

Analysis of current and forecasted demand for housing in North America

TIMBER MEASUREMENT SOCIETY

Central Meeting

April 7, 2016

Coeur d'Alene, Idaho



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Housing Overview

Factors Influencing Housing Demand

Canada

Housing Permits, Starts, and Completions

Existing and New House Sales

Construction Spending

Residential Remodeling

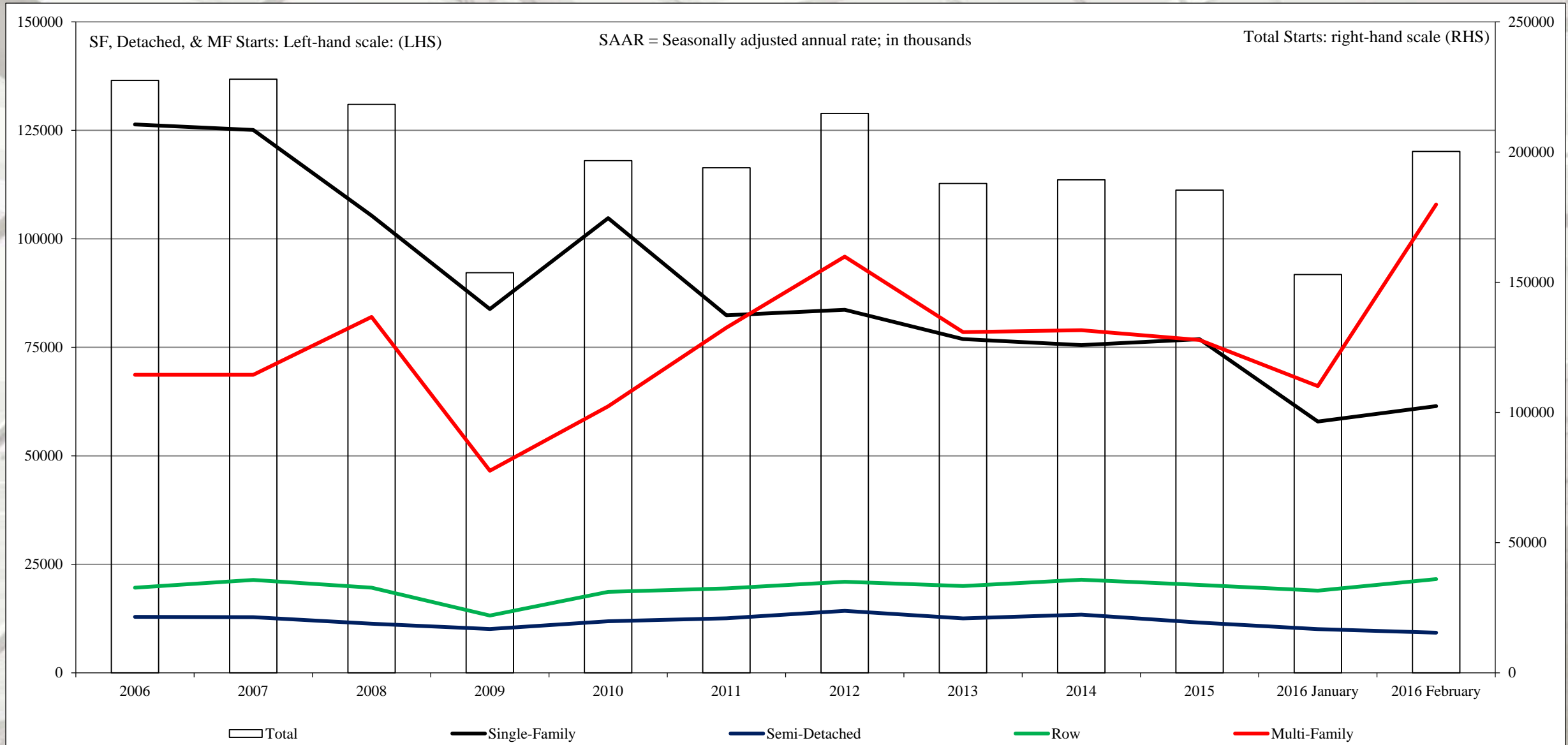
Economic

Demographics + Employment

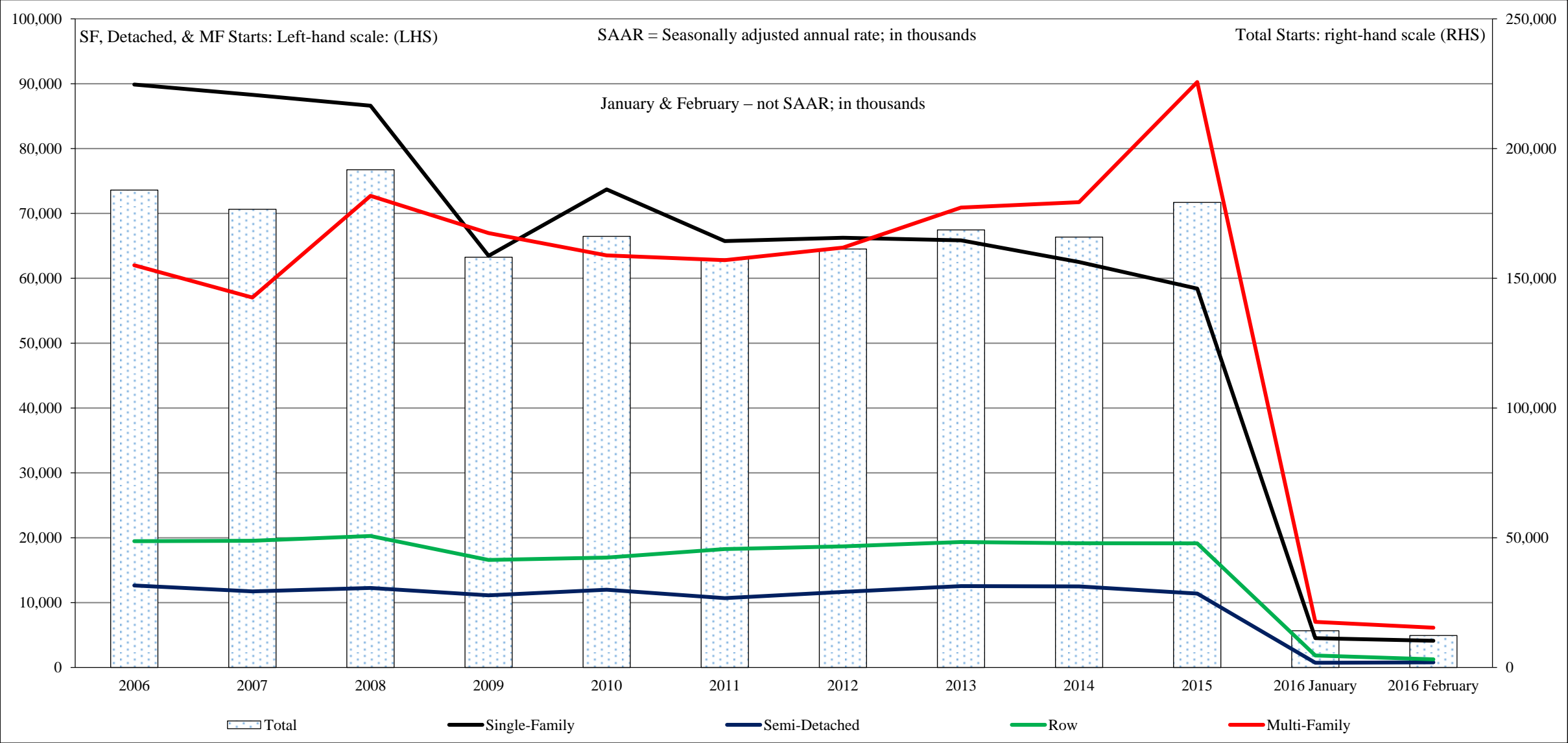
Projections

Conclusions

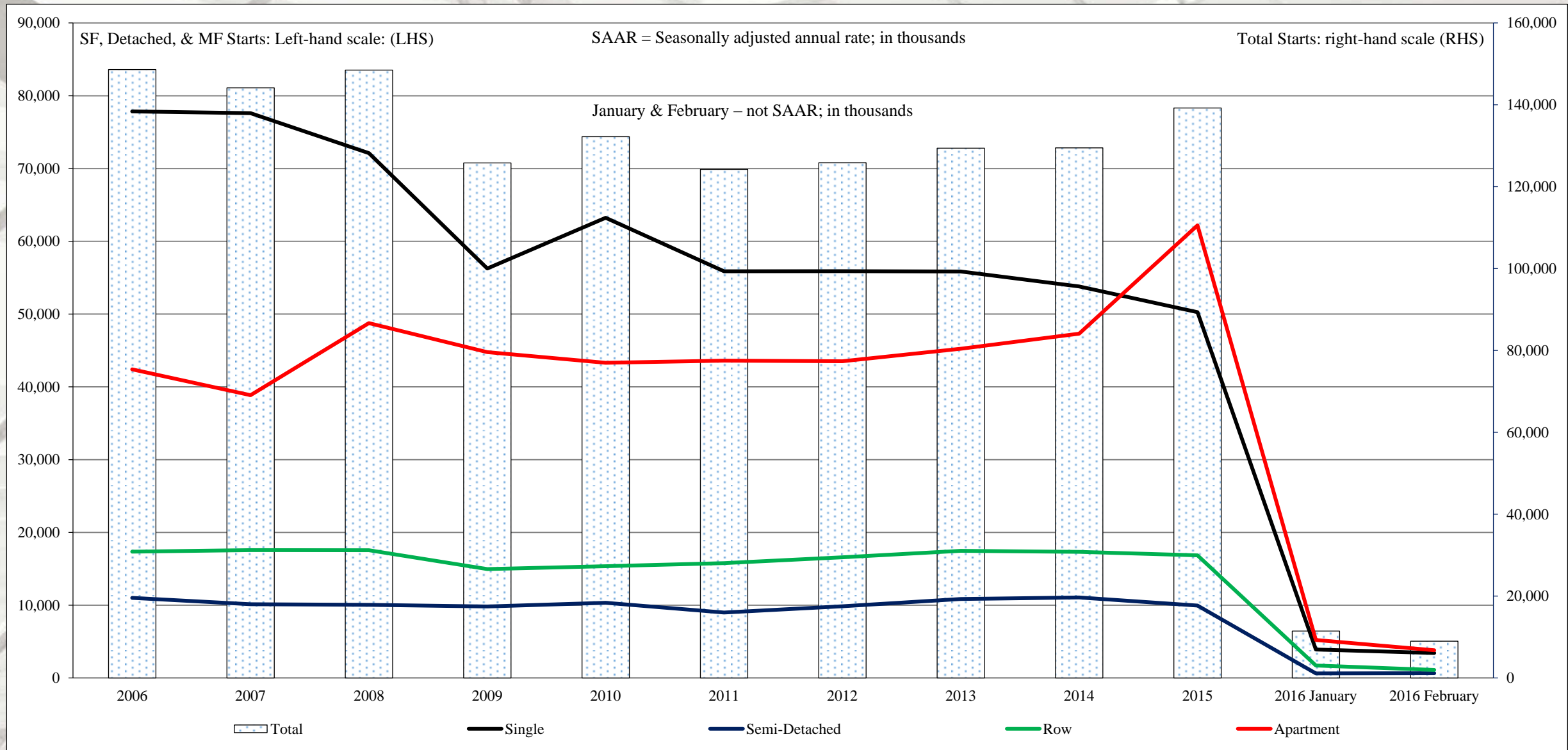
Canadian Housing Starts



Canadian Housing Completions



Canadian Housing Sales



Canadian Existing Home Sales — February

Existing Home Sales					
Canada (% change)		— Sales —		Prices	
February	m/m ¹	y/y	y-t-d-2016	y/y	y-t-d-2016
Canada	0.8	18.7	14.3	16.4	16.8
Vancouver	0.9	36.9	35.0	25.6	27.6
Toronto	3.2	20.2	15.0	14.9	14.9
Winnipeg	3.6	23.9	10.6	4.2	4.4
Regina	-3.7	3.4	-3.0	1.8	3.2
Montreal	-2.9	14.8	13.6	1.9	3.0
Calgary	-1.1	-6.9	-9.9	2.1	1.4
Ottawa	-3.9	7.0	2.3	-1.0	0.3
Halifax	-4.5	10.8	11.2	-3.5	-2.5
Edmonton	-9.8	-10.5	-9.6	-0.5	-3.7
MLS Home Price Index (national)				8.5	8.1
¹ (seasonally adjusted) Source: Canadian Real Estate Association					

Canadian Housing Outlook

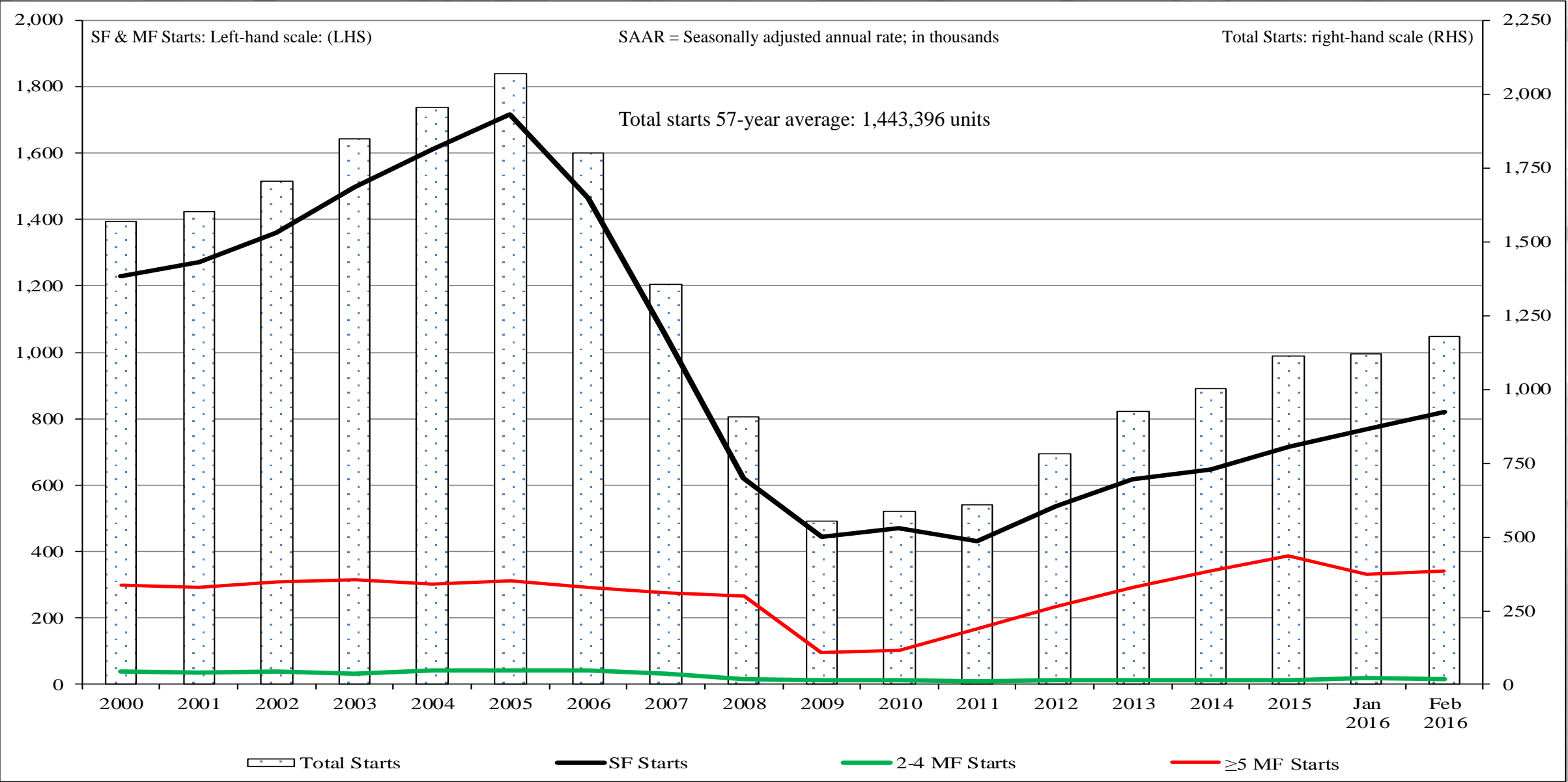
Canadian Regional Housing Outlook: The booming, the struggling and the stable

- Housing in Canada can best be characterized as a three speed market: the booming (Toronto, Vancouver and surrounding areas), the struggling (Calgary, Edmonton, Saskatoon, and Regina), and the stable (the rest of Canada).
- The dominance of the fastest growing markets boosted overall Canadian resale activity last year to its second highest level on record (behind 2007), while national prices surged by 8.5%.
- The wide performance gap between markets looks set to narrow somewhat in 2016. This convergence will be partly driven by recent regulatory changes and an upward drift in borrowing rates, which will put the brake on future gains in the most expensive Toronto and Vancouver markets.
- For the beleaguered markets hit most directly by low oil prices, including Calgary, stabilization in housing prices is unlikely to take place before 2017.
- Overall, national existing home sales and new home starts are likely to ease back in line with long-run averages, while price growth is expected to moderate to just 2.6% in 2016 before contracting modestly in 2017.” -- Diana Petramala, Economist, TD Economics

