The Virginia Tech – U.S. Forest Service
January 2018
Housing Commentary: Section I

Urs Buehlmann
Department of Sustainable Biomaterials
College of Natural Resources & Environment
Virginia Tech
Blacksburg, VA
540.231.9759
buehlmann@gmail.com

Delton Alderman
Forest Products Marketing Unit
Forest Products Laboratory
U.S. Forest Service
Madison, WI
304.431.2734
dalderman@fs.fed.us

2018 Virginia Polytechnic Institute and State University VCE-CNRE-11NP

Return TOC

Table of Contents

Slide 3: Opening Remarks

Slide 4: Housing Scorecard

Slide 5: Wood Use in Construction

Slide 7: New Housing Starts

Slide 12: Regional Housing Starts

Slide 21: New Housing Permits

Slide 24: Regional New Housing Permits

Slide 31: Housing Under Construction

Slide 33: Regional Under Construction

Slide 38: Housing Completions

Slide 41: Regional Housing Completions

Slide 45: New Single-Family House Sales

Slide 50: New SF Sales-Population Ratio

Slide 53: Regional SF House Sales & Price

Slide 65: Construction Spending

Slide 68: Construction Spending Shares

Slide 74: Existing House Sales

Slide 76: Existing Sales by Price & Region

Slide 79: First-Time Purchasers

Slide 81: Affordability

Slide 83: Home Ownership

Slide 94: Summary

Slide 95 Virginia Tech Disclaimer

Slide 96: USDA Disclaimer

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

Return TOC

Opening Remarks

January's permits and starts data came roaring back – primarily due to the multi-family sector. Two-to-four and 5 or greater unit data exhibited strong growth, particularly in the South region. New single-family sales data have been extremely volatile the past four-months and January's data was no exception. The other data series improved on a month-to-month basis. Regionally, data were mixed across all sectors. The March 14th Atlanta Fed GDPNow™ residential investment spending model projects an aggregate 3.4% decrease for Quarter One 2018. New private permanent site expenditures were projected for a 1.4% rise; the improvement spending forecast was a 2.5% increase; and the manufactured/mobile housing forecast was a 31.1% increase (all: quarterly log change and seasonally adjusted annual rate).[1]

"I think you also have to realize that the dream of owning a home isn't as high of a priority on people's list going forward. Part of that is residual from the downturn, and part of that is that we're just a much more experience-driven society nowadays and are more portable. People don't live in their house for 30 years anymore, and they move much more for jobs, so this shift in the way people live their lives means that having the portability of a lease while still being able to enjoy the luxury of a home is a perfect combination."[2] – Mark Wolf, CEO, AHV Communities

This month's commentary also contains applicable housing data; home ownership; remodeling projections; and demographic information. Section I contains data and commentary and Section II includes Federal Reserve analysis, private indicators, and demographic and economic commentary.

Sources: [1] https://www.frbatlanta.org/-/media/Documents/cqer/researchcq/gdpnow/GDPTrackingModelDataAndForecasts.xlsx; 3/14/18;
[2] http://www.multifamilyexecutive.com/business-finance/debt-equity/how-student-debt-hampers-homeownership_o; 1/29/18

Return TOC

January 2018
Housing Scorecard

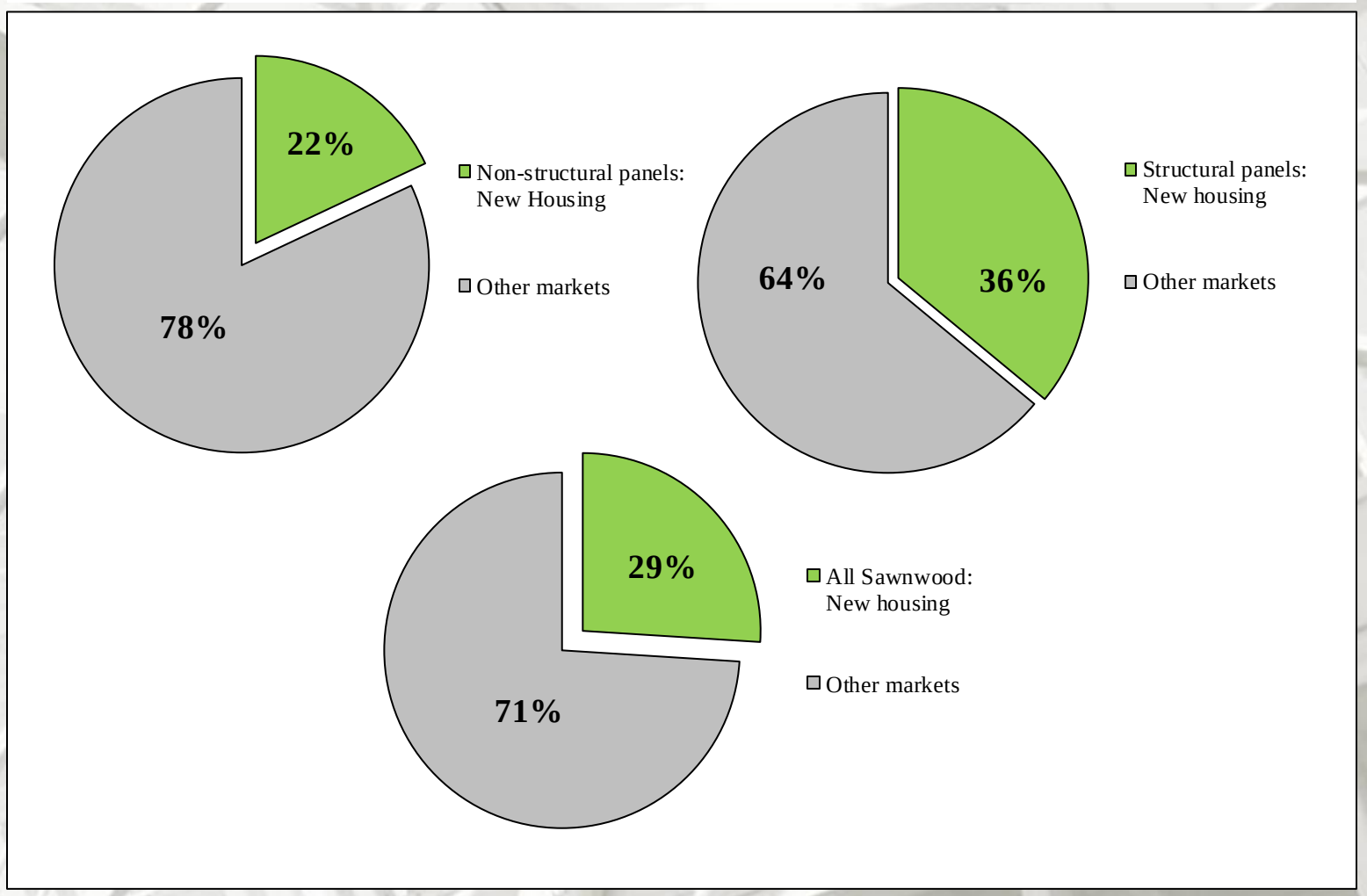
	M/M		Y/Y	
Housing Starts	Δ	9.7%	Δ	7.3%
Single-Family Starts	Δ	3.7%	Δ	7.6%
Housing Permits	Δ	7.4%	Δ	7.4%
Single-Family Permits	∇	1.7%	Δ	7.4%
Housing Completions	∇	1.9%	Δ	7.7%
Single-Family Completions	Δ	2.2%	Δ	6.0%
New Single-Family House Sales	∇	7.8%	∇	1.0%
Private Residential Construction Spending	Δ	0.3%	Δ	4.2%
Single-Family Construction Spending	Δ	0.6%	Δ	8.8%
Existing House Sales[1]	∇	3.2%	∇	4.8%

M/M = month-over-month; Y/Y = year-over-year; NC = no change

Sources: U.S. Department of Commerce-Construction; [1]National Association of Realtors® (NAR®)

Return TOC

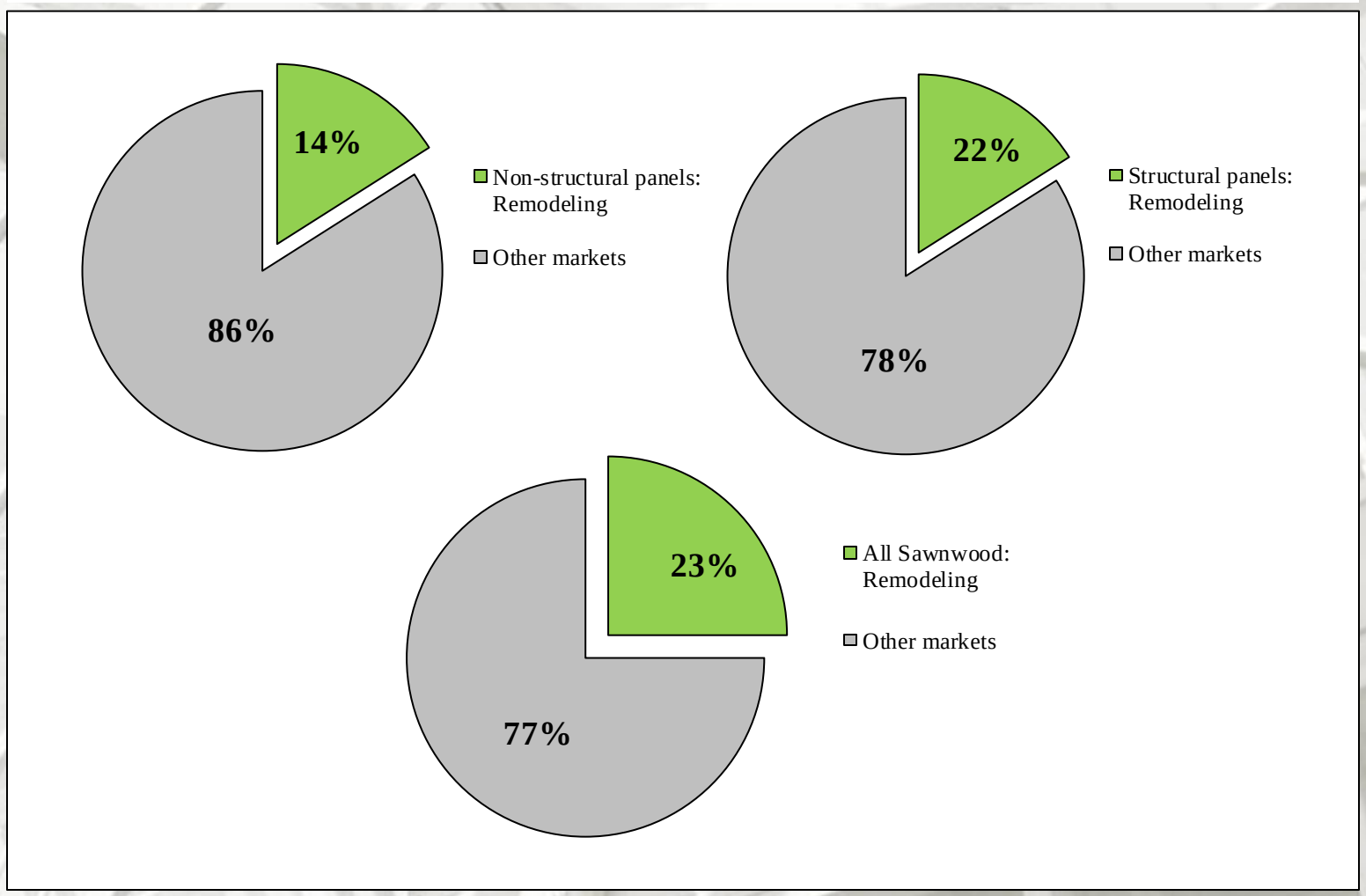
New Construction's Percentage of Wood Products Consumption



Source: U.S. Forest Service. Howard, J. and D. McKeever. 2015. U.S. Forest Products Annual Market Review and Prospects, 2010-2015

Return TOC

Repair and Remodeling's Percentage of Wood Products Consumption



Source: U.S. Forest Service. Howard, J. and D. McKeever. 2015. U.S. Forest Products Annual Market Review and Prospects, 2010-2015

Return TOC

New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
January	1,326,000	877,000	18,000	431,000
December	1,209,000	846,000	3,000	360,000
2017	1,236,000	815,000	3,000	418,000
M/M change	9.7	3.7	500.0	19.7
Y/Y change	7.3	7.6	500.0	3.1

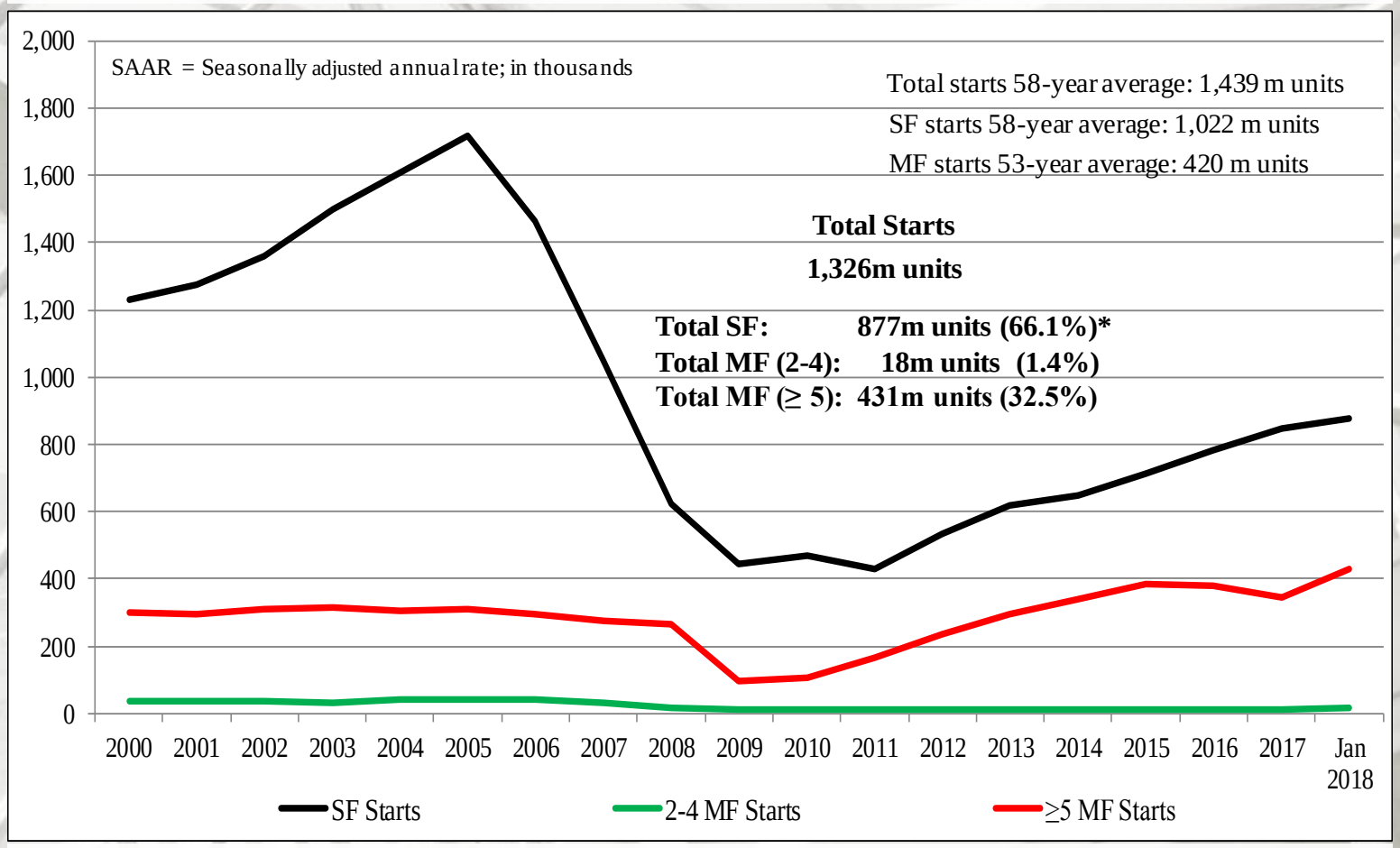
* All start data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report 2 to 4 multifamily starts directly, this is an estimation ((Total starts – (SF + 5 unit MF)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

Total Housing Starts

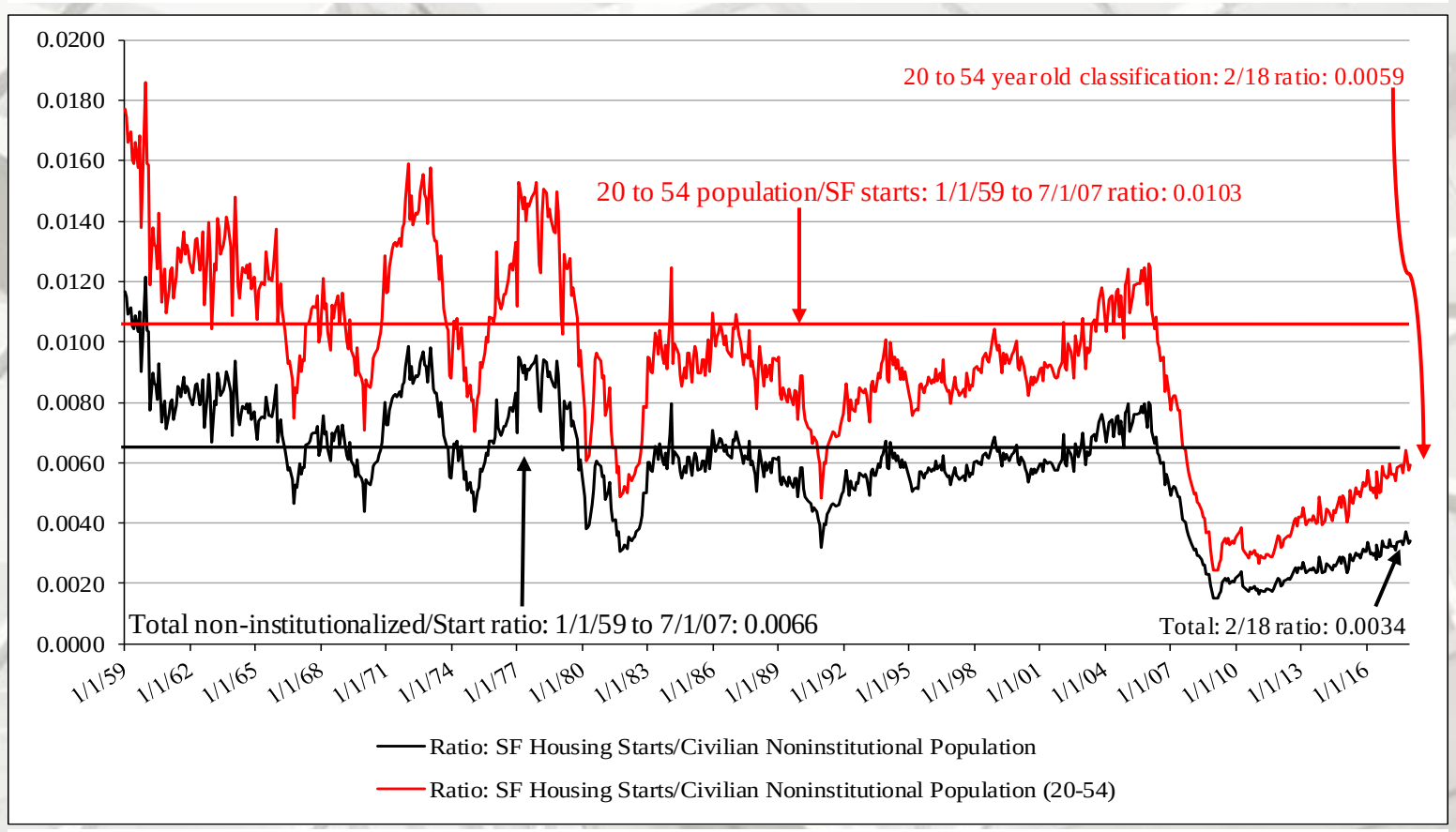


* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New SF Starts



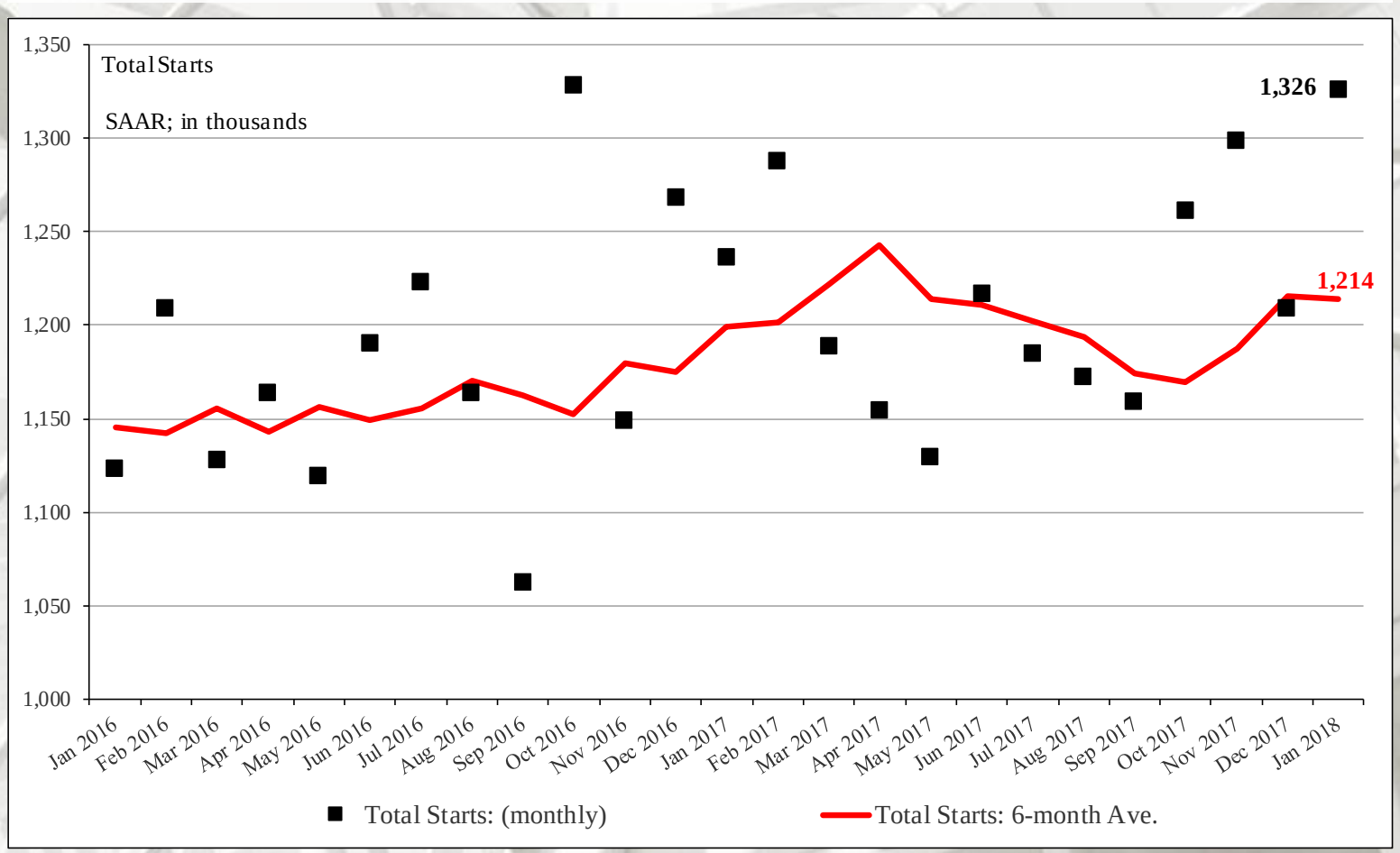
New SF starts adjusted for the US population

From January 1959 to July 2007, the long-term ratio of new SF starts to the total US non-institutionalized population was 0.0066; in January 2017 it was 0.0034 – an increase from December (0.0033). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in January 2017 it was 0.0059 – also an increase from December (0.0057). From a population worldview, construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrc/pdf/newresconst.pdf, 2/16/18 and The Federal Reserve Bank of St. Louis; 2/2/18

Return TOC

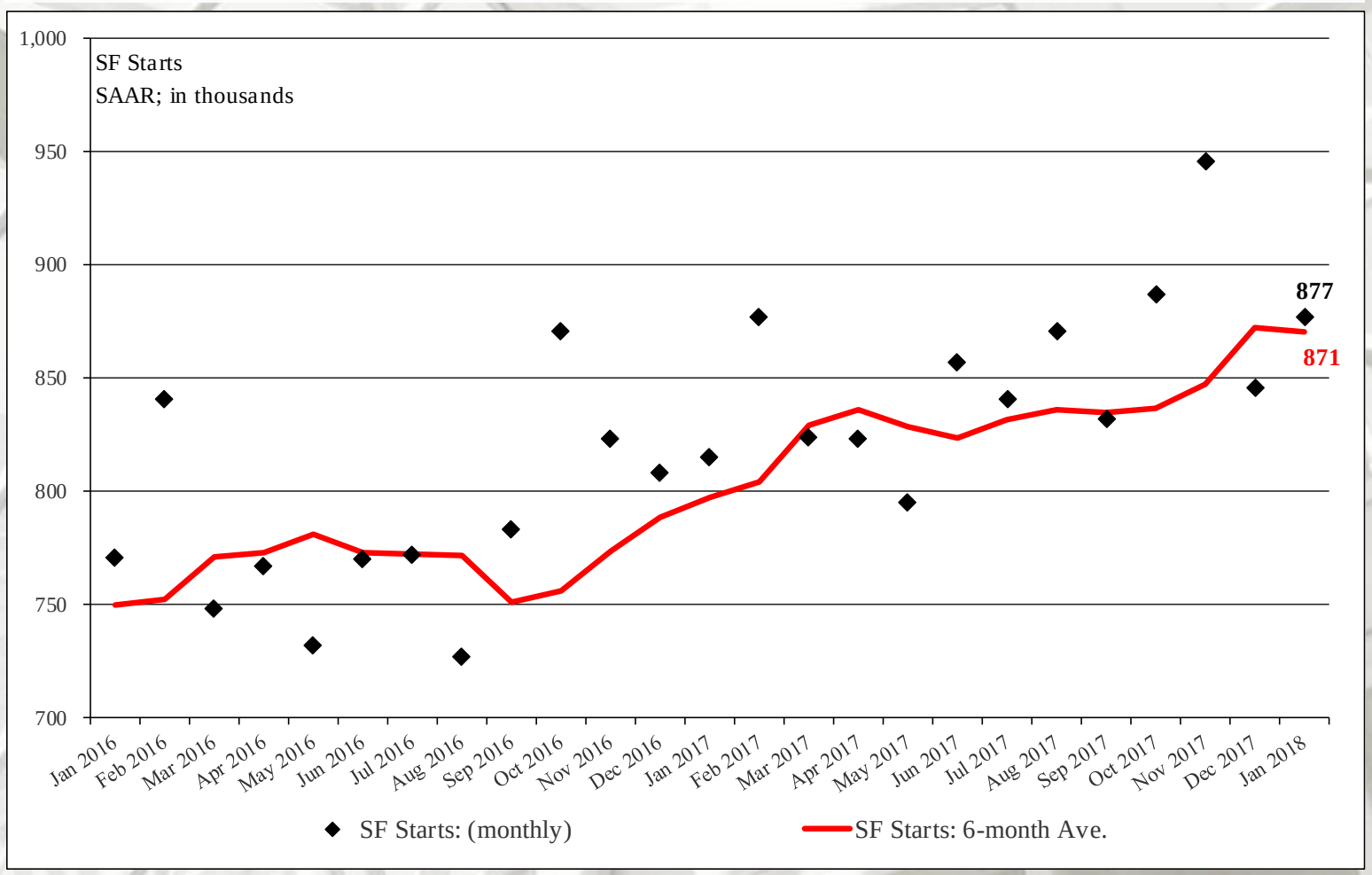
Total Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

SF Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Starts by Region

	NE Total	NE SF	NE MF**
January	128,000	66,000	62,000
December	88,000	49,000	39,000
2017	125,000	59,000	66,000
M/M change	45.5	34.7	59.0
Y/Y change	2.4	11.9	-6.1

	MW Total	MW SF	MW MF
January	150,000	120,000	30,000
December	167,000	125,000	42,000
2017	202,000	137,000	65,000
M/M change	-10.2	-4.0	-28.6
Y/Y change	-25.7	-12.4	-53.8

All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Starts by Region

	S Total	S SF	S MF**
January	655,000	462,000	193,000
December	599,000	442,000	157,000
2017	678,000	453,000	225,000
M/M change	9.3	4.5	22.9
Y/Y change	-3.4	2.0	-14.2

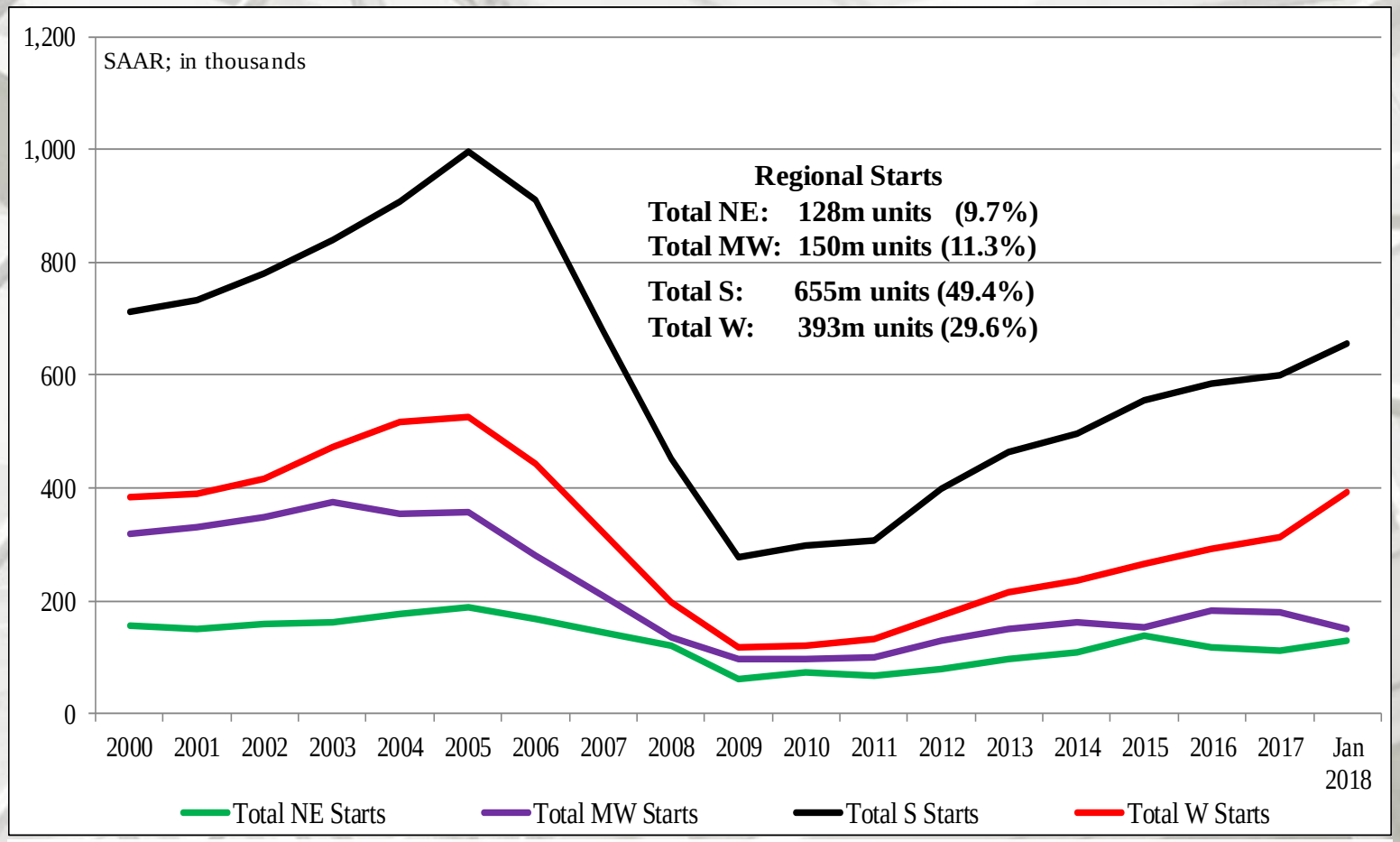
	W Total	W SF	W MF
January	393,000	229,000	164,000
December	355,000	230,000	125,000
2017	231,000	166,000	65,000
M/M change	10.7	-0.4	31.2
Y/Y change	70.1	38.0	152.3

All data are SAAR; S = South and W = West.
** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Starts by Region

