

The Virginia Tech – U.S. Forest Service December 2015 Housing Commentary: A



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This report is a free monthly service of Virginia Tech. Past issues can be found at:

<http://woodproducts.sbio.vt.edu/housing-report>. To request the report, please email: buehlmann@gmail.com

Executive Summary

In December, the housing data was mixed. Total starts and permits declined on a month-over-month basis. Single-family permits, new and existing sales, housing under construction, completions, and all construction expenditure sectors improved month-over-month. All the aforementioned sectors were positive on a year-over-year basis. From a regional perspective, all data were mixed across all segments.

Since January 2010, housing has improved incrementally; yet the majority of the housing market remains far from normal. New sales appear to be bifurcated, as the aggregate share of lower-valued price category homes is declining while the higher-valued group share is increasing. Several analysts report that first-time buyer purchases are lagging; this is true using one particular data set. However, other data sources report normal purchases by first-time buyers. Using Department of Census home ownership data as a proxy for first-time purchases, the 25 to 29, 30 to 34, and 35 to 39 age groups are currently near their historical averages. However, this does not indicate these segments' purchases are upward looking; all three sectors have declined in recent years (Slide 59). Single-family construction has improved but remains 30 percent less than its 1959 to 2008 average (mean = 1,092 thousand). Multi-family construction is solid and data from December indicated that permits were somewhat greater than the 1959 to 2008 average (mean = 490.7 thousand) and starts were 15 percent less than the 1964 to 2008 average (mean = 447.8 thousand).

This report provides information on housing, economics, private and government indicators, and forecasts for the global and United States economy. Section A of the commentary is data based and Section B contains current economic offerings and market information. We hope you find this commentary beneficial.

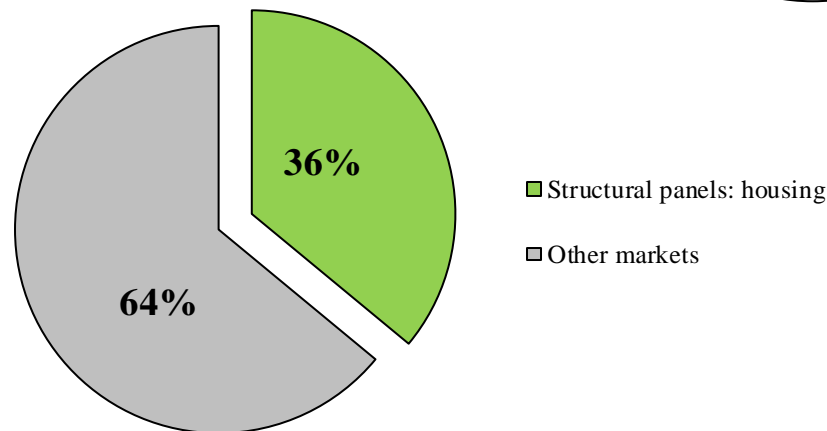
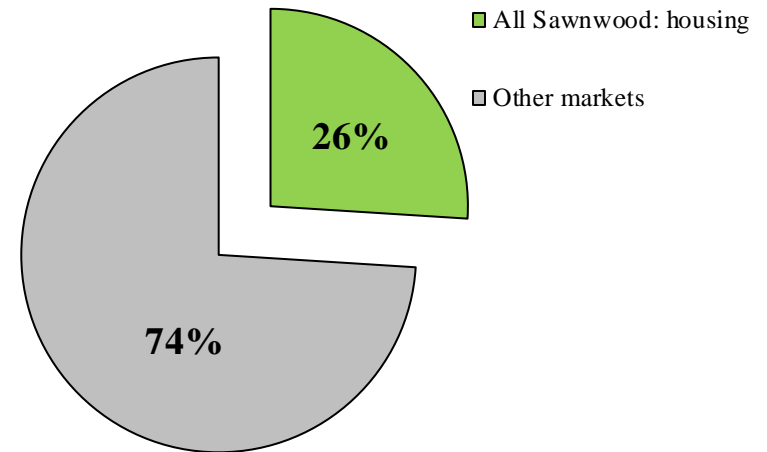
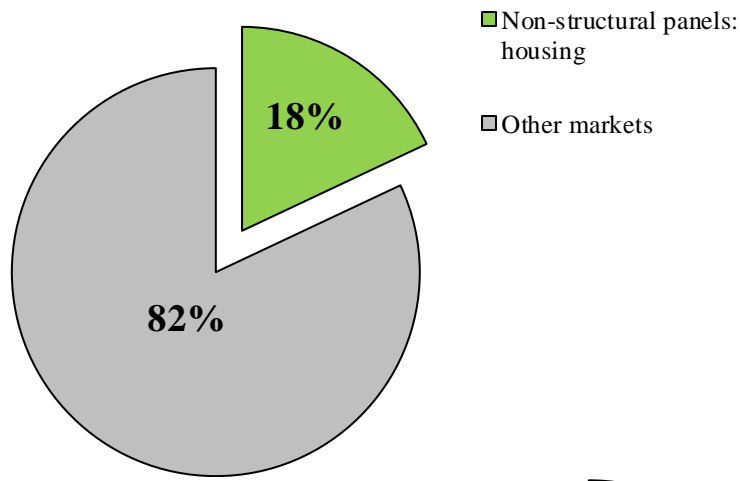
December 2015

Housing Scorecard

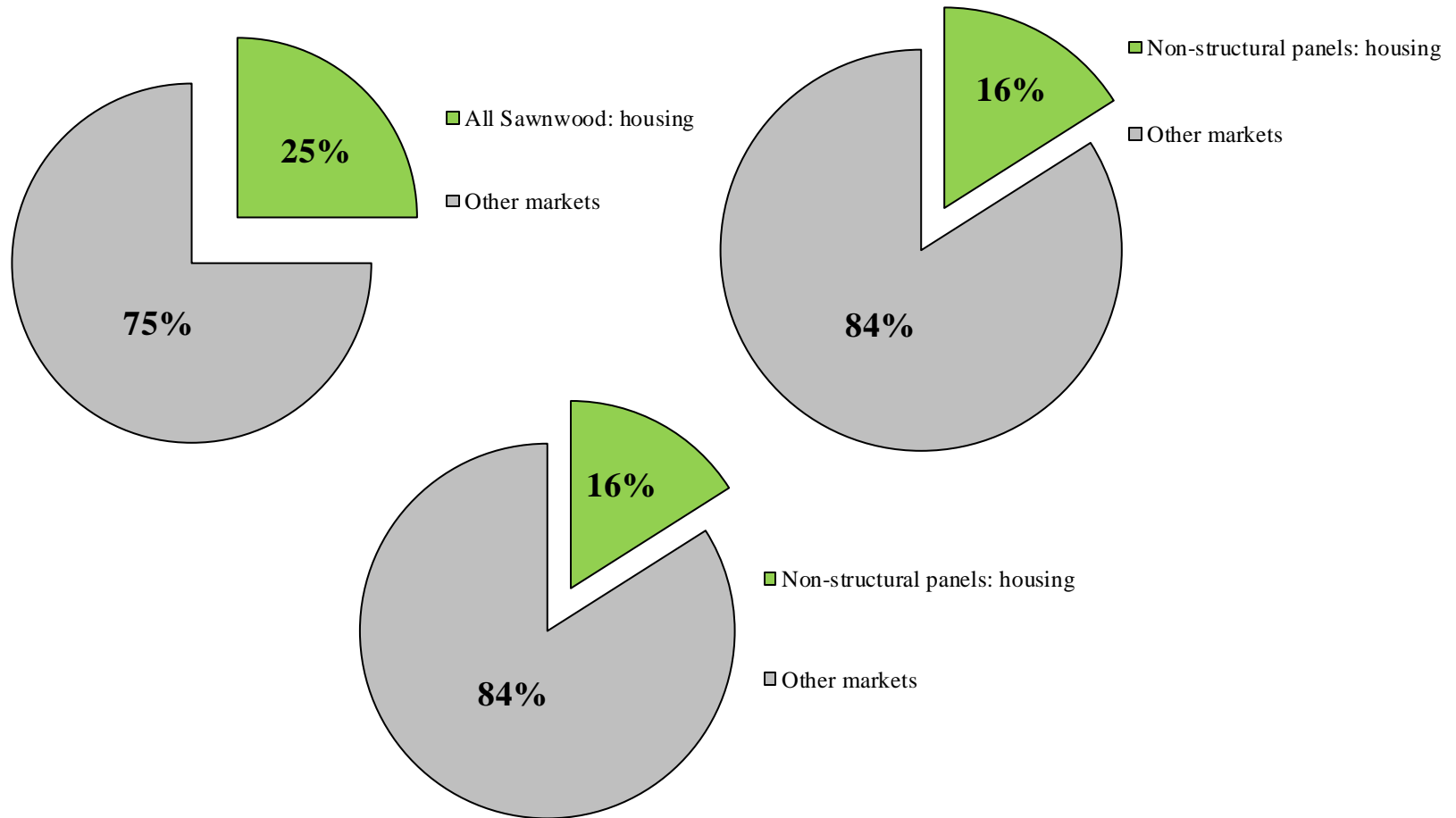
	M/M	Y/Y
Housing Starts	▽ 2.5%	△ 6.4%
Single-Family Starts	▽ 3.3%	△ 6.1%
Housing Permits	▽ 3.9%	△ 14.4%
Housing Completions	△ 5.6%	△ 7.9%
New Single-Family House Sales	△ 10.8%	△ 21.6%
Existing House Sales ¹	△ 14.7%	△ 9.9%
Private Residential Construction Spending	△ 0.9%	△ 8.1%
Single-Family Construction Spending	△ 1.0%	△ 8.7%

M/M = month-over-month; Y/Y = year-over-year

New Construction's Percentage of Wood Products Consumption



Repair and Remodeling's Percentage of Wood Products Consumption



2016 Housing Forecasts

Organization	Total Starts	Single-Family Starts	New House Sales
APA - The Engineered Wood Association ^a	1,257.0	840.0	
Fannie Mae ^b	1,224.0	826.7	562.0
Freddie Mac ^c	1,331.0		
National Association of Homebuilders ^d	1,292.0	914.0	
Export Development Canada ^e	1,435.0		
Forest Economic Advisors ^f	1,265.0	833.0	
Forisk ^g	1,260.0		
Metrostudy ^h	1,235.0	750.0 - 770.0	625.0
Mortgage Bankers Association ⁱ	1,233.0	823.0	593.0
The Conference Board ^j	1,320.0		
UCLA Ziman Center for Real Estate ^k	1,420.0		
Urban Land Institute ^l		842.0	
BMO Capital Markets ^m	1,130.0		
Dodge Data & Analytics ⁿ	1,154.0	609.0	
Goldman Sachs ^o	1,300.0		
Morgan Stanley ^p	1,300.0	845.0	575.0 – 600.0
Royal Bank of Canada ^q	1,356.5		
Scotiabank ^r	1,260.0		
TD Economics ^s	1,340.0		
Wells Fargo LLC ^t	1,265.0	820.0	620.0

in thousands

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2016 Housing Forecasts

References

a-<http://www.apawood.org/>

b-http://www.fanniemae.com/resources/file/research/emma/pdf/Housing_Forecast_111915.pdf

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o-<http://www.housingwire.com/articles/35648-goldman-sachs-residential-investment-on-pace-for-solid-growth-chart>

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t-<https://www08.wellsfargomedia.com/assets/pdf/commercial/insights/economics/real-estate-and-housing/housing-wrapup-20151030.pdf>

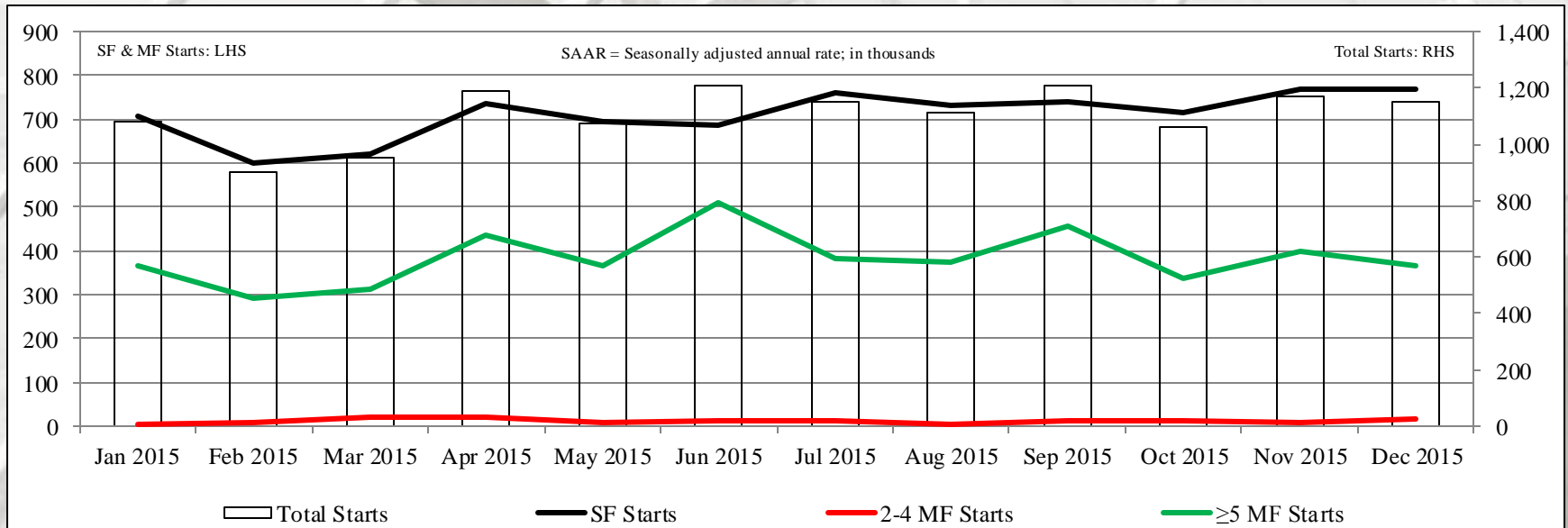
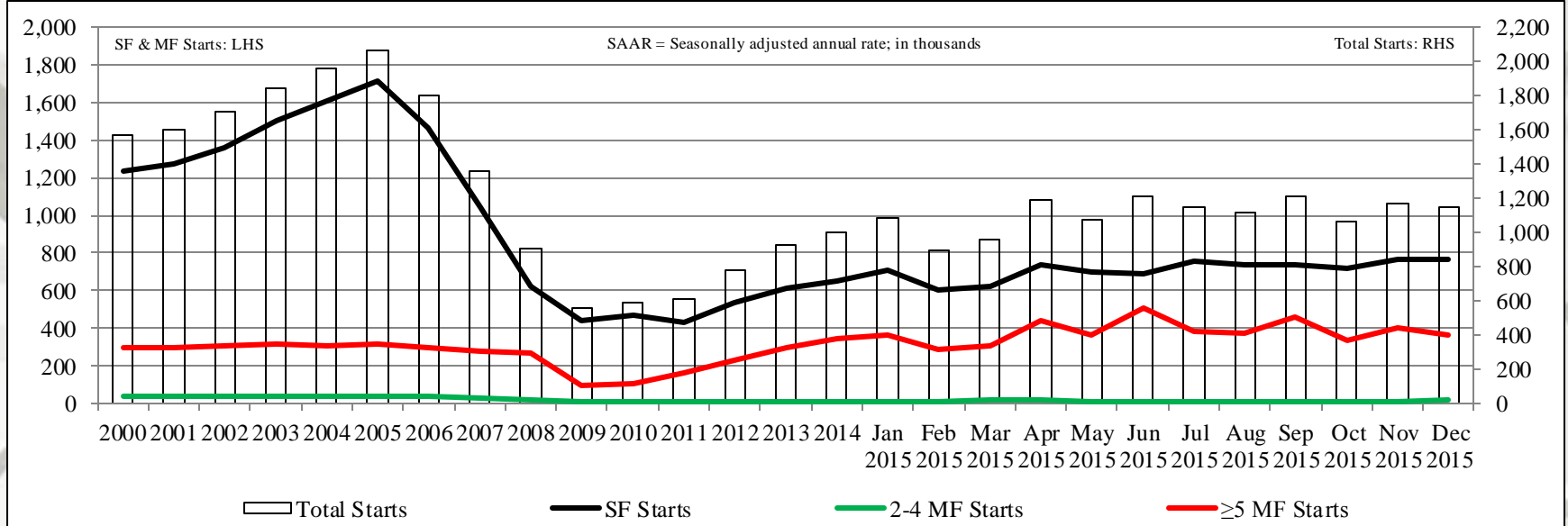
New Housing Starts

	Total Starts*	Single-Family (SF) Starts	Multi-Family (MF) 2-4 unit Starts**	MF ≥ 5 unit Starts
December	1,149,000	768,000	16,000	365,000
November	1,179,000	794,000	7,000	378,000
2014	1,080,000	724,000	20,000	336,000
M/M change	-2.5%	-3.3%	128.6%	-3.4%
Y/Y change	6.4%	6.1%	-20.0%	8.6%

* All start data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report 2 to 4 multifamily starts directly, this is an estimation.

Total Housing Starts



New Housing Starts by Region

	Northeast (NE) Total Starts	NE SF Starts	NE MF Starts**
December	163	65	98
November	131	68	63
2014	113	52	61
M/M change	24.4%	-4.4%	55.6%
Y/Y change	44.2%	25.0%	60.7%

	Midwest (MW) Total Starts	MW SF Starts	MW MF Starts
December	148	103	45
November	169	108	61
2014	168	127	41
M/M change	-12.4%	-4.6%	-26.2%
Y/Y change	-11.9%	-18.9%	9.8%

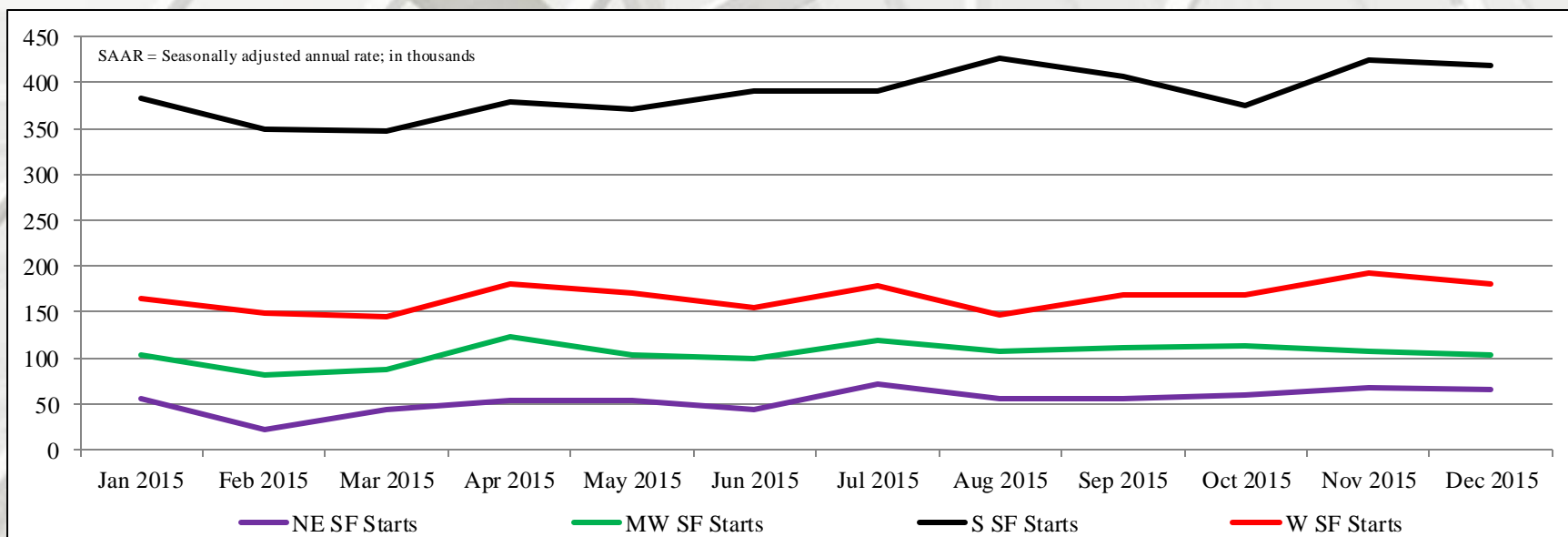
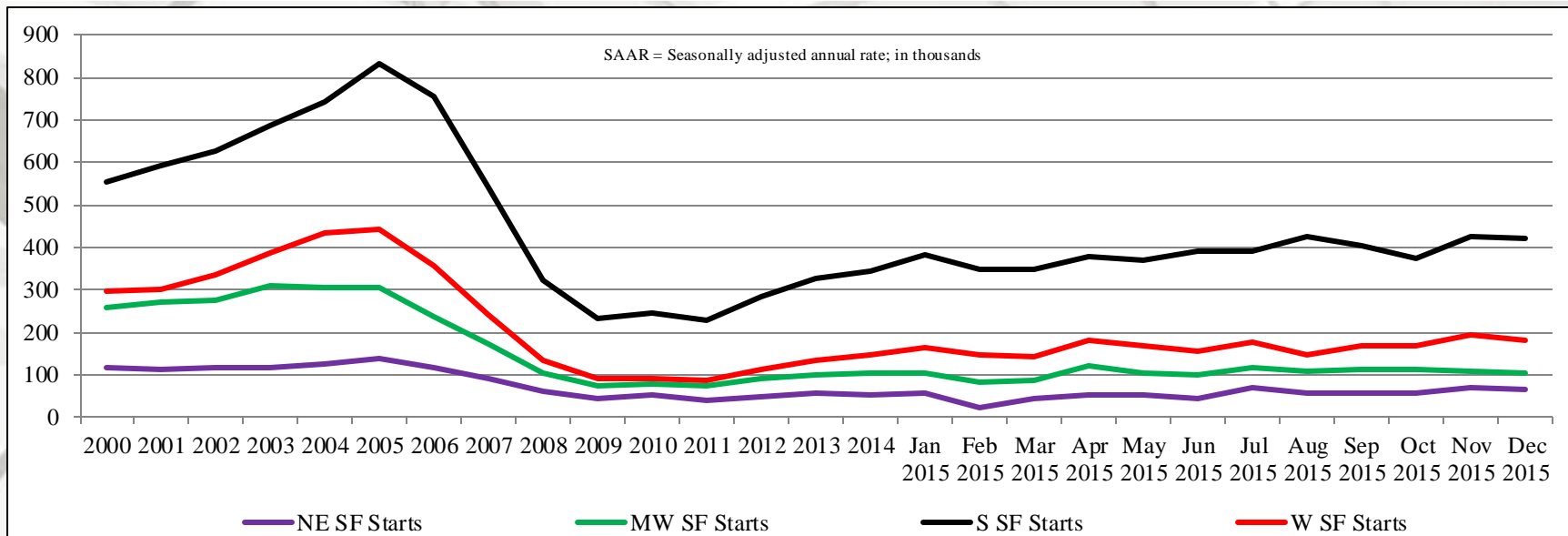
* All data are SAAR; NE = Northeast and MW = Midwest; in thousands. ** US DOC does not report multifamily starts directly, this is an estimation

