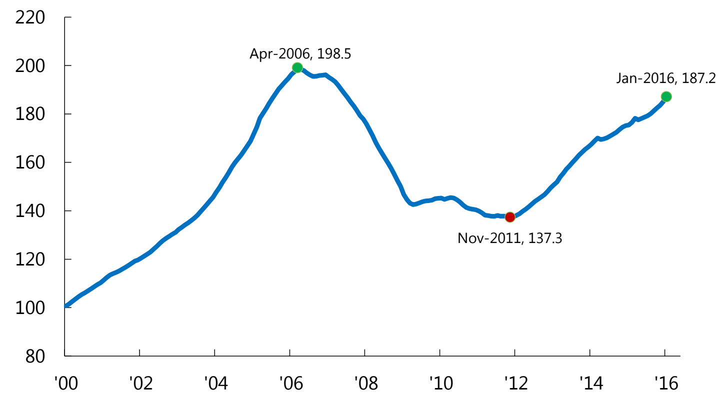
Home prices have steadily recovered and are approaching the pre-recession peak. Home prices dropped more than 30 percent peak-to-trough during the housing bust. Since reaching the trough in late 2011, home prices have regained roughly 80 percent of the losses incurred during the downturn.

Rising home prices have restored a substantial amount of the housing wealth lost during the Great Recession. The slow but steady rise in home prices has helped households regain $6.1 trillion worth (nearly 90 percent) of the real estate equity lost during the recession. The value of household real estate reached $22 trillion in 2015Q4 up from a low of $16 trillion in 2011Q4.

Studies have found that increases in home equity generally lead to increases in consumption. The magnitude of this effect has fluctuated over time. In the early 2000s, households spent an estimated $4 to $5 for every $100 increase in a home's value. More recent studies suggest that the since the Great Recession, the size of this "housing wealth effect" has fallen to roughly $2.[1] These estimates imply that the increase in home values since 2012 has supported an additional $117 billion in consumption.

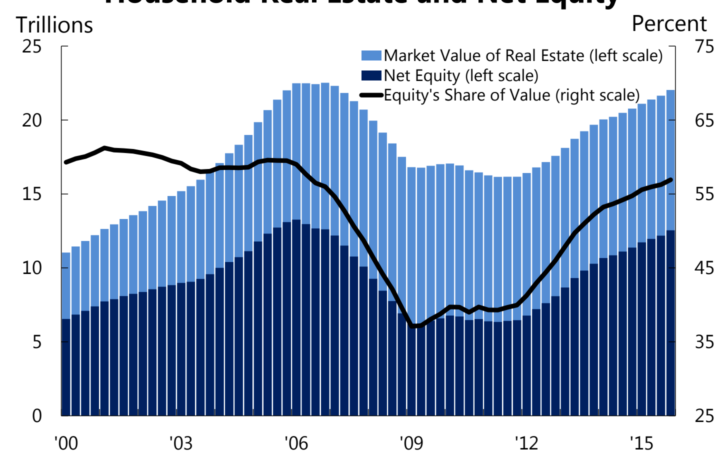
House Prices

CoreLogic Index with Distressed Sales (Jan. 2000=100)



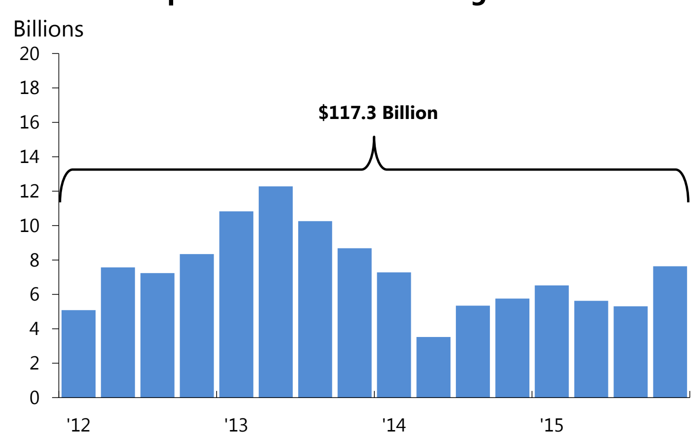
Source: CoreLogic

Household Real Estate and Net Equity



Source: Federal Reserve Board

Consumption Gains due to Rising Home Values



Source: Treasury Calculations based on Federal Reserve Board data

[1] Case, Karl E., John M. Quigley and Robert J. Shiller, "Wealth Effects Revisited 1975-2012" (Cowles Foundation Discussion Paper No. 1884, Yale University, 2013). The authors also suggest that there is a negative wealth effect for declining home prices. They estimate that for every $100 drop in a home's price, consumption is reduced by $6.

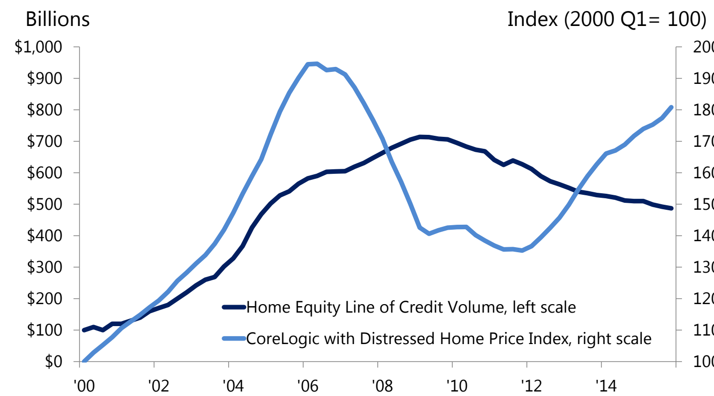
One explanation for the smaller housing wealth effect in recent years is that homeowners are less able or willing to extract equity from their homes to finance increases in consumption. In 2012Q2, the share of homeowners extracting cash when refinancing their mortgages dropped to an all-time low, thanks to low levels of equity, tight credit availability, and credit scores that were damaged during the Great Recession. Since then, the share of "cash-out" refinances has trended up to pre-bubble levels but, anecdotally, lenders report that households are taking less cash out than before.

Proportion of Cash-out Dollars from Mortgage Refinance Originations

Source: Freddie Mac

Other types home equity borrowing have also declined. Notably, the volume of lending through home equity lines of credit has trended down, on balance, since 2009, even as home prices have rebounded in recent years. Tight credit standards are one reason why households have borrowed less against home equity.

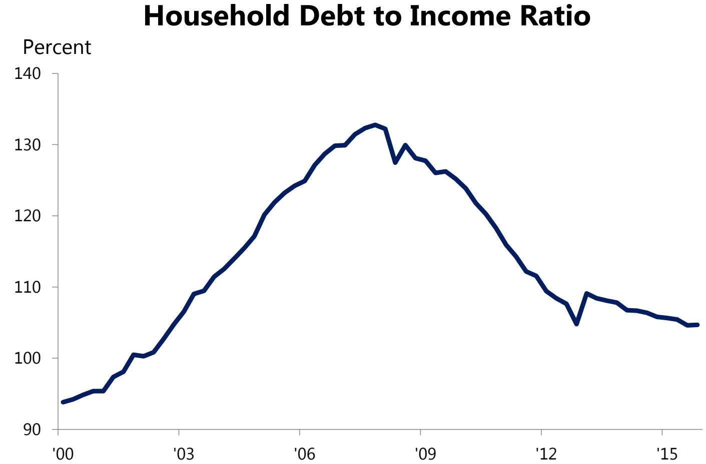
Home Equity Line of Credit Balance and Home Values



Source: Federal Reserve Bank of New York, CoreLogic

Households' response to housing wealth gains may also be muted because of a more general desire to strengthen their balance sheets. Since peaking in 2007, the ratio of household debt to income has fallen, on balance, partly because new borrowing for mortgages and housing-related debt has been muted. Also, households have voluntarily paid down debt and involuntarily extinguished debt through foreclosures and non-mortgage loan defaults.