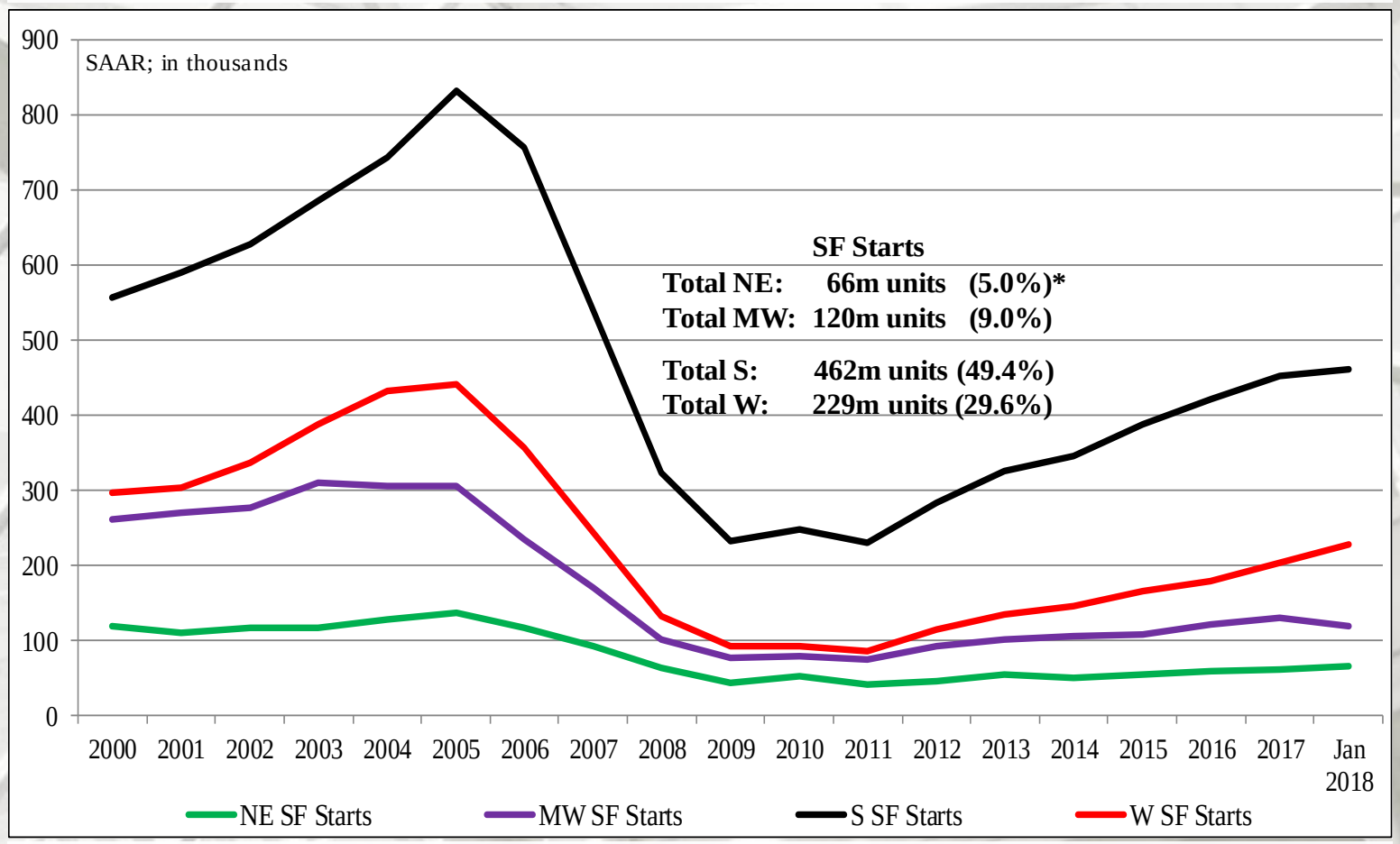


* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

SF Housing Starts by Region

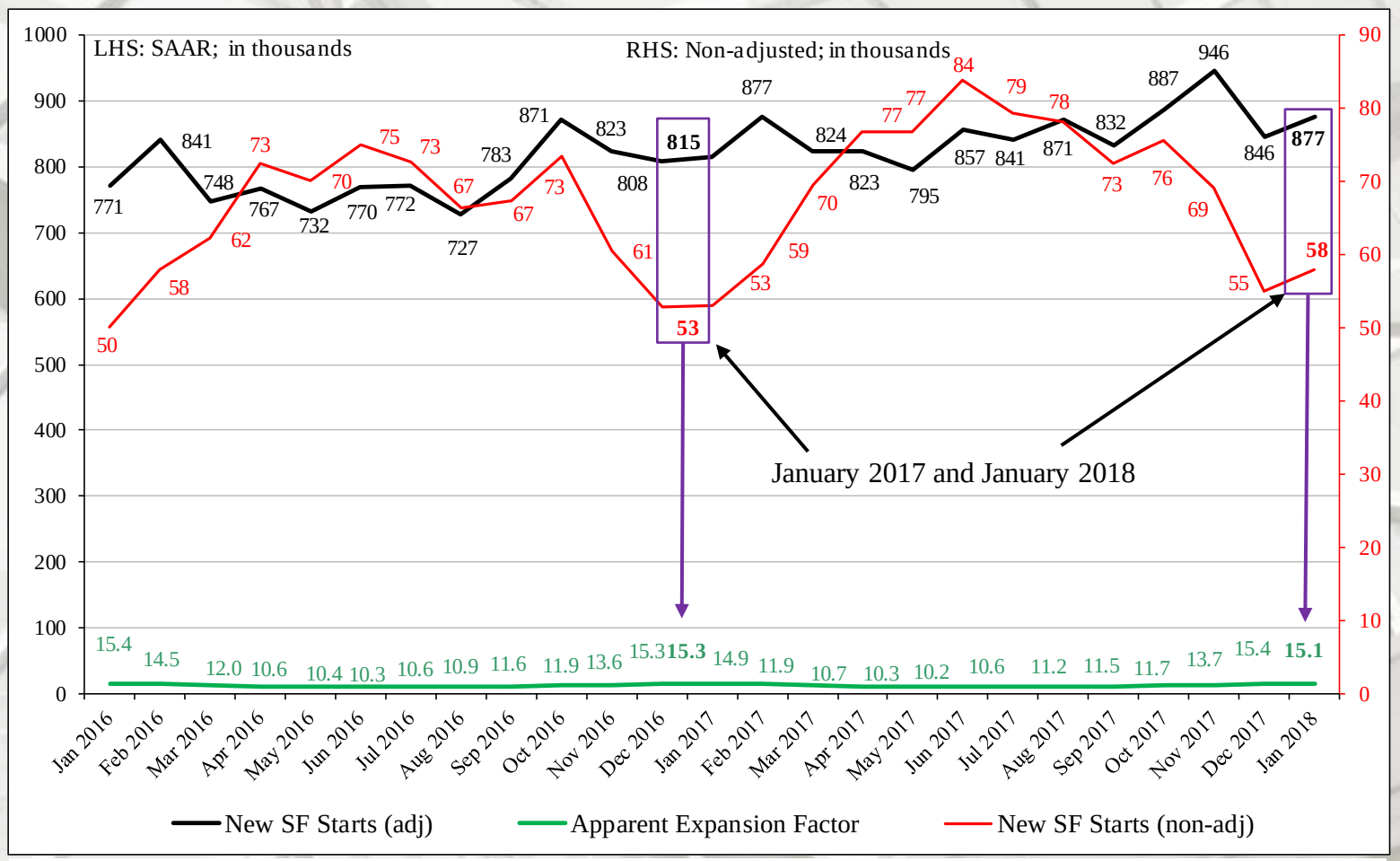


* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Nominal & SAAR SF Starts



Nominal and Adjusted New SF Monthly Starts

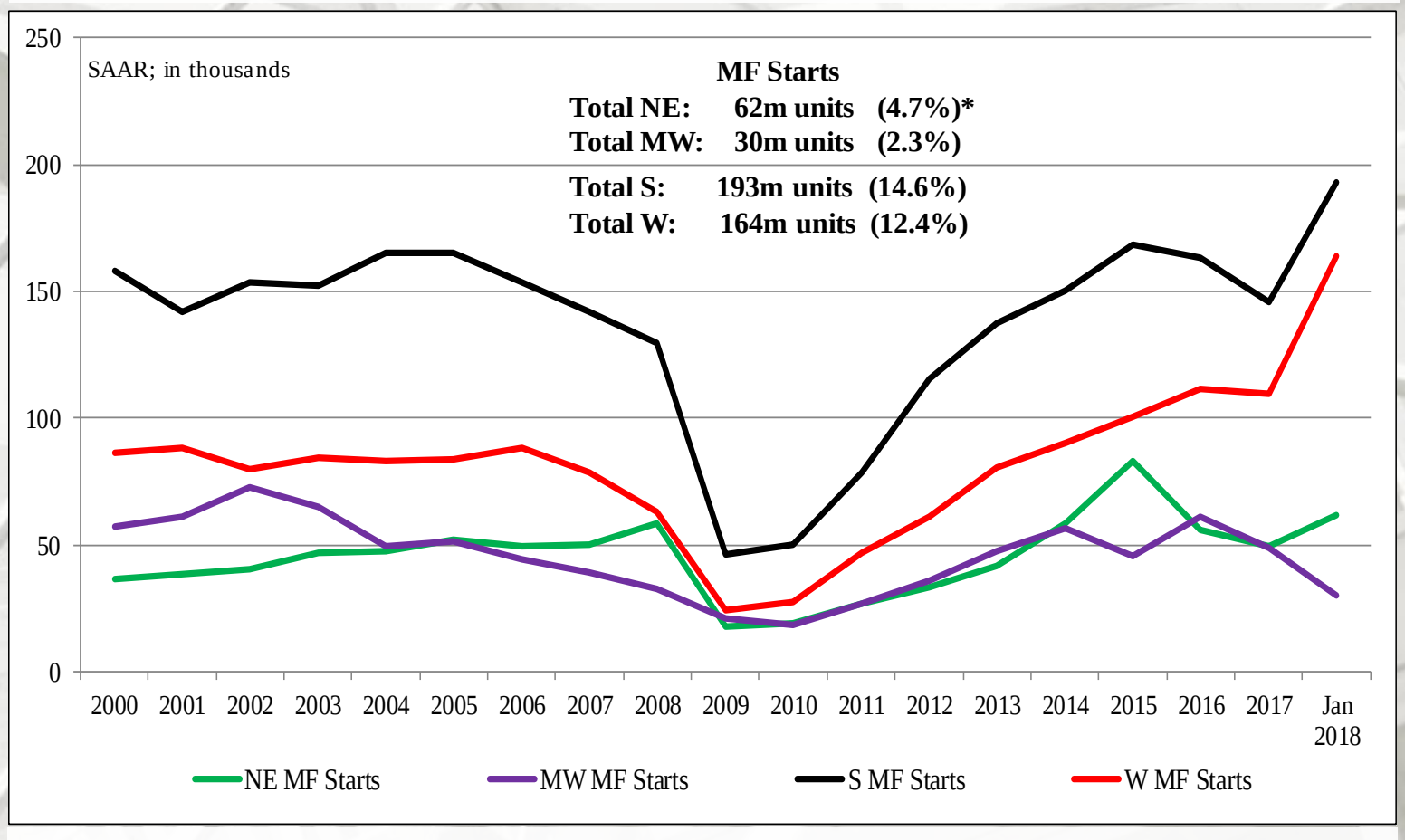
Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

The apparent expansion factor "… is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

MF Housing Starts by Region

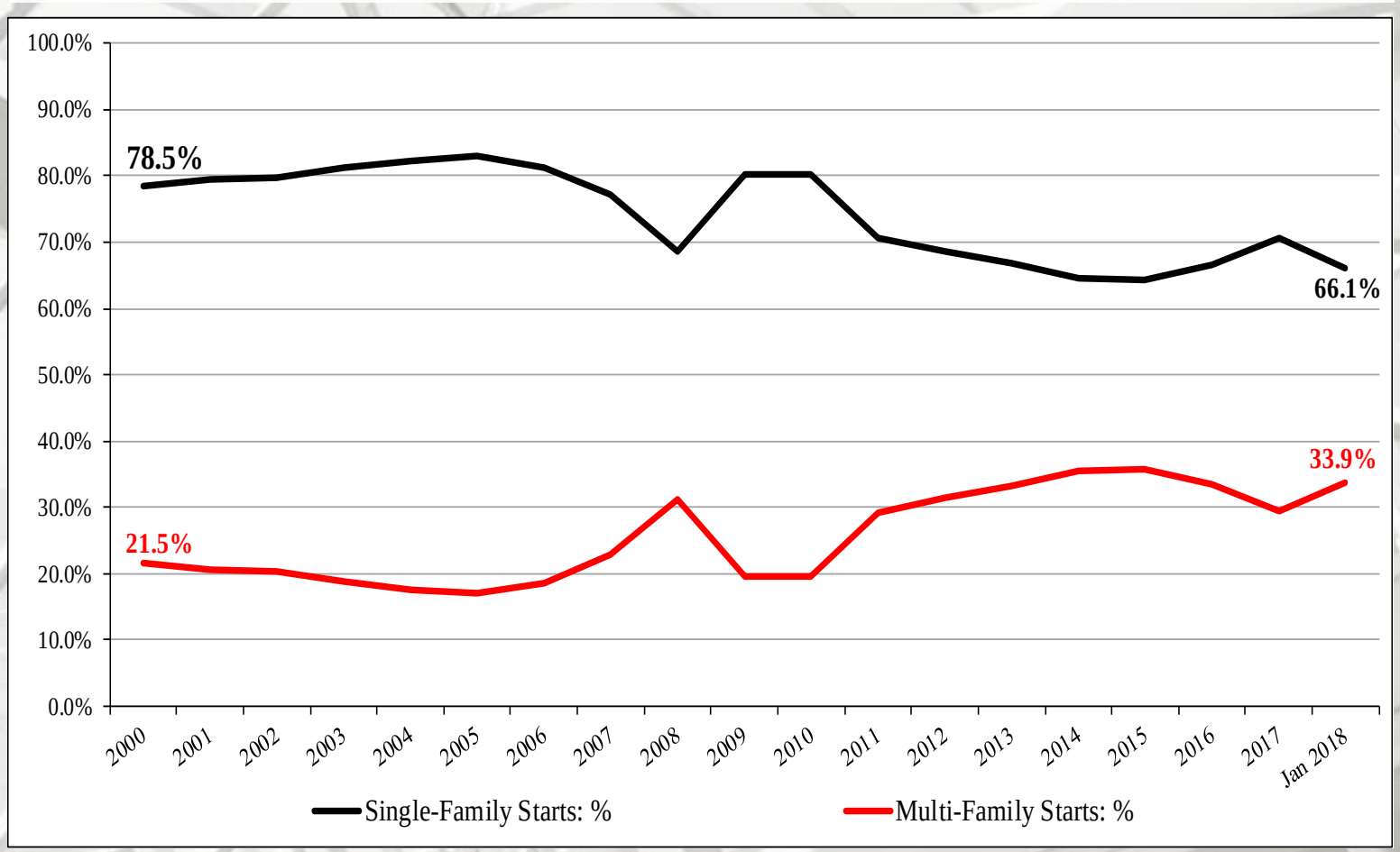


* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

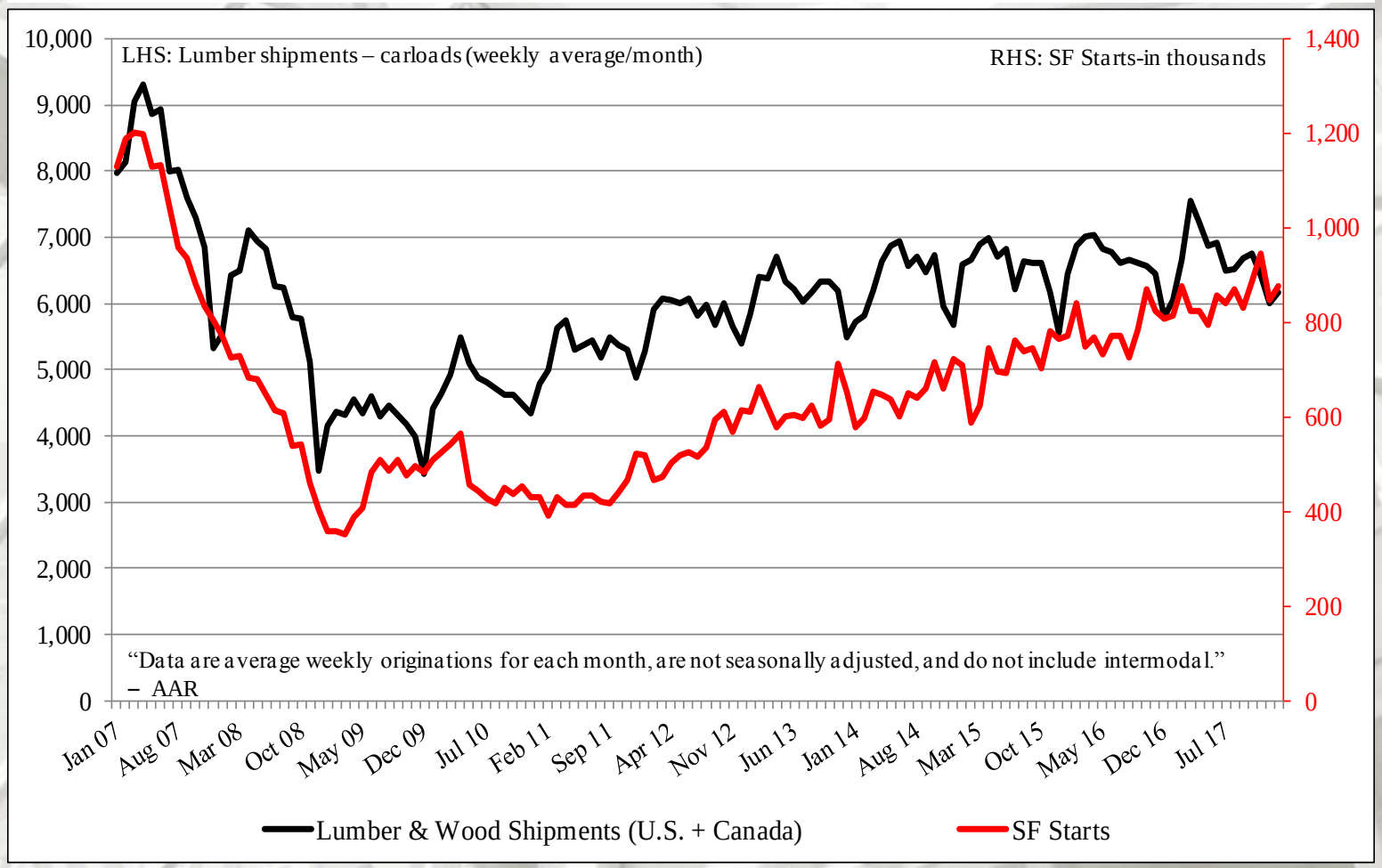
SF & MF Housing Starts (%)



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

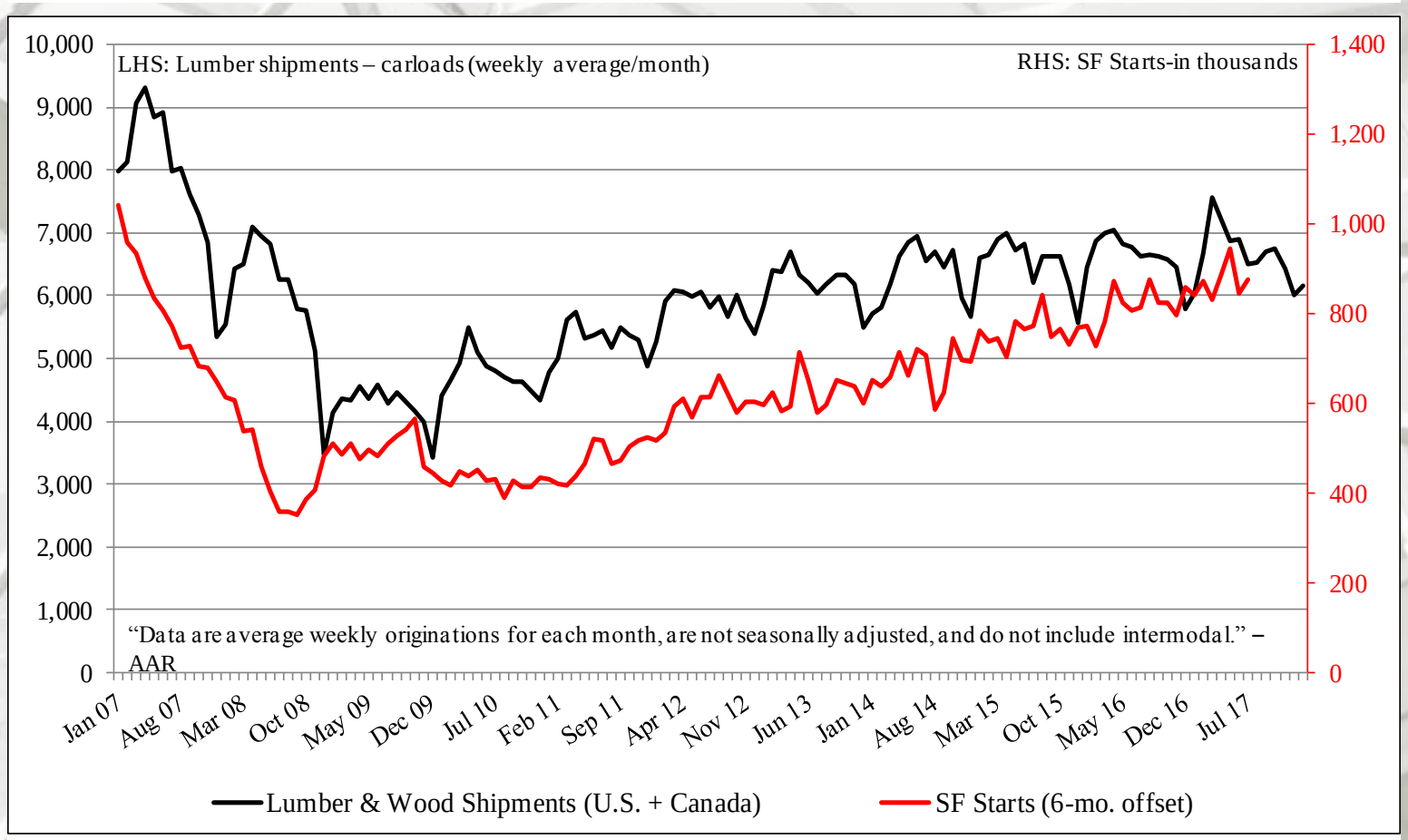
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/16/18

Return to TOC

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



In this graph, January 2007 lumber shipments are contrasted with July 2007 SF starts, and continuing through January 2017 SF starts. The purpose is to discover if lumber shipments relate to future single-family starts. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/16/18

Return to TOC

New Housing Permits

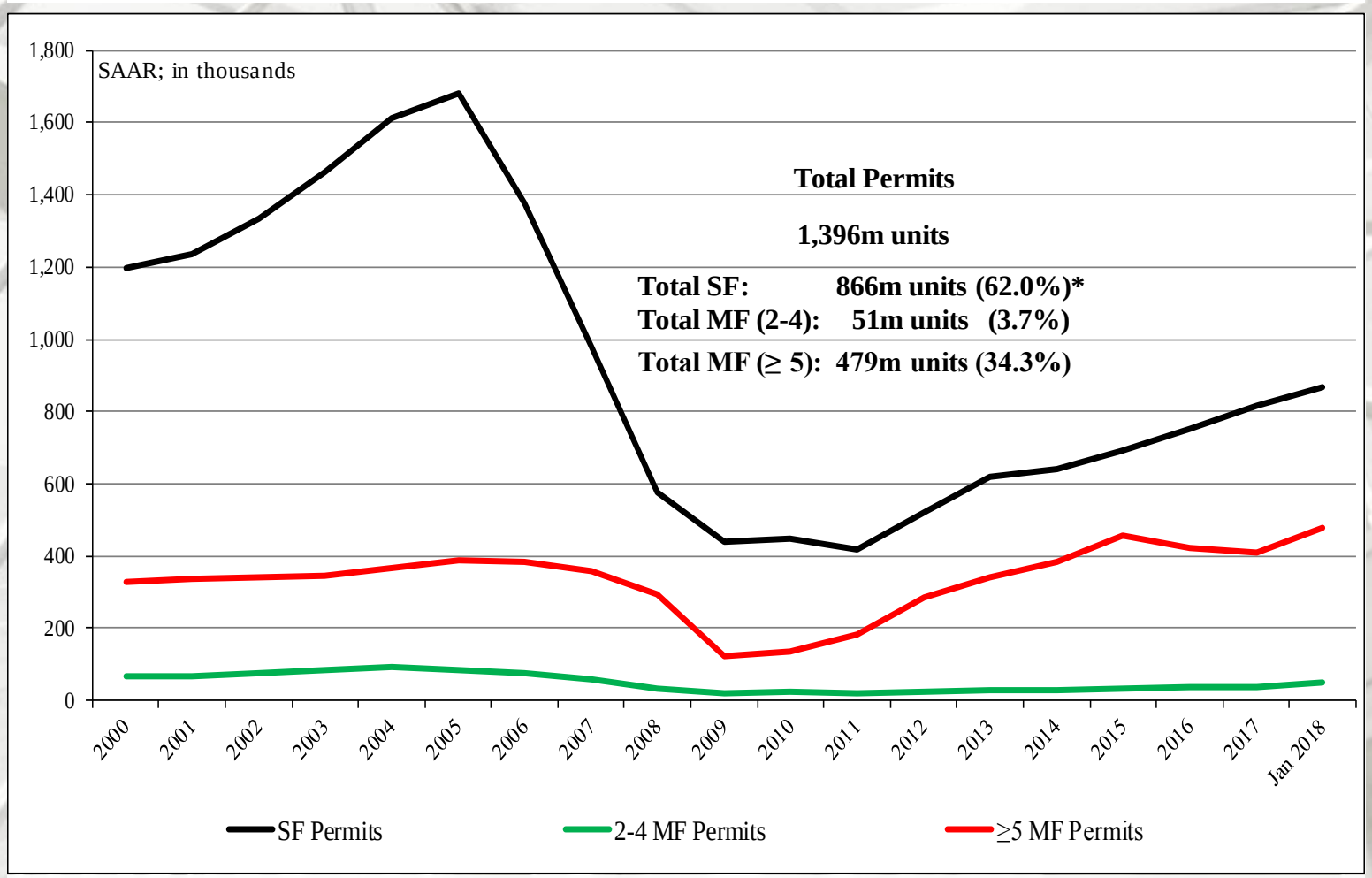
	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
January	1,396,000	866,000	51,000	479,000
December	1,300,000	881,000	37,000	382,000
2017	1,300,000	806,000	29,000	465,000
M/M change	7.4%	-1.7%	37.8%	25.4%
Y/Y change	7.4%	7.4%	75.9%	3.0%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total New Housing Permits

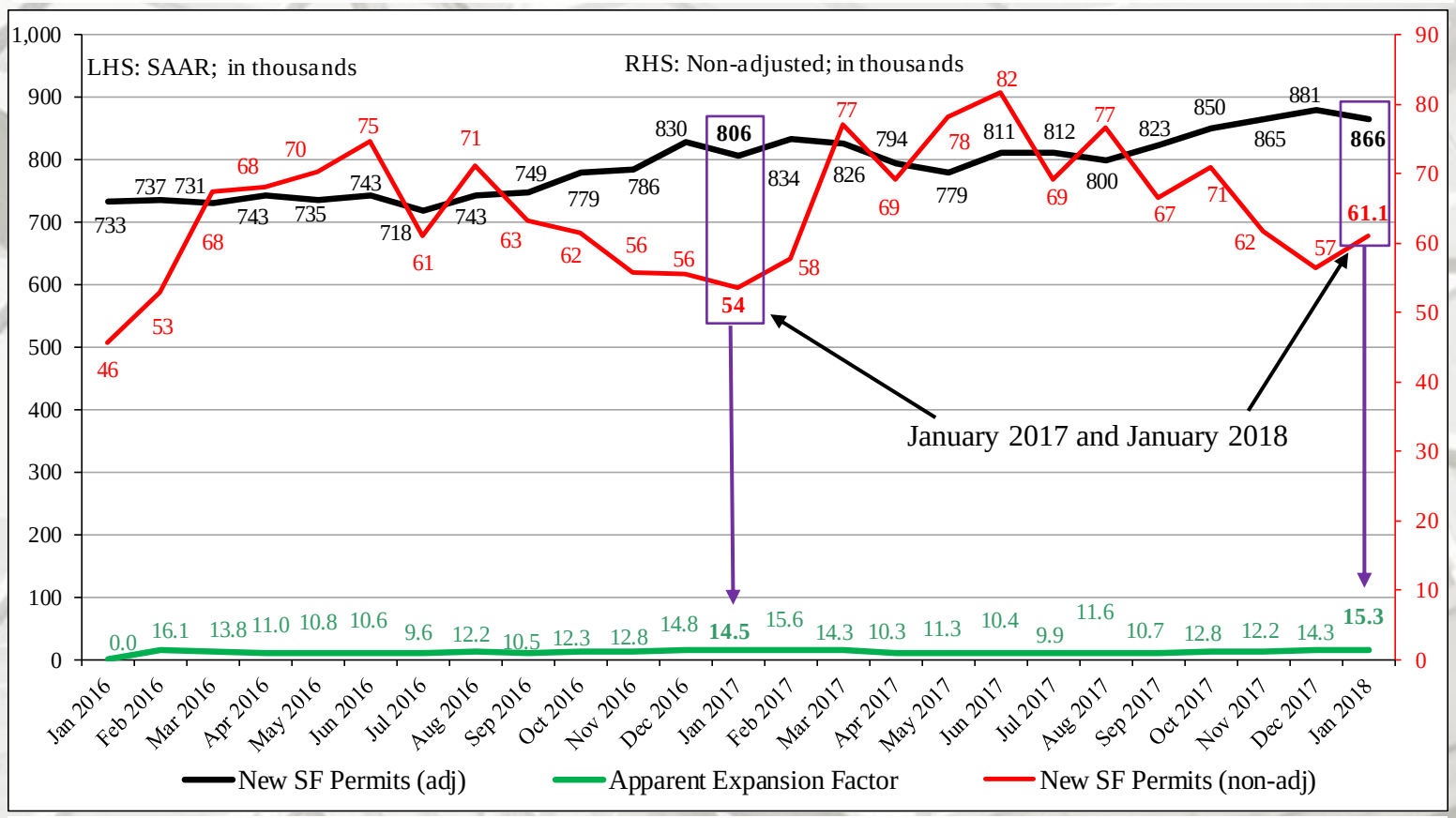


* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Nominal & SAAR SF Permits



Nominal and Adjusted New SF Monthly Permits

Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

The apparent expansion factor "…is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Permits by Region

	NE Total*	NE SF	NE MF**
January	123,000	51,000	72,000
December	148,000	56,000	92,000
2017	153,000	59,000	94,000
M/M change	-16.9%	-8.9%	-21.7%
Y/Y change	-19.6%	-13.6%	-23.4%

	MW Total*	MW SF	MW MF**
January	189,000	113,000	76,000
December	214,000	136,000	78,000
2017	187,000	120,000	67,000
M/M change	-11.7%	-16.9%	-2.6%
Y/Y change	1.1%	-5.8%	13.4%

- All data are SAAR
- ** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Permits by Region

	S Total*	S SF	S MF**
January	706,000	475,000	231,000
December	579,000	459,000	120,000
2017	653,000	451,000	202,000
M/M change	21.9%	3.5%	92.5%
Y/Y change	8.1%	5.3%	14.4%

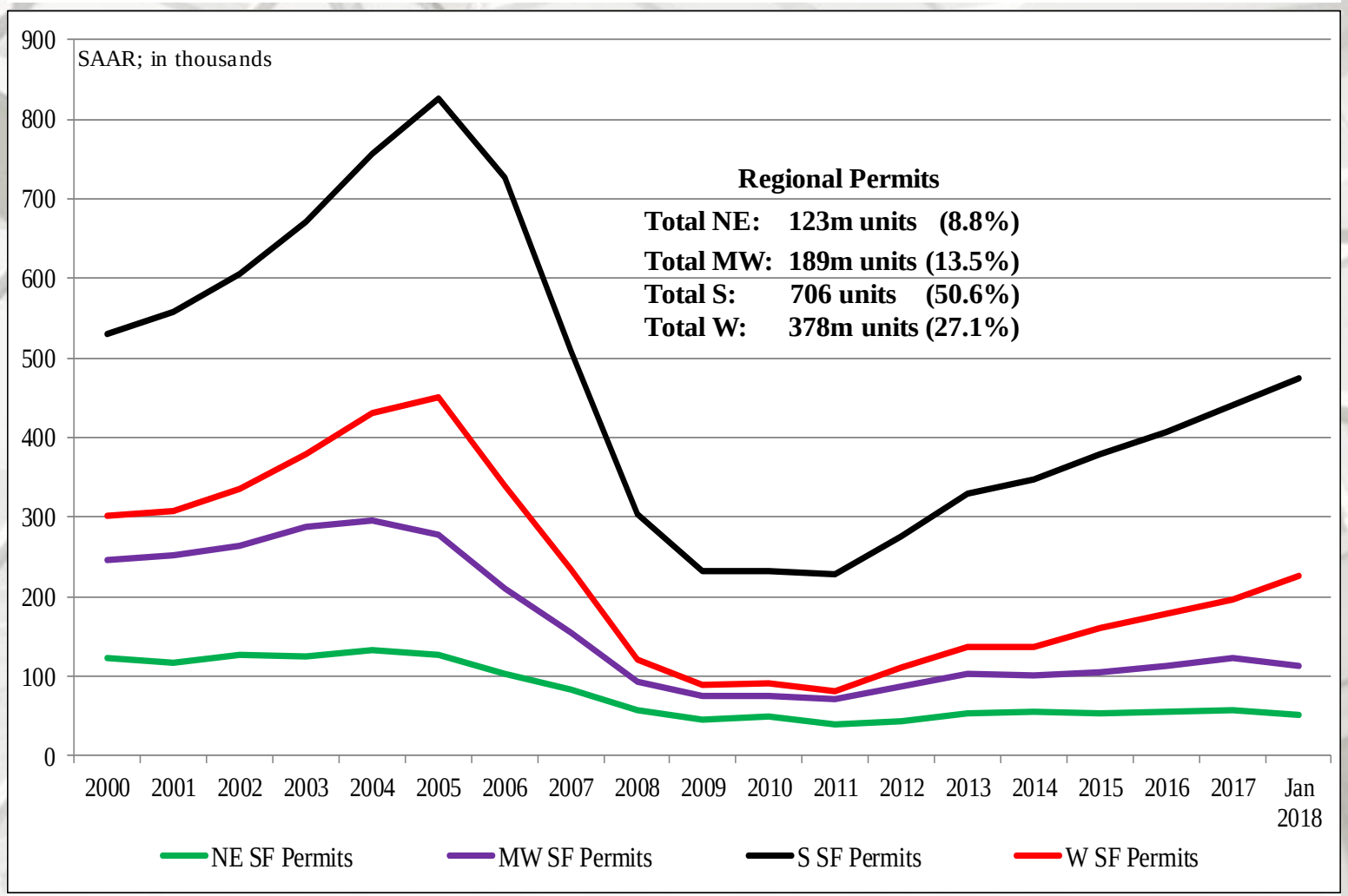
	W Total*	W SF	W MF**
January	378,000	227,000	151,000
December	359,000	230,000	129,000
2017	296,000	172,000	124,000
M/M change	5.3%	-1.3%	17.1%
Y/Y change	27.7%	32.0%	21.8%

