



# Insight & Outlook

October 26, 2015

## In this Edition:

### **Insight: Not very deep in the heart of Texas**

What if we told that you that a single law could have blunted the impact of the Great Recession in your state? Sound too good to be true? Well some experts believe Texas has found the answer. We assess the evidence for these claims. (p.1)

### **Outlook: The case of the missing mortgages**

With the Fed on hold, we turn our attention to the recent release of the HMDA data for 2014. It turns out there was \$100 billion in mortgage originations that none of the experts anticipated. Even more surprising is where that \$100 billion was hiding. (p.5)

### **In Closing: Student housing**

Student housing is more expensive than tuition at some universities. Freddie Mac's Multifamily division funds student housing to help keep college costs down. But the characteristics of student housing pose some challenges not found in mainstream workforce rental housing. (p.12)

## Not very deep in the heart of Texas

The recession that ran from December 2007 to June 2009 definitely earned the title the Great Recession. Real GDP fell 4 percent, employment fell 6 percent and the unemployment rate crossed the 10 percent mark for only the second time in postwar U.S. history. Housing was at the epicenter of the crisis. Home prices fell 25 percent, the first time since the Great Depression of the 1930s that home prices decreased nationally. Residential investment cratered and skilled workers exited the construction industry, many permanently. Over 2.7 million households lost their homes to foreclosure or a foreclosure alternative such as a short sale. As a result, the homeownership rate plummeted and stands today no higher than it did in the first quarter of 1967.

These statistics illustrate the impact of the recession on the U.S. as a whole. However the recession affected each state differently. Some states suffered disproportionately while others avoided the worst of the downturn.

Many of these differences in impact can be traced to differences in the state economies. For example, Michigan had the bad luck to depend heavily on the automotive industry, a sector that collapsed at the start of the recession. As a result, Michigan's GDP fell 11 percent, and the unemployment rate in Michigan peaked at 14.9 percent. In contrast, states in the oil patch – Texas, Oklahoma, Arkansas, Louisiana – suffered less than average.

The luck of the economic draw may not be the whole story however. Each state also has its own laws governing housing finance, and these laws may influence whether the state's housing sector is resilient or fragile in the face of an economic downturn. If we can identify laws that make a

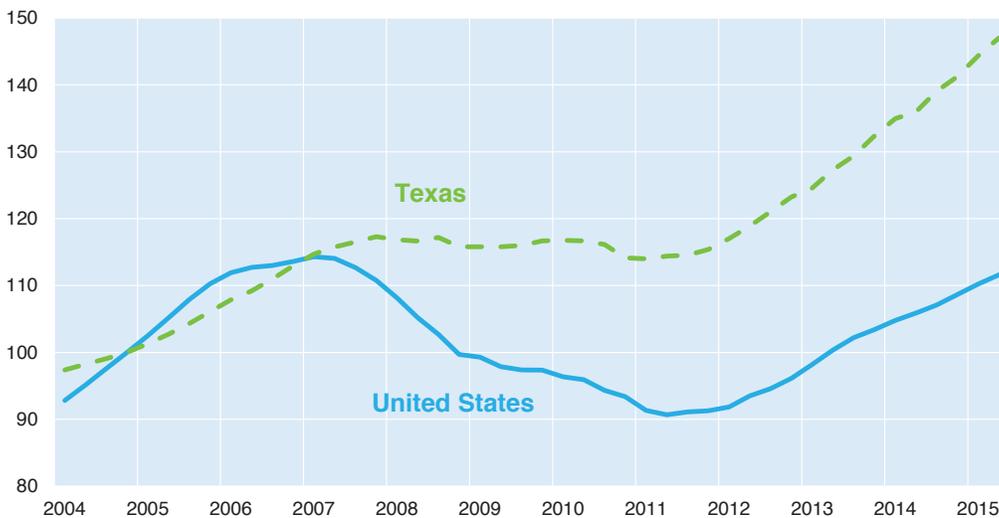
Forecast Summary	2015	2016
Real GDP Growth (%)	2.2	2.5
30-Year Fixed Mtg. Rate (%)	3.9	4.3
FMHPI House Price Appreciation (%)	4.9	4.3
1-4 Family Mortgage Originations (\$ Billions)	1,530	1,400

difference, states won't have to passively endure national-level economic disruptions. They can learn from the experience of others during the financial crisis and choose the laws that will best serve their state's citizens in future crises.

Unfortunately, it's no easy task identifying these types of factors. Every state has a different story – different economy, different collection of laws and regulations, different strategies for responding to recession. Disentangling the relative contribution of each factor is daunting.

Texas provides a good example of this difficulty. The Texas economy was one of the strongest in the U.S. during the Great Recession. State GDP declined, but by only 1.6 percent rather than the 4 percent drop in the nation as a whole. Similarly, unemployment reached 8.4 percent – high, but well below the national rate of 10 percent. Even more impressive, house prices fell only 3 percent in Texas, less than 1/5 of the national house price decline (*Exhibit 1*). As we noted above, much of that relatively favorable experience can be attributed to the significant share of the energy sector in the Texas economy. But it's possible that a housing law unique to Texas helped as well.

**Exhibit 1: House Prices in Texas and the U.S.**



Source: FHFA House Price Index (2004Q4 =100)

**Homesteads and home equity**

Before 1997, Texas law did not permit home equity loans (HELs), and home equity lines of credit (HELOCs) weren't allowed until 2003. These restrictions were tied to a 19th-century Texas law that prohibited the forced sale of homesteads. When the law was changed to permit home equity loans, Texas capped the amount of the loans – the combined balances of the first mortgage and the home equity line (HELOC) or loan (HEL) were not allowed to exceed 80 percent of the value of the property, that is, the loan-to-value (LTV) ratio was capped at 80 percent.<sup>1</sup>

It seems likely that the Texas limit on homeowners' ability to extract equity from their homes cushioned the blow of the housing crisis that dominated the Great Recession. The probability of default increases significantly when the borrower is "underwater", that is, when the balance on their mortgage exceeds the market value of their home.

