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2018 Mortgage Market Outlook: Executive Report

November 2017

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Turbulent Times

The world is often a tumultuous place, but 2017 seemed to reach a whole new level. Four major hurricanes battered the U.S. and its territories so far this year, and firestorms in northern California have delivered comparable destruction. Domestic political polarization is almost as extreme as it was in the 1960s. A crazed lone gunman in Las Vegas recently set a new record for number of victims in a single-assailant terrorist act. And our president wages an escalating war of words with an unstable North Korean despot who might be capable of firing nuclear weapons at our country.

Despite the turmoil, the U.S. economy chugs along doggedly. Labor markets are the most robust they have been in a decade. Inflation is tame. Interest rates are still relatively low. Corporate profits are near all-time highs. The stock market keeps setting new records. Housing is still more affordable now than it has been for most of the last three decades. It's just that inventory constraints make buying a house tough now. Moreover, the Millennial generation is finally starting to emerge in home buying.

iEMERGENT	2017-2018 Total U.S. Mortgage Finance Forecast					
	2017		2018		2017-2018 △	
	Loans (M)	Dollars ($B)	Loans (M)	Dollars ($B)	% Loans	% Dollars
Purchase Volume	4.2	$1,076	4.4	$1,182	6.3%	9.9%
Refinance Volume Range						
Low	2.4	$630	2.0	$530	-11.6%	-13.7%
High	2.8	$735	2.5	$648		
Total Mortgage Origination Volume						
Low	6.6	$1,706	6.5	$1,712	-0.5%	0.7%
High	6.9	$1,811	6.9	$1,830		

Expectations for 2018

Congress is currently in the throes of a tax reform battle that is beginning to feel oddly reminiscent of the healthcare reform fight. Multiple versions of a tax reform bill are in play, and there is significant political opposition to several facets of the current proposals. Like healthcare a few months ago, this reform effort also threatens to become mired in stalemate.

For the economy, that might be a good thing. The fiscal stimulus that a significant tax break would deliver is really not needed at this point in the business cycle and could likely increase Treasury borrowing requirements, and thus, bond and mortgage interest rates. Any boost given to GDP could also raise inflationary pressure since we are at a "full employment" unemployment rate.

For the 2018 housing market, the outlook continues to be positive. Delinquency and foreclosure rates continue to inch back to normal levels, and home values nationally have now surpassed their Housing Boom peak. However, housing inventory shortages continue to be a concern and have started to drag on home sales levels.

For the 2018 mortgage industry, we expect similar dynamics to 2017: namely, growth in purchase volume and further decline in refinance volume. However, in 2018, we believe the refi decline will be less than experienced in 2017, so that overall mortgage volume will be little changed from this year.

2017 Forecast Overview

Source	2017 Estimate			2018 Forecast			2018
	Purchase ($ B)	Refi ($ B)	Total ($ B)	Purchase ($ B)	Refi ($ B)	Total ($ B)	Purch / Refi Ratio
iEmergent	$1,076	$683	$1,758	$1,182	$589	$1,771	67% / 33%
Fannie	$1,126	$662	$1,788	$1,182	$536	$1,718	69% / 31%
Freddie	$1,206	$594	$1,800	$1,271	$424	$1,695	75% / 25%
MBA	$1,088	$600	$1,688	$1,167	$430	$1,597	73% / 27%

Note: All Forecasts are as of October 2017. iEmergent refi forecast is the average of our low & high forecasts.

Forecasters from Fannie Mae, Freddie Mac, and the MBA anticipate that the total mortgage opportunity in 2018 will decrease from 2017 because of a drop in refinance activity, but that the purchase market will again see healthy growth.

The main difference between our forecast and theirs is a matter of degree. We, too, expect another good purchase market year. However, we don't expect the refi decline will be as steep as they estimate, so our total mortgage origination estimate is a bit higher than theirs.

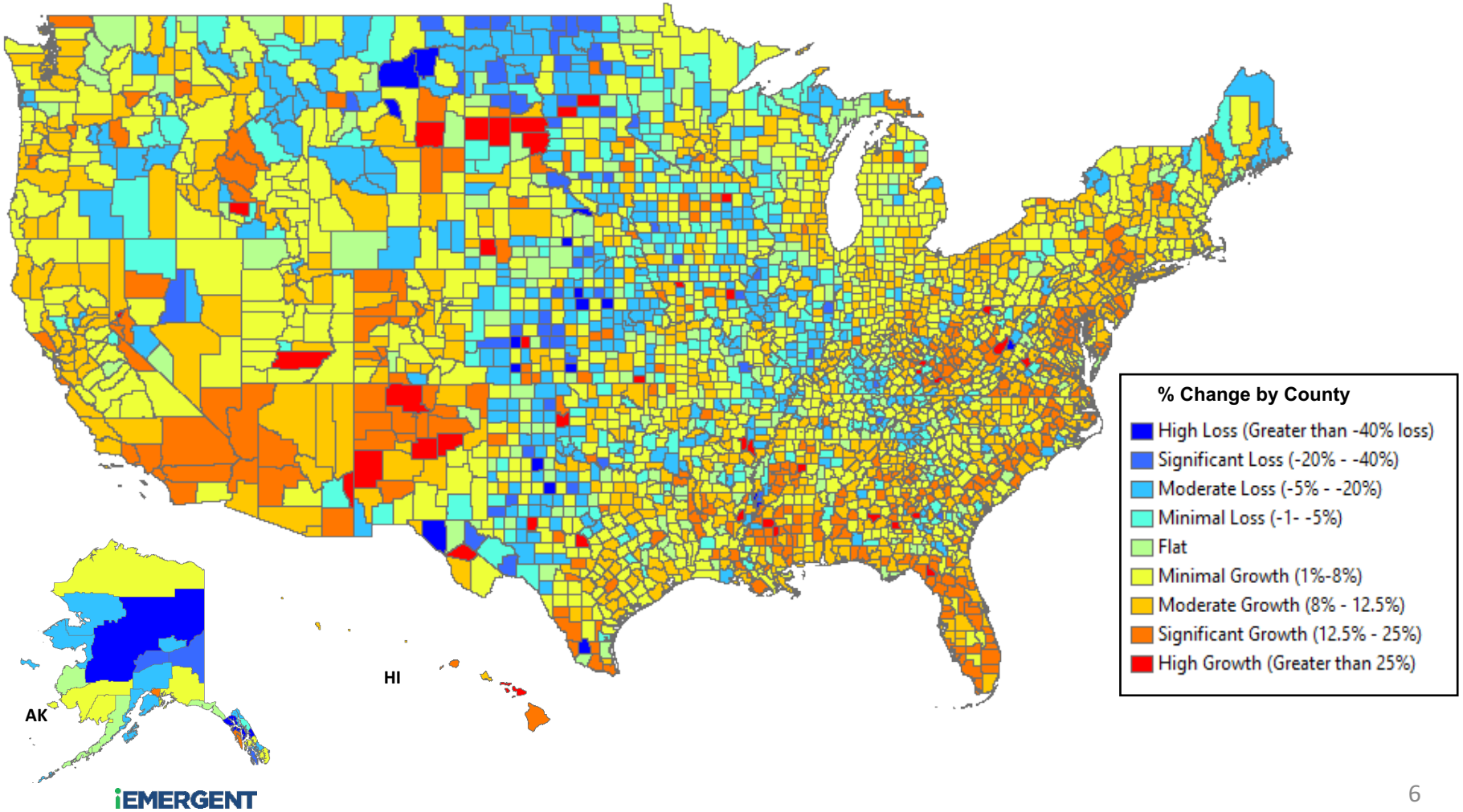
But there are fundamental differences in forecast methodology here. Most mortgage forecasts are generated at the national level. At iEmergent, we work from the bottom up. Our methodology for forecasting purchase opportunity begins at the census tract level by quantifying the homebuyer pool – or *the number of households that are ready, willing and able to buy a home*. The size of that pool is determined by demographic shifts (i.e., household growth) and by the relationship between the financial health of US households (demand) and housing-market issues (supply).

In addition, driving both the demand and supply-sides of the equation are macroeconomic trends, regulatory and legislative actions in lending, and – as always – the individual behaviors of households across the nation.

This market-based approach gives our clients the critical information necessary to make successful tactical and strategic decisions to manage their businesses.

Below the surface of the national mortgage market are 3,142 counties whose behavior is unique – even between counties who are similar in household counts, and mortgage opportunity. Each of the 100 largest counties show upward growth in purchase volume from 2017-2018, with 64 of those counties growing by 10% or more.

2017-2018 Change in Purchase Mortgage Originations ($) by County



Economic Conditions Overview

- Current economic outlook continues to be very positive:
  - GDP – Long, slow expansion expected to continue through 2018.
  - Employment – Continued good reports – "full employment" is here.
  - Corporate profits & stock market – Booming!
  - Consumer Income – Wage gains slowly starting to appear, but with increasing wealth gap.
  - Inflation – Very stable.
  - Interest rates – Bond rates still very low, but short-term rates on the rise.
  - Consumer net worth – Healthiest in a decade.

- 2017 hurricane and fire disasters expected to bring short-term dips to regional economic activity, but recovery & rebuilding efforts will be stimulative.

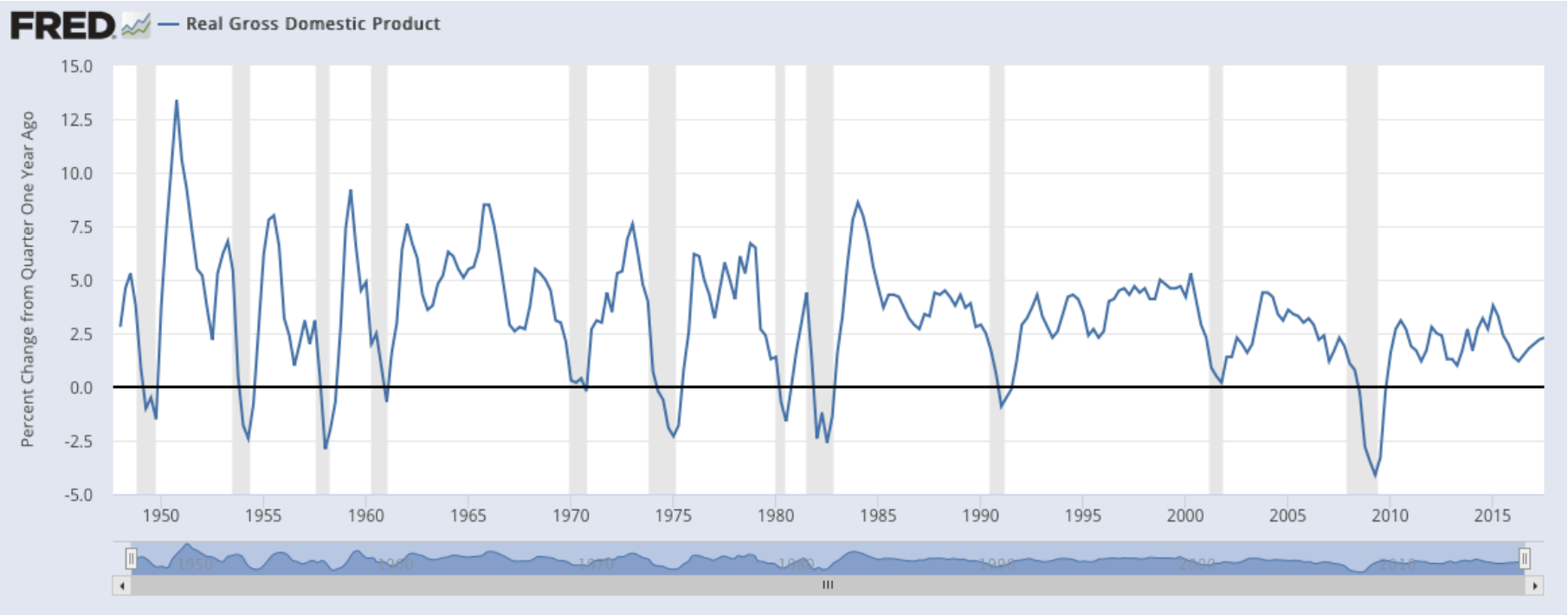
- 2018 areas of concern:
  - Signs that the expansion is approaching its peak are beginning to emerge: stock market P/E is very high and yield curve is flattening.

Economic Conditions - GDP

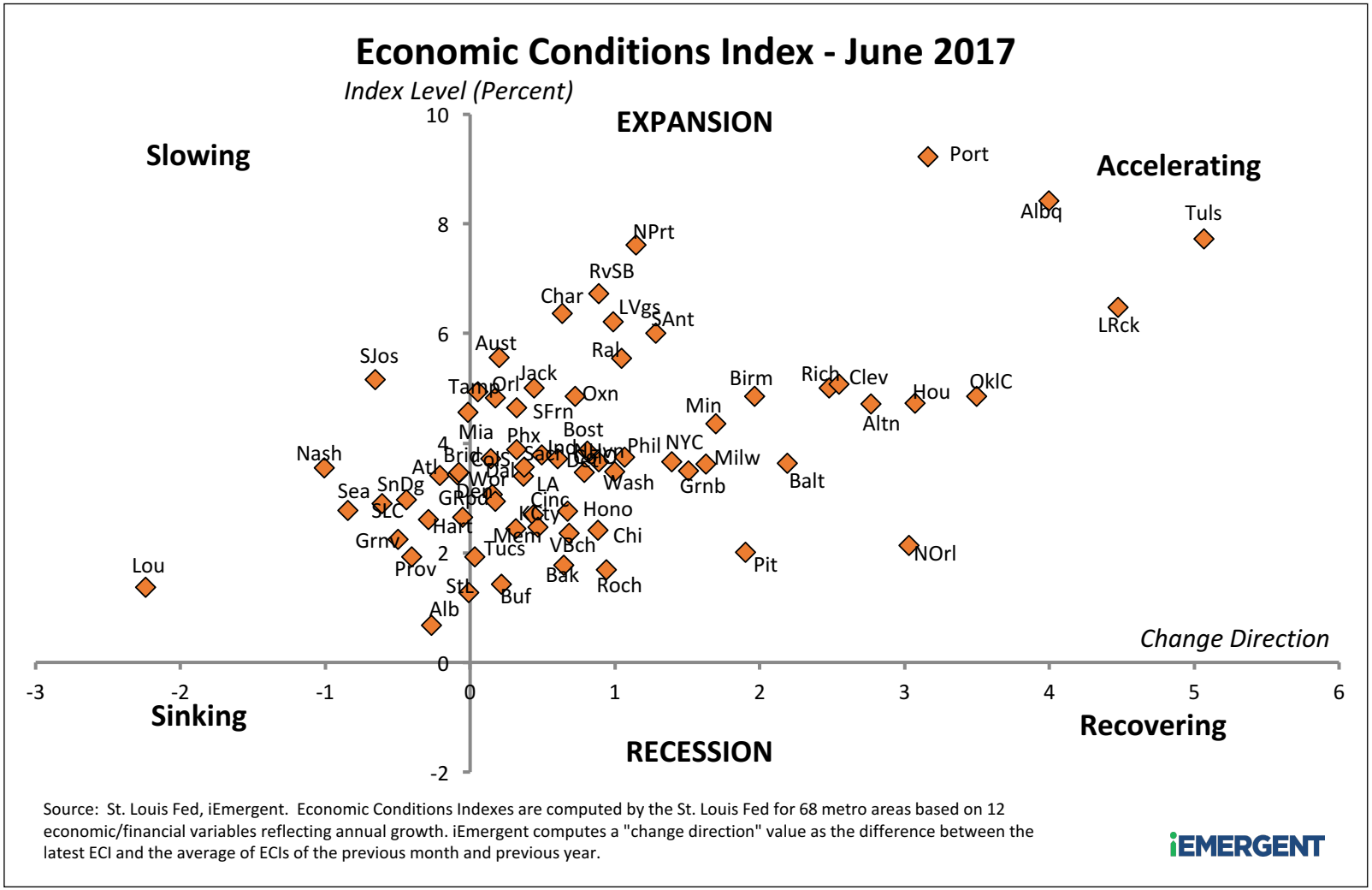
Our current economic expansion has been long, but it has also been slow. At 33 quarters (8+ years), it is now the third *longest* expansion (of 12) since WWII. However, in terms of average year-over-year real GDP growth, it has actually been the *slowest* expansion in modern times, with only 1.90% annualized growth per quarter.

Barring a significant shock, this expansion is unlikely to end in 2018 but is also unlikely to accelerate very much. It'll continue to be a tortoise, not a hare.

Expansion	Duration (quarters)	Average Y/Y GDP Growth
Q4/1945 - Q4/1948	12	4.15%
Q4/1949 - Q2/1953	14	6.90%
Q2/1954 - Q3/1957	13	3.63%
Q2/1958 - Q2/1960	8	4.94%
Q1/1961 - Q4/1969	35	4.90%
Q4/1970 - Q4/1973	12	4.74%
Q1/1975 - Q1/1980	19	4.03%
Q2/1980 - Q2/1981	4	2.27%
Q4/1982 - Q3/1990	31	4.31%
Q1/1991 - Q1/2001	40	3.53%
Q4/2001 - Q4/2007	24	2.70%
Q2/2009 -	33+	1.90%



Around the country, all major metro areas were experiencing positive economic conditions through midyear, although some metros were showing declines from recent peak levels.



Source: St. Louis Fed, iEmergent. Economic Conditions Indexes are computed by the St. Louis Fed for 68 metro areas based on 12 economic/financial variables reflecting annual growth. iEmergent computes a "change direction" value as the difference between the latest ECI and the average of ECIs of the previous month and previous year.