- All data are SAAR
- ** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Permits by Region

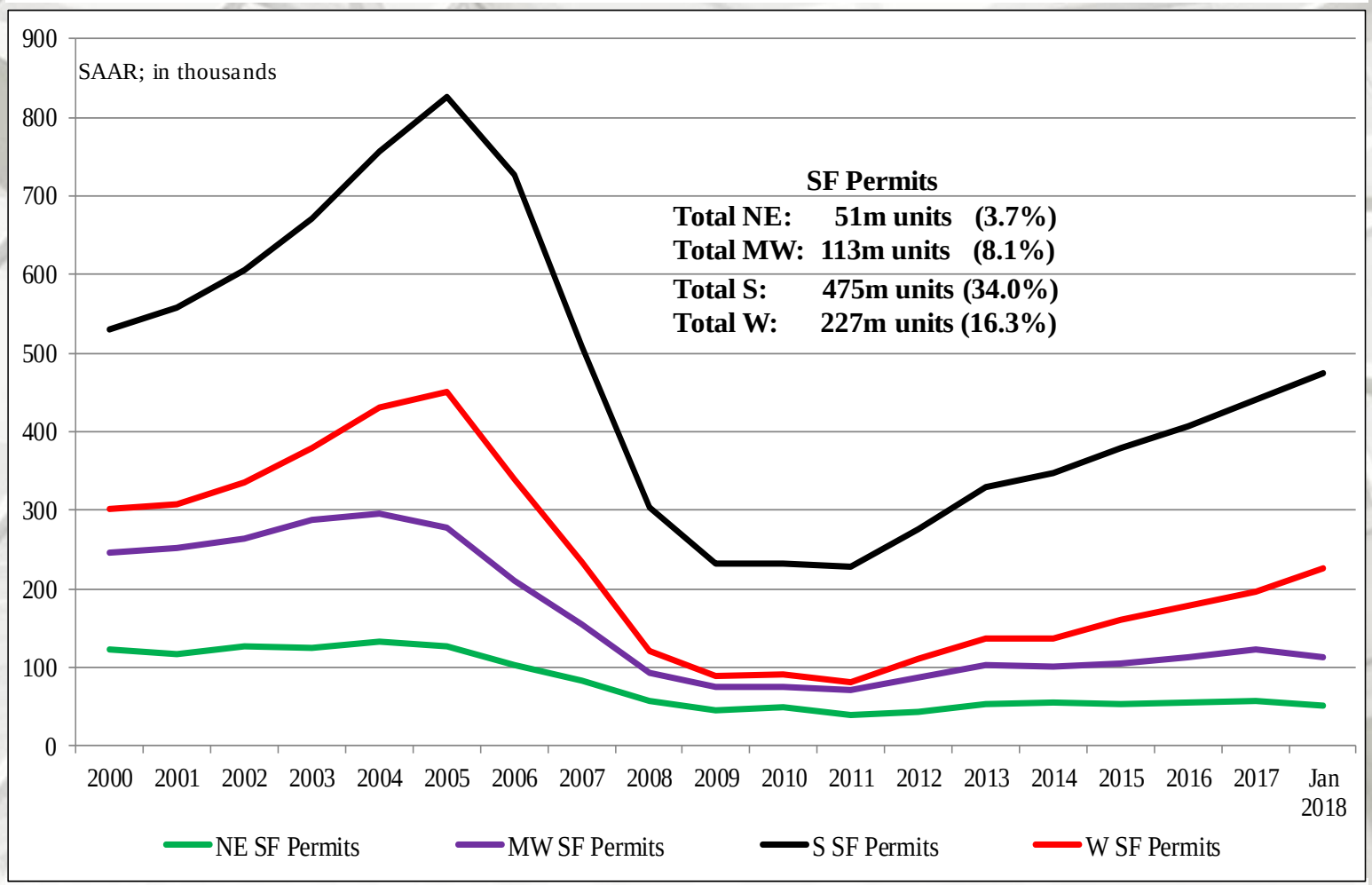


* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

SF Housing Permits by Region

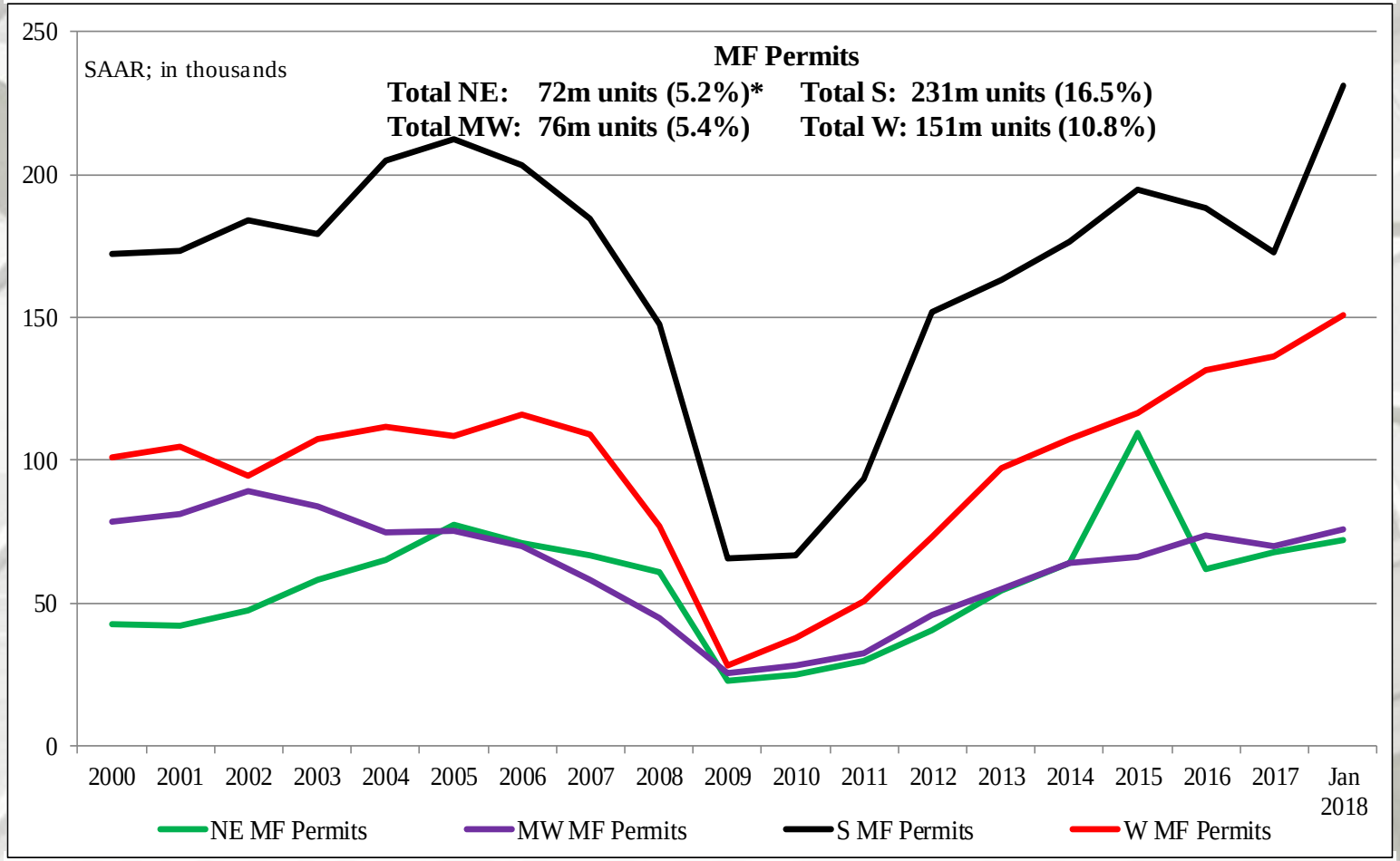


* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

MF Housing Permits by Region

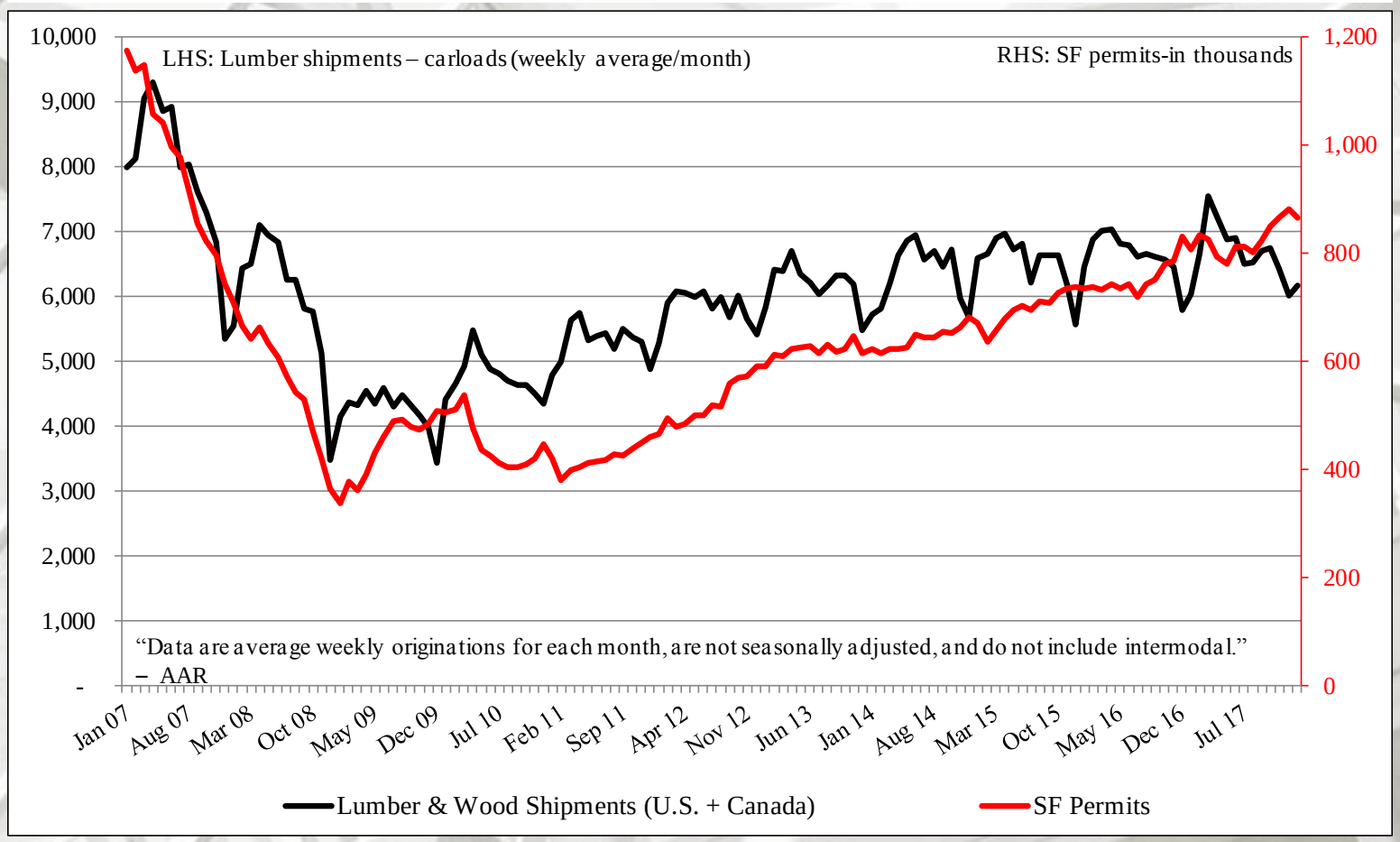


* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

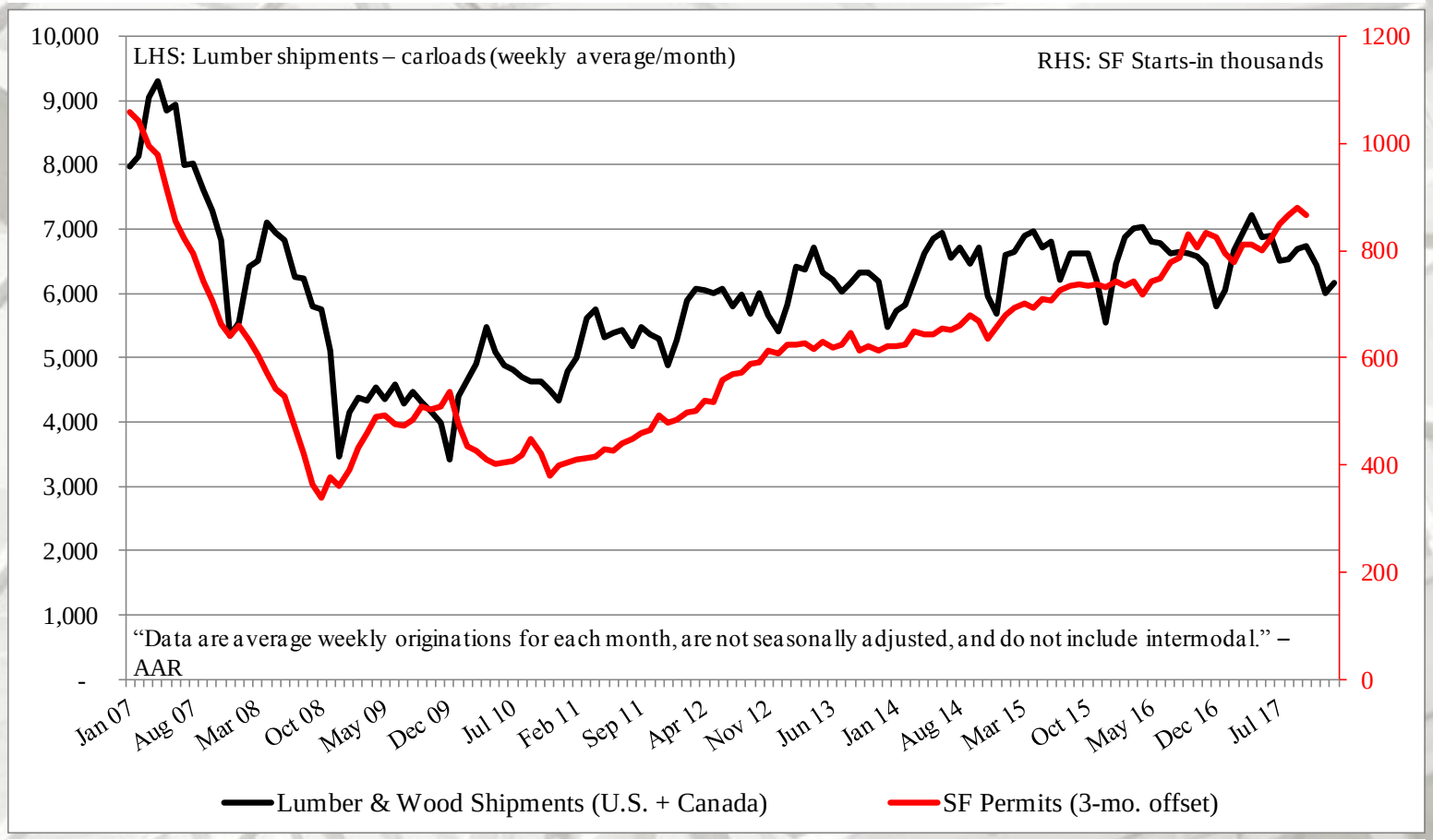
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/16/18

Return to TOC

Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits: 3-month Offset



In this graph, January 2007 lumber shipments are contrasted with April 2007 SF permits, continuing through January 2017. The purpose is to discover if lumber shipments relate to future single-family permits. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/16/18

Return to TOC

New Housing Under Construction

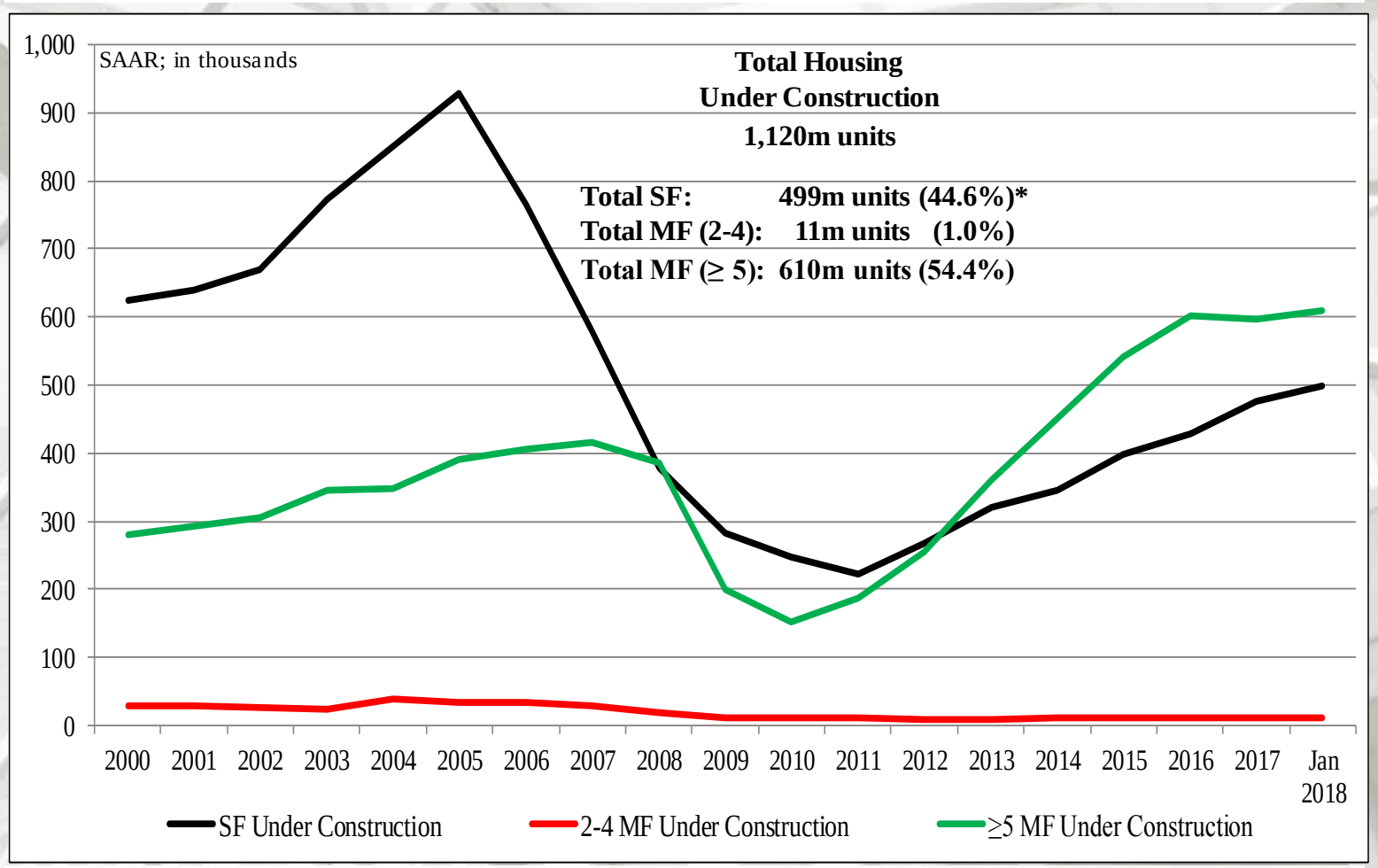
	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
January	1,120,000	499,000	11,000	610,000
December	1,110,000	499,000	10,000	601,000
2017	1,071,000	447,000	11,000	613,000
M/M change	0.9%	0.0%	10.0%	1.5%
Y/Y change	4.6%	11.6%	0.0%	-0.5%

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 under construction – (SF + 5 unit MF)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Under Construction



* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
January	188,000	53,000	135,000
December	187,000	53,000	134,000
2017	193,000	52,000	141,000
M/M change	0.5%	0.0%	0.7%
Y/Y change	-2.6%	1.9%	-4.3%

	MW Total	MW SF	MW MF
January	153,000	82,000	71,000
December	155,000	83,000	72,000
2017	147,000	73,000	74,000
M/M change	-1.3%	-1.2%	-1.4%
Y/Y change	4.1%	12.3%	-4.1%

All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multifamily units under construction directly, this is an estimation (Total under construction – SF under construction).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Under Construction by Region

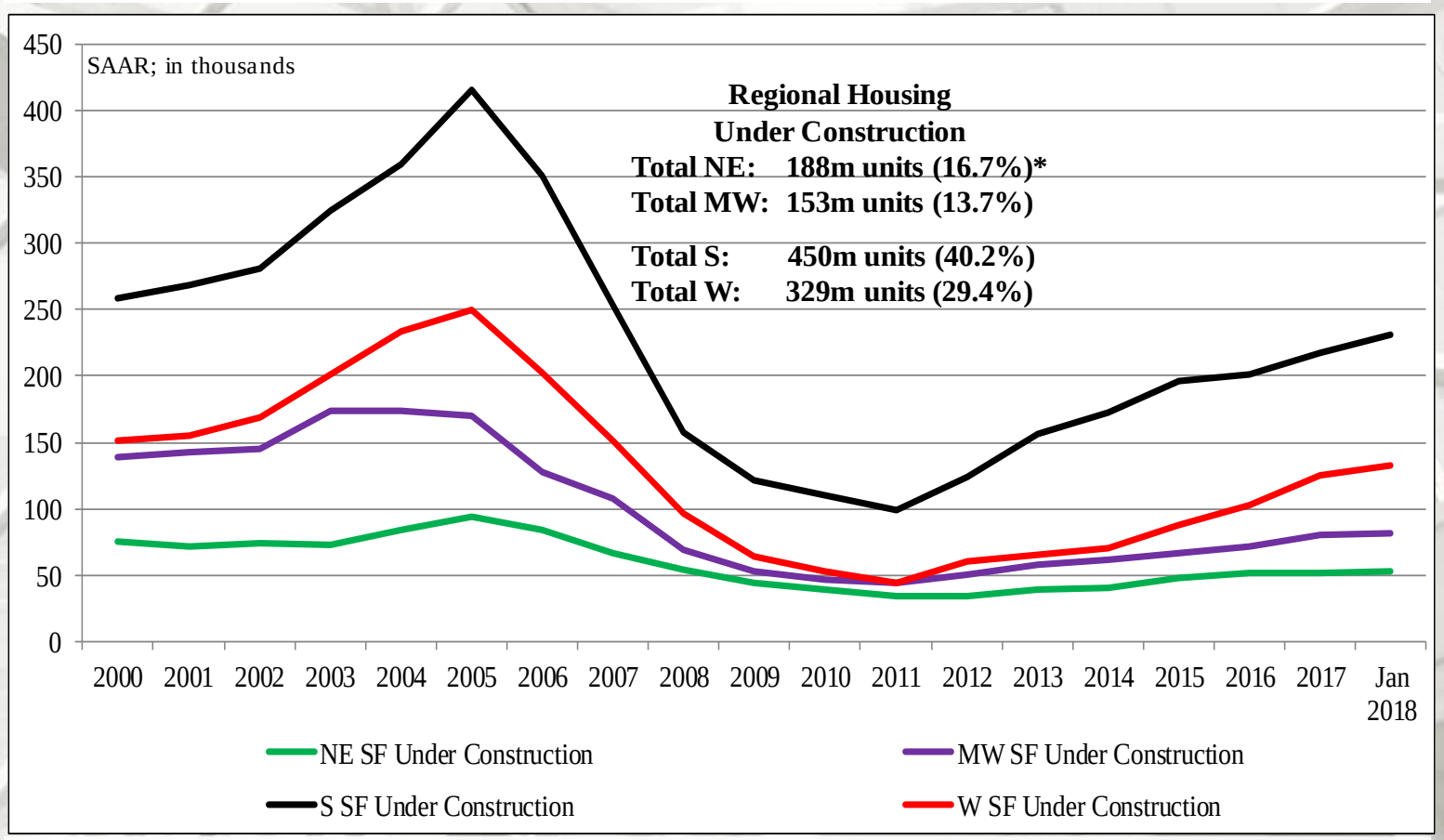
	S Total	S SF	S MF**
January	450,000	231,000	219,000
December	446,000	230,000	216,000
2017	449,000	212,000	237,000
M/M change	0.9%	0.4%	1.4%
Y/Y change	0.2%	9.0%	-7.6%
	W Total	**W SF**	**W MF**
January	329,000	133,000	196,000
December	322,000	133,000	189,000
2017	282,000	110,000	172,000
M/M change	2.2%	0.0%	3.7%
Y/Y change	16.7%	20.9%	14.0%

All data are SAAR; S = South and W = West.
** US DOC does not report multifamily units under construction directly, this is an estimation (Total under construction – SF under construction).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Under Construction by Region

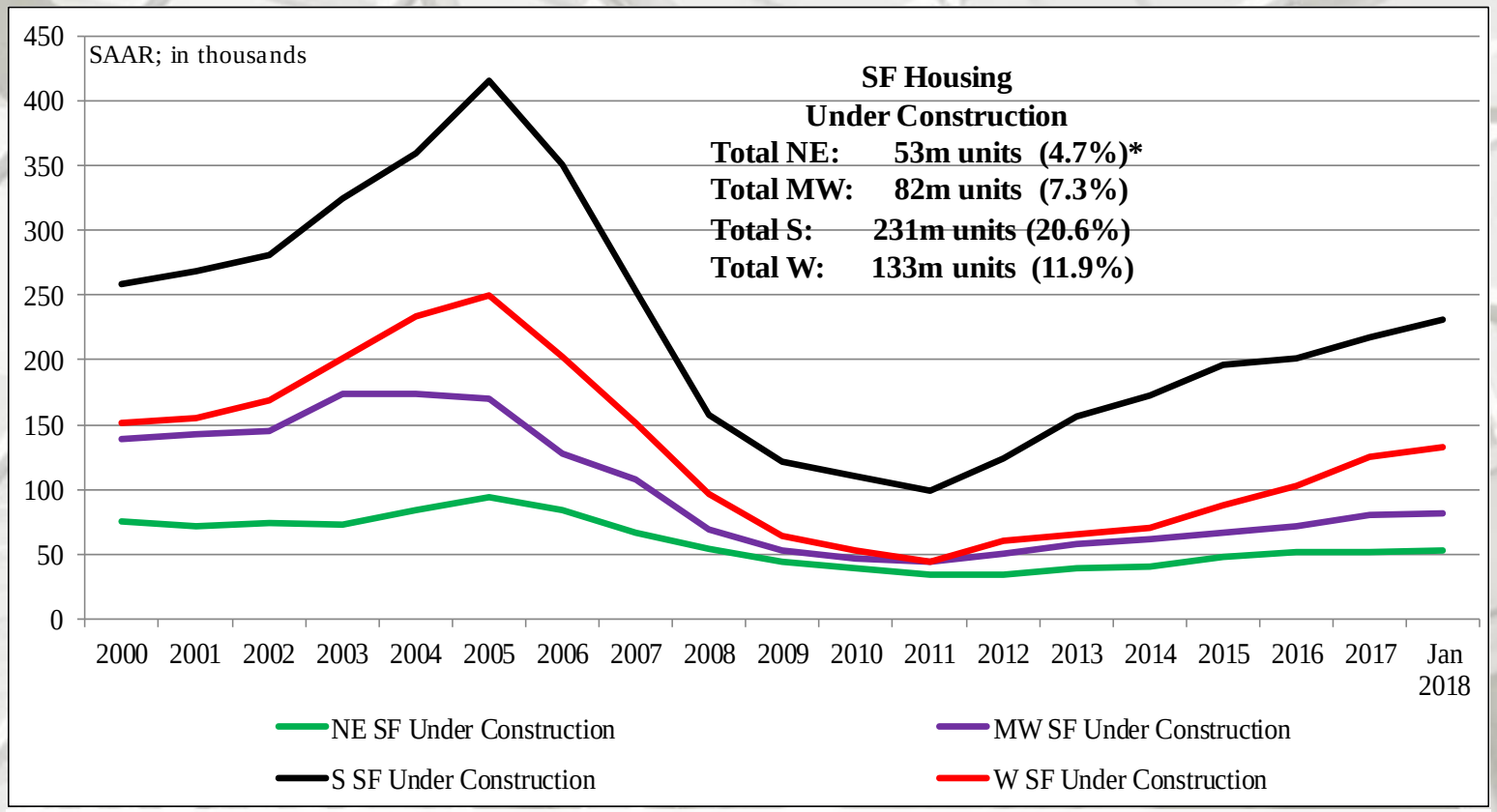


* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

SF Housing Under Construction by Region

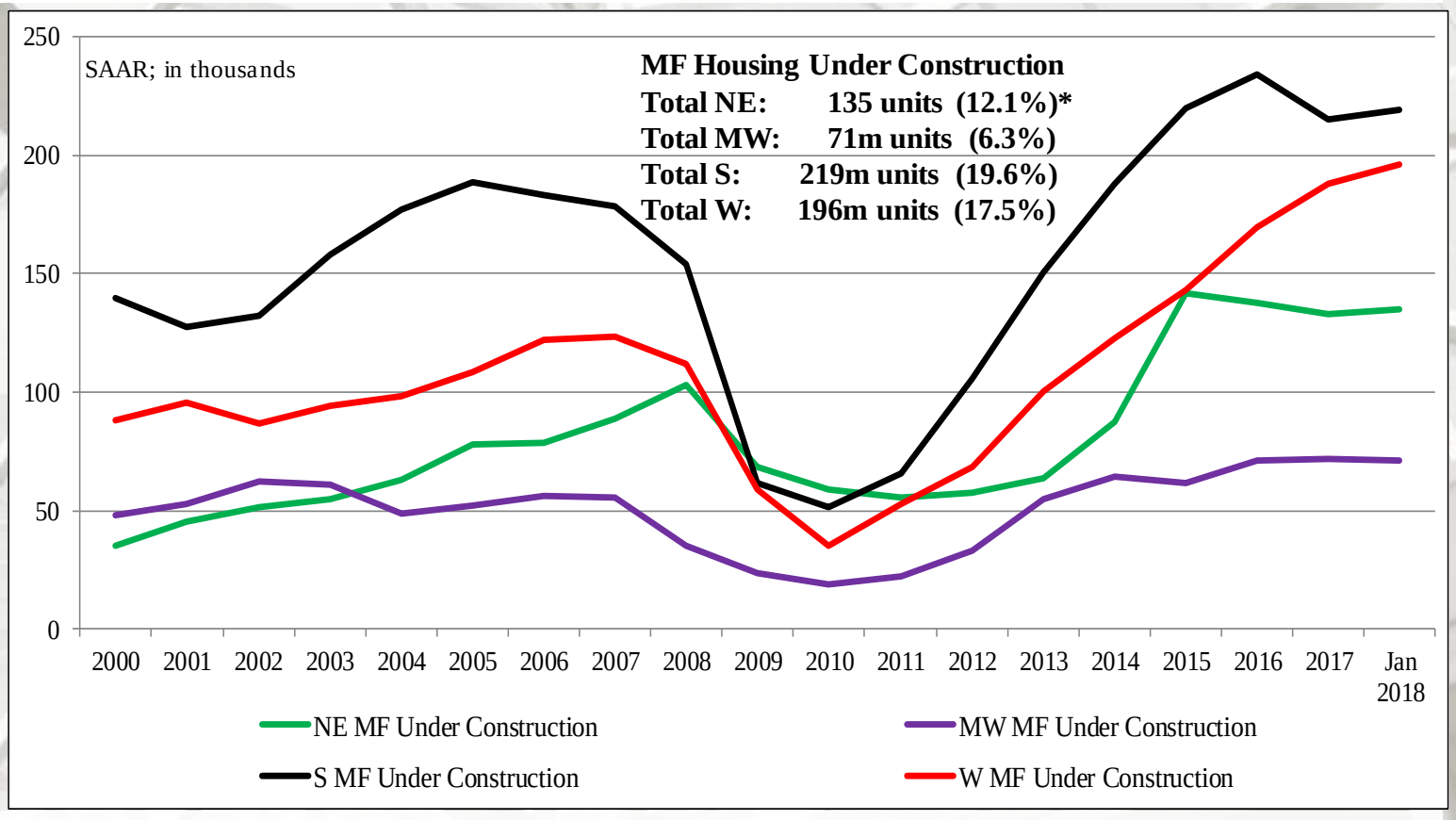


* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

MF Housing Under Construction by Region



* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
January	1,166,000	850,000	11,000	305,000
December	1,188,000	832,000	13,000	343,000
2017	1,083,000	802,000	4,000	277,000
M/M change	-1.9%	2.2%	-15.4%	-11.1%
Y/Y change	7.7%	6.0%	175.0%	10.1%