Household Debt to Income Ratio



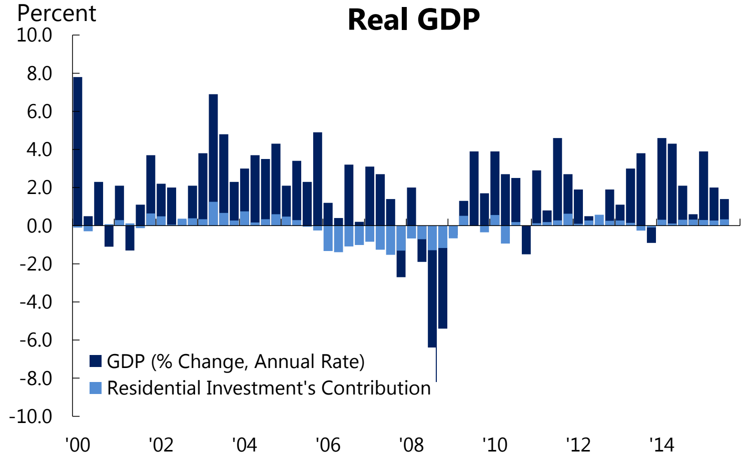
Source: Financial Accounts of the United States

Housing's Importance to the Economy

April 2016

Residential investment continues to support GDP growth. Residential investment rose at an annual rate of 10 percent in 2015Q4, adding 0.3 percentage point to real GDP growth, matching the average contribution over the previous four quarters. Data through March suggest that residential investment is on track for another sizable gain in 2016Q1. (The recent flatness in housing starts will take some time to be reflected in residential investment because of the lags associated with construction.)

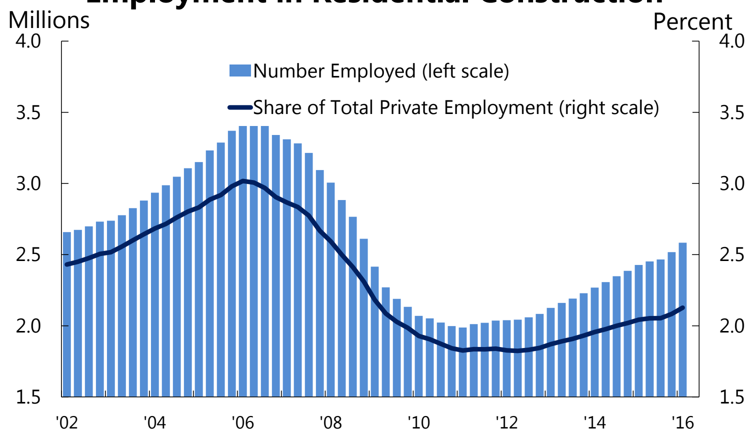
Residential Investment's Contribution to Real GDP



Source: Bureau of Economic Analysis

Employment in residential construction continues to recover. Over the past year, it has increased by 13,800 jobs per month, compared with 12,100 jobs per month in the year-earlier period. The level of employment remains relatively low: residential construction employment totaled just under 2.6 million workers in 2016Q1, accounting for roughly 2.1 percent of total private payroll employment, compared with around 2.6 percent in the early 2000s.

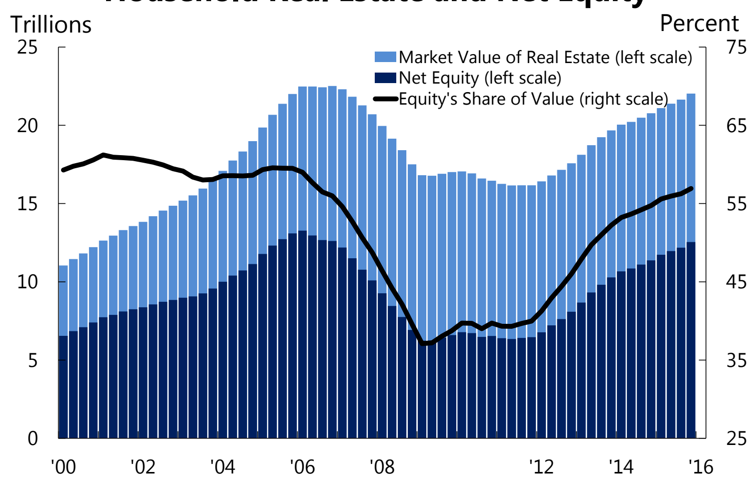
Employment in Residential Construction



Note: Includes those employed directly in residential construction as well as related specialty trades.
Source: Bureau of Labor Statistics

Housing wealth is nearing its earlier peak. The value of household real estate reached $22.0 trillion in 2015Q4, up from a low of $16.2 trillion in 2011Q4. The current level is close to its 2006Q4 peak, but the sustainable level is higher than in 2006 because of population-driven growth in the housing stock and overall inflation.

Household Real Estate and Net Equity

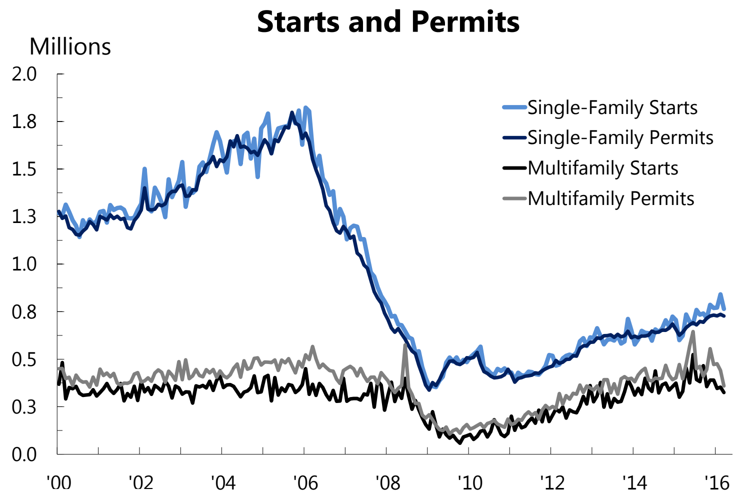


Source: Federal Reserve Board

Housing Starts and Inventories

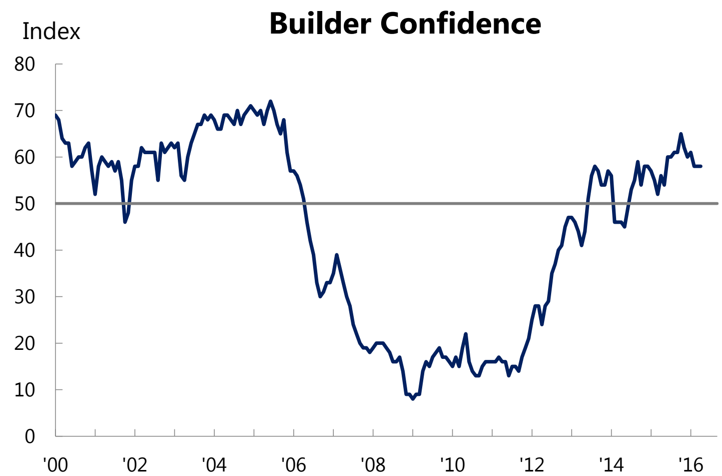
April 2016

Since last summer, housing starts have been about flat, as further increases in single-family starts have about offset a pullback in multifamily starts. Single-family starts (light blue line) fell sharply in March, but, smoothing through the monthly volatility, appear to remain on a gradual uptrend. Multifamily starts (black line) surged in the first half of 2015 but have since moderated.