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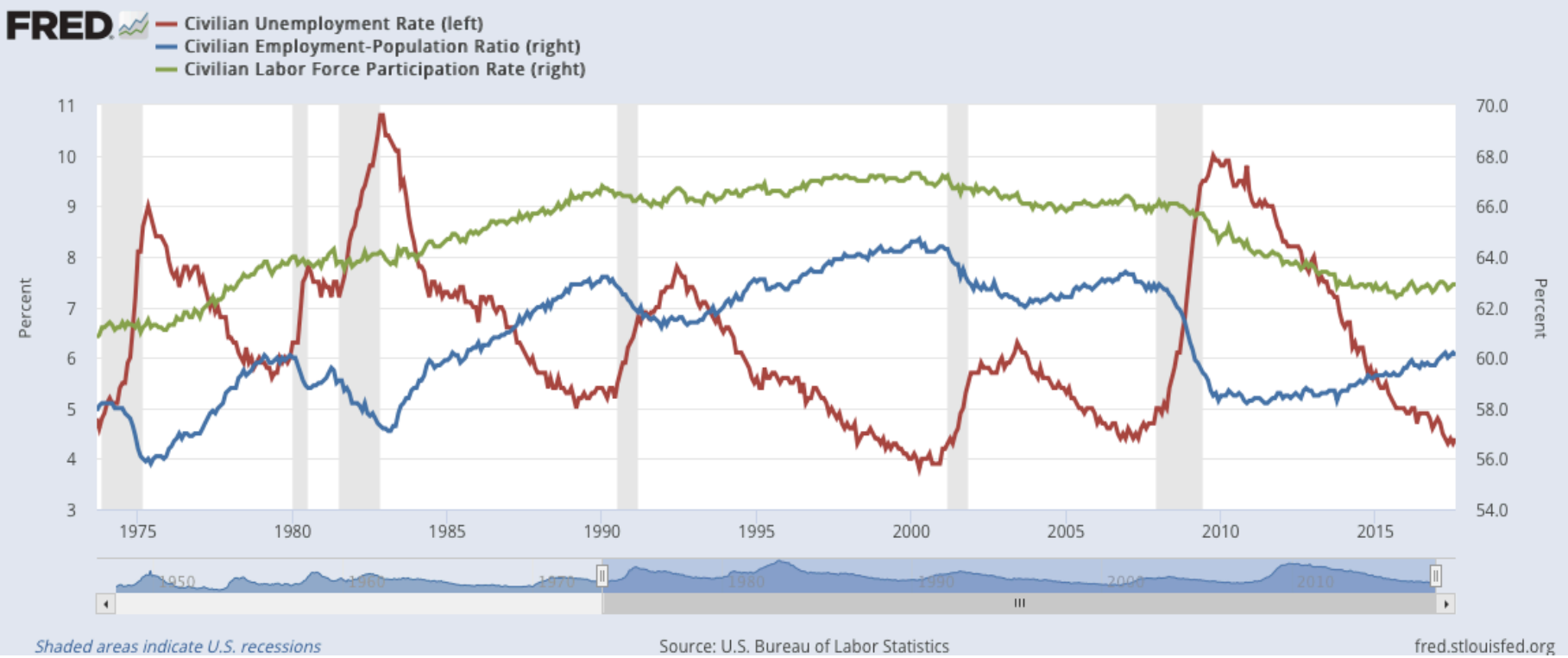
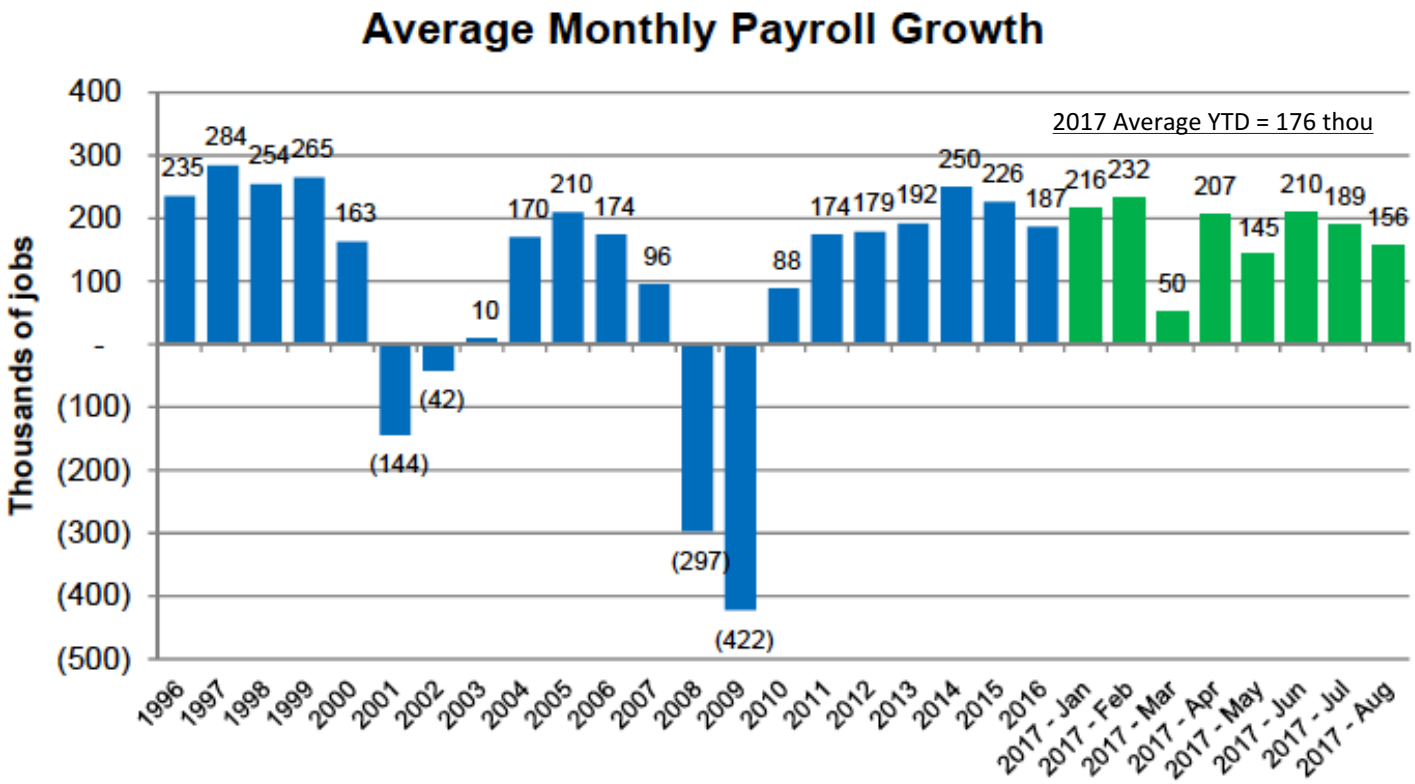
Note: See https://research.stlouisfed.org/wp/more/2014-046/ for more information about Economic Conditions Indexes.

For the first few years of this expansion, many referred to it as a "job-less" recovery. Unemployment stayed stubbornly high and extended periods of unemployment were common. The employment-to-population ratio and the labor force participation rate lagged far behind levels of the last two expansions. However, they were above the levels experienced during the 1970s and 1980s.

Beginning in 2014, the employment-to-population ratio finally started trending upward. The unemployment rate continued to decline steadily (4.1% in October) and has now reached very healthy levels – toward what many economists would say is the "full-employment" unemployment rate. However, the labor force participation rate has barely budged for the last three years.



In terms of job creation, 2017 has slipped a bit as the expansion has matured, but we are still at robust levels. Although conditions could always be better, from most perspectives, the employment situation is fairly good.

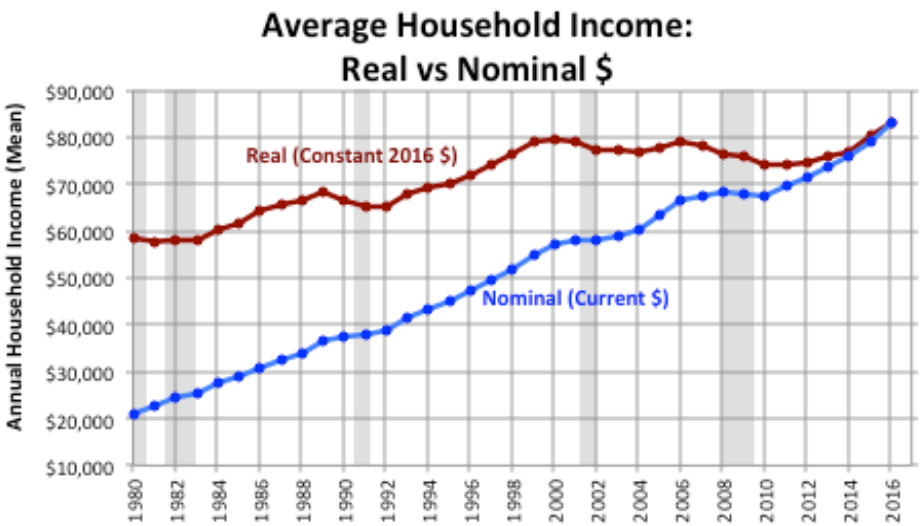


Source: BLS, chart from MBA Forecast Commentary.

Income gains have been less positive than job gains in the current expansion, and, for that matter, since the turn of the century.

The top chart shows that nominal household income has increased nicely since 2010. But in real terms, household income has only surpassed its 2000 peak in the last two years. Thus, for most of this century, real household income has stagnated.

Moreover, the stagnation has varied across the income spectrum. Quintile analysis confirms a growing income gap between the rich and poor. While income gains in the last few years have been experienced by all income quintiles, the poorer 40% of households are still worse off than they were in 2000 – a challenge for growing homeownership.



Source: Census Bureau

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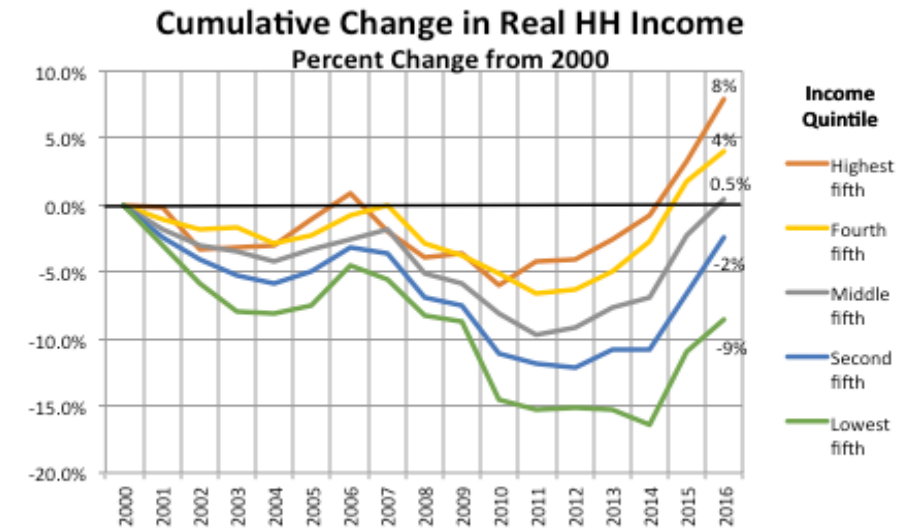

Source: Census Bureau

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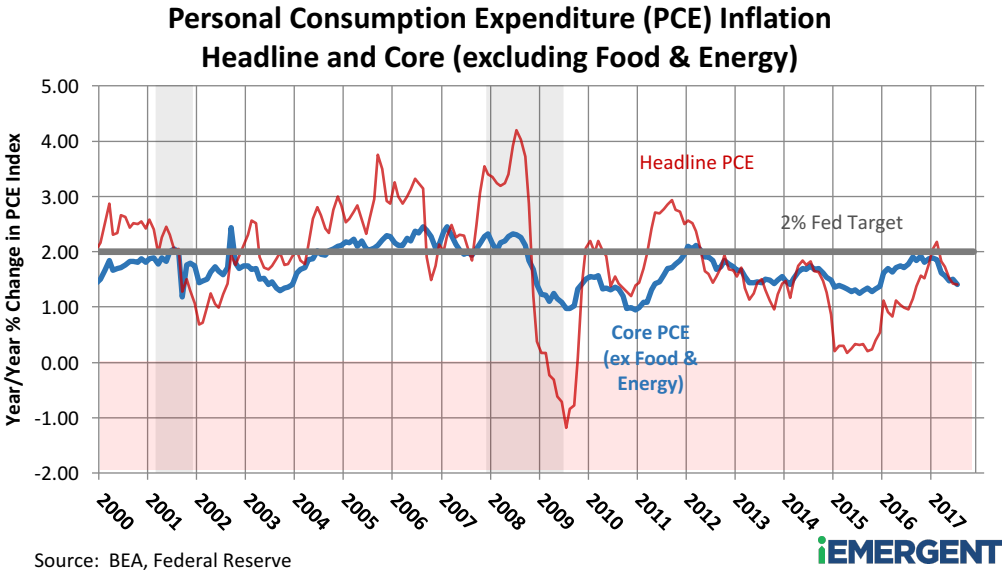
Inflation has been well under control since the late 1990s. The Federal Reserve monitors the Personal Consumption Expenditure (PCE) price index, and more particularly, the Core PCE index which excludes food and energy.

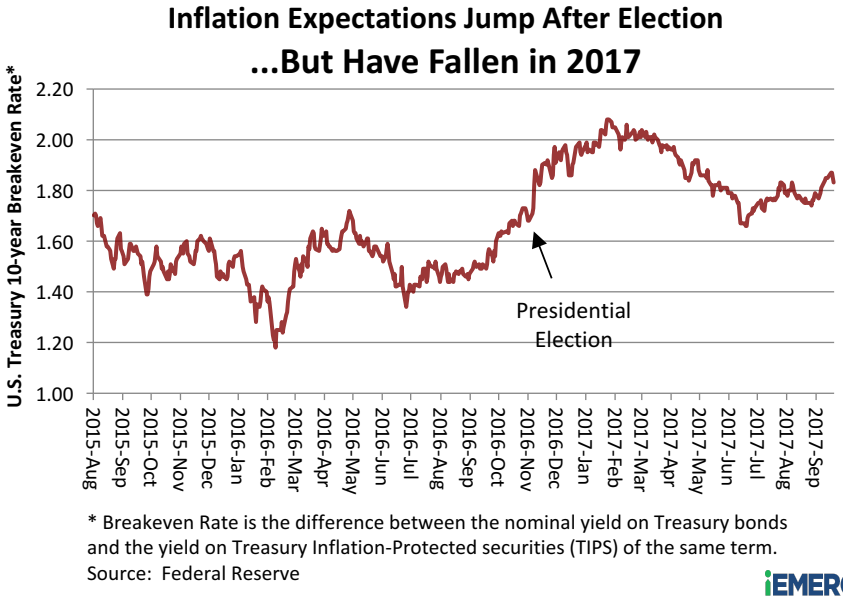
Core PCE inflation has been under the Fed's 2% target for the duration of the expansion, and total PCE inflation was even lower in 2015-16, because of depressed energy and food prices.

However, following the election, the breakeven rate on 10-year Treasury bonds rose sharply. The breakeven rate is the difference between the nominal Treasury bond yield and the yield on Treasury Inflation-Protected securities (TIPs), and thus, an indicator of inflation expectations.

The tax breaks and the infrastructure and defense spending increases suggested by President Trump represent expansionary fiscal policy stimuli. But with the economy operating at close to full employment, such policies would lead to higher inflation, hence the jump in inflation expectations.

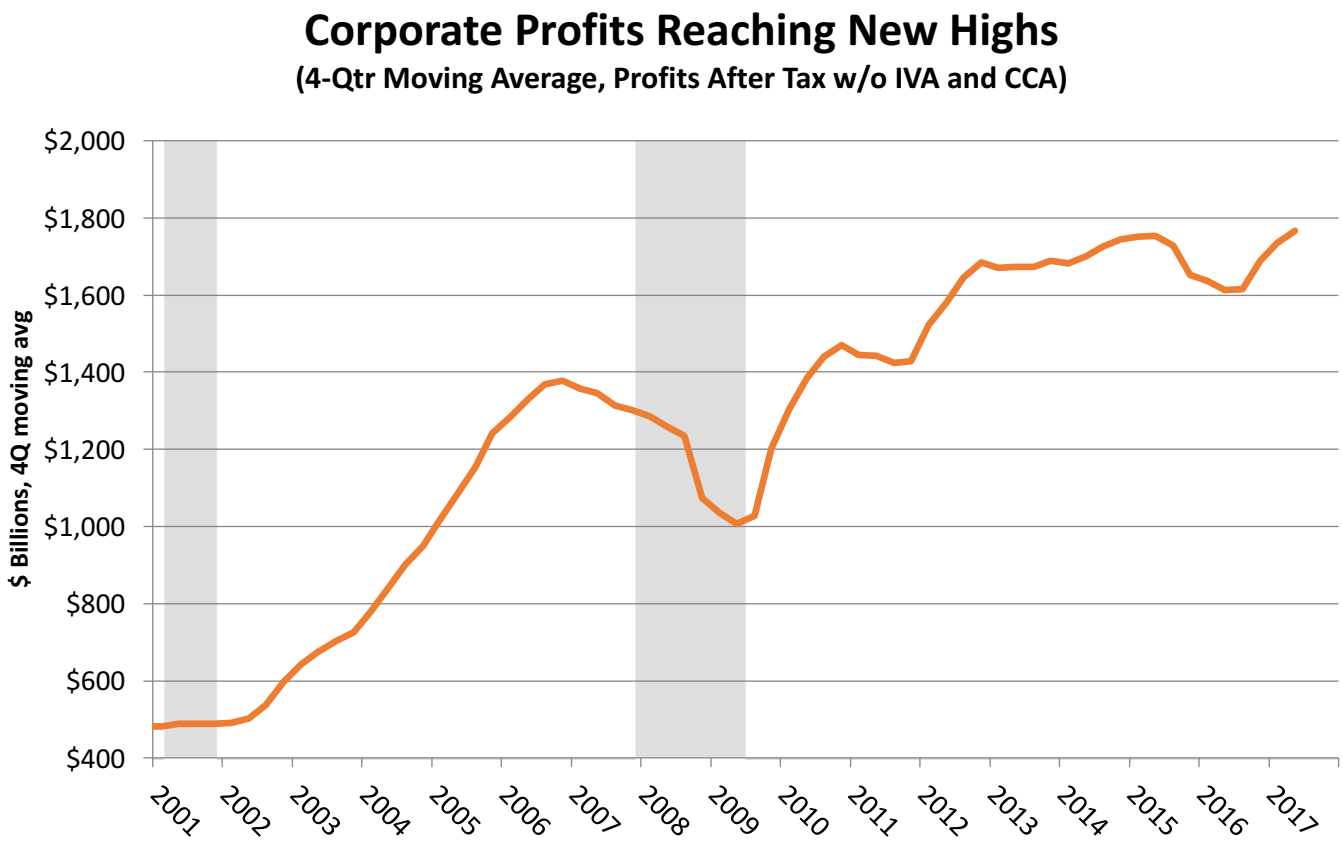
As things have evolved so far in 2017, the likelihood that Congress will align enough to pass major stimulus packages seems more remote. Both inflation and inflation expectations have trended down accordingly.





* Breakeven Rate is the difference between the nominal yield on Treasury bonds and the yield on Treasury Inflation-Protected securities (TIPS) of the same term.
Source: Federal Reserve

Corporate profits are hitting new highs. An August article in Bloomberg trumpeted, "Corporate America is Having Its Best Earnings Season in 13 Years," with nearly 80% of S&P 500 firms topping earnings expectations. Multinational firms are a major driver in surging profitability, due to improving economies in both the Euro-zone and emerging markets countries.