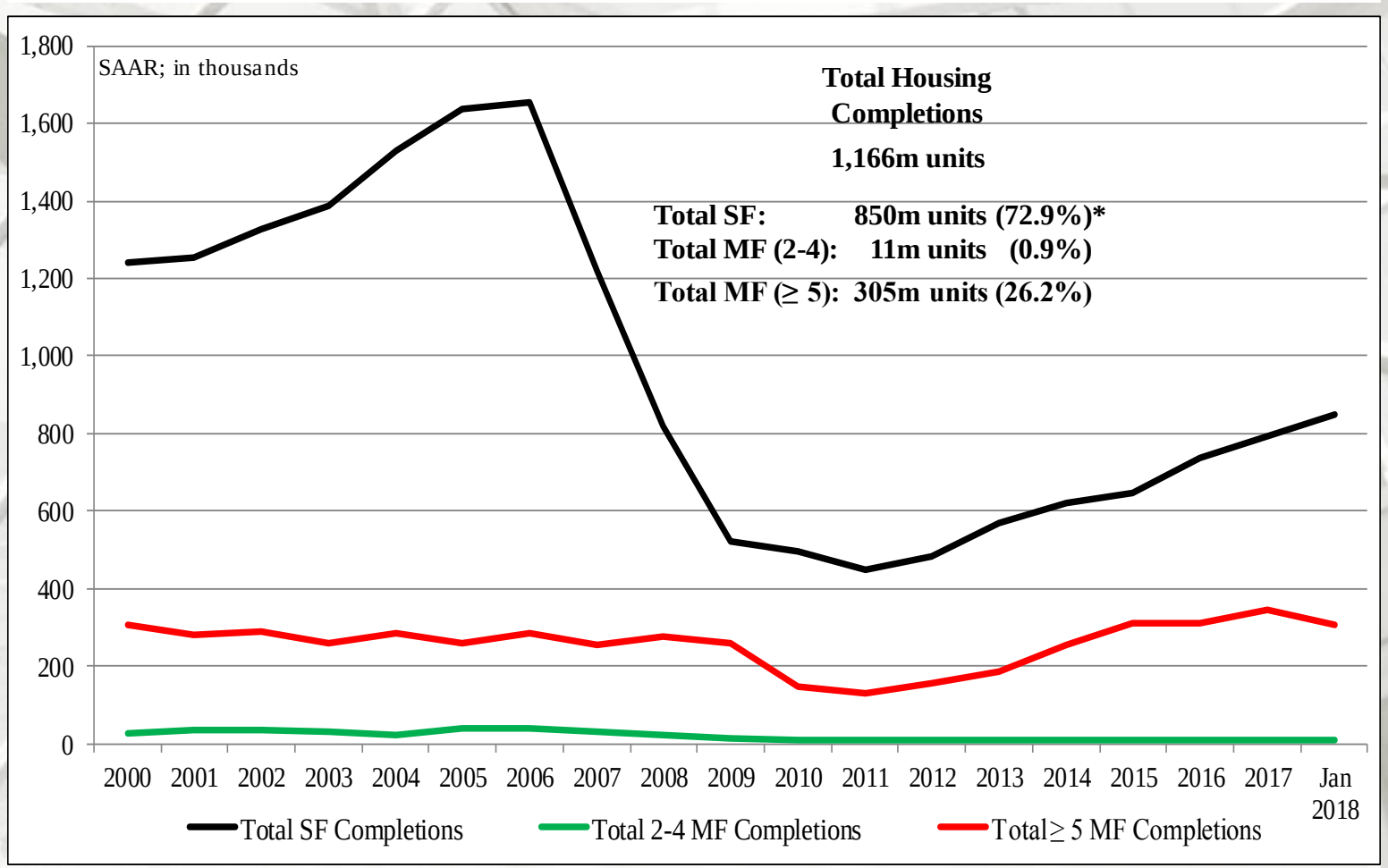
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report multifamily completions directly, this is an estimation ((Total completions – (SF + 5 unit MF)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Completions



* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Completions by Region

	NE Total	NE SF	NE MF**
January	110,000	54,000	56,000
December	116,000	64,000	52,000
2017	84,000	67,000	44,300
M/M change	-5.2%	-15.6%	7.7%
Y/Y change	31.0%	-19.4%	26.4%
	MW Total	**MW SF**	**MW MF**
January	169,000	126,000	43,000
December	176,000	120,000	56,000
2017	174,000	134,000	40,000
M/M change	-4.0%	5.0%	-23.2%
Y/Y change	-2.9%	-6.0%	7.5%

All data are SAAR; NE = Northeast and MW = West.
** US DOC does not report multi-family completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

Total Housing Completions by Region

	S Total	S SF	S MF**
January	589,000	443,000	146,000
December	600,000	457,000	143,000
2017	611,000	459,000	152,000
M/M change	-1.8%	-3.1%	2.1%
Y/Y change	-3.6%	-3.5%	-3.9%

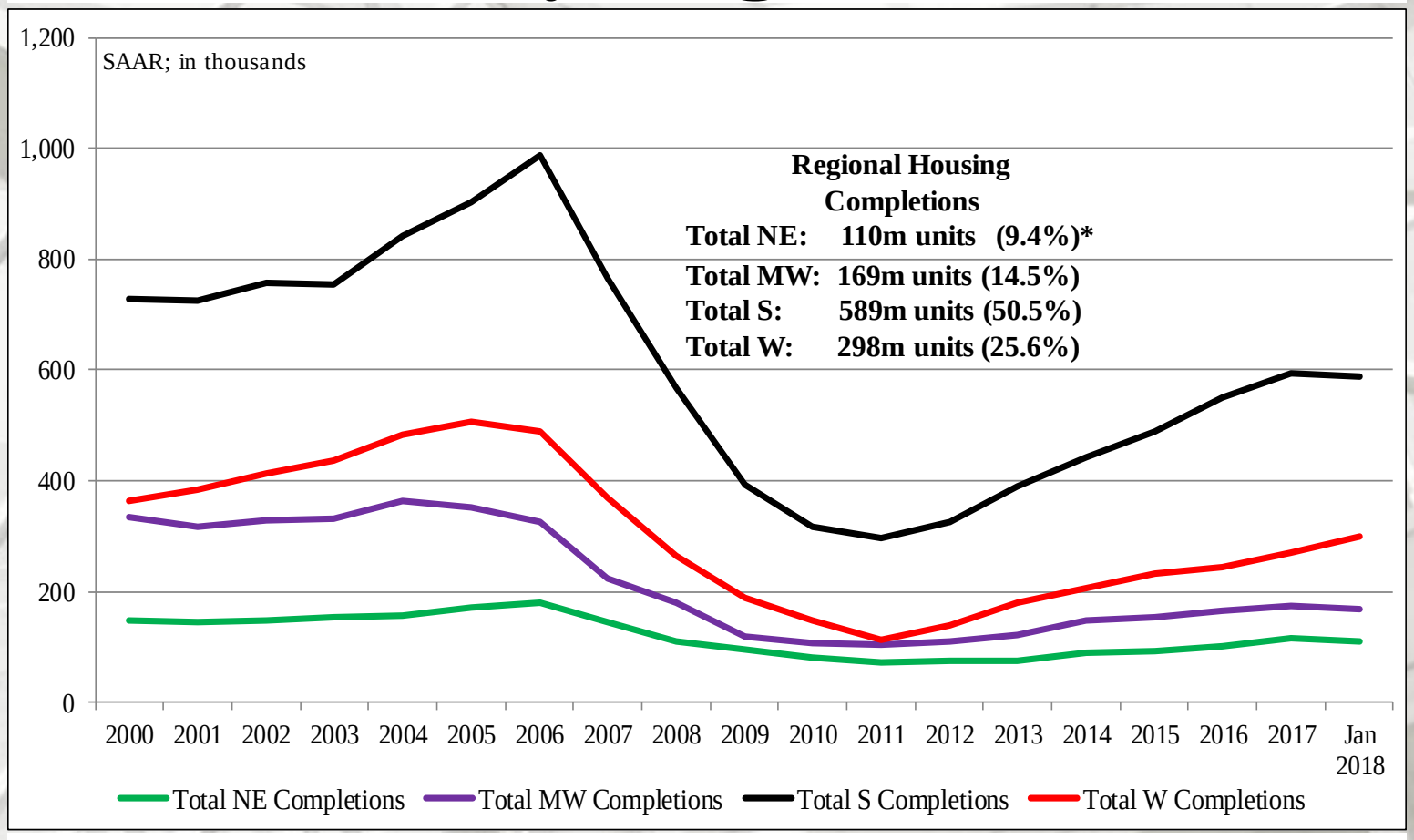
	W Total	W SF	W MF
December	298,000	186,000	112,000
November	229,000	153,000	76,000
2016	236,000	181,000	55,000
M/M change	30.1%	21.6%	47.4%
Y/Y change	26.3%	2.8%	103.6%

All data are SAAR; S = South and W = West.
** US DOC does not report multi-family completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Housing Completions by Region

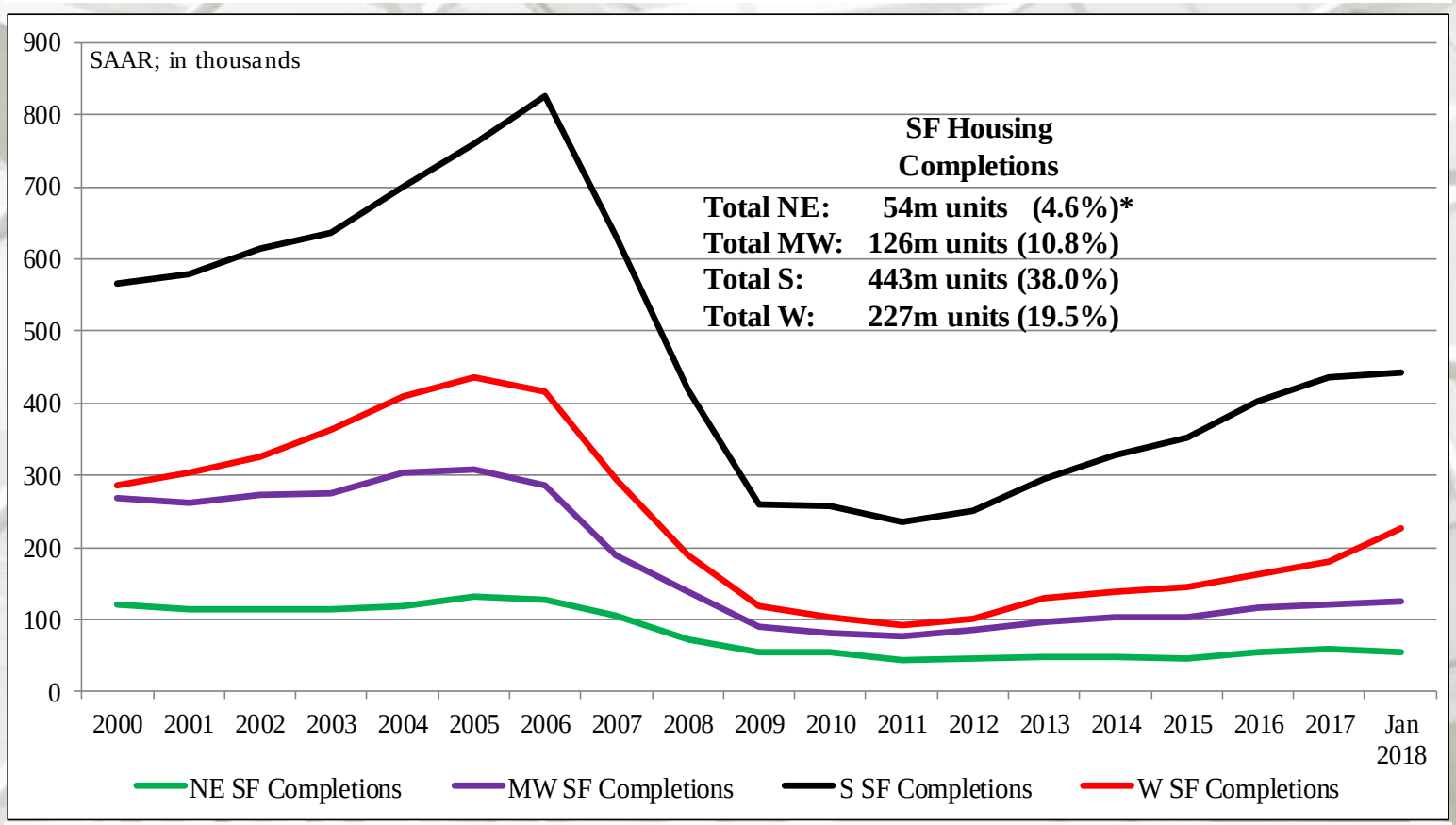


All data are SAAR; NE = Northeast and MW = Midwest; * Percentage of total housing completions.
** US DOC does not report multifamily completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

SF Housing Completions by Region

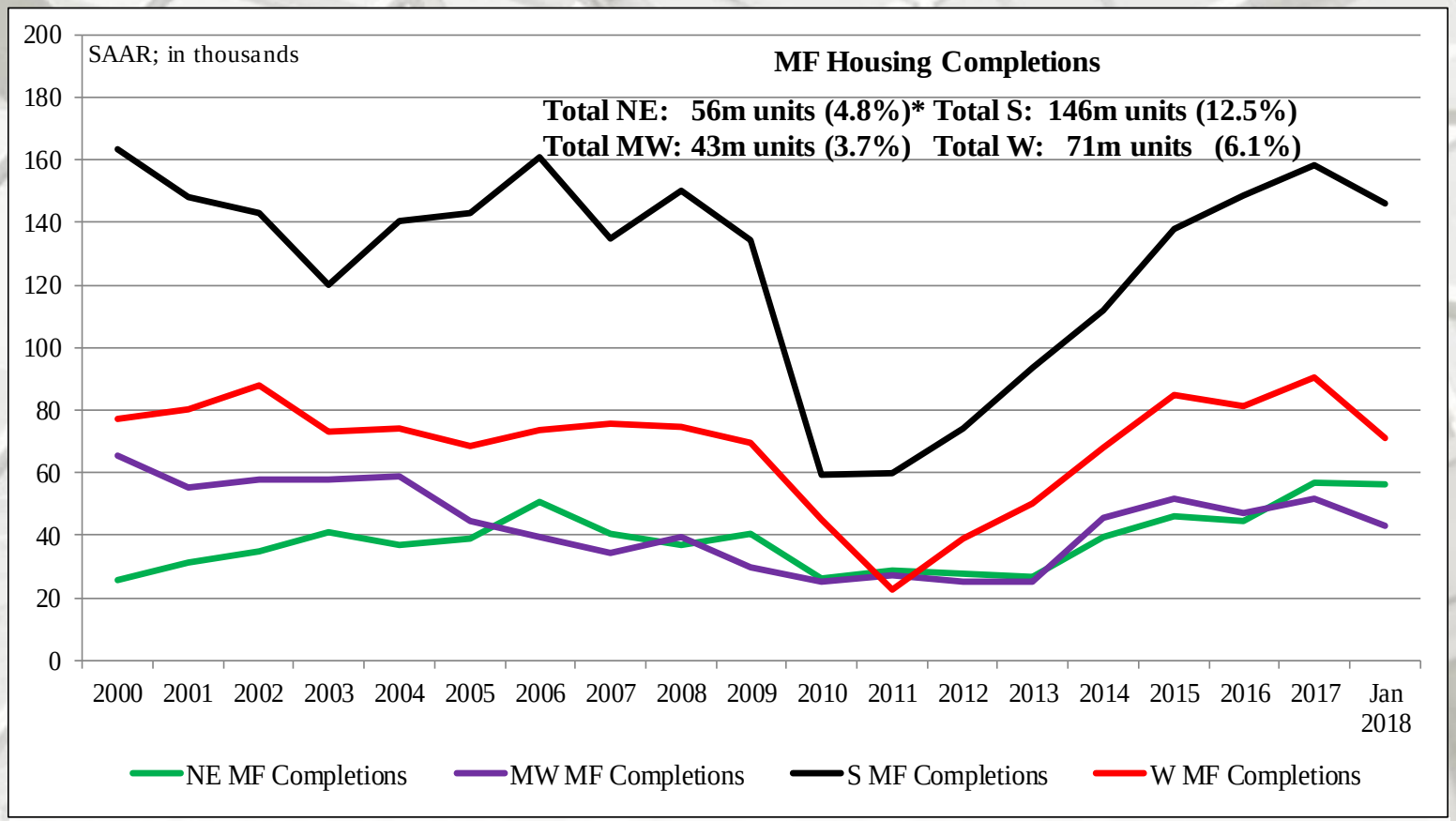


* Percentage of total housing completions.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

MF Housing Completions by Region



* Percentage of total housing completions.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/18

Return TOC

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
January	593,000	$323,000	$382,700	6.1
December	643,000	$336,700	$394,600	5.5
2017	599,000	$315,200	$357,700	5.2
M/M change	-7.8%	-4.1%	-3.0%	10.9%
Y/Y change	-1.0%	0.0%	-44.2%	2.7%

* All new sales data are presented at a seasonally adjusted annual rate (SAAR)[1] and housing prices are adjusted at irregular intervals[2].

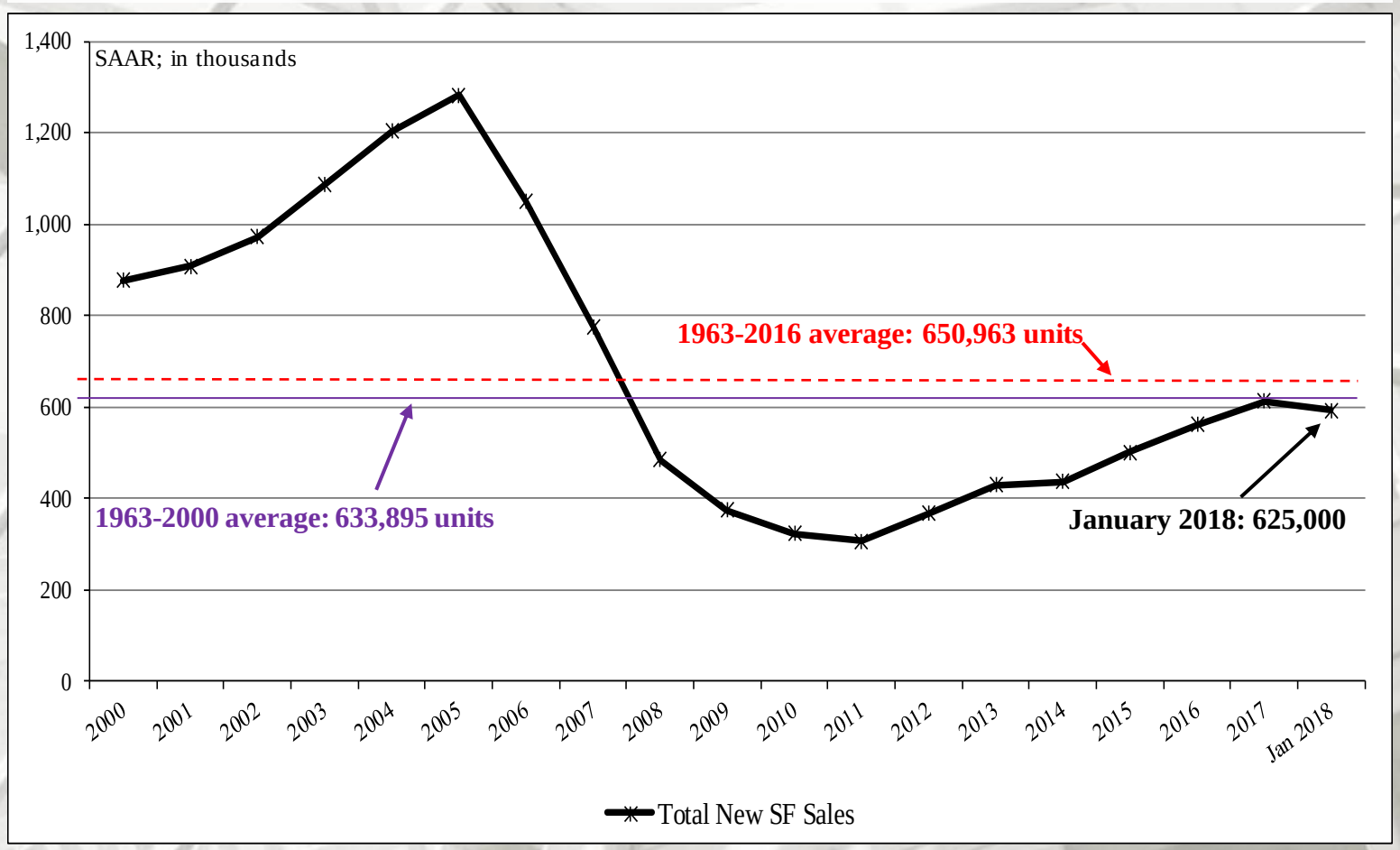
New SF sales were considerably less than the consensus forecast (640 m)[3], due to subpar sales in the South. The past three month's new SF sales data were revised substantially downward:

October initial:	685 m revised to 616 m;
November initial:	733 m revised to 696 m;
December initial:	625 m revised to 643 m.

Sources: [1]http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf
[3] http://mam.econoday.com/byshoweventfull.asp; 2/26/18

Return TOC

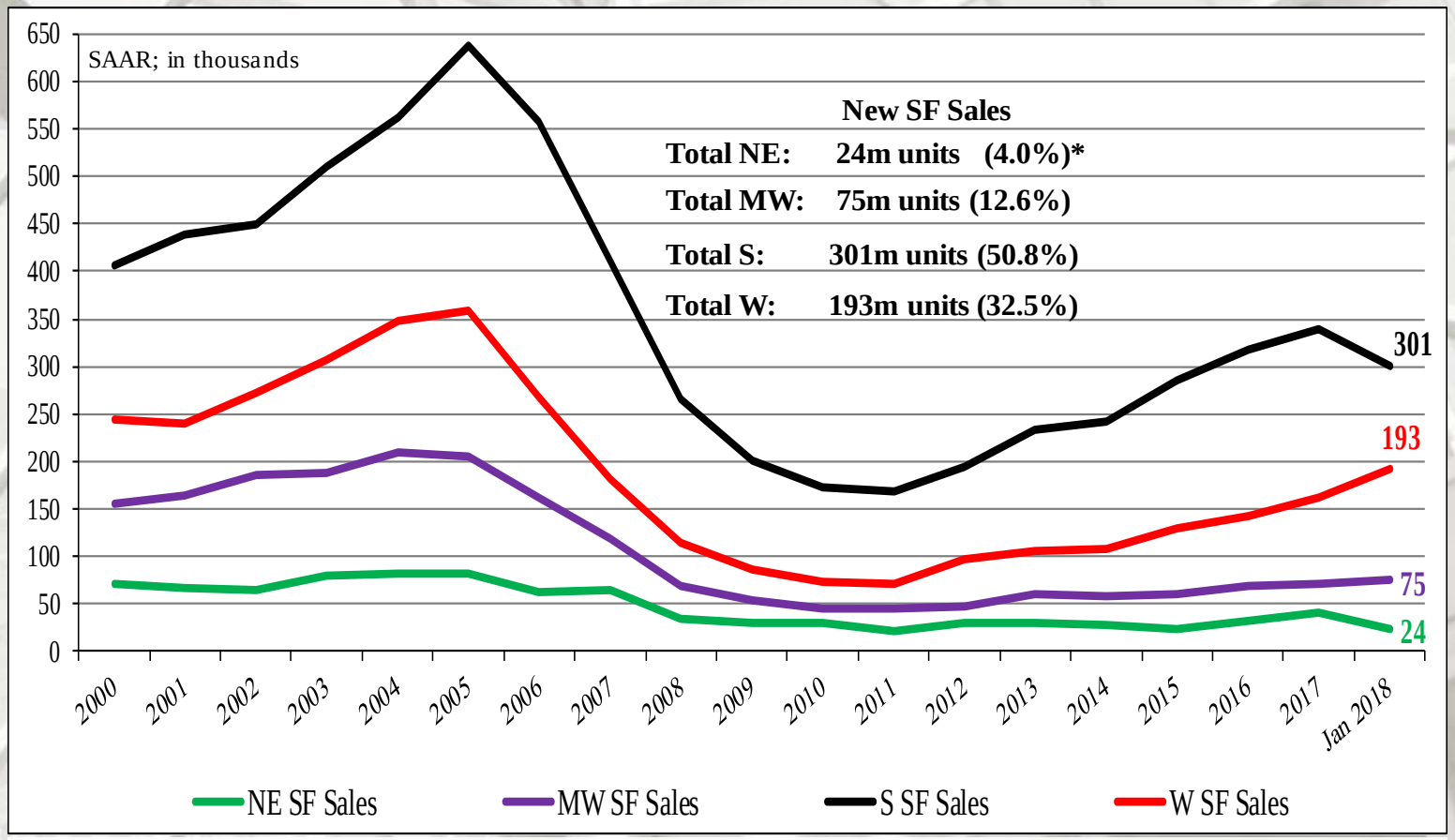
New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales by Region

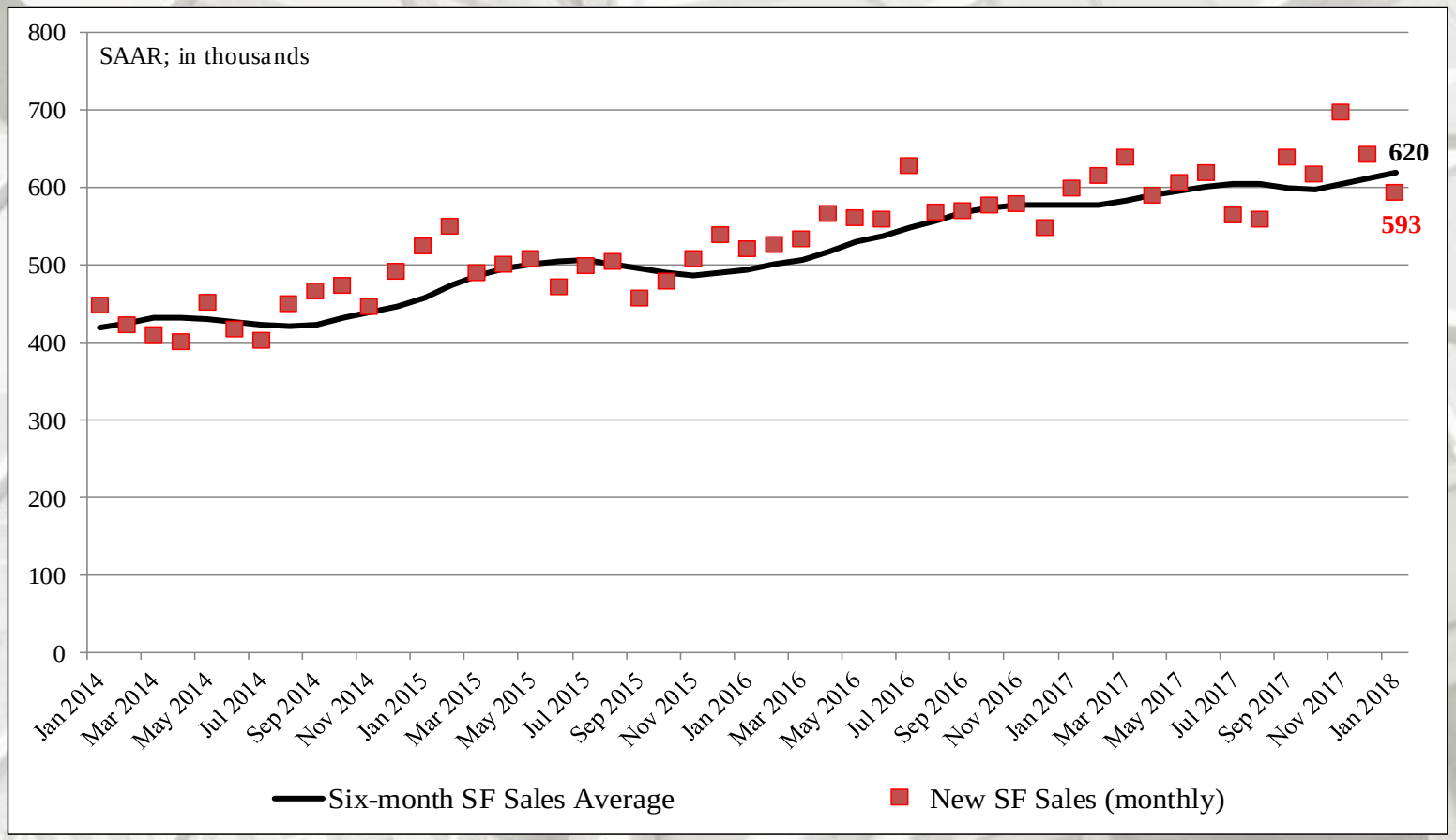


* Percentage of total new sales.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

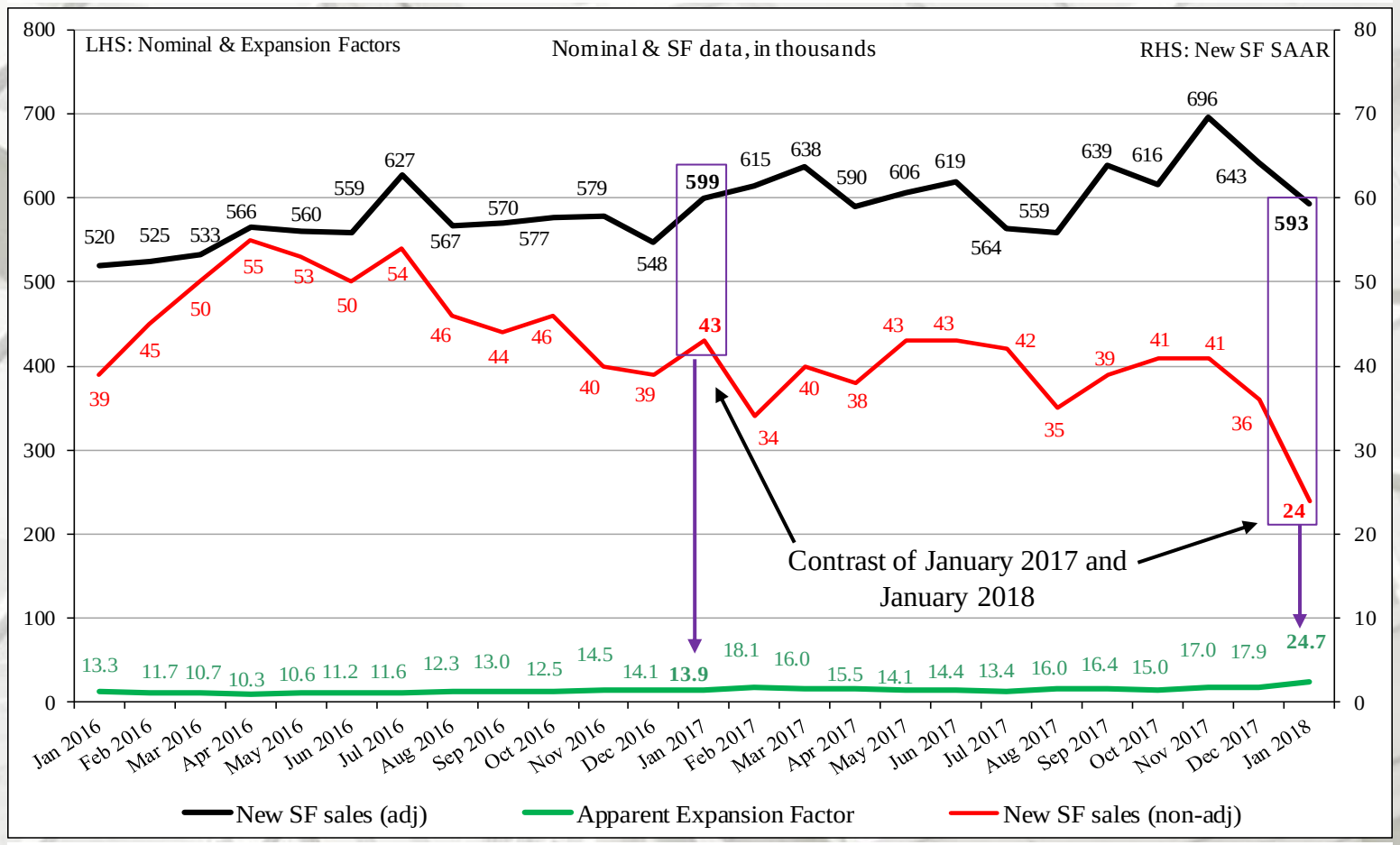
New SF Housing Sales: Six-month average & monthly



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

Nominal vs. SAAR New SF House Sales



Nominal and Adjusted New SF Monthly Sales

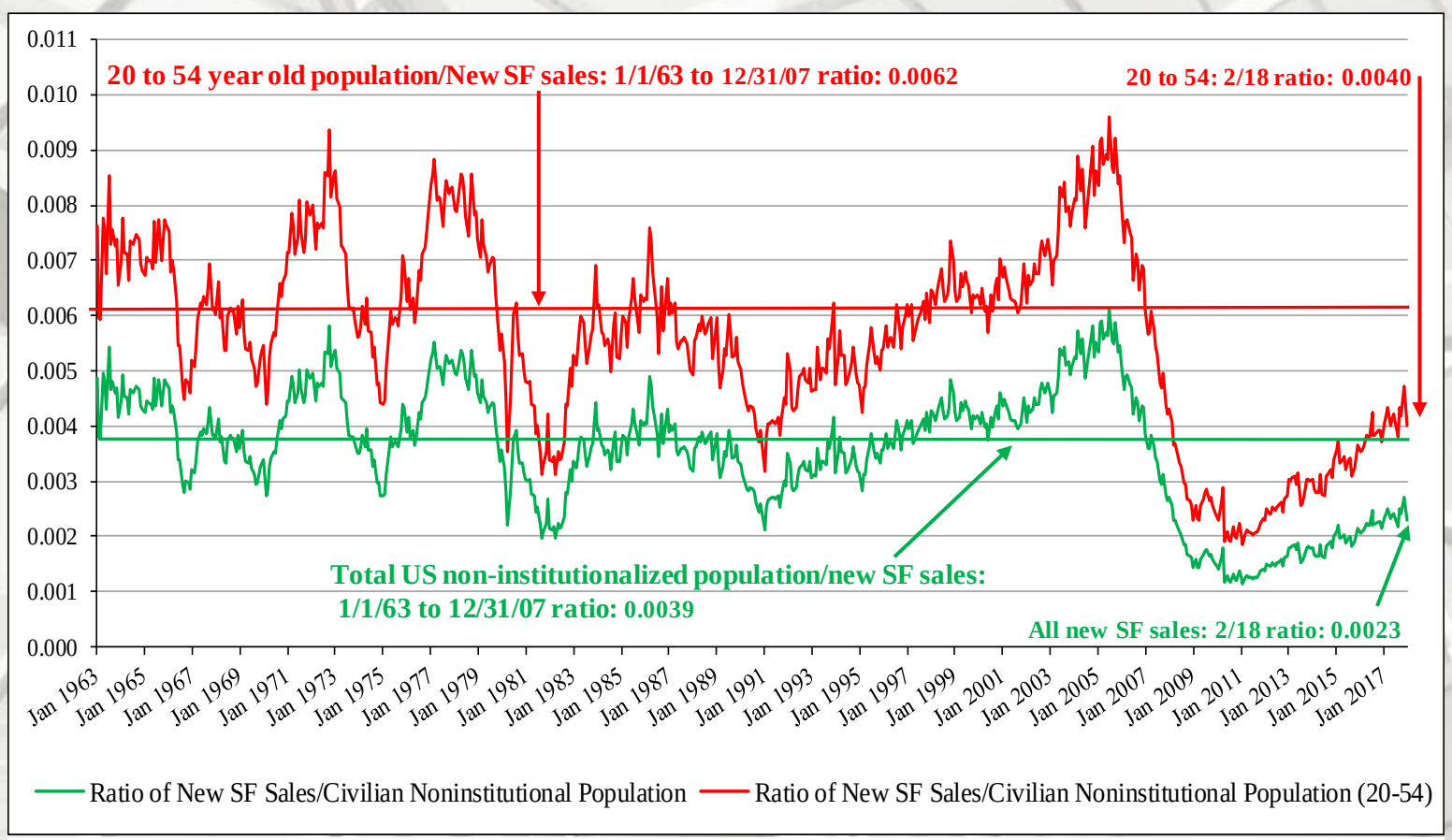
Presented above is nominal (non-adjusted) new SF sales data contrasted against SAAR data.