New Housing Starts by Region

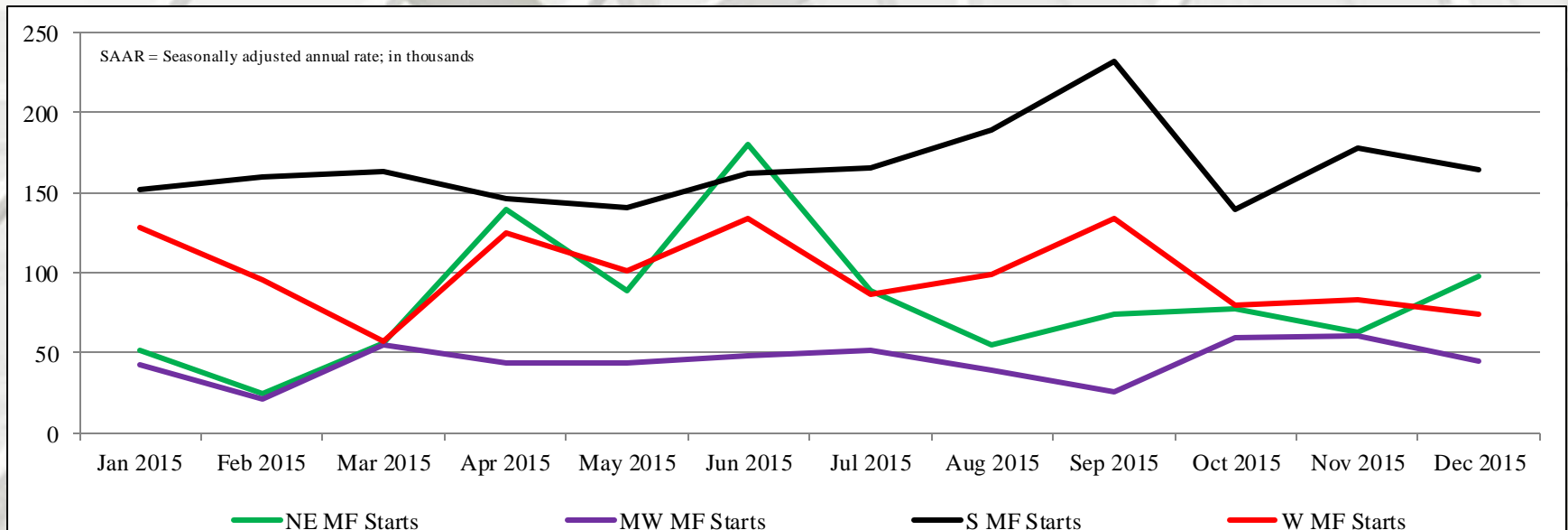
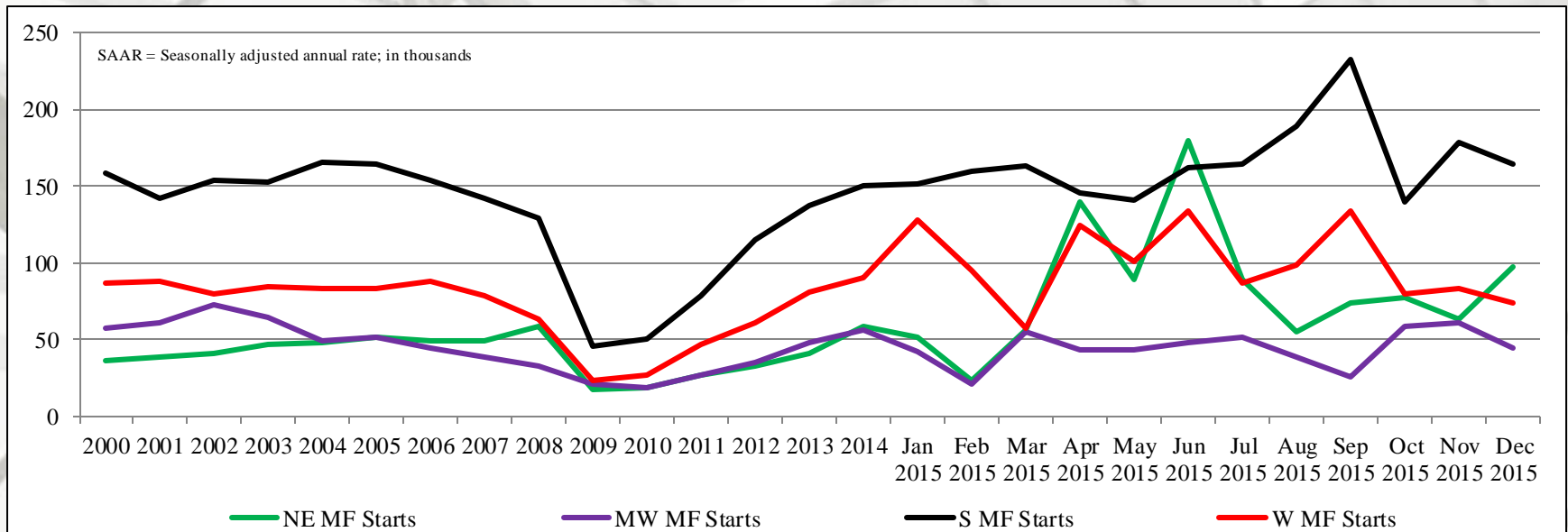
	South (S) Total Starts	S SF Starts	S MF Starts**
December	583	419	164
November	603	425	178
2014	500	381	119
M/M change	-3.3%	-1.4%	-7.9%
Y/Y change	16.6%	9.9%	37.8%
	West (W) Total Starts	W SF Starts	W MF Starts
December	255	181	74
November	276	193	83
2014	299	164	135
M/M change	-7.6%	-6.2%	-10.8%
Y/Y change	-14.7%	10.4%	-45.2%

* All data are SAAR; S = South and W = West; in thousands. ** US DOC does not report multifamily starts directly, this is an estimation.

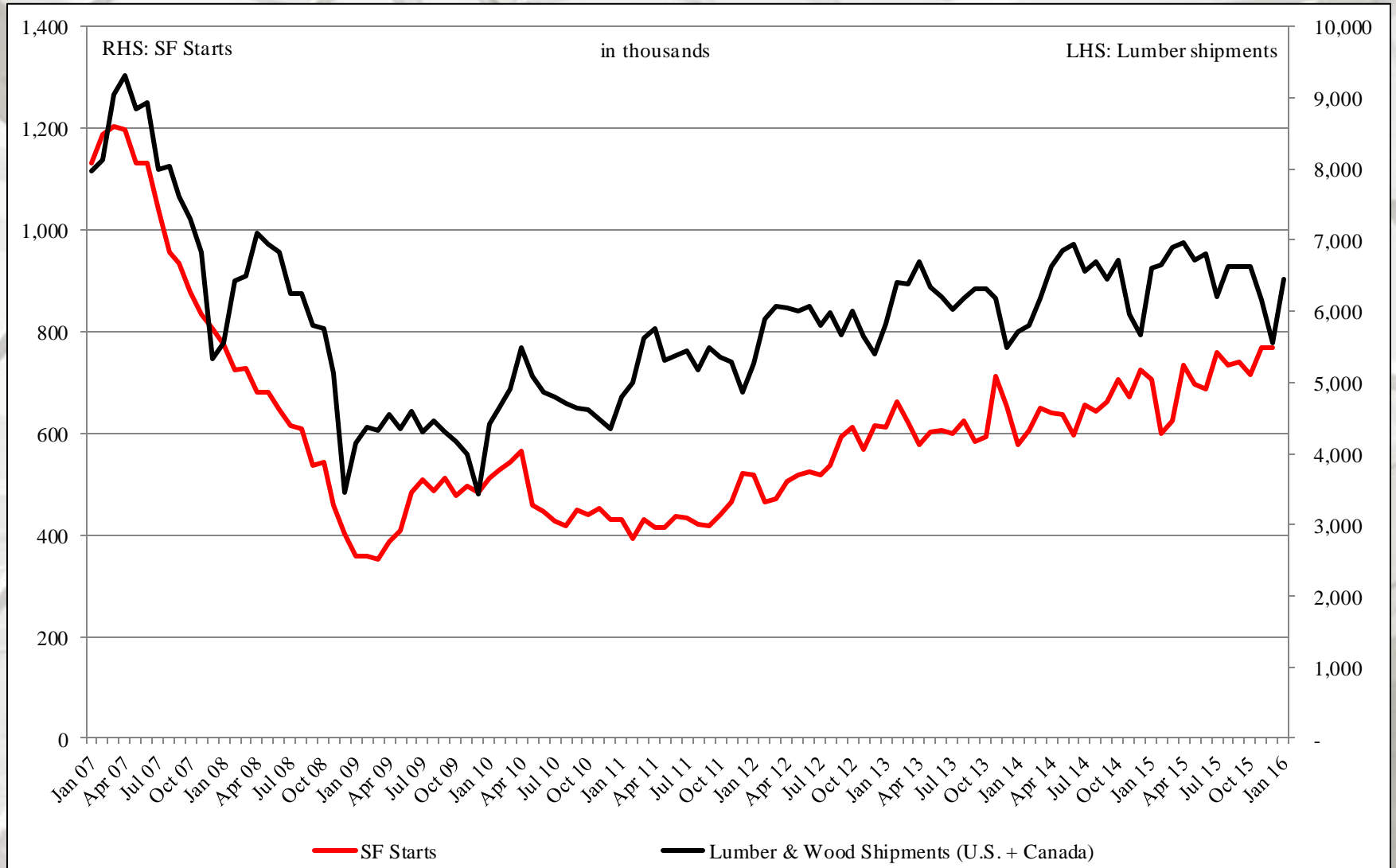
SF Housing Starts by Region



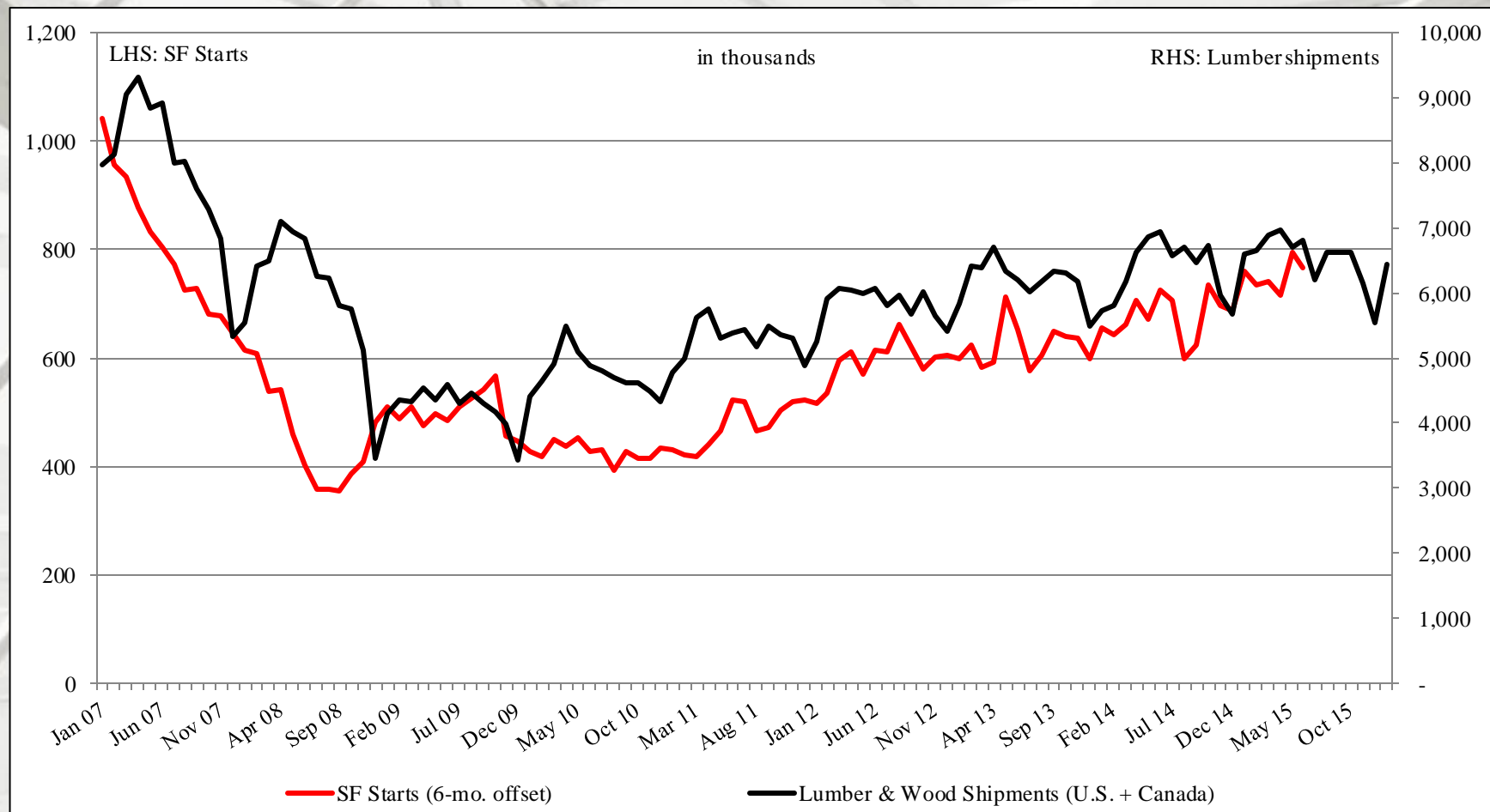
MF Housing Starts by Region



Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts



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



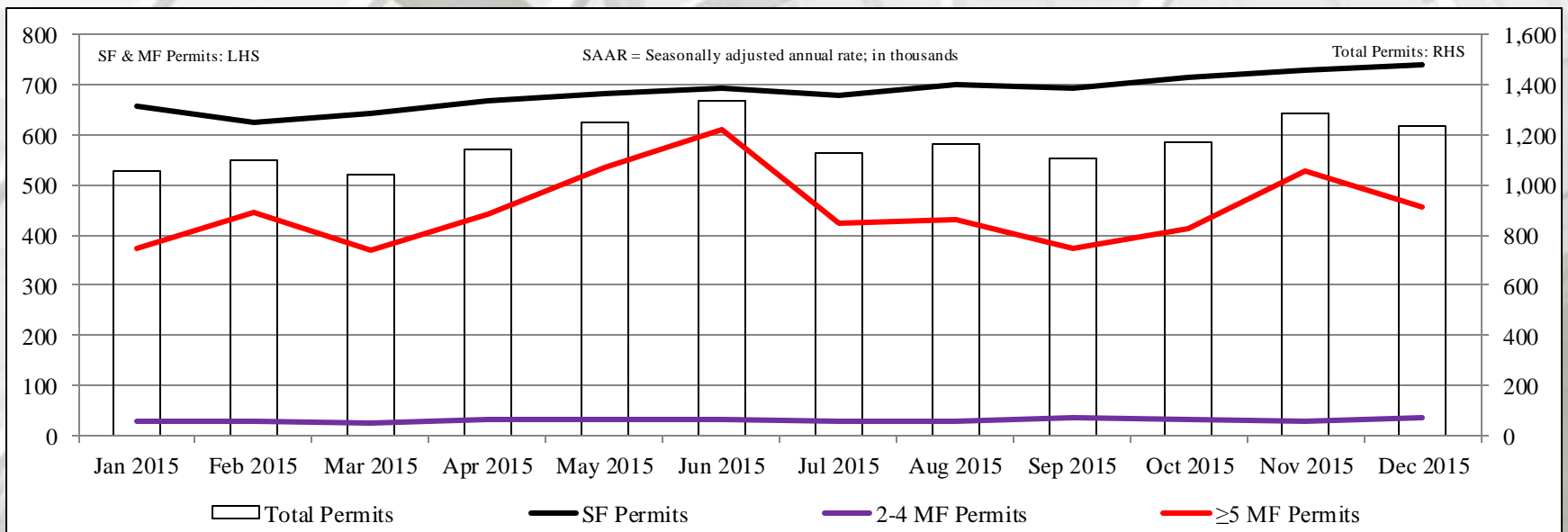
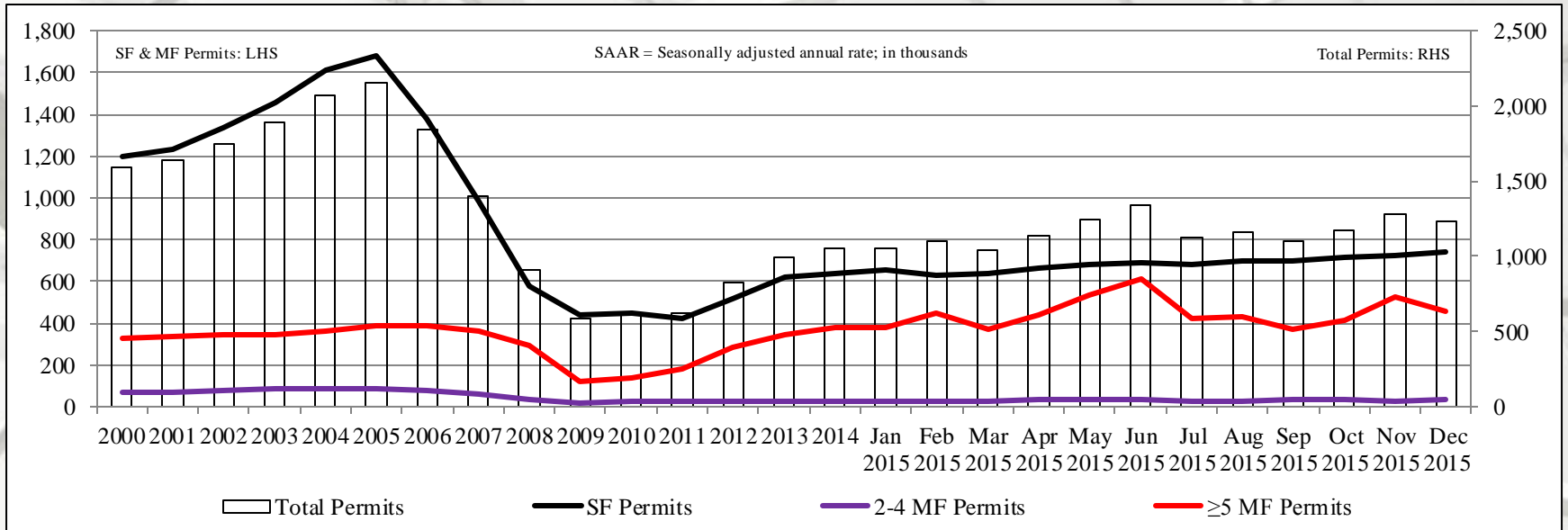
In this graph, initially January 2007 lumber shipments are contrasted with July 2007 starts through January 2016 data. The purpose is to discover if lumber shipments relate to future single-family starts. Also, it is realized that trucking hauls lumber; however, to our knowledge comprehensive trucking data is not available.

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
December	1,232,000	740,000	37,000	455,000
November	1,282,000	727,000	29,000	526,000
2014	1,077,000	685,000	24,000	368,000
M/M change	-3.9%	1.8%	27.6%	-13.5%
Y/Y change	14.4%	8.0%	54.2%	23.6%

* All permits data are presented at a seasonally adjusted annual rate (SAAR).

Total New Housing Permits



New Housing Permits by Region

	NE Total Permits	NE SF Permits	NE MF Permits
December	209	56	153
November	129	54	75
2014	101	53	48
M/M change	62.0%	3.7%	104.0%
Y/Y change	106.9%	5.7%	218.7%

	MW Total Permits	MW SF Permits	MW MF Permits
December	159	105	54
November	204	106	98
2014	163	100	63
M/M change	-22.1%	-0.9%	-44.9%
Y/Y change	-2.5%	5.0%	-14.3%

* All data are SAAR; in thousands

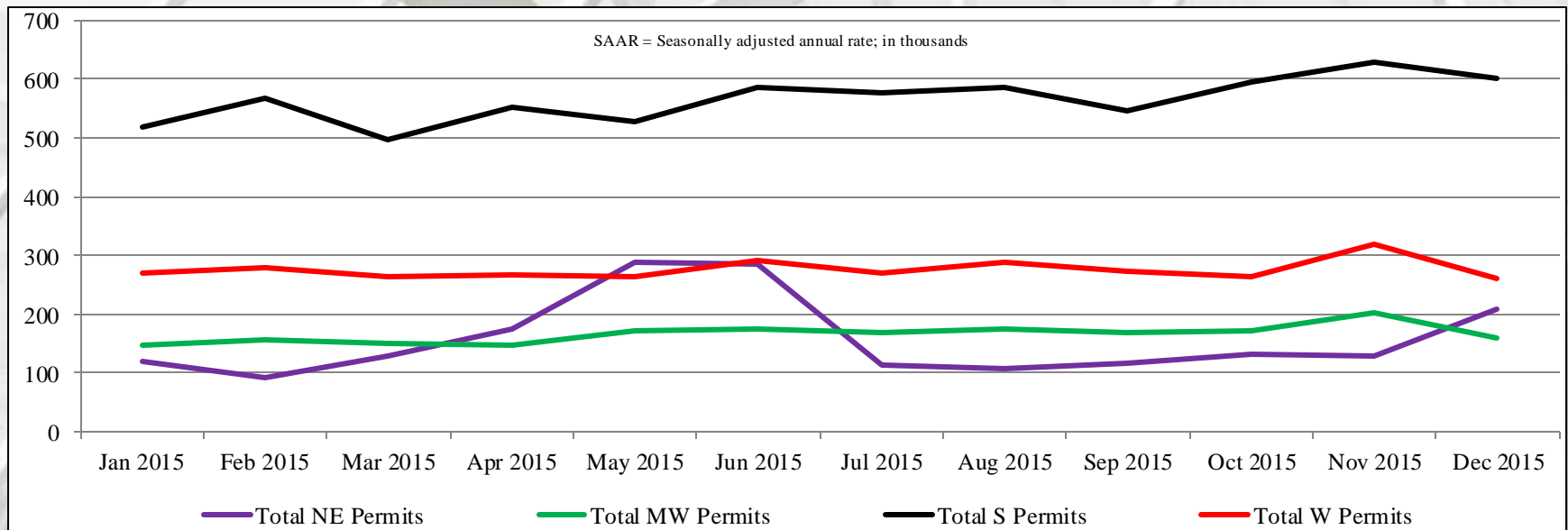
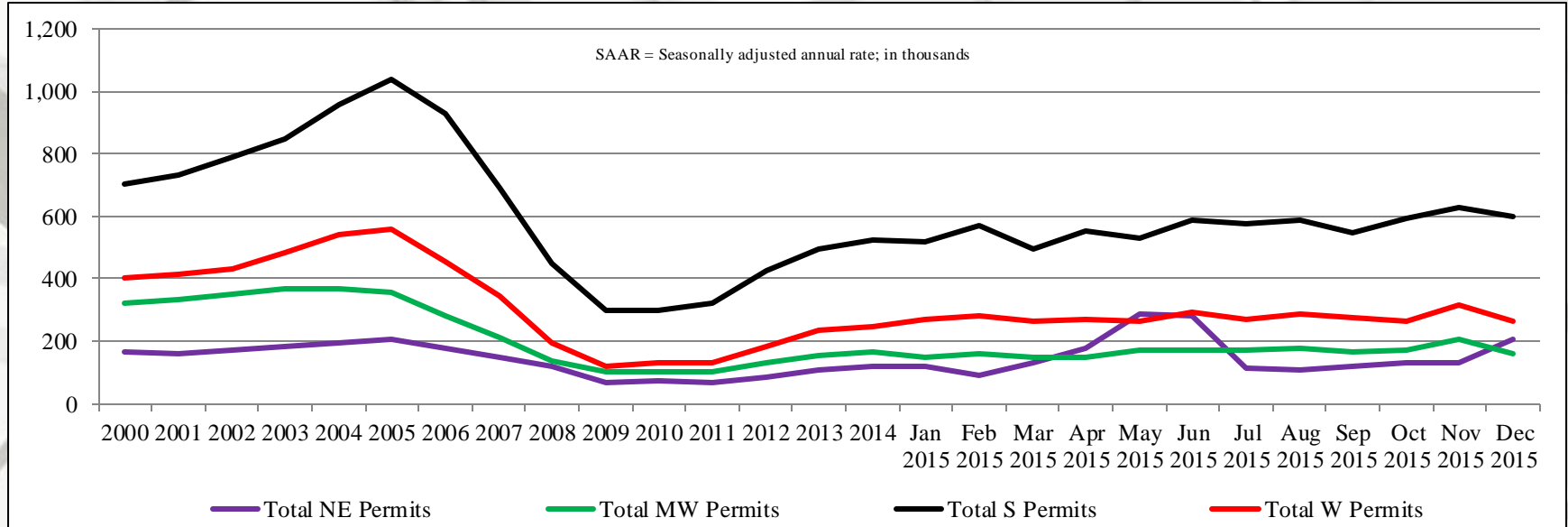
New Housing Permits by Region