Source: BEA

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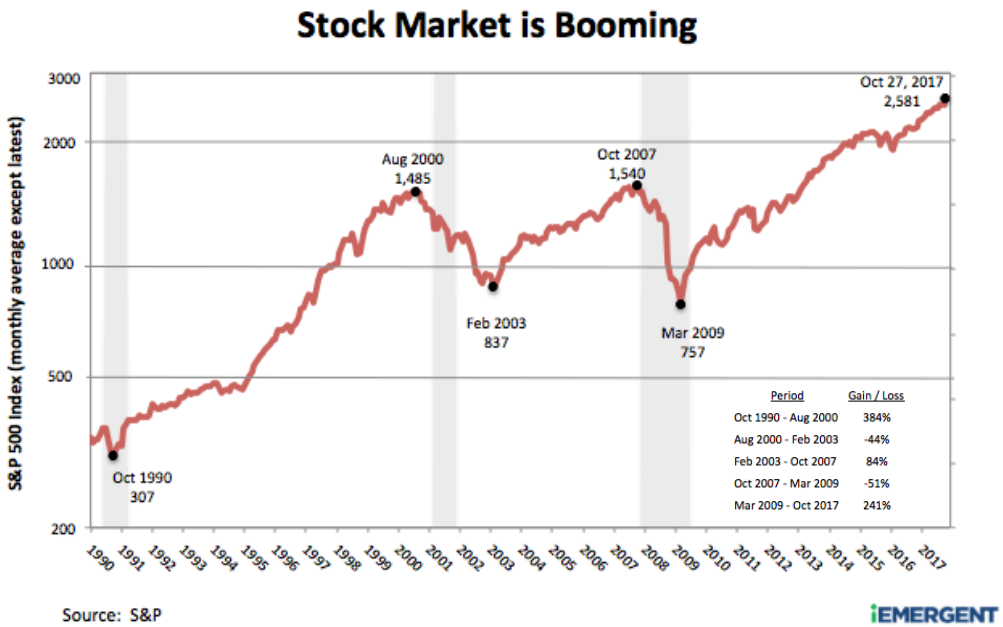

Source: S&P

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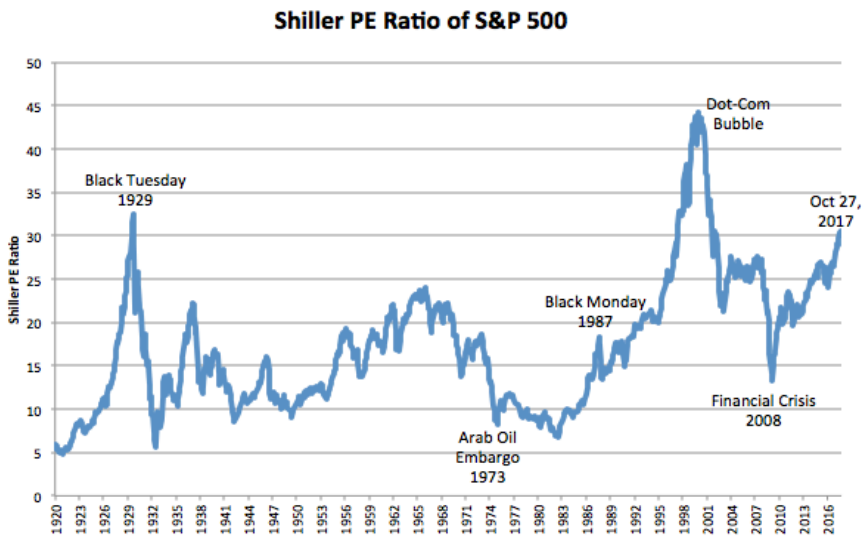
Surging corporate profitability has driven the stock market to new heights in 2017. The current bull market has seen the S&P 500 index more than *triple* in value since its low during the depths of the Great Recession.



Source: multpl.com. The Shiller Price Earnings ratio is the S&P 500 index divided by the inflation-adjusted 10 year average annual earnings. Based on Robert Shiller analysis from his book, *Irrational Exuberance.*

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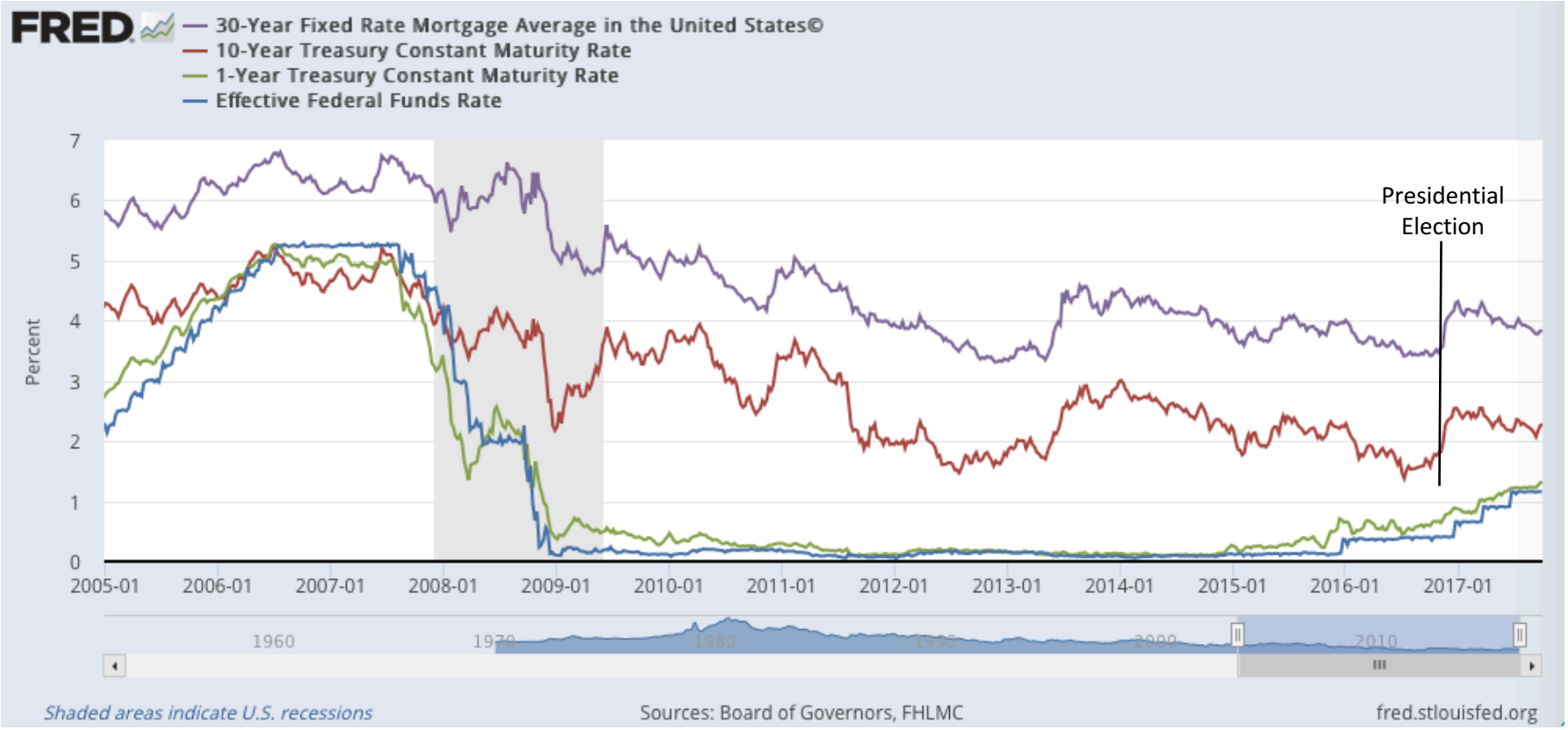
However, many are beginning to wonder how much strength this rally still has. The market's current price-earnings (PE) ratio is at a level that has been higher only twice in the last century – in 1929 right before the crash and during the Dot-Com bubble. This level suggests that equities are becoming overvalued and increase the probability that a correction might be due soon.

In the wake of the election, Treasury bond rates rose sharply, pulling 30-year fixed mortgage rates up above 4% for the first time in 2016. Since then, bond rates have drifted down, even as the Fed has raised the Fed Funds rate target three times, tugging short-term interest rates higher and flattening the yield curve.

The last time the spread between 1-year and 10-year Treasury yields was this small and shrinking was in early 2005. Yield curve flattening is common late in the expansion phase of business cycles. Yield curve *inversion*, when short-term rates exceed long-term rates (such as from mid-2006 to mid-2007), frequently signal the peak of expansion and the beginning of recession.

One more quarter point hike in Fed Funds is widely expected before the end of this year.

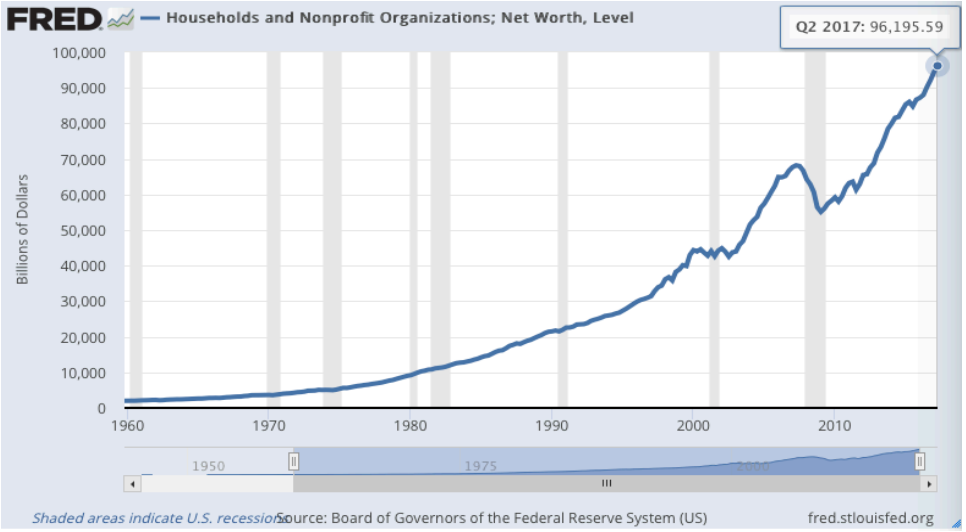


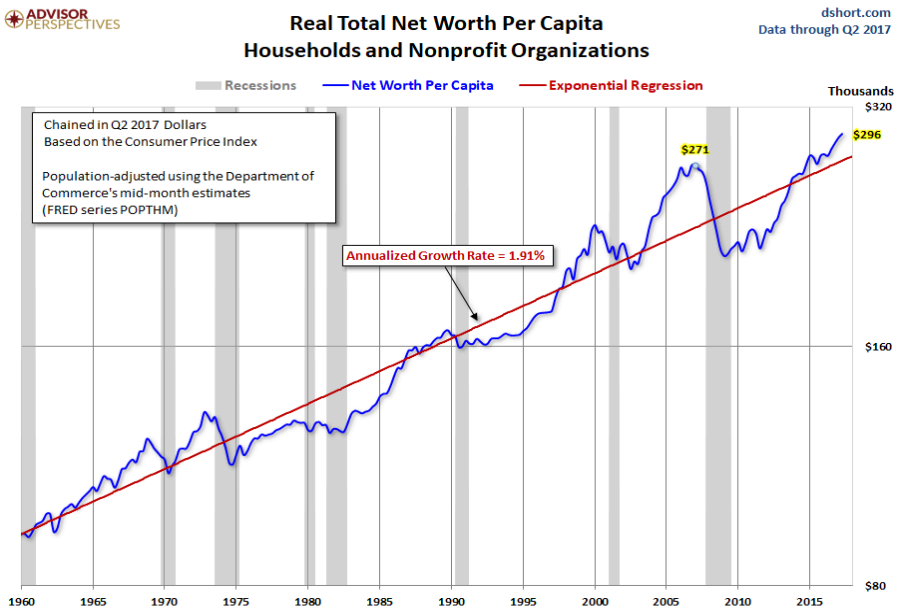
Economic Conditions – Consumer Balance Sheets

Household net worth reached $96 trillion in Q2/2017, obviously a new high to what is an exponentially growing data series. Significant drivers of this growth included increasing values of residential equity and household financial assets.

This is a nominal, current dollar measure that doesn't reflect the impact of inflation or the growth in the U.S. population. The AdvisorPerspectives analysis in the second chart converts the Fed net worth series to a real (constant $), per capita basis to provide a more useful analytical viewpoint.

Real net worth per capita has grown sharply in the last four quarters to reach a record $296 thousand dollars per person. This is nicely above the long-term trend growth rate, putting consumers in the healthiest financial shape they've been in for a decade in terms of the gap to trend rate.

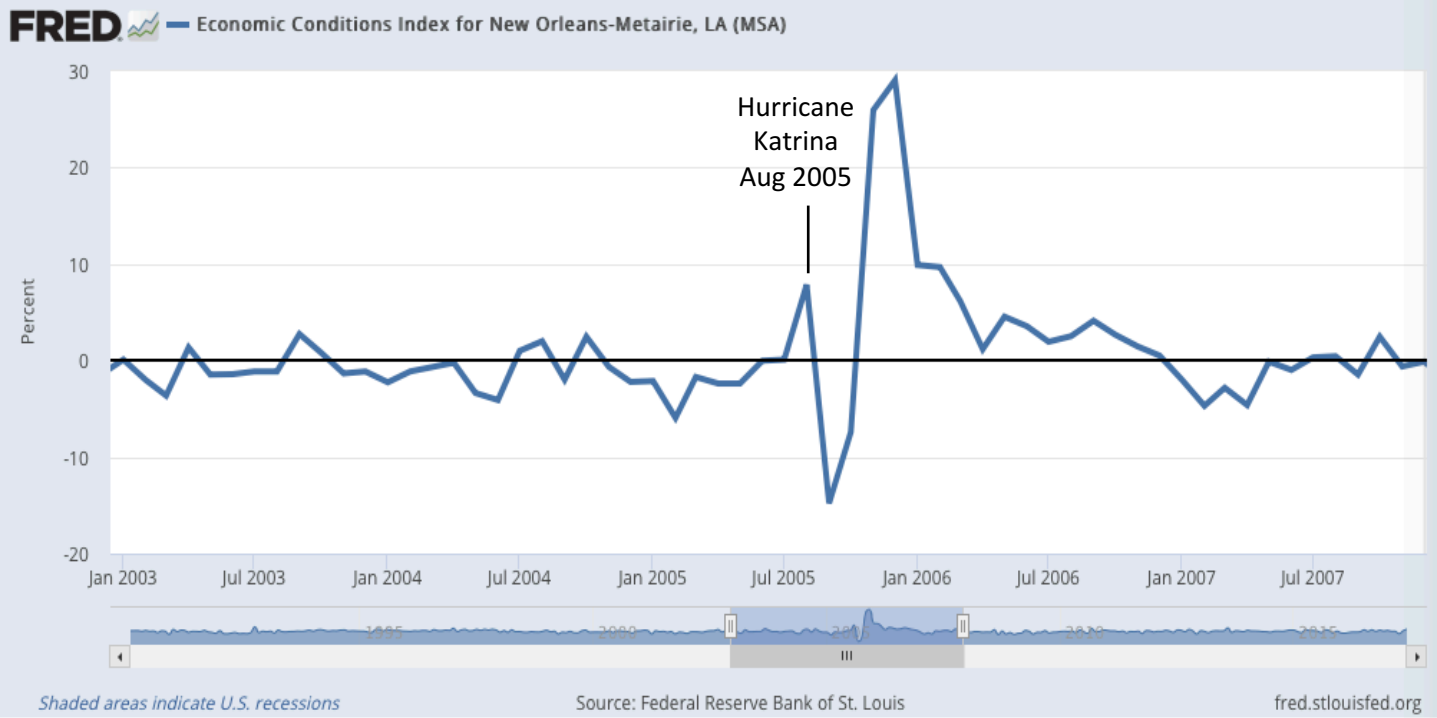




Economic Conditions – Disaster Effects

With four hurricanes hammering different parts of the southeast this year and the widespread damage from firestorms in northern California, a natural question is, how do such disasters affect economic conditions? Sometimes such disasters have long lasting effects, particularly for economically challenged areas. (Puerto Rico is showing such signs now.) But a more typical pattern is the one exhibited by New Orleans following Hurricane Katrina in 2005. In the immediate aftermath of such a shock, lost work and business activity depress economic output, but this period lasts only a few months. Soon, government aid and insurance claim money come pouring in as residents replace and rebuild lost property, and this recovery phase generates a rebound in the local economy well above typical activity. Often, within a year's time, economic output returns to baseline levels.

Post-disaster data on 2017's shocks are just starting to come out now, showing the dips in affected areas. We expect to see that recovery efforts will provide stimulative boosts in 2018.



Note: Economic Conditions Indexes for major metro areas are released by the Federal Reserve Bank of St. Louis and reflect average economic growth for the area. See p. 10 for related notes.

Housing Market Conditions Overview

- **Delinquency and foreclosure** – Levels continue to improve, slowly erasing some of the major impediments to housing market health.

- **Building** – Housing construction crashed during the Great Recession and was extremely weak early in the current expansion. **Multi-family building** led the way out of the recession, but this year it is slowing sharply. In contrast, the **single-family construction** recovery started slow but is showing increasing momentum recently, although it is still far below pre-recession levels.

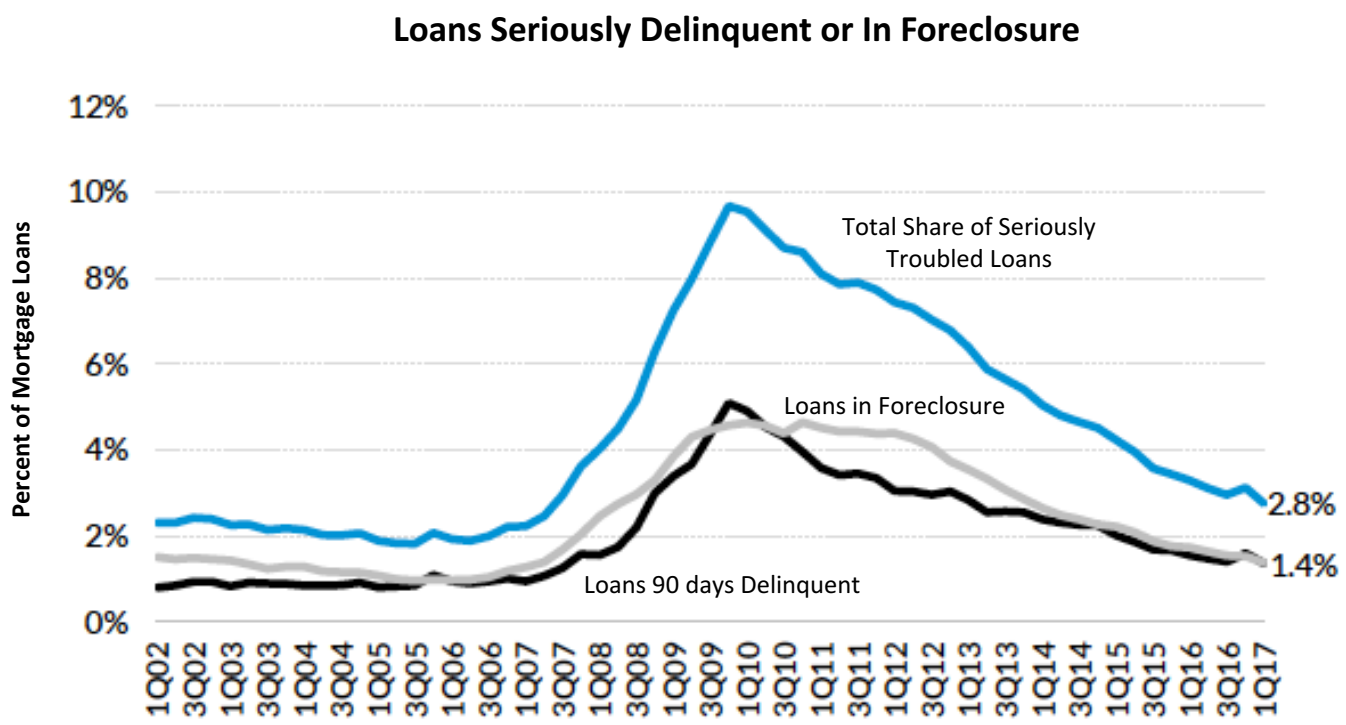
- **Home Sales** – **New** home sales growth has slowly accelerated as new construction has grown. But the lion's share of home sales is **Existing** Home Sales (now 90% of sales), and it has been flattening, largely due to tightening inventory of available homes. Moreover, that inventory pressure continues to be tightest for *less* expensive homes. In mid-2017, sales began declining, constrained by those tight inventories. For 2018, sales gains will be matched by price acceleration.