The apparent expansion factor "…is the ratio of the unadjusted number of houses sold in the US to the seasonally adjusted number of houses sold in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales



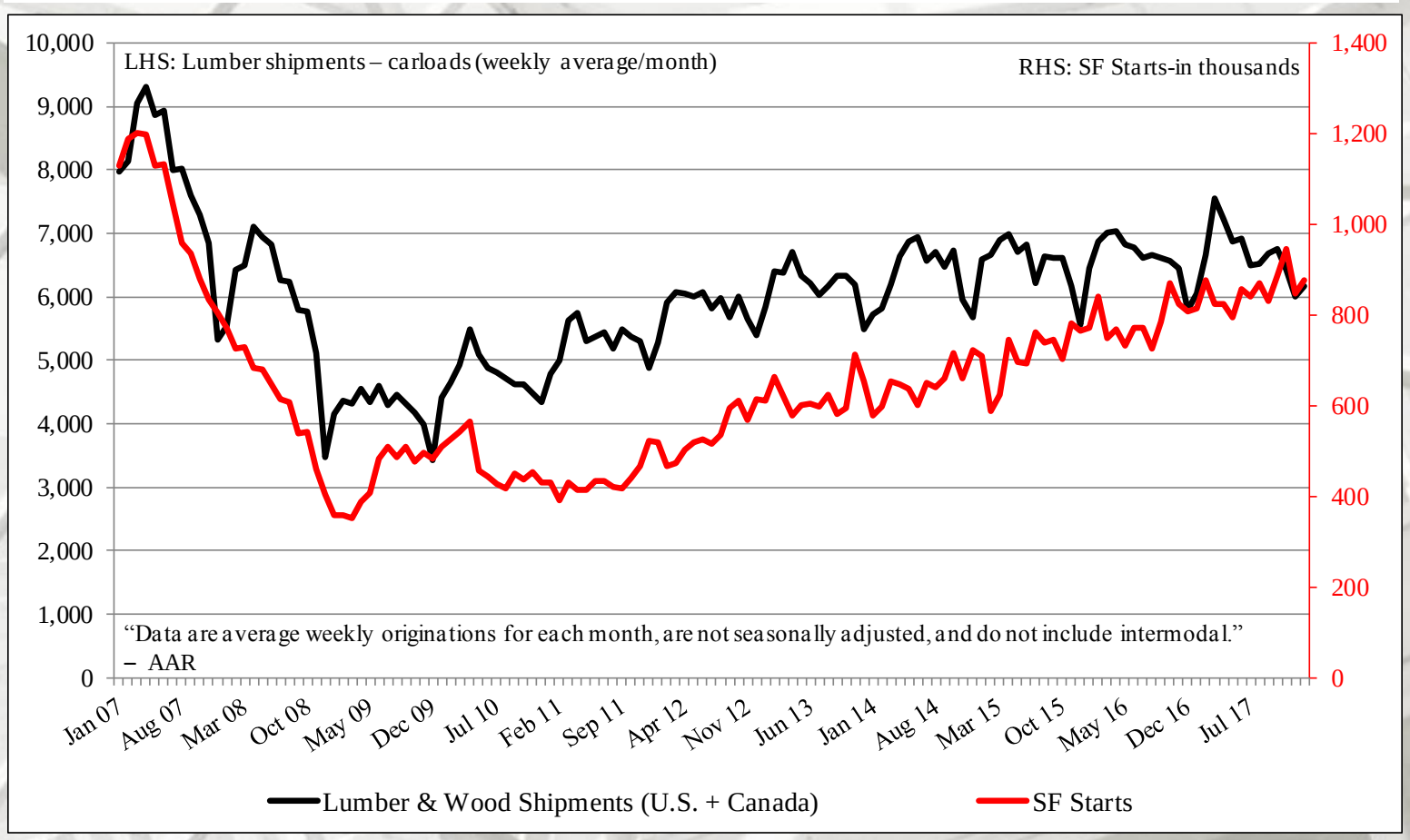
New SF sales adjusted for the US population

From January 1963 to November 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in January 2018 it was 0.0023 – a decrease from December (0.0025). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in January 2018 it was 0.0040 – also a decrease from December (0.0044). All are non-adjusted data. From a population viewpoint, construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrs/xls/newressales.xls, 2/65/18 and The Federal Reserve Bank of St. Louis; 2/2/18

Return TOC

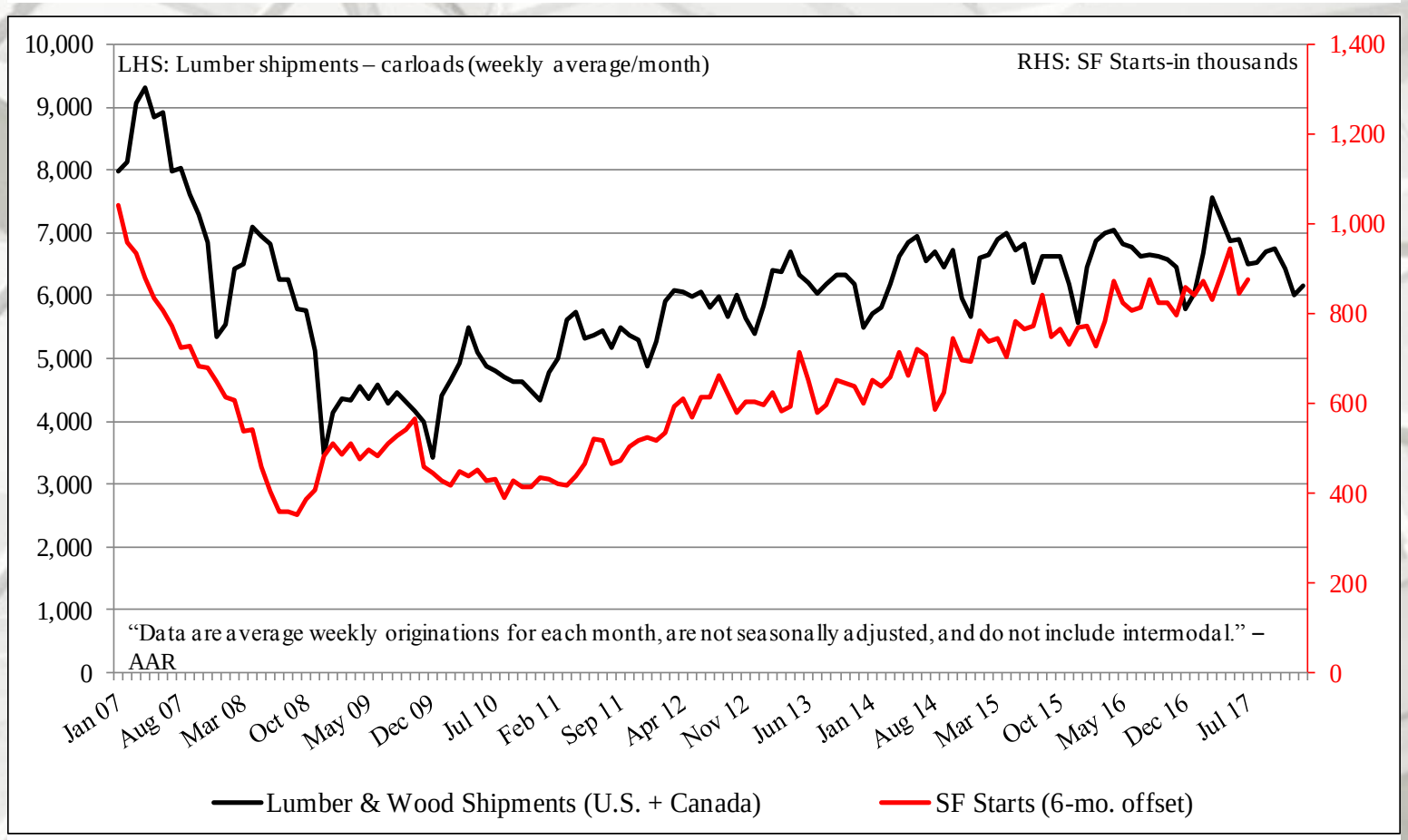
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Sales



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/26/18

Return to TOC

Railroad Lumber & Wood Shipments vs. U.S. SF Housing Sales: 1-year Offset



In this graph, January 2007 lumber shipments are contrasted with July 2007 SF starts, and continuing through January 2018 SF starts. The purpose is to discover if lumber shipments relate to future single-family starts. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/26/18

Return to TOC

New SF House Sales by Region and Price Category

	NE SF Sales	MW SF Sales	S SF Sales	W SF Sales
January	24,000	75,000	301,000	193,000
December	36,000	65,000	351,000	191,000
2017	43,000	73,000	338,000	145,000
M/M change	-33.3%	15.4%	-14.2%	1.0%
Y/Y change	-44.2%	2.7%	-10.9%	33.1%

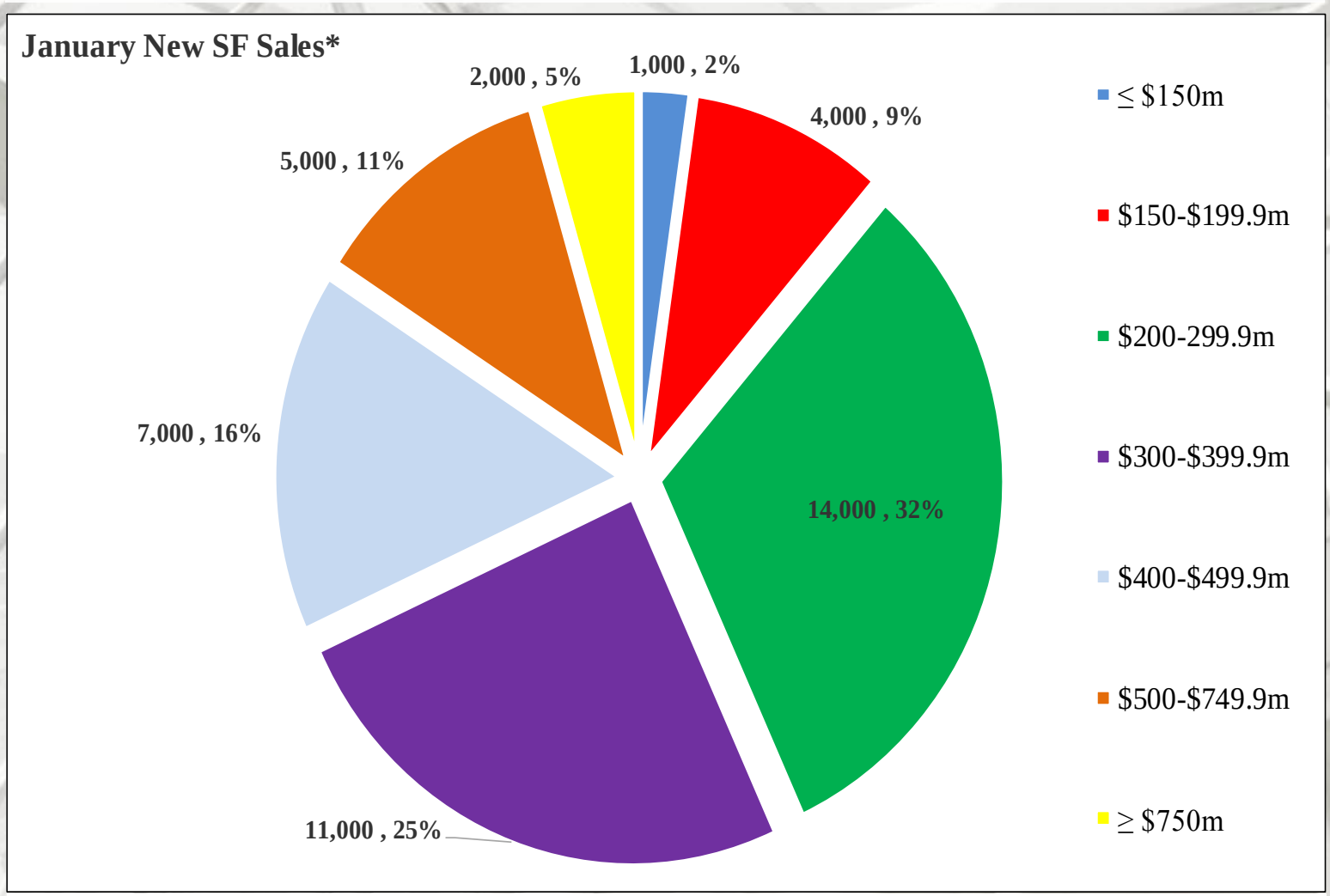
	≤ $150m	$150 - $199.9m	$200 - 299.9m	$300 - $399.9m	$400 - $499.9m	$500 - $749.9m	≥ $750m
January[1,2,3,4]	1,000	4,000	14,000	11,000	7,000	5,000	2,000
December	1,000	5,000	12,000	11,000	5,000	7,000	3,000
2017	2,000	4,000	14,000	12,000	5,000	6,000	2,000
M/M change	0.0%	-20.0%	16.7%	0.0%	40.0%	-28.6%	-33.3%
Y/Y change	-50.0%	0.0%	0.0%	-8.3%	40.0%	-16.7%	0.0%

[1] All data are SAAR
[2] Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;
[3] Detail may not add to total because of rounding.
[4] Housing prices are adjusted at irregular intervals.

Sources: [1,2,3] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18; [4] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

Return TOC

New SF House Sales

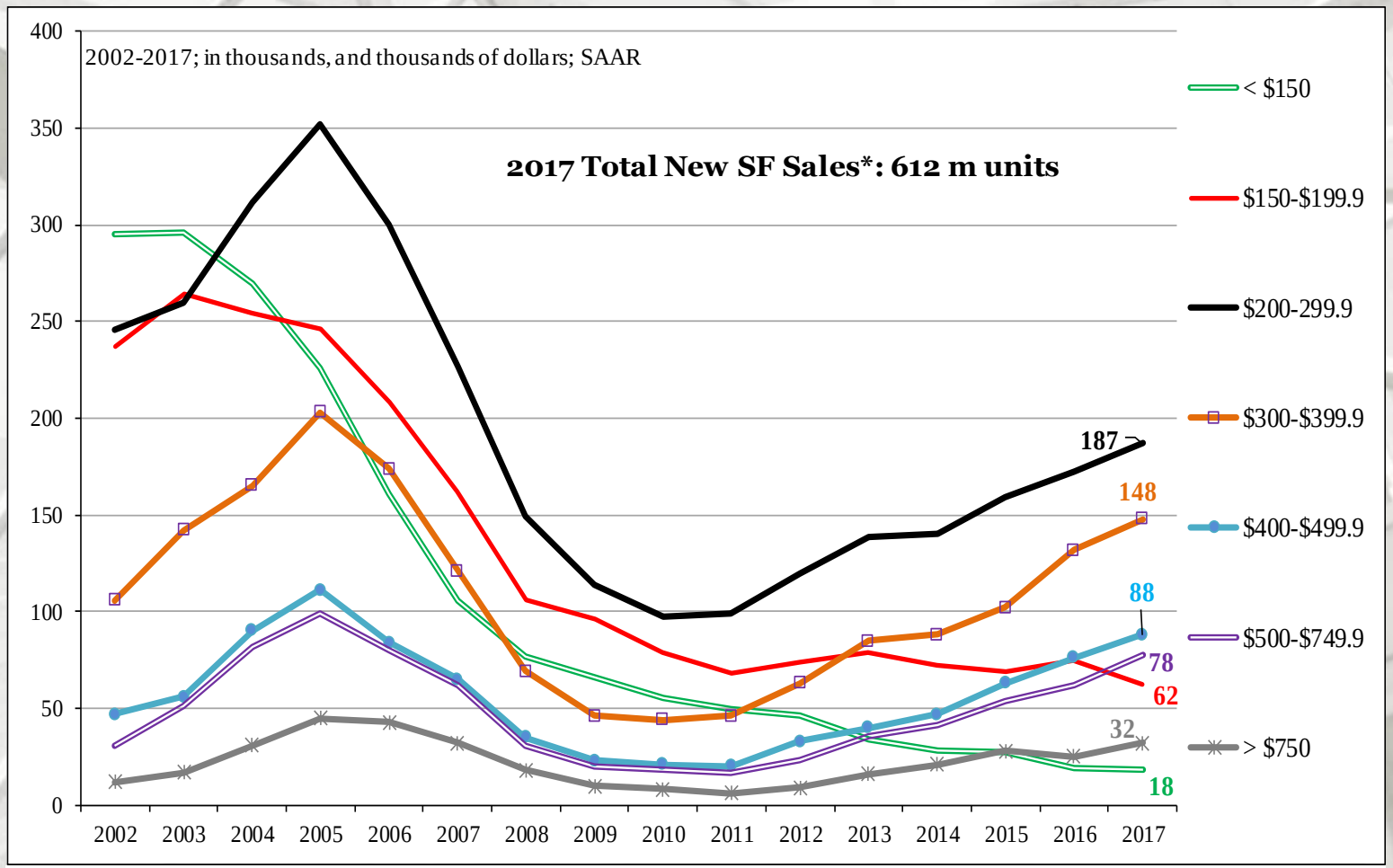


* Total and percent of new sales by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales by Price Category



* Sales tallied by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales

New SF Houses Sold During Period				
	Total	Not started	Under Construction	Completed
December	625,000	202,000	206,000	217,000
November	689,000	212,000	245,000	232,000
2016	548,000	166,000	200,000	182,000
M/M change	-9.3%	-4.7%	-15.9%	-6.5%
Y/Y change	14.1%	21.7%	3.0%	19.2%
Total percentage		32.3%	33.0%	34.7%

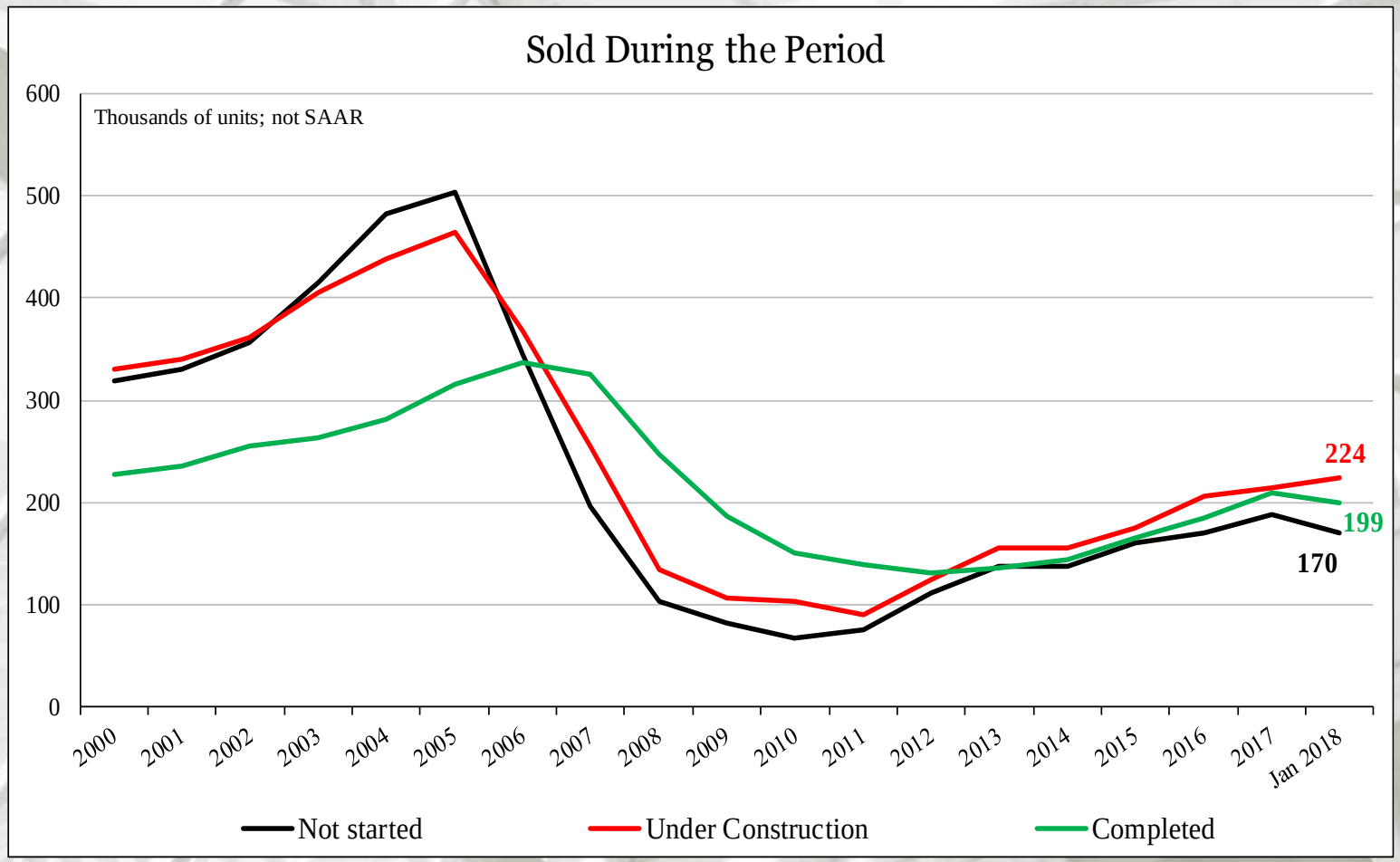
New SF Houses Sold During Period

In January 2018, a substantial portion of new sales – 32.3% – had not been started.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

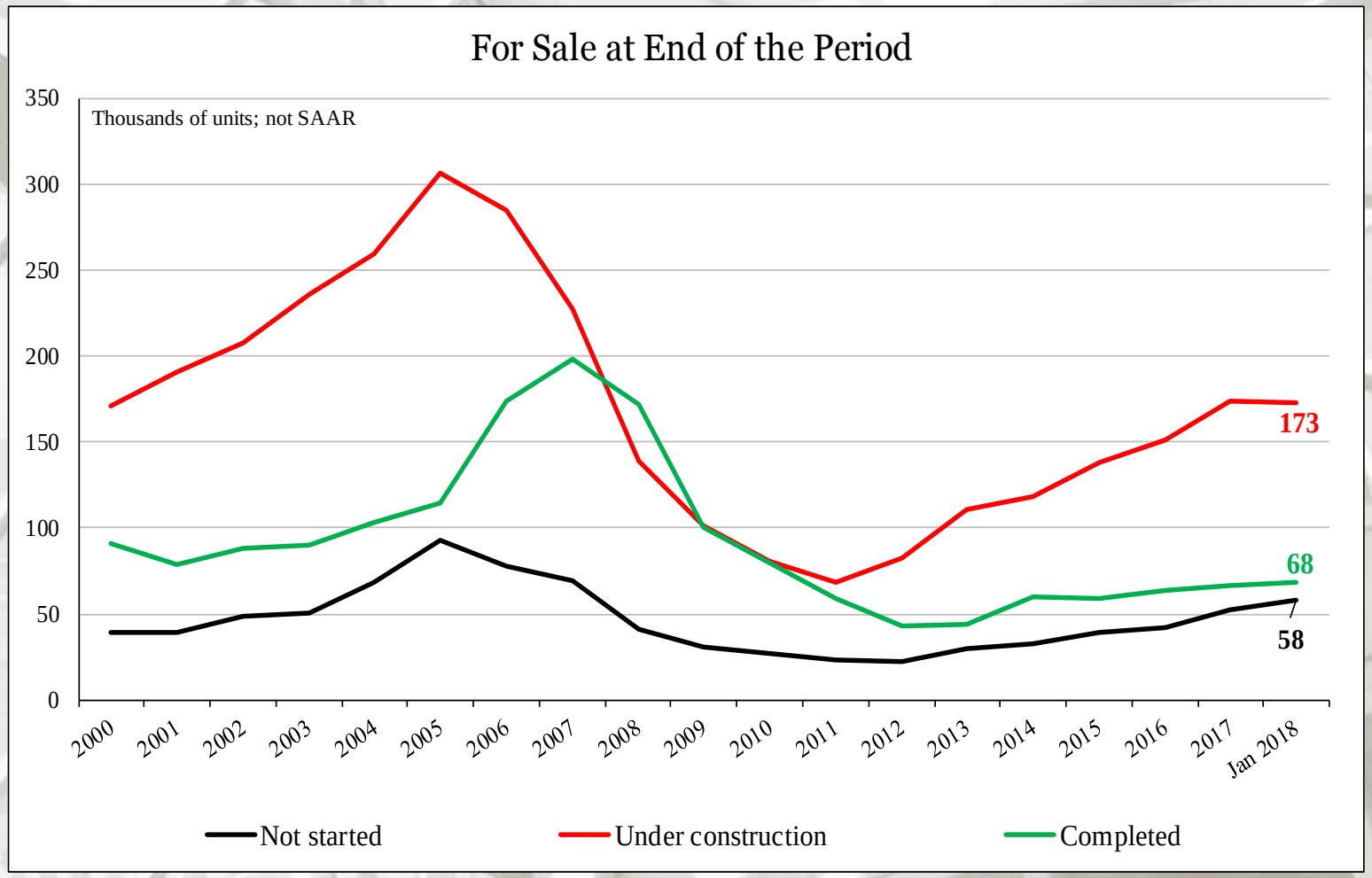
New SF House Sales

New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
January	299,000	58,000	173,000	68,000
December	294,000	54,000	177,000	63,000
2017	261,000	46,000	155,000	60,000
M/M change	1.7%	7.4%	-2.3%	7.9%
Y/Y change	14.6%	26.1%	11.6%	13.3%
Total percentage		19.4%	57.9%	22.7%

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales

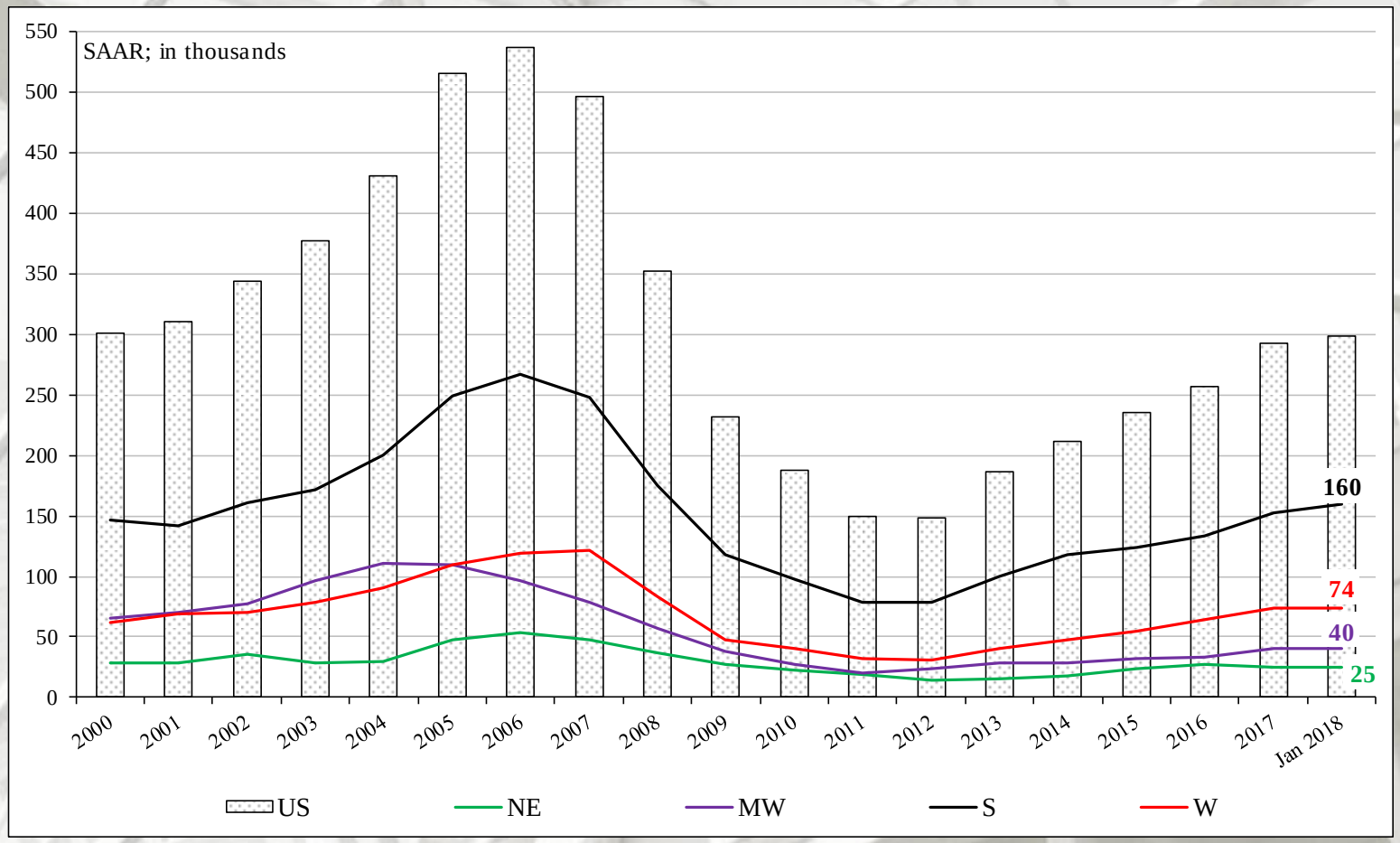
New SF Houses for Sale at the end of the Period by Region*					
	Total	NE	MW	S	W
January	299,000	25,000	40,000	160,000	74,000
December	293,000	25,000	41,000	153,000	74,000
2017	259,000	27,000	33,000	135,000	64,000
M/M change	2.0%	0.0%	-2.4%	4.6%	0.0%
Y/Y change	15.4%	-7.4%	21.2%	18.5%	15.6%

* Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

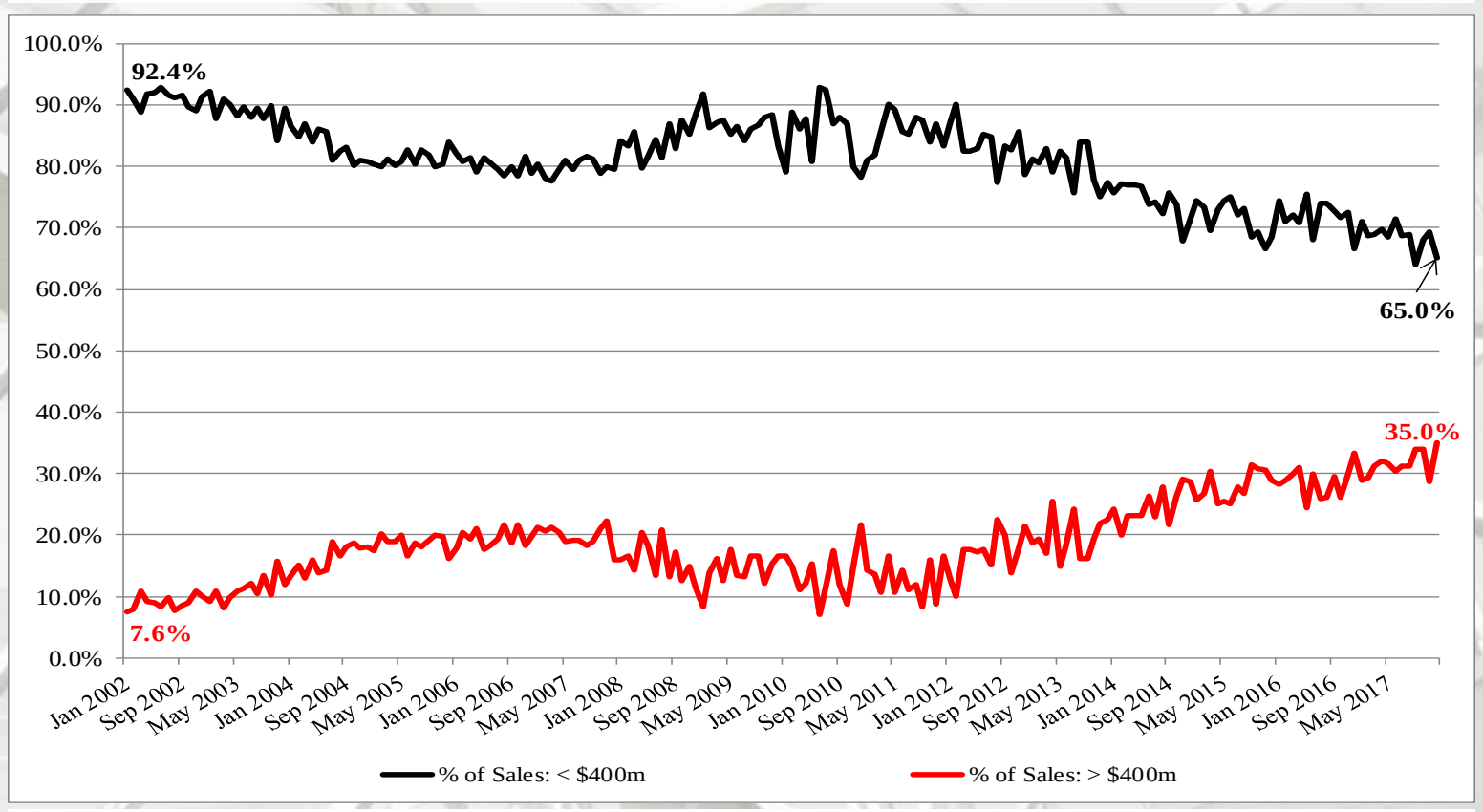
New SF Houses Sale at End of Period by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

New SF House Sales



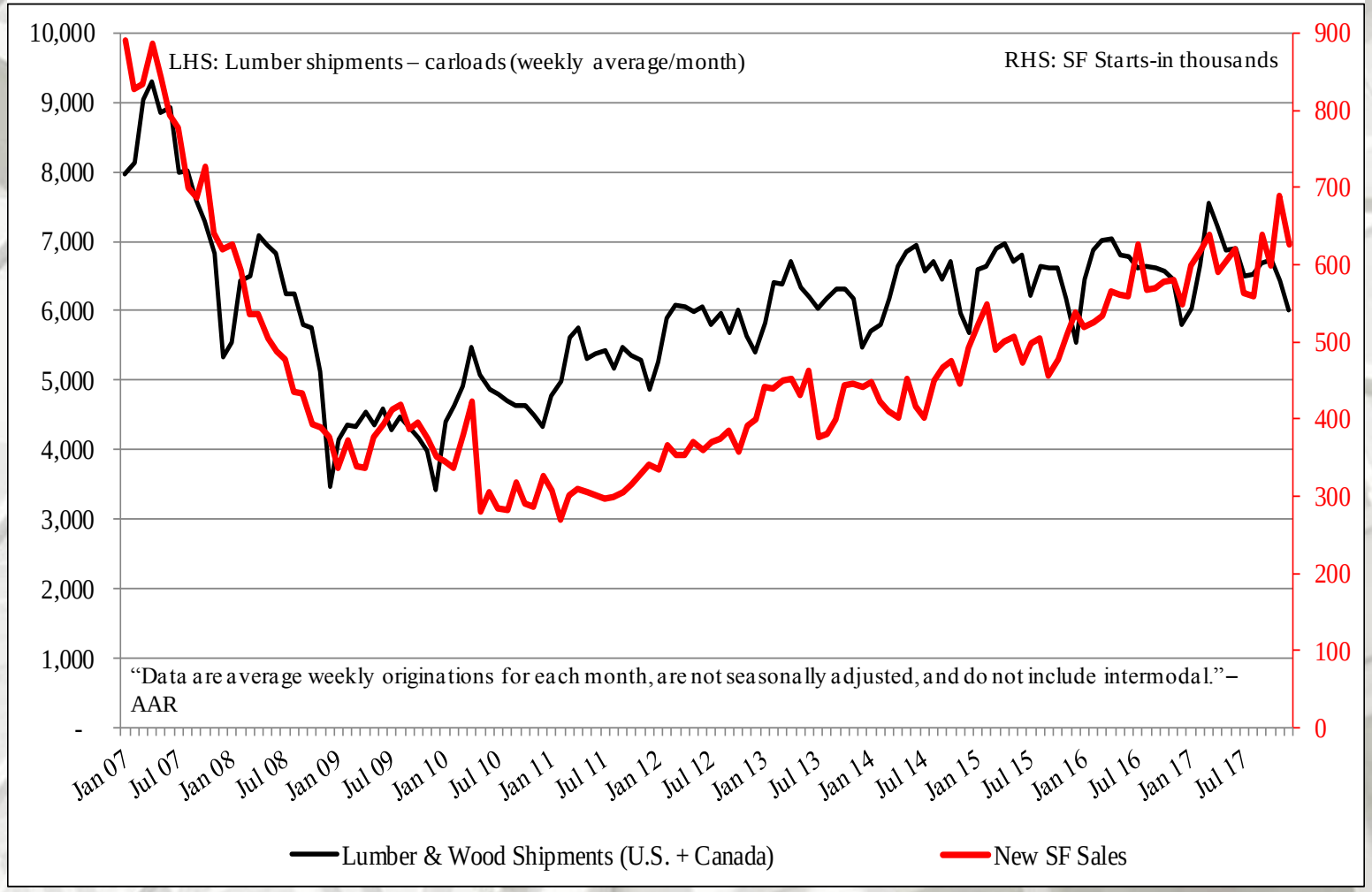
New SF Sales: 2002 – January 2018

The sales share of $400 thousand plus SF houses is presented above[1, 2]. Since the beginning of 2012, the upper priced houses have and are garnering a greater percentage of sales. A decreasing spread indicates that more high-end luxury homes are being sold. Several reasons are offered by industry analysts; 1) builders can realize a profit on higher priced houses; 2) historically low interest rates have indirectly resulted in increasing house prices; and 3) purchasers of upper end houses fared better financially coming out of the Great Recession.

Source: [1] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 2'26/18

Return TOC

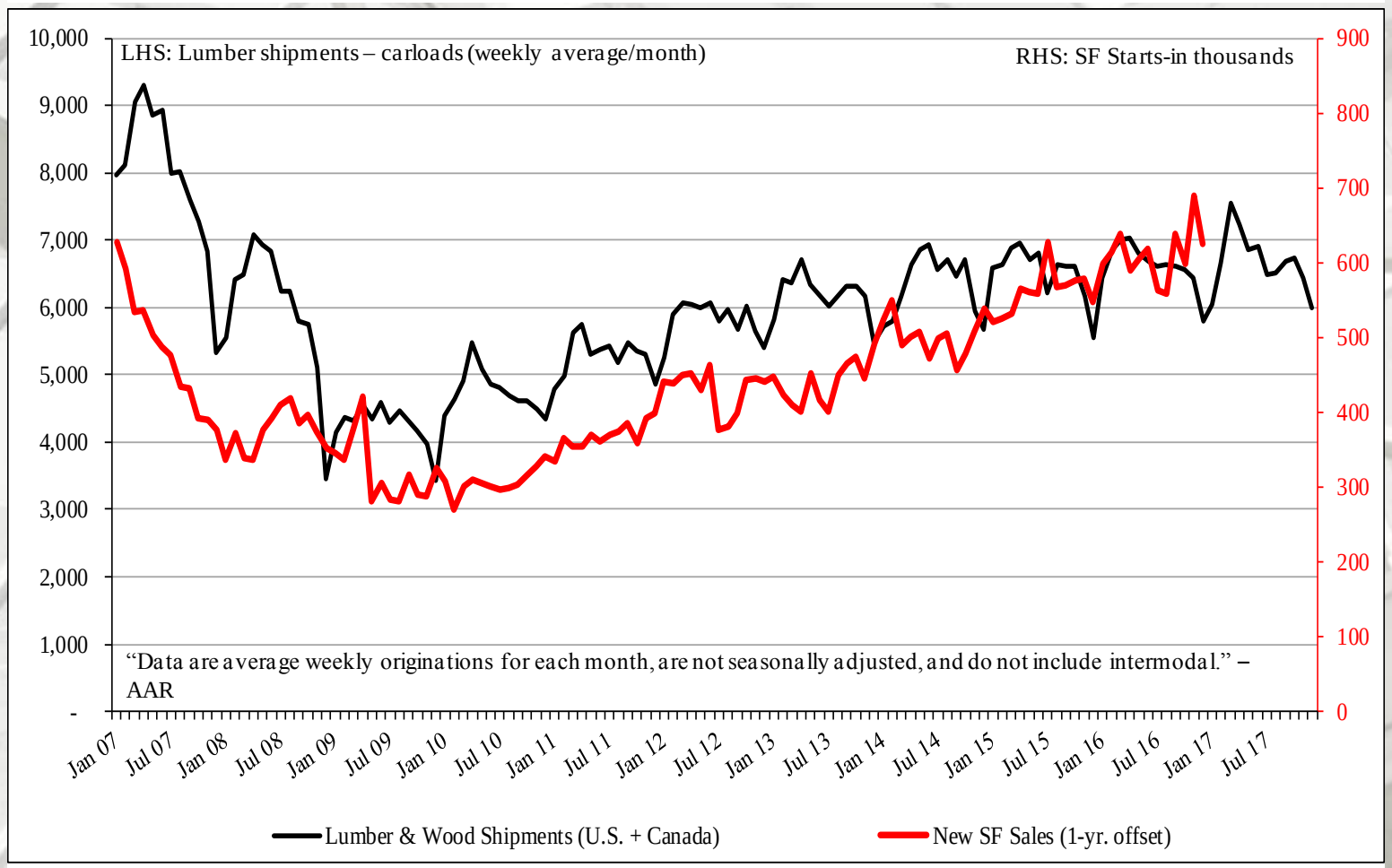
Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/26/18

Return to TOC

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 new SF sales through January 2018 new SF sales. The purpose is to discover if lumber shipments relate to future new SF house sales. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/8/18; U.S. DOC-Construction; 2/26/18

Return TOC

January 2018 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
January	$523,165	$277,710	$61,139	$184,316
December	$521,759	$275,920	$61,956	$183,883
2017	$501,971	$255,216	$62,636	$184,119
M/M change	0.3%	0.6%	-1.3%	0.2%
Y/Y change	4.2%	8.8%	-2.4%	0.1%

* Millions

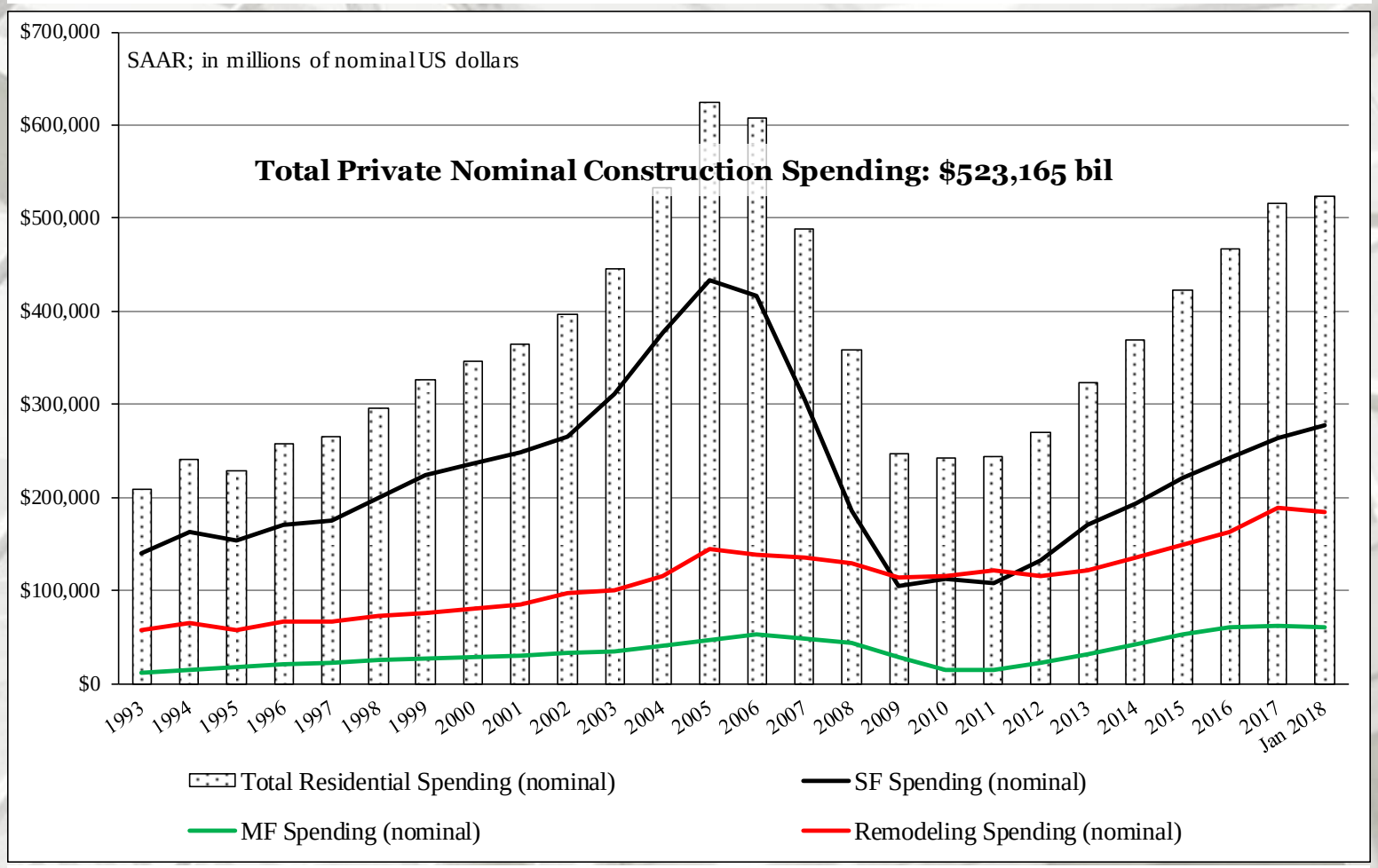
** The US DOC does not report improvement spending directly, this is a monthly estimation for 2017: ((Total Private Spending – (SF spending + MF spending)).

All data are SAARs and reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/18

Return TOC

Total Construction Spending (nominal): 1993 – January 2018

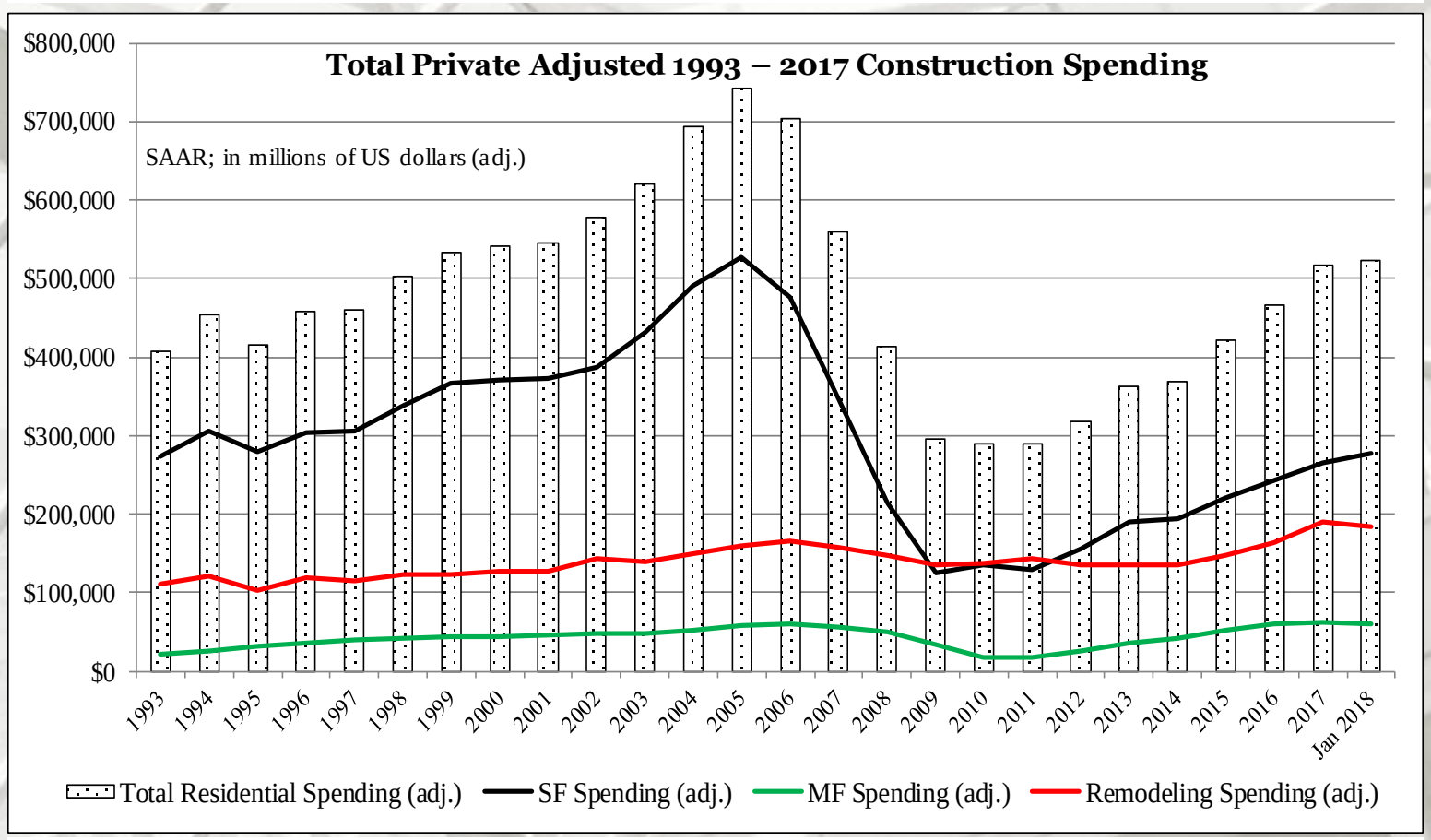


Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2017.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/18

Return TOC

Total Construction Spending (adjusted): 1993-2018*

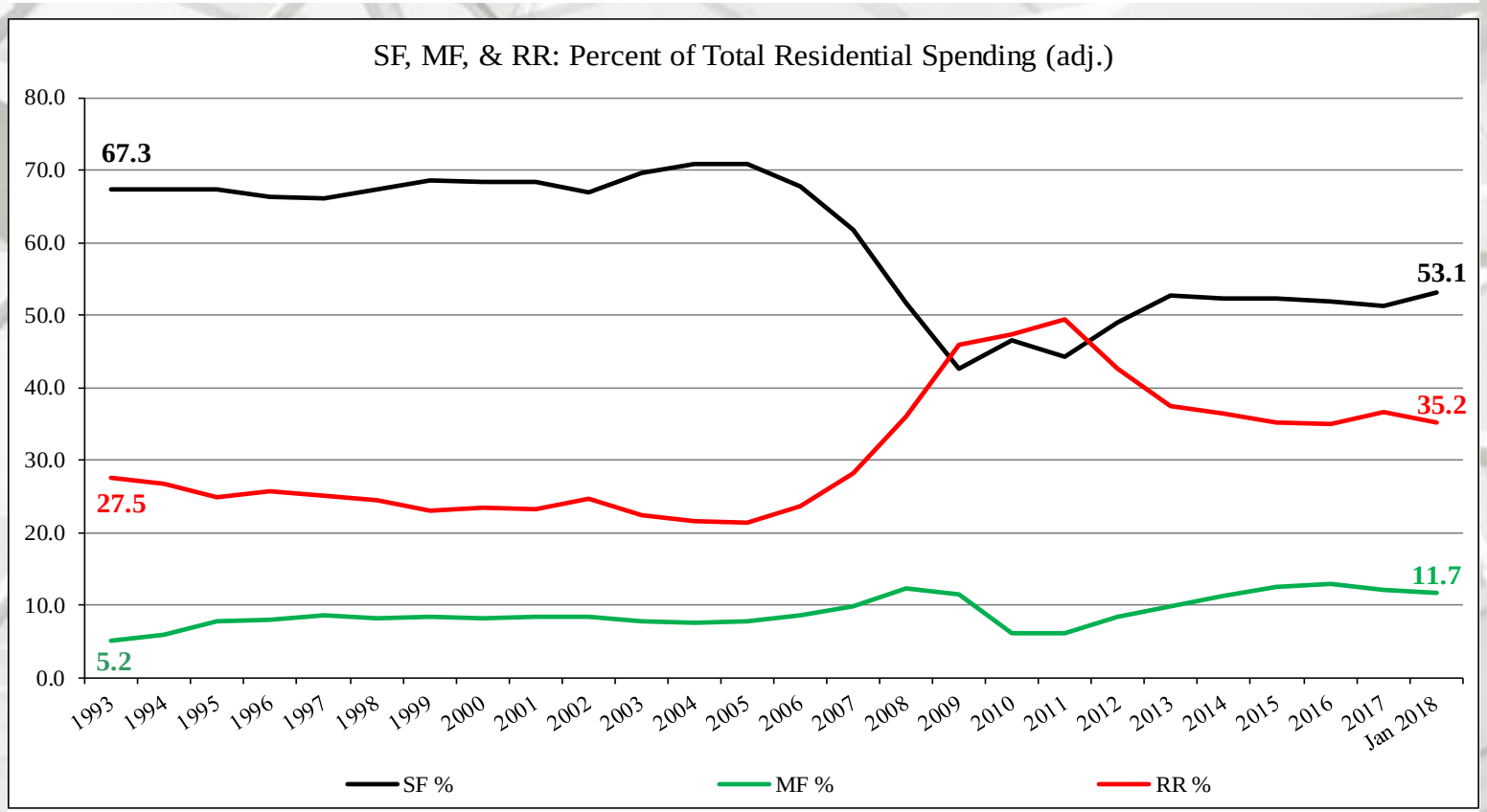


Reported in adjusted US$: 1993 – 2017 (adjusted for inflation, BEA Table 1.1.9); *July 2017 to January 2018 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/18

Return TOC

Construction Spending Shares: 1993 to January 2018



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

MF spending average: 7.5%

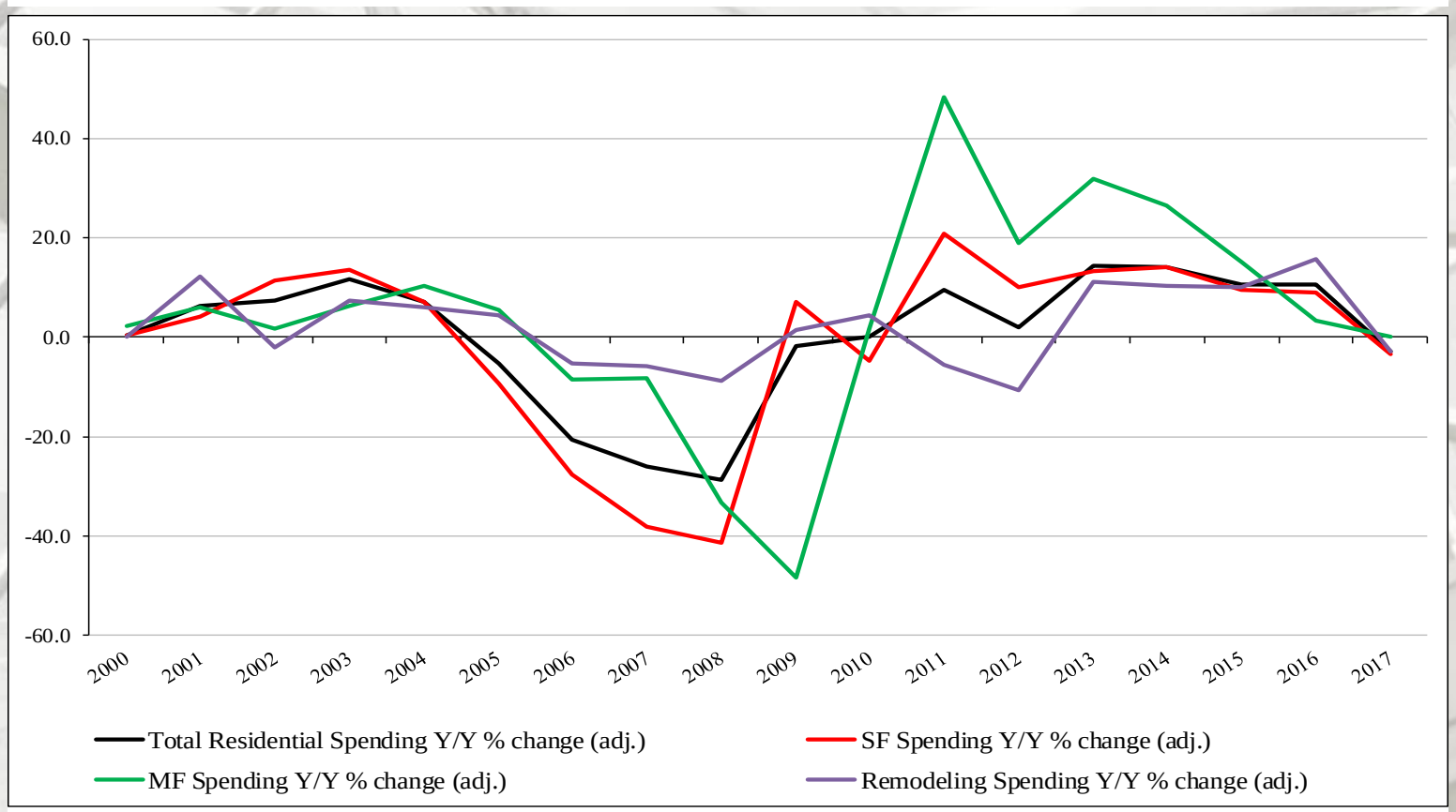
Residential remodeling (RR) spending average: 23.3% (SAAR).

Note: 1993 to 2016 (adjusted for inflation, BEA Table 1.1.9); January-January 2017 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 3/1/18

Return TOC

Adjusted Construction Spending: Y/Y Percentage Change, 1993 to January 2018



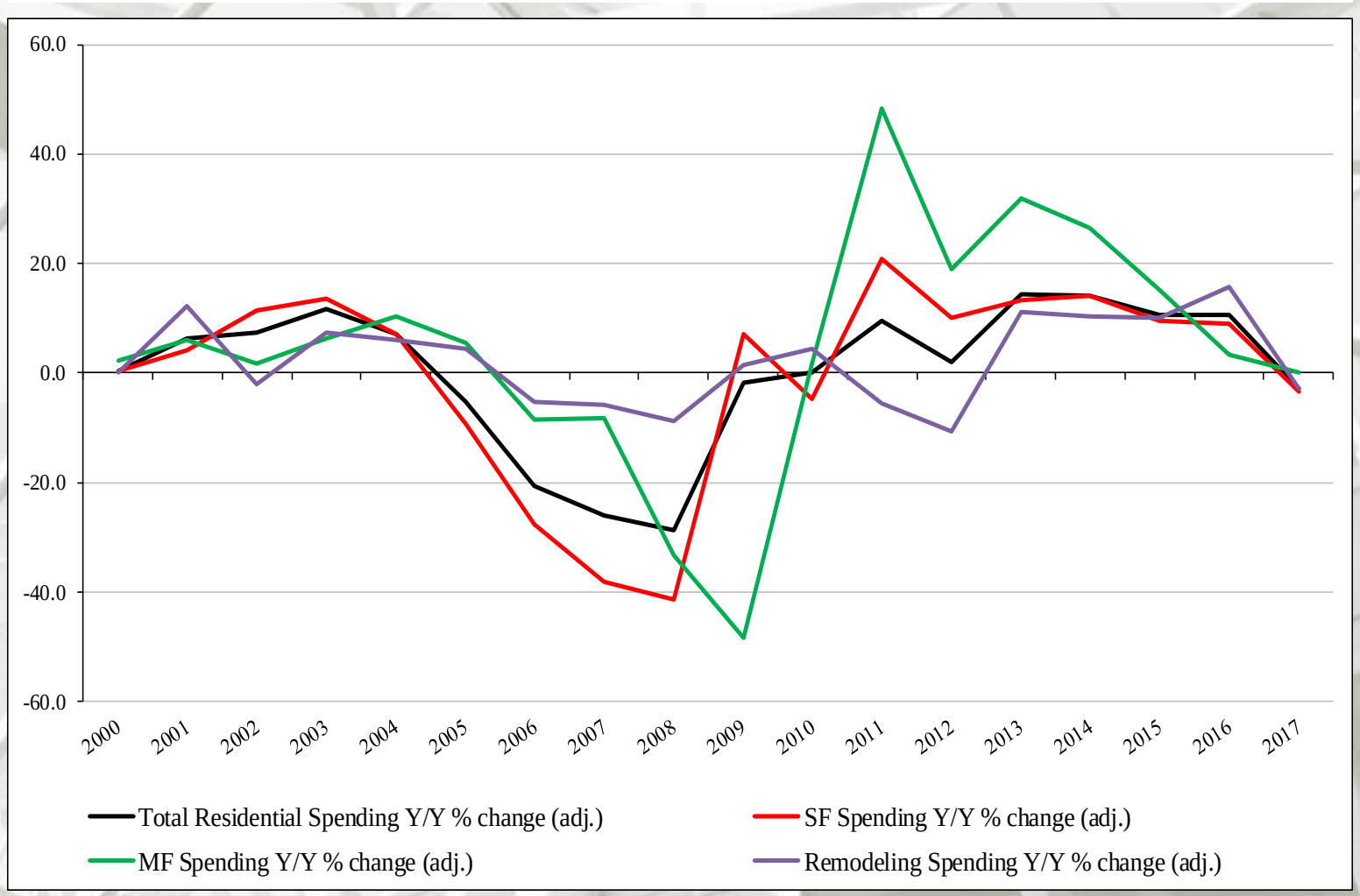
Residential Construction Spending: Percentage Change, 1993 to January 2018

Presented above is the percentage change of inflation adjusted Y/Y construction spending (1993-2016). Since mid-2015 MF spending has been declining and RR expenditures are in an apparent flat-line trend.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/18

Return TOC

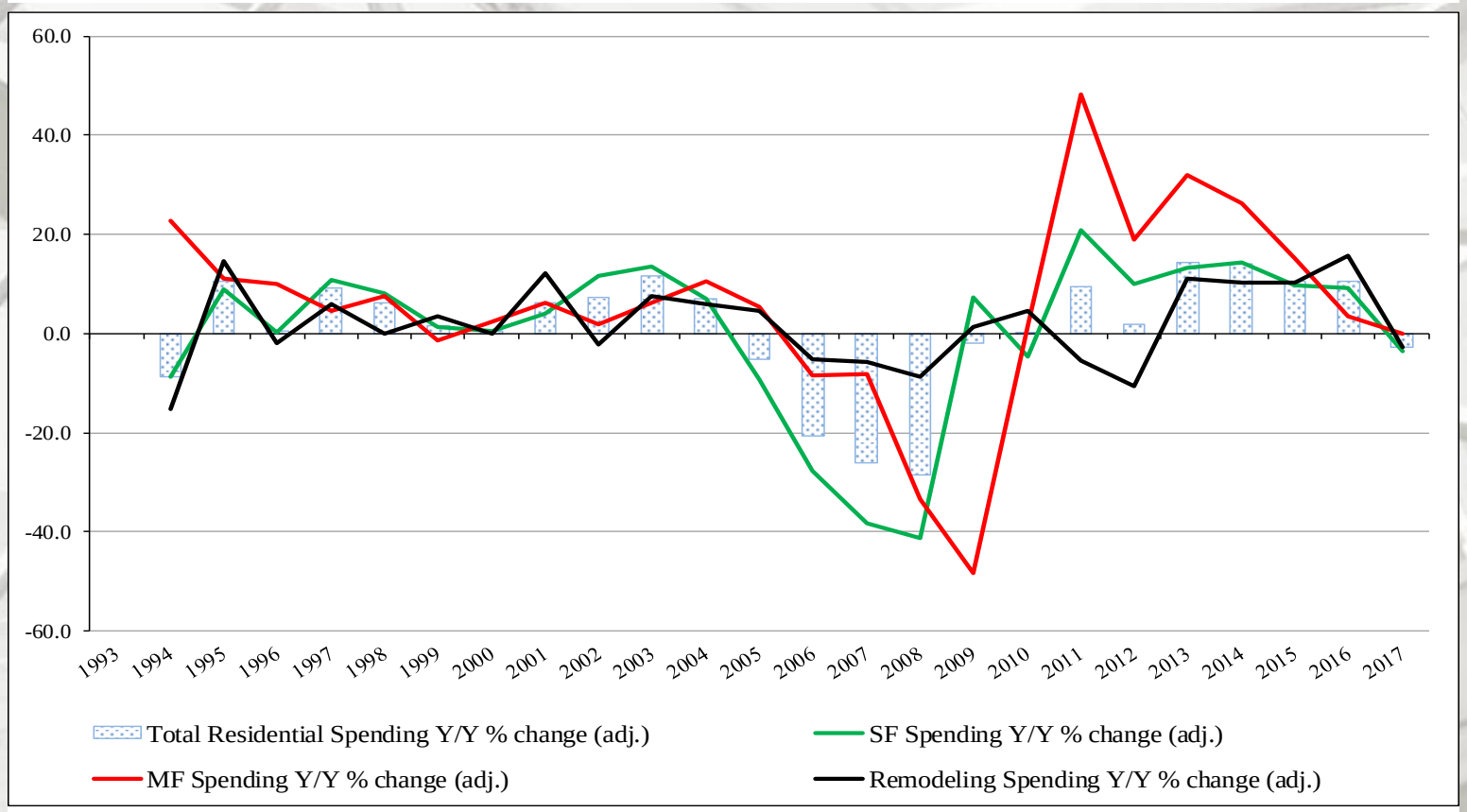
Adjusted Construction Spending: Y/Y Percentage Change, 2000 to January 2018



Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/18

Return TOC

Total Adjusted Construction Spending: Y/Y Percentage Change, 1993 to January 2018



Residential Construction Spending: Percentage Change, 1993 to January 2018

The questions remain: Is construction spending normalizing? Has housing stalled? Or, are there alternative explanations? The percentage change in construction spending has been minimally positive since the beginning of 2017.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 3/1/18

Return TOC

Remodeling

Residential Remodeling Index Closes 2017 at All-Time High

The RRI has now experienced twenty-three consecutive quarters of year-over-year gains since the bottom of remodeling activity in 2011.