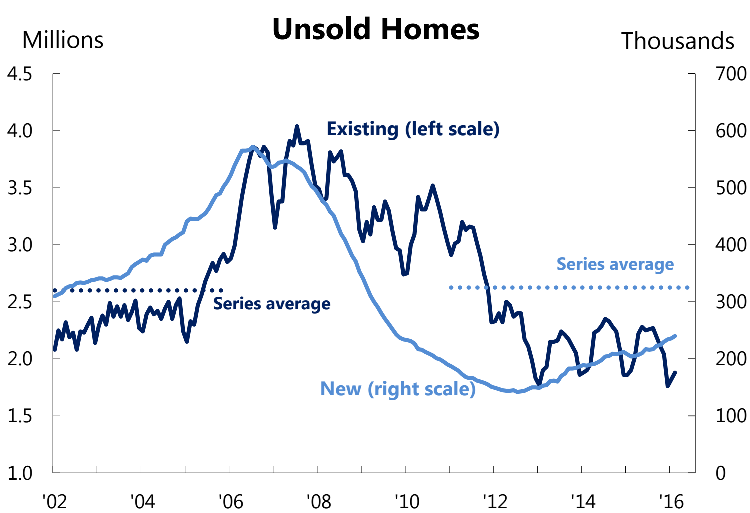
Source: U.S. Census Bureau

Builder confidence remained generally upbeat in April. The National Association of Homebuilders index has recorded readings above 50 (meaning a majority of builders view the market positively) for the last 22 months. All three of the index's components—sales expectations over the next six months, current sales, and buyer traffic—are above their 2014 averages.



Source: National Association of Homebuilders

The inventory of homes for sale remains well below historical averages. The stock of existing homes for sale (dark blue line) was at 1.88 million units at the end of February, up from 1.76 million in December, which was the lowest level since December 1999. The stock of new homes for sale (light blue line) was at 240,000. At the current sales pace, there is 4.4-month supply of existing homes available for sale; for new homes, the available inventory is equivalent to a 5.6-month supply.



Source: National Association of Realtors and U.S. Census Bureau

Mortgage interest rates remain very low by historical standards. The average interest rate on new 30-year fixed-rate conventional mortgages settled at a three-year low of 3.58 percent in the week ending April 14. The current rate is only 27 basis points higher than the lowest rate recorded in 2012.

Interest Rate of 30 Year Fixed-Rate Mortgages

Source: Freddie Mac

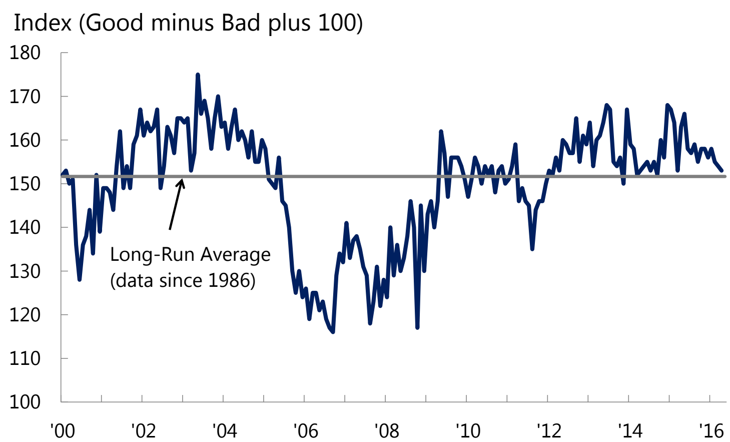
The National Association of Realtors Housing Affordability Index suggests that housing remains affordable for the typical family. Affordability has diminished considerably since 2013 as home prices have risen, but has crept up recently due to relatively low mortgage rates. (Note that the index assumes a 20 percent down payment; interest rates would be higher and affordability would be lower for a family that made a smaller down payment).

Home Affordability

Source: National Association of Realtors

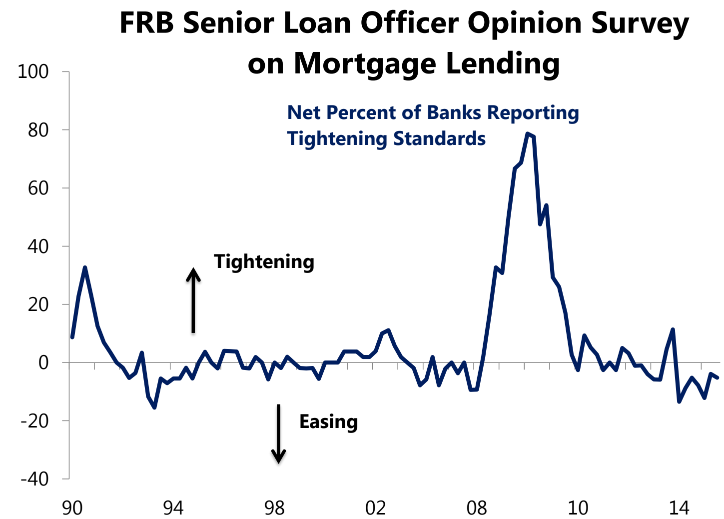
Households remain positive about home buying conditions. The University of Michigan Consumer Survey's "Good Time to Buy" Index remained slightly higher than the long-term average in mid-April. Low interest rates continue to be the main factor cited when respondents were asked why home-buying conditions are good.

Attitudes Towards Buying

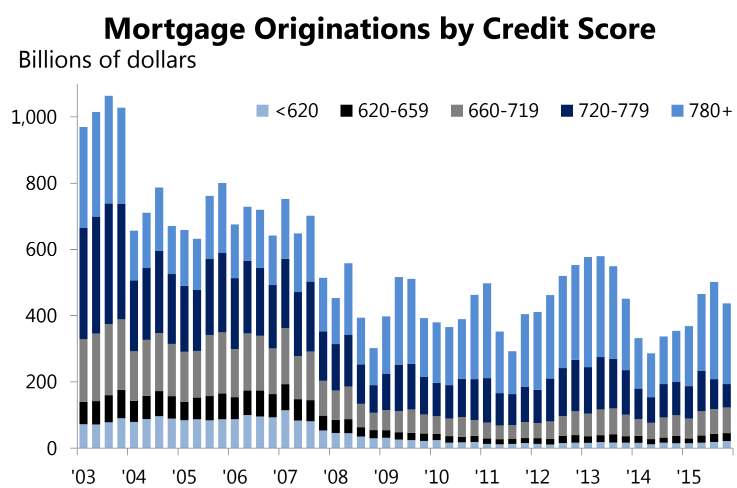


Source: University of Michigan Consumer Survey

Senior loan officers at banks report easing mortgage lending standards in recent quarters. The last seven quarters mark the first period of sustained easing since the period of dramatic tightening during the financial crisis. (Note that the level of the line shown corresponds to the change in lending standards, with values below 0 representing an easing of lending standards and values above 0 representing a tightening).