- **Prices** – Nationally, the latest Case-Shiller HPI (for August) is increasing at 6.1% year-over-year and is 4.3% above its pre-Bust peak. Regionally, most of the hottest markets for price appreciation are west of the Mississippi and are led by Seattle, Las Vegas & San Diego. However, most of the 20 major markets still have yet to match their pre-Bust peaks. Expect continued strong gains in most home prices as sales inventories remain tight.

- **Affordability** – Despite significant home price appreciation in the last 5 years, mortgage-financed housing remains more affordable now than at any time from the late 90s through 2009. This is because mortgage interest rates have declined for most of this period, and they continued to do so for much of 2017. For 2018, the path of interest rates will be the major factor affecting affordability.

- **Homeownership rates** – They are rising again, led by gains from householders under 35 years old.

This chart, showing the path of delinquency and foreclosure rates back to "normal" market levels, gets incrementally better every time we show it. This is great news for for all homeowners, even those who were never in danger of losing their homes during the Great Recession. That's because the homes that went into foreclosure resulted in a massive oversupply of homes for sale, reducing prices and thus the values of all homes.

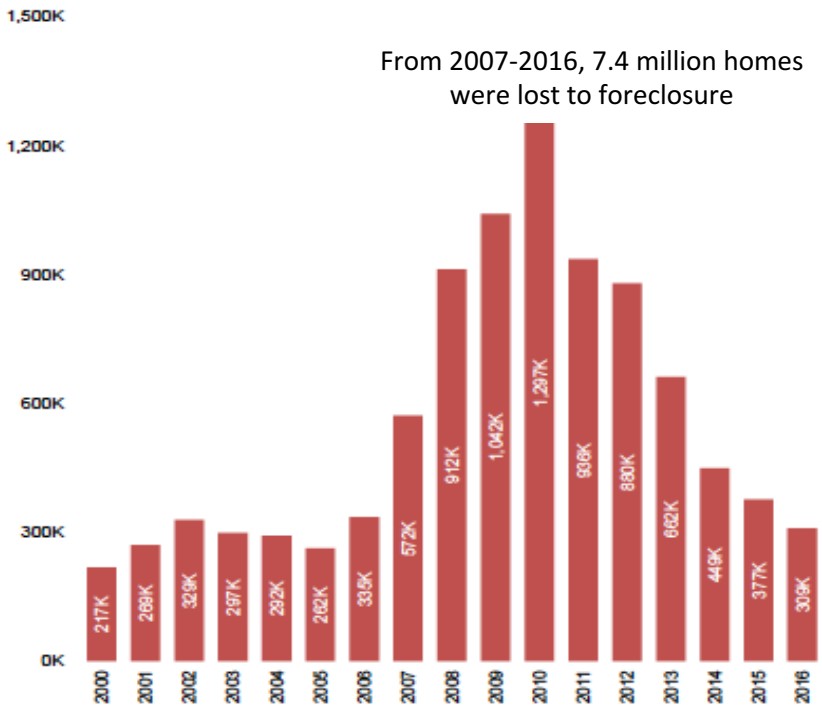


Source: Mortgage Bankers Association, from Urban Institute's monthly "At a Glance" chart book.

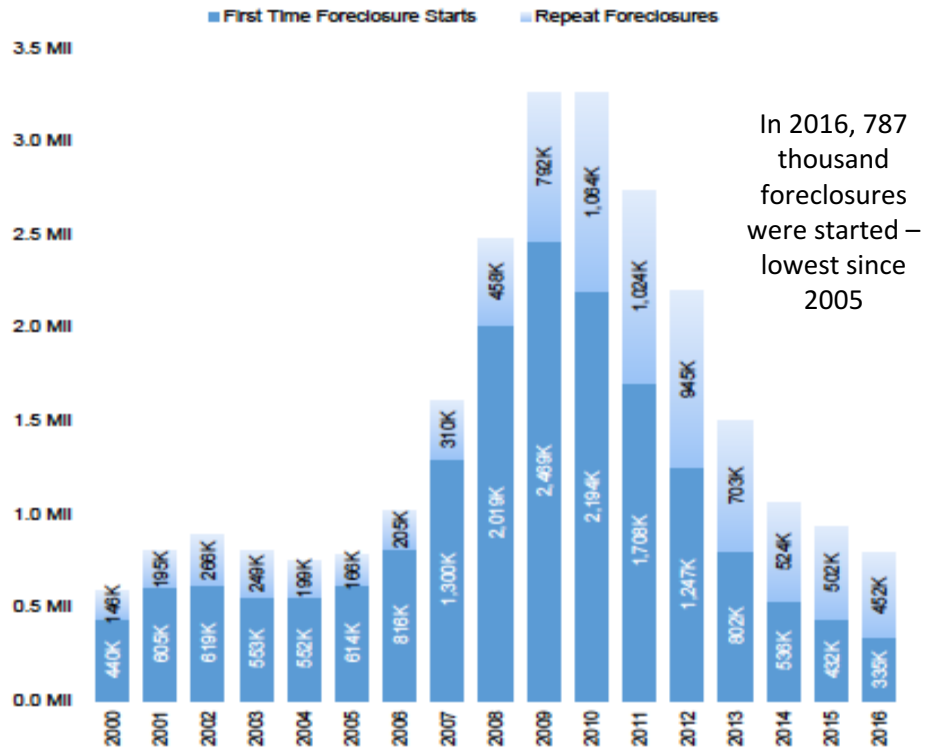
The Housing Bust took millions of homes away from households and destroyed billions of dollars of home equity, not to mention crippling the home construction industry for years.

But with the return to a more normal level of delinquency and foreclosure, the housing market recovery is nearing completion.

Foreclosure Sales by Year



Foreclosure Starts by Year

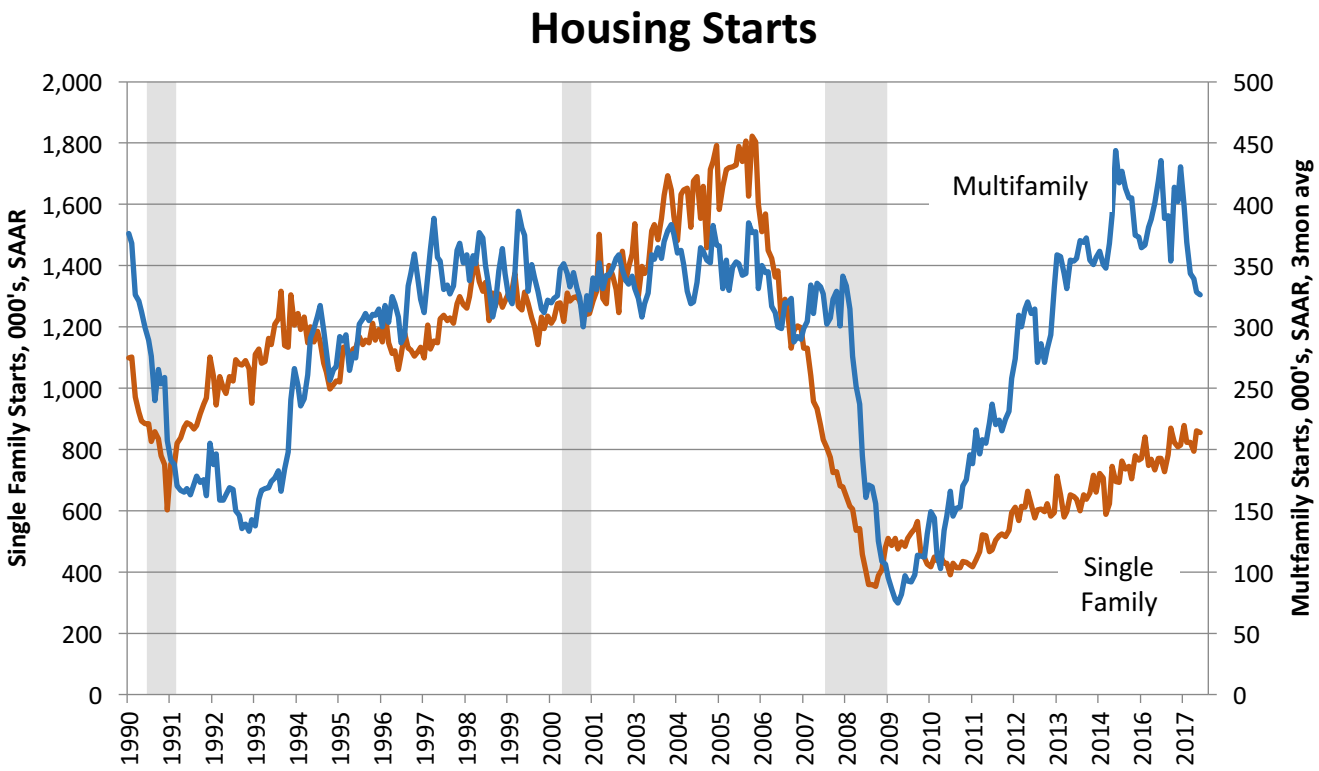


Source: Mortgage Monitor Report, Black Knight Financial Services.

Housing construction continues to lag behind previous economic expansions. Multifamily building starts led the way out of the recession, but have recently declined to the lowest levels in four years – about on par with the pre-recession range.

Single family starts, despite a steady rise since 2011, still remain far below levels of the 1990s and 2000s.

Combined residential starts so far in 2017 are less than 80% of the average level from 1995-2002, not enough to keep up with the growing number of households. We hope that rebuilding efforts following 2017's natural disasters will help jumpstart a residential construction industry that has been moribund for more than a decade.



Source: Census Bureau, retrieved from FRED, Federal Reserve Bank of St. Louis

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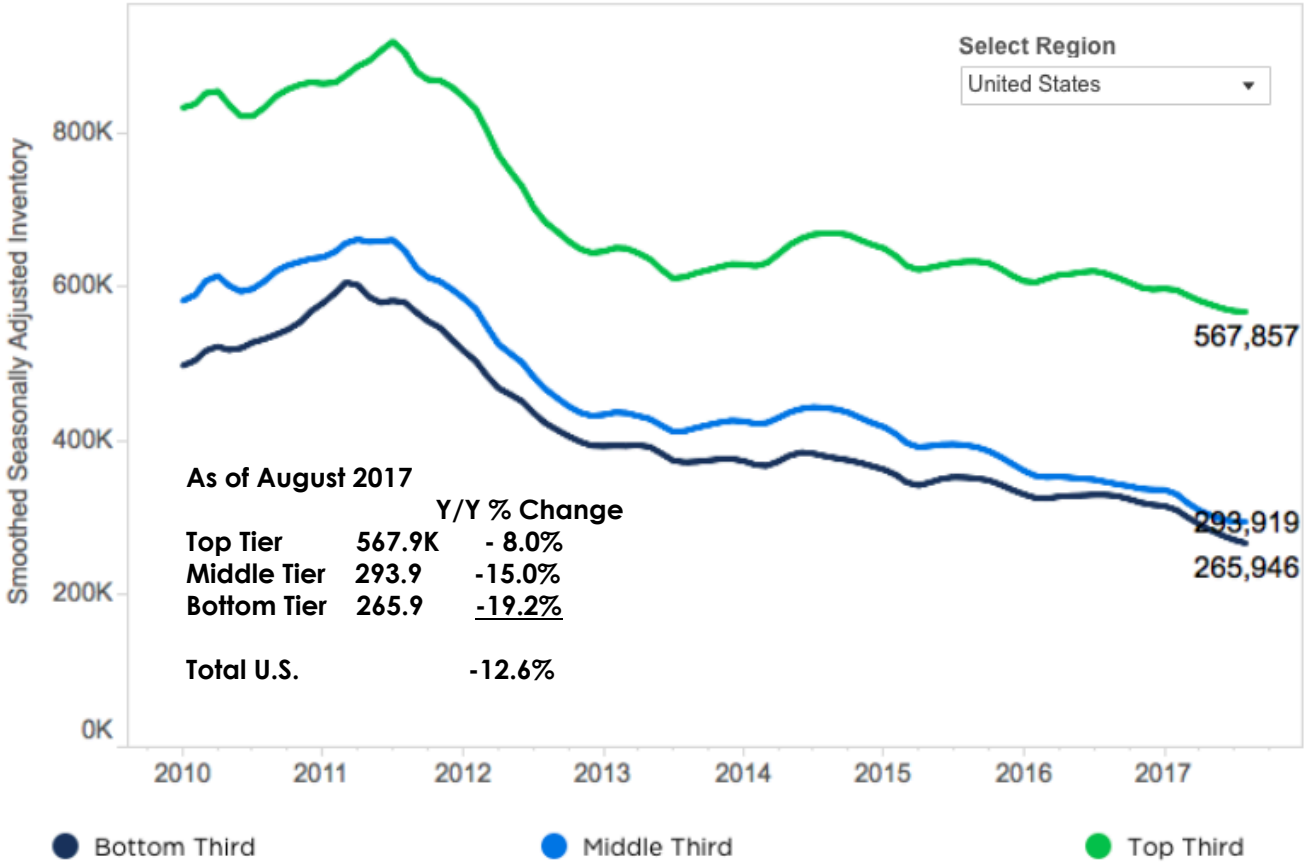
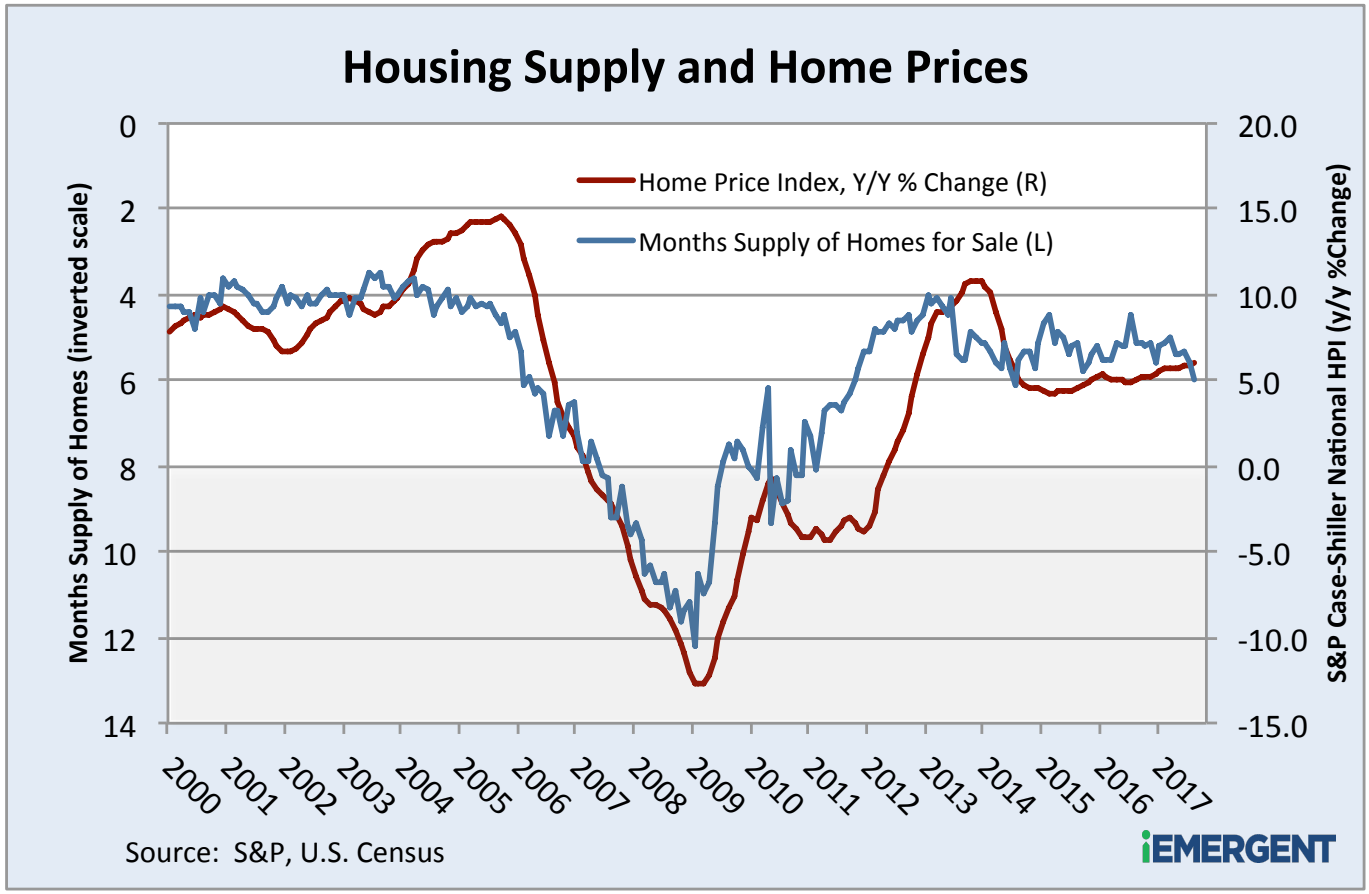
With home building so depressed for so many years, the inventory of homes available for sale is being depleted at an accelerating rate. Zillow reports that inventories of all homes for sale are down 12.6% from a year ago, but inventories for homes in the bottom and middle price tiers are down 15 and 19.1% respectively – far more than the 8% decline in the top price tier.

Homes for Sale – By Price Tier



Source: Zillow.com "August 2017 Market Report", https://www.zillow.com/research/august-2017-market-report-16651/

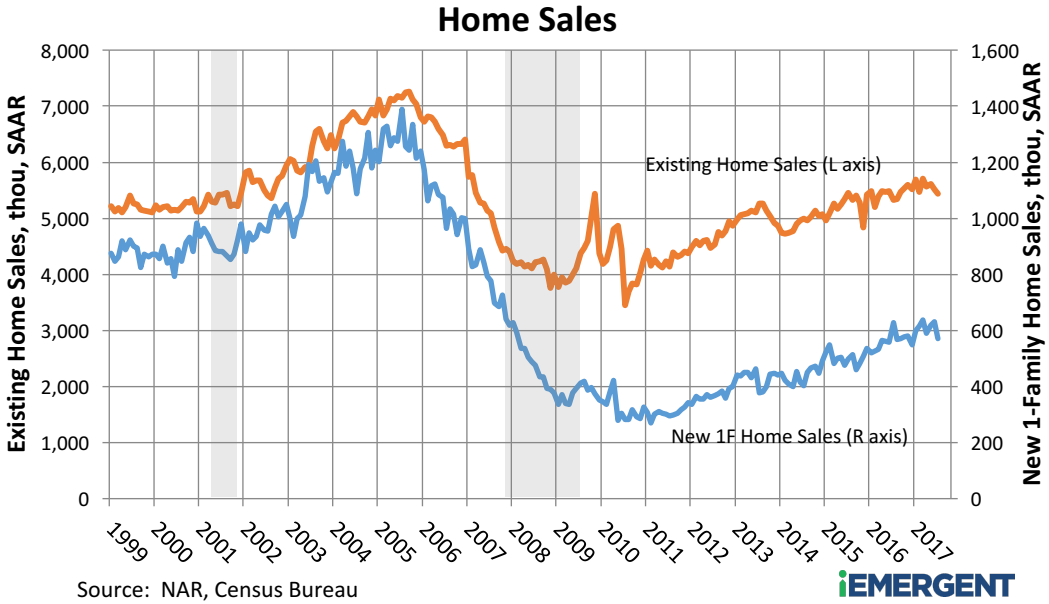
With such a housing inventory shortage, why aren't prices increasing much faster like during 2004-6 or even 2013-14? The answer can be seen by looking at housing supply in terms of the months of supply statistic (the ratio of housing inventory to home sales). This has remained within the four to six months range for some time now, so home price appreciation has been relatively stable for the last three years—just drifting up slowly toward 6%. What is slowing now is home sales, which can be seen as the uptick in months of supply (it looks like a downtick, but the scale is inverted).