<sup>1</sup> This limit also applies to cash-out refinances. Initial purchase loans can exceed 80 LTV. However HELs, HELOCs, and cash-out refinances are allowed to drive the LTV of all loans combined above 80 LTV if the proceeds are borrowed for home improvements. For details on the law, see Kumar and Skelton (2013), "Did home equity restrictions help keep Texas mortgages from going underwater?" *The Southwest Economy*, pp. 3–7

And the probability of default increases as the value of the property falls further and further below the value of the mortgage. The 80 percent limit on the LTV guaranteed that Texas borrowers with HELOCs and HELs had a substantial equity cushion, much larger in fact than many borrowers in other states.

This larger equity cushion in Texas may have helped to moderate the intensity of the house price collapse in that state. As house prices began to decline in the Great Recession, the share of underwater borrowers grew more slowly in Texas than in areas where borrowers already had extracted most or all of the equity in their homes. In many areas, the first wave of defaults and foreclosures triggered further house price declines and pushed even more borrowers underwater. That destructive cycle was less likely to occur in Texas, where it took longer before borrowers' equity was wiped out.

The question remains though – how much of Texas's relatively benign performance should be attributed to the 80 LTV limit and how much to the contribution of the energy sector (and other economic factors) to the Texas economy? The ideal way to estimate this type of attribution is to run a controlled experiment: put Texas through the Great Recession twice – once with the 80 LTV limit in place and once without it. Of course, that type of laboratory experiment is impossible in real life. We only get to observe one version of history, not an alternative version that might have occurred.

### **Across the borderline**

A paper by Anil Kumar of the Federal Reserve Bank of Dallas takes an ingenious approach to estimating the impact of the 80 LTV limit<sup>2</sup>. Kumar reasons that counties on either side of the Texas border have very similar economic environments. However, only Texas has an 80 LTV limit on home equity loans. Thus, any differences in the fortunes of these neighboring counties during the Great Recession are likely to be due in large part to the Texas restriction on LTV.

Kumar compared the default rate on non-prime mortgages in Texas to the default rates in New Mexico, Oklahoma, Arkansas, and Louisiana, the four states that share a border with Texas. He grouped counties by the distance between the county seat and the state border, and he estimated differences in the default rates for counties at different distances from the border<sup>3</sup>.

Kumar found that the default rate on non-prime mortgages generally was lower in Texas border counties than in its near-neighbors across the border. As expected, the differences appear to be most pronounced closest to the border, where economic and other factors are likely to be most comparable.

Exhibit 2 displays the average reduction in the default rate (the default rate in each of the other states minus the rate in Texas) within different distances of the Texas border. The difference is not uniform across the four states that share a border with Texas. The reduction in the default rate was as high as 12 percentage points compared to counties in Arkansas within 25 miles of the Texas border. However the difference was only one percentage point compared to counties in Oklahoma at the same distance from the border.

2 Anil Kumar (2014). "Do Restrictions on Home Equity Extraction Contribute to Lower Mortgage Defaults? Evidence from a Policy Discontinuity at the Texas Border," Working paper 1410, Federal Reserve Bank of Dallas.

3 Presumably the counties closest to the border also are closest to each other and have the fewest differences in economic and other conditions. This similarity should support sharper estimates of the impact of the 80 LTV limit. However, this control of background characteristics is achieved at the cost of a smaller sample size – fewer counties are within 25 miles of the border than within 100 miles. It can be more difficult to identify a statistically significant difference in a small sample. The use of different distances provides some scope for balancing these two influences.

**Exhibit 2: Reduction in non-prime default rate**

	Miles from Texas border			
	25	50	75	100
<b>New Mexico</b>	9	8	2	1
<b>Oklahoma</b>	1	3	3	2
<b>Arkansas</b>	12	8	4	2
<b>Louisiana</b>	6	8	7	5

Figures represent the difference in percentage points of the share of non-prime loans 90 days or more delinquent in 2006 and 2009. Data is a sample of 1998-2004 originations from CoreLogic.

It is always possible that factors other than the 80 LTV limit contributed to this difference in default rates. For example, New Mexico, Oklahoma, and Louisiana are judicial states, that is, foreclosures cannot proceed without review and approval by a court. Arkansas and Texas are non-judicial states. Judicial reviews are designed to protect the rights of borrowers, but they also tend to lengthen the time between the borrower's default and the foreclosure. This delay can increase the losses ultimately borne by the lender. This delay may also exacerbate a housing collapse and delay a recovery as backlogs of homes in the process of foreclosure linger. This difference in the legal process governing foreclosures may account for some of the difference in default rates.

**How much difference did it make?**

Kumar's research suggests Texas's 80 LTV limit lowered mortgage defaults during the Great Recession. However it doesn't reveal the share of Texas's relatively-strong economic performance during the recession that was due to the 80 LTV cap and the share that was due to the boost supplied by the energy sector. What we can determine from Kumar's estimates is that the 80 LTV cap appears to have reduced non-prime default rates in Texas by about 25 to 30 percent compared to the rest of the U.S. While it is a giant leap of faith, we might be willing to guess that the 80 LTV limit also accounted for perhaps as much as a quarter of the stronger economic performance of Texas as well.

Research by Steven Laufer at the Board of Governors of the Federal Reserve provides another perspective on the likely impact of the 80 LTV limit. Laufer reviews the credit performance of mortgages in Los Angeles in the Great Recession and asks how the performance would have been different if there had been an 80 percent cap on LTV.