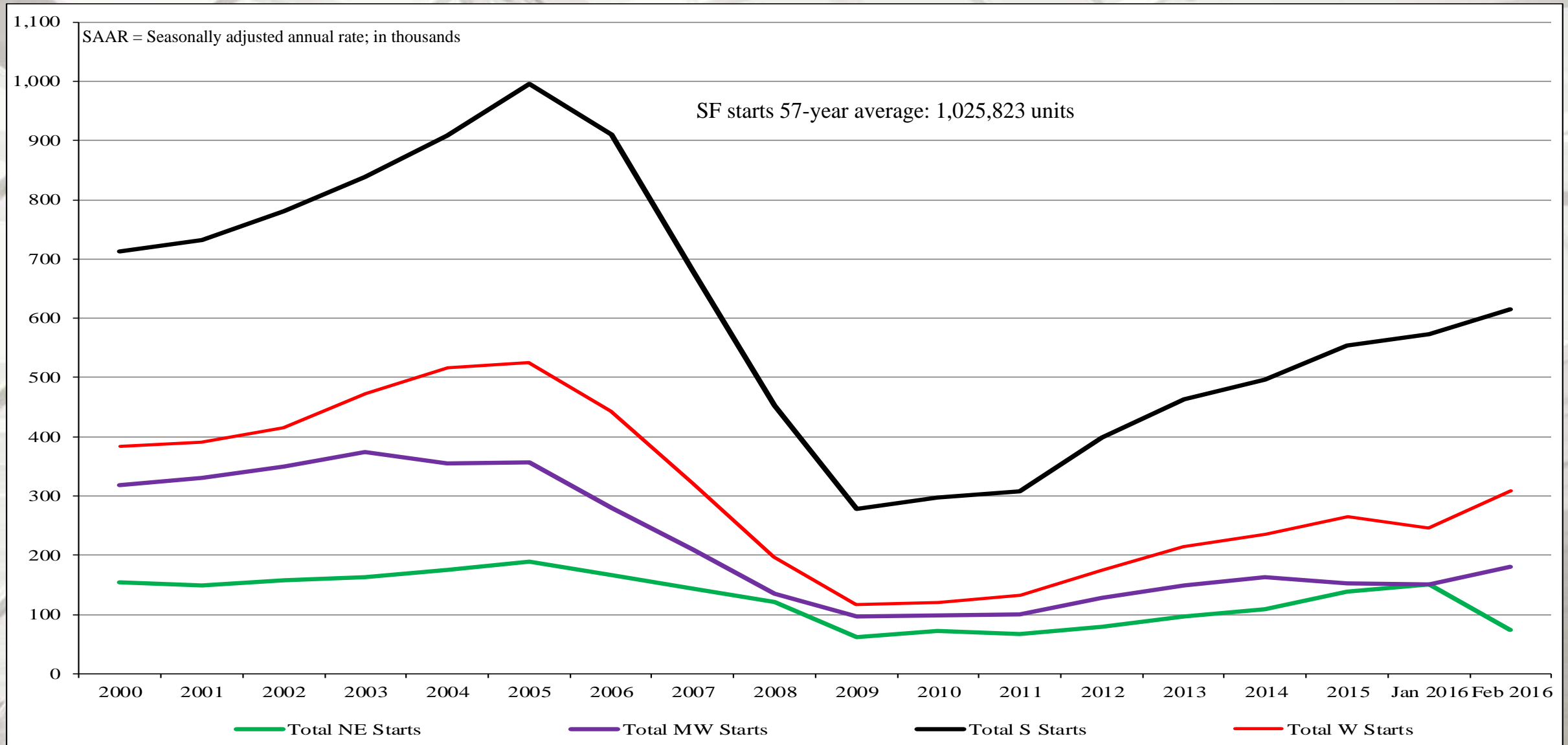
United States Housing Markets



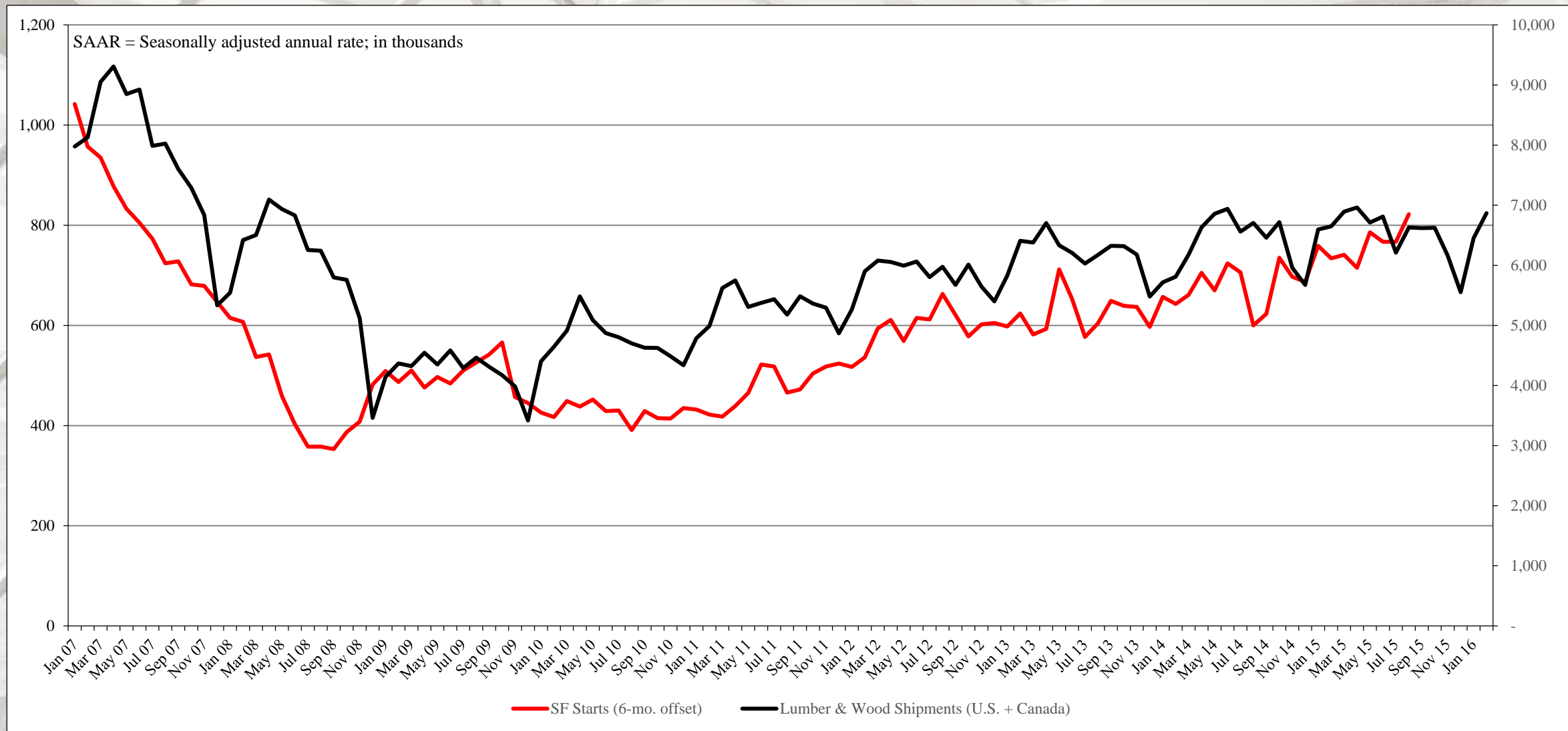
Total Housing Starts



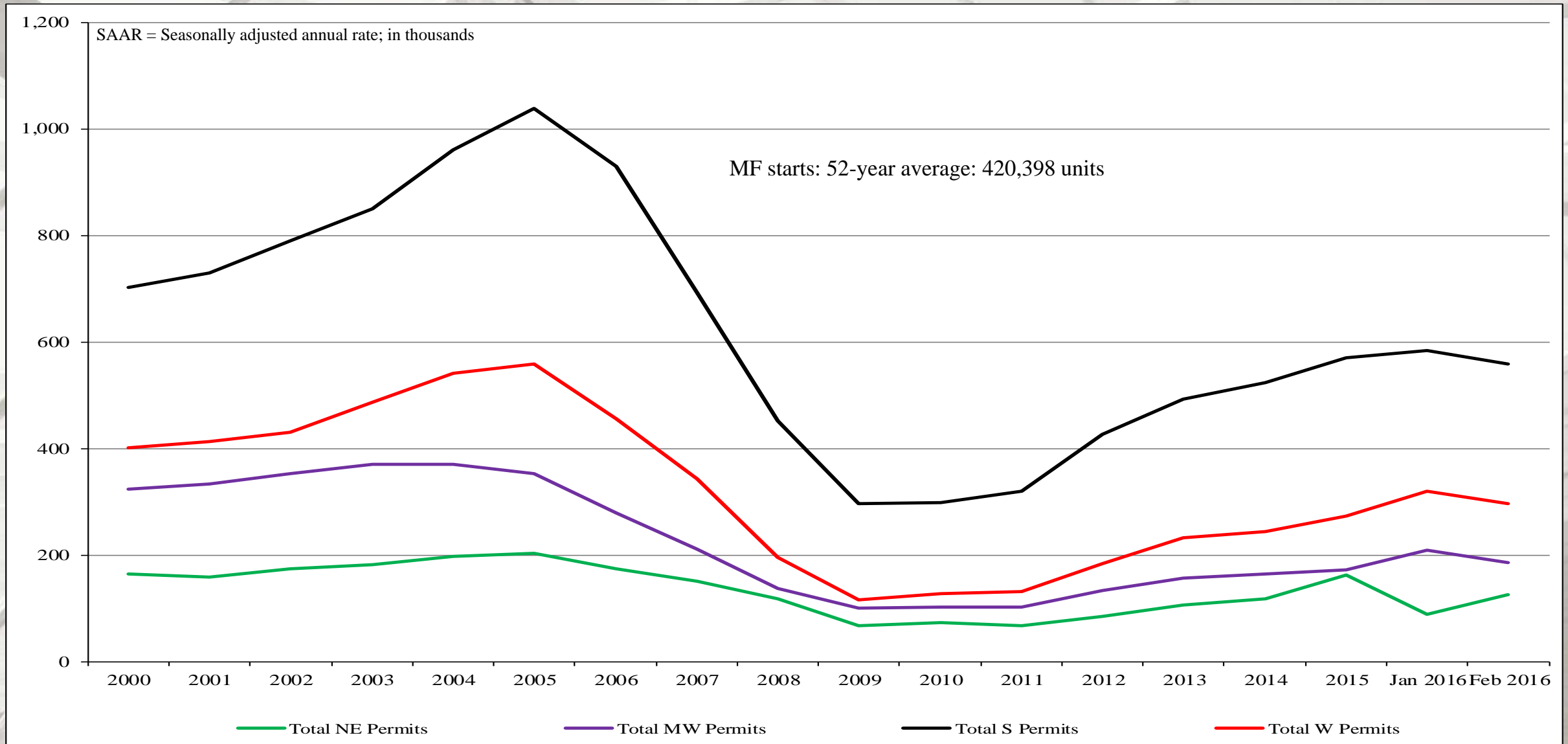
Total SF Housing Starts by Region



Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts: 6-month Offset



Total MF Housing Starts by Region



Freddie Mac Multifamily

More Than Half of Renters Plan to Keep Renting

“Despite rent increases and feeling burdened by their finances, 70 percent of renters currently feel renting is a more affordable choice than homeownership, according to a Freddie Mac survey, and 55 percent plan to keep renting in the next three years. When looking across the generations, the views are similar with 70 percent of Millennials, 61 percent of Gen Xers and 73 percent of Baby Boomers thinking that renting is a more affordable choice for them.

For the Freddie Mac quarterly online survey of renters conducted in January and February 2016, 46 percent say renting is a good choice for them now regardless of whether they plan to buy or believe they will be able to afford to do so. The perception is even more positive among Millennials with 54 percent saying renting is a good choice for now.”

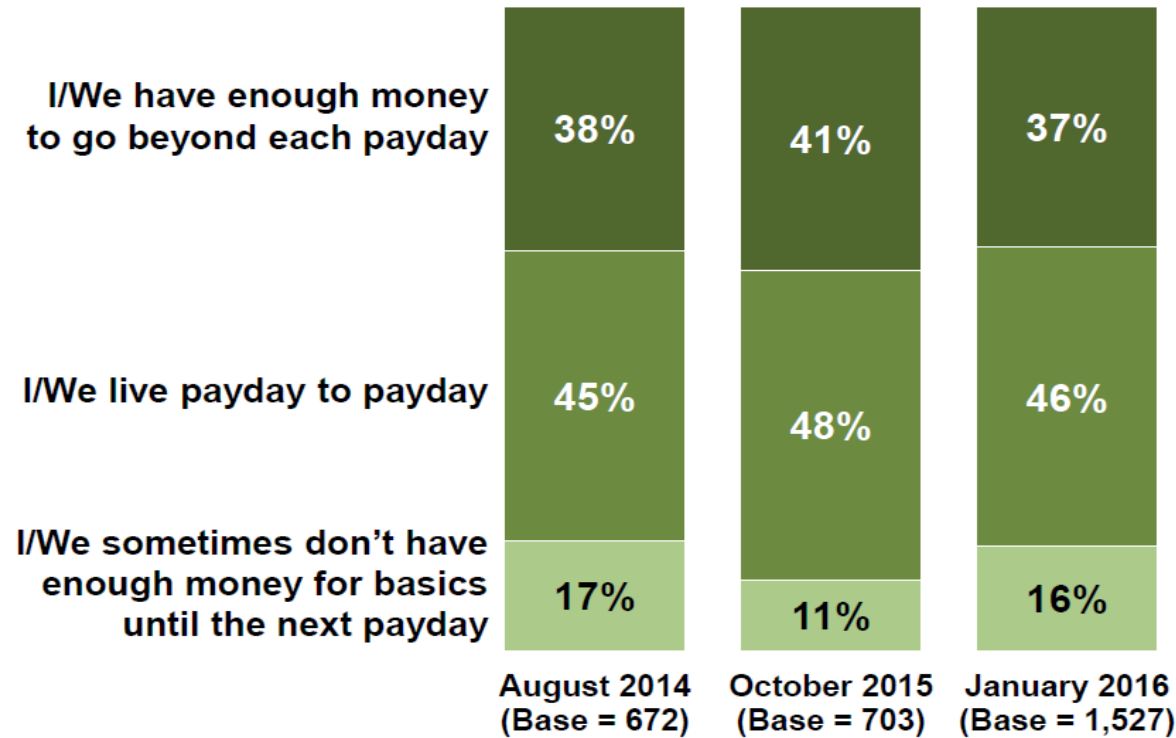
“Renting is becoming a popular choice among many age groups. While most renters still have favorable views toward homeownership and aspire to it, many choose to rent because they view it as more affordable and a better fit for their lifestyle right now.” – David Brickman, Executive Vice President, Freddie Mac Multifamily

Freddie Mac Multifamily

Renter Perceptions of Their Finances Remain Stable Since 2014



Q: Which of the following statements best describes your household's general financial situation?



(Base = Total renters)

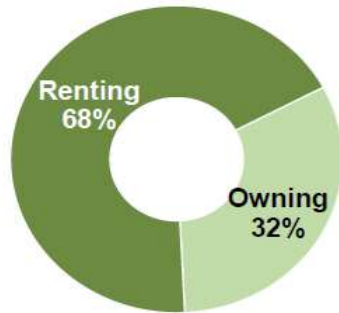
Freddie Mac Multifamily

Regardless of Age, Renting seen as More Affordable Than Owning

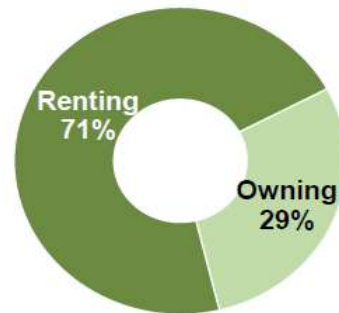


Q: Overall, which do you think is more affordable for you today?

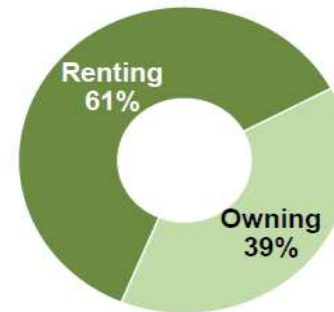
**Younger Millennials
(Age 18 – 24)**



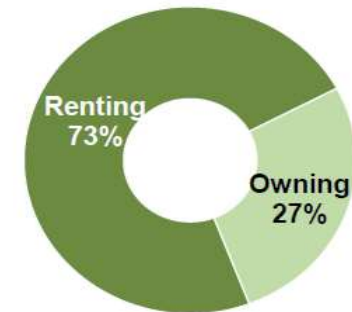
**Older Millennials
(Age 25 – 34)**



**Gen X
(Age 35 – 49)**



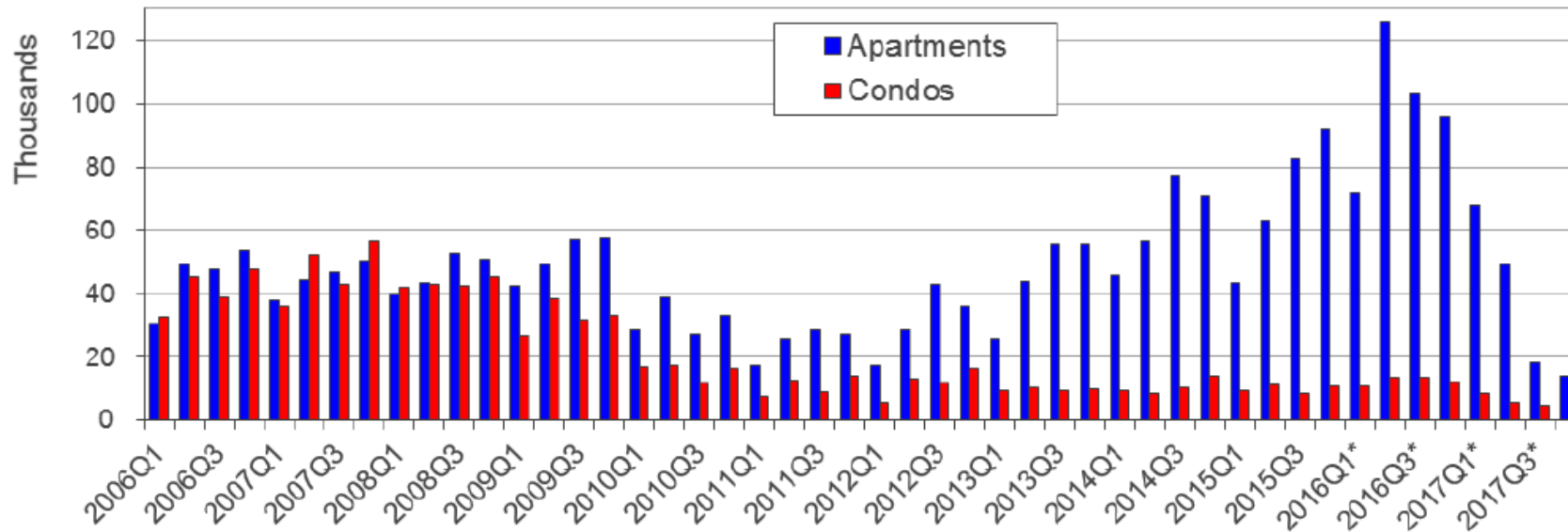
**Baby Boomers
(Base = 50 – 68)**



*(Base = 205 Younger Millennials, 439 Older Millennials, 408 Gen X and 395 Baby Boomers)
Excludes "Mature" generational renters (Age 69+) given extremely small sample size.*

Fannie Mae Multifamily

National Condo and Apartment Completions and Units Underway



Source: CBRE-EA/Dodge Data & Analytics. NOTE: Pipeline data is not an actual forecast of activity. It is a monitor of activity reported on to date. As more projects are planned and tracked, figures in future periods might go up.