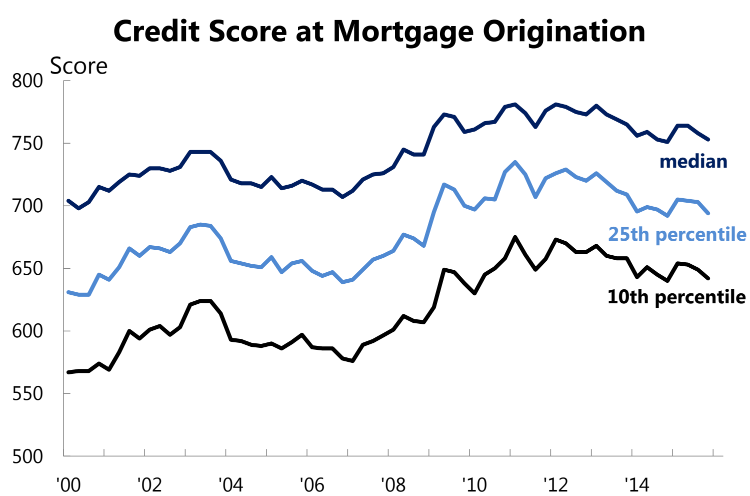


Despite the easing, lending is still restrained, and riskier borrowers continue to have very limited access to mortgage credit. Mortgage originations have risen, on net, over the past year, but the pick-up has been driven largely by borrowers with credit scores above 780. Originations by borrowers with credits scores below 780 are well below pre-crisis levels. Almost no mortgages are being extended to borrower with FICO scores below 660.



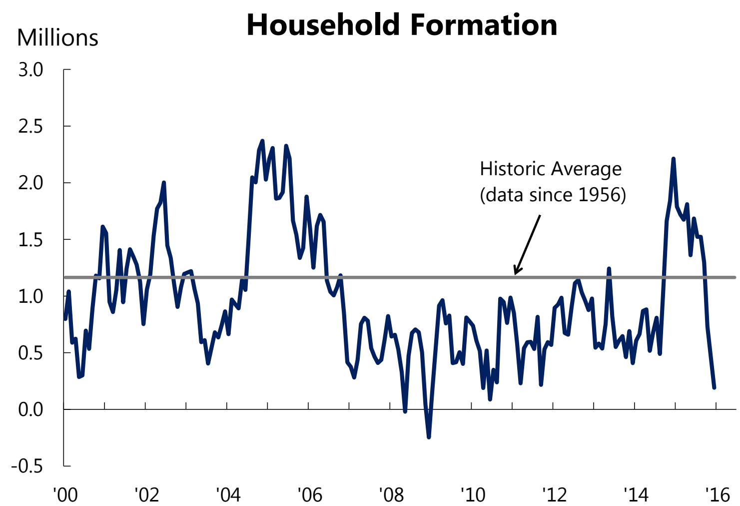
Source: FRBNY Consumer Credit Panel/Equifax
Note: Credit Score is Equifax Riskscore 3.0;

The median FICO score of newly originated mortgages has fallen slightly in recent quarters to around 750, but it is still up from roughly 700 in the early 2000s. At the 10th percentile, the FICO score for new mortgages was down to 642 by the end of 2015, compared with less than 600 in the early 2000s.



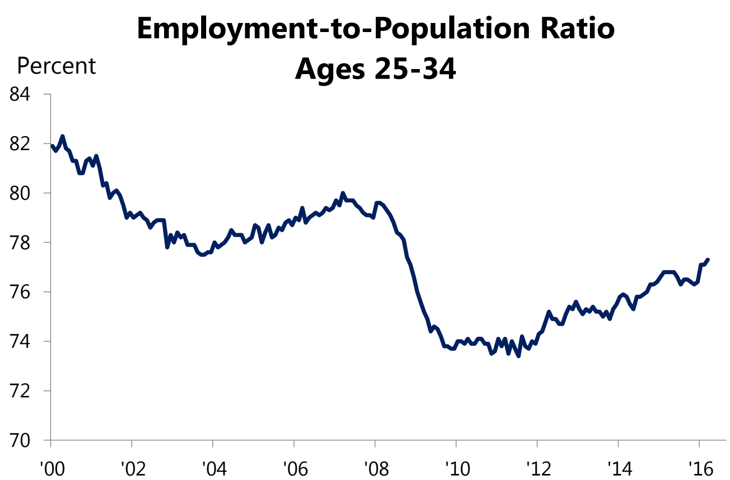
Source: FRBNY Consumer Credit Panel/Equifax
Note: Credit Score is Equifax Riskscore 3.0; mortgages include first-liens only.

Household formation fell sharply in 2015Q4. In the year ending in December, just 191,000 households were formed. The explanation for the decline is unclear. Between mid-2006 and 2014Q3, the rate of household formation averaged roughly half its historical average of 1.2 million per year. Household formation surged at the end of 2014 and remained above its historical average through 2015Q3.



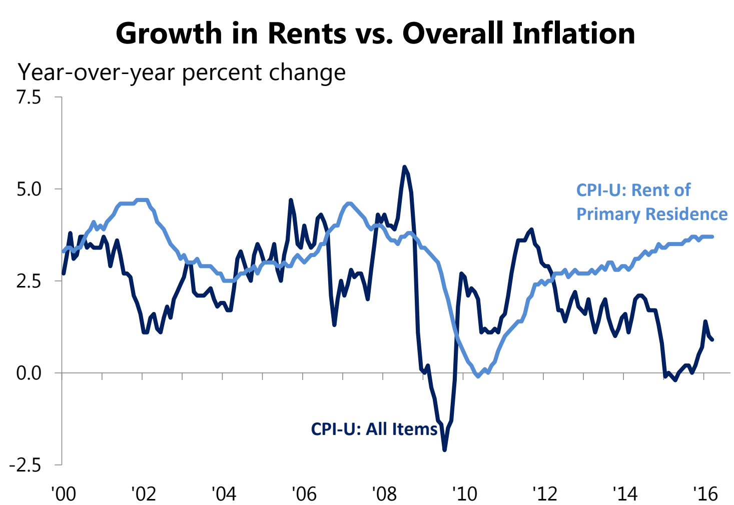
Source: U.S. Census Bureau, Treasury calculation

The proportion of young adults who are working has seen a partial recovery. The employment-to-population ratio for individuals ages 25-34 has reversed more than half of the decline that occurred during the recession. The strengthening labor market should support household formation going forward.



Source: Bureau of Labor Statistics

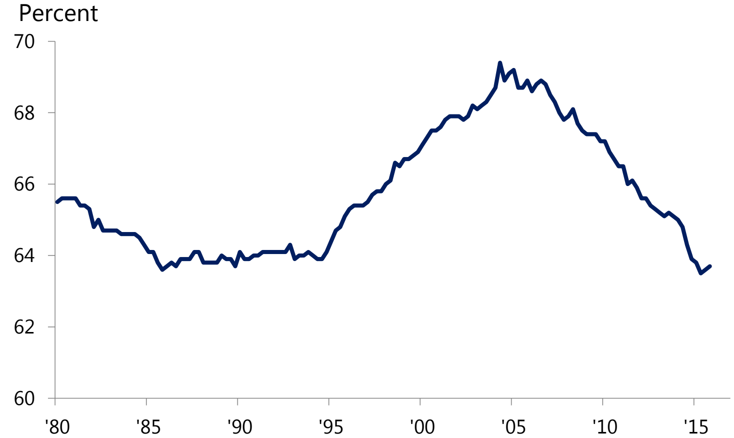
Higher rents are an obstacle to young adults establishing their own households. The supply of rental housing appears to have not risen as fast as demand and, as a result, rents have been increasing rapidly. They outpaced overall inflation by 2.8 percentage points over the year ending in March.