Laufer's approach produces some provocative results. According to Laufer:

- Thirty percent of the increased defaults in Los Angeles in the crisis are attributed to borrowers who purchased their homes before the increase in house prices but then borrowed against that growth in equity;
- Ninety percent of defaulting homeowners would have had positive equity during the crisis had they not extracted equity;

- Capping equity extraction at 80 LTV would have reduced house prices by 14 percent at the peak and subsequent defaults by 28 percent.

This last point – the role of the 80 LTV cap in limiting house price increases – is crucial. Kumar highlights the relatively **muted** swings in house prices in Texas. House prices nationally increased 26 percent between 2004 and the peak in 2007 then fell 21 percent by 2011. In contrast, house prices in Texas increased just 21 percent but then fell only 3 percent during the crisis. This pattern suggests that a limit on homeowners’ ability to extract equity from their homes may prevent, or at least moderate, violent swings in house prices.

### Conclusion

It appears that a limit on equity extraction reduces mortgage defaults and may also insulate a state’s economy from some of the ravages of a recession. It remains difficult to pin down whether this type of LTV limit is more or less impactful than other economic factors. Nonetheless, the current research supports the conclusion that this type of limit does have a meaningful impact.

A limit on equity extraction seems to work through three complementary channels:

- First, requiring borrowers to retain a substantial equity cushion reduces the probability they will be underwater in a downturn;
- Second, generally-high equity among borrowers reduces the prevalence of foreclosed properties in a neighborhood and may put the brakes on what otherwise might become a runaway collapse in house prices;
- Third, limits on LTV tend to restrain, in part, the creation of house price bubbles. Without a bubble, there is no bubble to burst and thus no collateral damage on the economy.

Limits on LTV, while important, are not the only non-economic differences between states that can affect the severity of a housing downturn. As one example, so-called judicial states require a hearing and a judge’s approval before a foreclosure can be executed. Other non-judicial states do not impose that requirement. Some evidence suggests that defaults are costlier on average if they occur in judicial states. In addition, the judicial process may contribute to a backlog of foreclosures that may drag out the healing process after a housing downturn. These questions merit further research.

Despite the apparent effectiveness of the 80 LTV cap, states may not choose to imitate the example of Texas. Many borrowers use the equity in their home as a “rainy day” fund. The ability to tap this equity may be the most effective way for borrowers to weather temporary financial setbacks. Furthermore, while an LTV cap may have benefits, there is no evidence that 80 LTV is the optimal cap. Perhaps a less restrictive limit, say 90 LTV, may reduce defaults while allowing borrowers needed financial flexibility.

## Outlook: Glass half full

The unexpectedly-weak September employment report appears to have convinced market participants – and some within the Fed – to forget about any monetary tightening until 2016. The Bureau of Labor Statistics will release two more employment reports before the end of the year, and two strong reports in a row could change some minds, but clearly the bar for Fed action has been raised.

Housing continues to benefit from the weak economic environment. Subdued Treasury rates have held the 30-year mortgage rate below 4 percent since late July. The low mortgage rate has boosted affordability despite healthy

house price increases in many metro areas. However, mortgage originations may slow down, at least temporarily, as originators adapt to the October 1 implementation of the CFPB's "Know Before You Owe" rule. In the last week of September, the Mortgage Bankers' Association index of mortgage applications jumped 26 percent, as borrowers rushed to beat the CFPB deadline. The following week – after October 1st – the index plunged over 27 percent.

### **Macroeconomy: Fed on hold**

According to the minutes of the Federal Open Market Committee (FOMC) released on October 8th, the decision to defer raising rates was a very close call, with growing pressure to tighten coming from the regional banks. Directors at eight of the twelve Federal Reserve banks requested a 25 basis point hike in the discount rate in September, an increase of three over the five banks that requested a hike in August.

After the release of the September employment report, with its surprisingly-low increase of 142,000 in nonfarm payroll employment, the FOMC may well have breathed a sigh of relief about its decision. While Fed action in September could not realistically have had any effect on the September employment report, the market, fairly or unfairly, would have questioned the Fed's ability to assess economic conditions.

In the wake of the employment report, the market appears to believe the Fed will not act until 2016. Judging by Fed funds futures prices, the market thinks there is only a 6 percent chance of a rate hike in October and a 39 percent chance in December. Comments by Federal Reserve Governor Daniel Tarullo suggest that FOMC members may agree.

### **Housing: The case of the missing mortgages**

The Home Mortgage Disclosure Act (HMDA) data was released in September for loans originated in 2014. HMDA is a federal law enacted by Congress in 1975 and administered by the Federal Financial Institutions Examination Council (FFIEC). HMDA requires a broad range of [financial institutions](#) to maintain a Loan Application Register (LAR) that records [detailed information](#) on every mortgage loan application received, including whether the application was ultimately approved or denied. Lenders submit their LARs to the FFIEC in March of every year for applications received in the previous year. FFIEC screens the data and releases it to the public about six months later.

The HMDA data is one of the most complete and detailed records of mortgage lending activity. It provides information on the volume of applications and loans by race, ethnicity, and gender. It reports whether applications were approved, denied, or withdrawn. If the application is denied, HMDA reports the reason for denial.