"The Residential Remodeling Index closed out 2017 on a strong note, reaching a new all-time high of 111.3 in the fourth quarter. The latest reading marked a year-over-year increase of 4.9 percent and a steady 1.2 percent gain from the previous quarter. The RRI has now experienced twenty-three consecutive quarters of year-over-year gains since the bottom of remodeling activity in 2011.

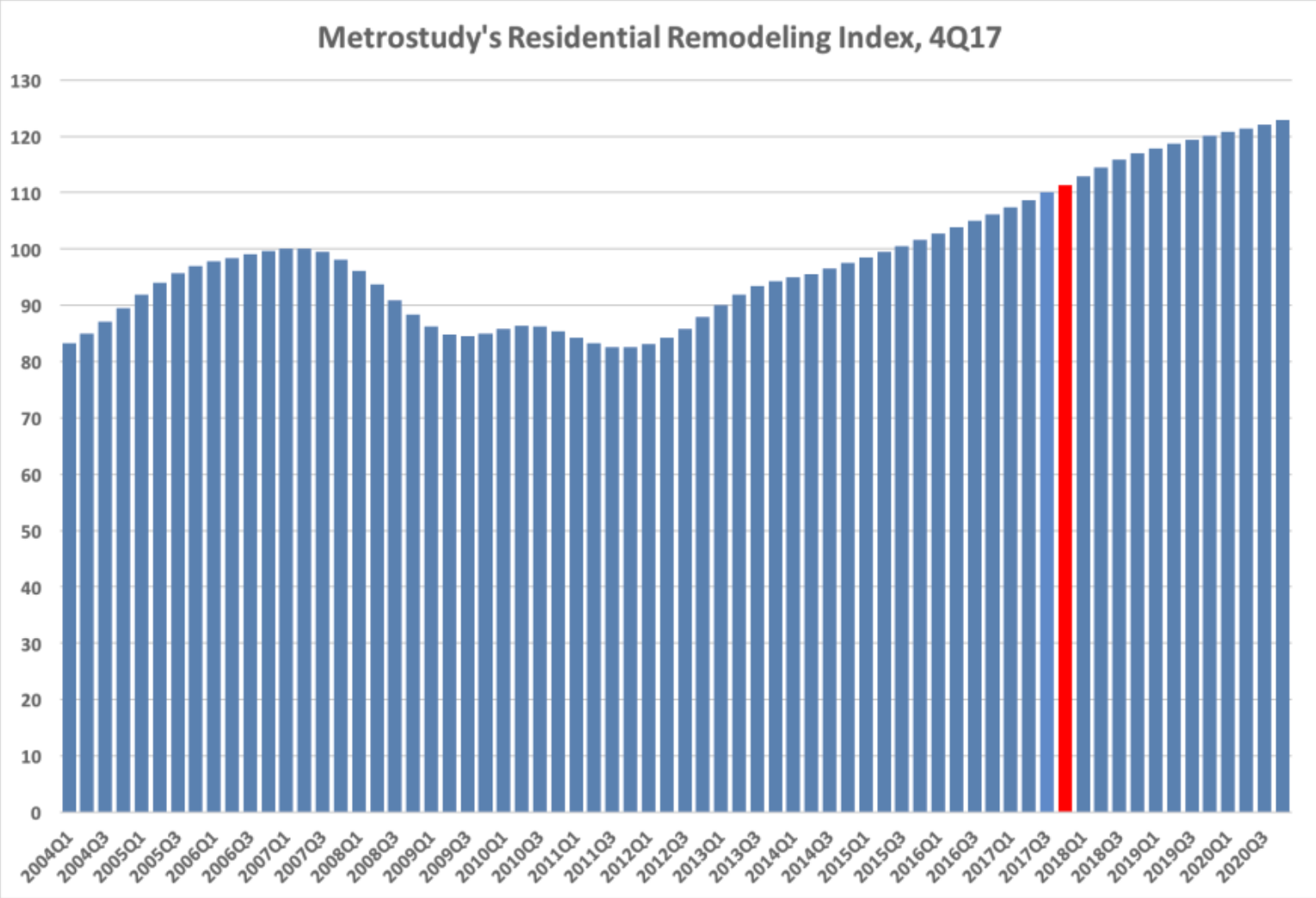
The forecast for 2018 has strengthened, reflecting the strong economy and increased demand in areas that were hit by 2017's natural disasters. The RRI is projected to average year-over-year gains of 5.2 percent throughout 2018, up from expectations of 4.7 percent in Metrostudy's previous release. Longer term, the RRI is forecast to continue reaching new highs through 2020.

Remodeling activity is robust, reflecting a U.S. economy with strong underlying growth. The most elusive indicator through the nine-year recovery has been wage growth, which finally made a strong showing during this past quarter. Several times in the past few years, wage growth appeared to be picking up, only to be downwardly revised in subsequent reports. However, there is greater optimism that 2018 pay gains will be more durable – job growth is steady and the unemployment rate has fallen to a 17-year low. A tight labor market translates to companies having to compete more intensely and pay higher wages for workers. At the same time that American workers receive more pay, the remodeling industry also stands to benefit greatly as mortgage rates rise from historical lows over the next few years. With the housing market tight and home prices high, higher rates will persuade more Americans to stay put and remodel the homes they currently have, rather than buy a new home." – Mark Boud, Chief Economist, Metrostudy

Source: http://www.builderonline.com/money/economics/residential-remodeling-index-closes-2017-at-all-time-high_o; 2/16/18

Return TOC

Remodeling



Source: http://www.metrostudy.com/metrostudy-brightens-remodeling-forecast-2018-beyond/; 2/20/18

Return TOC

Existing House Sales

National Association of Realtors (NAR®)

January 2018 sales: 5.380 million (SAAR)

	Existing Sales*	Median Price	Mean Price	Month's Supply
January	5,380,000	$240,500	$282,100	3.4
December	5,560,000	$246,500	$288,300	3.2
2017	5,650,000	$227,300	$269,500	3.6
M/M change	-3.2%	-2.4%	-2.2%	6.3%
Y/Y change	-4.8%	5.8%	4.7%	-5.6%

* All sales data: SAAR

Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-slip-32-percent-in-january; 2/21/18

Return TOC

Existing House Sales

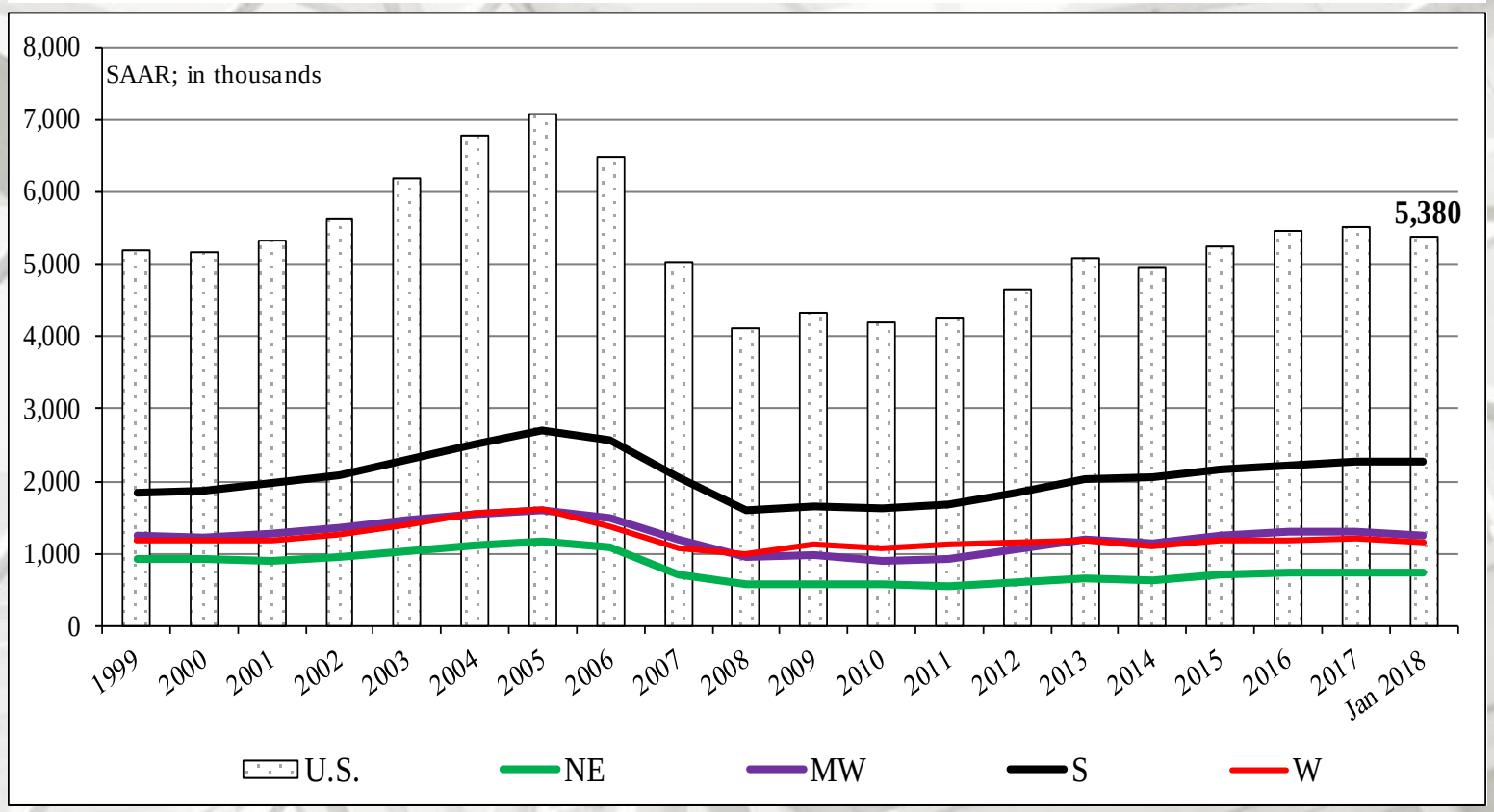
	NE Sales	MW Sales	S Sales	W Sales
January	730,000	1,250,000	2,260,000	1,140,000
December	740,000	1,330,000	2,290,000	1,200,000
2017	790,000	1,300,000	2,300,000	1,260,000
M/M change	-1.4%	-6.0%	-1.3%	-5.0%
Y/Y change	-7.6%	-3.8%	-1.7%	-9.5%

	Distressed House Sales	Foreclosures	Short-Sales	All-Cash Sales	Individual Investor Purchases
January	5%	4%	1%	22%	17%
December	4%	3%	1%	20%	16%
2017	7%	5%	2%	23%	16%

Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-slip-32-percent-in-january; 2/21/18

Return TOC

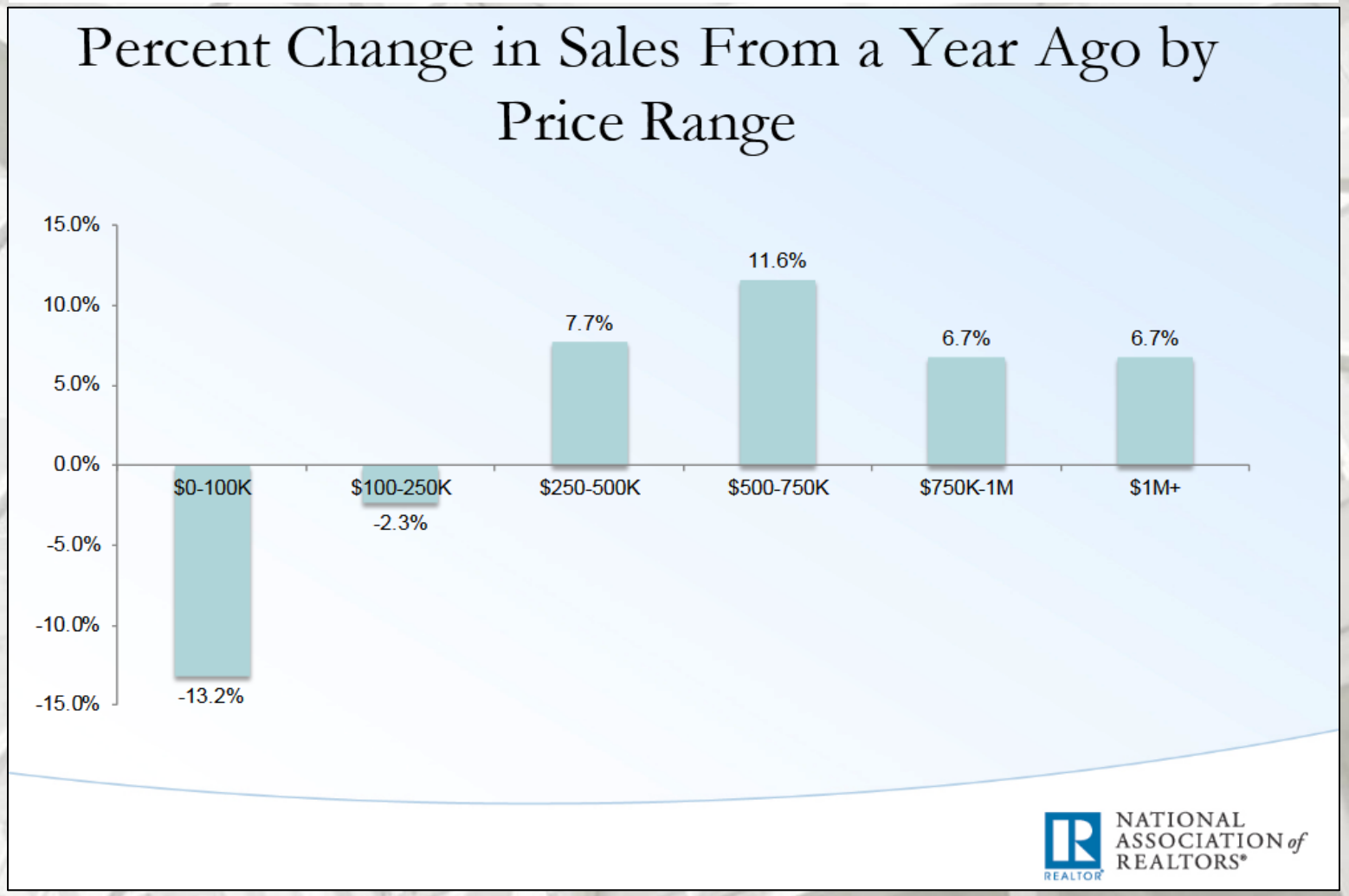
Total Existing House Sales



Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-slip-32-percent-in-january; 2/21/18

Return TOC

Change in Existing House Sales



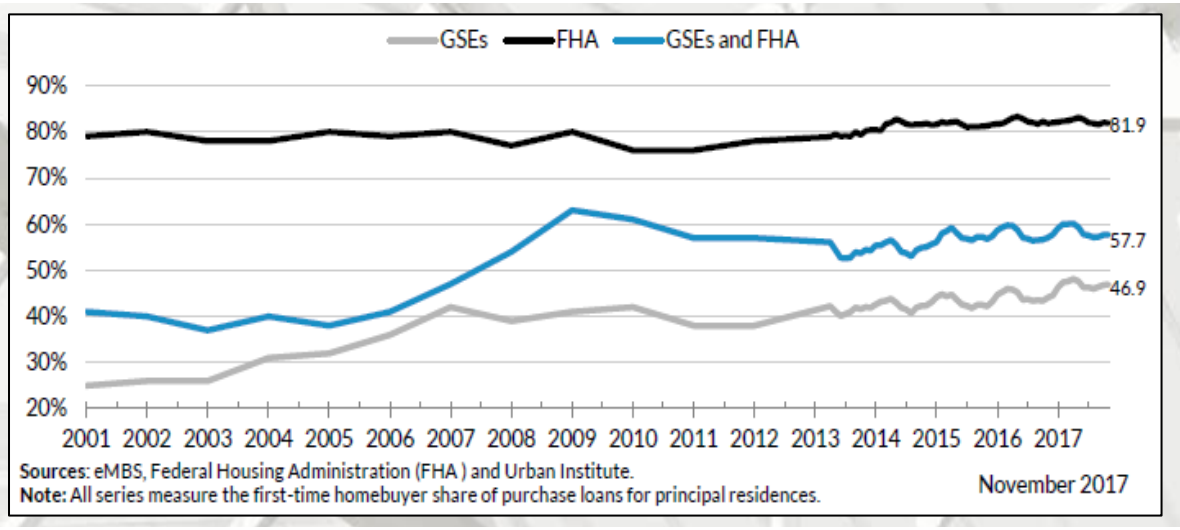
Source: NAR® https://www.nar.realtor/sites/default/files/documents/ehs-01-2018-summary-2018-02-21.pdf; 2/21/18

Return TOC

First-Time Purchasers

National Association of Realtors (NAR®)

29% of sales in January 2018; 32% in December 2017, and 33% in January 2017[1]



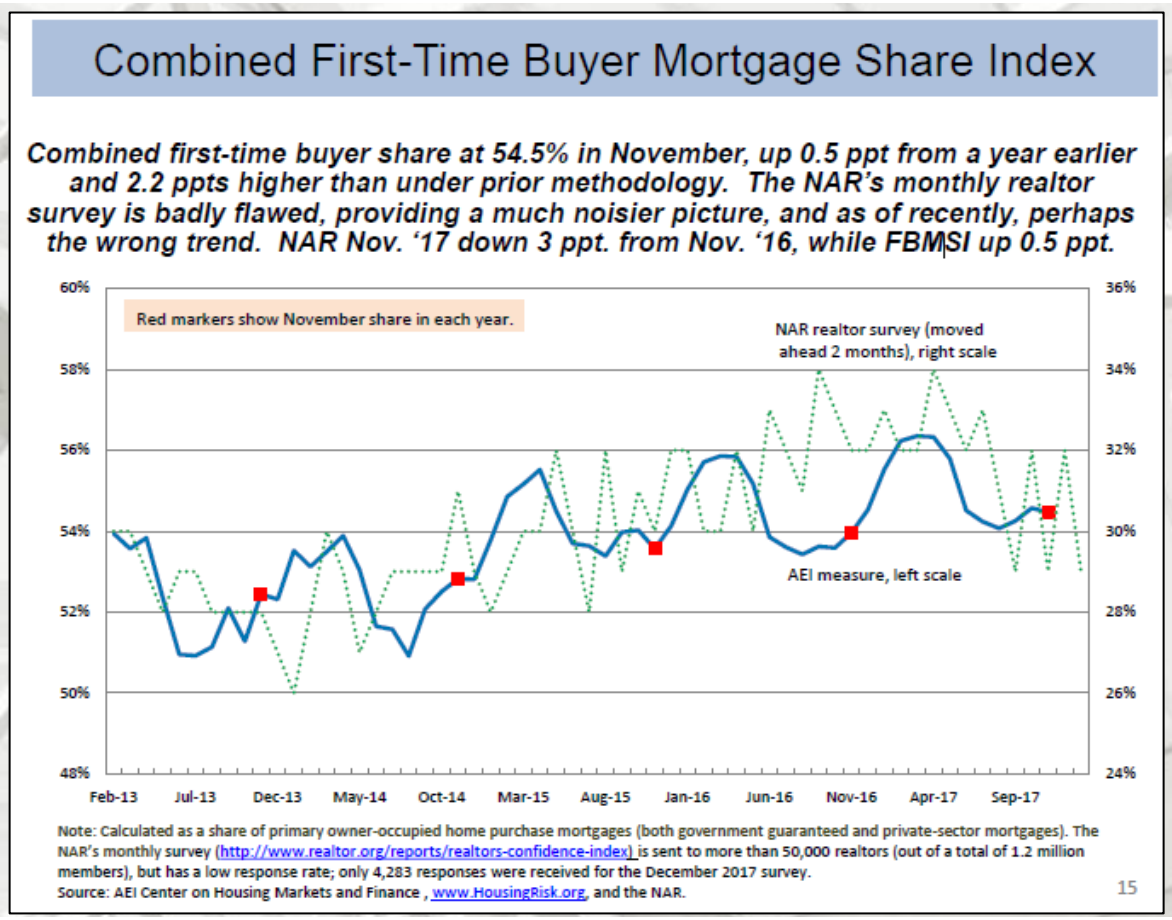
Urban Institute

"In November 2017, the first-time homebuyer share of GSE purchase loans was 46.9 percent, just off the highest level in recent history of 48.1 percent, achieved in April 2017. The FHA has always been more focused on first-time homebuyers, with its first-time figure above shows that based on mortgages originated in November 2017, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan and have a lower credit score and higher LTV and DTI, thus requiring a higher interest rate"[2] – Laurie Goodman, *et al.*, Co-director, Housing Finance Policy Center

Sources: [1] https://www.nar.realtor/newsroom/existing-home-sales-slip-32-percent-in-january; 2/21/18;
[2] https://www.urban.org/sites/default/files/publication/96796/housing_finance_at_a_glance_a_monthly_chartbook_february_2018_0.pdf; 3/6/18

Return TOC

First-Time Purchasers



AEI International Center on Housing Risk

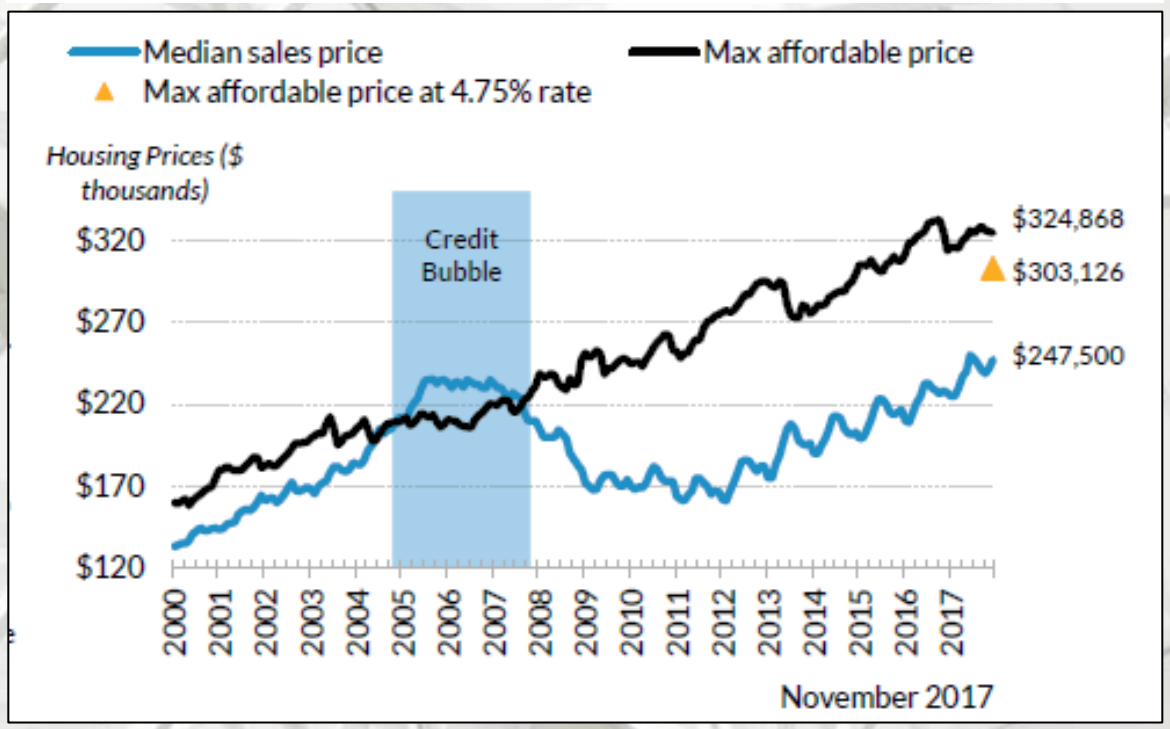
"The trend towards higher first-time buyer risk continued this month primarily driven by higher debt-to-income ratios. As long as this trend continues during a very tight market, expect even higher house prices, especially for entry-level homes, and even greater first-time buyer risk." – Tobias Peter, AEI International Center on Housing Risk

Source: http://www.housingrisk.org/first-time-buyer-index-release-of-november-2017-data/, 2/26/18

Return TOC

Housing Affordability

National Housing Affordability Over Time



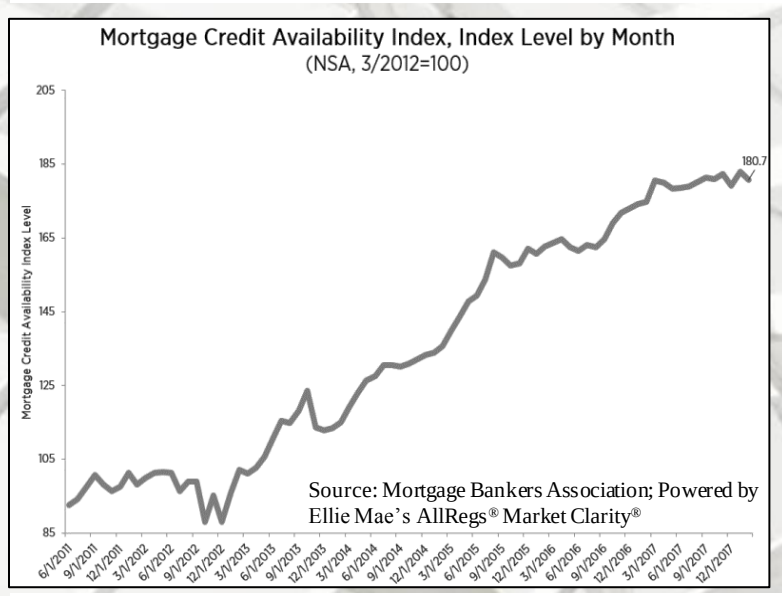
Urban Institute

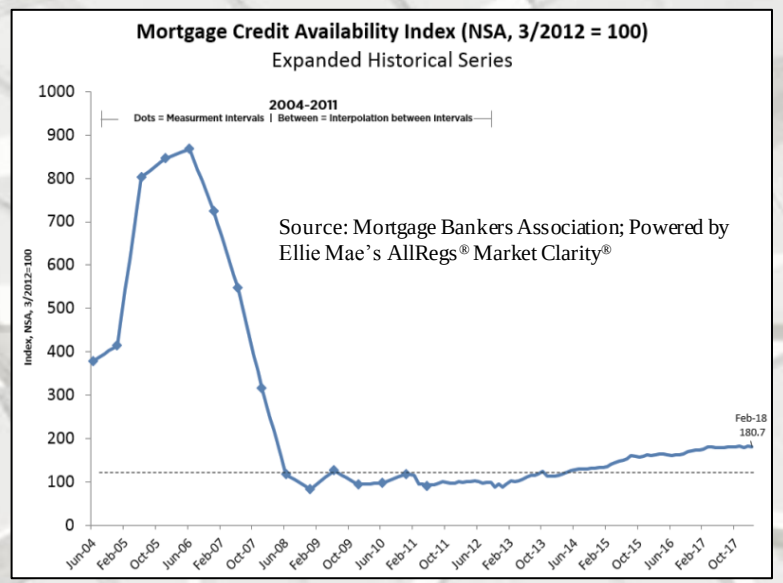
"Home prices remain affordable by historic standards, despite increases over the last five years and the recent interest rate hikes. Even if interest rates rise to 4.75 percent, affordability would still be at the long-term historical average." – Bing Lai, Research Associate, Housing Finance Policy Center

Source: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-january-2018/view/full_report; 1/23/18

Return TOC

Mortgage Credit Availability





Mortgage Credit Availability Decreases in February

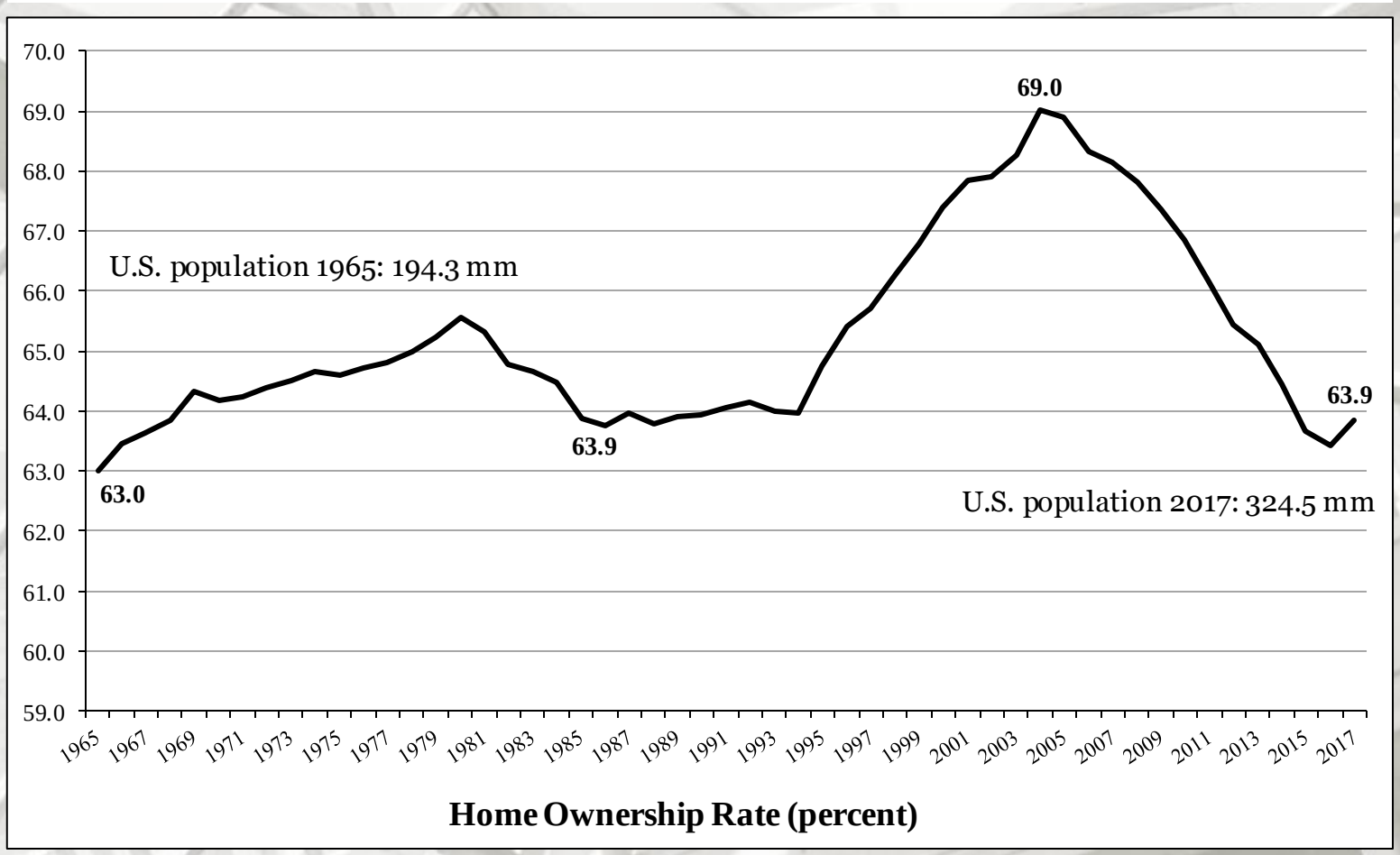
"Mortgage credit availability decreased in February according to the Mortgage Credit Availability Index (MCAI), … . The MCAI decreased 1.2 percent to 180.7 in February. A decline in the MCAI indicates that lending standards are tightening, while increases in the index are indicative of loosening credit. The index was benchmarked to 100 in March 2012. The Conventional MCAI fell by more (down 2.5 percent) than the Government MCAI (down 0.2 percent). The component indices of the Conventional MCAI both decreased from the month prior, with the Jumbo MCAI falling by more (down 2.8 percent) than the Conforming MCAI (down 2.1 percent).