	S Total Permits	S SF Permits	S MF Permits
December	602	408	194
November	630	394	236
2014	573	379	194
M/M change	-4.4%	3.6%	-17.8%
Y/Y change	5.1%	7.7%	0.0%

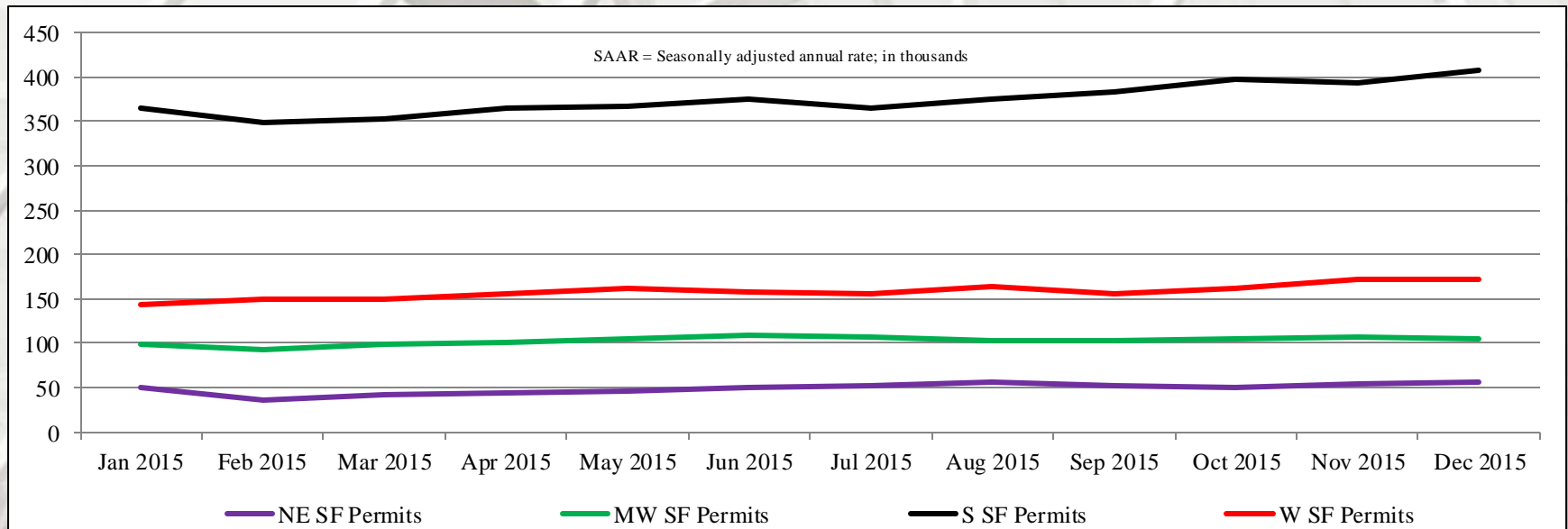
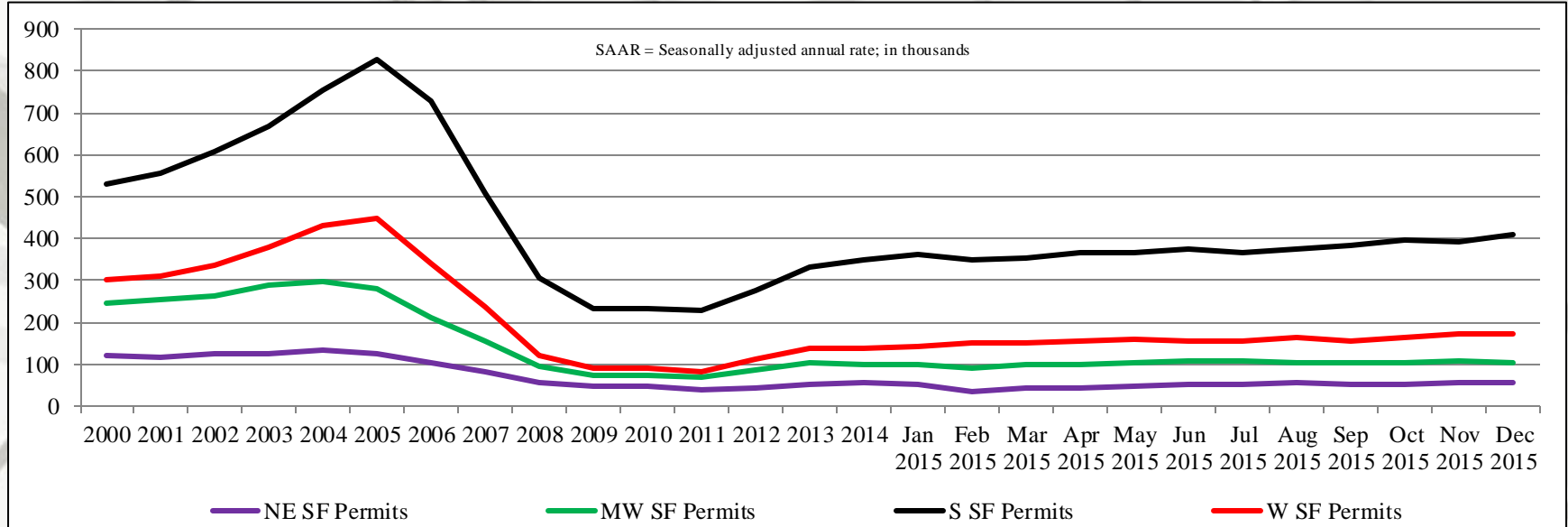
	W Total Permits	W SF Permits	W MF Permits
December	262	171	91
November	319	173	146
2014	240	153	87
M/M change	-17.9%	-1.2%	-37.7%
Y/Y change	9.2%	11.8%	4.6%

* All data are SAAR

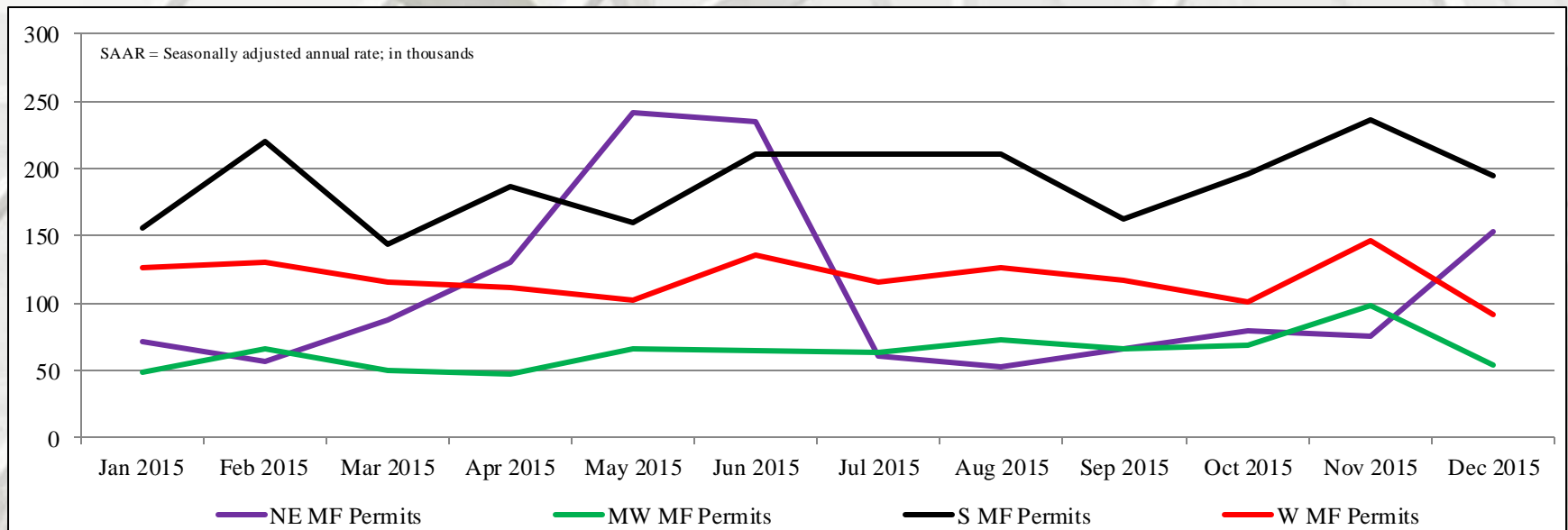
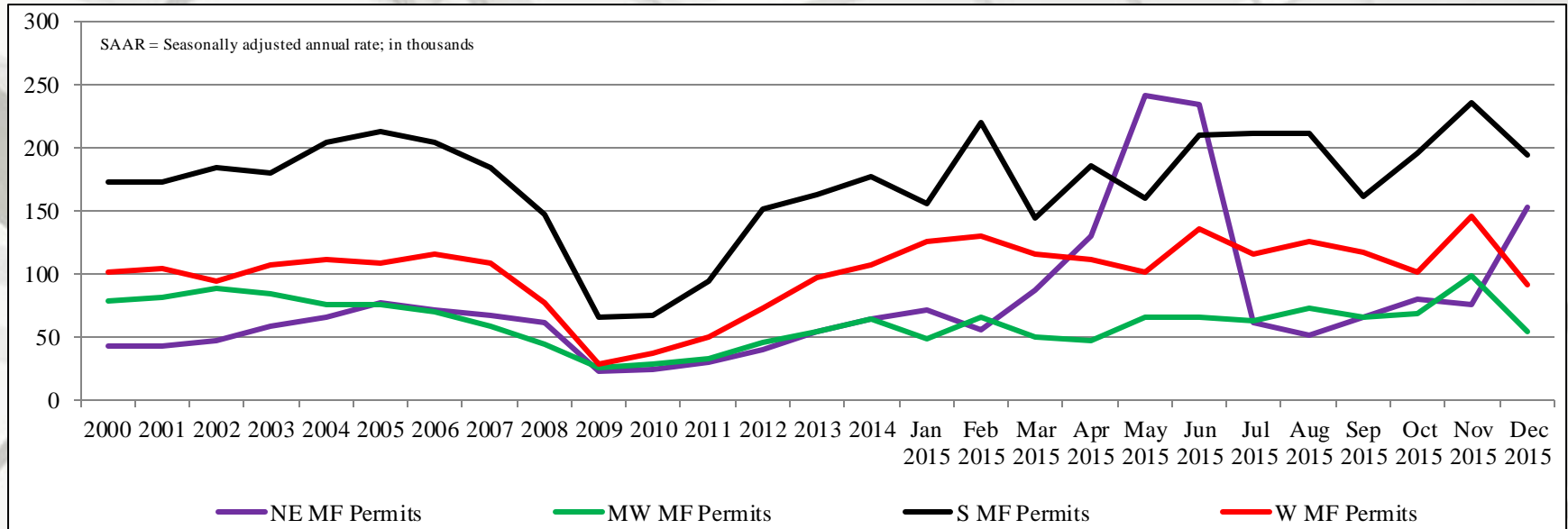
Total Housing Permits by Region



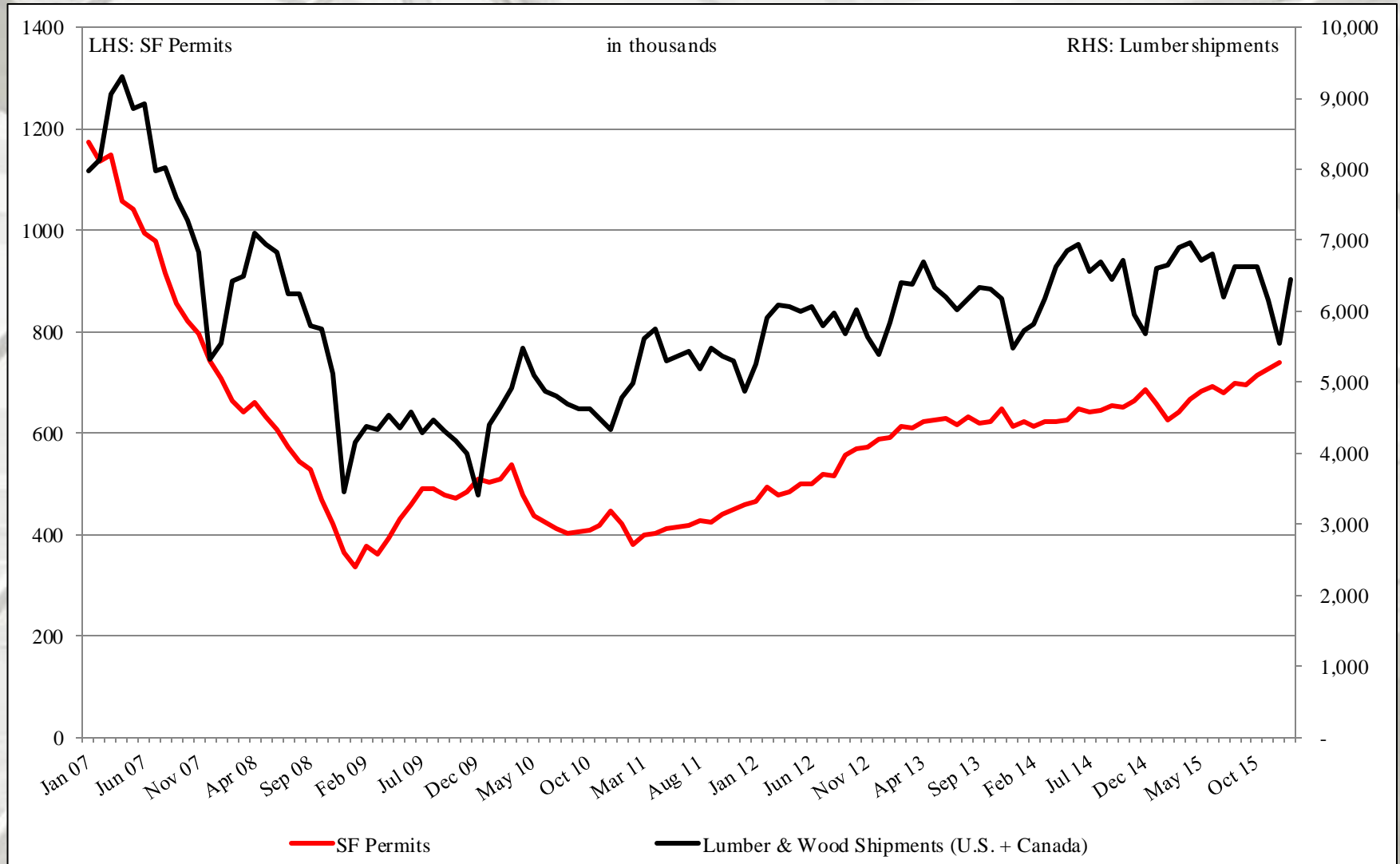
SF Housing Permits by Region



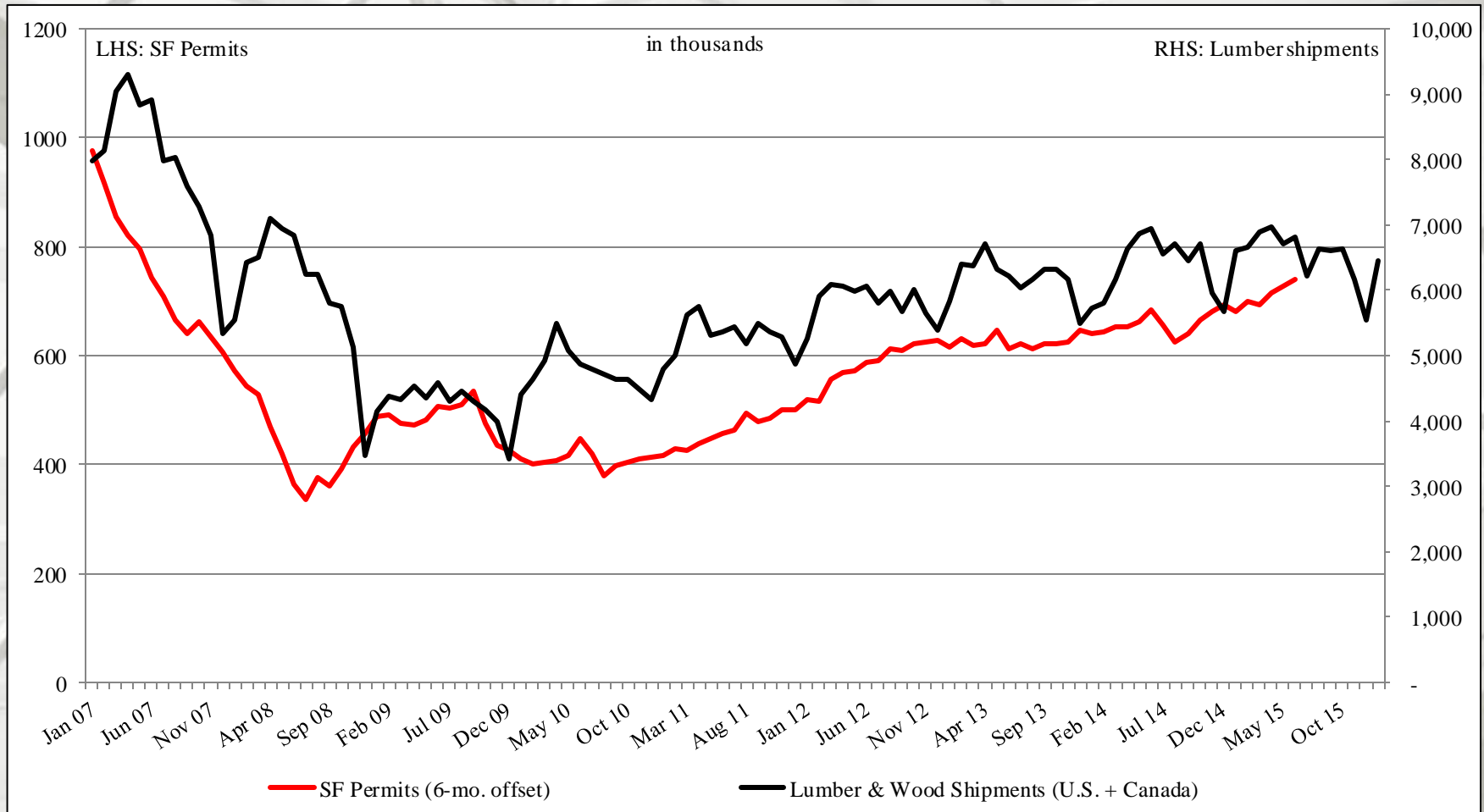
MF Housing Permits by Region



Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits



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



In this graph, initially January 2007 lumber shipments are contrasted with July 2007 permits through January 2016 data. The purpose is to discover if lumber shipments relate to future single-family building permits. It also is realized that trucking hauls lumber; however, to our knowledge comprehensive trucking data is not available.

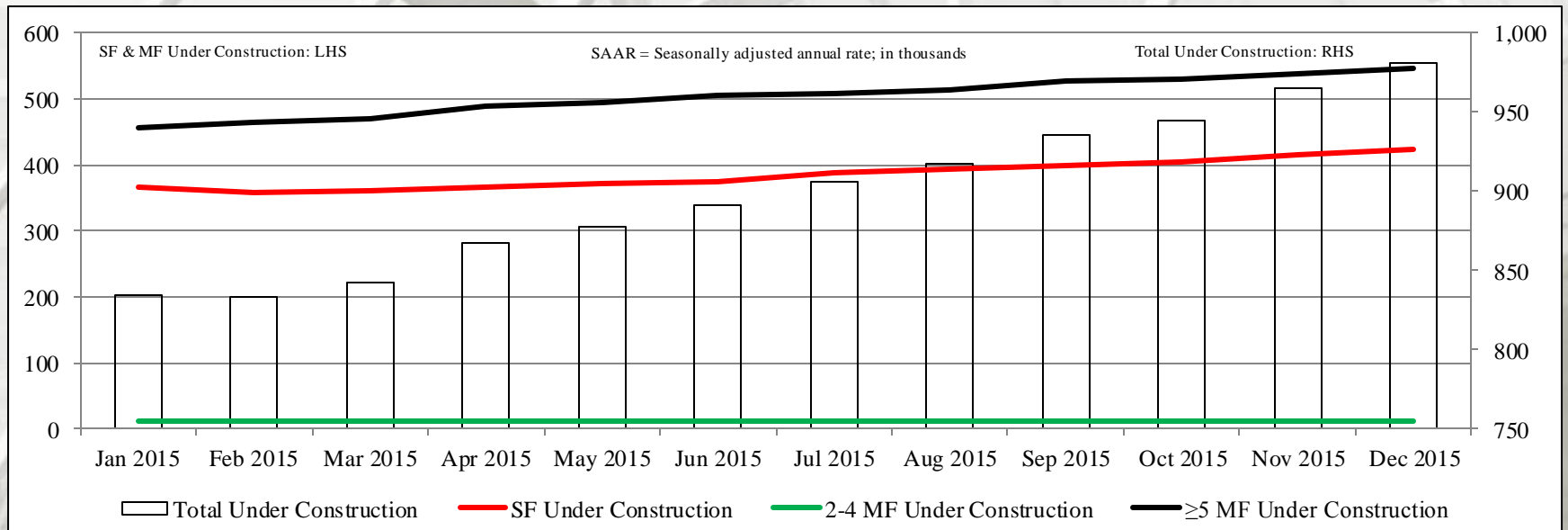
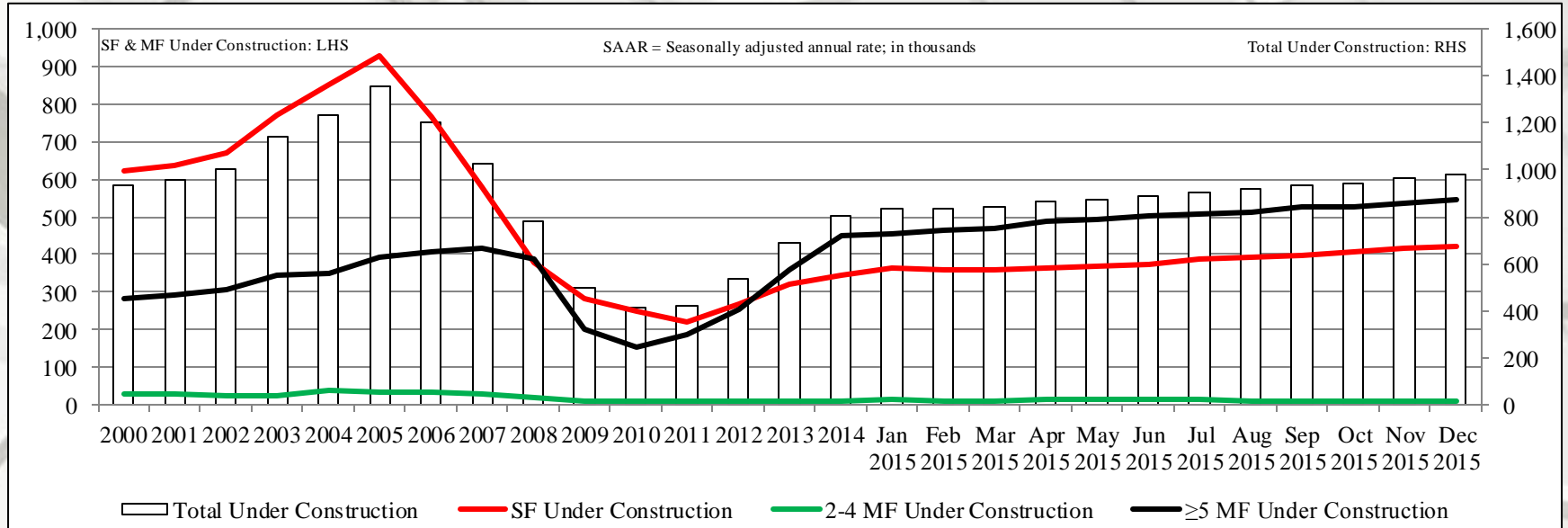
New Housing Under Construction

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
December	981,000	423,000	11,000	547,000
November	965,000	416,000	11,000	538,000
2014	828,000	363,000	12,000	453,000
M/M change	1.7%	1.7%	0.0	1.7%
Y/Y change	18.5%	16.5%	-8.3%	20.8%

* All housing under construction data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report 2-4 multifamily units under construction directly, this is an estimation.