Every year, housing finance experts – including Freddie Mac – use the HMDA release to recalibrate their estimates of past mortgage activity and to reset their forecasts of future patterns in mortgage finance. The recent release confirmed two recent trends and contained one significant surprise:

- Origination volume in 2014 was \$100 billion higher than most industry experts had estimated. This \$100 billion of missing mortgages – that is, missing from consensus estimates – is the surprise and may point to a new and significant trend in lending patterns.
- Industry concentration is declining. In 2009, the peak year for concentration, the top five mortgage originators accounted for 62 percent of all mortgage loans. In 2014, the top five firms accounted for only 34 percent of the market.
- Nonbanks account for a growing share of the mortgage market. While megabanks have stepped back from broad sectors of the market, nonbanks have increased their participation.

**2014 origination volume was higher than estimated**

After adjusting the HMDA data for coverage, we estimate there were about \$1.35 trillion in mortgage originations in 2014. Prior to the release, we had estimated there were about \$1.25 trillion, \$100 billion below the actual. Other industry estimates appear to have fallen short of the mark by roughly the same amount.

Most of the missing mortgages can be traced to a difference in our estimate of the volume of conforming, conventional mortgage originations. These are the loans that, broadly, qualify for purchase by the GSEs. In other words, the GSE share of the conforming, conventional market was lower in 2014 than we – and others – had estimated. According to estimates from *Inside Mortgage Finance*, the GSE share of the conventional conforming market fell from 90 percent in 2013 to 86 percent in 2014 .

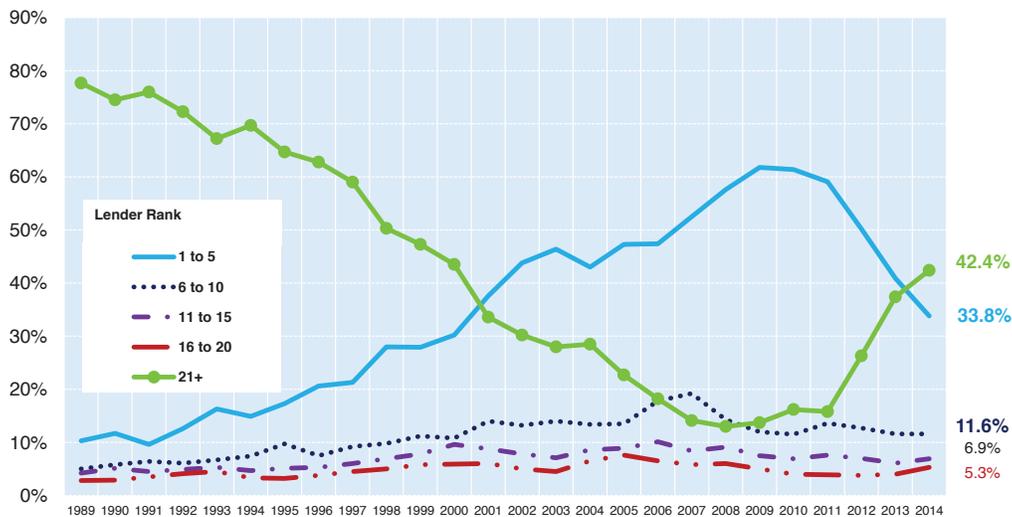
The GSE share of the mortgage market skyrocketed at the onset of the Great Recession, as many lenders simply stopped making non-GSE loans. Experts have been debating whether (and when) the share of non-GSE loans will return to pre-crisis levels. However, the debate has been about the return of non-conforming loans: jumbo loans or loans that do not meet the GSE’s requirements in other ways. The surprise in this data release is the reduction in the GSE share of loans that appear to be targeted for sale to the GSEs. This is a surprising development and may indicate the beginning of a fundamental shift in the structure of the mortgage market.

Despite the “extra” \$100 billion in originations in 2014, total origination volume in 2014 fell 30 percent compared to 2013. Volume in 2013 was boosted by substantial refinance activity in response to all-time low mortgage rates at the end of 2012 and in the first half of 2013.

**Lender concentration declined**

The recent trend of lender de-concentration in the mortgage industry continues. For example, in 2014 large lenders – those who originated at least \$10 billion – represented about 30 percent of all conventional originations versus 41 percent in 2013. Virtually all of the de-concentration has come from the very largest lenders. According to data from *Inside Mortgage Finance*, the top 5 originators accounted for about 34 percent of all originations in 2014, down from 62 percent in 2009. The gain in share has been spread across a broad range of smaller lenders; the share of originations from lenders ranked 21 or higher increased from about 14 percent in 2009 to over 42 percent in 2014 (*Exhibit 3*).