Source: BLS

The homeownership rate edged up in 2015Q4. The homeownership rate was 63.7 percent in 2015Q4, up from a low of 63.5 percent in 2015Q2. The homeownership rate may stagnate in coming quarters as household formation continues to recover because newly formed households are more likely to rent before purchasing a home.

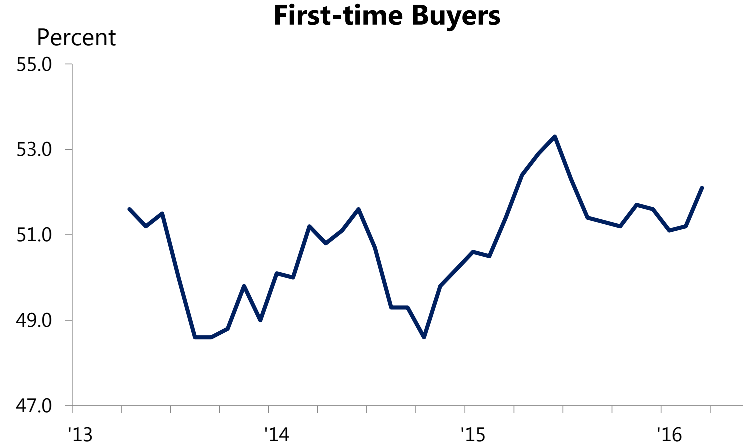
Homeownership Rate



Source: U.S. Census Bureau

First-time home buyers account for around half of purchase mortgage originations. The share of newly originated mortgages going to first-time buyers was 52.1 percent in March, higher than the 51.4 percent recorded a year ago.

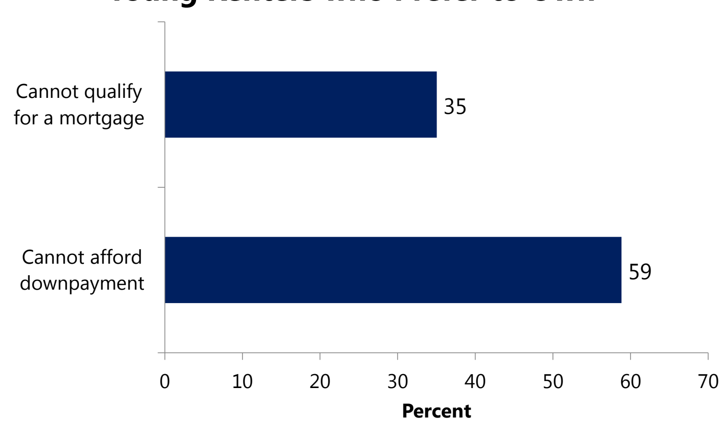
Share of Mortgages Accounted by First-time Buyers



Source: American Enterprise Institute

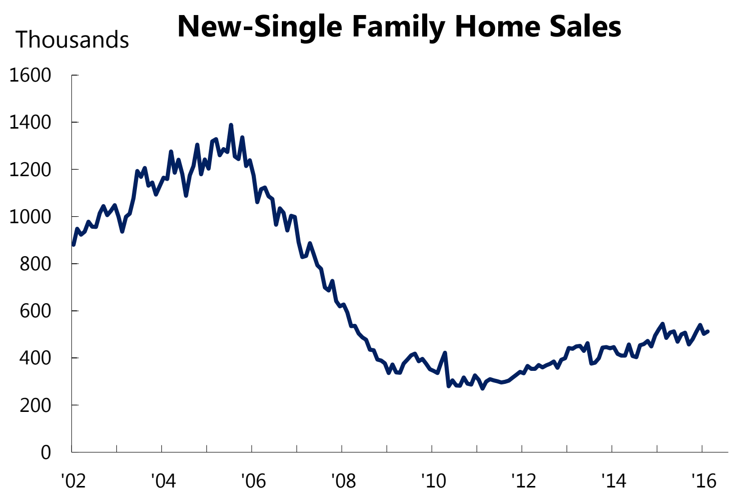
87 percent of households headed by young adults that are renting say that they would prefer to own if they could afford it. Of those households, the most commonly cited reasons for not owning are lack of downpayment (59 percent) and not being able to qualify for a mortgage to buy a home (35 percent).

Primary Reasons for Renting among Young Renters who Prefer to Own



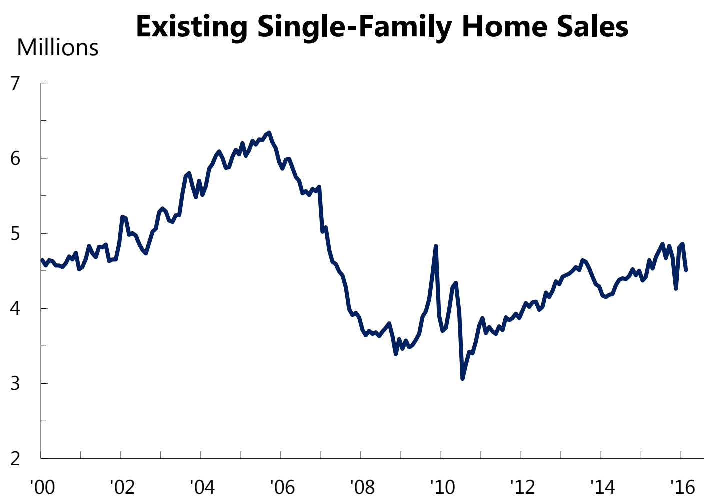
Source: Report on Economic Well-Being of U.S. Households in 2014, Federal Reserve Board

New single-family home sales remain on a very gradual uptrend. At an annual rate of 512,000 in February, they were 1.8 percent higher than their average level in 2015. New single-family home sales averaged 503,000 units for all of 2015, the best annual performance since 2007. Still, the current pace of sales is only about half the level seen prior to the boom in the early 2000s.



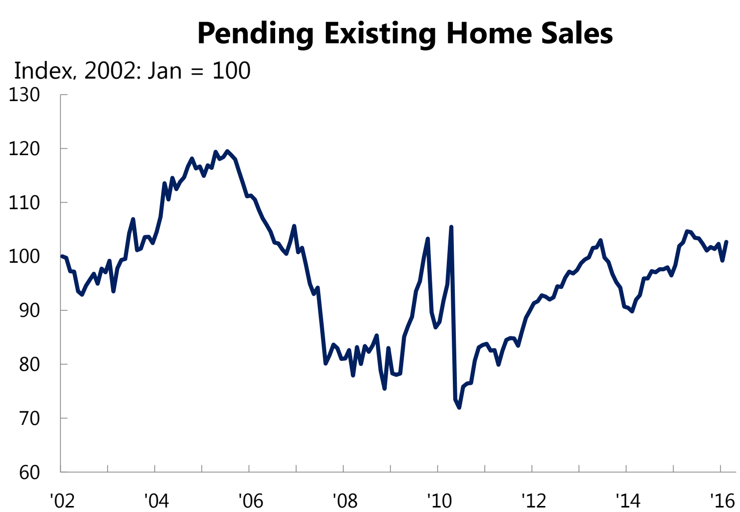
Source: U.S. Census Bureau

Sales of existing single-family homes have been volatile in recent months. Existing single-family home sales fell sharply in February. Severe weather in the Northeast and Midwest may have held down the number of contract signings that month. They also showed sharp swings last fall because of new mortgage disclosure regulations that reportedly delayed contract signings by a few days.