Multifamily Market Commentary – March 2016 New Multifamily Supply Short-Lived Over the Short Term

“There are more than 582,000 apartment and condominium units currently underway. But we expect that amount of new multifamily supply to be short-lived. As the chart below shows, the bulk of this construction should come online this year, with the remainder completing in 2017 and 2018.” – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

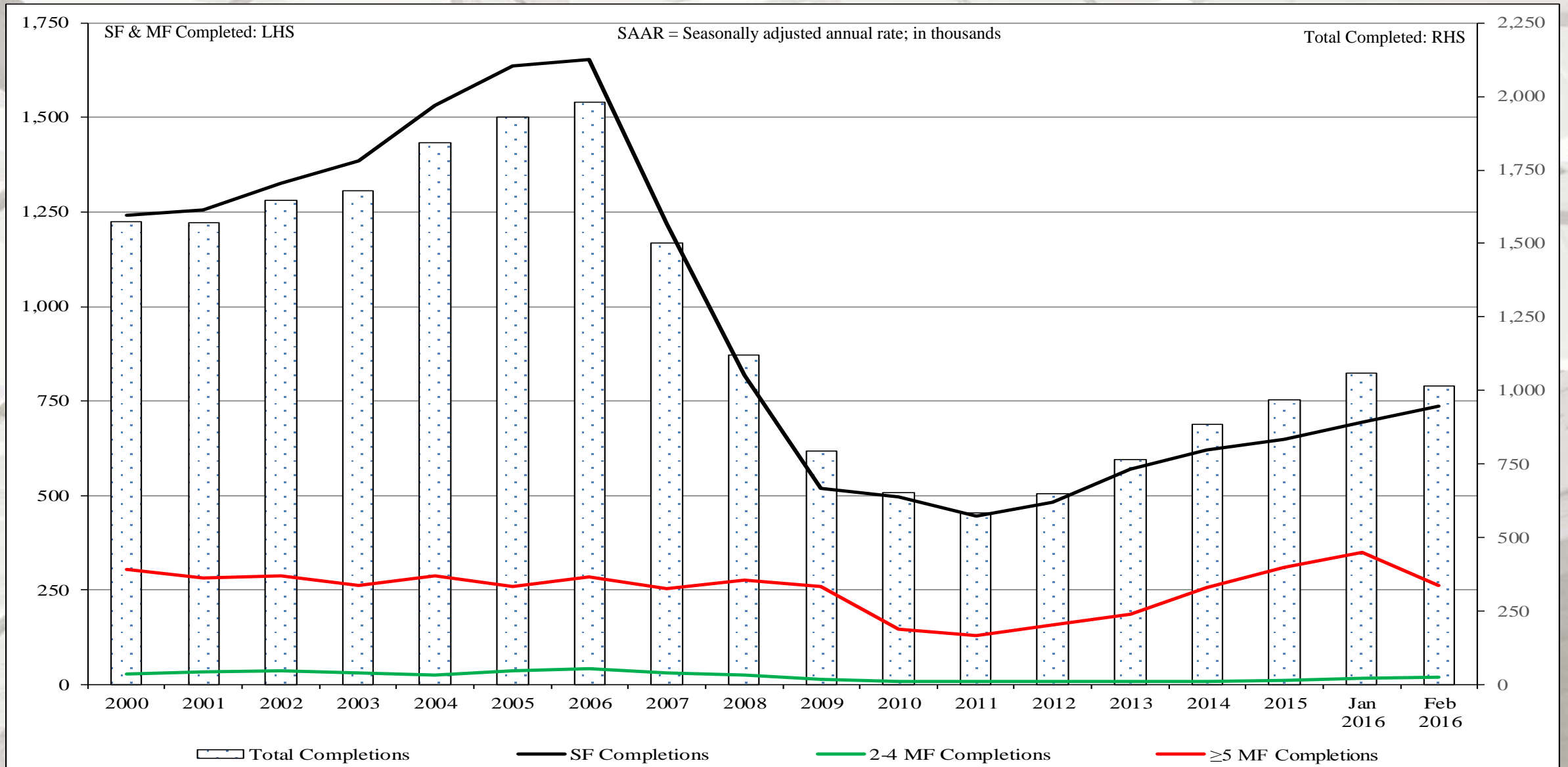
Urban Wire: Housing and Housing Finance

“127 million US renters:

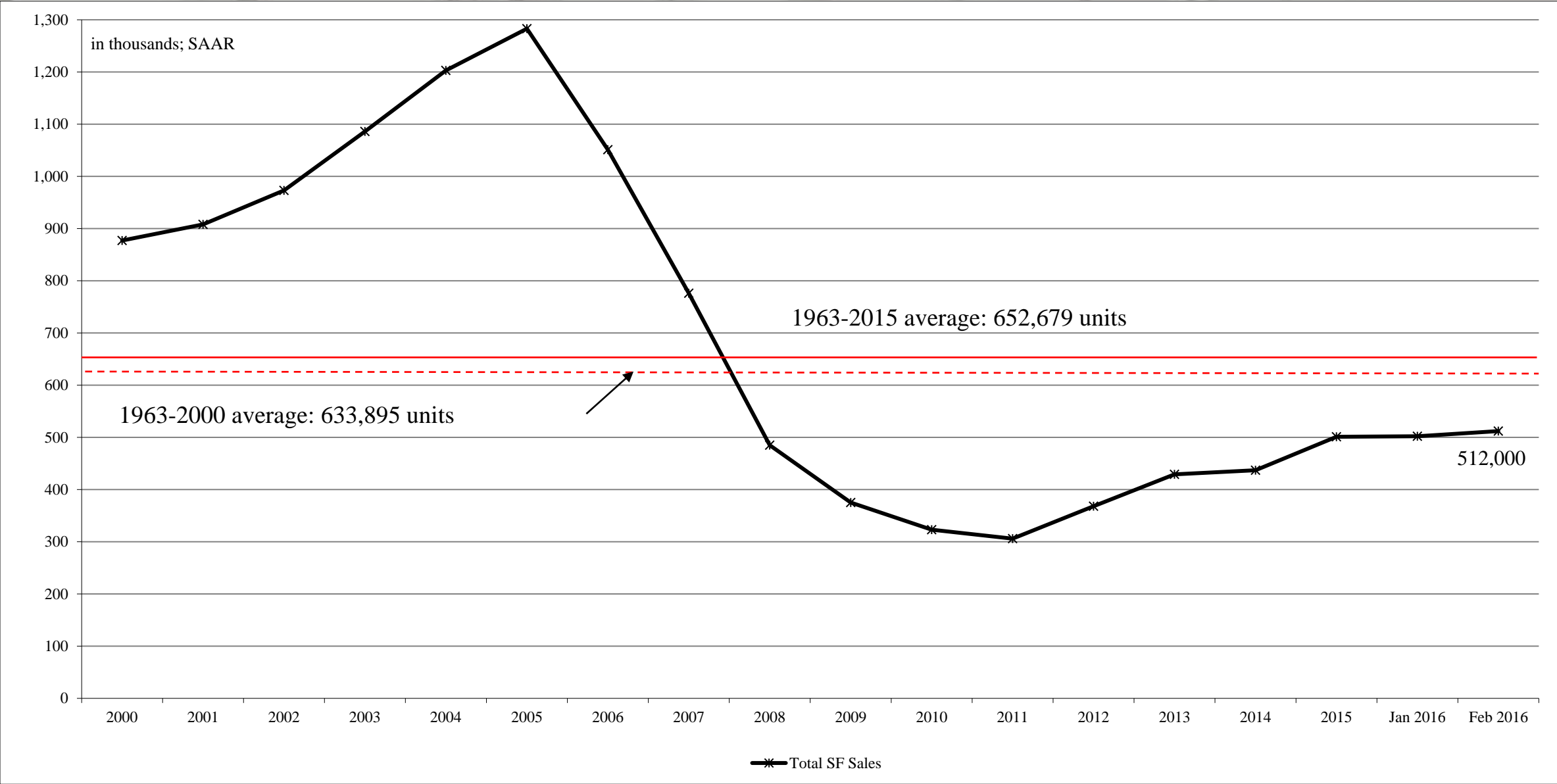
- 76 percent never had a mortgage
- 15 percent had a mortgage
- 9 percent now have a mortgage (12 million)
- 64 million renters have credit scores below 650 and may not qualify for a mortgage
- 96 million renters have never had a mortgage, and 42 percent of them have debt in collections
- Many middle-aged renters who used to have a mortgage appear to have been forced out of homeownership by financial troubles” –

Laurie Goodman, Director, Housing Finance Policy Center and Wei Li, Senior Research Associate, Urban Institute

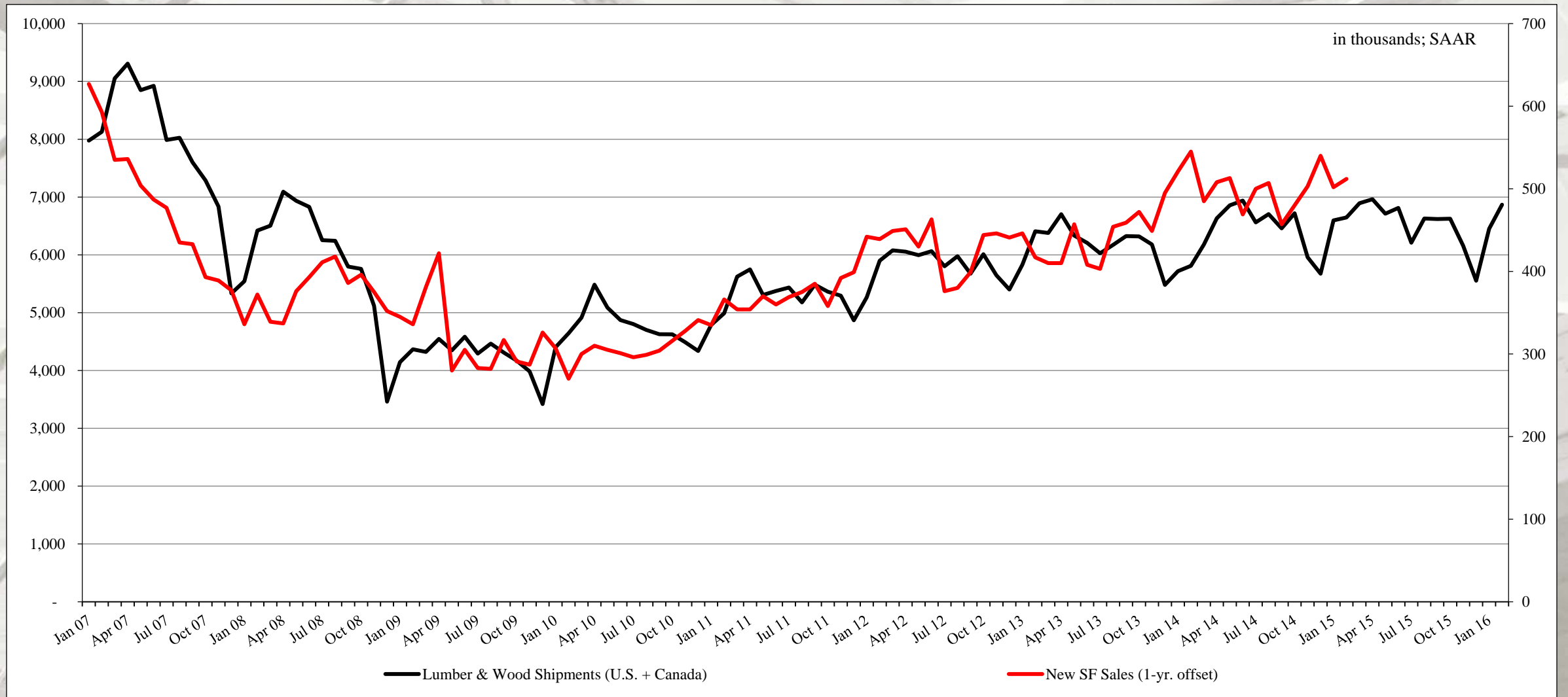
Total Housing Completions



Total New SF Sales



Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales: 1-year offset



New SF Sales

FRED 

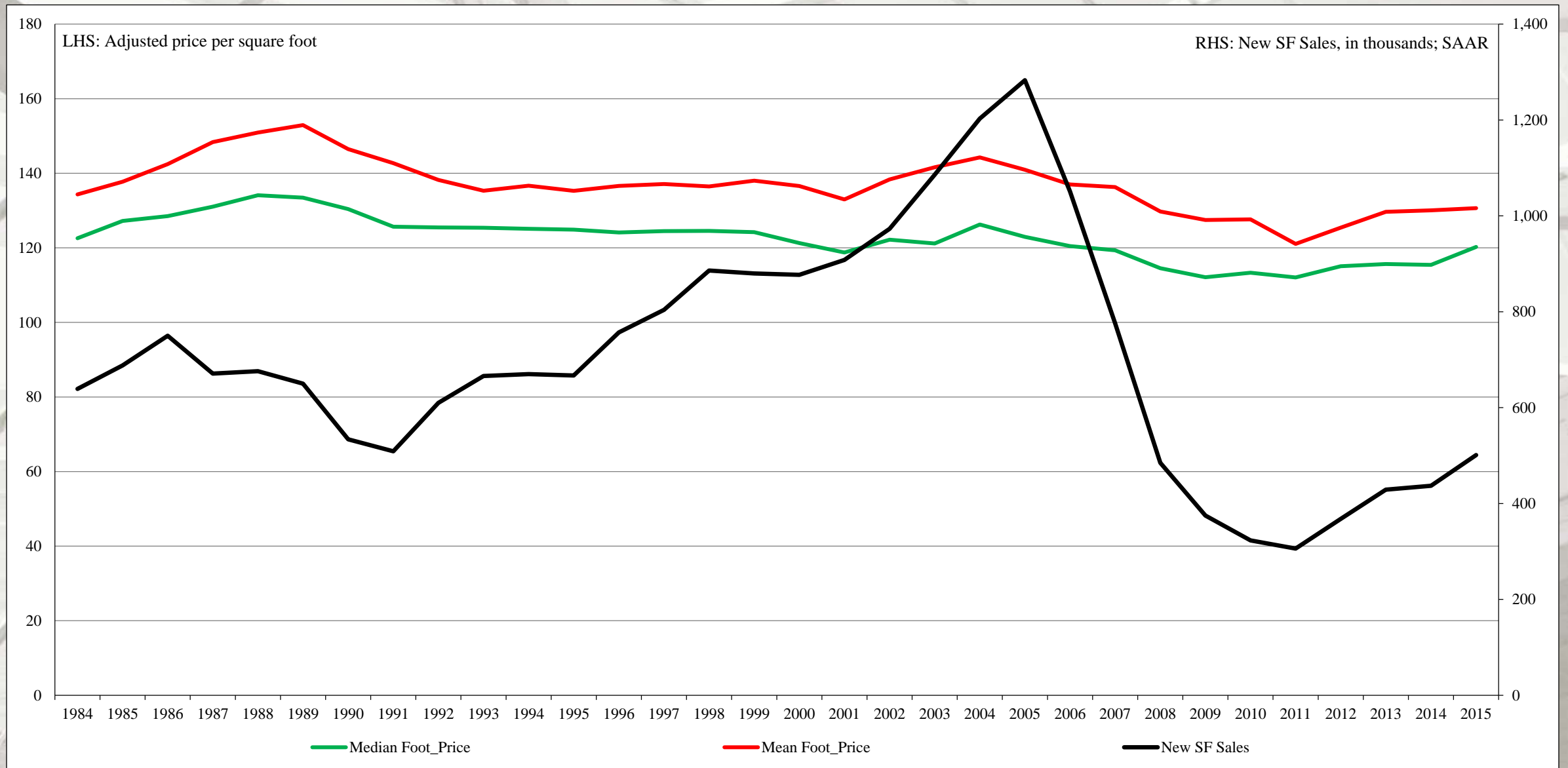
— New One Family Houses Sold: United States



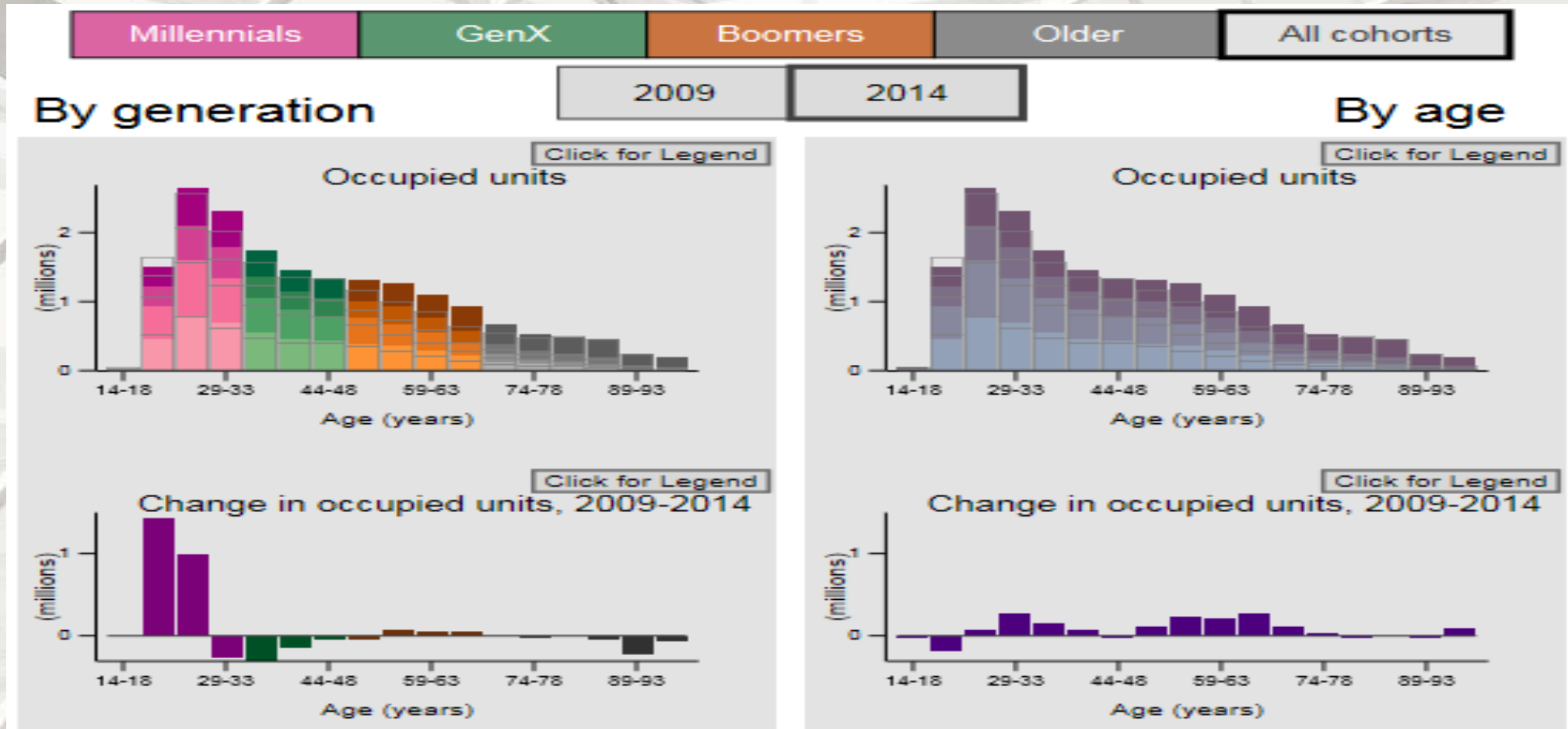
Source: US. Bureau of the Census
research.stlouisfed.org

US new home sales declined on a year-over-year basis. Low inventories of affordable homes, or.....?