Total Housing Under Construction



New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
December	180	49	131
November	175	48	127
2014	129	41	88
M/M change	2.9%	2.1%	3.1%
Y/Y change	39.5%	19.5%	48.9%

	MW Total	MW SF	MW MF
December	128	68	60
November	128	69	59
2014	128	63	65
M/M change	0.0%	-1.4%	1.7%
Y/Y change	0.0%	7.9%	-7.7%

All data are SAAR; NE = Northeast and MW = Midwest; in thousands.

** US DOC does not report multifamily units under construction directly, this is an estimation.

New Housing Under Construction by Region

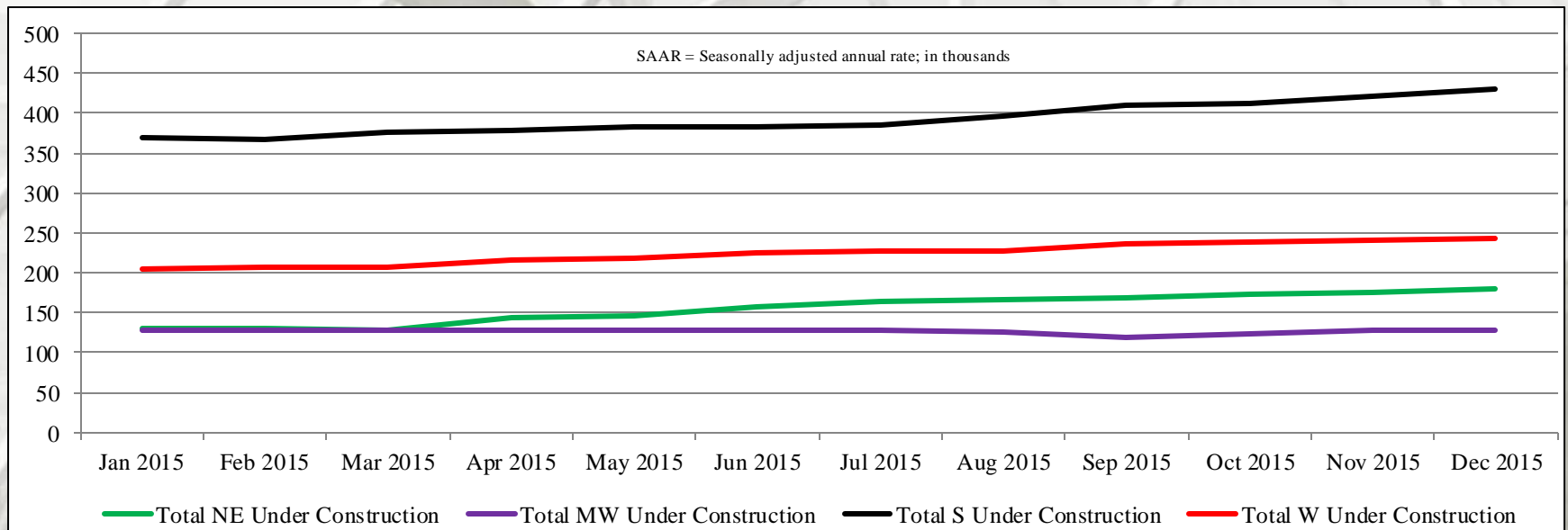
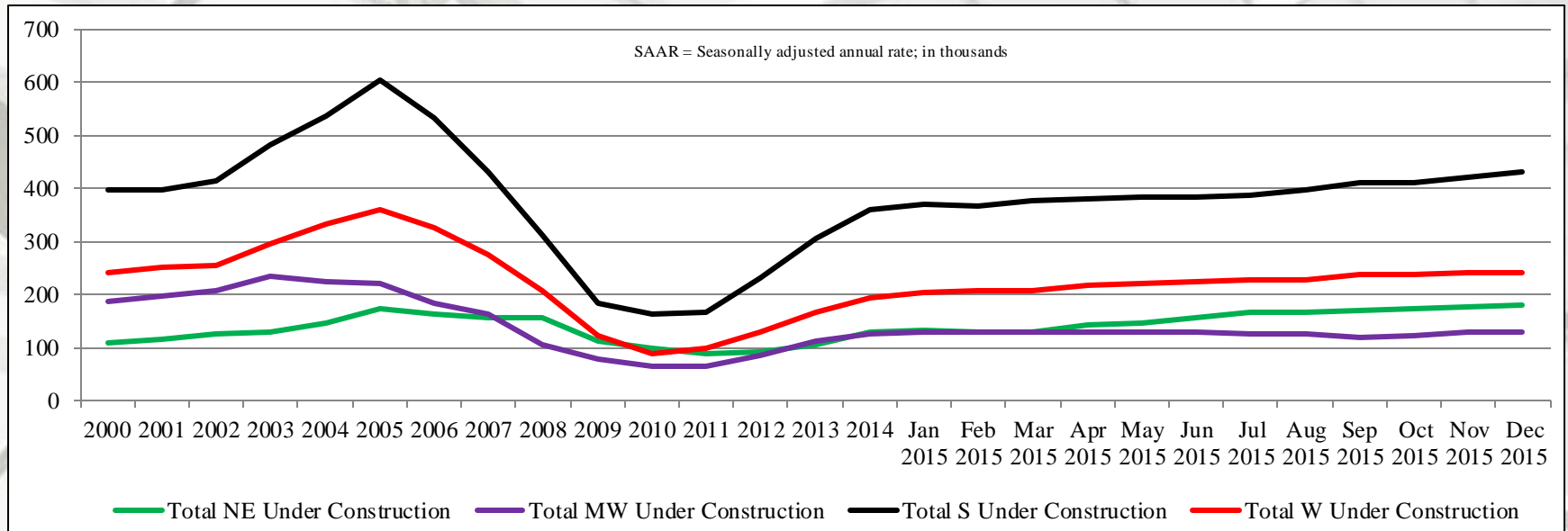
	S Total	S SF	S MF**
December	431	210	221
November	422	206	216
2014	372	183	189
M/M change	2.1%	1.9%	2.3%
Y/Y change	15.9%	14.8%	16.9%

	W Total	W SF	W MF
December	242	96	146
November	240	93	147
2014	199	76	123
M/M change	0.8%	3.2%	- 0.7%
Y/Y change	21.6%	26.3%	18.7%

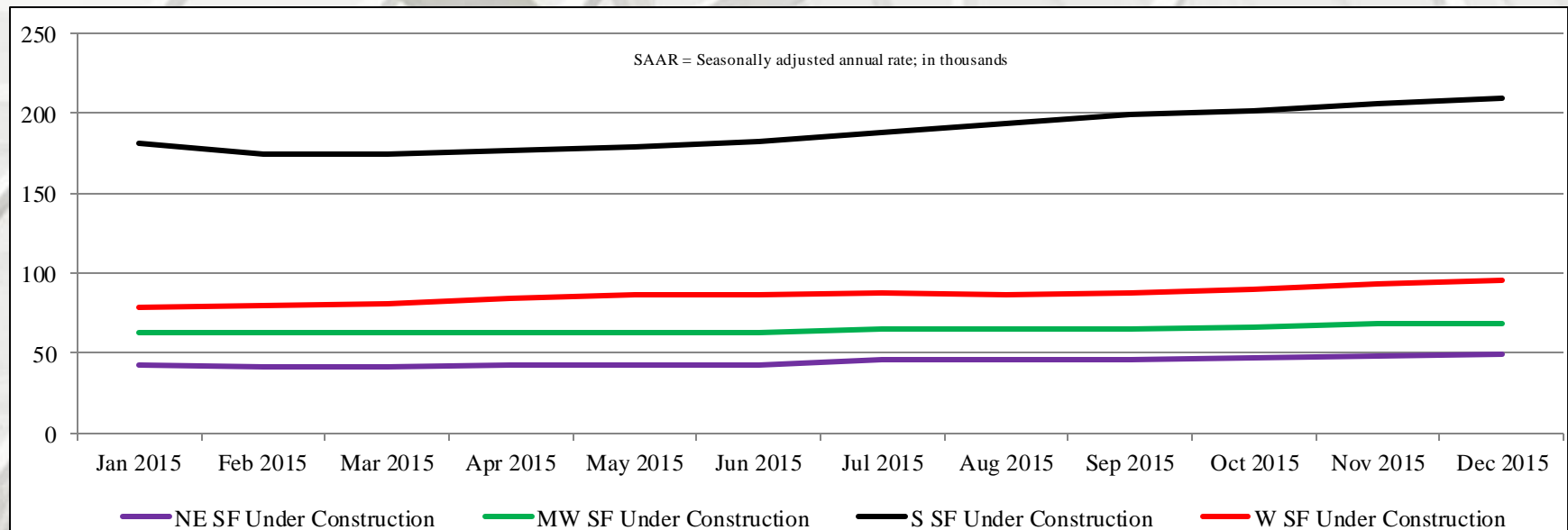
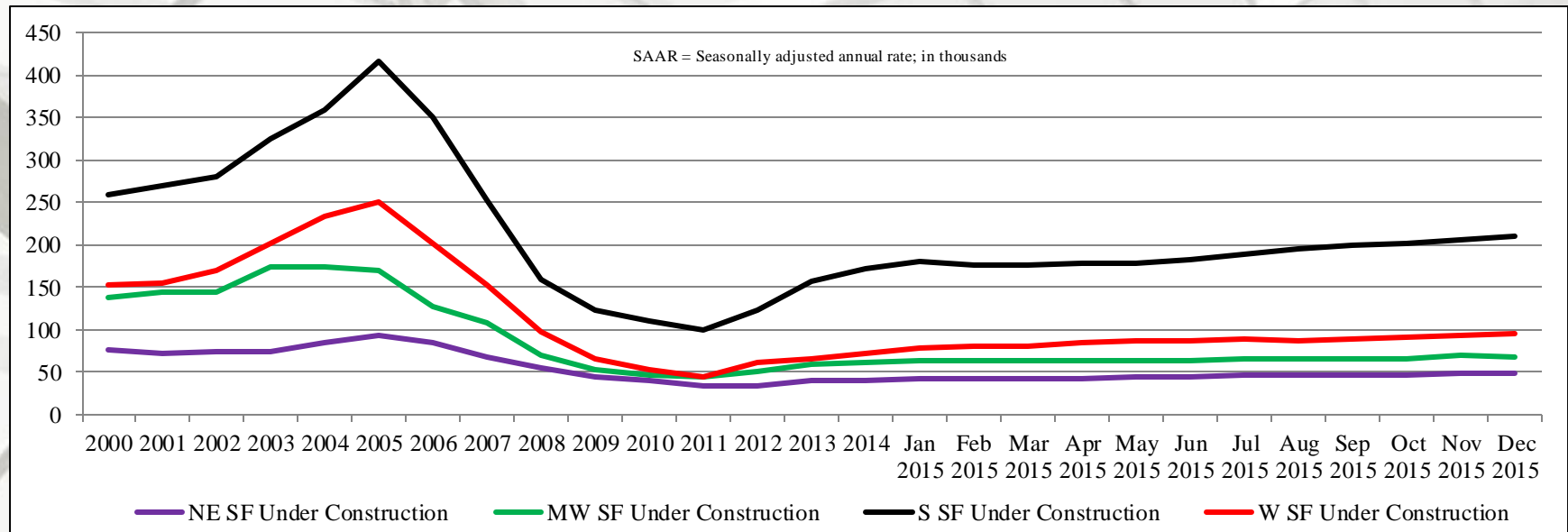
All data are SAAR; S = South and W = West; in thousands.

** US DOC does not report multi-family units under construction directly, this is an estimation.

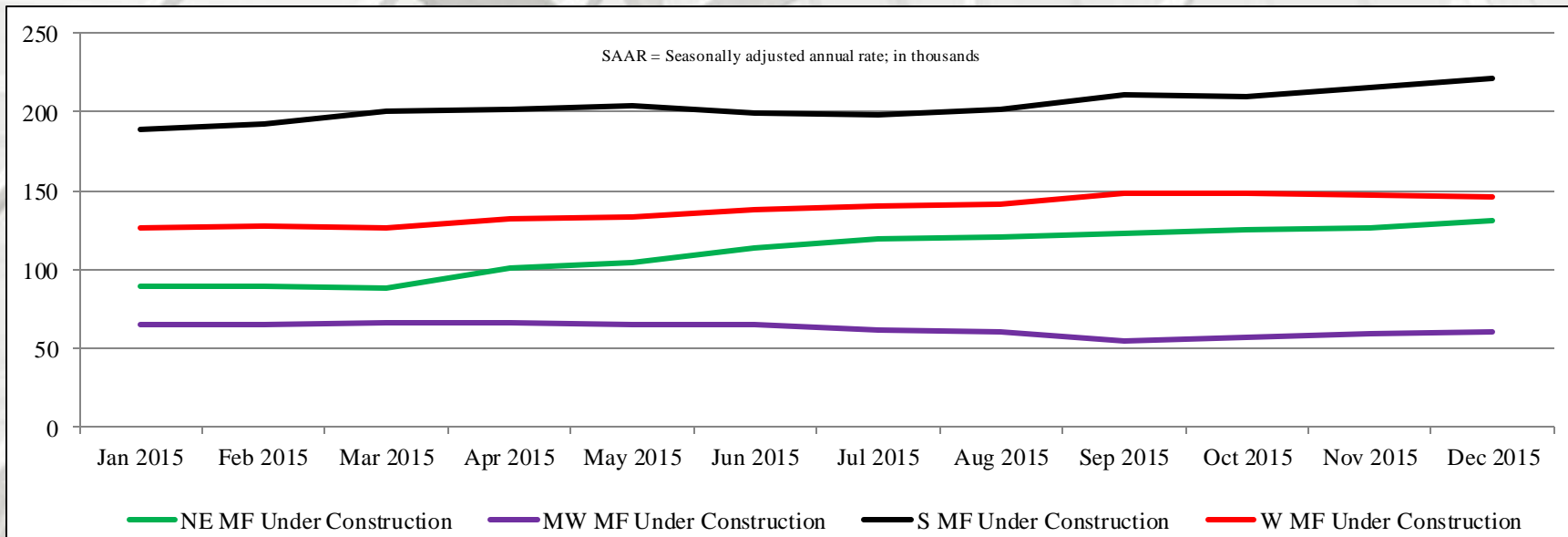
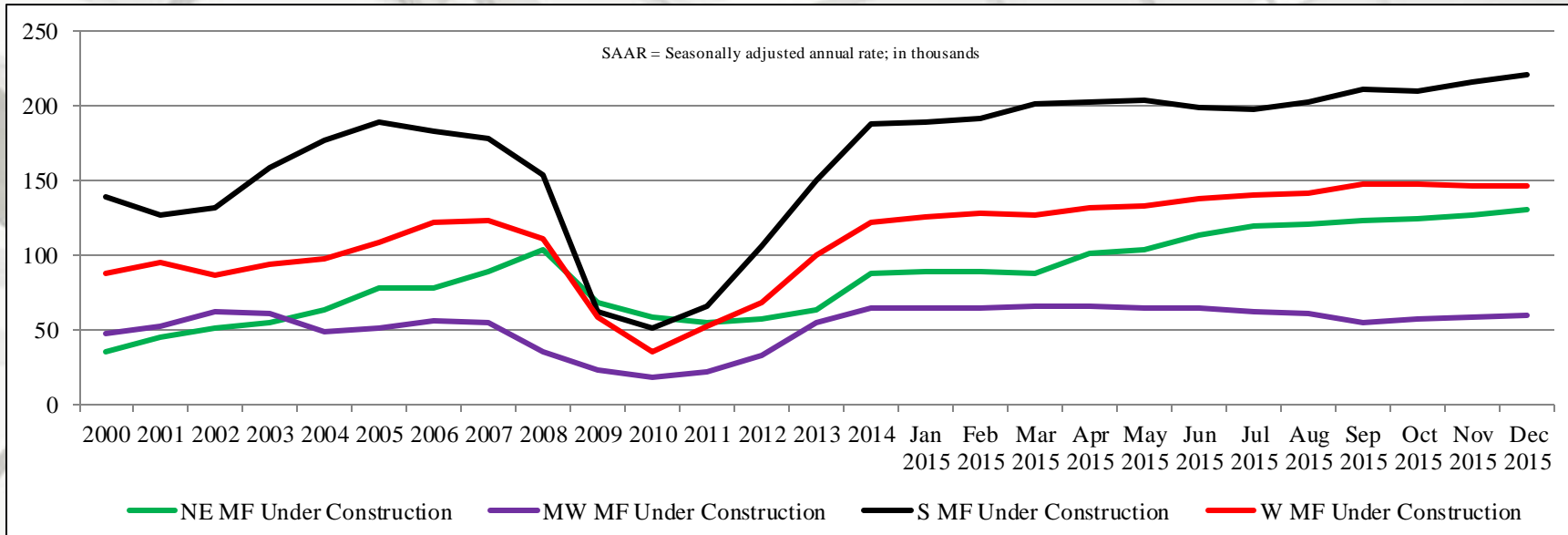
Total Housing Under Construction by Region



SF Housing Under Construction by Region



MF Housing Under Construction by Region



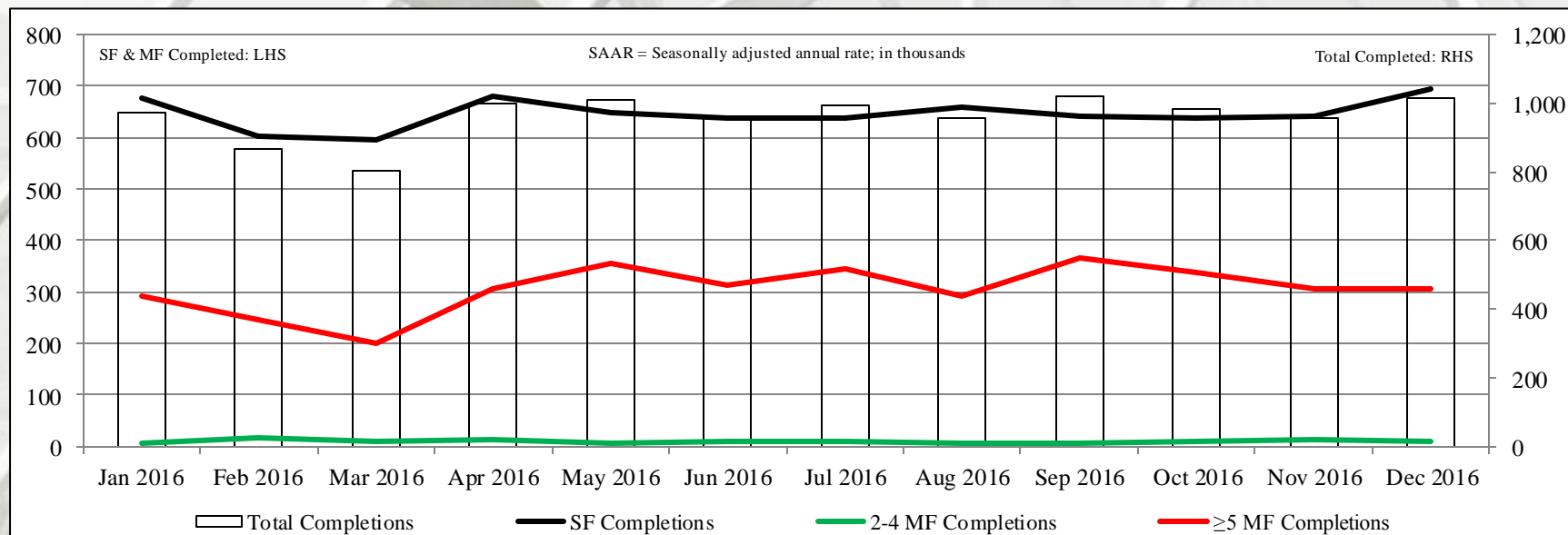
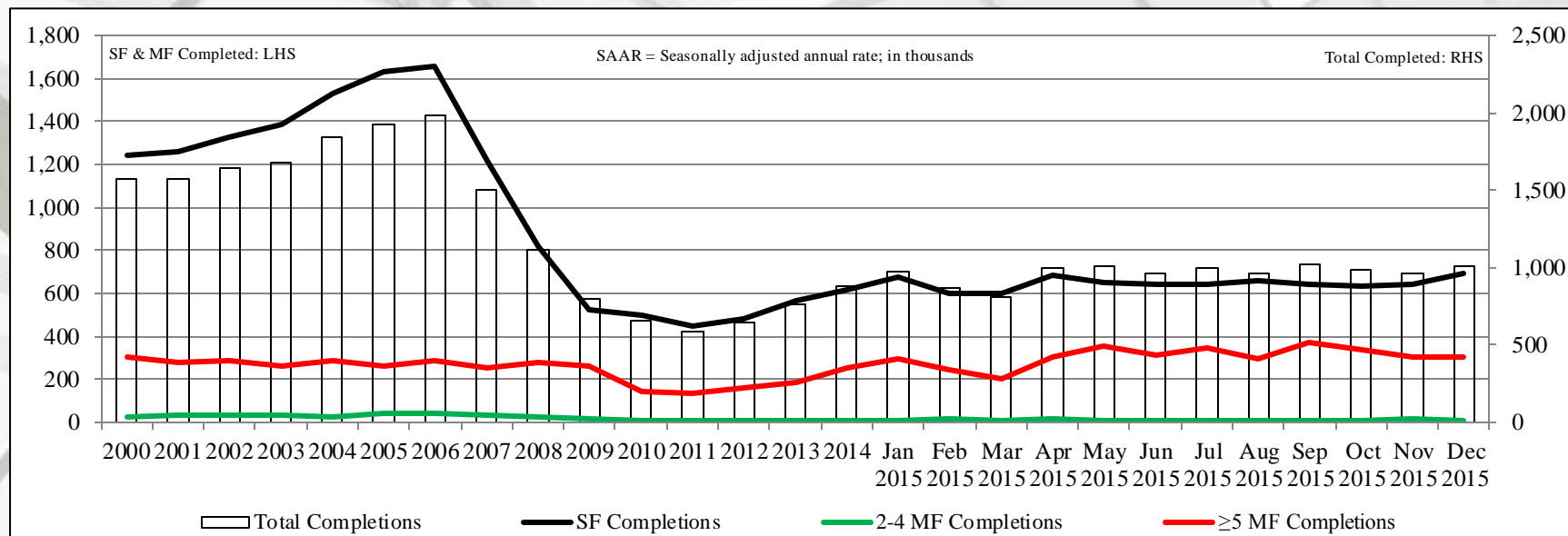
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
December	1,013,000	696,000	10,000	307,000
November	959,000	640,000	13,000	306,000
2014	939,000	665,000	6,000	268,000
M/M change	5.6%	8.8%	-23.1%	0.3%
Y/Y change	7.9%	4.7%	66.7%	14.6%

* All completion data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report multifamily completions directly, this is an estimation.