Source: National Association of Realtors

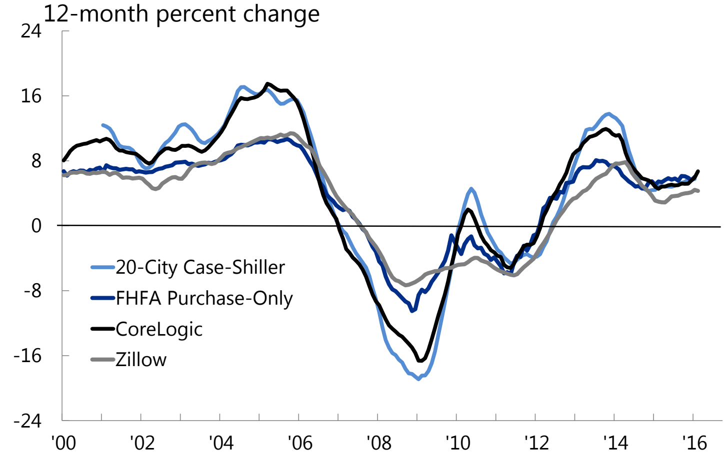
The National Association of Realtors index of pending sales of existing homes rebounded to a seven-month high in February. The index is a leading indicator of existing home sales, which are recorded at the closing of the sale. The National Association of Realtors is projecting that existing home sales will rise 2.4 percent in 2016.



Source: National Association of Realtors, Treasury Calculation

After rising at a high single-digit to low-double-digit pace in late 2013 and early 2014, the pace of home price appreciation has eased. Home prices are now growing at a more sustainable mid-single-digit pace.

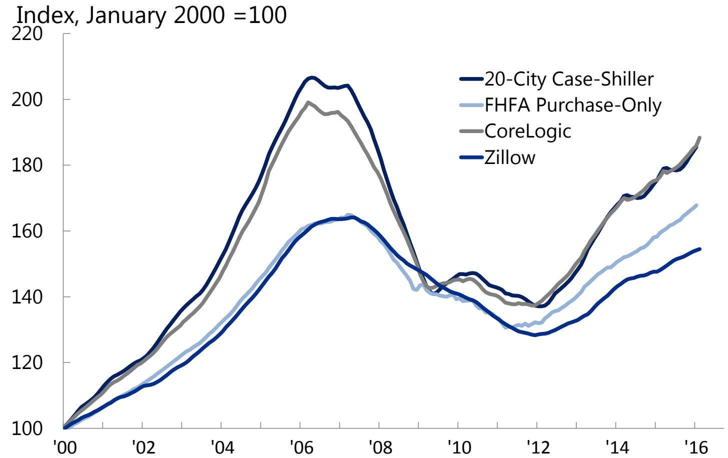
Changes in Home Prices



Source: Standard and Poors, FHFA, CoreLogic, Zillow

Home prices remain below their pre-crisis peaks. Most measures for the nation as a whole are currently around early 2005 levels. The FHFA Purchase-Only Home Price Index is the only one that has surpassed its pre-recession peak. Forecasters generally believe that home price appreciation will remain moderate going forward. Participants in the 2016Q1 Pulsenomics/ Zillow home price survey expect home prices to rise 3.7 percent over the four quarters of 2016.

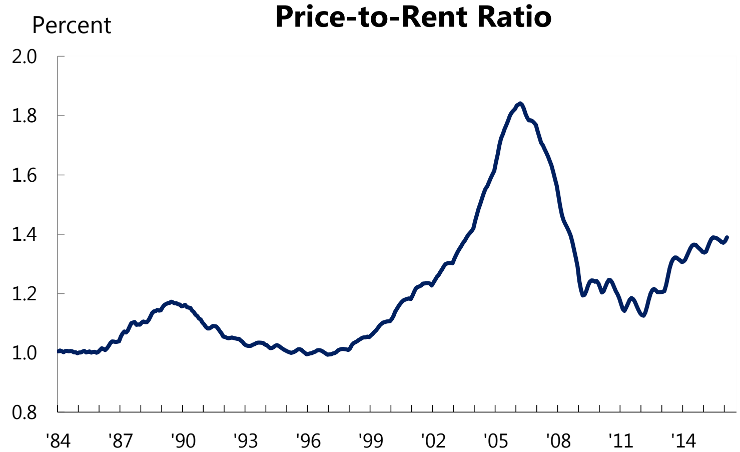
Home Prices



Source: Standard and Poors, FHFA, CoreLogic, Zillow

The ratio of home prices to rents, a common way to assess whether home prices are overvalued, remains well below its pre-crisis peak. That said, the substantial appreciation of home prices since late 2012 has pushed up this ratio, and it is now above its pre-crisis range.

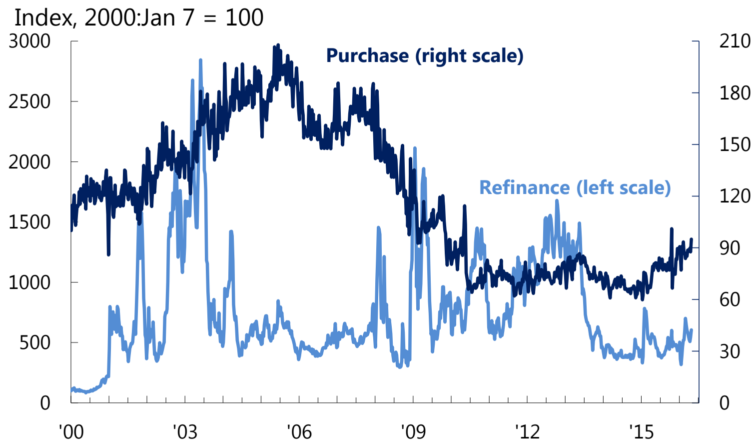
Price-to-Rent Ratio



Source: Ratio of CoreLogic National Home Price Index to CPI Owner's Equivalent Rent. Both Indexes set to 100 in January 1983.

Applications for home purchase mortgages have been trending upward over the past year. Even so, purchase applications remain well below pre-crisis levels. Refinancing activity has been very low since mid-2013 as most borrowers who have been able to refinance have already done so.

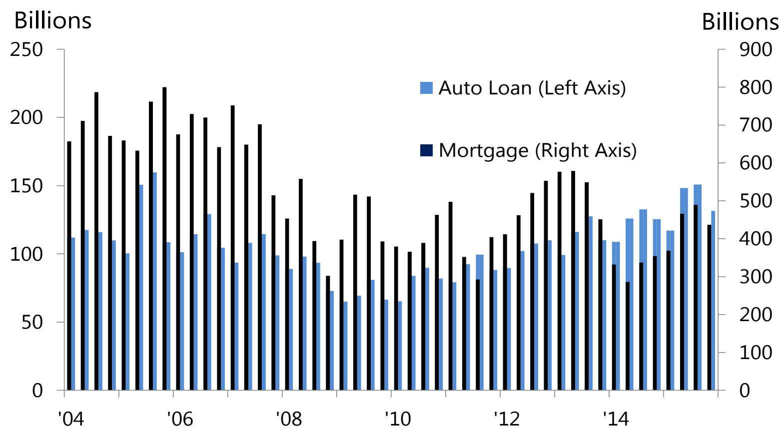
Mortgage Applications



Source: Mortgage Bankers Association

New mortgage originations have increased over the past year but remain low by pre-crisis standards. New mortgage originations rose to $437 billion in 2015Q4, up from a low of $354 billion in 2014Q4. The low level of mortgage originations stands in contrast to the pattern of some other forms of household credit, including auto loan originations, which have been increasing briskly along with sales and now stand near the top of their historical range.