**Exhibit 3: Percent of total market originations by lender rank**



Source: *Inside Mortgage Finance*, Freddie Mac Office of the Chief Economist

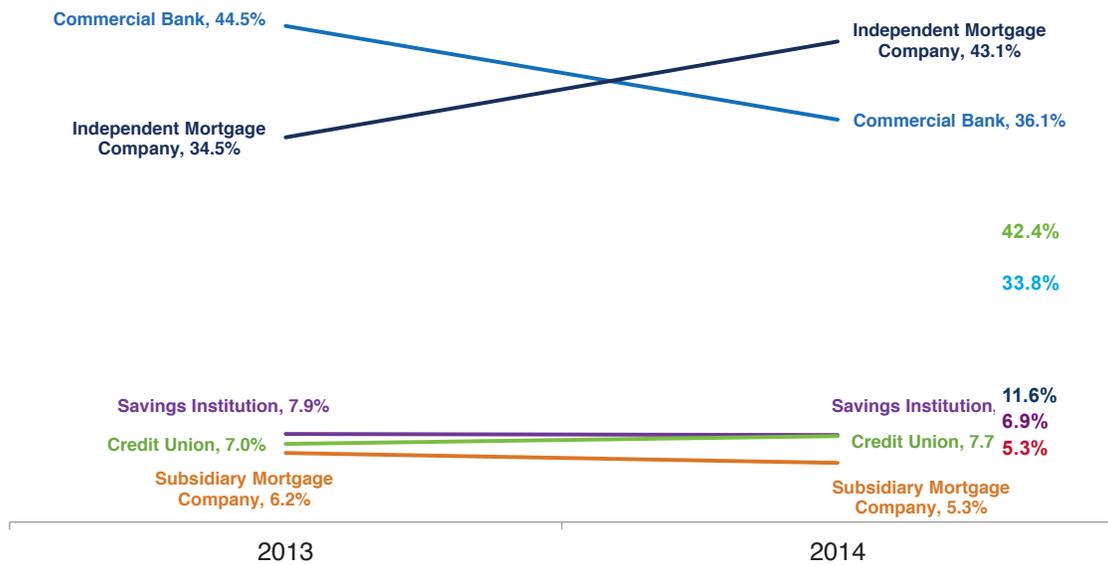
**Nonbank participation increased**

The market share of non-depository, independent mortgage companies increased sharply in 2014. With the collapse of the housing and secondary mortgage market during the Great Recession, many independent mortgage companies went out of business, especially those focused on subprime lending, and the market share of this group dropped sharply. Since then, the industry has more than recovered its former market share with independent mortgage companies accounting for about 47 percent of home-purchase loans and 42 percent of refinance loans in 2014 (*Exhibit 4*). These shares are higher than at any point in the past 20 years

Despite some reports attributing this rise to nonconventional lending and a willingness to originate riskier loans, the HMDA data indicate this rise has been broad-based across different types of loans and demographic groups. However, the increase in lending by independent mortgage companies has been concentrated in states in the West and Southwest, where they focus mostly on originating home purchase loans.

Nonbanks have less stable sources of financing and less financial oversight than banks. Some experts have expressed concern that these lenders are more likely to fail in an economic downturn and thus expose the GSEs and Ginnie Mae to losses.

**Exhibit 4: Rise of independent mortgage companies**



Source: FFIEC, HMDA

**Outlook for the mortgage market**

The retreat of large commercial banks from the mortgage market is striking. Several factors have contributed to this shift:

- Increased capital requirements for banks have made – and will continue to make – the mortgage business less profitable for large banks;
- The regulatory burden of banks has increased, further cutting into profitability. The creation of the CFPB has added another layer of regulation and increased banks’ concerns about liability for operational missteps;

- Bad memories of the 2013 representation and warranty settlements have made banks more cautious despite the significant steps by FHFA and the GSEs to provide lenders more certainty about rep & warrant exposure;
- Banks, like the GSEs, still have substantial legacy portfolios to resolve, and the high costs of servicing these troubled loans has led some banks to pull back from the mortgage market.

We expect the GSE share will continue to decrease over the next few years. Many lenders have signaled an increased willingness to hold loans in portfolio rather than sell them into the secondary market. The increasing market share of small banks and credit unions will support this trend. Historically, small banks and credit unions are more likely to hold conventional conforming loans in portfolio than large banks. We also expect jumbo loan originations to increase, boosted by solid house price appreciation, and the majority of these loans also are held in portfolio.

A development to watch is the recent emergence of so-called “marketplace lenders”, small Internet lenders. Some of these marketplace lenders were launched with crowdfunding and are just starting to attract traditional venture capital. This “social finance” sector may appeal to Millennials who have grown up entirely in a digital age. It is far too early to tell whether this development will blossom, but we will keep an eye on it.

## Forecast Update

### *Economy:*

Economic data so far suggests the U.S. economy has slowed in the third quarter of the year; therefore we lowered our third quarter real GDP growth forecast to 1.4 percent (annualized rate). This brings the annual GDP growth forecast for 2015 to 2.2 percent. Our 2016 GDP forecast was unchanged from September at 2.5 percent.

We lowered our interest rates projections for the last quarter of 2015 by 0.2 percentage points to 2.2 percent for the 10-year constant maturity Treasury (CMT) and 4.0 percent for the 30-year fixed-rate mortgage (FRM). Our 2016 forecast for 10-year CMT is 2.5 percent, down from 2.9 percent in our September Outlook. Our 2016 projection for the 30-year mortgage rate is 4.3 percent, down from 4.8 percent last month. We revised down our short-term interest rate forecast as well. The 1-year CMT for 2015 and 2016 is 0.3 percent and 0.7 percent respectively, down from 0.4 percent and 1.4 percent in our September forecast.

### *Housing:*

Our forecasts for home sales and housing starts in October remain unchanged from September. Based on further analysis of the HMDA 2014 data and other recent market data, we revised our refinance share forecast. The refinance share of originations dollar volume is 47 percent and 39 percent for 2015 and 2016 respectively, changed from 48 percent and 30 percent in our September forecast. We revised our house price appreciation forecast for 2016 to 4.3 percent, up from 3.9 percent in last month’s forecast. In Closing: Student housing

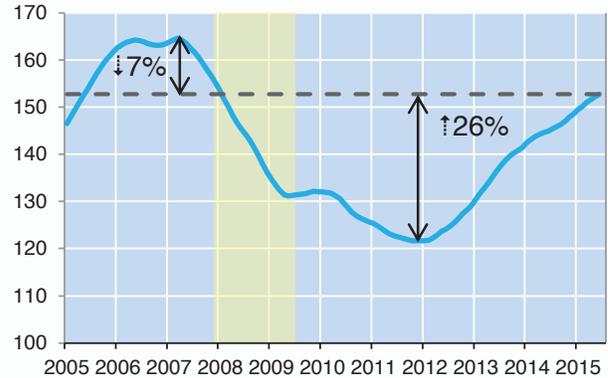
In last month’s Insight & Outlook, we analyzed whether the burden of student debt has limited home ownership among Millennials. As we noted, some of the growth in student debt can be traced to the cost of student housing. For example, the admissions department of the University of California at Berkeley estimated the cost of living in a campus residence hall at almost a thousand dollars more than cost of tuition and over 40 percent of the total cost of attending Berkeley.