New SF Sales, Real Median & Mean Cost

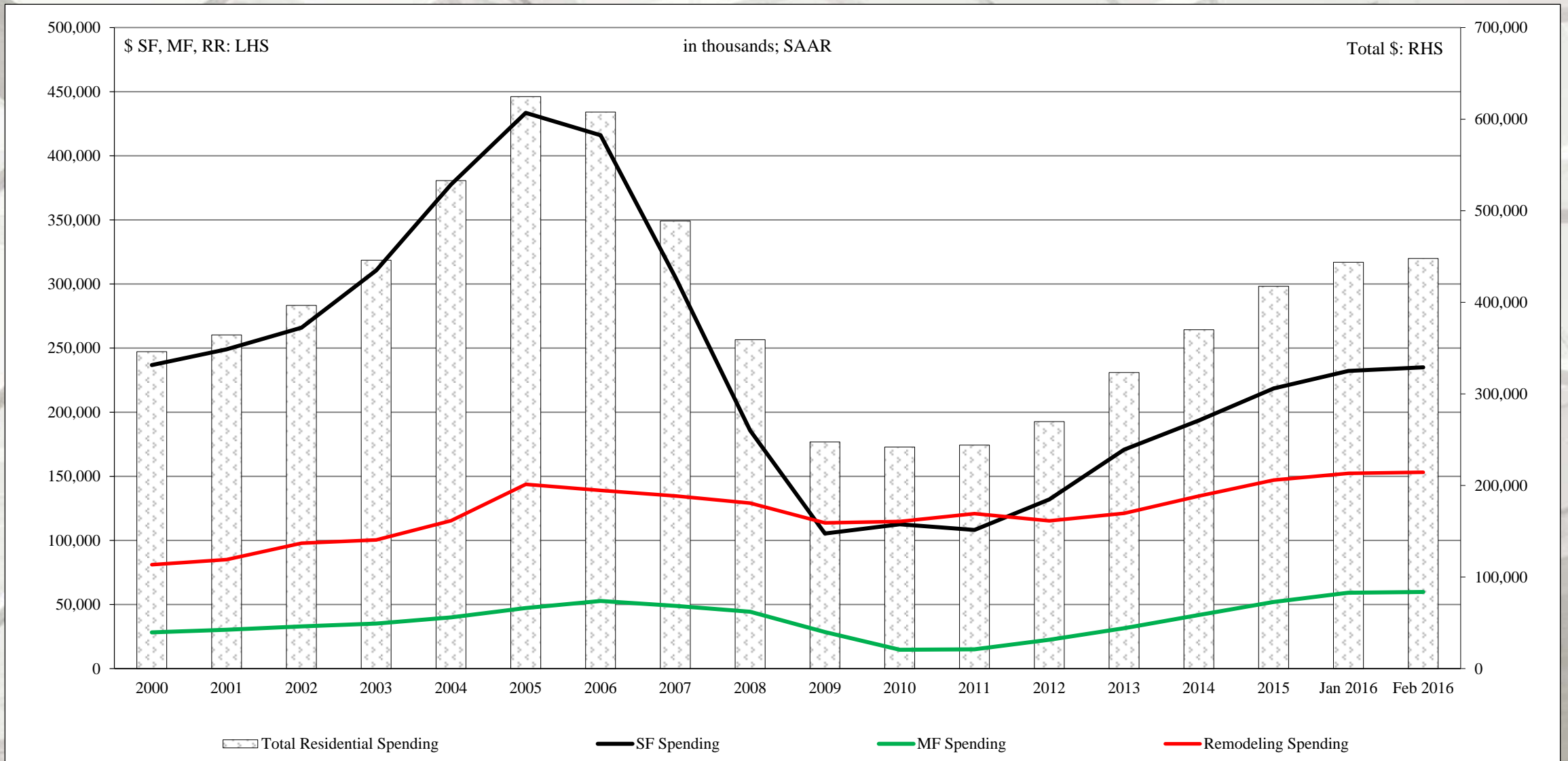


Housing Myths, Debunked: Millennials, Not Baby Boomers, Are the Driving Force Behind the Recent Surge in Apartment Demand



Source: U.S. Census Bureau, 2009 and 2014 American Community Survey Public Use Microdata Samples, 1-Year Estimates.

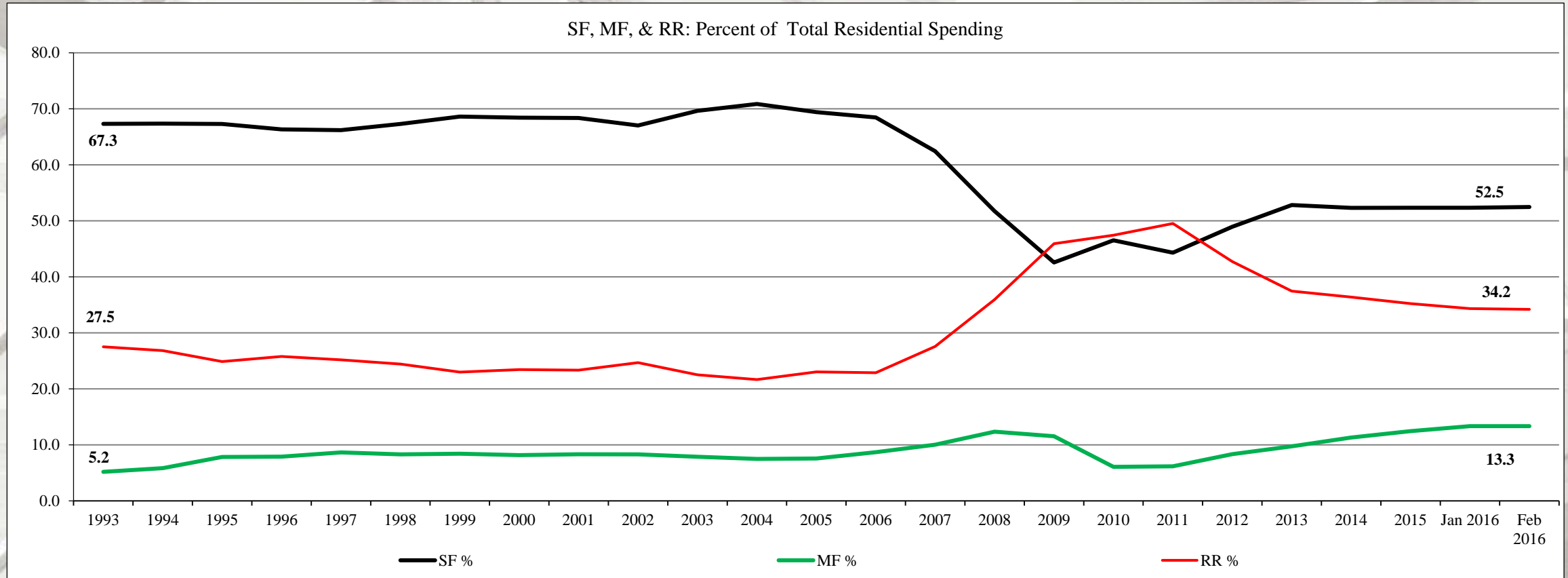
Construction Spending: 2000-February 2016



Reported in nominal US\$.

Source: <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 4/1/16

Construction Spending Shares: 1993 to February 2016



SF spending: 69.2 % of total residential spending: 1993 through 2006;

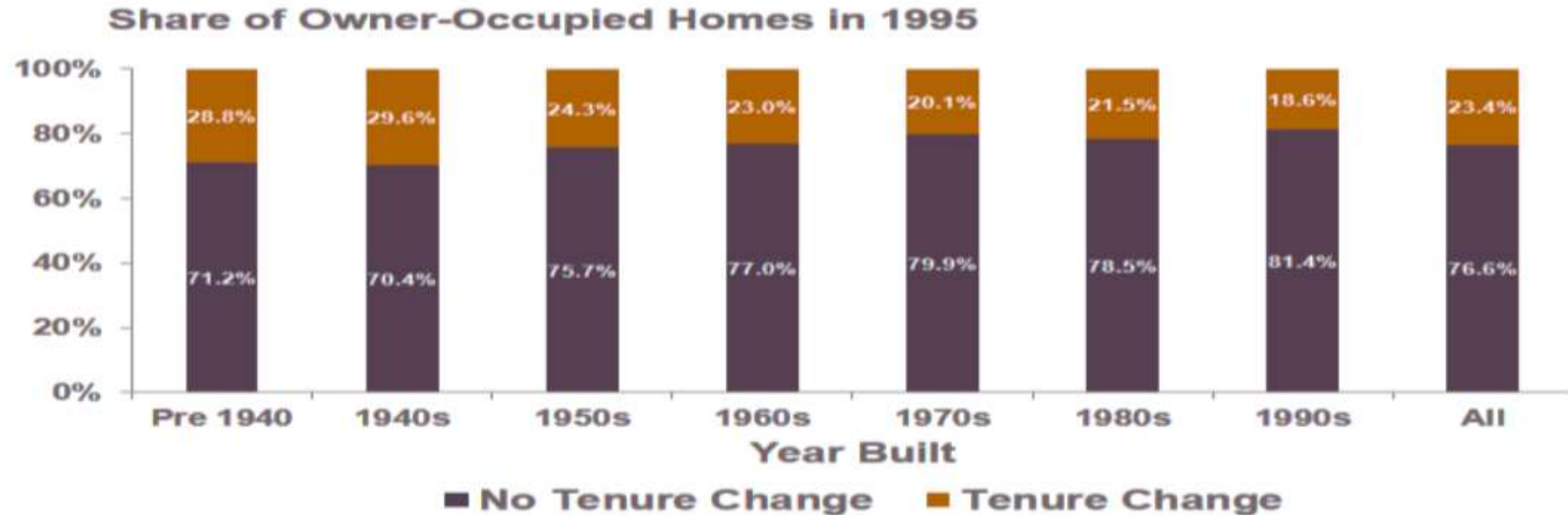
MF spending: 7.5 %;

RR spending: 23.3 % (all weighted averages; SAAR).

Note: 1993 to 2015 (adjusted for inflation, BEA Table 1.1.9); January-February 2016 reported in nominal US\$.

Construction Spending

Figure 1: Older Homes Are About 50% More Likely to be Converted to Rentals Than Newer Homes



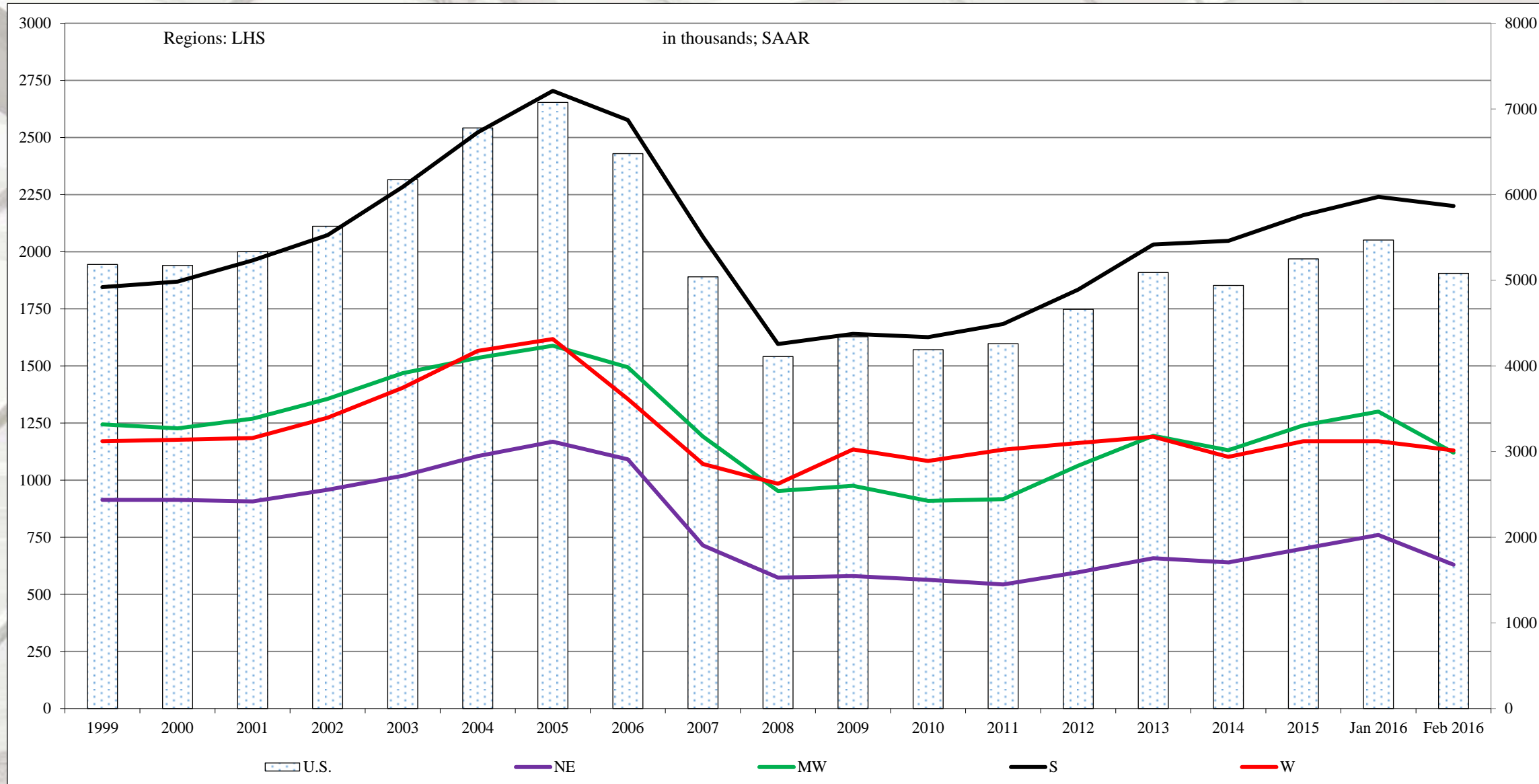
Note: Sample composed of owner-occupied units in 1995 that were occupied in at least 7/10 surveys from 1995-2013.
Source: JCHS tabulations of HUD, 1995-2013 American Housing Surveys.

Home Conversions – and Reconversions – Expected to Generate More Remodeling Activity

“Typically, homes that were converted to rentals were somewhat less desirable than homes that were continuously owner-occupied over this period. On average, they

- are older – pre-1940 homes were 50% more likely to be converted than homes built after 1990,
- have a lower value – homes valued at \$100,000 or less were twice as likely to be converted as homes valued at \$200,000 or more,
- and are more likely to be located in central cities.” — Kermit Baker, Senior Research Fellow, Harvard’s Joint Center for Housing Studies

Total Existing House Sales



First-Time Purchasers

National Association of Realtors (NAR®) First-Time Purchases

30% of sales in February – 32% in January and 29% in February 2015.

American Enterprise Institute Center on Housing Risk First-Time Purchases

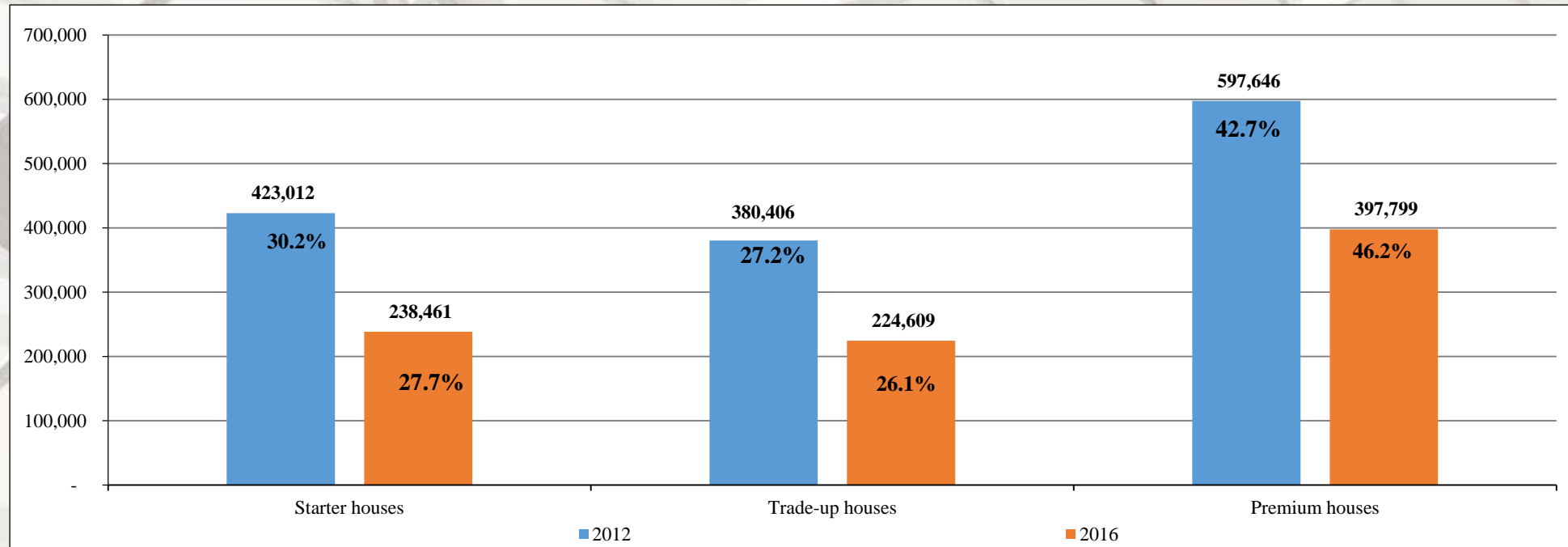
“First-time buyers continued to increase their presence in the market as both the first-time buyer share and volume were up considerably in February from a year earlier. First-time buyers accounted for 56.7 percent of primary owner-occupied home purchase mortgages with a government guarantee, up from 55.9 percent and 55.3 percent in February 2015 and 2014 respectively.”