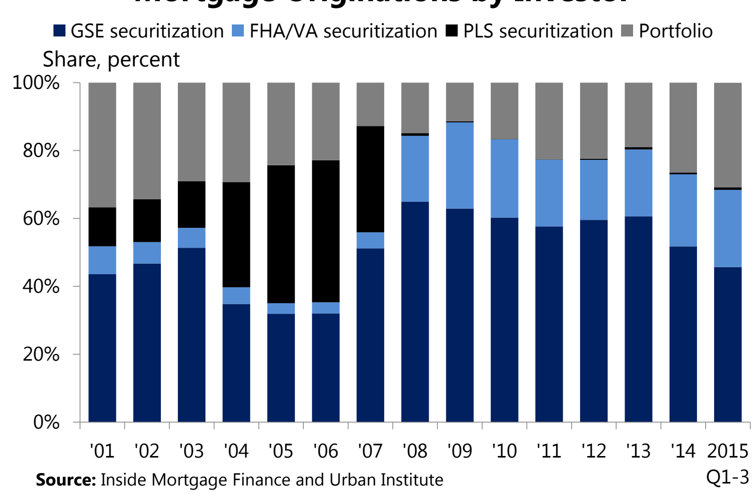
New Originated Installment Loan Balances



Source: Federal Reserve Bank of New York

The share of new mortgage originations backed by the government has fallen since its 2009 high, but remains significantly higher than pre-crisis levels. About 70 percent of new mortgages were backed by the FHA, VA, or GSEs in the first three quarters of 2015 (dark blue and light blue portions of bars). While bank portfolio lending has increased noticeably, the private-label mortgage-backed securities market has experienced essentially no recovery since collapsing in late 2007.

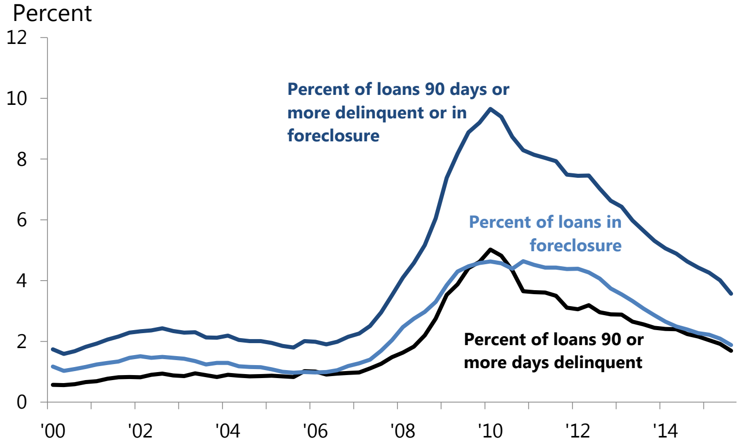
Mortgage Originations by Investor



Source: Inside Mortgage Finance and Urban Institute

Mortgage foreclosure and delinquency rates continue to normalize. The share of homes in foreclosure declined to 1.6 percent of outstanding loans in 2015Q4. The rate of mortgages in default (90+ days delinquent or in foreclosure) fell to 3.4 percent in 2015Q4, compared with a pre-crisis average of around 2 percent.

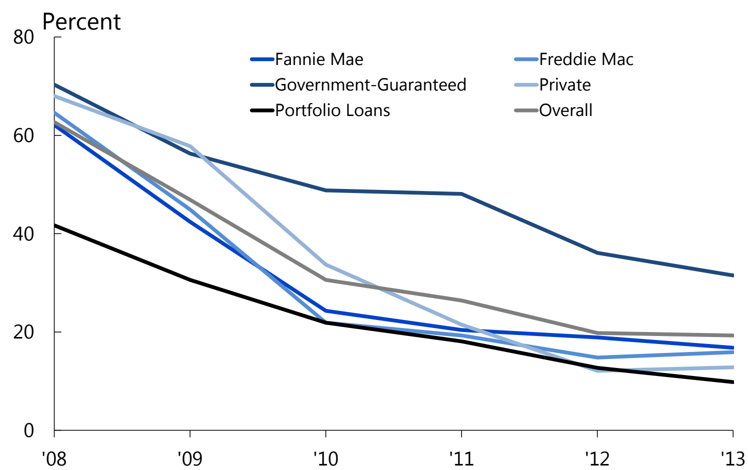
Foreclosure and Delinquency Rates



Source: Mortgage Bankers Association and Haver Analytics

Re-default rates for borrowers who have received a mortgage modification have run significantly lower for mortgages that were modified more recently. Mortgages that were modified in 2013 (24 months ago) had re-default rates that were between 32 and 55 percentage points lower than those modified in 2008.

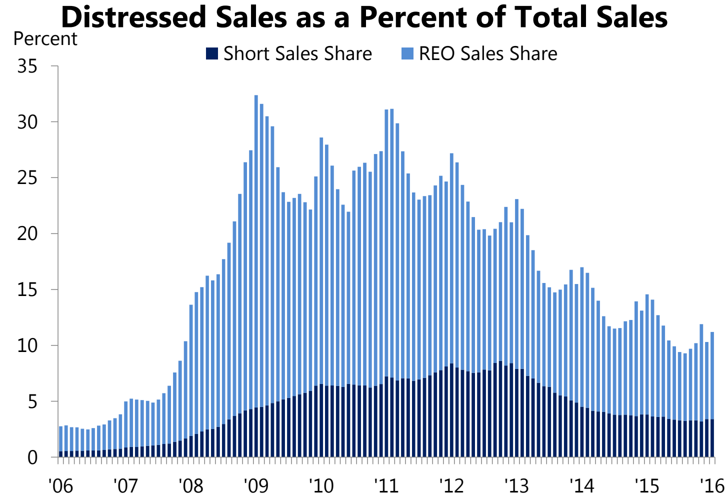
Re-Default Rate 24 Months after Modification



Source: OCC Mortgage Metrics Report for Q1-2015

The share of sales represented by REO sales has trended down over the past 3 years. In January 2016, REO sales ticked up slightly to around 8 percent of total sales. The share associated with short sales remained relatively constant at around 3 percent in recent months.