# Housing Snapshot: A selection of key indicators

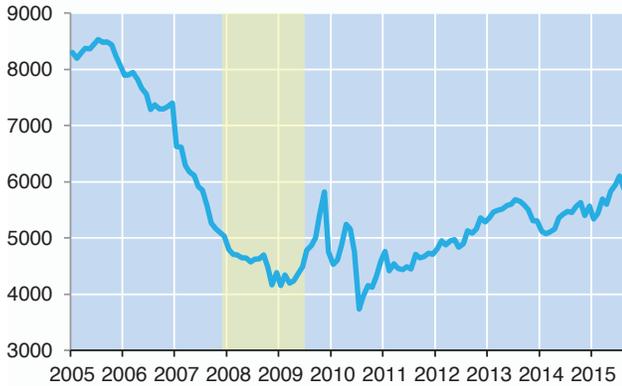
**30-yr Fixed Mrtg Rate (%)**



**Freddie Mac House Price Index**



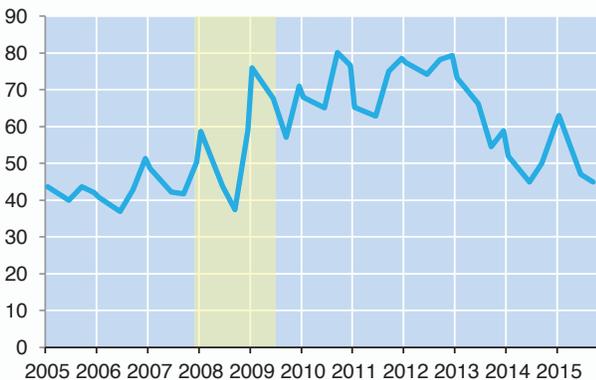
**Total Home Sales (Ths., SAAR)**



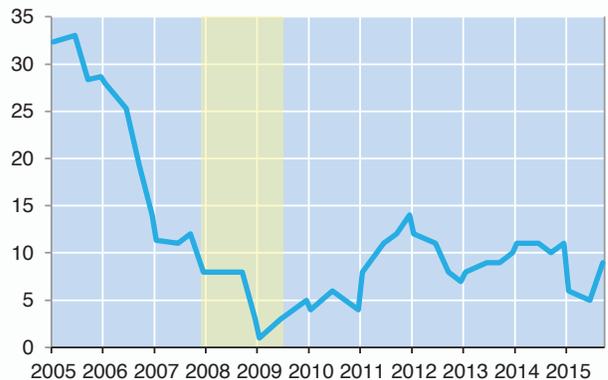
**SF Mortgage Originations (\$ Bil.)**



**Refinance Share (% of UPB)**



**ARM Share (% of Loans)**



**Homes for sale (Ths., NSA)**



**Homes for rent (Ths., NSA)**



**Housing Starts (Ths., SAAR)**



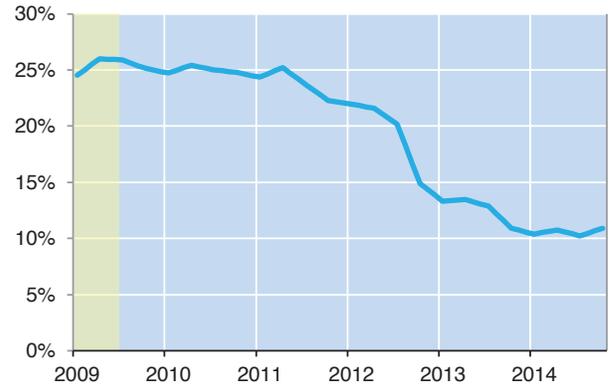
**Rent of Primary Residence (YoY%)**



**Total Homeownership Rate (%)**



**Negative Equity Share**



## In Closing: Student housing

In last month's Insight & Outlook, we analyzed whether the burden of student debt has limited home ownership among Millennials. As we noted, some of the growth in student debt can be traced to the cost of student housing. For example, the admissions department of the University of California at Berkeley estimated the cost of living in a campus residence hall at almost a thousand dollars more than cost of tuition and over 40 percent of the [total cost of attending Berkeley](#).

Most people are aware of Freddie Mac's support for affordable workforce rental housing. However many are unaware that Freddie Mac also provides financing for student housing through its multifamily division. So far in 2015, Freddie Mac has funded over \$1.5 billion in loans for student housing providing over 30,000 units at colleges and universities across the country.

Student housing has unique features that set it apart from the more-familiar workforce multifamily housing, features that pose challenges to investors in and managers of student housing.

### How is multifamily different from single family?

Single-family borrowers typically are individuals who intend to live in the home. The balance of a single-family loan sold to Freddie Mac is capped by law at \$417,000<sup>4</sup>. In underwriting a single-family loan, the two most important risk factors are the borrower's credit score and the loan-to-value (LTV) ratio—in other words, the size of the borrower's down payment relative to the value of the home.

The multifamily sector of the housing market operates differently than the single family sector. While a multifamily property is a home for the renters, it is an income-producing asset for the property owner. Because of their size and cost, many multifamily properties are owned and operated by large companies rather than by individuals<sup>5</sup>. Multifamily loan balances often are in the tens of millions of dollars. LTV is a critical risk factor in multifamily lending, just as in single family lending. However, the role of the credit score is replaced by the debt coverage ratio (DCR), the ratio of the net operating income of the property to the mortgage payments<sup>6,7</sup>.