U.S. Census Bureau – Housing Vacancy Survey

Fourth quarter 2015 home ownership rate: 30 – 34 year olds: 47.4 percent

Third quarter 2015 home ownership rate: 30 – 34 year olds: 46.8 percent

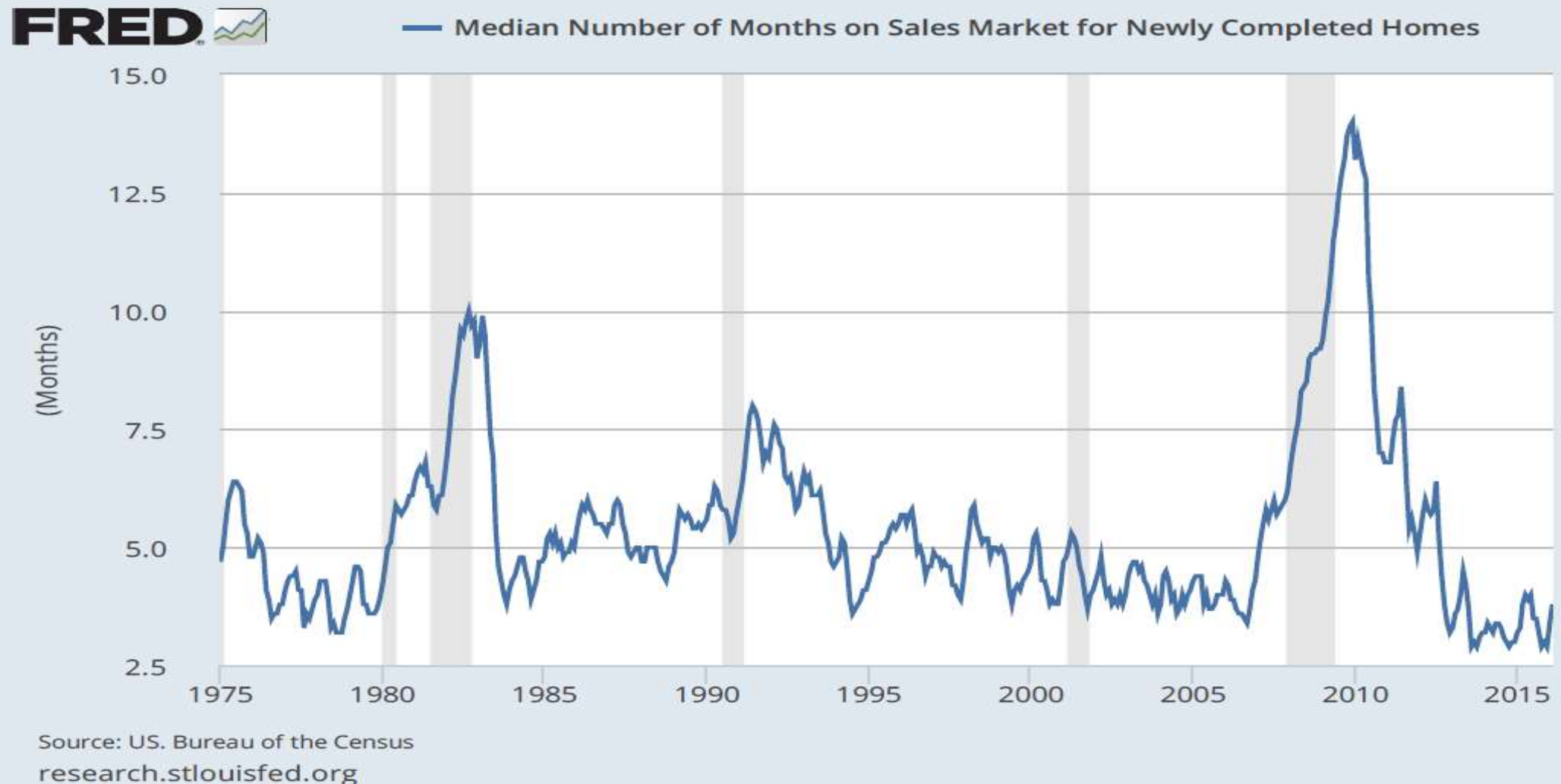
Housing Inventory



House Arrest: How Low Inventory Is Slowing Home Buying

- “The number of starter homes on the market dropped by 43.6%, while the share of starter homes dropped from 30.2% to 27.7%. Starter homebuyers today will need to shell out 5.6% more of their income — based on the median income of start-up buyers — towards a home purchase than in 2012;
- The number of trade-up homes on the market decreased by 41%, while the share of trade-up homes dropped from 27.2% to 26.1%. Trade-up homebuyers today will need to pay 2.6% more of their income for a home than in 2012;
- The number of premium homes on the market decreased by 33.4%, while the share of premium homes increased from 42.7% to 46.2%. Premium homebuyers today will need to spend 1.4% more of their income for a home than in 2012.” — Ralph McLaughlin, Chief Economist, Trulia

Housing Inventory



US developers hold tight housing inventory levels in order to maintain high turnover. The question is why? Labor, cost, land, available buyers, credit,...?

Overall House Sales

Where Starter Homes Have Vanished

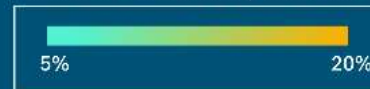
Of the 100 largest metros, 95 have shown a decrease in the number of starter homes over the past four years.

Decrease in Number of Starter Homes

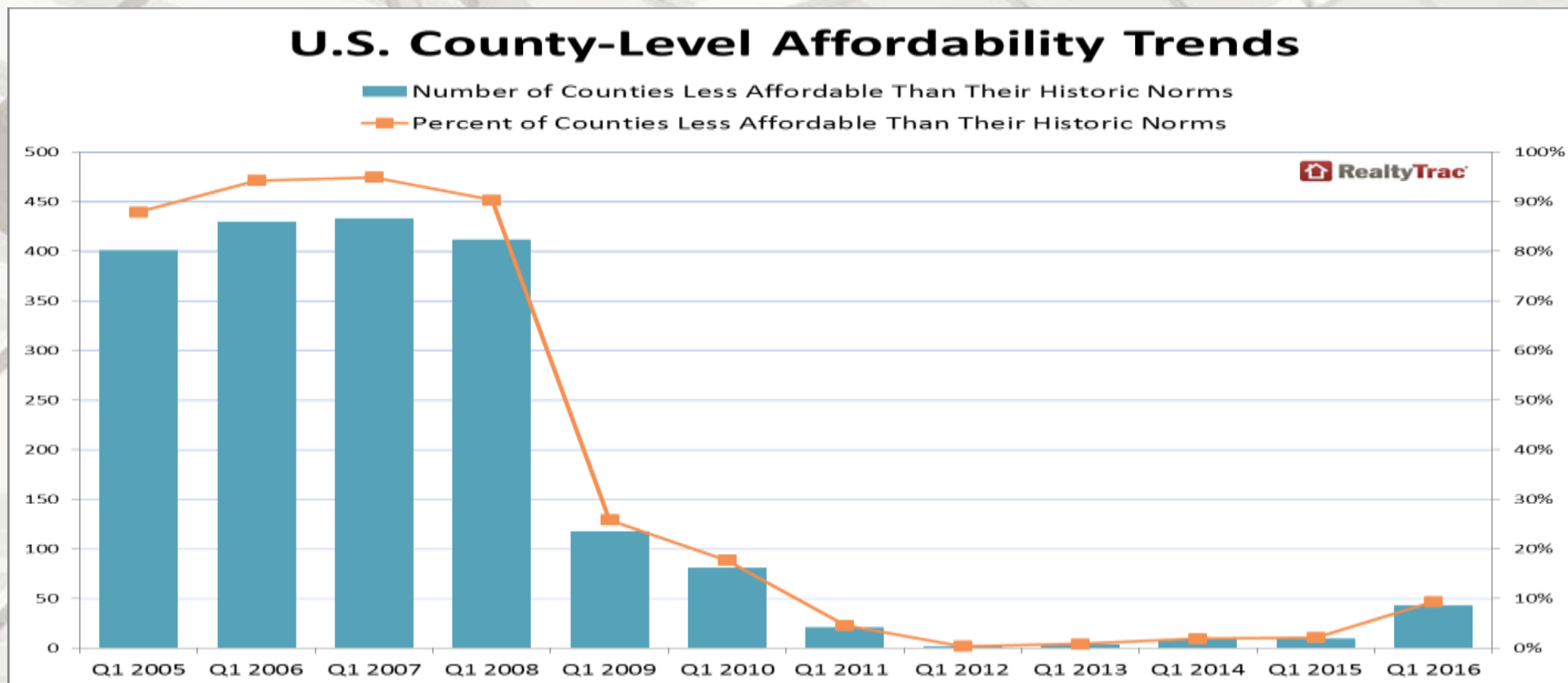


Where Starter Homes Are Within Reach

% of Income Needed to Buy Starter Home



Housing Affordability



9 Percent of U.S. Housing Markets Less Affordable in Q1 2016 Than Historic Norms, Up From 2 Percent a Year Ago

“Out of the 456 counties analyzed in the report, 43 counties (9 percent) had an affordability index below 100 in the first quarter of 2016, meaning buying a home was less affordable than the historically normal level for that county going back to the first quarter of 2005. That was up from 10 counties (2 percent of the 456 counties analyzed) exceeding historically normal home affordability levels in the first quarter of 2015.” – Daren Blomquist, Senior Vice President, RealtyTrac®

Housing Affordability

Housing Affordability Trends

“At the peak of the housing bubble in Q2 2006, 454 of the 456 counties analyzed (more than 99 percent) were less affordable than their historic norms. In Q1 2012, when median home prices bottomed out nationally, only two counties out of the 456 analyzed (less than one-half percent) exceeded their historically normal affordability levels.

While the vast majority of housing markets are still affordable by their own historic standards, home prices are floating out of reach for average wage earners in a growing number of U.S. housing markets.

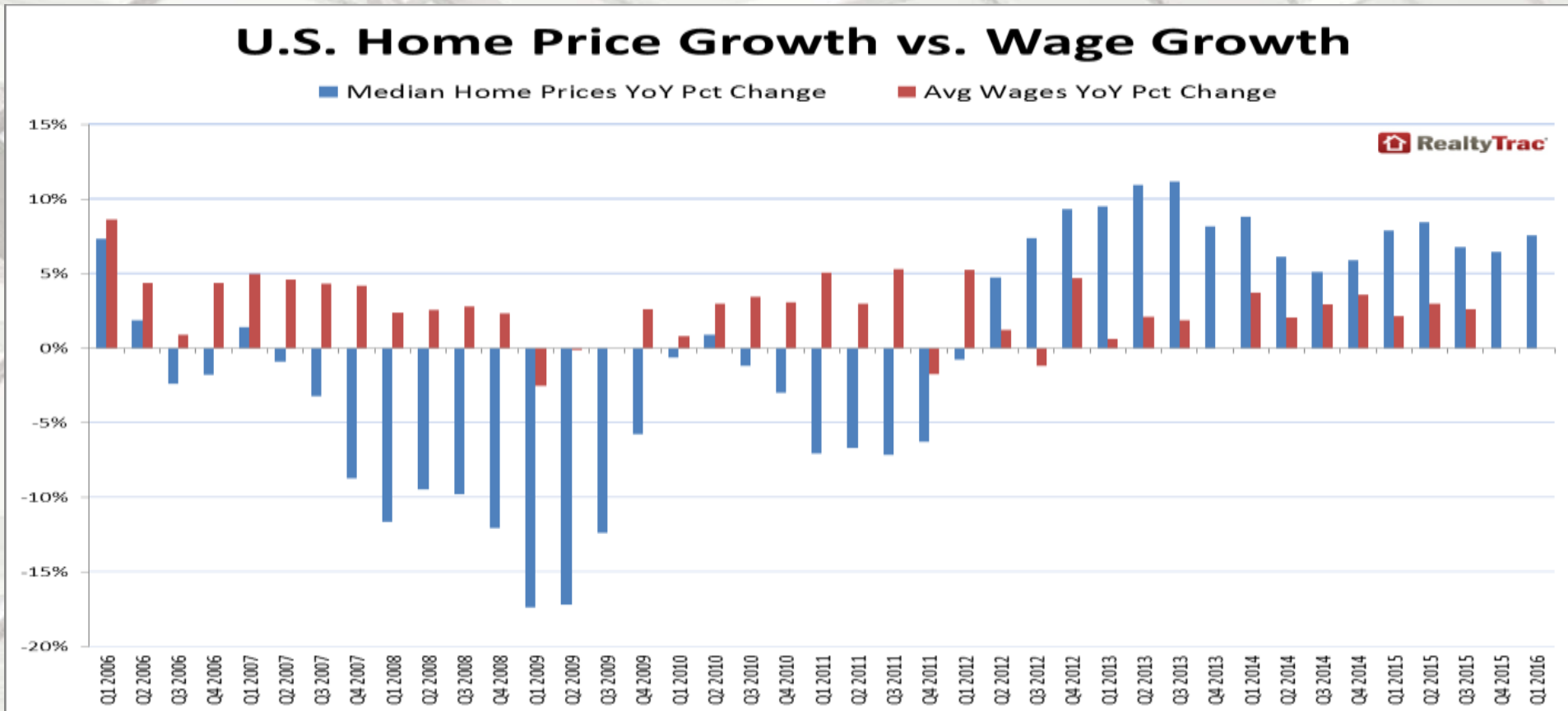
The recent drop in interest rates has helped to soften the blow of high-flying price appreciation in some markets, but the affordability equation could change quickly if interest rates trend higher and home prices continue to rise faster than wages.

National median home price requires 30 percent of average wage

Nationwide in the first quarter of 2016, the average wage earner needed to spend 30.2 percent of monthly wages to make monthly mortgage payments (including property taxes and insurance) on a median-priced home (\$199,000), up from 26.4 percent of average wages needed to buy a median-priced home in the first quarter of 2015.

When home prices were most affordable nationwide in Q1 2012, the average wage earner needed to spend 22.2 percent of monthly wages to buy a median-priced home. When home prices were least affordable nationwide in Q2 2006, the average wage earner needed to spend 53.2 percent of monthly wages to buy a median priced home.” – Daren Blomquist, Senior Vice President, RealtyTrac®

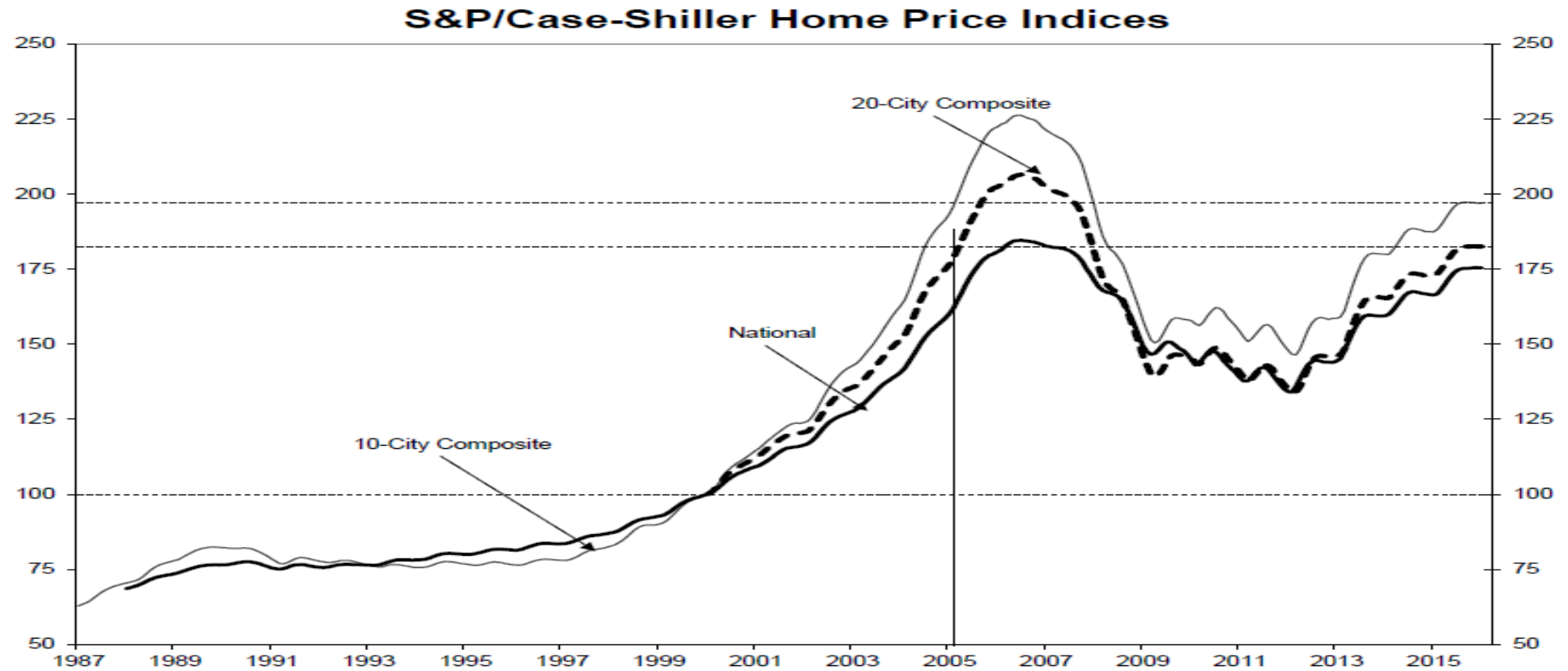
Housing Affordability



Home price growth outpacing wage growth in 61 percent of markets

“Annual change in median home prices in Q1 2016 outpaced annual change in average weekly wages in Q3 2015 (the most recent county-level wage data available from BLS) in 276 of the 456 counties analyzed for the report (61 percent).” – Daren Blomquist, Senior Vice President, RealtyTrac®