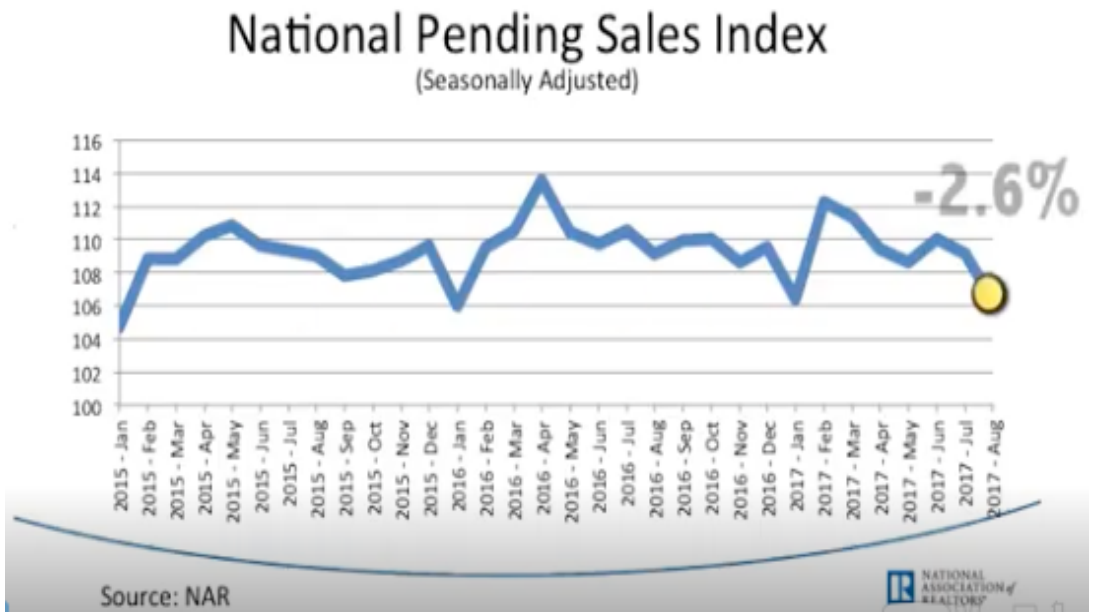


Indeed, even though home sales are up relative to last year, the latest home sales data show the beginning of a sales slowdown. Both new and existing home sales have dipped in the last few months. Existing home sales have now surpassed pre-Boom (i.e., pre-2002) levels, but New home sales are still well below pre-Boom levels.

Moreover, the NAR Pending Home Sales Index (for August, released in September) has declined in five of the last six months. This index typically leads closed sales data by one to two months, and is down 2.6% from its level a year ago.

We saw a similar sales decline in 2013-14 which tamed home price appreciation that had started to get out of control.

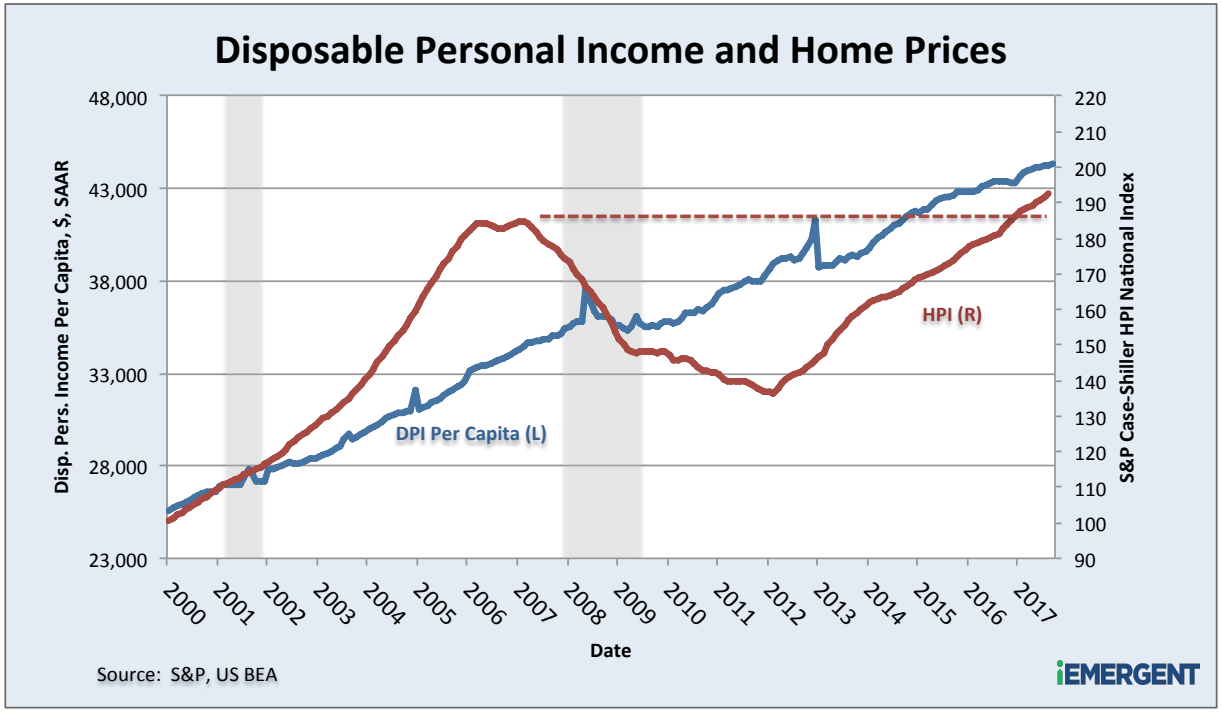




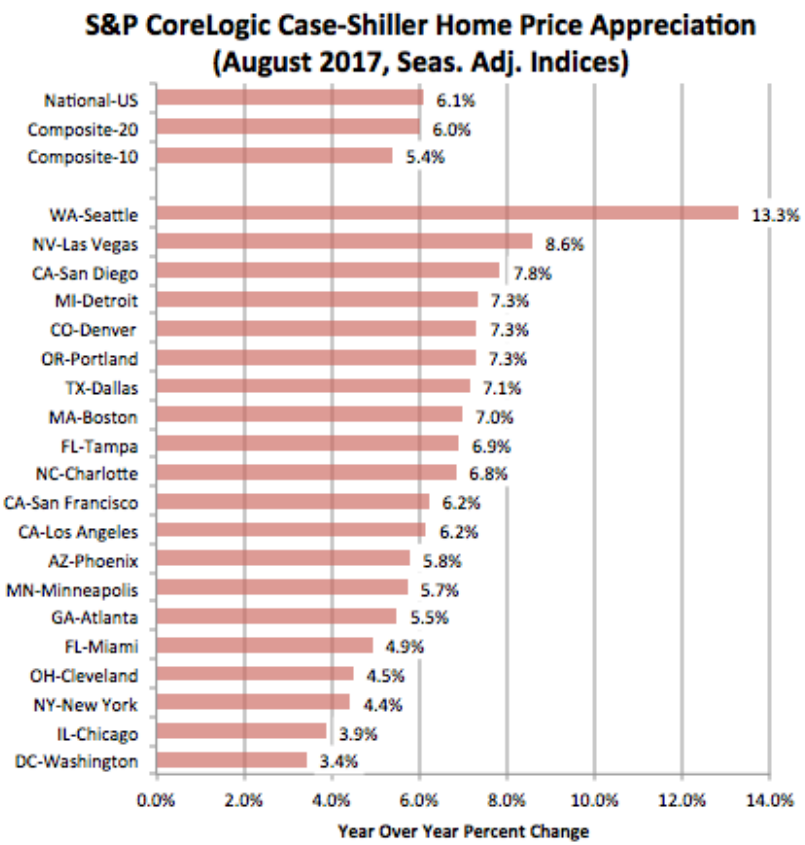
In the most recent report on the S&P Case-Shiller Home Price Index (August data, released in October 2017), the national home price index had risen 4.3% above its housing boom peak.

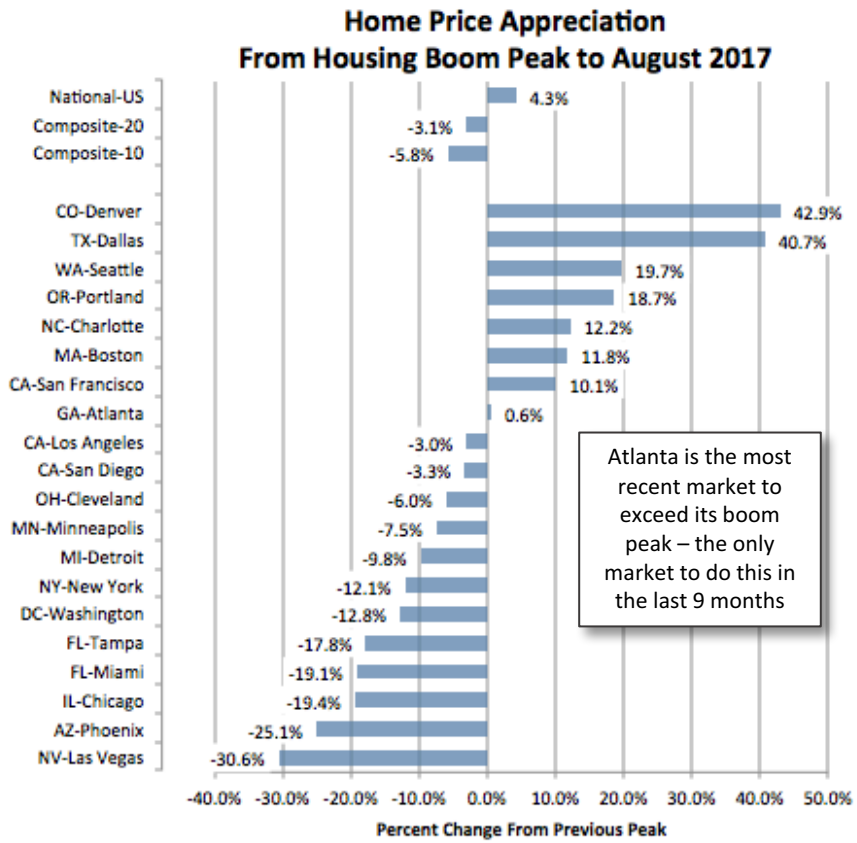
The Housing Bust was triggered when home prices increased faster than incomes could support. Sales began to fall, soon resulting in an over-supply of homes, which led to price declines. That touched off a vicious cycle where sales slowed further, dragging prices down further, with growing numbers of borrowers underwater on their mortgages. Then, the cycle accelerated even more when borrowers began defaulting on mortgages, leading to foreclosures, more over-supply and further price declines.

Overheated home prices began falling before the official start of the Great Recession and continued to fall well into the current expansion. They didn't begin rising again until early 2012. Since that time, home prices have increased faster than household incomes, but they haven't yet closed the gap on income increases since the expansion began. Moreover, the current housing inventory shortage means that home price declines are not a risk in the current environment. However, home prices are approaching the point where income constraints will drag on potential price appreciation.



From market to market, home price behavior varies significantly. Home price appreciation rates for 12 of the 20 major markets are now exceeding the national average of 6.1% (left chart), and most of these are west of the Mississippi. However, while the national index has regained its Housing Boom peak, only 8 of the top 20 markets have matched that feat. Las Vegas, Phoenix and the major Florida markets have the furthest yet to go; but markets including Chicago, New York, Detroit and the major California markets (except San Francisco) are still below their previous peak levels as well (right chart).





Source: S&P, iEmergent calculations

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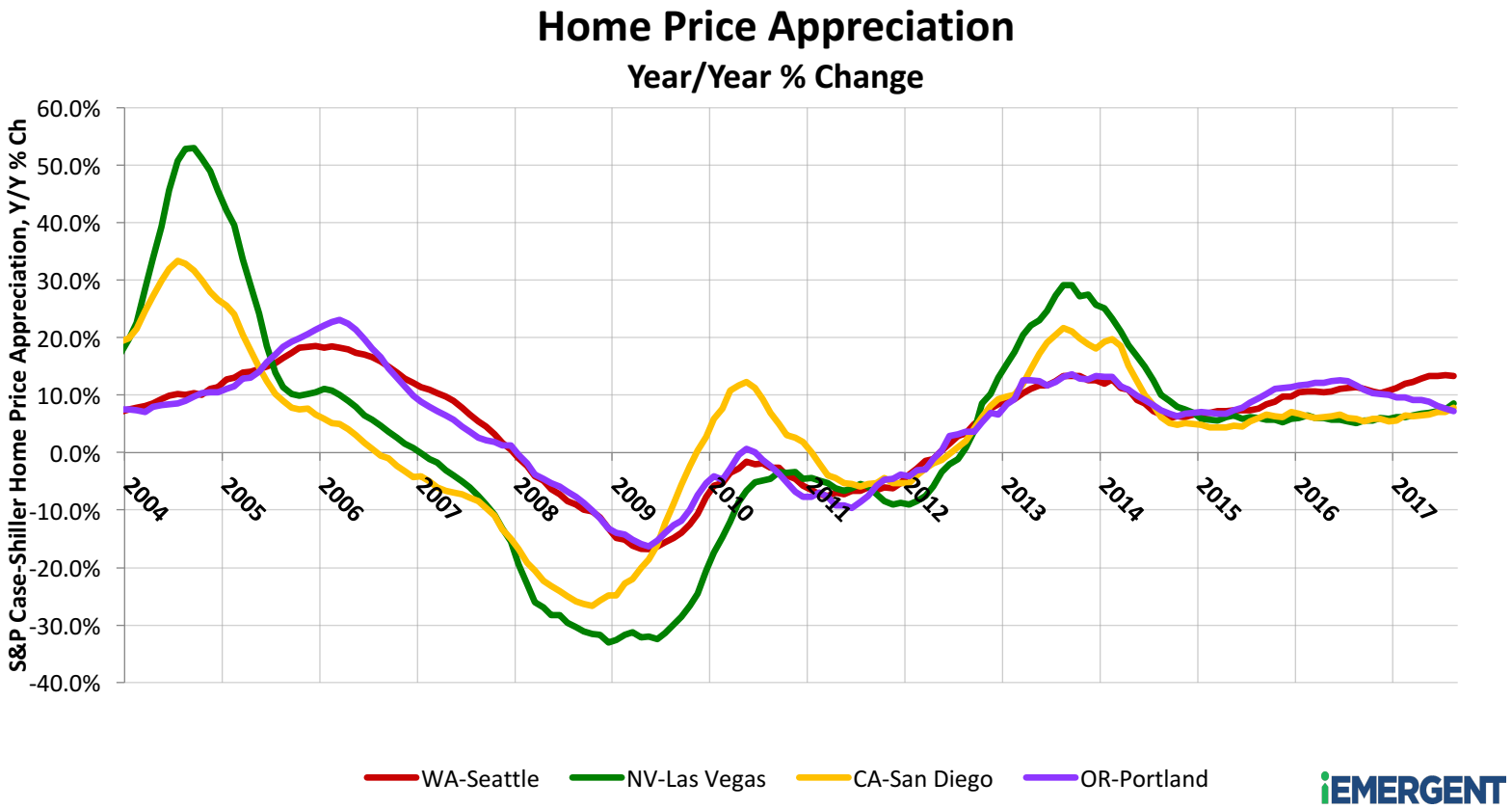
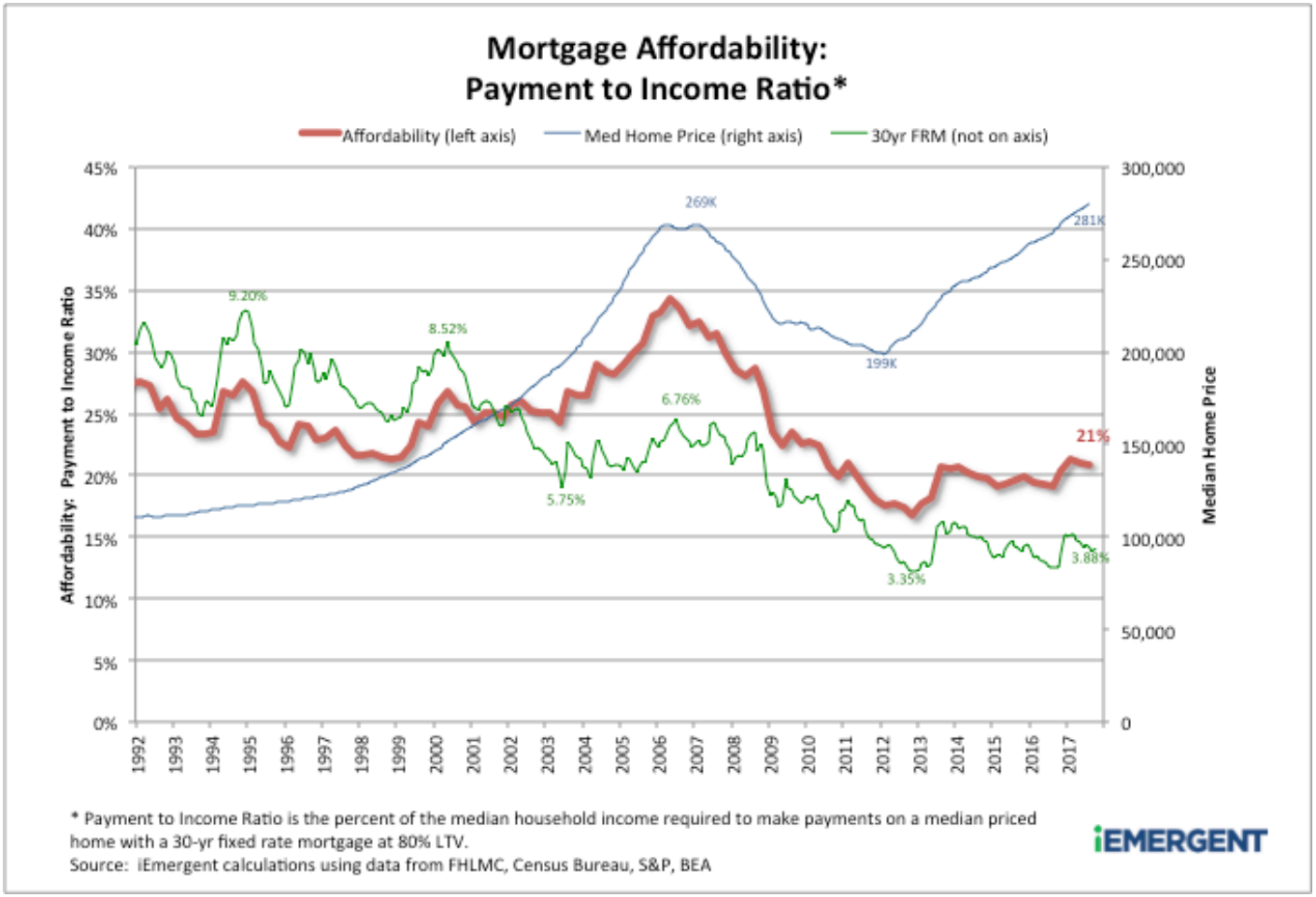
The three markets with the fastest home price appreciation in the latest HPI report were Seattle, Las Vegas and San Diego – the latter two of which have been very volatile historically. Seattle's home price increases, already the highest among major metros, have been accelerating in 2017. Portland's HPA, which was the highest early in 2016, is cooling off.