Total Housing Completions



New Housing Completions by Region

	NE Total	NE SF	NE MF**
December	86	49	37
November	106	54	52
2014	83	47	36
M/M change	-18.9%	-9.3%	-28.8%
Y/Y change	3.6%	4.3%	2.8%

	MW Total	MW SF	MW MF
December	153	112	41
November	98	81	17
2014	169	106	33
M/M change	56.1%	38.3%	141.2%
Y/Y change	-9.5%	5.7%	24.2%

All data are SAAR; NE = Northeast and MW = Midwest; in thousands.

** US DOC does not report multifamily completions directly, this is an estimation.

New Housing Completions by Region

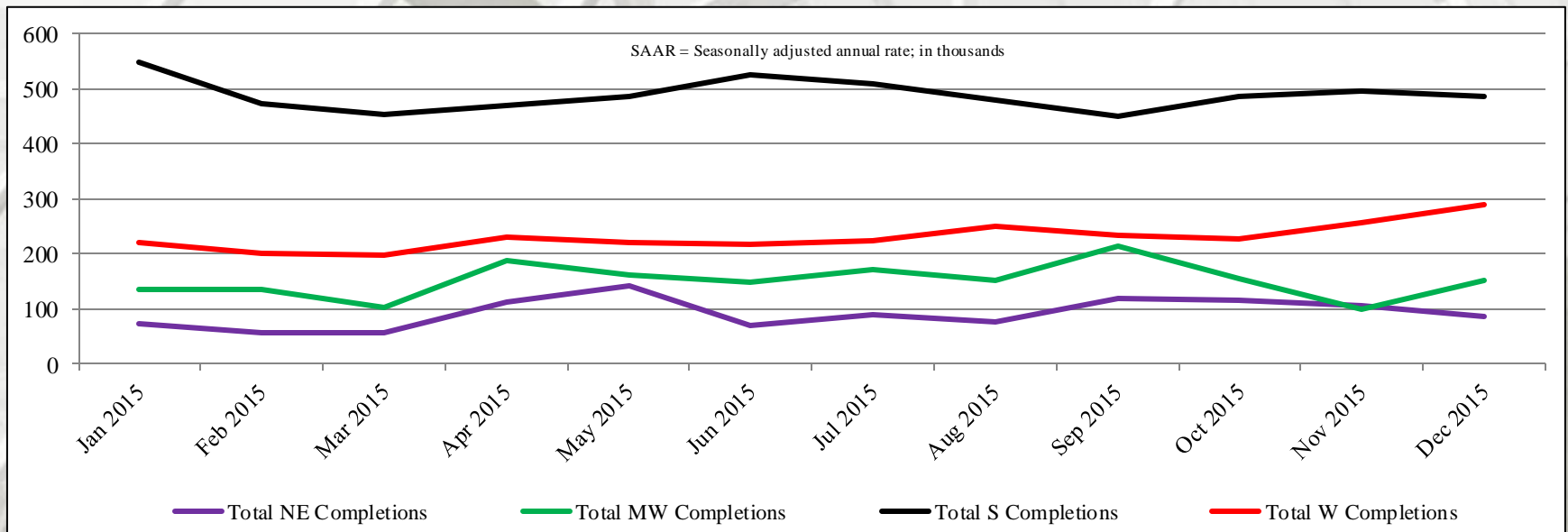
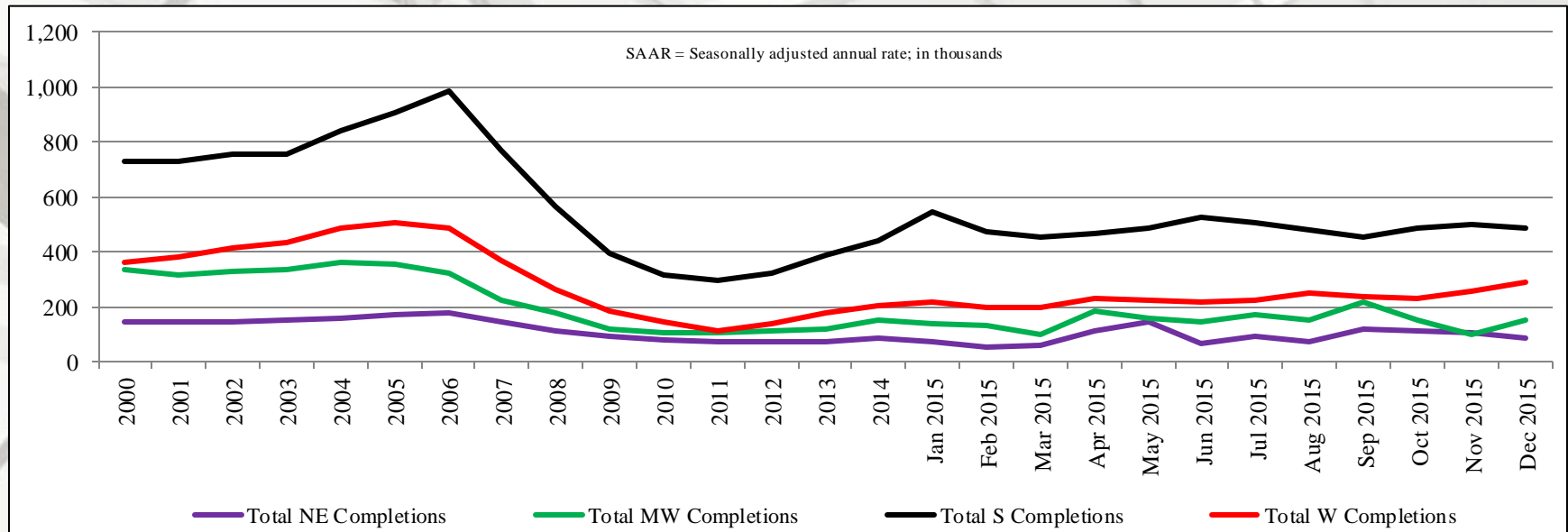
	S Total	S SF	S MF**
December	485	377	108
November	497	363	134
2014	434	349	85
M/M change	-2.4%	3.9%	-19.4%
Y/Y change	11.8%	8.0%	27.1%

	W Total	W SF	W MF
December	289	158	131
November	258	142	116
2014	253	163	90
M/M change	12.0%	11.3%	12.9%
Y/Y change	14.2%	-3.1%	45.6%

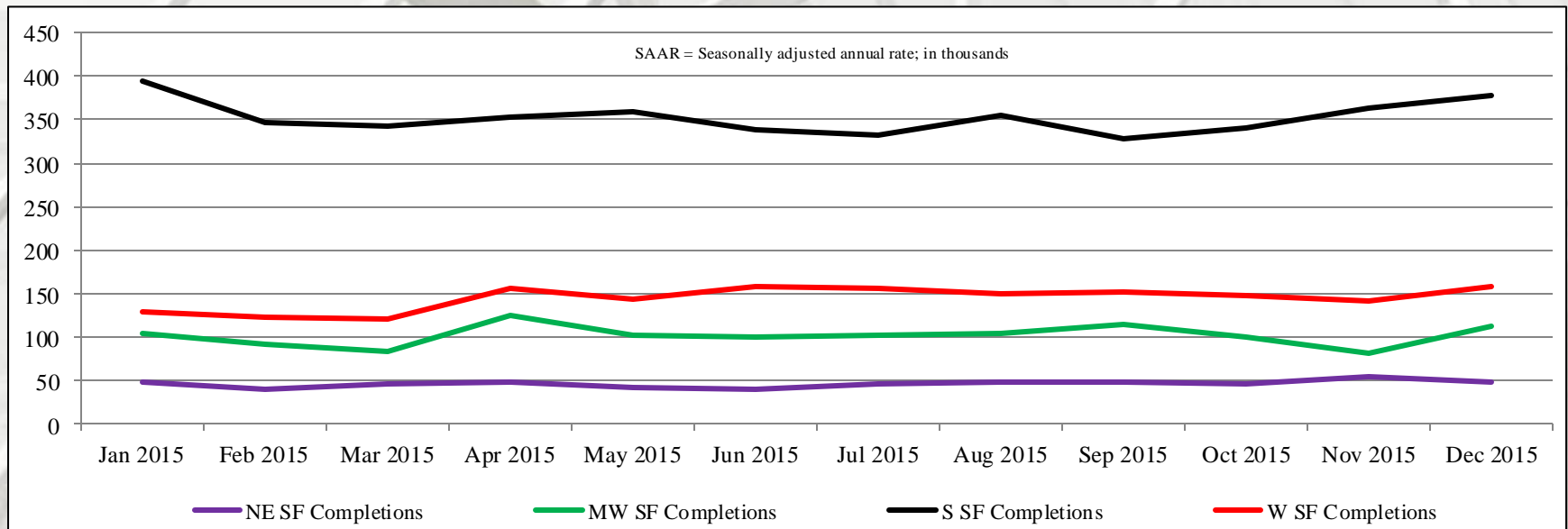
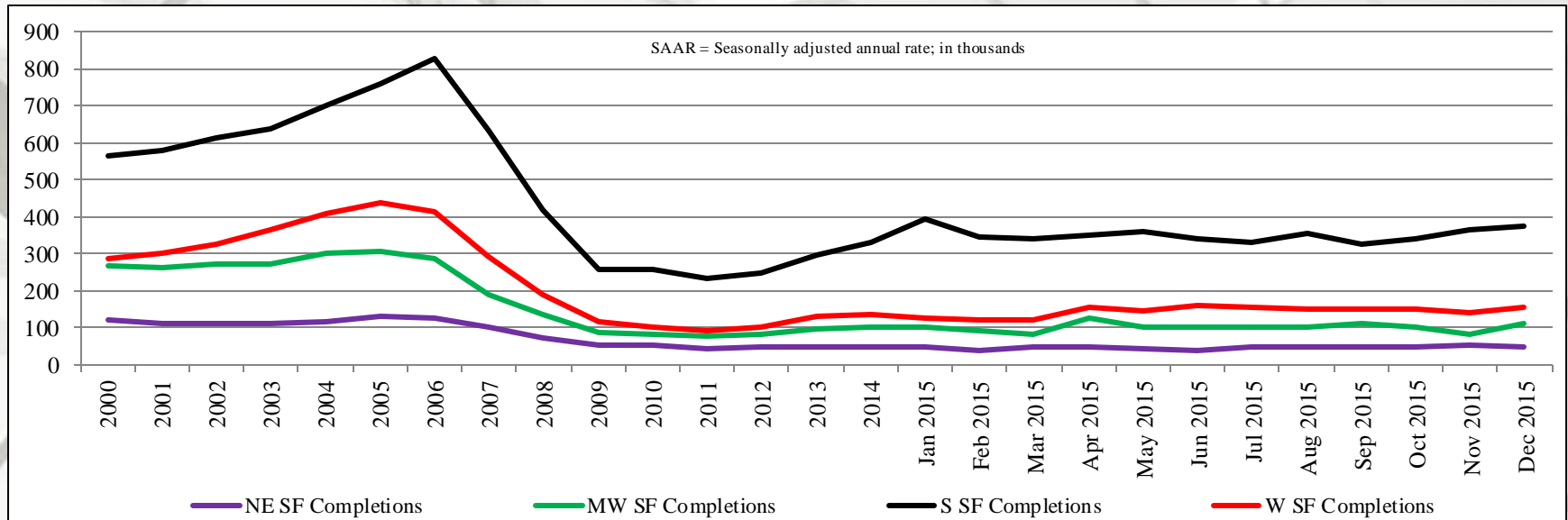
All data are SAAR; S = South and W = West; in thousands.

** US DOC does not report multi-family completions directly, this is an estimation.

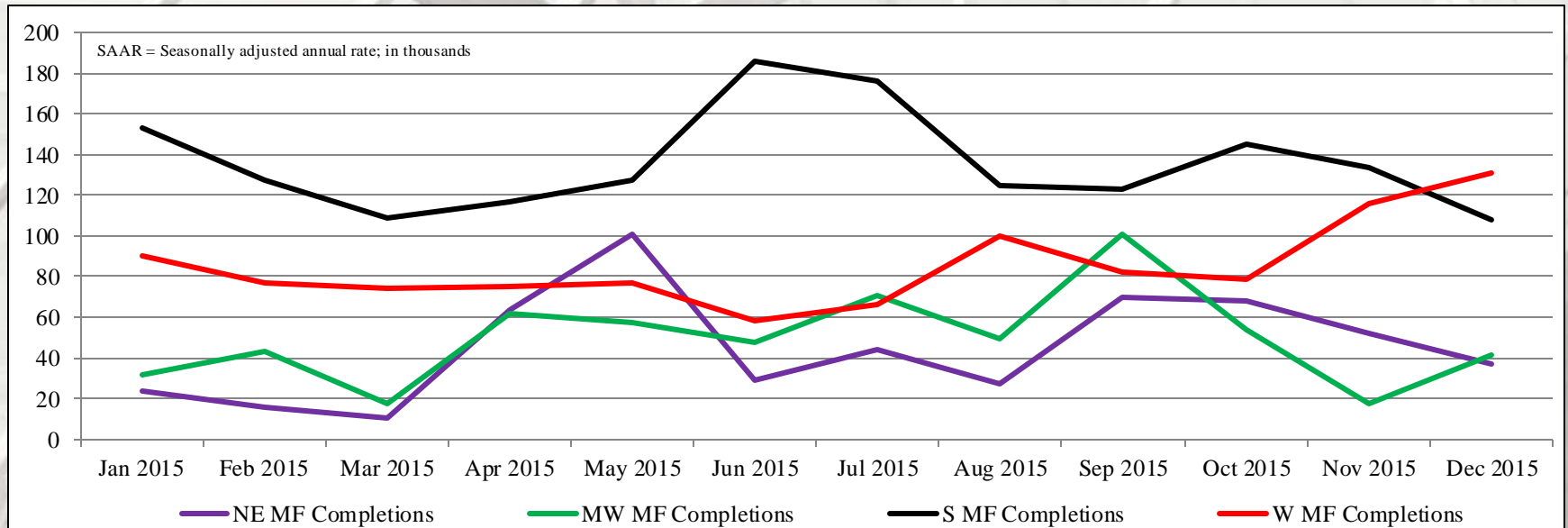
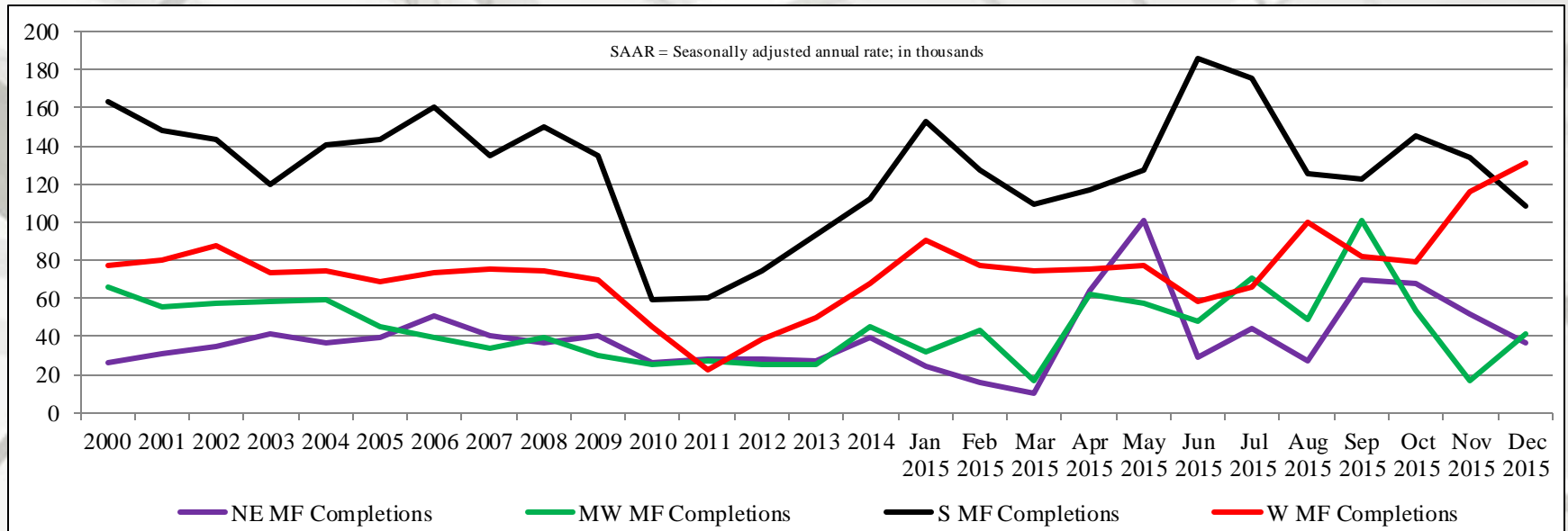
Total Housing Completions by Region



SF Housing Completions by Region



MF Housing Completions by Region

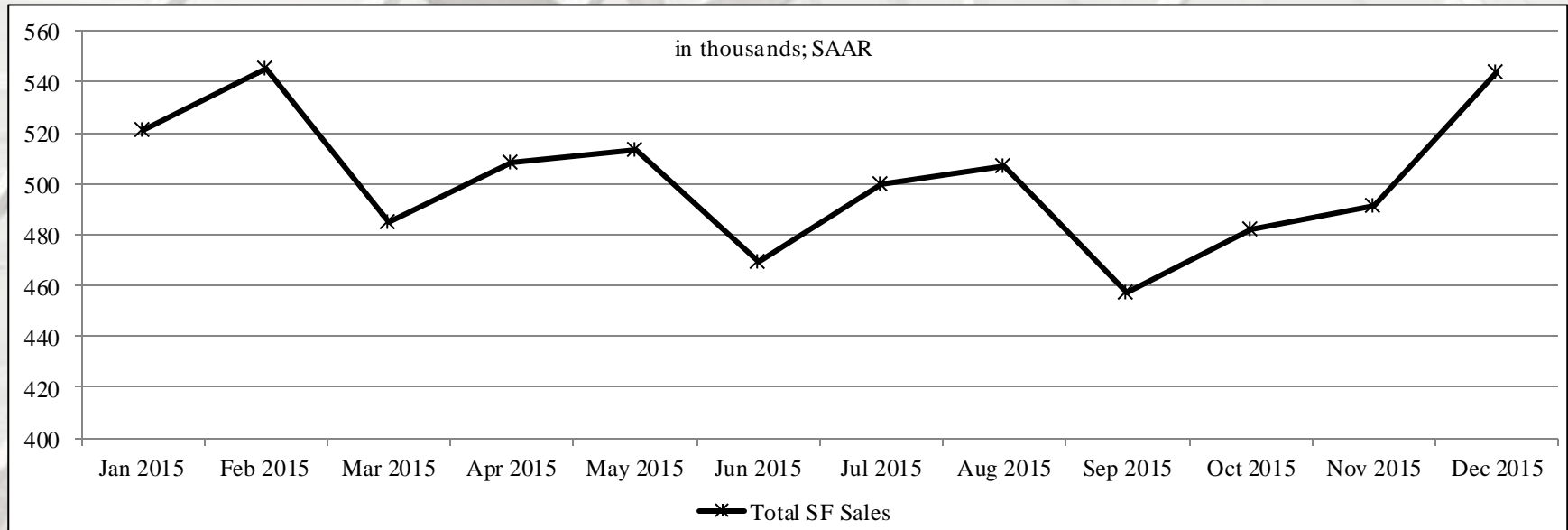
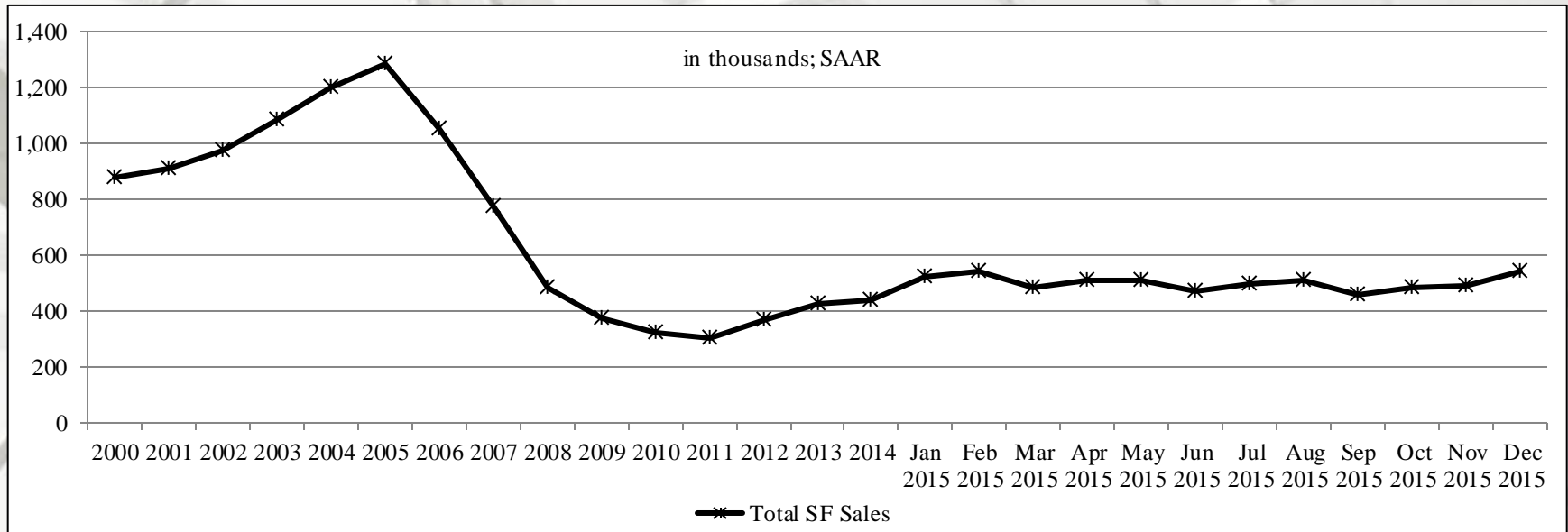