Housing Affordability

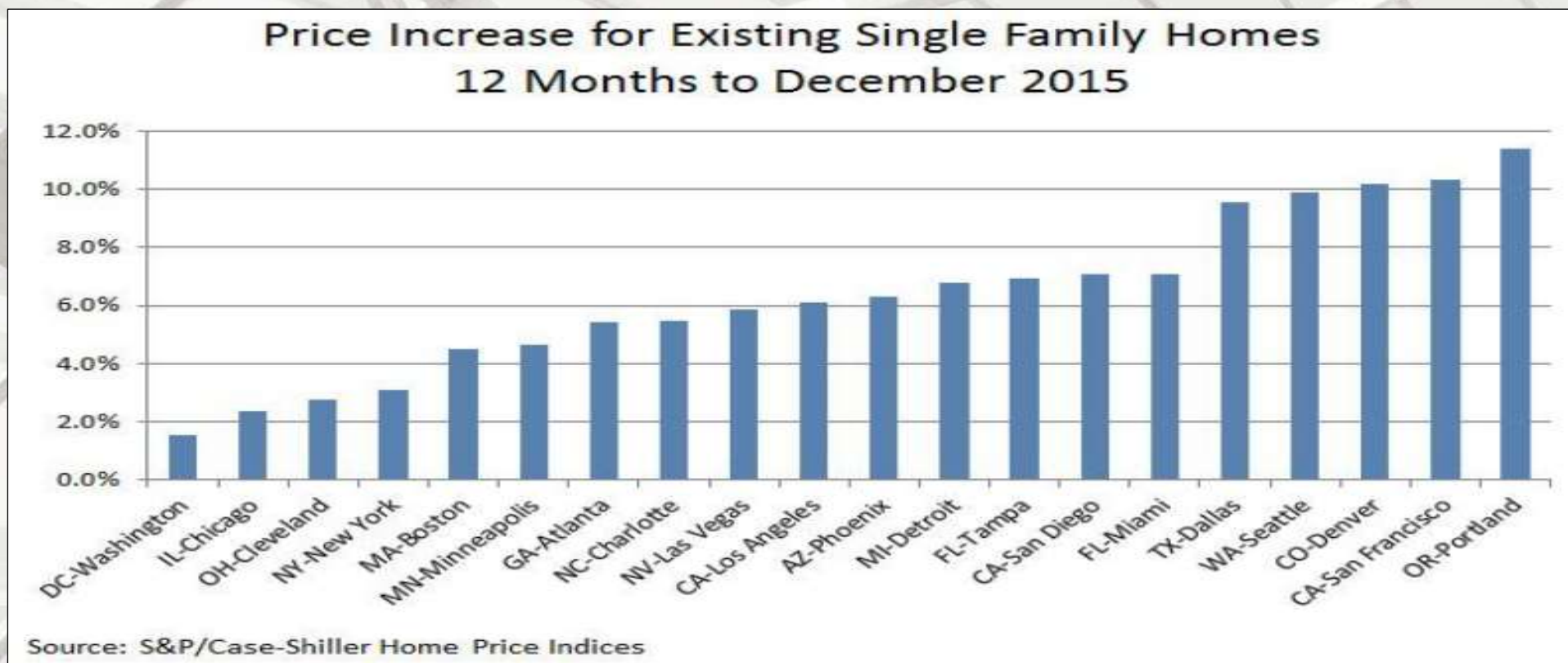


S&P/Case-Shiller Home Price Indices

Home Price Increases Continue in January

“Home prices continue to climb at more than twice the rate of inflation. The low inventory of homes for sale -- currently about a five month supply -- means that would-be sellers seeking to trade-up are having a hard time finding a new, larger home. The recovery of the sale and construction of new homes has lagged the gains seen in existing home sales. ...” – David Blitzer, Managing Director and Chairman of the Index Committee, S&P Dow Jones Indices

Housing Affordability



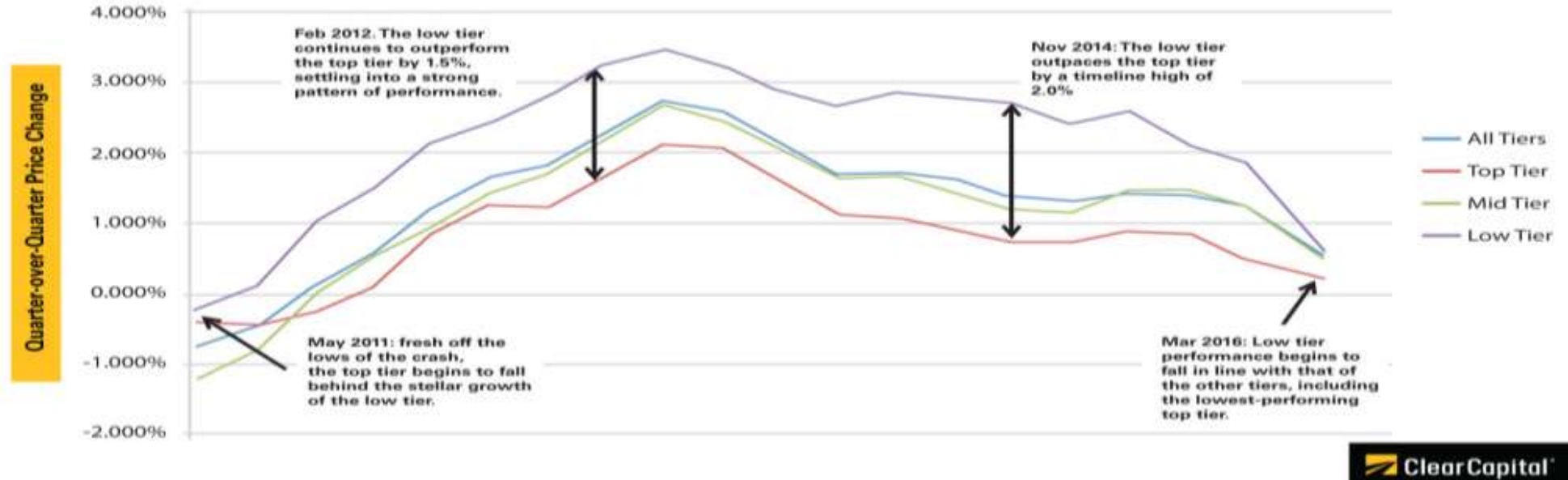
S&P/Case-Shiller Home Price Indices

Can House Prices Keep Rising?

“Prices of existing homes rose 5.3% in the year ended December 2015, more than twice the rate of inflation. However, the pace of price increases varies across the country with the strongest gains in the west and the weakest in the northeast, as shown by the chart. Sales of both new and existing homes also vary across the country with more strength in the west.” – David Blitzer, Managing Director and Chairman of the Index Committee, S&P Dow Jones Indices

Housing Affordability

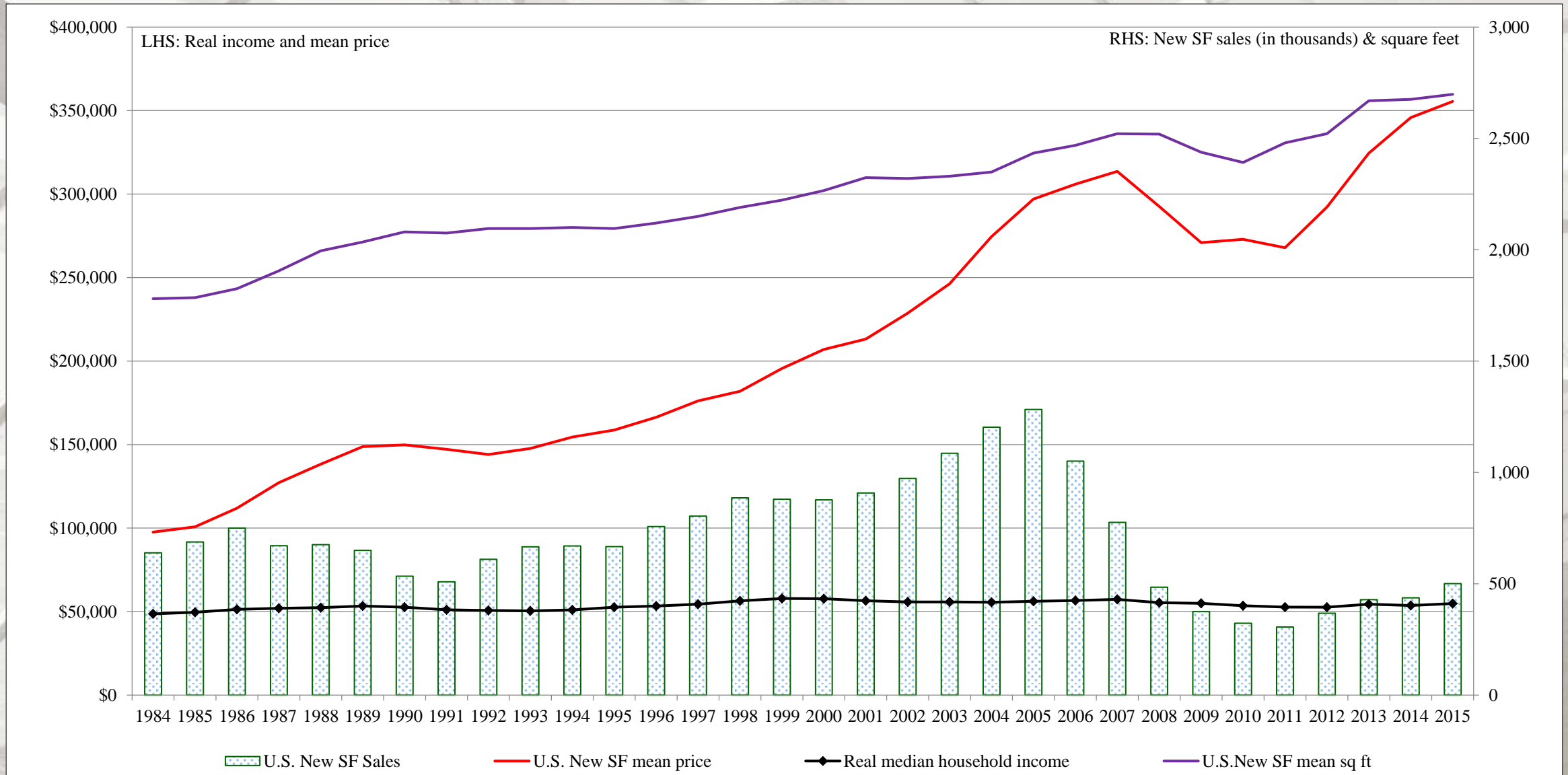
National Quarter-over-Quarter Price Change by Price Tier



Is it time for Investors to Find a New Niche?

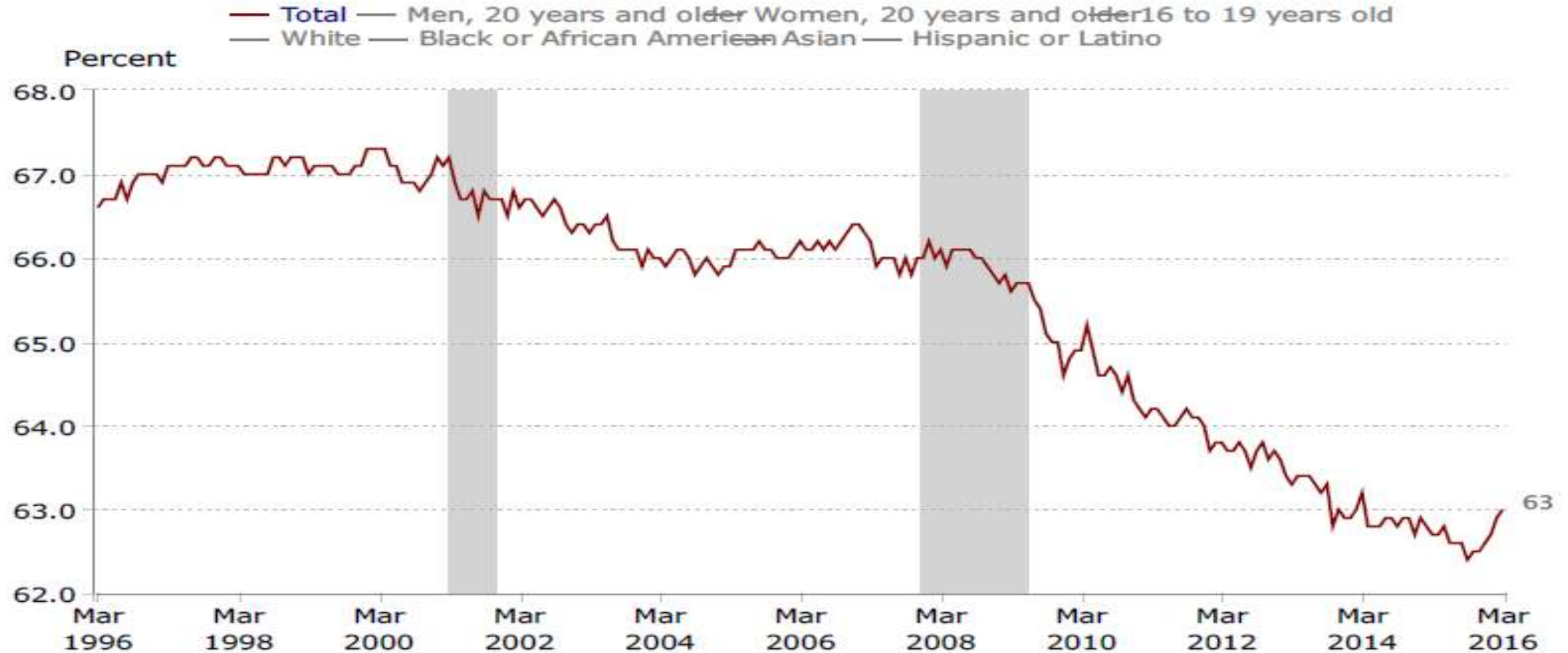
“As the winter real estate seasonal slowdown seems to be winding down, the numbers through the end of March are somewhat dichotomous. Most of the nation’s top performing markets have seen very little change in performance since last month and have continued to grow throughout the last quarter, despite the winter slowdown in activity. The nation’s lowest performing markets, however, appear to be much less able to resist the effects of the winter slow season even still as quarterly growth continues to decrease. Separately, we are beginning to see two very different ends of the national market, the low and top tiers, start to converge potentially toward a more homogenous pattern of growth. Although this drop in performance for the low price tier may indicate a more sustainable model of affordability for first time homebuyers, it may also plant doubt and uncertainty, especially with the investors – such as the REO to rental investors – who have previously taken advantage of the rapid growth of the tier. Even as price growth for all tiers remains in the black, it may be time for investors to find a new niche in the industry. Perhaps we will see REO or rental investments take a rise.” – Alex Villacorta, Vice President of Research and Analytics, Clear Capital.

New SF Sales, Mean Price, Size, and Real Household Median Income



Civilian labor force participation rate, seasonally adjusted

Click and drag within the chart to zoom in on time periods



Hover over chart to view data.

Note: Shaded area represents recession, as determined by the National Bureau of Economic Research.

Persons whose ethnicity is identified as Hispanic or Latino may be of any race.

Source: U.S. Bureau of Labor Statistics.

HOUSEHOLD DATA

Table A-9. Selected employment indicators [Numbers in thousands]

Characteristic	Not seasonally adjusted			Seasonally adjusted					
	Mar. 2015	Feb. 2016	Mar. 2016	Mar. 2015	Nov. 2015	Dec. 2015	Jan. 2016	Feb. 2016	Mar. 2016
AGE AND SEX									
Total, 16 years and over	147,635	150,060	150,738	148,333	149,444	149,929	150,544	151,074	151,320
16 to 19 years	4,491	4,608	4,648	4,777	4,729	4,899	4,901	4,990	4,931
16 to 17 years	1,445	1,530	1,515	1,605	1,559	1,648	1,669	1,731	1,688
18 to 19 years	3,046	3,078	3,133	3,171	3,142	3,232	3,222	3,279	3,252
20 years and over	143,144	145,453	146,090	143,556	144,714	145,030	145,644	146,085	146,389
20 to 24 years	13,584	13,848	13,932	13,825	13,920	14,061	14,056	14,109	14,171
25 years and over	129,560	131,605	132,158	129,657	130,837	130,995	131,597	131,922	132,116
25 to 54 years	96,300	97,380	97,866	96,514	96,960	96,976	97,583	97,736	97,932
25 to 34 years	32,563	33,322	33,421	32,697	32,814	32,891	33,320	33,370	33,493
35 to 44 years	31,103	31,370	31,560	31,111	31,361	31,466	31,511	31,548	31,555
45 to 54 years	32,634	32,688	32,884	32,706	32,785	32,620	32,752	32,818	32,883
55 years and over	33,260	34,225	34,292	33,143	33,877	34,019	34,014	34,186	34,184
FULL- OR PART-TIME STATUS									
Full-time workers ⁽¹⁾	119,981	121,757	122,522	120,976	122,099	122,603	123,141	123,206	123,447
Part-time workers ⁽²⁾	27,655	28,303	28,216	27,293	27,332	27,359	27,364	27,853	27,818
MULTIPLE JOBHOLDERS									
Total multiple jobholders	7,264	7,454	7,592	7,132	7,414	7,738	7,504	7,339	7,466
Percent of total employed	4.9	5.0	5.0	4.8	5.0	5.2	5.0	4.9	4.9
SELF-EMPLOYMENT									
Self-employed workers, incorporated	5,514	5,793	5,567	-	-	-	-	-	-
Self-employed workers, unincorporated	9,469	9,463	9,724	9,614	9,415	9,364	9,526	9,613	9,807

Footnotes

(1) Employed full-time workers are persons who usually work 35 hours or more per week.

(2) Employed part-time workers are persons who usually work less than 35 hours per week.

- Data not available.

NOTE: Detail for the seasonally adjusted data shown in this table will not necessarily add to totals because of the independent seasonal adjustment of the various series. Updated population controls are introduced annually with the release of January data.