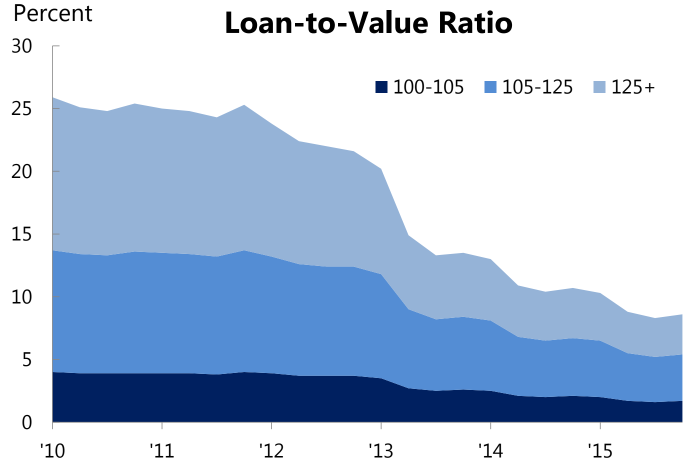
Distressed Sales as a Percent of Total Sales



Source: CoreLogic

Rising home prices have greatly reduced the number of underwater borrowers. The share of mortgage loans with negative equity was 8.6 percent in 2015Q4, down from 10.3 percent in 2015Q1. The number of homes now underwater stands at 4.3 million, a 64 percent drop since the 2011 peak. Mortgages that are very underwater, with negative equity exceeding 25 percent, have declined and are now 37 percent of all underwater mortgages.

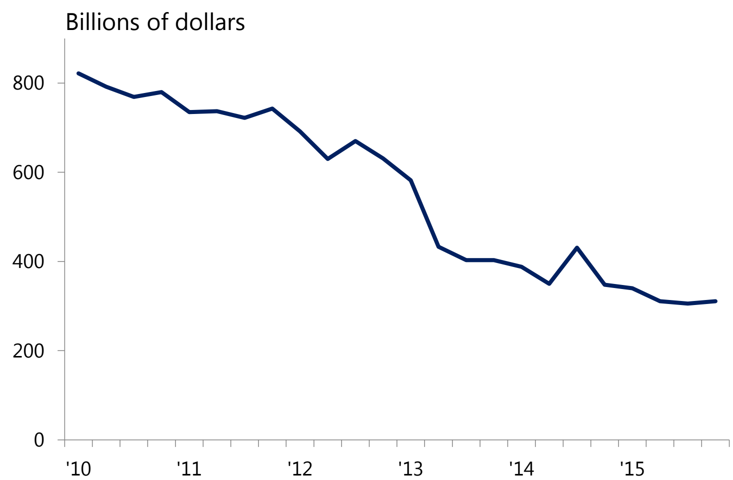
Share of Loans that are Underwater by Loan-to-Value Ratio



Source: CoreLogic Equity Report, 2015 Q4

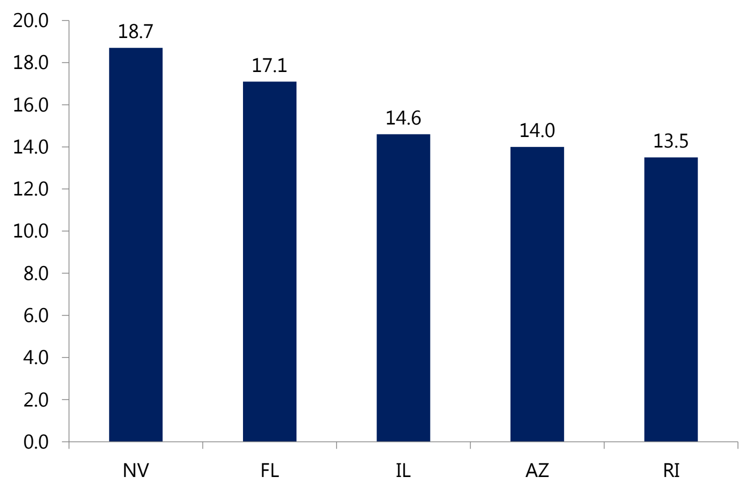
The aggregate amount of negative equity continues to fall. Since 2010Q1, aggregate negative equity has fallen from over $800 billion to around $300 billion in 2015Q4.

Amount of Negative Equity



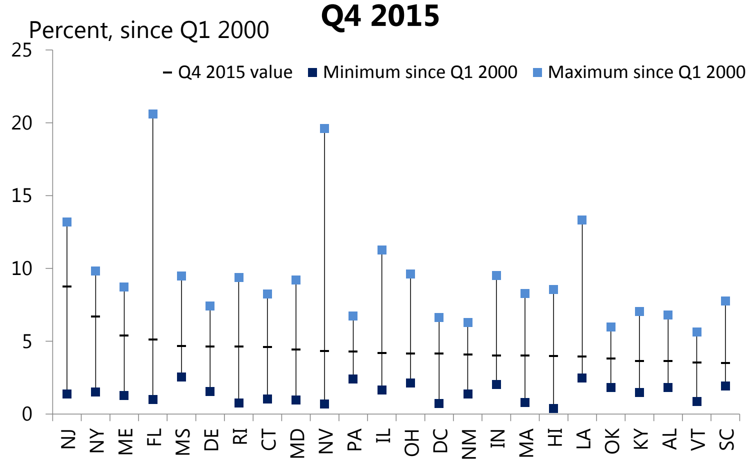
Negative equity rates are still very high in some states. Around 20 percent of mortgaged residential properties in Nevada and Florida still have negative equity. However, these rates have fallen by more than half in these two states since the beginning of 2013.

Negative Equity Share in Top 5 States



Serious delinquencies have fallen across the country but the degree of improvement varies by state. They remain near peak levels in some states, particularly in judicial foreclosure states such as New Jersey and New York. However, serious delinquencies are down nearly 75 percent from their peak in Florida, a judicial state that passed a law in June 2013 speeding up the foreclosure process. Serious delinquencies have also fallen markedly in hard-hit areas with flexible foreclosure laws, such as Nevada.

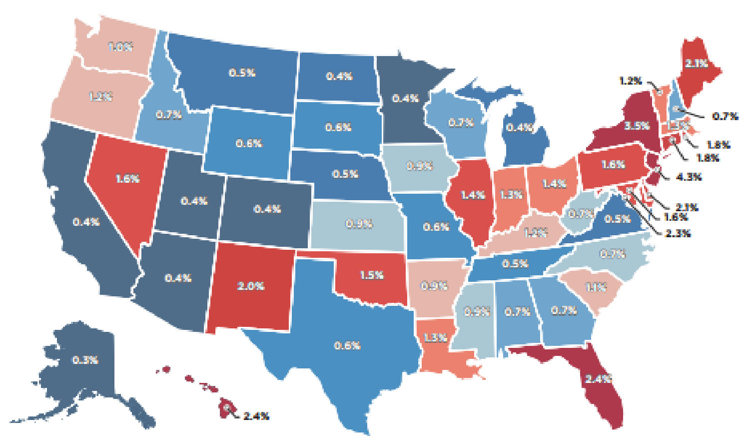
Serious Delinquencies for 25 Highest-Rate States: Q4 2015



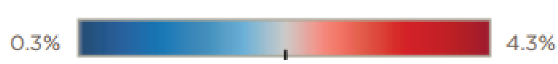
Source: Mortgage Bankers Association/Haver

Foreclosure inventories have declined in many states but remain relatively high in others. Judicial foreclosure is an important factor: 12 of 23 states that employ the practice have noticeably elevated rates (darker red). Other states with high inventories, like Nevada, are still struggling economically.

Foreclosure Inventories by State as a Percent of All Mortgage Homes



Source: CoreLogic Market Pulse, data as of January 2016



Information Memo Clearance Sheet

Subject:	April 2016 Housing Dashboard
Drafted:	Economic Policy – Marcelo Yoon 622-6423
	Erin Troland 622-0181
Approved:	Economic Policy – Karen Dynan (4/19/16)
Cleared:	Exec Sec –
	Economic Policy – Jane Dokko (4/19/16)