New Single-Family House Sales

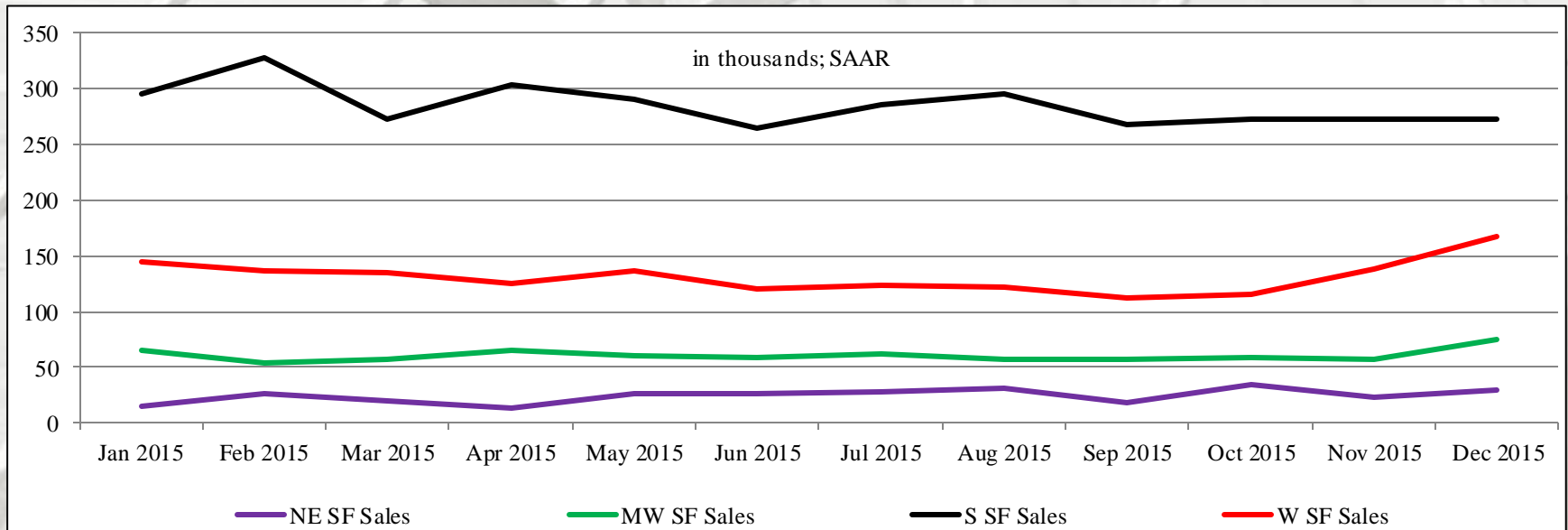
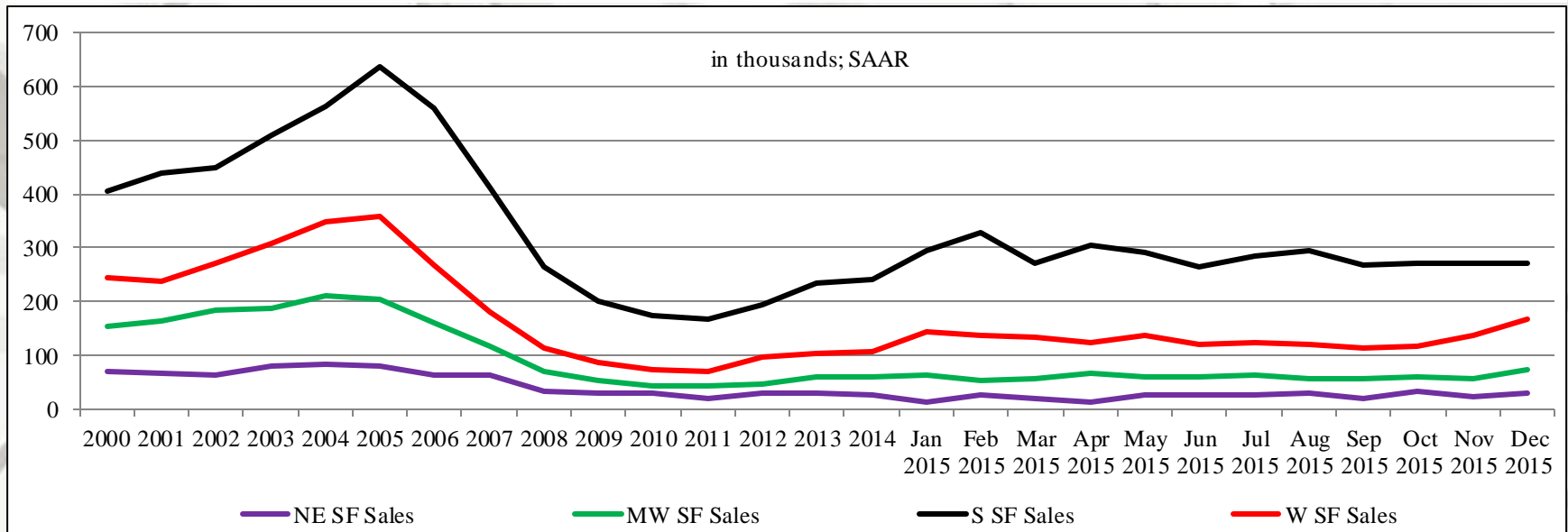
	New SF Sales*	Median Price	Mean Price	Month's Supply
December	544,000	\$288,900	\$346,400	5.2
November	491,000	\$297,000	\$364,200	5.6
2014	495,000	\$302,800	\$373,500	5.1
M/M change	10.8%	-2.7%	-4.9%	-7.1%
Y/Y change	9.9%	-4.6%	-7.3%	2.0%

* All sales data are presented at a seasonally adjusted annual rate (SAAR).

New SF House Sales



New SF House Sales by Region



New SF House Sales by Region and Price Category

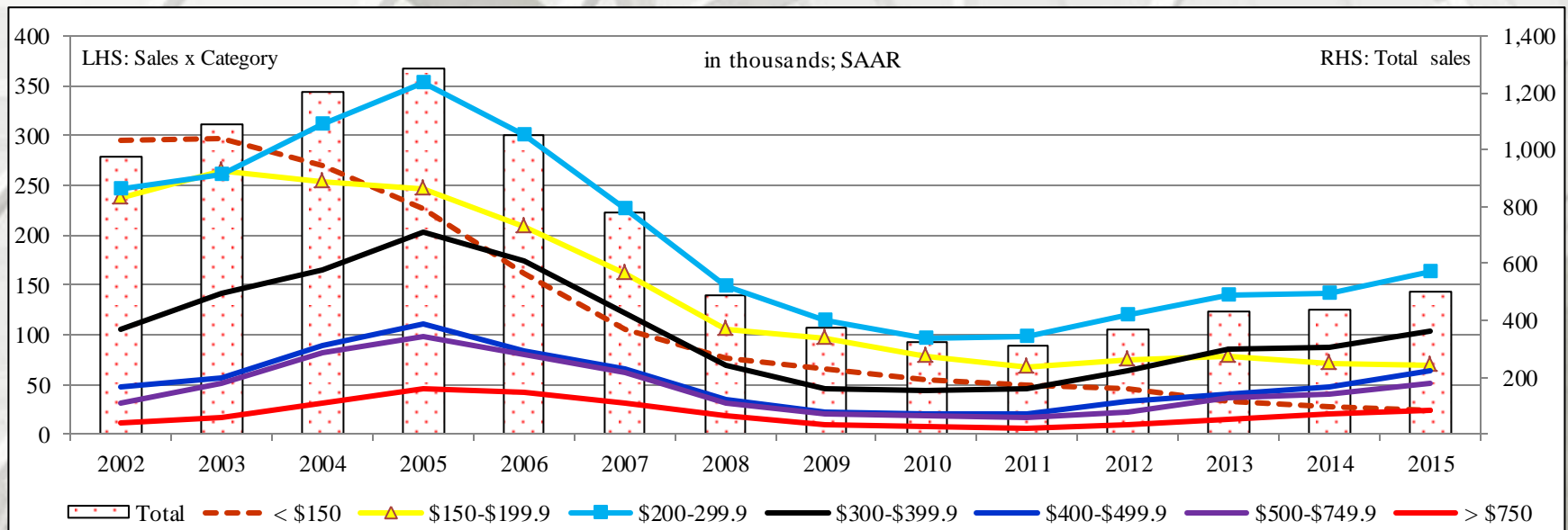
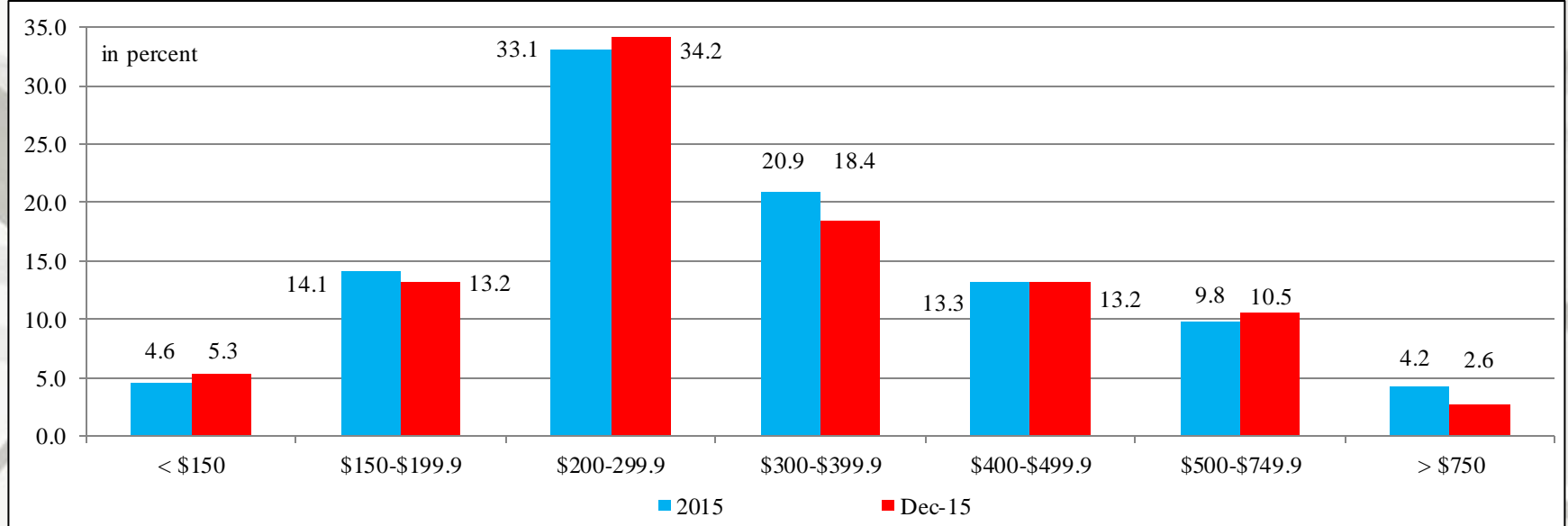
	NE SF Sales	MW SF Sales	S SF Sales	W SF Sales
December	29,000	75,000	273,000	167,000
November	24,000	57,000	272,000	138,000
2014	31,000	54,000	273,000	137,000
M/M change	20.8%	31.6%	0.4%	21.0%
Y/Y change	-6.5%	38.9%	0.0%	21.9%

	< \$150m	\$150- \$199.9m	\$200- 299.9m	\$300- \$399.9m	\$400- \$499.9m	\$500- \$749.9m	> \$750m
December	2,000	5,000	13,000	7,000	5,000	4,000	1,000
November	1,000	4,000	13,000	7,000	5,000	3,000	2,000
2014	2,000	5,000	11,000	7,000	5,000	3,000	2,000
M/M change	100.0%	25.0%	0.0	0.0	0.0	0.0	-50.0%
Y/Y change	0.0	0.0	18.2%	0.0	0.0	33.3%	-50.0%

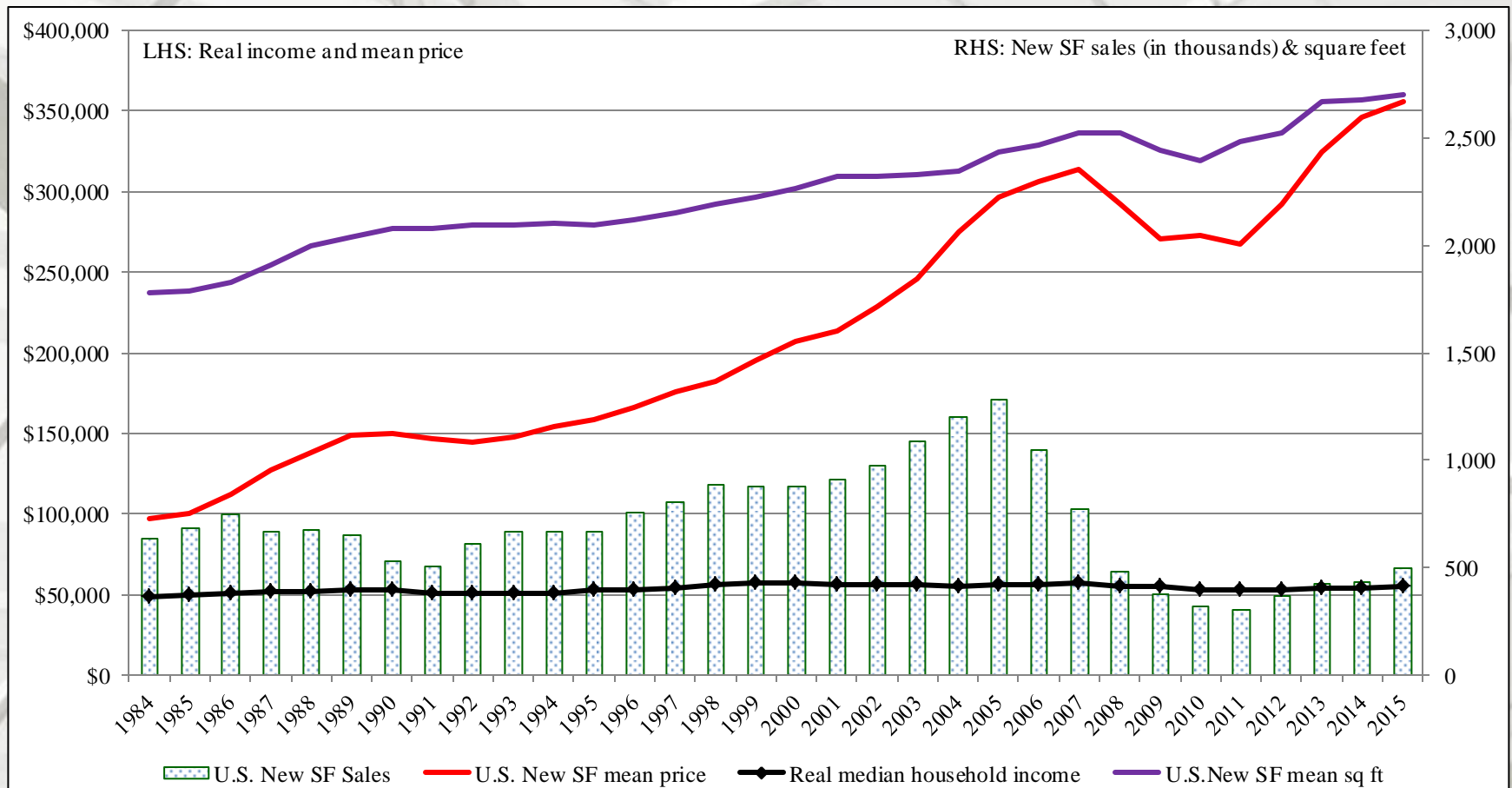
All data are SAAR; ¹-Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;

²-Detail may not add to total because of rounding.

New SF House Sales by Price Category



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

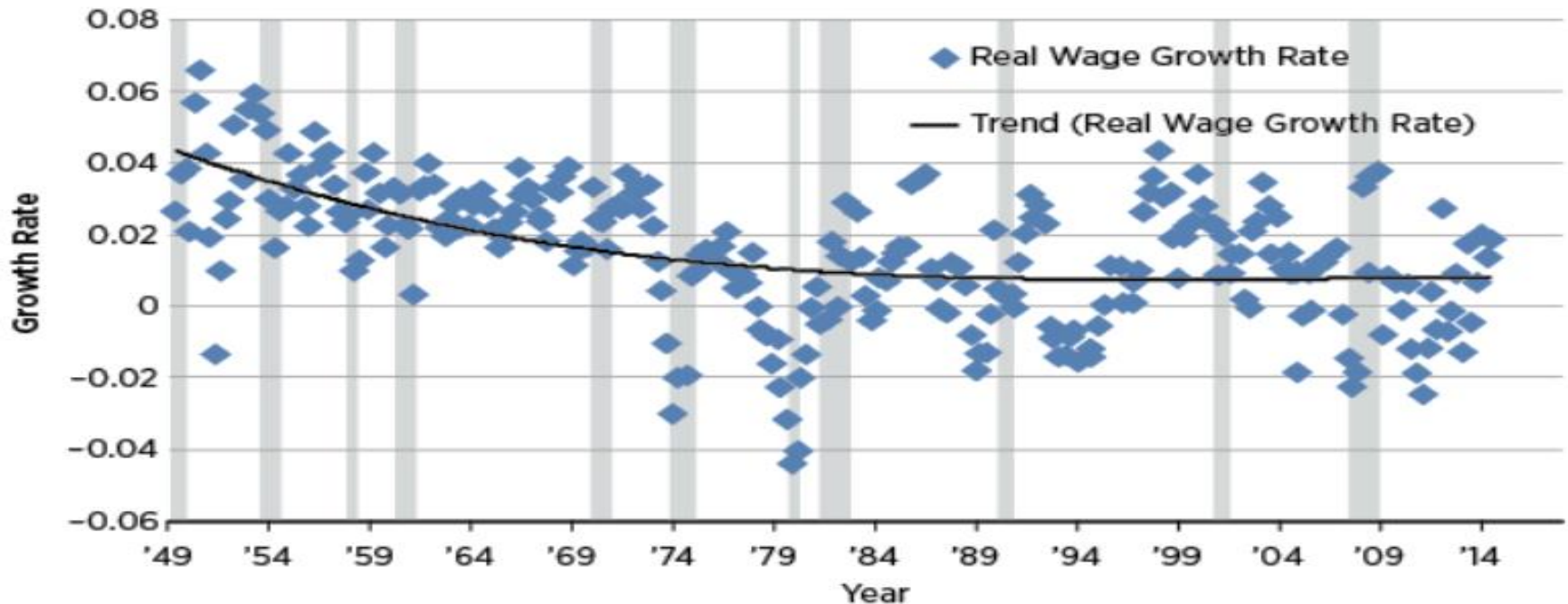


New SF housing size and mean price are increasing – yet real median household income is flat and new SF sales are less than the 1963 total of 560,000. In 1963, the U.S. population was 189.2 million; Census estimates a population of 321.4 million as of July 4, 2015.

From a population context, new SF houses are under built. In a price context, 18.4% of new SF house sales are less than the \$200-\$300m category and nearly 45% are more than that same category. Is this a bifurcated market? Is there an opportunity for new, SF lower-priced tier houses? Yes. A few builders across the U.S. are targeting this segment.

Real Wage Growth Rate

Year-over-Year Real Wage Growth Rate



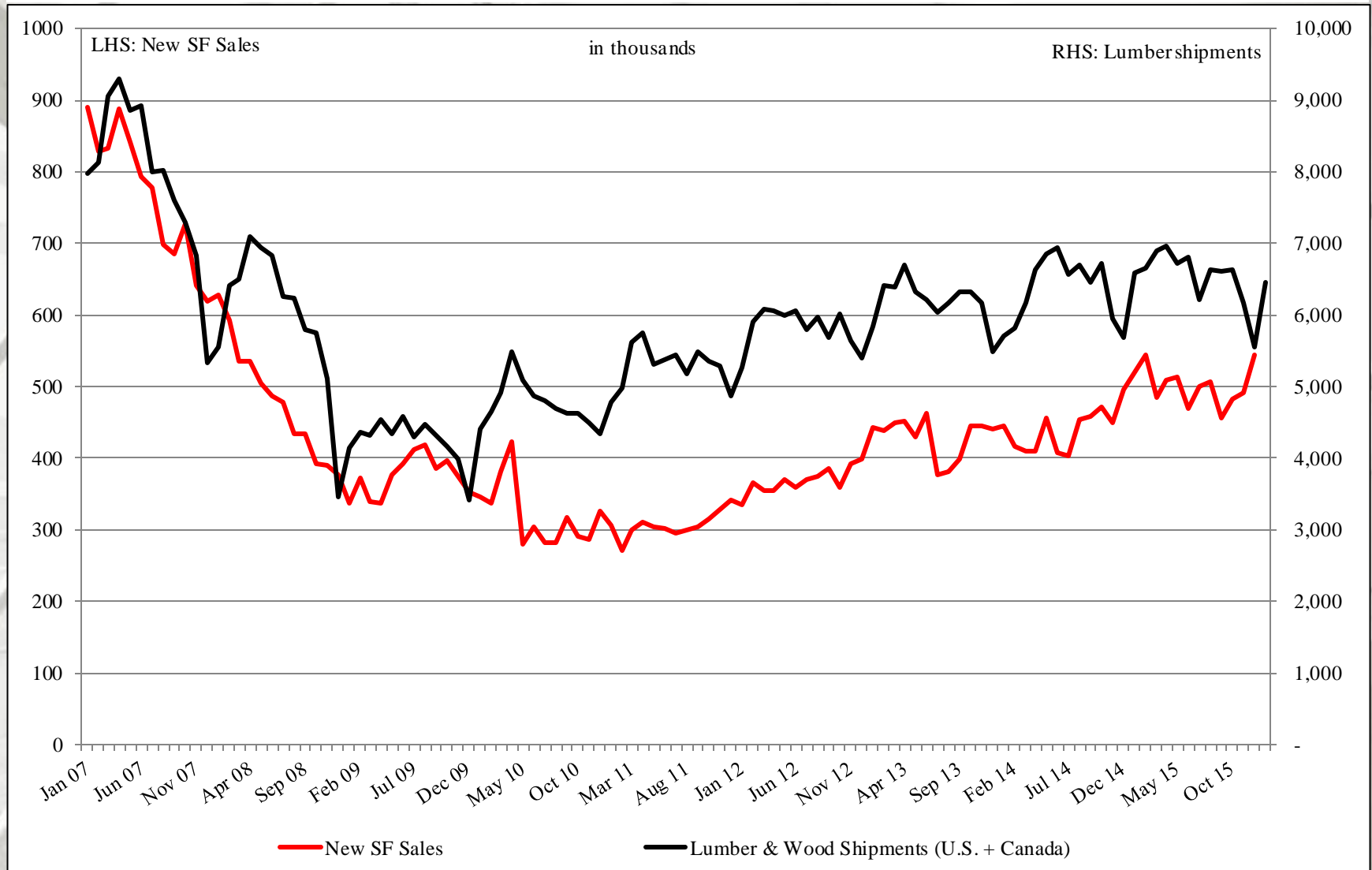
SOURCE: Wage is "total economy compensation per hour" from the U.S. Bureau of Labor Statistics; it is deflated using consumer price index (CPI) data obtained from FRED.