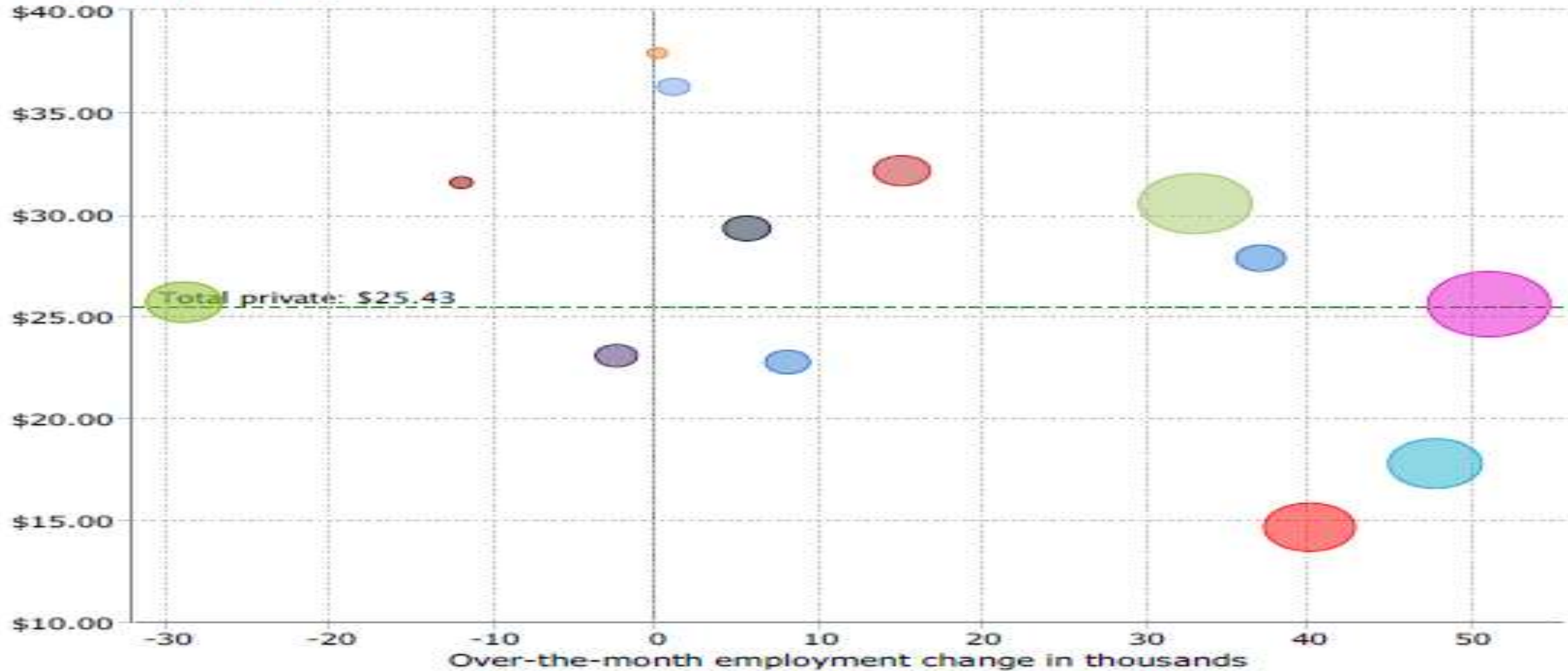
Wage	Employees	Percentage	Annual Wage	Overall Percent
≤ 9.25	16,961,289	12.3	19,240	67.4
\$9.25-11.74	21,098,189	15.3	21,830	
\$11.75-14.74	17,788,669	12.9	27,550	
\$14.75-18.74	19,443,429	14.1	38,980	
\$18.75-23.99	17,650,772	12.8	44,460	
\$24.00-30.24	14,892,839	10.8	56,410	10.8
\$30.25-38.49	11,583,319	8.4	71,490	21.8
\$38.50-\$48.99	7,860,110	5.7	80,080	
\$49.00-61.99	4,826,383	3.5	115,440	
\$62.00-78.74	2,757,933	2.0	146,370	
\$78.75 and >	3,033,727	2.2	163,800	

Employment and average hourly earnings by industry for all employees, March 2016, seasonally adjusted

Bubble size represents employment level in thousands

- Mining and logging
- Construction
- Manufacturing
- Wholesale trade
- Retail trade
- Transportation and warehousing
- Utilities
- Information
- Financial activities
- Professional and business services
- Education and health services
- Leisure and hospitality
- Other services

Average hourly earnings



Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.

Source: <http://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm#>; 4/4/16

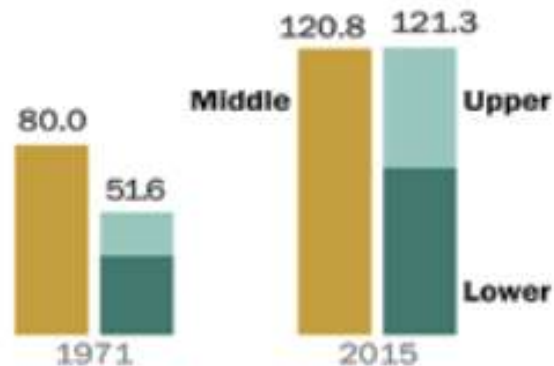
Typical Headlines on the Family Economic Situation

The American Middle Class Is Losing Ground No longer the majority and falling behind financially

The middle class is losing ground

Middle-income Americans are no longer in the majority ...

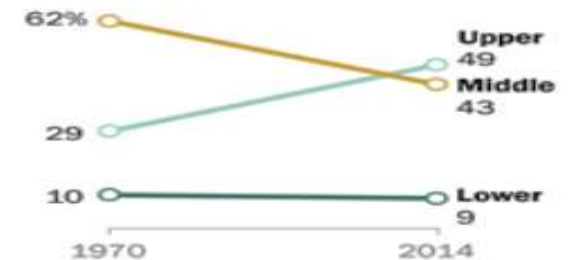
Adult population by income tier (millions)



“After more than four decades of serving as the nation’s economic majority, the American middle class is now matched in number by those in the economic tiers above and below it. In early 2015, 120.8 million adults were in middle-income households, compared with 121.3 million in lower- and upper-income households combined, a demographic shift that could signal a tipping point, according to a new Pew Research Center analysis of government data.” -- © Pew Research Center 2015

... and share of aggregate income held by middle-income households has plunged

% of U.S. aggregate household income



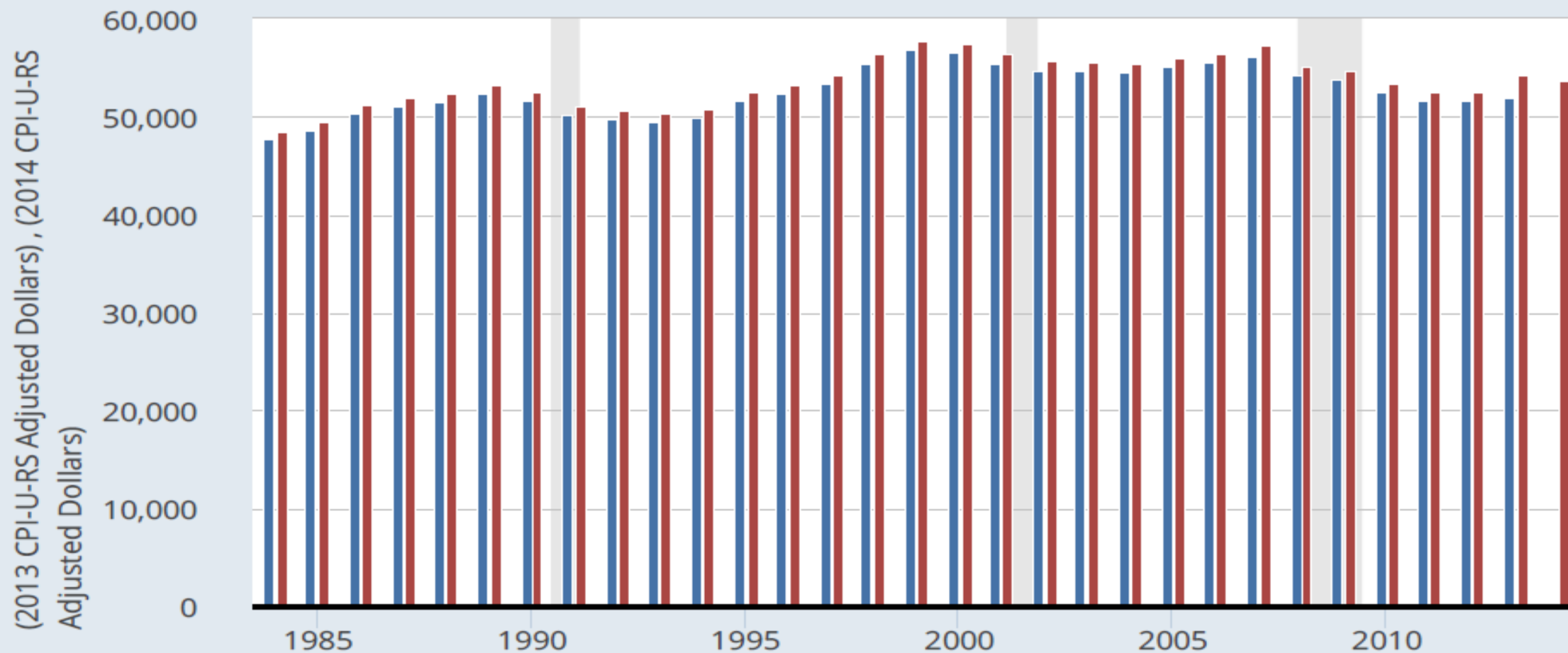
Note: The assignment to income tiers is based on size-adjusted household incomes in the year prior to the survey year. Shares may not add to 100% due to rounding.

Source: Pew Research Center analysis of the Current Population Survey, Annual Social and Economic Supplements, 1971 and 2015

PEW RESEARCH CENTER

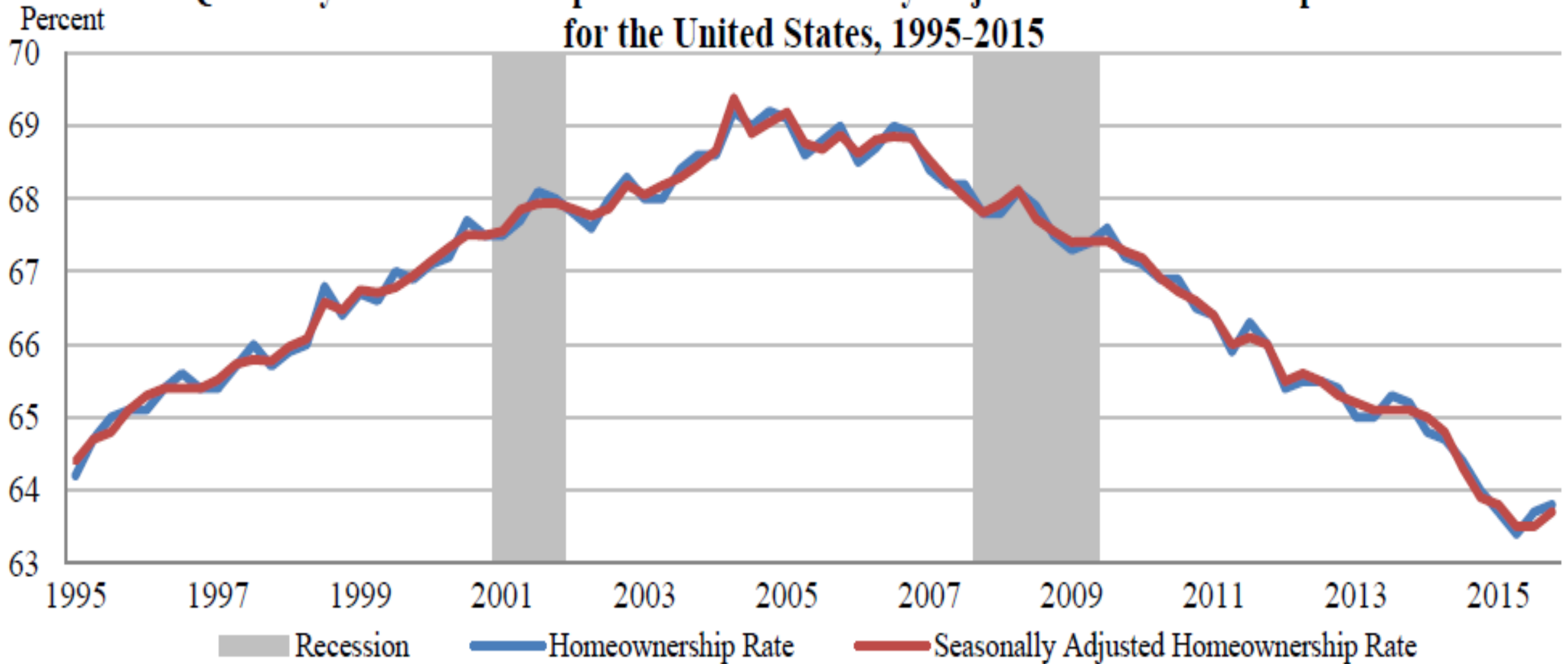
■ Real Median Household Income in the United States Vintage:
2014-09-16

■ Real Median Household Income in the United States Vintage:
2015-09-16



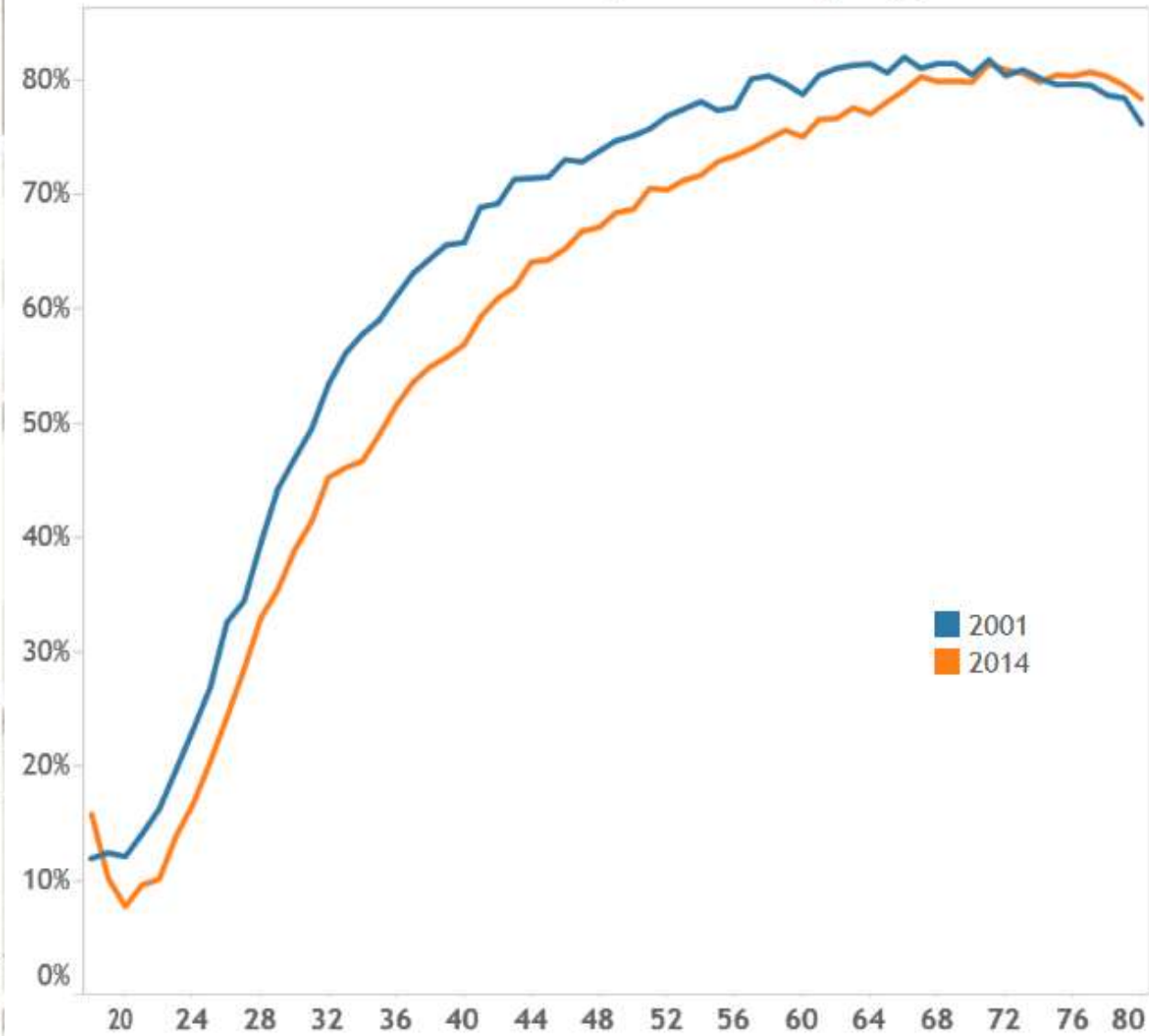
Source: US. Bureau of the Census
research.stlouisfed.org

Figure 4
**Quarterly Homeownership Rates and Seasonally Adjusted Homeownership Rates
for the United States, 1995-2015**



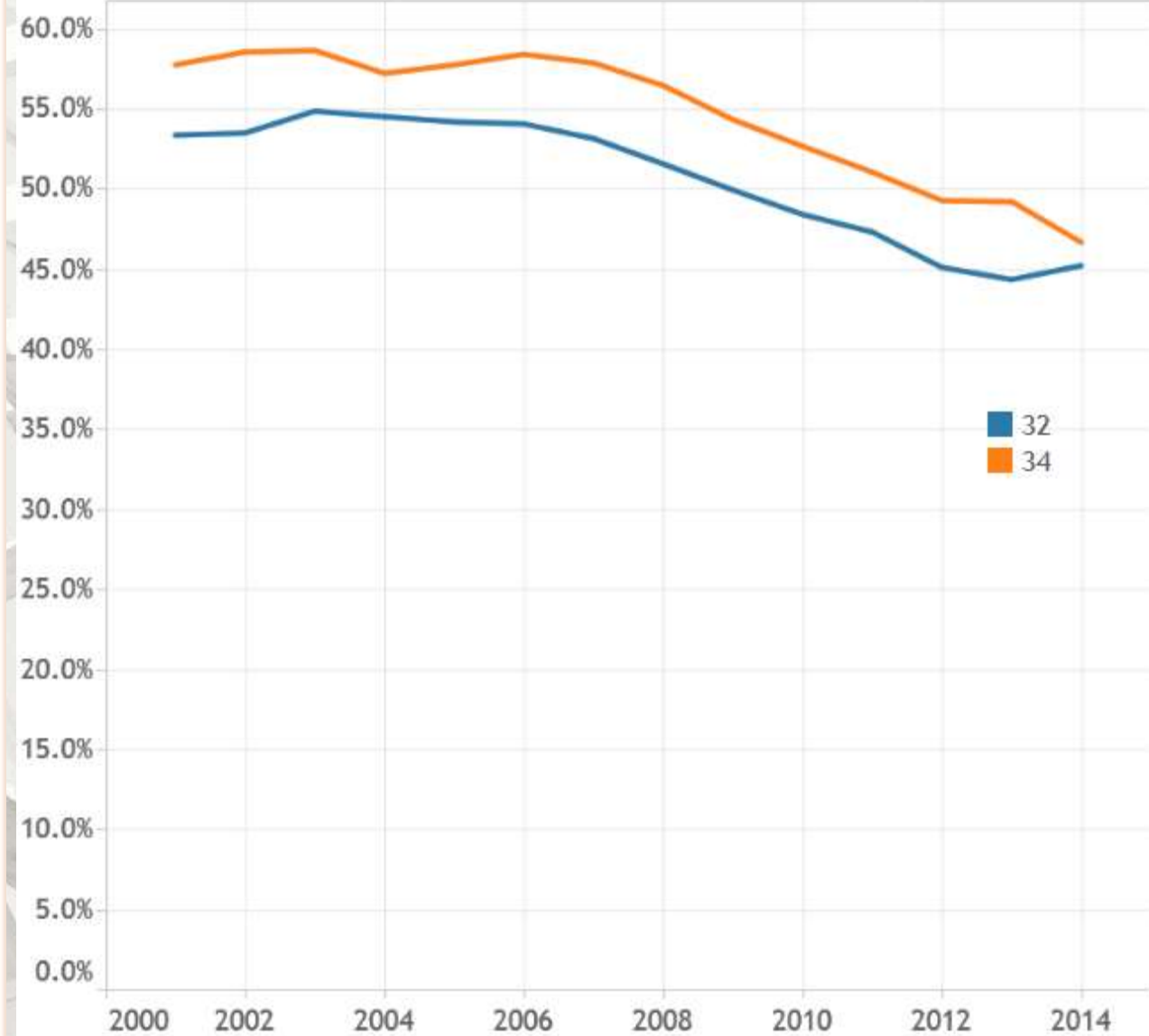
“The home ownership rate of 63.8 percent was 0.2 percentage points lower than the fourth quarter 2014 rate (64.0 percent) and 0.1 percentage point higher than the rate last quarter (63.7 percent).”