### How is student housing different from other multifamily properties?

Student housing is defined as either a rental property where some of the units are leased to college students or a property that is built specially for students. Student housing has several features that distinguish it from workforce rental housing.

Student housing properties generally offer two types of lease: by-the-unit and by-the-bed. By-the-bed leasing has been increasing recently, however the majority of student housing properties offer by-the-unit leasing terms. When student units are offered by-the-bed, the student renter typically does not know in advance the other by-the-bed renters in the unit.

- 4 The limit is updated every year by FHFA. In high-cost areas, the limit goes up to \$625,500 for 1-unit properties. For details see <http://www.fhfa.gov/DataTools/Downloads/Pages/Conforming-Loan-Limits.aspx>.
- 5 Small balance loans (SBLs) account for approximately 30 percent of the multifamily sector. Freddie Mac defines this sector as less-than-30 unit properties with loan balances from \$1 million to \$5 million. Many small balance loan borrowers are individuals rather than firms. Freddie Mac's multifamily division has an SBL team that provides funding for this sector.
- 6 If the borrowing firm has a credit rating, that may be taken into account. Alternatively, some measure of the capital strength of the borrower may be used. For small balance loans with an individual borrower, the borrower's credit score may be considered.
- 7 Resolution of delinquent or non-performing loans is handled differently as well. The sheer volume of single-family borrowers dictates only limited customization can be applied in loan modifications, foreclosure alternative programs, and foreclosure processes. There are far fewer multifamily borrowers, and many of these borrowers have multiple properties and capital reserves. As a result, negotiated settlements are the norm in the multifamily sector.

Workforce multifamily housing offers by-the-unit leases. Renters seeking by-the-bed accommodations can rent a unit then find roommates. In effect, the lease holder sublets the additional beds in the unit rather than the property manager.

Student housing properties turn over in waves, once-a-year prior to the start of school and sometimes between semesters. There may be as little as a week between the mass exodus of one set of renters and the arrival of the new wave of renters. Only limited cleaning and repairs may be feasible in that time frame. The time to attract and sign up new renters in advance of the term typically is compressed as well. And if a unit is not rented (or a potential renter drops out at the last minute), the unit is likely to remain vacant through the entire school term.

Vacancies in workforce multifamily properties occur at random times determined by the life situation of the individual renters. Property managers have time to repair any damage in the property before renting it to someone else. If vacancy rates become elevated or the lengths of vacancies grow longer than expected, owners can fine-tune their ability to attract new renters by lowering rates, offering temporary promotions (e.g., two months free rent), or upgrading facilities.

Student housing properties have lower expense ratios than conventional buildings. Some might expect students to cause more damage to the property than the average renter. However, two factors tip the balance in favor of student housing. First, student housing operators generally charge higher rent than conventional apartments, particularly for rent-by-bed units. Some portion of the higher rent reflects higher expected operating costs for student housing. Second, student renters often have co-signers, usually the parents, thus student housing property managers have a better chance of recovering repair expenses compared to managers of conventional apartments.

Student housing revenues are countercyclical<sup>8</sup>. Students do not quit school during economic downturns, a time when renters in conventional properties lose jobs and income. In fact, college applications and attendance increase in a recession – when jobs are scarce, additional investment in education is an effective use of time. This countercyclical feature makes student housing properties attractive to investors as a natural hedge.

Finally, the role of the college or university as a stable magnet for tenants distinguishes student housing from workforce rental properties. Many students have few alternatives to student housing. If they do not have a car, students must find housing either on or near campus or with access to public transportation. Furthermore, in some rural college communities, there may be very little other rental housing. And projections of growing enrollments guarantee steady demand for student housing. Adequate quality student housing is a concern for many students (and their parents). Property owners offering sought-after amenities – high-speed Internet, study spaces, common spaces, fitness rooms, and social programs – sometimes can form alliances with schools who want to leverage quality housing as a competitive advantage to recruit students.

Student housing investment also faces some challenges compared to conventional multifamily properties. Student housing requires special operating expertise, not only because of the hard-to-manage turnover waves, but also because many of the renters are living on their own for the first time. As a result, student housing tends to be valued lower than workforce rental housing<sup>9</sup>.

Student housing performance has higher volatility, especially in revenue growth. On average, the volatility of rental growth for student housing is one percent higher than for conventional multifamily properties. Student housing usually faces a single demand source, so its revenue growth is highly sensitive to the enrollment growth at the nearby university. Conventional multifamily properties have many more sources of tenants.

<sup>8</sup> The student housing sector reported positive revenue growth, relatively low vacancy rates, and sharply declining expenses during the recession year 2009.

<sup>9</sup> Multifamily values are stated as capitalization ratios (cap ratios), that is, as the ratios of net operating incomes to the property values. For a given level of operating income, a higher cap ratio is equivalent to a lower property value. Equivalently, a higher cap ratio implies that investors require a higher risk premium to purchase that property. Student housing tends to have a higher cap ratio than conventional multifamily housing.

The favorable performance of student housing during the Great Recession combined with strong projected growth in college attendance has attracted developers and investors to this sector. Nonetheless, there is some risk of new construction outpacing demand. In addition, newer properties with up-to-date amenities may put pressure on nearby-but-aging student housing.

While concerns about potential oversupply are legitimate, the growth in projected demand is very strong. [Undergraduate enrollment](#) was 12.0 million in 1990, 17.5 million in 2013, and is expected to reach 19.6 million by 2024 . And the American Community Survey estimates 2.6 million people lived in student housing in 2014, an increase of 15 percent from 2007. If the projections for enrollment growth are accurate, the next decade should see continued robust demand for student housing.