NOTE: The numbers are quarterly and seasonally adjusted. The trend line is a third-order polynomial. Gray bars indicate recessions.

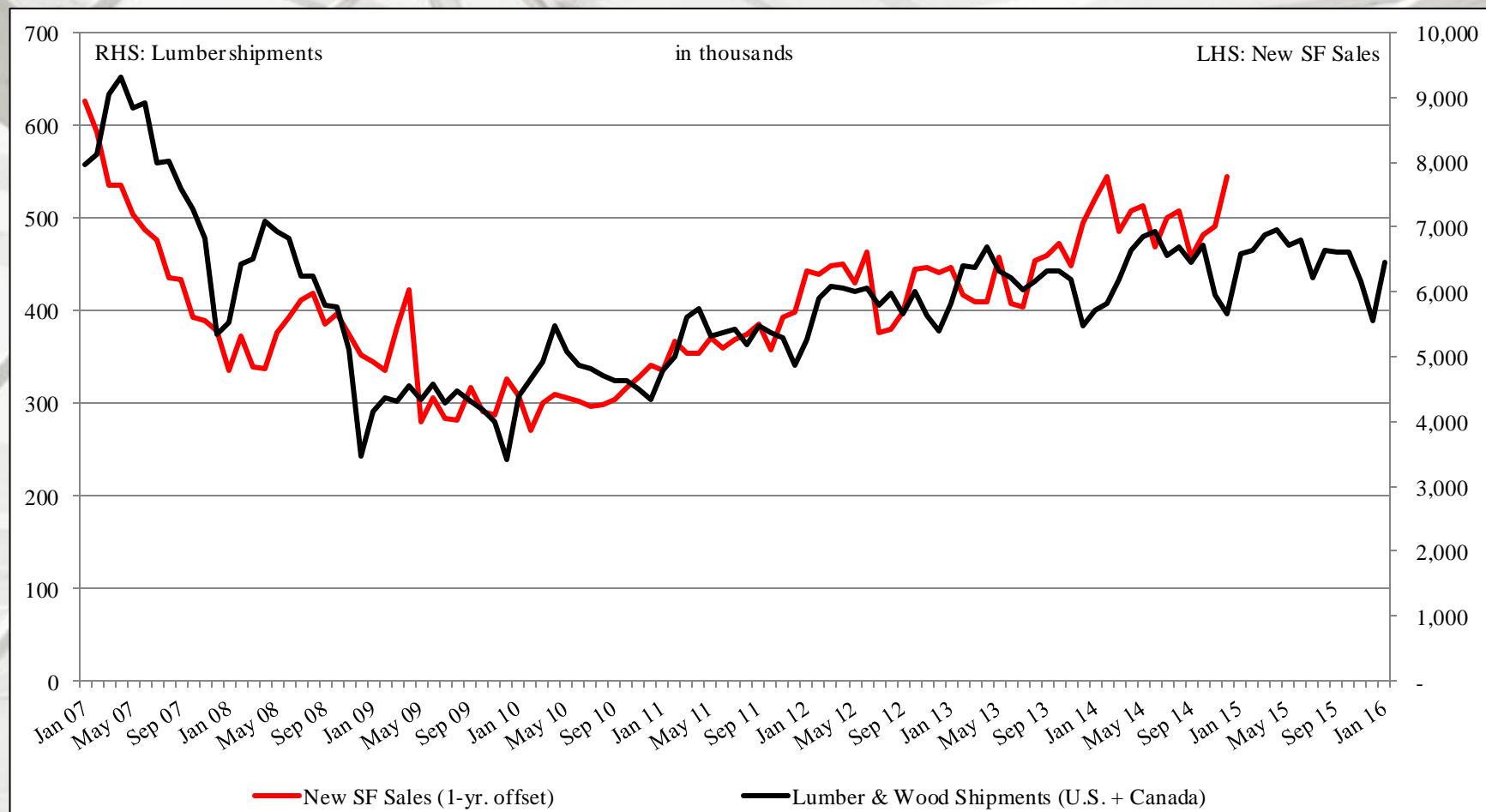
■ FEDERAL RESERVE BANK OF ST. LOUIS

“On the price side in the labor market, real wage growth has remained relatively flat since the recession trough, as seen in Figure 3. For instance, average yearly growth from 1995 to 2005 was 1.77 percent, while it was only 0.14 percent from 2010 to 2015. The evolution of the curved line shows that the recent dynamics of real wage growth may be also affected by a trend that started in the 1980s.” – Marianna Kudlyak and Juan Sánchez, Economists, Federal Reserve Banks of Richmond and St. Louis, respectively

Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales



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



In this graph, initially January 2007 lumber shipments are contrasted with January 2008 sales through January 2016 data. The purpose is to discover if lumber shipments relate to future new SF house sales. It also is realized that trucking hauls lumber; however, to our knowledge comprehensive trucking data is not available.

December 2015 Construction Spending

December 2015 Private Construction: \$429.6 billion (SAAR)

0.9% more than the revised November estimate of \$425.8 billion (SAAR)

8.1% greater than the December 2014 estimate of \$397.3 billion (SAAR)

December SF construction: \$231.3 billion (SAAR)

1.0% more than November: \$229.0 billion (SAAR)

8.7% greater than December 2014: \$212.7 billion (SAAR)

December MF construction: \$52.8 billion (SAAR)

2.7% more than November: \$51.4 billion (SAAR)

12.0% greater than December 2014: \$47.2 billion (SAAR)

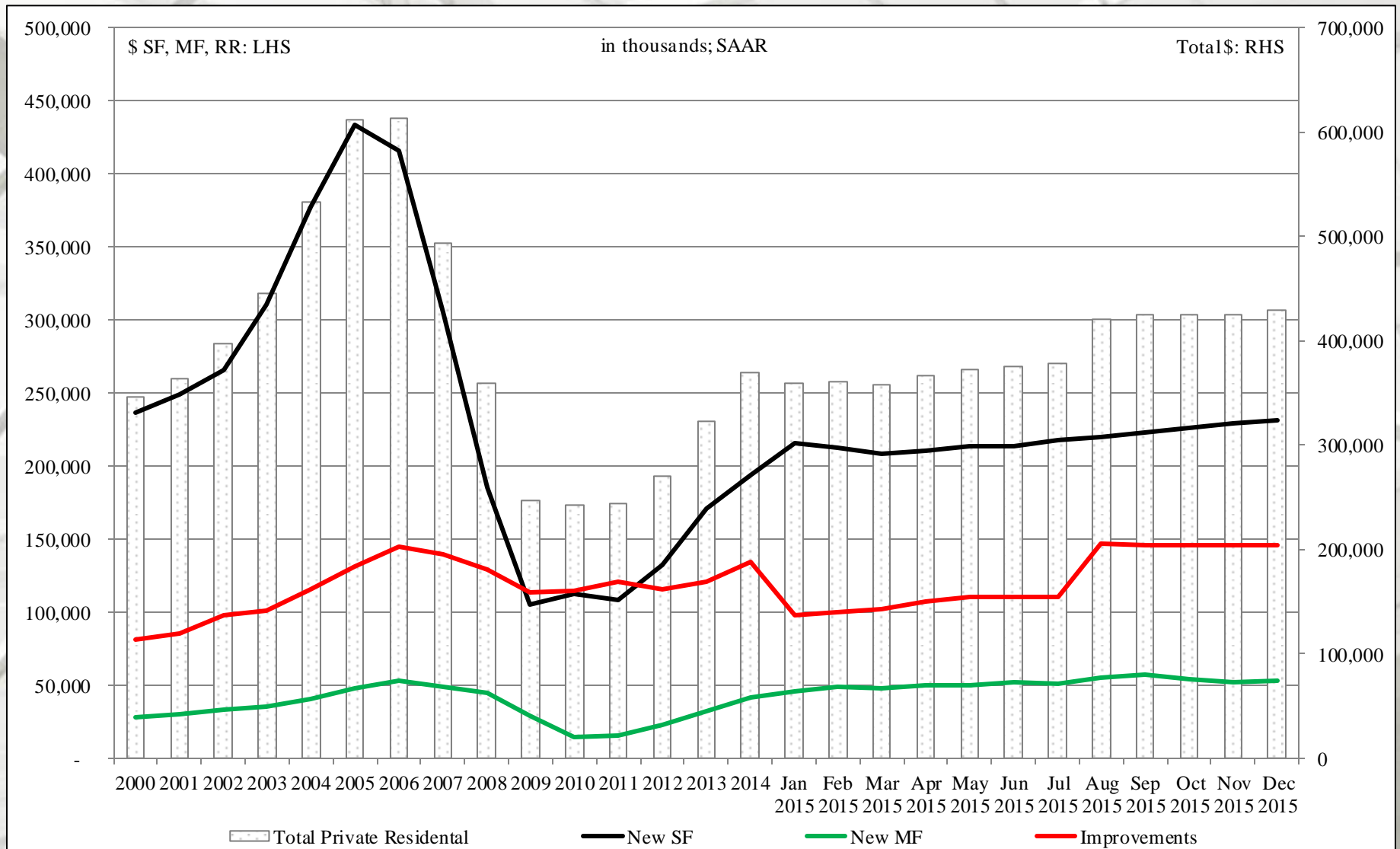
December Improvement^C construction: \$145.5 billion (SAAR)

0.1% more than November: \$145.3 billion (SAAR)

5.8% greater than December 2014: \$137.4 billion (SAAR)

^C The US DOC does not report improvement spending directly, this is an estimation. All data are SAARs and reported in nominal US\$.

Construction Spending: 2000-December 2015

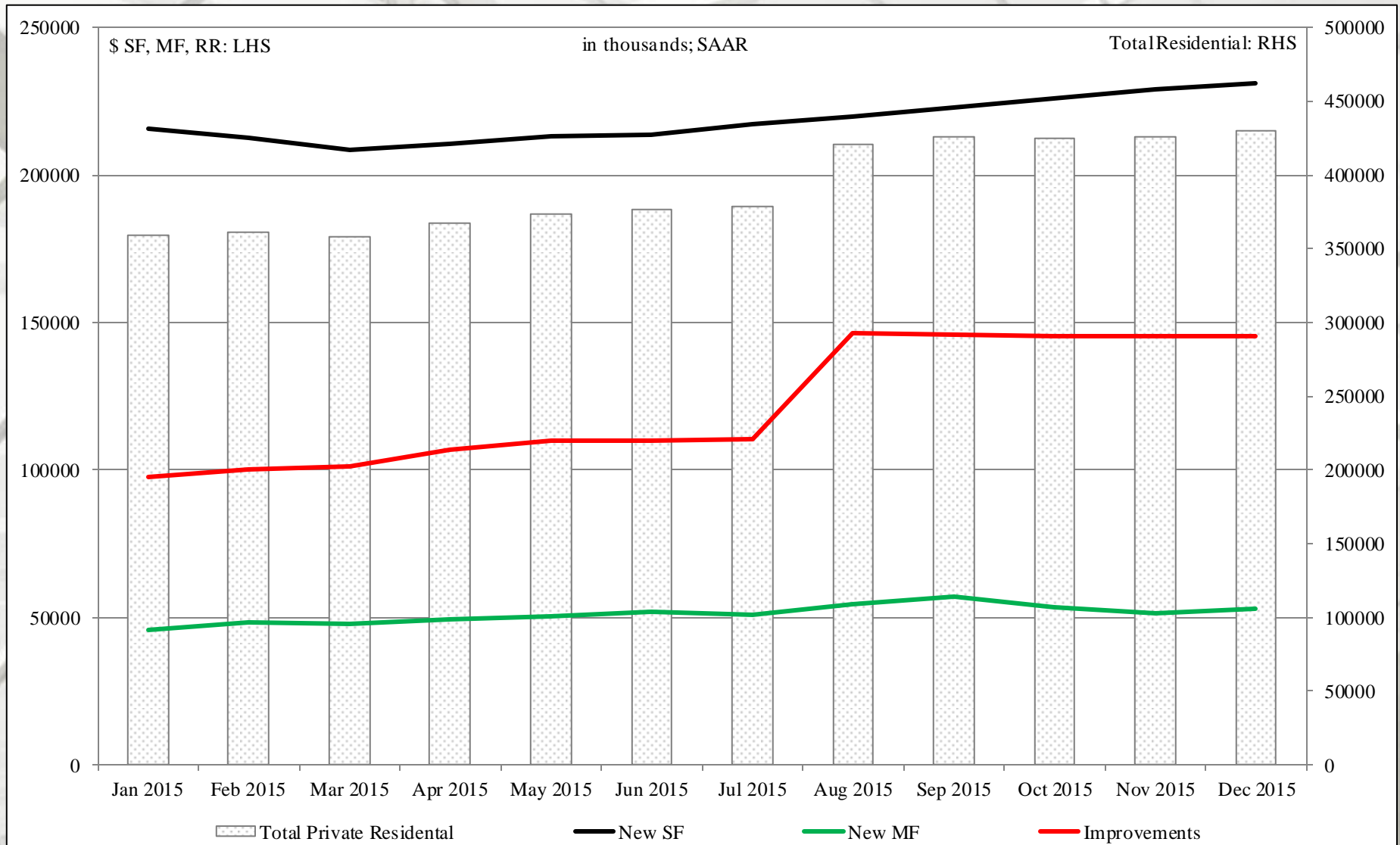


Reported in nominal US\$.

Source: <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 2/1/16

[Return TOC](#)

2015 Construction Spending



The US DOC does not report improvement spending directly, this is an estimation. Reported in nominal US\$.

Existing House Sales

National Association of Realtors (NAR®)

December 2015 sales: 5.46 million houses sold (SAAR)

Distressed house sales: 8% of sales –
(6% foreclosures and 2% short-sales);

9% in November and 11% in December 2014.

All-cash sales: decreased to 24%; 27% in November,
and 26% (December 2014).

Individual investors still purchase a considerable portion of
“all cash” sale houses – 15% in December,
16% in November and 17% in December 2014.

64% of investors paid cash in December.

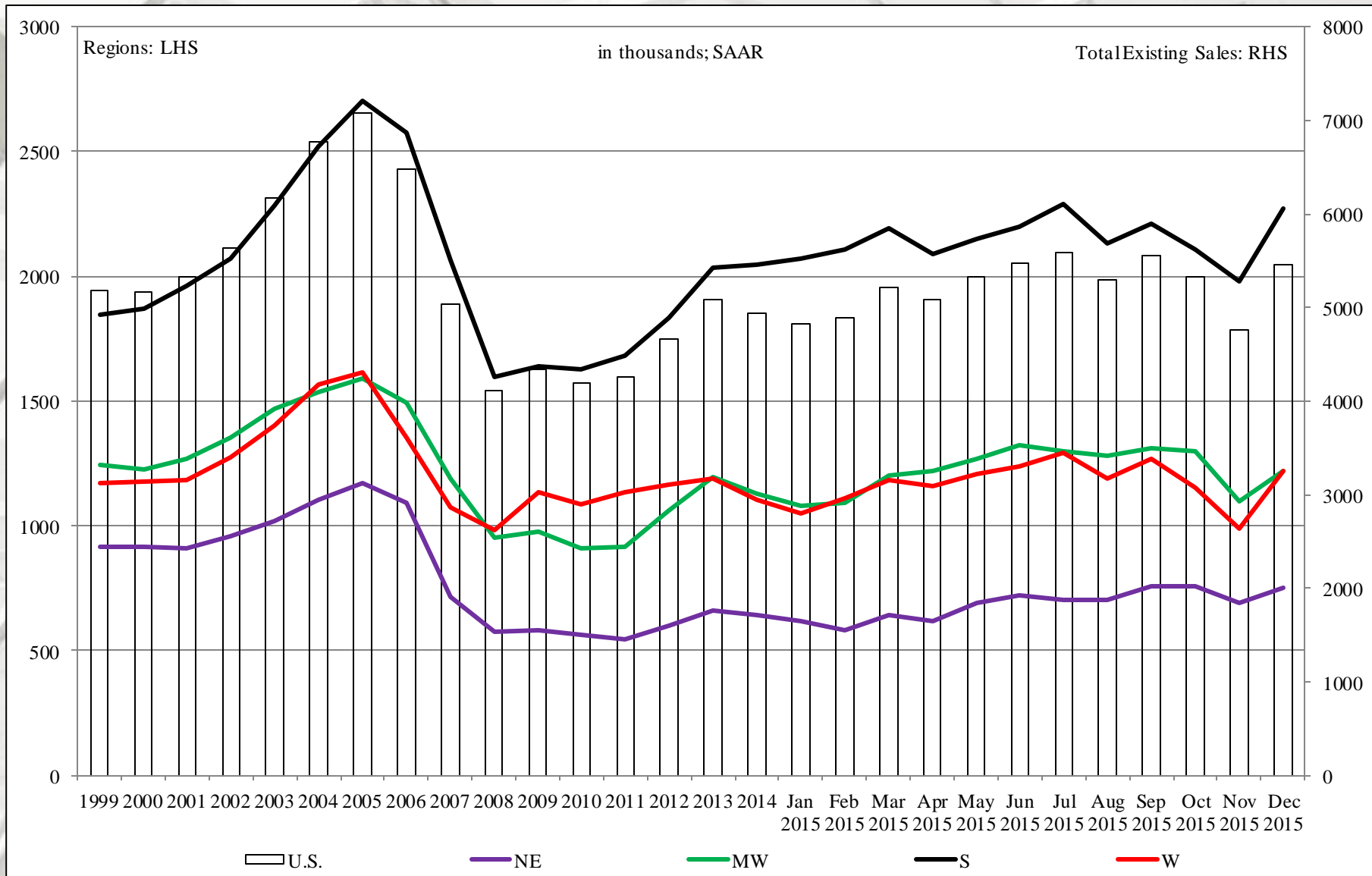
Existing House Sales

	Existing Sales	Median Price	Month's Supply
December	5,460,000	\$220,300	3.9
November	4,760,000	\$219,100	5.1
2014	5,070,000	\$207,200	4.4
M/M change	14.7%	0.5%	-23.5%
Y/Y change	7.7%	6.3%	-11.4%

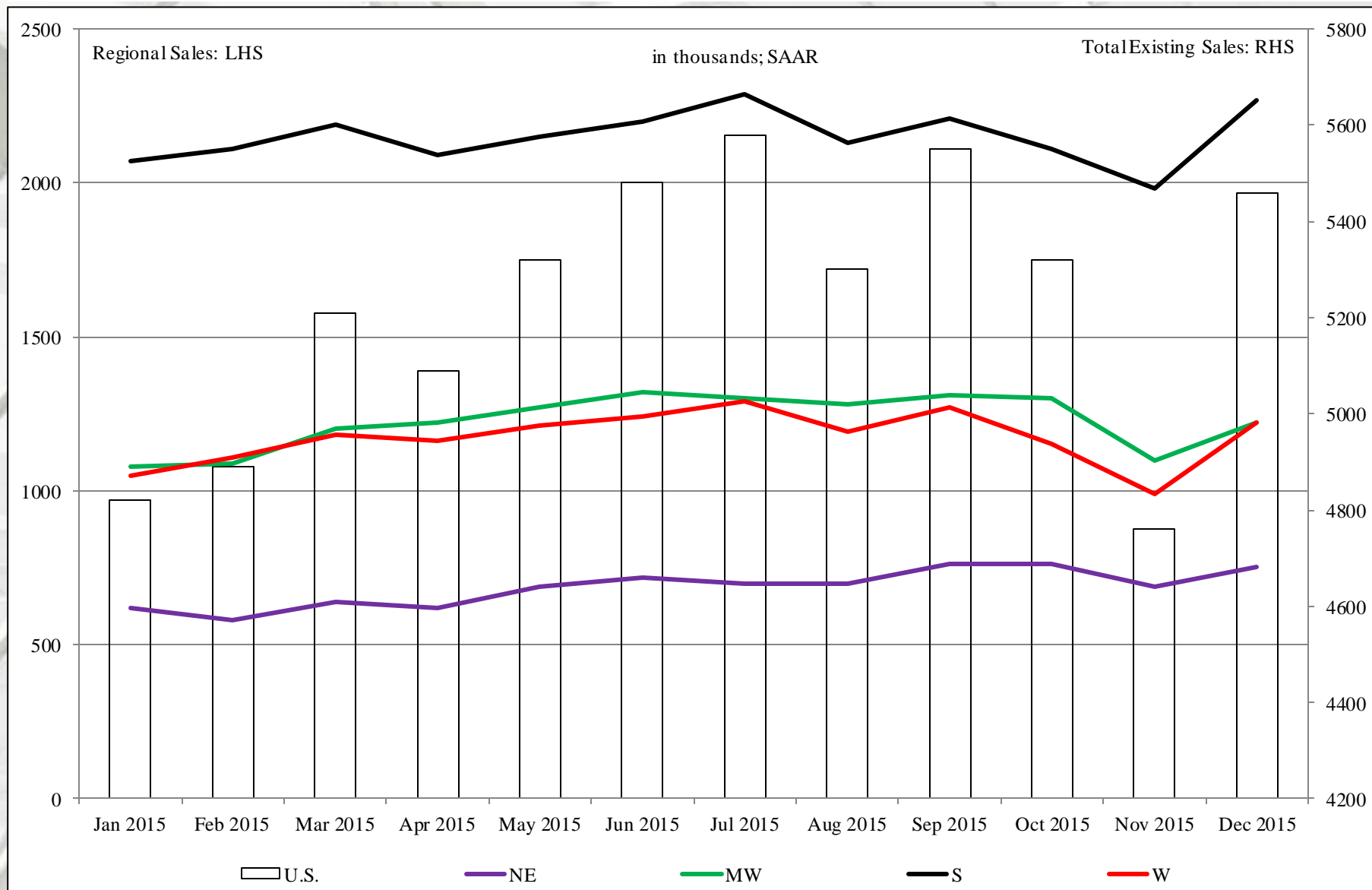
	NE Sales	MW Sales	S Sales	W Sales
December	750,000	1,220,000	2,270,000	1,220,000
November	690,000	1,100,000	1,980,000	990,000
2014	670,000	1,110,000	2,170,000	1,120,000
M/M change	8.7%	10.9%	14.6%	23.2%
Y/Y change	11.9%	9.9%	4.6%	8.9%