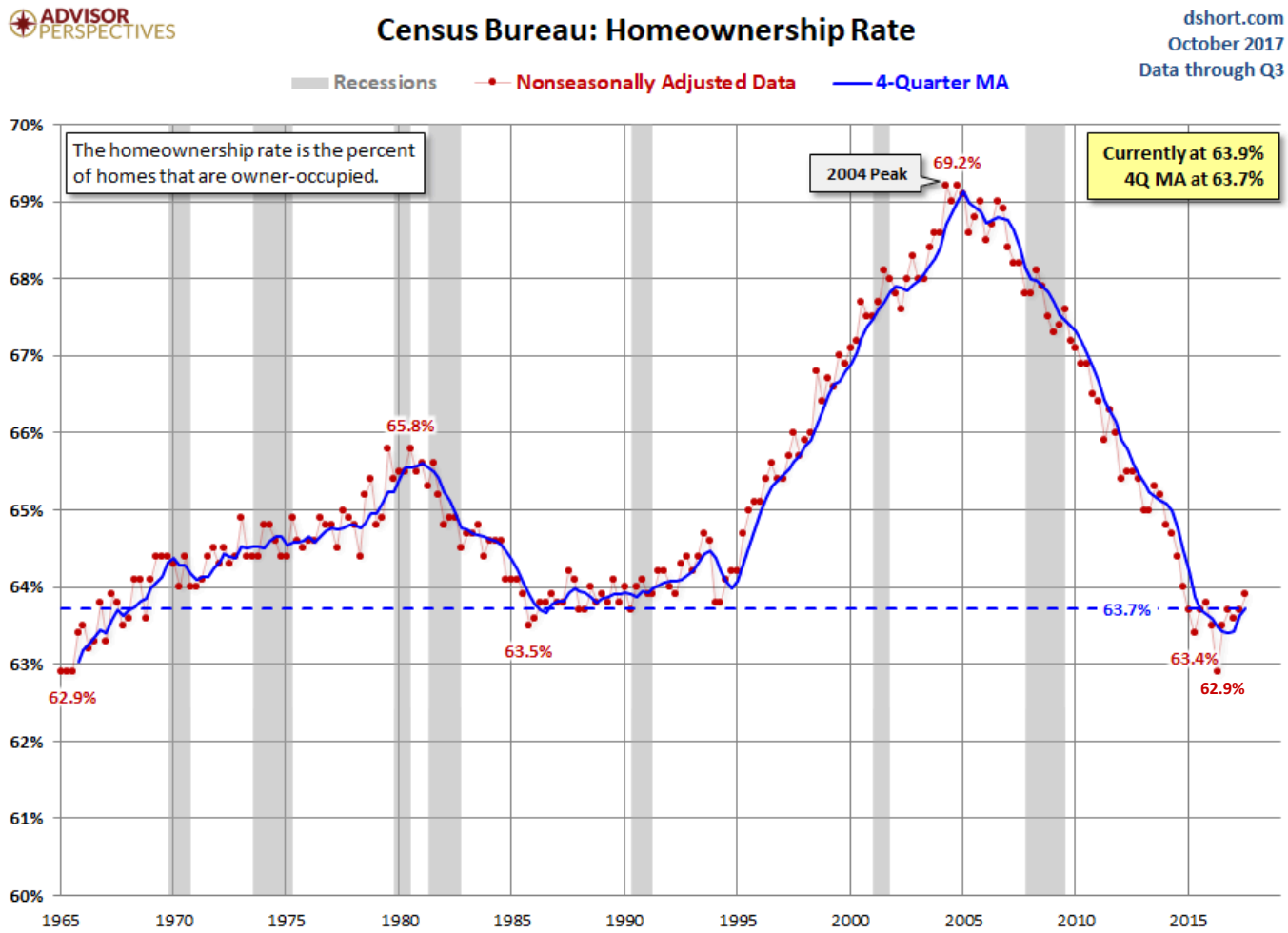
Source: S&P

Even though home prices have risen steadily since 2012, housing affordability, as measured by the mortgage payment-to-income ratio, has stayed relatively constant over the last four and a half years because mortgage interest rates have declined. In fact, housing continues to be more affordable now than at any point from the 1990s through 2009. Nationally, 21% of the median household income can pay for a mortgage on the median priced house.

Home prices should continue to rise and so should household incomes – probably at a rate that nearly cancels out price increases. Affordability will largely depend on the path of mortgage interest rates for the next year or two.



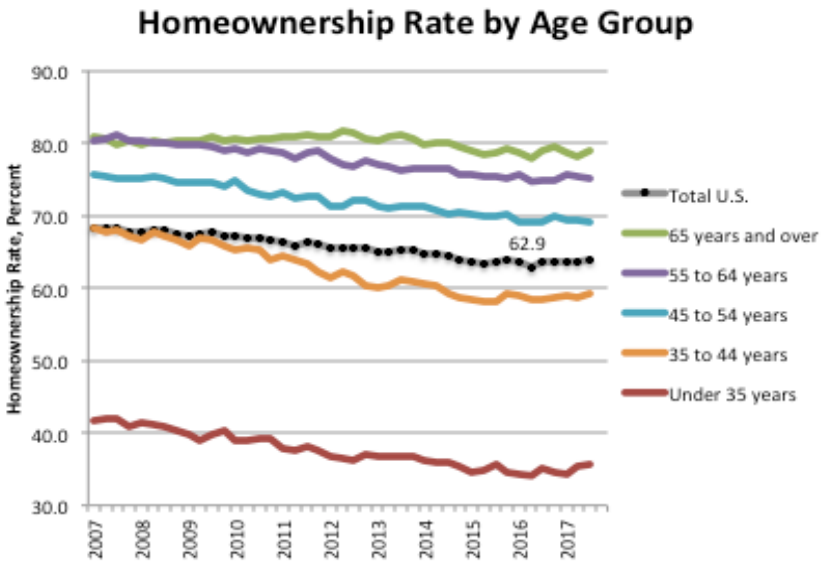
The homeownership rate (HOR) in the U.S. had been declining steadily for over a decade and reached lows not seen since the mid-1960s. But in the last five quarters, the HOR has come in above its Q2/2016 low of 62.9%. We at iEmergent have been surprised by the recent reports, believing that the HOR would continue to fall for another year or so. We didn't think first-time homebuyers would yet be able to enter the market in numbers that could raise the overall HOR, but they have.

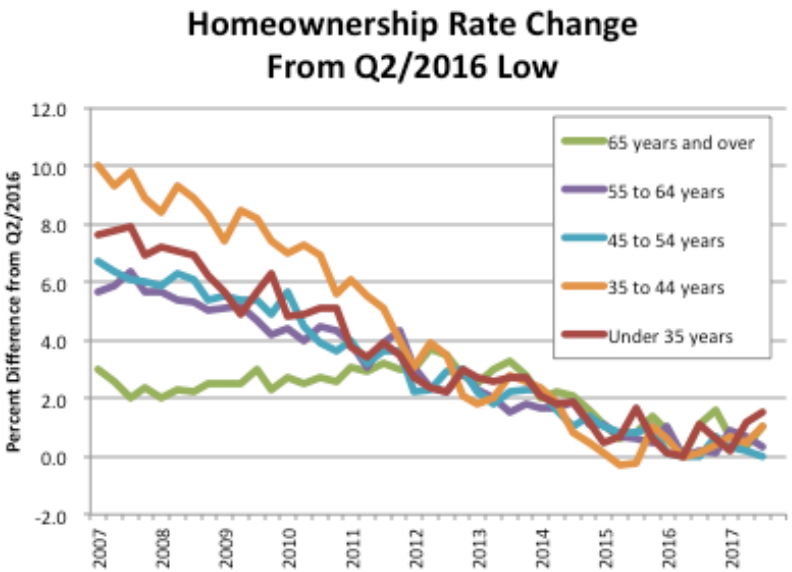


Deconstructing the national home-ownership rate into age segments shows the expected general dynamic that the homeownership rate increases with age.

It also reveals other insights:

- The 35-44 segment was hurt most by homeownership rate declines during the Housing Bust.
- The 65 and older segment was barely affected at all by the Housing Bust and experienced most of its decline during housing's recovery in the last 3 years.
- Since the homeownership rate low-point, the youngest group (under 35) has led the way higher, followed by the 35-44 segment. Millennials are finally showing up in homeownership.





Source: Census Bureau Housing Vacancy Survey

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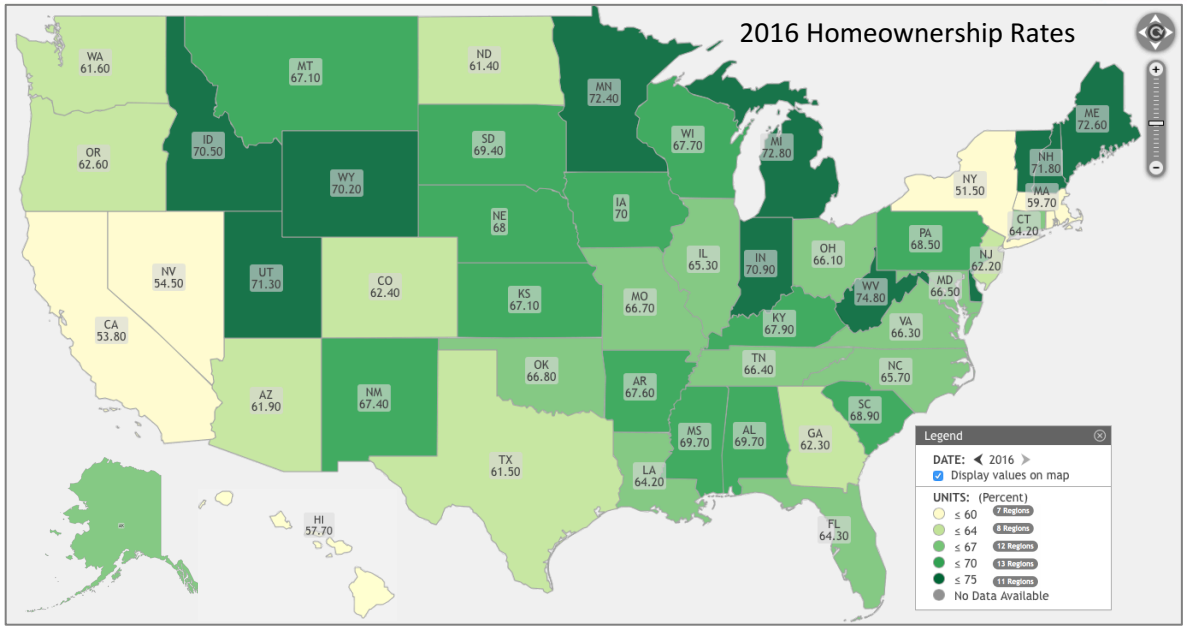
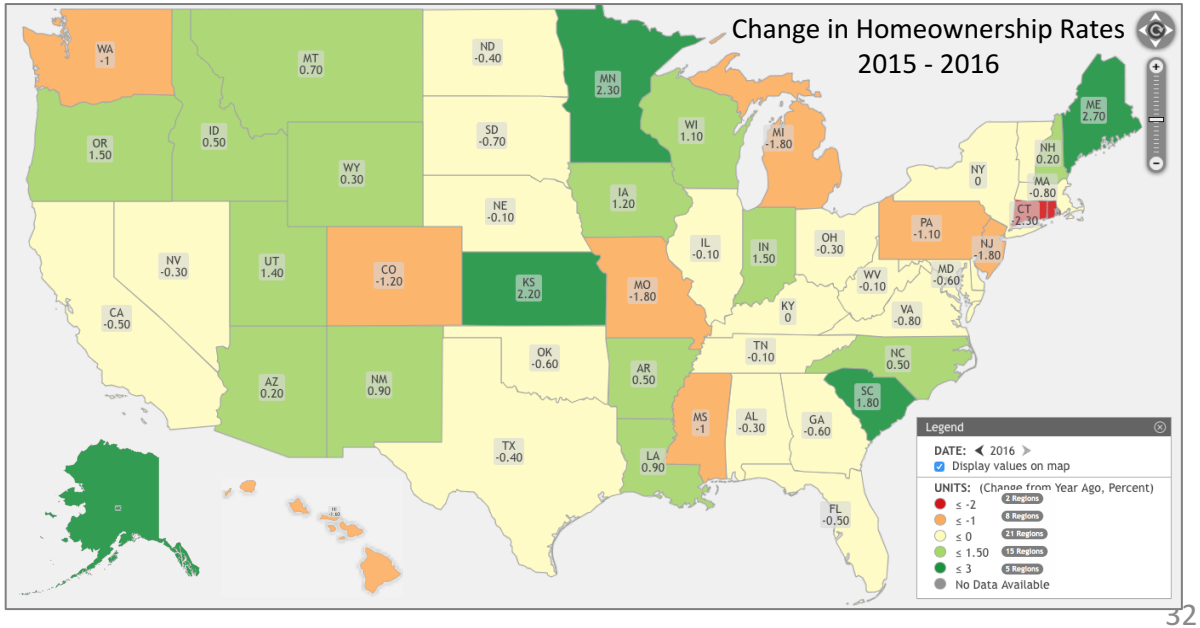
Housing Market Conditions - Homeownership

Homeownership across the country varies due to regional housing supply and demand factors and economic conditions. At any point in time, some areas may be improving while others may be on the decline.

In 2016, the U.S. homeownership rate fell to 64.6% from 65.4%. On the state level, the homeownership rate declined in 31 states and the District of Columbia. Twenty states had gains (the green states in the lower chart). In contrast, only 11 states had increasing homeownership rates in 2015.



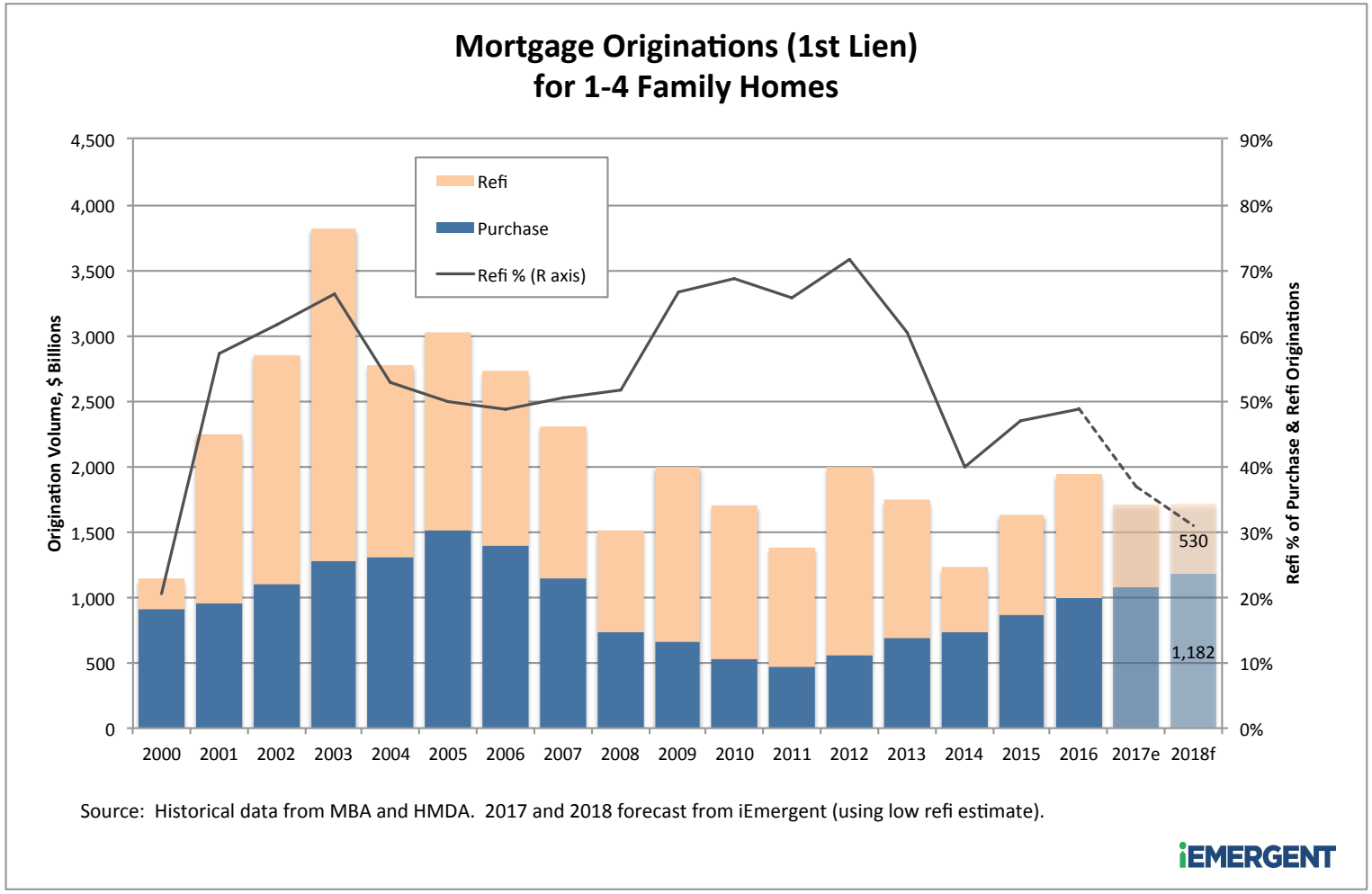


Mortgage Market Overview

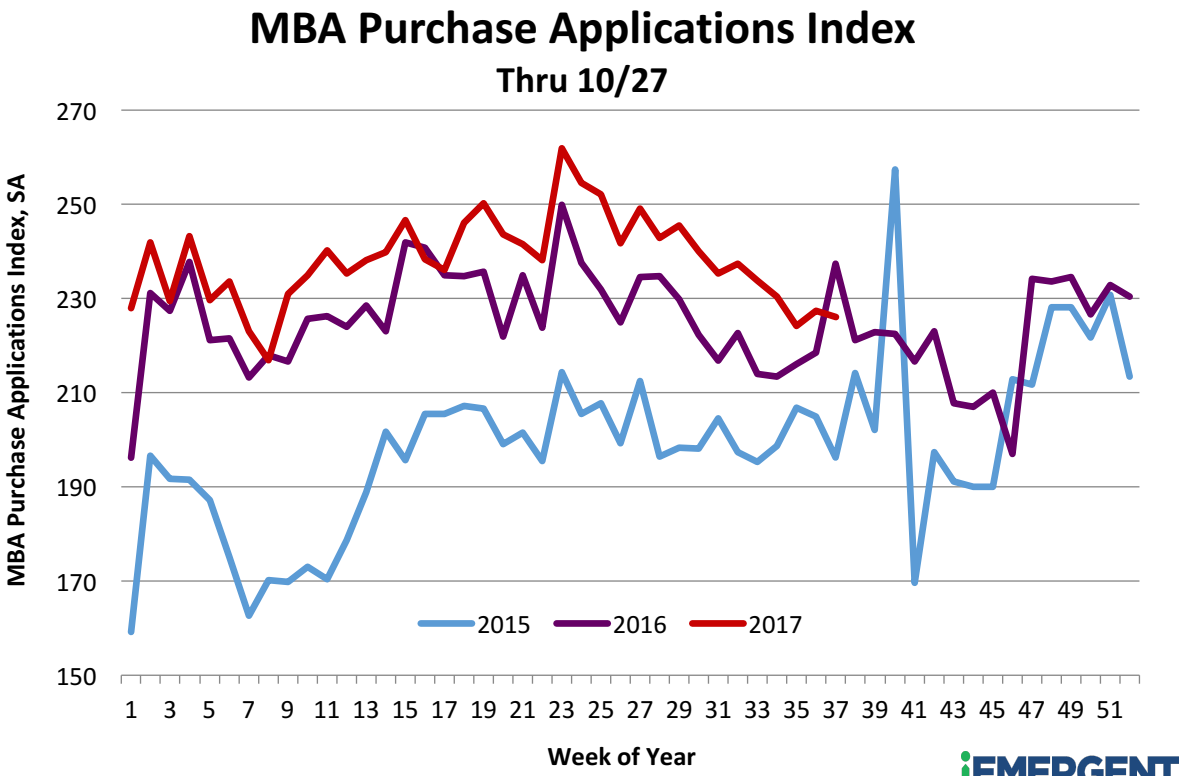
- As many expected, mortgage originations have fallen in 2017 due to a sharp decline in refinance volume. For 2018, we expect refinances to decline another 14%.
- Given the current stable economic conditions, purchase volume will continue to grow in 2018 by an expected 10%, but inventory-induced sales constraints will continue to limit the up-side potential.
- In total, the size of the 2018 mortgage originations market will be little changed from this year's market.
- Credit availability continued to be too tight in 2017 and has more room to loosen in 2018.
- Traditional banks are becoming less active in mortgage lending as independent mortgage lenders increase their market share. Independents are also leading the way at expanding credit availability to borrowers with lower FICO scores.
- Powered by strong home price appreciation, the value of homeowners' equity has increased significantly in the last five years, raising the opportunity for increased home equity lending.