### **Freddie Mac's role in providing student housing**

Freddie Mac provides support to student housing and Multifamily through its K-Deal transactions that pool multifamily loans – including those on student housing properties – into structured securities. Multifamily K Certificates are regularly-issued, structured pass-through securities backed by recently-originated multifamily mortgage loans. K-Deals feature a range of investor options with stable cash flows and a structured credit enhancement. K-Deals include guaranteed senior and interest only classes. The related underlying private label trust includes unguaranteed mezzanine, subordinate and interest only bonds. Freddie Mac works diligently to manage the terms and credit quality of the underlying loans and the composition of the securities.

By combining multiple properties in each bond, K-Deal structures allow investors to diversify risk. This benefit increases investor demand and increases liquidity, ultimately providing cheaper financing for multifamily properties and helping to reduce rental costs. Due to the unique characteristics of student housing properties, student housing properties would likely face higher financing costs without access to K-Deals. By providing financing to the student housing sector, Freddie Mac makes housing more affordable for students.

Sean Beckett, Chief Economist  
Leonard Kiefer, Deputy Chief Economist  
Penka Trentcheva, Statistician  
Travell Williams, Statistician  
Matthew Reyes, Financial Analyst

[www.freddiemac.com/news/finance](http://www.freddiemac.com/news/finance)      [chief\\_economist@freddiemac.com](mailto:chief_economist@freddiemac.com)

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## October 2015 Economic and Housing Market Outlook

Macroeconomy	2015				2016				Annual Totals	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2015	2016
	Real GDP (%)	0.6	3.9	1.4	2.7	2.5	2.5	2.5	2.5	2.2
Consumer Prices (%) a.	-3.1	3.0	1.6	1.3	2.4	2.3	2.1	2.1	0.7	2.2
Unemployment Rate (%) b.	5.6	5.4	5.2	5.1	5.1	5.1	5.0	5.0	5.3	5.1
30-Year Fixed Mtg. Rate (%) b.	3.7	3.8	4.0	4.0	4.0	4.2	4.4	4.6	3.9	4.3
5/1 Hybrid Treas. Indexed ARM Rate (%) b.	2.9	2.9	2.9	2.9	2.9	3.4	3.7	4.0	2.9	3.5
1-Year Treas. Indexed ARM Rate (%) b.	2.4	2.5	2.6	2.6	2.6	2.6	2.7	2.8	2.5	2.7
10-Year Const. Mat. Treas. Rate (%) b.	2.0	2.2	2.2	2.2	2.2	2.4	2.5	2.8	2.2	2.5
1-Year Const. Mat. Treas. Rate (%) b.	0.2	0.3	0.3	0.3	0.3	0.6	0.9	1.1	0.3	0.7

Housing & Mortgage Markets	2015				2016				Annual Totals	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2015	2016
	Housing Starts c.	0.98	1.16	1.20	1.25	1.30	1.35	1.45	1.50	1.15
Total Home Sales d.	5.49	5.80	5.85	5.80	5.85	5.95	5.95	6.10	5.74	5.96
FMHPI House Price Appreciation (%) e.	1.6	1.2	0.9	1.1	1.1	1.1	1.1	0.9	4.9	4.3
S&P/Case-Shiller® Home Price Index (%) f.	1.1	0.2	1.0	1.0	1.0	1.0	0.9	0.9	3.3	3.9
1-4 Family Mortgage Originations g.										
Conventional	\$290	\$379	\$320	\$240	\$224	\$340	\$336	\$220	\$1,229	\$1,120
FHA & VA	\$80	\$81	\$80	\$60	\$56	\$85	\$84	\$55	\$301	\$280
Total	\$370	\$460	\$400	\$300	\$280	\$425	\$420	\$275	\$1,530	\$1,400
ARM Share (%) h.	6	5	9	9	13	14	15	16	7	15
Refinancing Share - Applications (%) i.	63	47	50	45	45	40	39	38	51	40
Refinancing Share - Originations (%) j.	52	45	45	45	45	40	40	30	47	39
Residential Mortgage Debt (%) k.	-0.3	2.5	2.0	2.5	2.5	3.0	3.0	3.5	1.7	3.0

Note: Quarterly and annual forecasts are shown in shaded areas; totals may not add due to rounding; quarterly data expressed as annual rates. Annual forecast data are averages of quarterly values; annual historical data are reported as Q4 over Q4.

a. Calculations based on quarterly average of monthly index levels; index levels based on the seasonally-adjusted, all-urban consumer price index.

b. Quarterly average of monthly unemployment rates (seasonally-adjusted); Quarterly average of monthly interest rates. (not seasonally-adjusted).

c. Millions of housing units; quarterly averages of monthly, seasonally-adjusted levels (reported at an annual rate).

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e. Quarterly growth rate of Freddie Mac's House Price Index; seasonally-adjusted; annual rates for yearly data.

f. National composite index (quarterly growth rate), seasonally-adjusted; annual rates for yearly data.

g. Billions of dollars (not seasonally-adjusted); conventional for 2015 are Freddie Mac estimates.

h. Federal Housing Finance Agency (FHFA); quarterly averages of monthly shares of number of loans of conventional, home-purchase mortgage

i. MBA Applications Survey: activity by dollars, total market refi share percent for United States (not seasonally-adjusted).

j. Home Mortgage Disclosure Act for all single-family mortgages (not seasonally-adjusted); annual share is dollar-weighted average of quarterly shares.

k. Federal Reserve Board; growth rate of residential mortgage debt, the sum of single-family and multifamily mortgages (not seasonally-adjusted, annual rate).

Prepared by Office of the Chief Economist and reflects views as of 10/19/2015 (MJR); Send comments and questions to [chief\\_economist@freddiemac.com](mailto:chief_economist@freddiemac.com).

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