* All sales data: SAAR

Total Existing House Sales



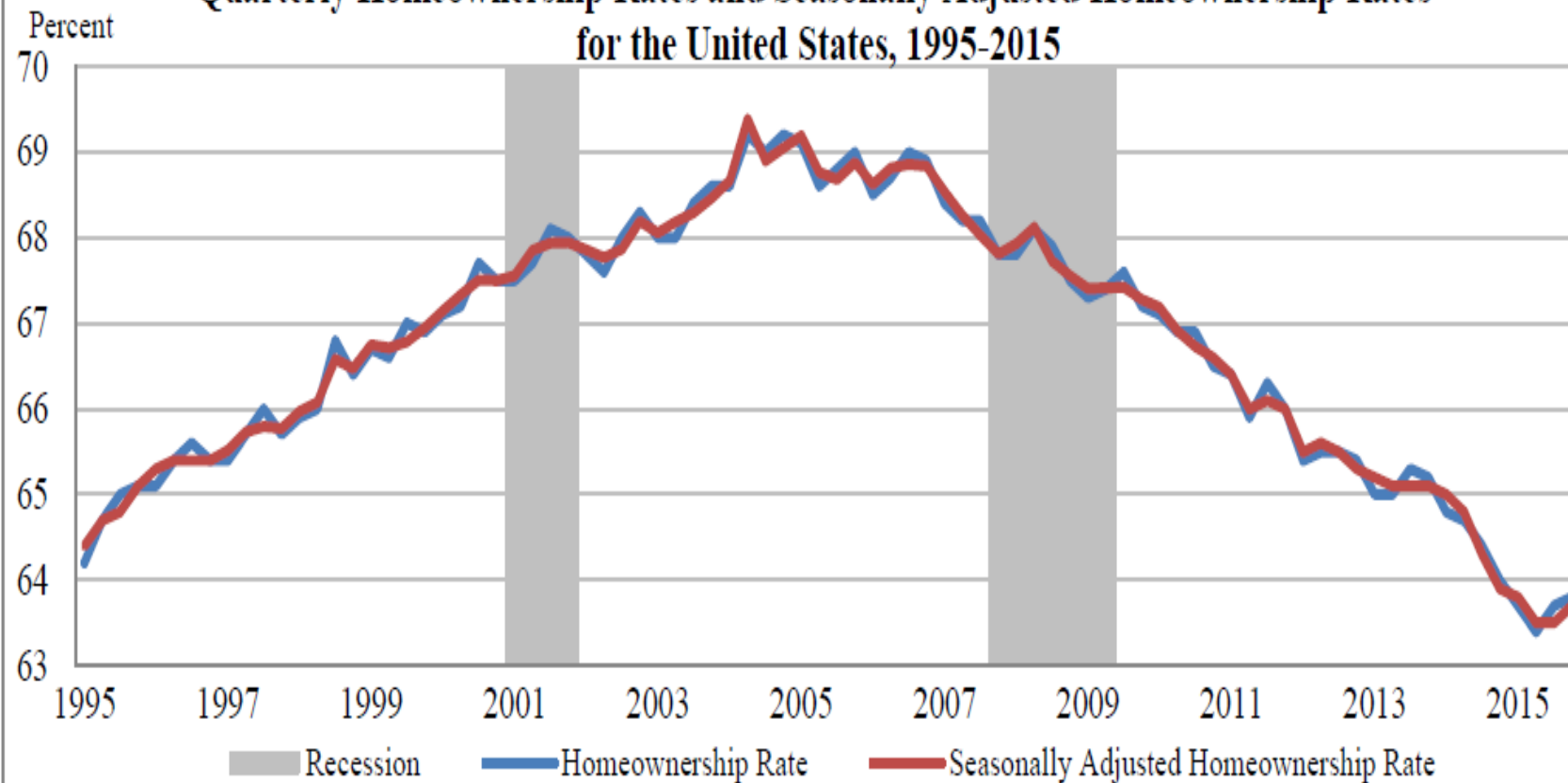
Total Existing House Sales: 2015



Home Ownership

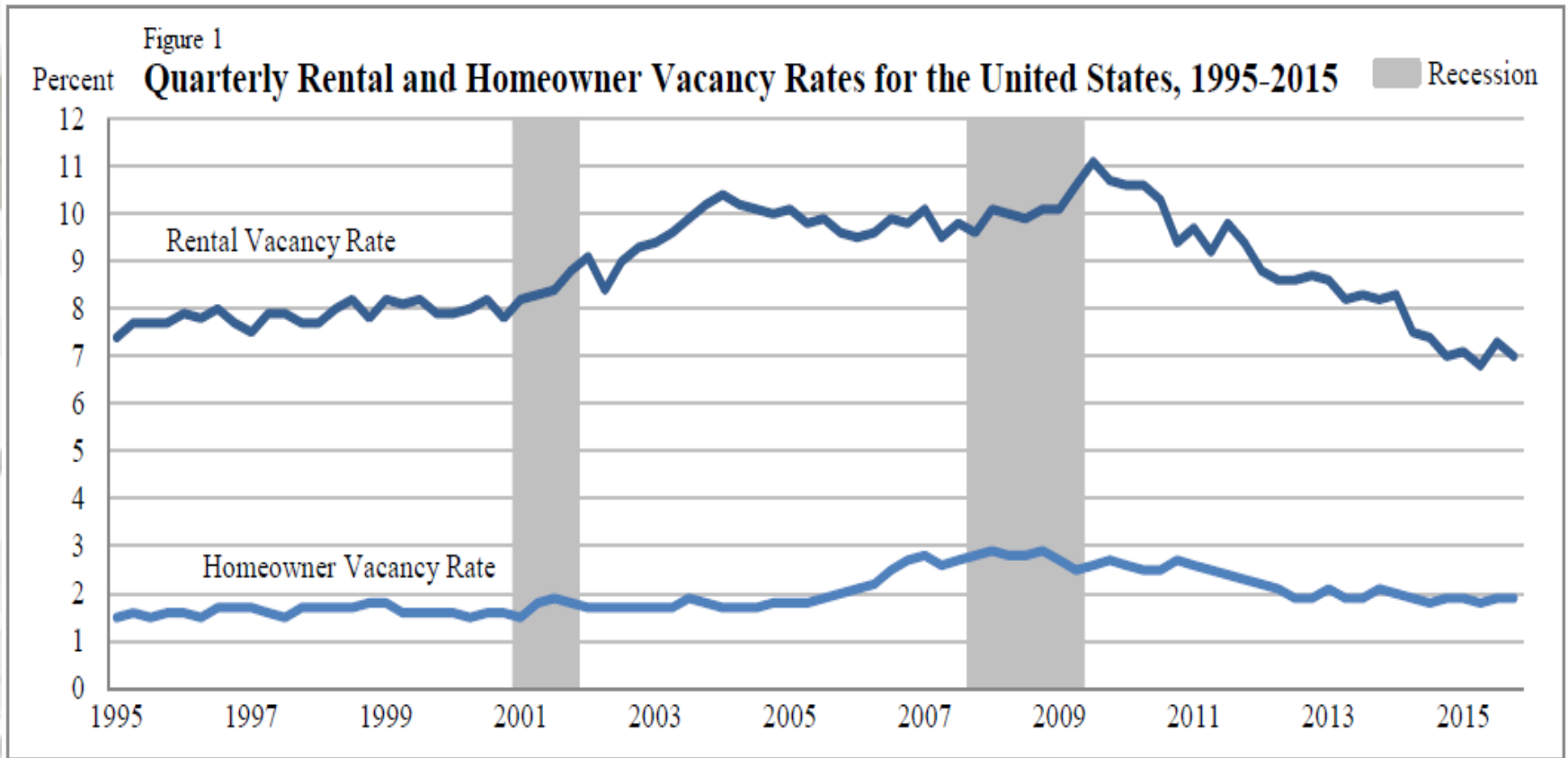
Figure 4

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



“The homeownership rate of 63.8 percent was 0.2 percentage points (+/-0.4) lower than the fourth quarter 2014 rate (64.0 percent) and 0.1 percentage point (+/-0.4) higher than the rate last quarter (63.7 percent).” – Robert Callis and Melissa Kresin, Social, Economic and Housing Statistics Division, U.S. Census Bureau

Home Ownership



“National vacancy rates in the fourth quarter 2015 were 7.0 percent for rental housing and 1.9 percent for homeowner 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 homeowner vacancy rate of 1.9 percent was virtually unchanged from the rate in the fourth quarter 2014 and the rate last quarter.” – Robert Callis and Melissa Kresin, Social, Economic and Housing Statistics Division, U.S. Census Bureau

First-Time Purchasers

National Association of Realtors (NAR®)

First-Time Purchases

32% of sales in December –

30% in November and 29% in December 2014.

American Enterprise Institute Center on Housing Risk

First-Time Purchases

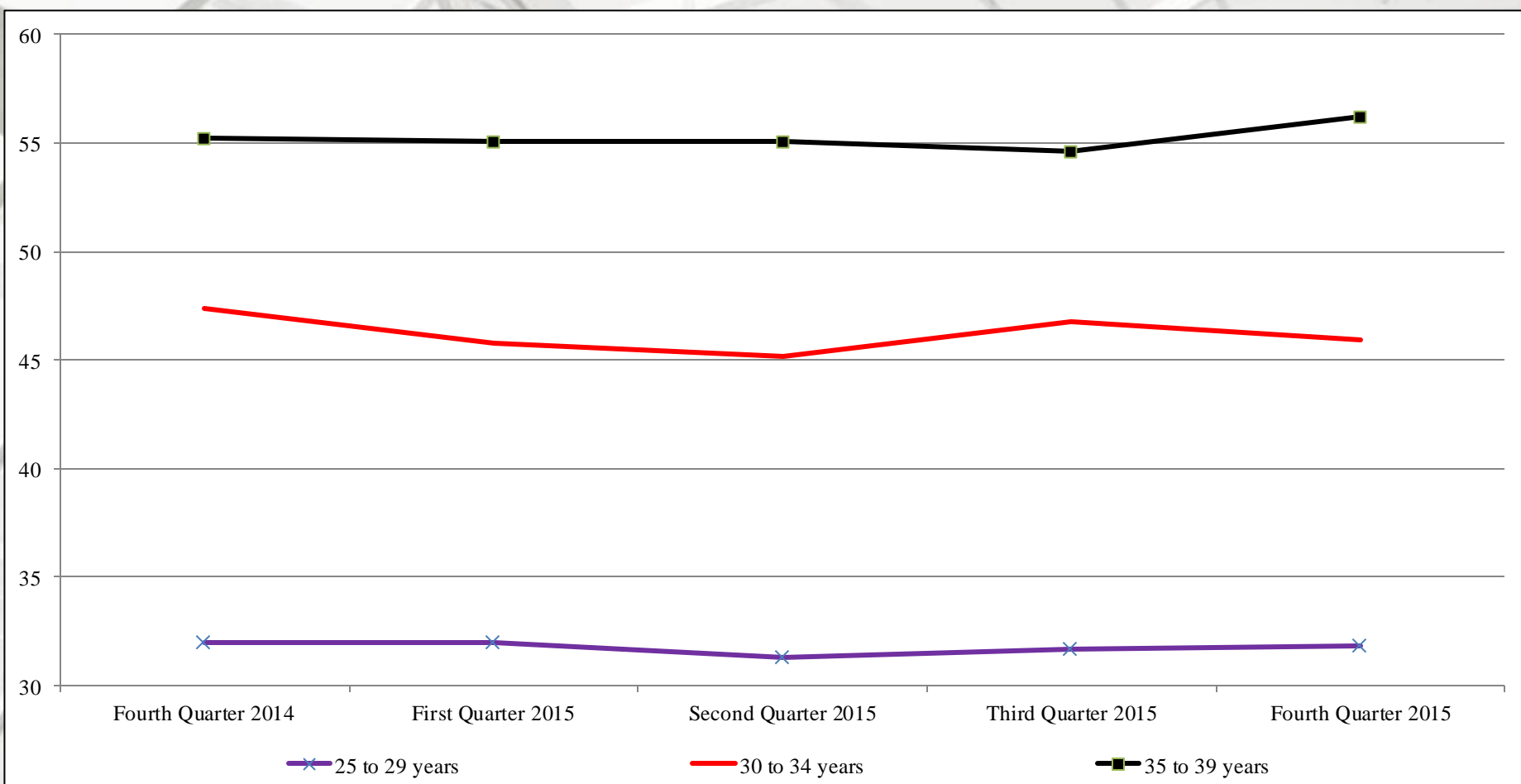
“First-time buyers accounted for 56.7 percent of primary owner-occupied home purchase mortgages with a government guarantee, up from 55.5 percent the prior December.”

U.S. Census Bureau – Housing Vacancy Survey

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

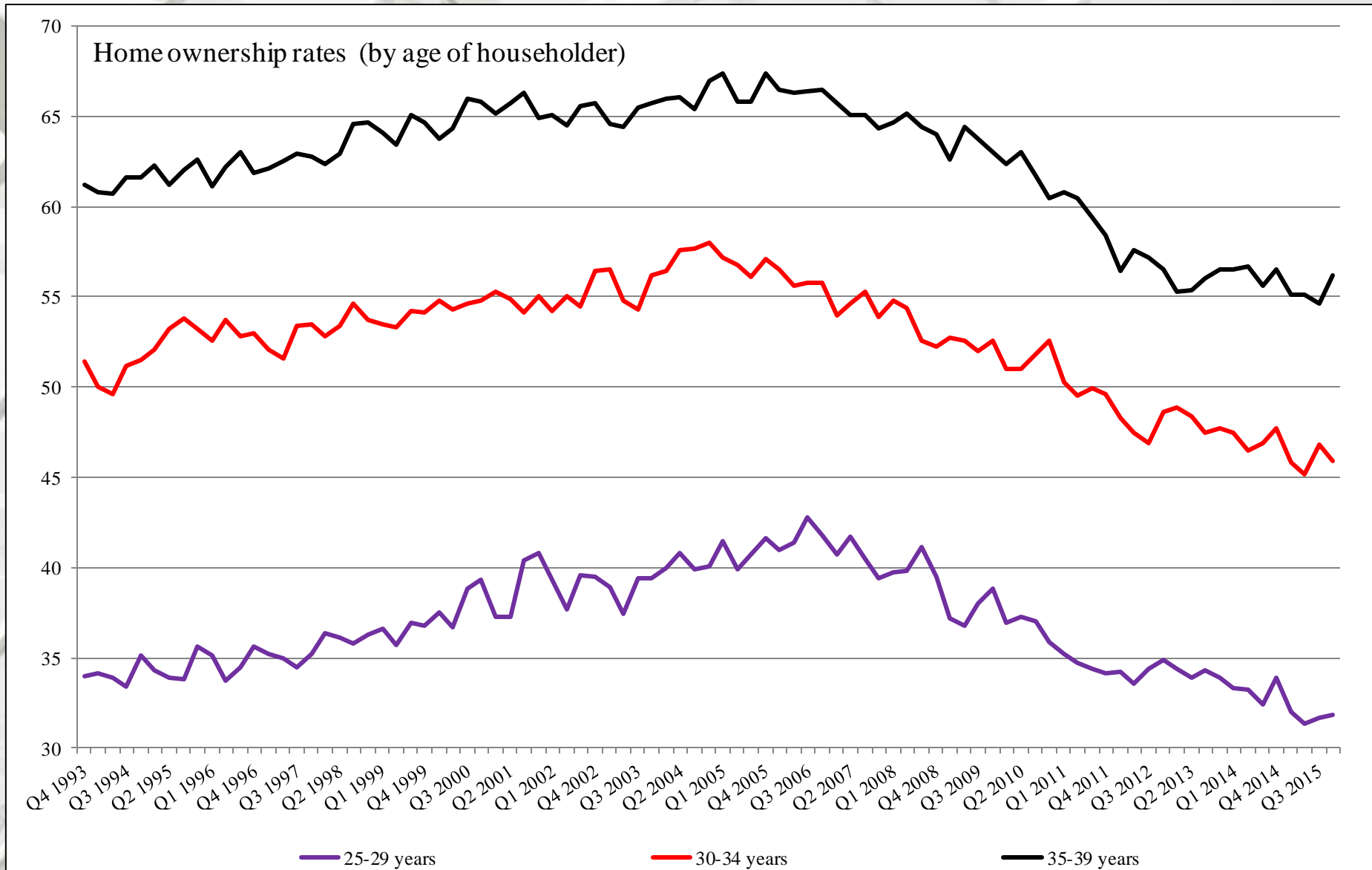
Third quarter 2015 home ownership rate: 30 – 34 year olds: 46.8 percent

First-Time Purchasers



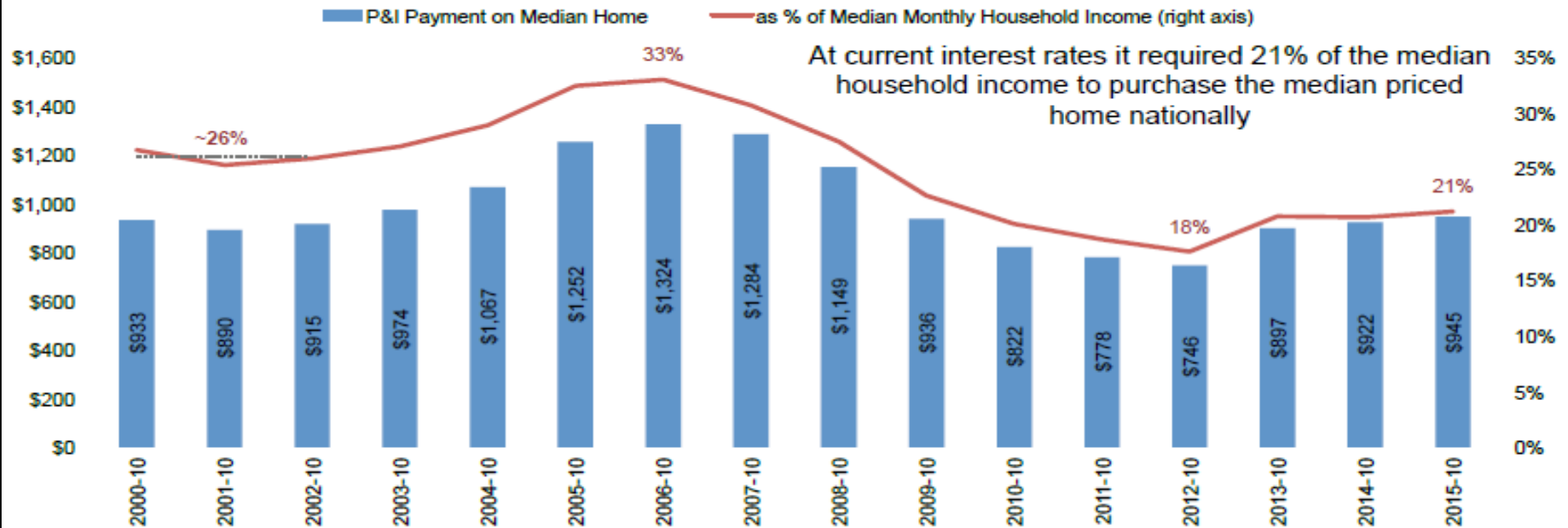
Some analysts use the U.S. Census home ownership rates (by age of householder) data as a proxy for first-time purchases. As presented above, the 25 to 29 age category declined minimally; the 30 to 34 category declined; and the 35 to 39 age category increased (all Y/Y).

First-Time Purchasers



Housing Affordability

Principal and Interest Payment on the Median Home Nationally



Principal and Interest Payment on the Median Home is based on an 80% LTV 30-year fixed rate mortgage at the FHLMC 30-year rate. Payment as % of Median Monthly Household Income utilizes median household income by year as reported by the Census Bureau

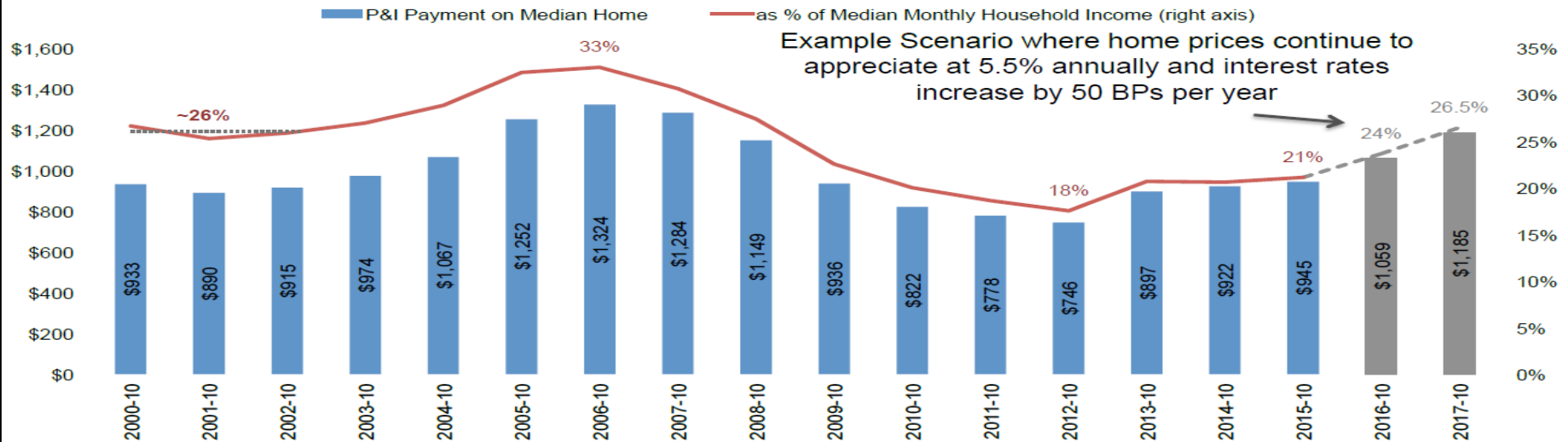
“Despite 43 consecutive months of annual home price appreciation, affordability still remains favorable by historic standards. Currently, it takes 21 percent of the median monthly household income to purchase the median priced home nationally using a 30-year fixed rate mortgage

This is down significantly from 33 percent at the top of the market in 2006, and is still below the average of 26 percent in the years before the housing bubble

Overall, it requires 20 percent less of the median income to purchase the median home today than it did from 2000-2002” – Black Knight *Mortgage Monitor*, December

Housing Affordability

Principal and Interest Payment on the Median Home Nationally



Principal and Interest Payment on the Median Home is based on an 80% LTV 30-year fixed rate mortgage at the FHLMC 30-year rate. Payment as % of Median Monthly Household Income utilizes median household income by year as reported by the Census Bureau. Median Household Income in the example scenario above was held constant over the next 24 months.

“The long term impact of rising interest rates and home prices on affordability varies with geography and warrants close observation moving forward. Using an example scenario with today’s rate of home price appreciation and a 50 BPS/year increase in interest rates, we see that in two years home affordability will be pushing the upper bounds of the pre-bubble average

In this scenario, within 12 months the average payment on the median \$114 nationally, requiring 24 percent of median monthly income to make the mortgage payment; this is still below the 2000-2002 average. After 24 months under this scenario, the monthly payment on the median home would be \$240 more, and require 26.5 percent of the median household income

Interest rates have a much greater impact on affordability than prices; a 1 percent rise in rates is equivalent to a 13 percent jump in home prices” – Black Knight *Mortgage Monitor*, December

Summary

In summary:

Incremental progress describes the current housing market. Multi-family construction and existing house sales remain steady; construction and sales of new single-family houses in the upper price echelons are solid; and improvement or remodeling expenditures are flat on a nominal basis.

The fact remains that in most housing data categories, construction and new sales remain far less than historical averages. The new housing sector is where the majority of forest products are used and this housing sector has room for improvement.

Pros:

- 1) Historically low interest rates are still in effect;
- 2) As a result, housing affordability is good for most of the country;
- 3) Household formations increased in Q3 2015 (using occupied housing data from the January 2015 Current Population/Housing Vacancy surveys);
- 4) Some builders are beginning to focus on entry-level houses; and
- 5) Consumer attitudes towards housing are improving.

Cons:

- 1) Job creation is consistent but some economists question the quantity and types of jobs being created;
- 2) Stagnant real median annual household incomes – though increasing somewhat the past few months;
- 3) Strict home loan lending standards; and
- 4) Global uncertainty?

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