Despite continued growth in the purchase segment, this year's mortgage volume fell as expected due to a sharp contraction in refinance volume.

For 2018, we expect another solid gain in purchase of 10%, with a further -14% decline in refi. The net result will be a mortgage market about the same size as this year's market, with an even smaller refi share of 31%, the lowest refi share since 2000.



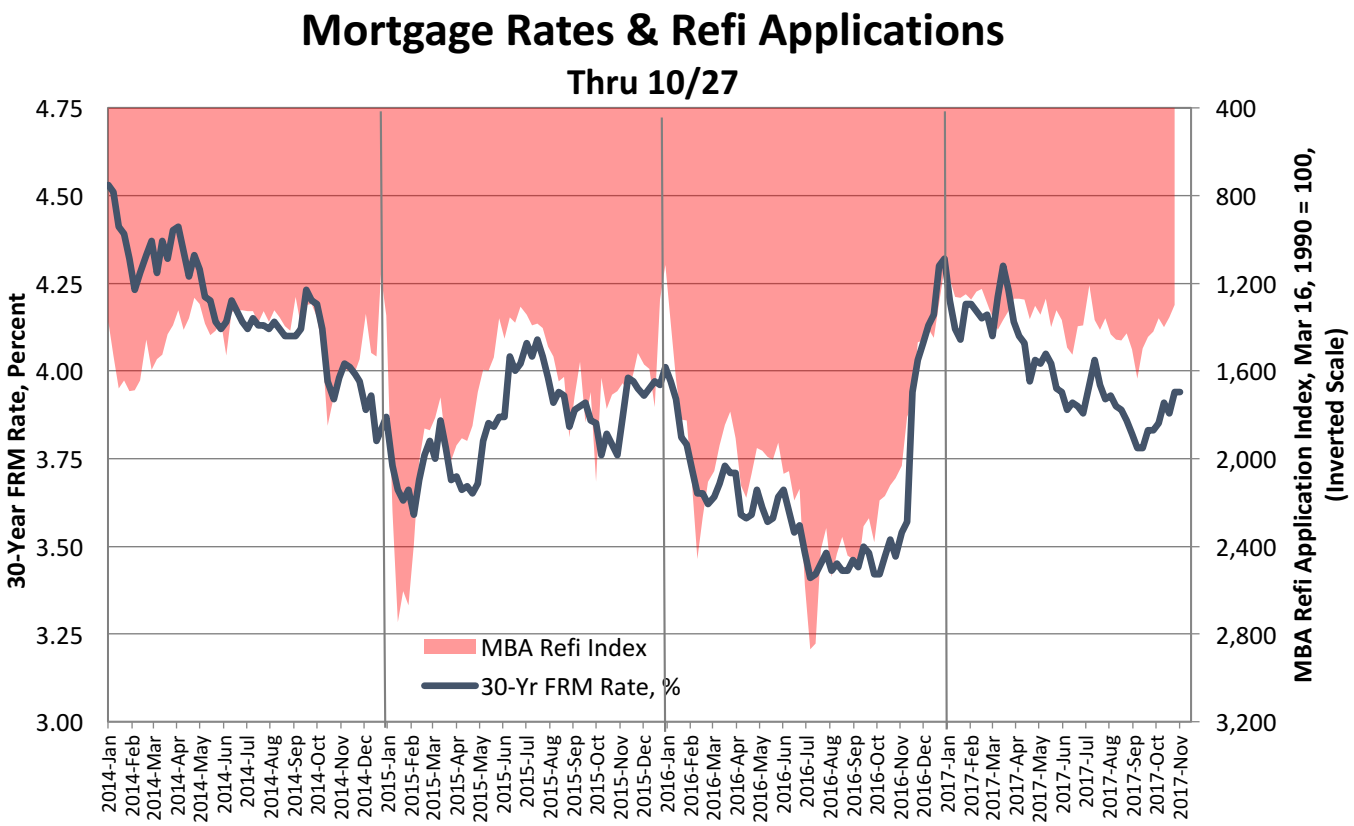
The *MBA's Purchase Applications Index* is a leading indicator of eventual counts of loans originated. Looking at the index from a year-over-year perspective, as shown below, highlights the fact that 2017 purchase applications have slightly surpassed 2016 applications for most of the year so far. For the rest of the year, we expect 2017 applications to track closely with 2016 or slightly lower. In 2018, we predict a similar increase in purchase volume over 2017.



Source: MBA, I

Refinance volume depends almost entirely on mortgage interest rates, which in turn are dependent on bond rates (specifically, 10-yr Treasury rates) that are notoriously hard to predict. For that reason, we always present our refi forecast as a range.

Since the beginning of the year, mortgage rates have trended down with periodic upticks. Refinance applications have drifted slightly higher as rates have fallen, but they are still only running at a fraction of last year's volume. Inside Mortgage Finance reported that for the first half of 2017, refi originations are down 23.5% from the same period last year, putting 2017 on track for our forecasted ~30% decline in refinance volume. At this point, we expect refi volume in 2018 to decline another 12-14%.



Source: FreddieMac, MBA

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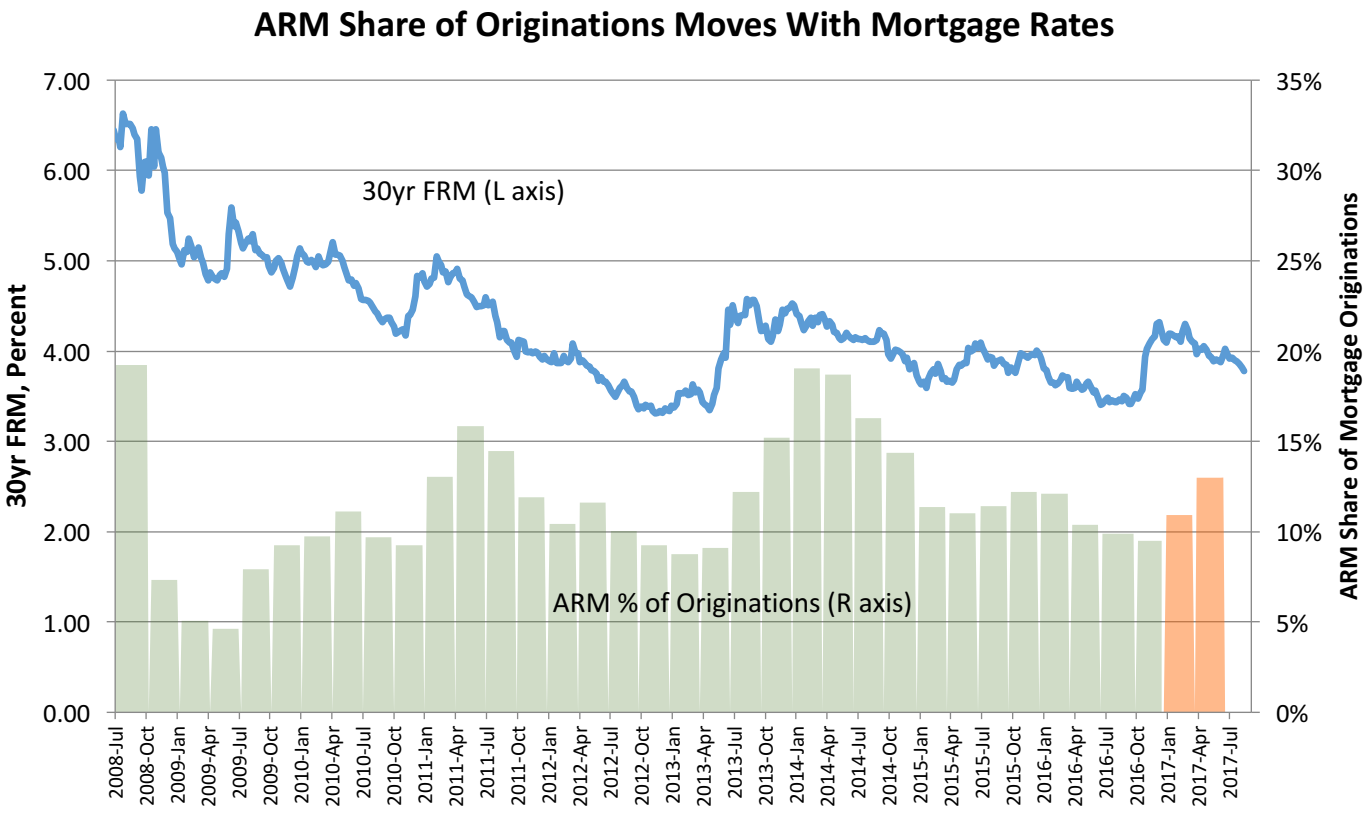
In our last Forecast Update presentation, we predicted that the ARM share of mortgages would increase after the post-election interest rate spike. Indeed, they have. In Q2/17, ARMs were up to 13% of mortgages originated. However, if mortgage rates continue their declining trend, the ARM share will likely begin declining as well.



Source: FHLMC, Inside Mortgage Finance

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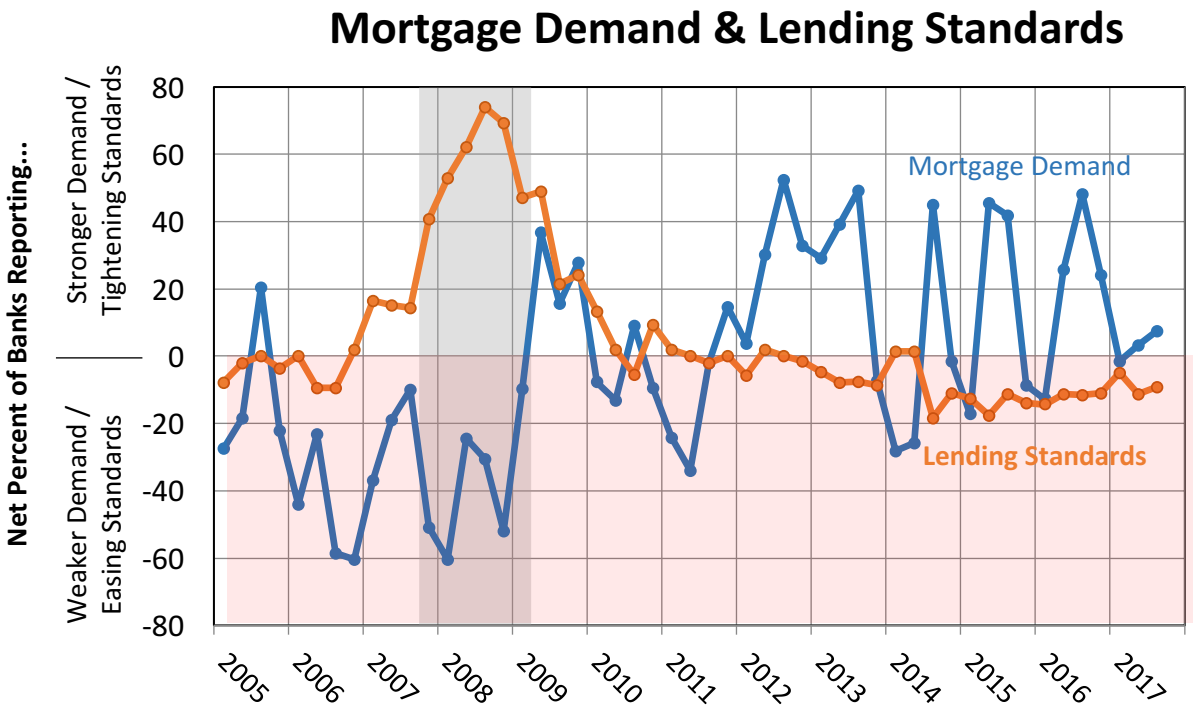
With the generally robust demand for mortgage financing, credit availability has increased as well. According to the Federal Reserve's quarterly Senior Loan Officer Survey, more banks have been easing lending standards than tightening for the last 13 consecutive quarters. However, the pace at which they are loosening their lending standards continues to be slow.

Also, for the last two years, higher mortgage demand reporting was occurring during Q2 and Q3, the peak purchase season. For 2017, though, mortgage demand has been much less during Q2 and Q3.



Source: Federal Reserve Senior Loan Officer Survey, July 2017

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We used this chart in our last Forecast Notes presentation, and its message remains unchanged. Following a deep recession caused in no small part by defaulting mortgages, lenders became extremely conservative with lending standards, and as a result, many able borrowers have been denied credit over the last nine years.

The chart below shows average loan default performance by year of origination. The 1999-2003 period was a period of reasonable lending standards and acceptable default rates. Then came the years when lending standards became recklessly loose and resulted in ruinous default rates. But since 2008, standards have been so tight that default rates have been at historic lows, with the most recent period, 2011-2015, even lower still.

In 2017, mortgage credit availability opened up a bit, as we expected, but there is likely more room for loosening in 2018.

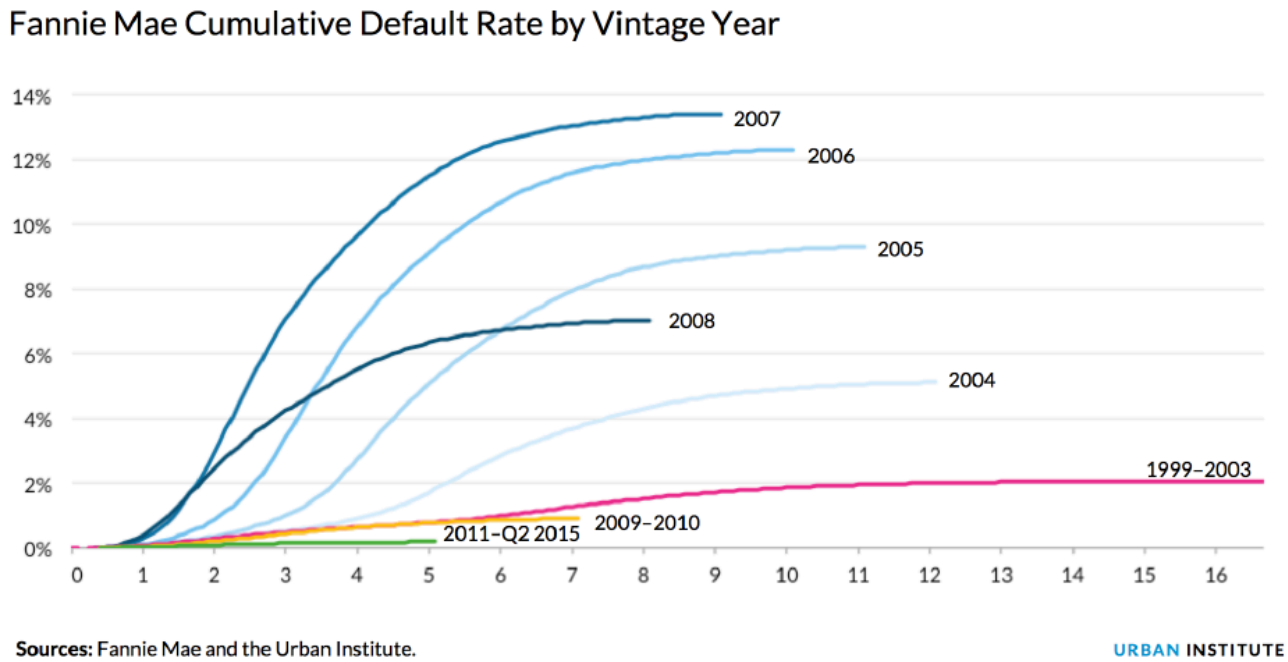
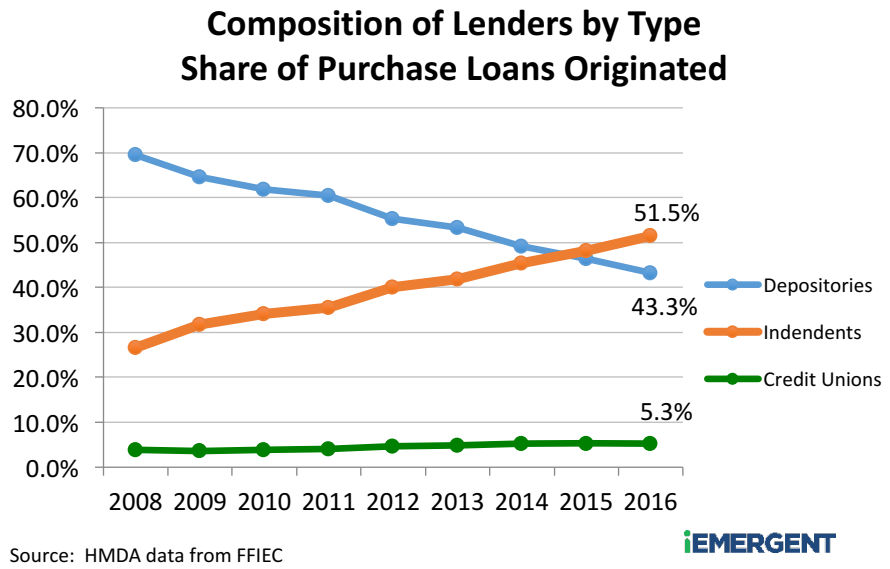
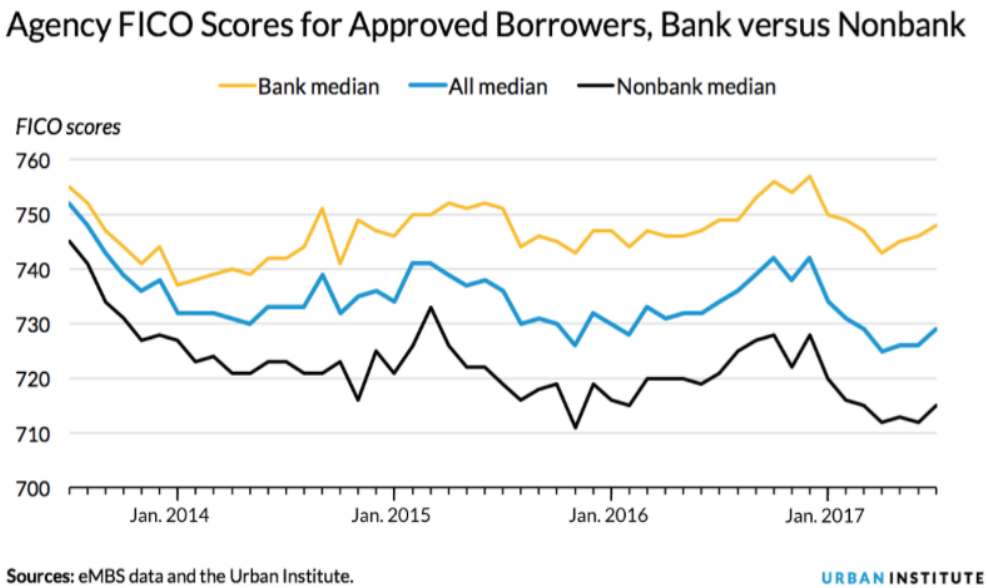


Chart from: Laura Goodman, "Squeaky-Clean Loans Lead to Near-Zero Borrower Defaults – And That is Not a Good Thing," Urban Institute, Aug 31, 2016.