Homeownership rate by age



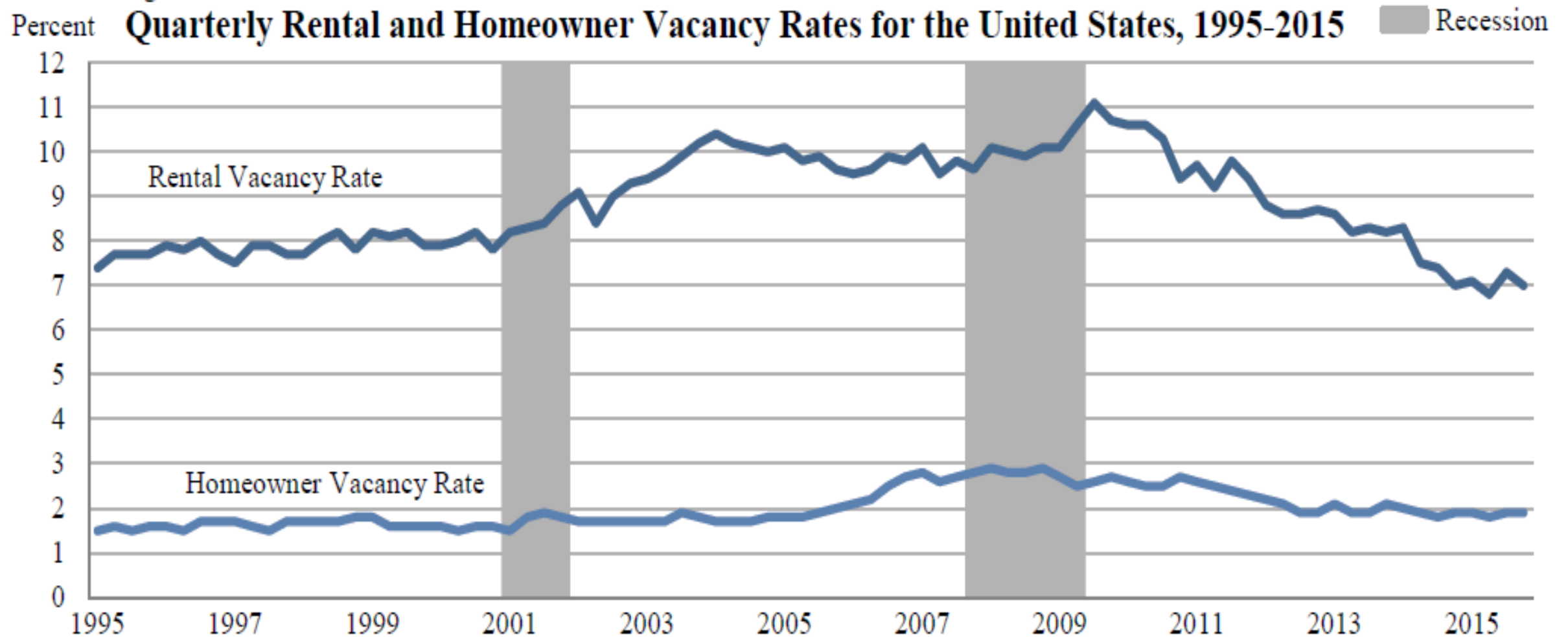
Source: American Community Survey

Homeownership rate for 32- and 34-year-olds



Source: American Community Survey

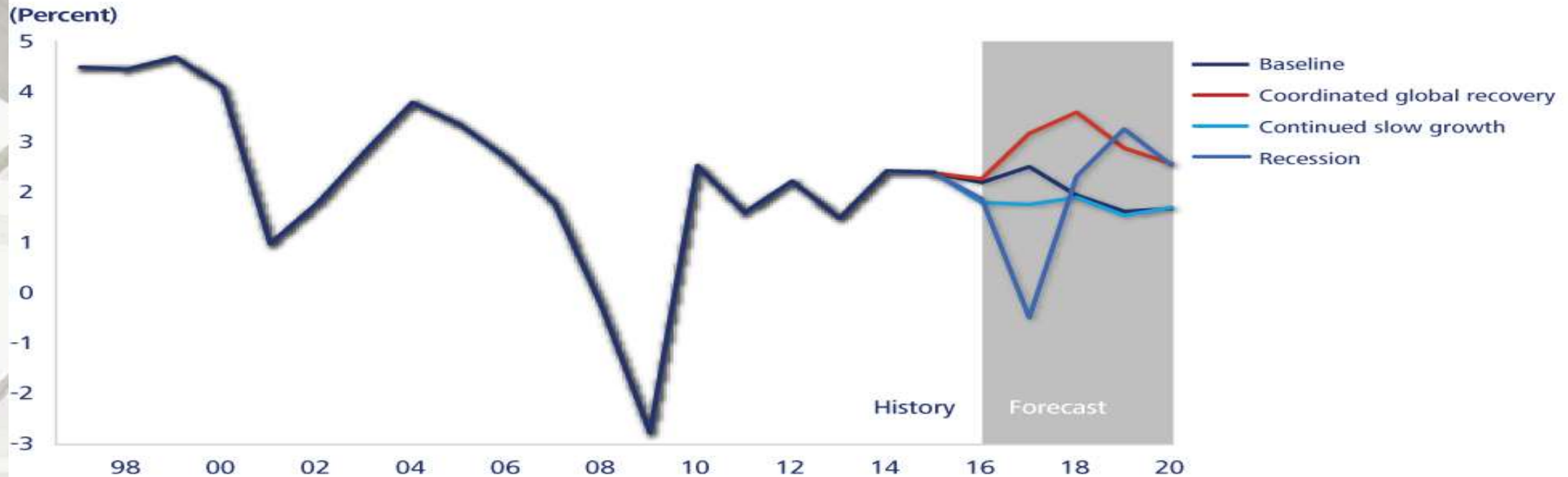
Figure 1



“National vacancy rates in the fourth quarter 2015 were 7.0 percent for rental housing and 1.9 percent for home owner housing. The rental vacancy rate of 7.0 percent was virtually unchanged from the rate in the fourth quarter 2014 and 0.3 percentage points lower than the rate last quarter. The home owner vacancy rate of 1.9 percent was virtually unchanged from the rate in the fourth quarter 2014 and the rate last quarter.”

Outlook

Figure 1. Real GDP growth



Source: Deloitte/Oxford Economics.

Graphic: Deloitte University Press | DUPress.com

Deloitte US Economic Forecast: 2016 Q1

A rough 2016 start for economies and equities sparks concerns

“After six years of waiting for productivity to pick up, we're reconciled to a new normal of slower US growth. While a recession remains unlikely, question marks in Europe and China — and an expensive dollar — will likely temper any boom in the near future.” – Dr. Daniel Bachman, Senior Manager US Macroeconomics, Deloitte Services LP

Outlook

Deloitte US Economic Forecast: 2016 Q1

Housing

“Every year, untold thousands of young Americans abandon the nest, happy to leave home and start their own households. But more than usual stayed put during the recession: The number of households didn’t grow nearly enough to account for all the newly minted young adults. We expect those young adults would prefer to live on their own and create new households; as the economy recovers, they will likely do exactly that — as previous generations have.

This means some positive fundamentals for housing construction in the short run. Since 2008, the United States has been building fewer new housing units than the population would normally require; in fact, housing construction was hit so hard that the oversupply turned into an undersupply. But the hole isn’t as large as you might think. Several factors offset each other:

1. If household size returns to mid-2000s levels, we would need an additional 3.2 million units.
2. On the other hand, household vacancy rates are much higher than normal. Vacancy returning to normal would make available an additional 2.5 million units — which would fill 78 percent of the pent-up demand for housing units.
3. But are the existing vacant houses in the right place or condition, or are they the right type, for that pent-up demand? The future of housing may look very different than in the past. Growth in new housing construction has been concentrated in multifamily units. If that continues, we may find it is related to young buyers’ growing reluctance to settle in existing single-family units.”

– Dr. Daniel Bachman, Senior Manager US Macroeconomics, Deloitte Services LP

Outlook

Figure 3. Housing



Source: Deloitte/Oxford Economics.

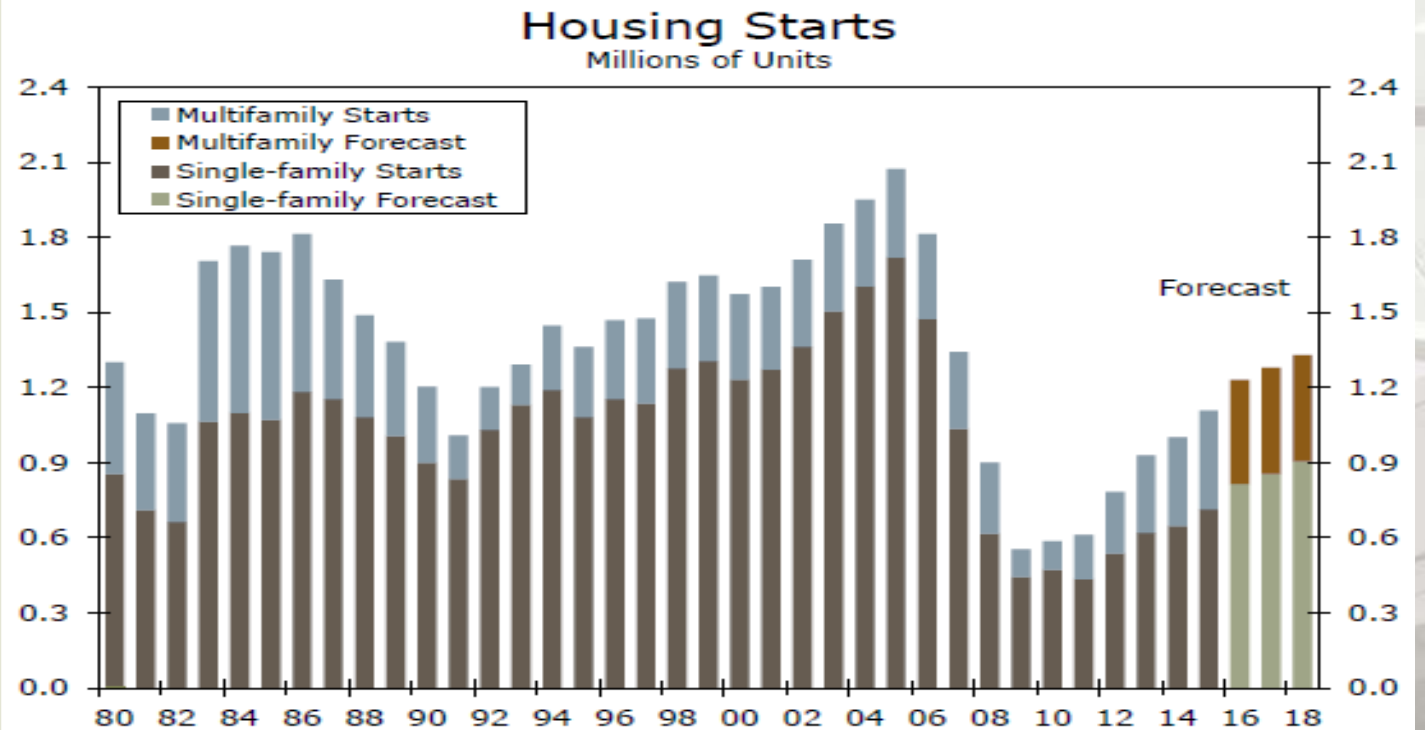
Graphic: Deloitte University Press | DUPress.com

Outlook

Gradual Recovery in Homebuilding

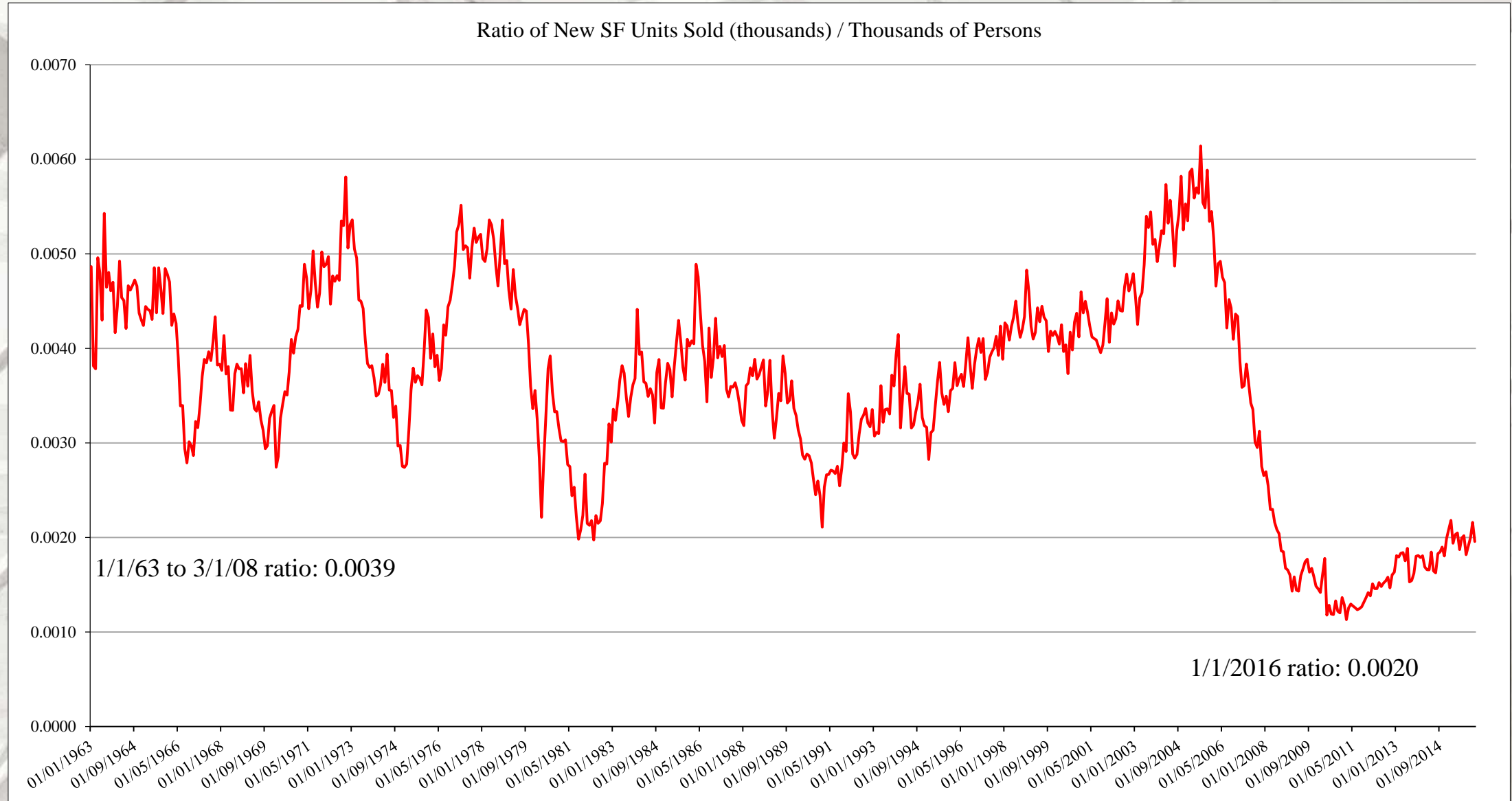
We continue to look for a gradual recovery in homebuilding.

Single-family construction has been slow to come back on track with long-held norms relative to population and employment growth. We look for stronger gains this year, but improvement will remain excruciatingly slow.



Source: U.S. Department of Commerce and Wells Fargo Securities, LLC

Outlook: New SF Housing



Outlook

Tiny – or at least smaller houses

Modular houses

Regulatory changes?

Are home ownership attitudes changing – if so what is the percent?

**Thank you
Questions?**

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