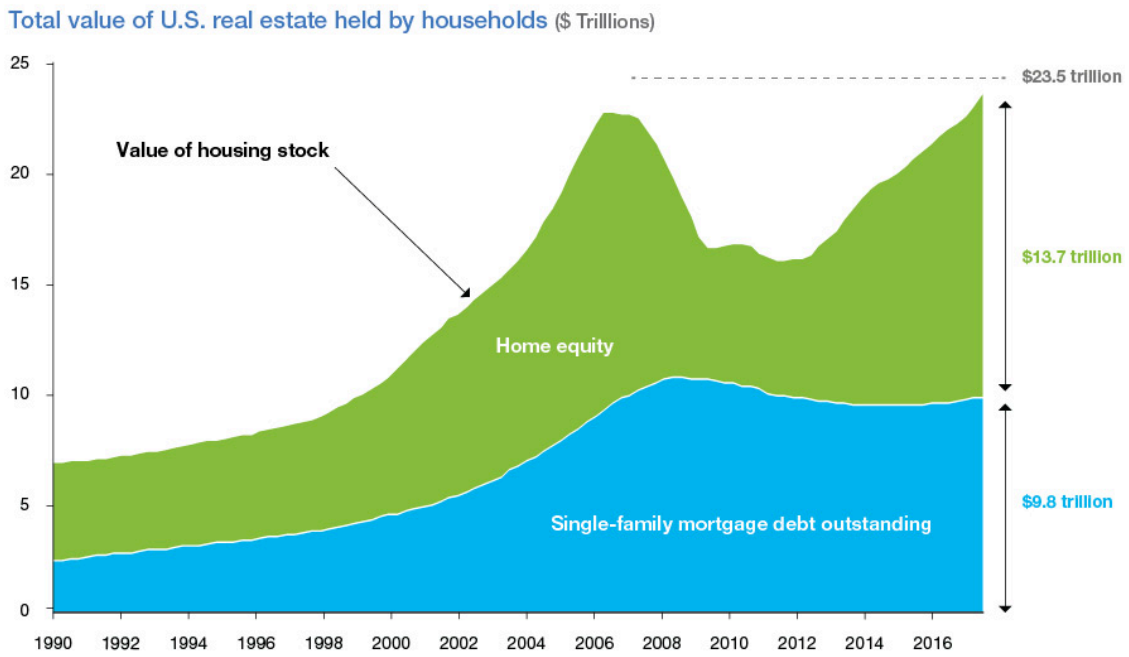
Just a few years ago, most mortgages were originated by banks. But in the last few years, independent mortgage lenders have nearly doubled their purchase originations share of the market from 27% to 52%.

Nonbanks are also increasingly aggressive at expanding credit availability to borrowers. Nonbanks' median FICO scores are now more than 30 points lower than bank median FICO scores.





Since home values started appreciating again in 2012, homeowners' equity has soared. In 2017, the value of homeowners' equity has reached $13.7 trillion, 40% more than the value of mortgage debt outstanding. With such a windfall we expect to more households tapping into this wealth through home equity loans (HELOCs and closed-end second mortgages).



Note: Value of U.S. housing stock includes homes with and without underlying mortgages. U.S. home equity is the difference between the value of the U.S. housing stock and the amount of U.S. single-family mortgage debt outstanding.

Source: Federal Reserve Board's Flow of Funds Accounts, Table B. 101. Data as of March 31, 2017.

Source: FreddieMac *Outlook*, Sep 2017

Appendix: 2018 Total Mortgage Lending Opportunity by State

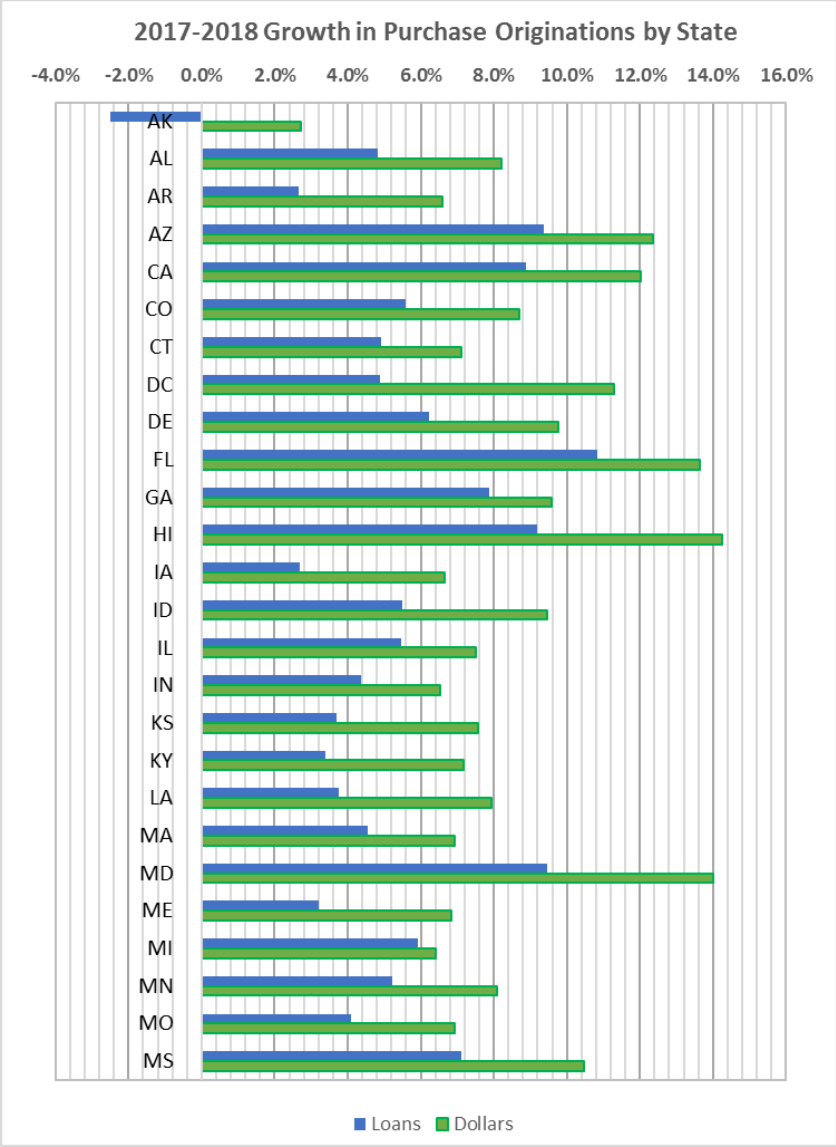
State	2018 Purchase Loans (#)	2018 Purchase Dollars ($B)	2018 Total Loans: Low Estimate (#)	2018 Total Loans: High Estimate (#)	2018 Total Dollars: Low Estimate ($B)	2018 Total Dollars: High Estimate ($B)
AK	8,900	$2.9	12,100	12,800	$3.8	$4.0
AL	58,100	$11.4	83,000	88,500	$16.0	$17.1
AR	36,200	$6.5	48,700	51,400	$8.6	$9.0
AZ	140,000	$33.4	201,400	215,000	$48.2	$51.5
CA	427,800	$188.9	787,400	867,300	$329.9	$361.2
CO	123,700	$37.9	189,400	204,000	$55.5	$59.4
CT	38,500	$12.1	56,800	60,800	$17.6	$18.8
DC	9,100	$5.2	14,400	15,500	$7.7	$8.2
DE	14,800	$4.1	21,600	23,100	$5.8	$6.2
FL	376,600	$90.8	488,300	513,200	$116.5	$122.2
GA	162,500	$35.5	229,100	243,900	$49.4	$52.4
HI	15,200	$8.2	24,300	26,300	$12.4	$13.4
IA	47,700	$7.9	66,100	70,200	$10.8	$11.5
ID	38,100	$8.0	52,300	55,500	$10.8	$11.5
IL	161,200	$36.8	242,100	260,000	$56.0	$60.2
IN	94,400	$15.9	133,100	141,700	$22.0	$23.3
KS	37,800	$7.4	52,600	55,900	$10.1	$10.6
KY	51,400	$9.2	72,900	77,700	$12.9	$13.7
LA	47,300	$10.6	66,900	71,200	$14.3	$15.2
MA	89,400	$32.2	139,400	150,500	$48.5	$52.2
MD	92,700	$32.7	142,100	153,100	$48.3	$51.8
ME	17,800	$4.0	25,700	27,500	$5.7	$6.1
MI	132,500	$21.5	196,900	211,200	$32.2	$34.6
MN	95,700	$21.2	138,000	147,300	$30.3	$32.4
MO	88,800	$16.2	128,200	137,000	$23.5	$25.1
MS	26,900	$4.8	37,900	40,400	$6.6	$7.0

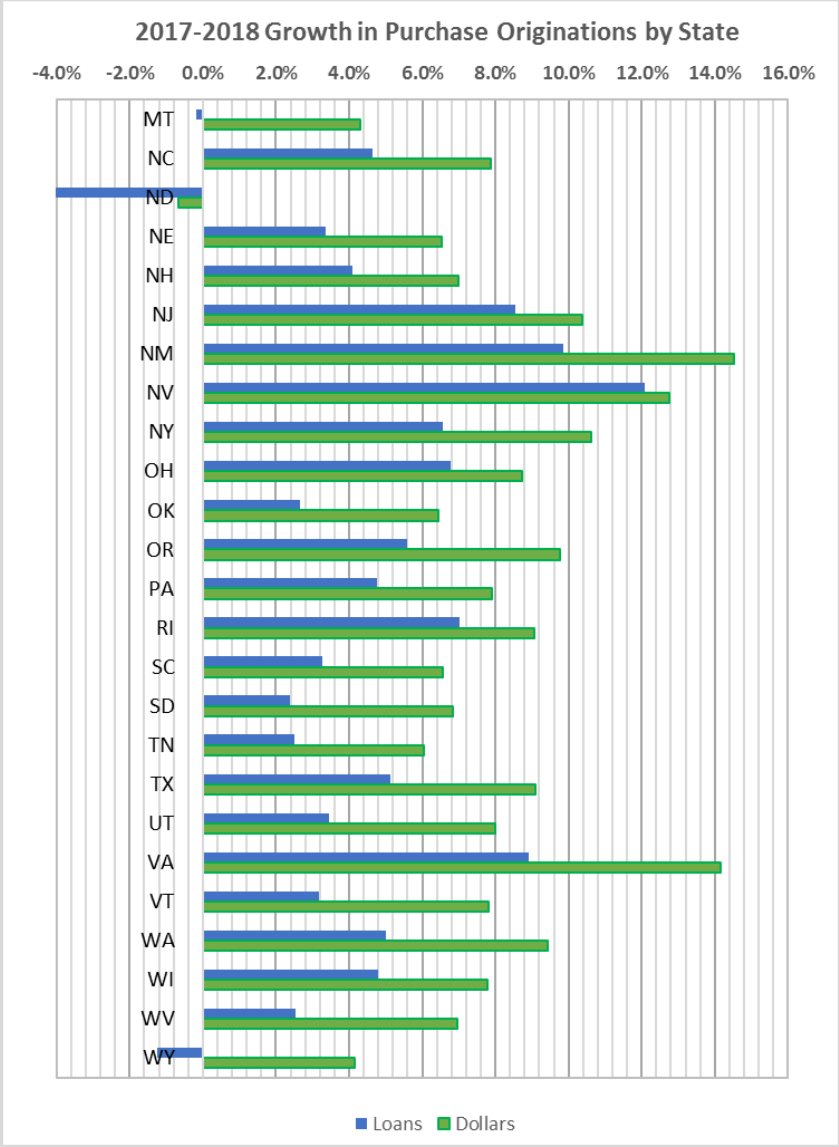
Appendix: 2017 Total Mortgage Lending Opportunity by State

State	2018 Purchase Loans (#)	2018 Purchase Dollars ($B)	2018 Total Loans: Low Estimate (#)	2018 Total Loans: High Estimate (#)	2018 Total Dollars: Low Estimate ($B)	2018 Total Dollars: High Estimate ($B)
MT	13,000	$3.4	18,500	19,700	$4.7	$5.0
NC	154,500	$35.8	214,700	228,000	$48.5	$51.3
ND	8,600	$2.0	12,100	12,900	$2.6	$2.8
NE	28,400	$5.1	39,200	41,600	$6.8	$7.2
NH	19,800	$5.0	28,900	30,900	$7.2	$7.7
NJ	107,200	$35.2	162,000	174,200	$52.2	$56.0
NM	24,300	$5.3	35,100	37,500	$7.6	$8.1
NV	63,900	$14.5	90,300	96,100	$20.9	$22.3
NY	151,600	$57.0	208,000	220,500	$74.3	$78.2
OH	153,500	$26.0	215,600	229,400	$35.9	$38.2
OK	45,800	$8.5	60,600	63,900	$10.9	$11.4
OR	67,800	$20.1	100,200	107,400	$28.2	$30.0
PA	140,800	$30.0	204,200	218,300	$42.1	$44.8
RI	14,000	$3.5	21,300	23,000	$5.3	$5.7
SC	77,300	$17.8	104,200	110,200	$23.6	$24.9
SD	11,300	$2.3	15,600	16,500	$3.1	$3.3
TN	94,900	$20.5	132,200	140,600	$27.6	$29.2
TX	385,800	$94.2	507,600	534,600	$118.4	$123.7
UT	69,200	$18.1	102,000	109,300	$25.8	$27.5
VA	137,800	$47.6	206,700	222,100	$68.8	$73.5
VT	6,700	$1.7	10,200	11,000	$2.4	$2.6
WA	130,000	$43.8	194,600	209,000	$62.5	$66.7
WI	79,100	$15.0	122,600	132,300	$22.9	$24.7
WV	14,800	$2.7	20,700	21,900	$3.7	$3.9
WY	7,500	$1.9	10,500	11,200	$2.6	$2.8
TOTAL	**4,440,700**	**$1,182.2**	**6,488,300**	**6,943,100**	**$1,712.2**	**$1,829.9**

Appendix: 2017-2018 Growth in Purchase Opportunity by State

The two graphs below illustrate how the purchase market will grow from 2017-2018 across the U.S. Only in AK, ND, MT and WY is loan opportunity projected to fall, which is a testament to the continued strength of the purchase market. The states projected to grow the most in purchase loans are NV and FL while NM, HI, and VA have the strongest growth in purchase dollars.





OUR COMPANY

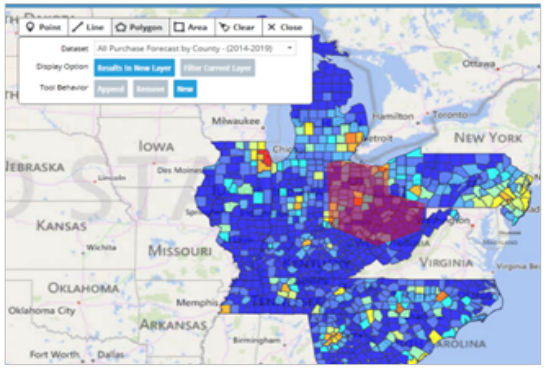
iEmergent is a forecasting and advisory firm for the lending industry. Since 2000, we have been focused on delivering a forward-looking approach to helping organizations navigate the industry's changing landscape. After nearly 20 years as an executive at two national lenders, our founder leveraged his background in mathematics and predictive modeling to develop a groundbreaking method for forecasting mortgage opportunity. In addition to our forecasts, we provide strategic advisory services to lenders of all sizes and types, as well as mortgage insurance, title, and investment companies. Viewed as industry leaders, we have been featured in Mortgage Banking magazine, HousingWire, National Mortgage News, Origination News, Inman News, and the Credit Union Journal.

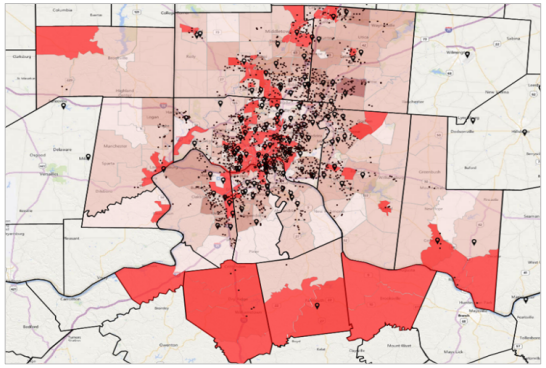
OUR PRODUCTS

iEmergent provides accurate, forward-looking data that quantifies what's next in mortgage markets across the nation. As housing and lending sputter and stutter toward recovery, our forecasts drill down into states, metro areas, counties, and neighborhoods to quantify where and how mortgage opportunity will grow, slow, or stay the same.

Most clients access our data through Mortgage MarketSmart, a web application with dynamic maps. This powerful visualization tool brings HMDA and detailed forecast data to life, helping organizations easily make decisions about high-level strategic opportunities and tactical, market-level challenges:

- Expand and grow responsibly
- Improve sales strategies at all levels
- Optimize resources, brand, and locations
- Recruit, hire, train, and retain sales resources
- Minimize distribution risk and meet CRA/Fair Lending regulations





FORECAST SEGMENTS

Market Geography
- State
- MSA
- County
- Census Tract

Market Segments
- Occupancy Types
- Custom Loan Sizes
- Conventional Loan Type
- FHA,VA, FSA Loan Types
- Jumbo, Conforming
- Borrower Income Levels
- Borrower Race/Ethnicity
- First Time Homebuyer
- CRA Eligible
- New Construction Sales
- Custom Loan Sizes
- Refinance Ranges

For more information about Mortgage MarketSmart, our forecasts, or advisory services, call Bernard Nossuli at 515-327-0070 (x106).