Credit availability increased across the board in January, more than reversing December declines in almost all component indices. Jumbo credit programs rebounded most strongly and reached a new series high, driven by an increase in the number of programs with reduced documentation requirements. In government lending programs, credit availability remains somewhat lower than the rest of 2017." – Lynn Fisher, Vice President of Research and Economics, MBA

Source: https://www.mba.org/2018-press-releases/march/mortgage-credit-availability-decreases-in-february; 3/8/18

Return TOC

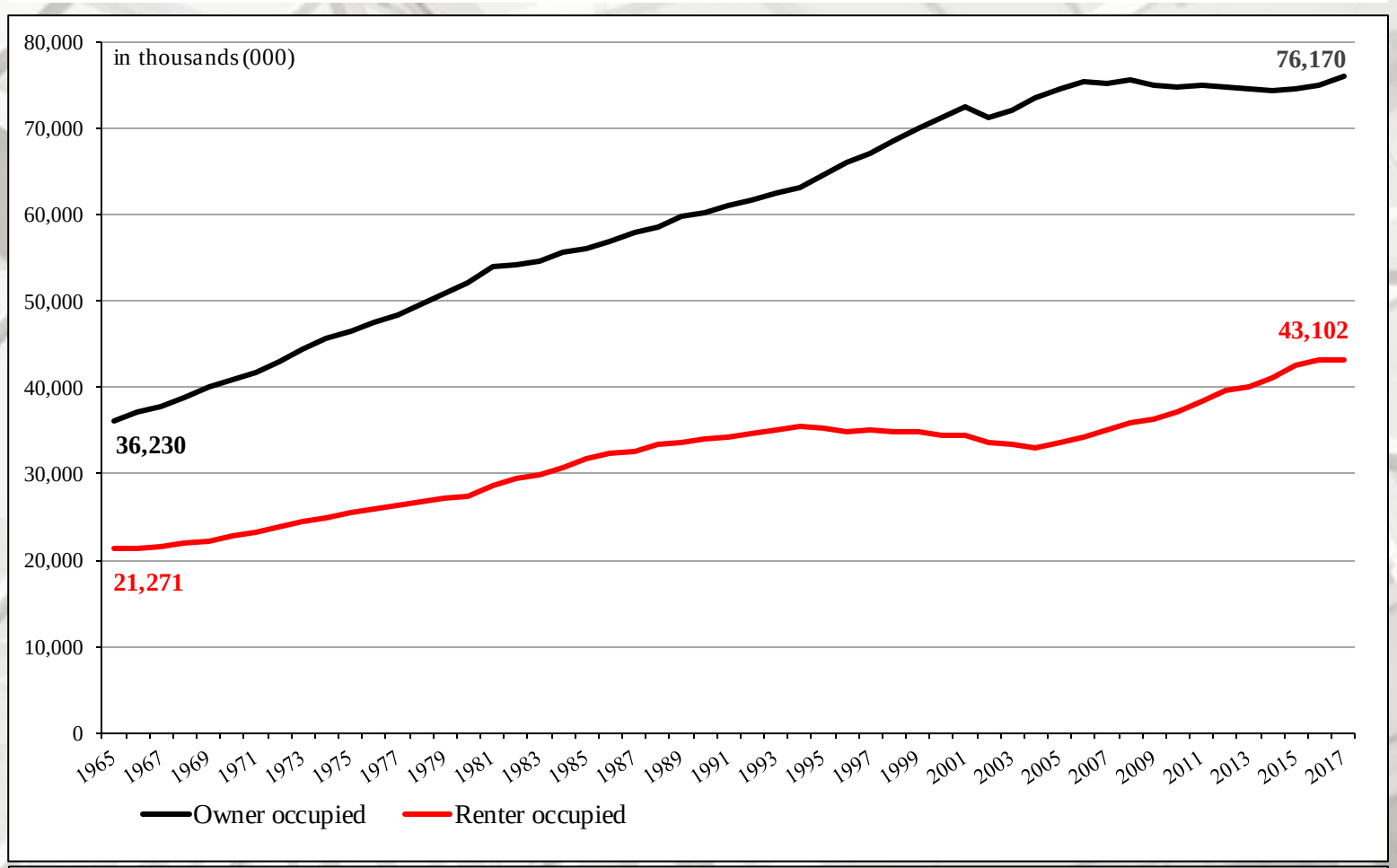
Home Ownership



Sources: https://www.census.gov/programs-surveys/popest.html and https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18

Return TOC

Home Ownership



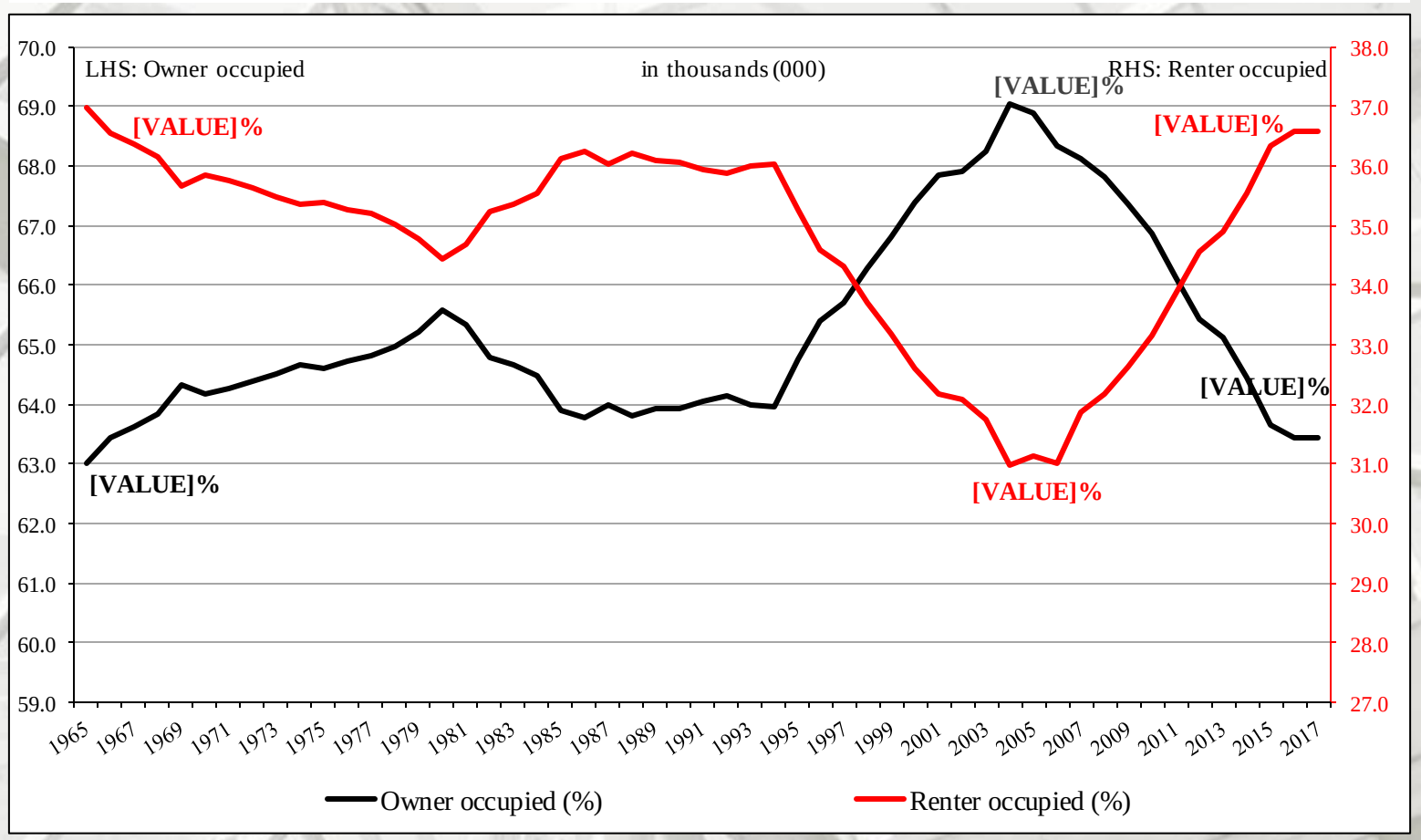
Owner- and Renter-Occupied Housing

1965: Occupied – 57,501 thousand; 2017: Occupied – 119,272 thousand

Source: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18

Return TOC

Home Ownership



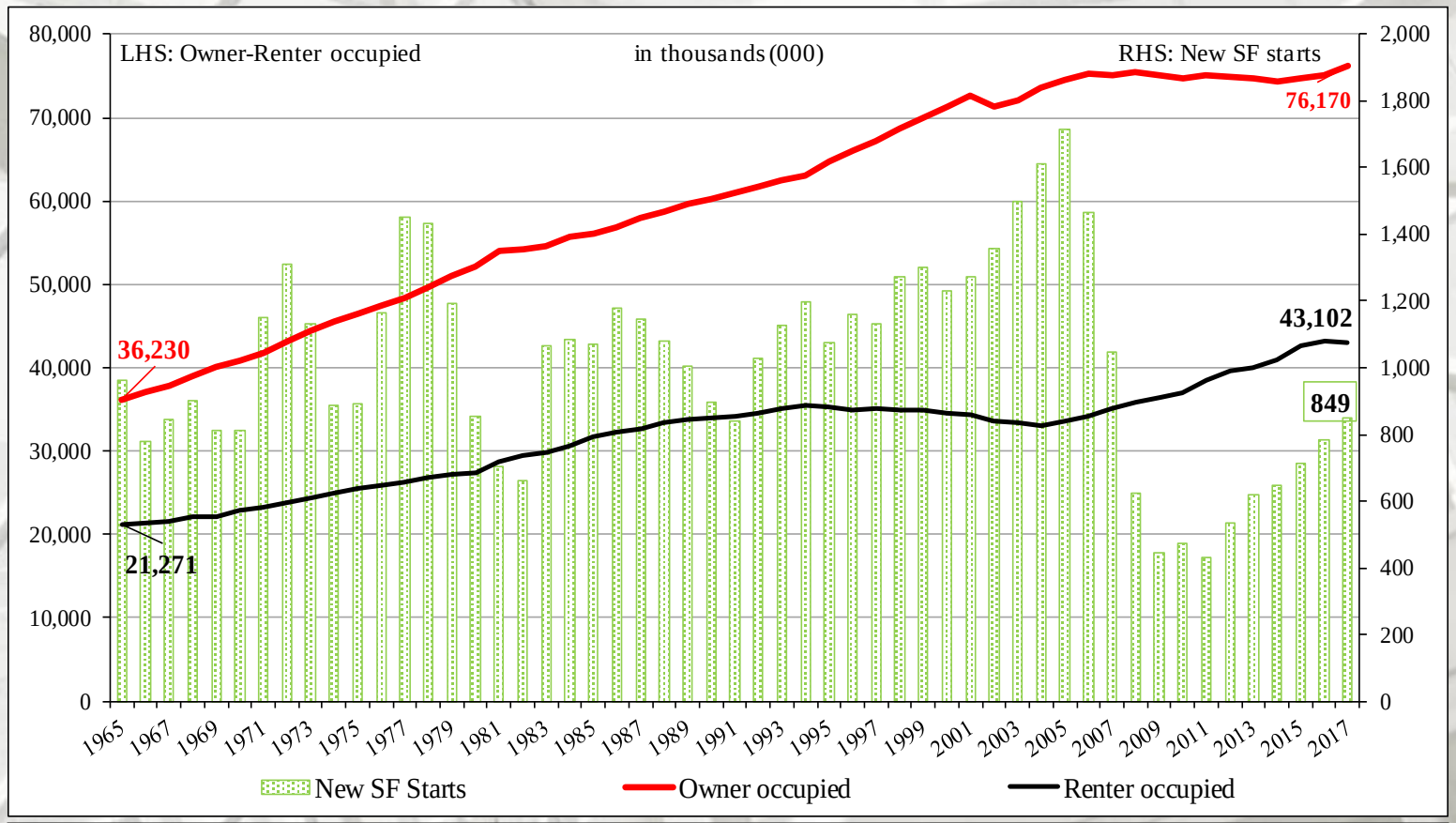
Owner- and Renter-Occupied Housing (percent)

The above graph presents the percentage of owner-occupied and renter-occupied since 1965. Currently, both occupant types appear to be leveling off on a percentage basis.

Source: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18

Return TOC

Home Ownership

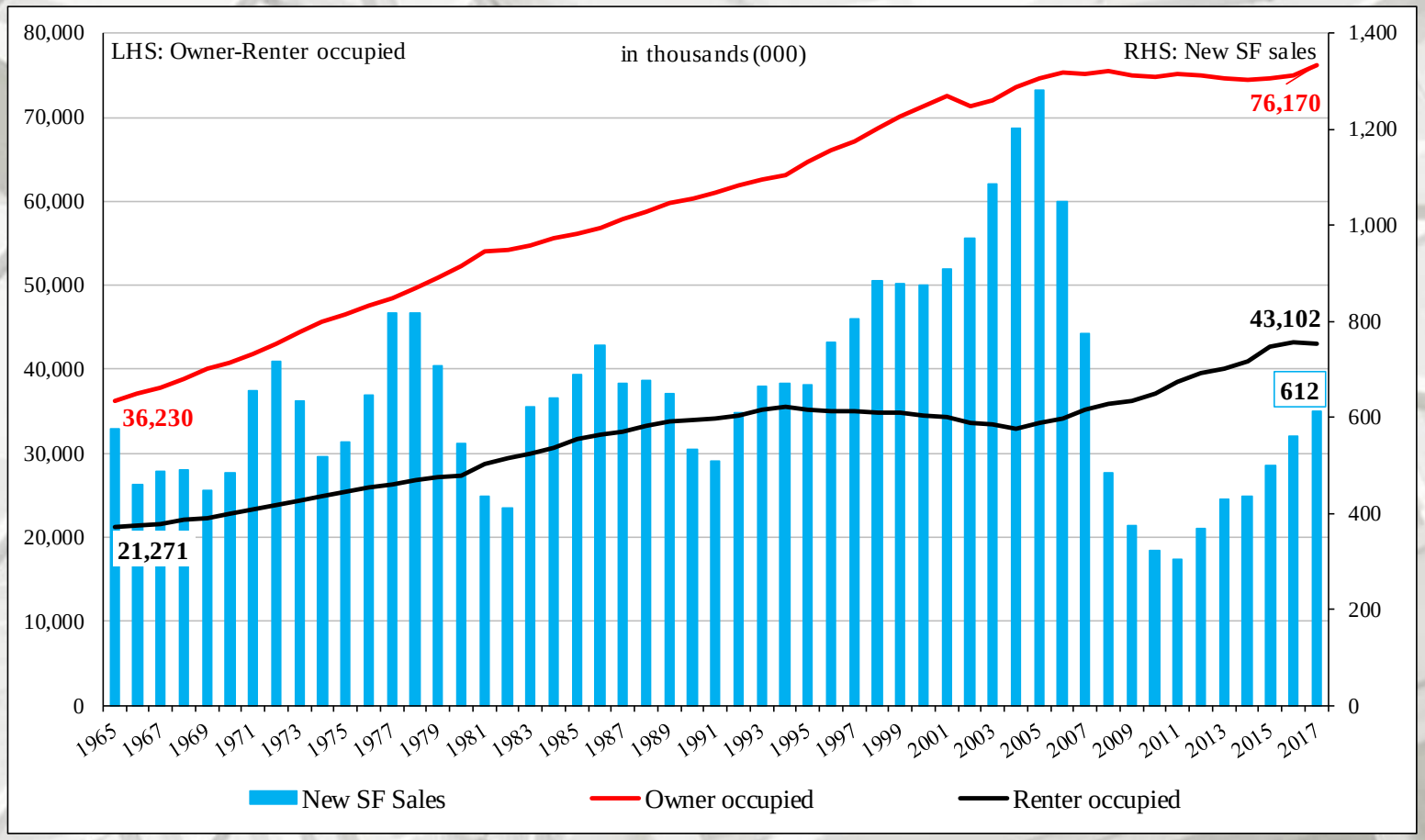


Owner- and Renter-Occupied Housing & New SF Starts

Sources: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18 & http://www.census.gov/construction/nrc/pdf/newresconst.pdf, 2/16/18

Return TOC

Home Ownership

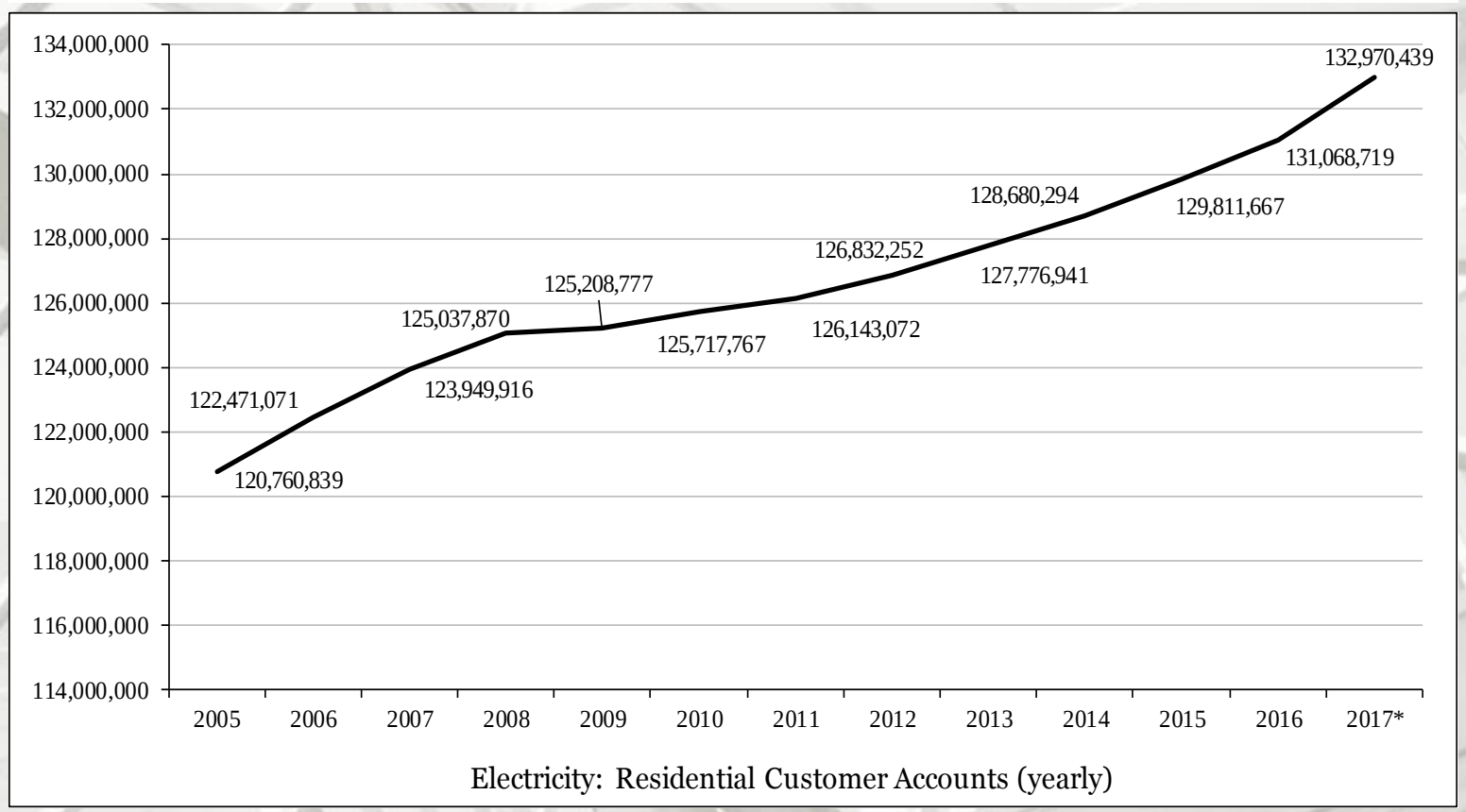


Owner- and Renter-Occupied Housing & New SF Sales

Sources: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18 & http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/26/18

Return TOC

Home Ownership



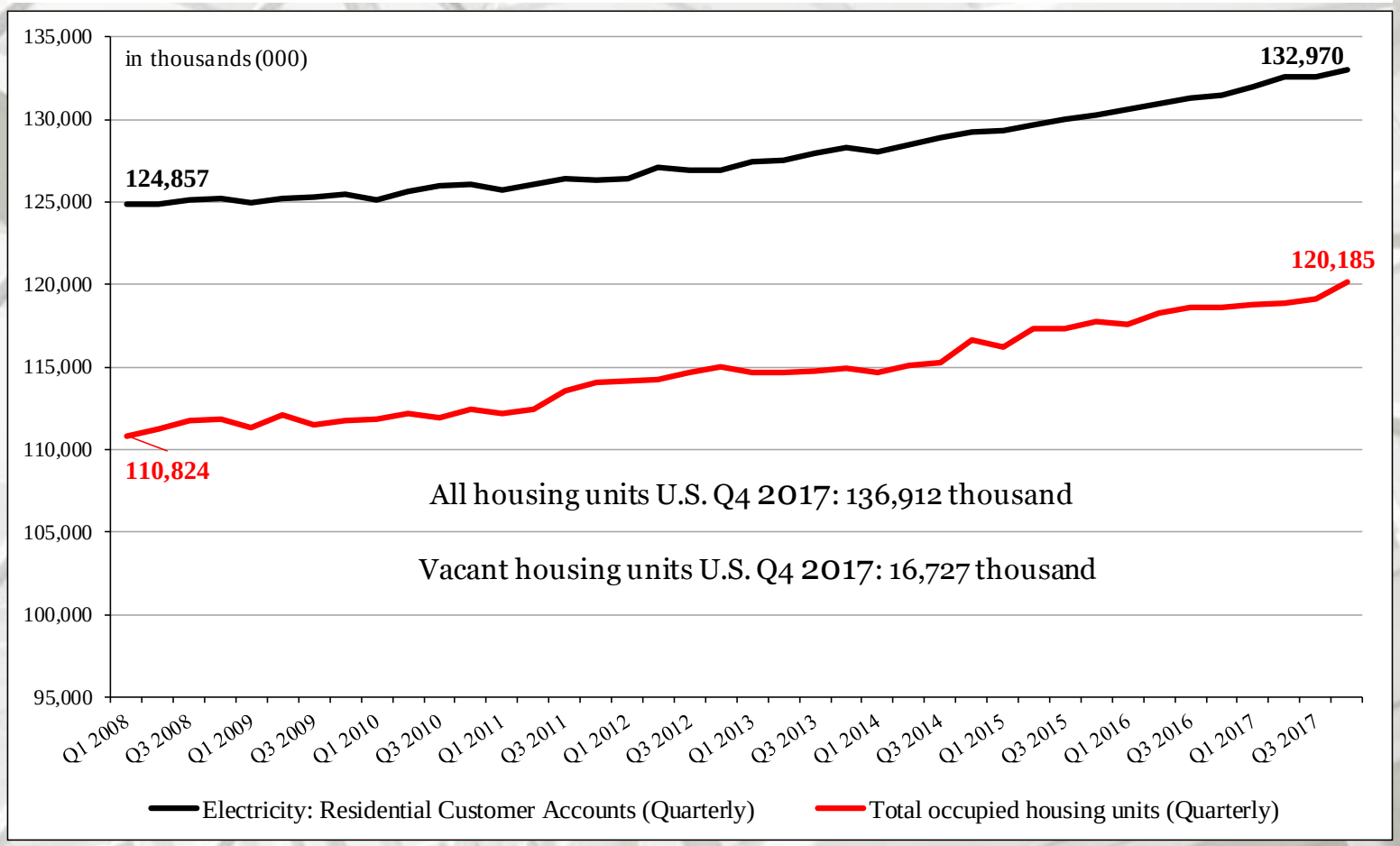
Residential Electricity Accounts

The U.S. Energy Information Administration (EIA) collects and provides statistics for multiple end-users and types, which includes the "Number of Ultimate Residential Customers Served." This data can be utilized as a proxy for occupied housing.

Source: https://www.eia.gov/electricity/monthly/current_month/epm.pdf, 2/27/18

Return TOC

Home Ownership

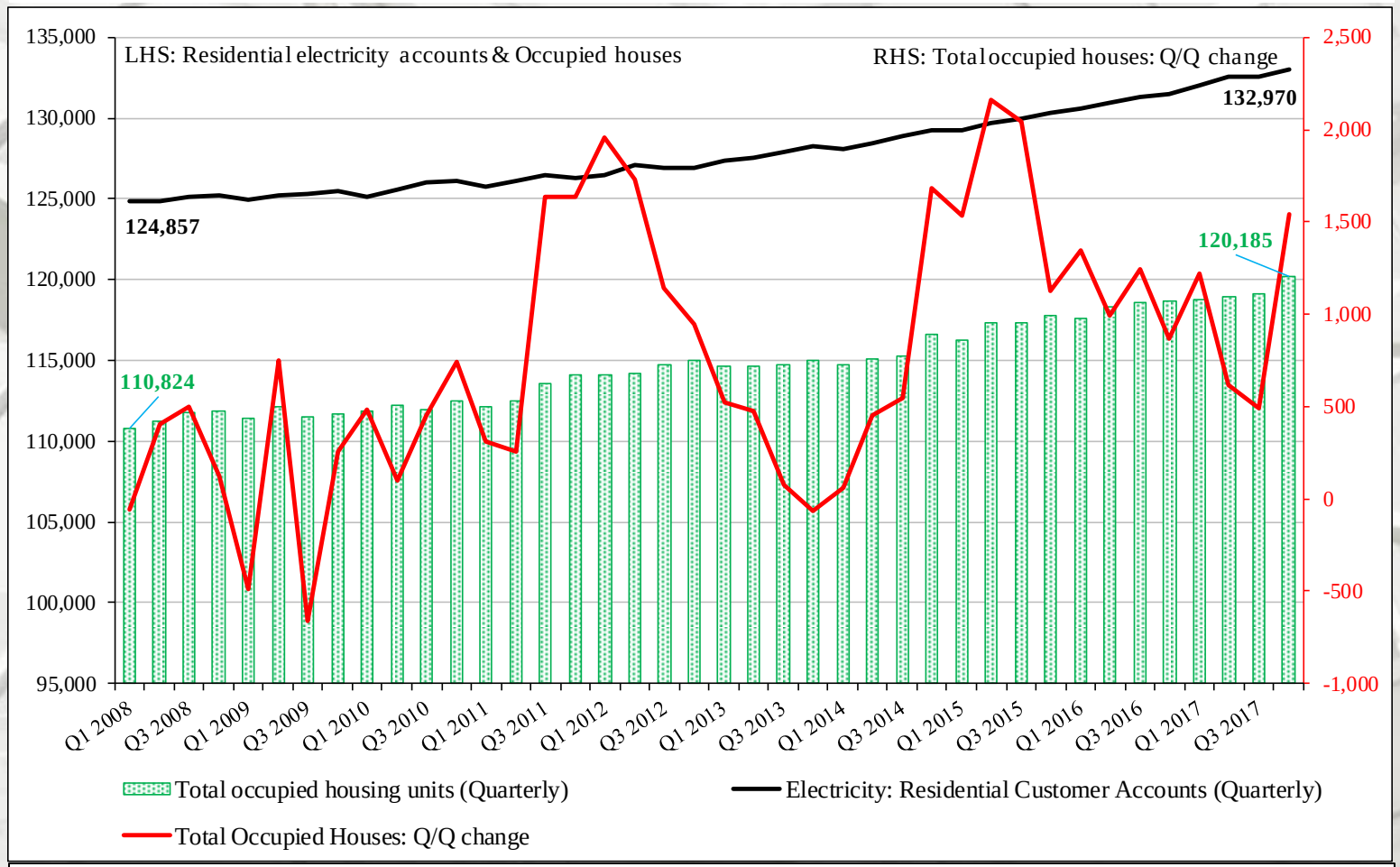


Occupied Housing & Residential Electricity Accounts

Sources: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18 & https://www.eia.gov/electricity/monthly/current_month/epm.pdf, 2/27/18

Return TOC

Home Ownership



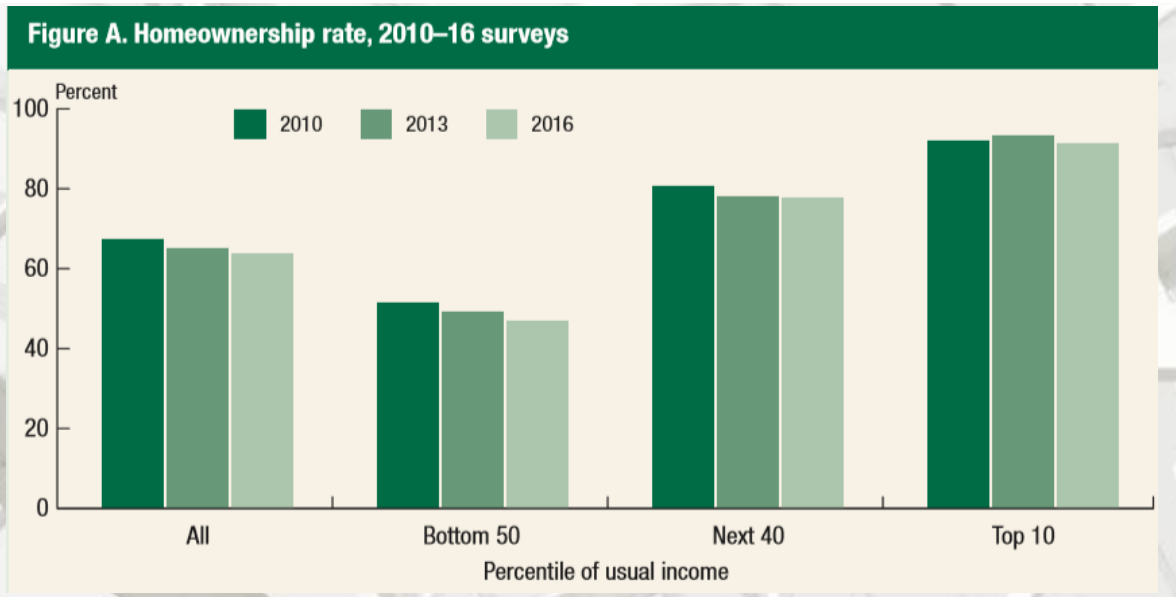
Residential Electricity Accounts vs. Occupied Houses

In Q4 2017, residential electricity gross accounts totaled 132,970,000 and occupied houses (rental + owner) totaled 120,185,000 – a difference of 12,785,439. Obviously occupied housing based on residential electricity accounts exceeded Census estimates . The question, what is the proportion of residential electricity accounts?

Sources: https://www.census.gov/housing/hvs/files/currenthvspress.pdf; 1/30/18 & https://www.eia.gov/electricity/monthly/current_month/epm.pdf, 2/27/18

Return TOC

Home Ownership



Board of Governors of the Federal Reserve System

Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances

Homeownership and Net Housing Wealth

"The percentage of families that owned their primary residence fell from 65.2 percent in 2013 to 63.7 percent in 2016 (figure A). The last time the Survey of Consumer Finances recorded a homeownership rate this low was 1989. Across families grouped by percentile of usual income, there are large differences in homeownership rates, which tend to increase with usual income. For families in the bottom half of the income distribution, the homeownership rate was 46.9 percent in 2016, while for those in the top 10 percent by income, the homeownership rate was 91.4 percent." – Jesse Bricker, Lisa Dettling, Alice Henriques, Joanne Hsu, Lindsay Jacobs, Kevin Moore, Sarah Pack, John Sabelhaus, Jeffrey Thompson, and Richard Windle; Division of Research and Statistics; Board of Governors of the Federal Reserve System

Source: https://www.federalreserve.gov/publications/files/scf17.pdf; 9/1/17

Return TOC

Home Ownership

Board of Governors of the Federal Reserve System

Homeownership and Net Housing Wealth

"Between 2013 and 2016, the home ownership rate fell across all usual income groups, representing a continuation of a trend of declining home ownership since 2007 for the bottom two usual income groups. In contrast, for the top income group, the homeownership rate rose slightly between 2010 and 2013.

For families that own their primary residence, mean net housing value — defined as the home's value less any debts on the home — increased 20 percent between 2013 and 2016 after slightly declining between 2010 and 2013 (table B). In 2016, among home-owning families, the average net housing wealth was $197,500.

Across usual income groups, the mean net value of housing increases as usual income rises. In 2016, the mean value of net housing wealth among homeowners in the bottom half of the income distribution was $107,100. For the top decile, the mean net value of housing was roughly five times larger, at $576,400.

Between 2013 and 2016, mean net housing value increased for all three groups, but the magnitudes of the increases differed, with higher-income families gaining more. For the bottom income group, net housing value rose the least, by 13 percent, between 2013 and 2016. For the upper-middle income group, mean net housing increased more than 18 percent between 2013 and 2016, while the top income group saw net housing value grow 25 percent." – Jesse Bricker et al.; Division of Research and Statistics; Board of Governors of the Federal Reserve System

Source: https://www.federalreserve.gov/publications/files/scf17.pdf; 9/1/17

Return TOC

Home Ownership

Box 8. Homeownership and Net Housing Wealth—*continued*

Table B. Mean net housing value for homeowners, 2010–16 surveys

Thousands of 2016 dollars

Family characteristic	Conditional mean value		
	2010	2013	2016
All	**169.7**	**164.3**	**197.5**
Percentile of usual income			
0–49.9	107.1	95.2	107.7
50–89.9	130.7	130.0	153.9
90–100	481.6	460.4	576.4

[1] The home ownership rate in 1989 was 63.9 percent. It rose to a peak of 69.1 percent in 2004.
[2] For a description of the usual income measure, see box 4, "Usual versus Actual Income."
[3] Survey of Consumer Finances respondents are asked to report the value of their home. Only primary residences are included. Debts on the home include any mortgages or home equity loans against the primary residence.

Source: https://www.federalreserve.gov/publications/files/scf17.pdf; 9/1/17

Return TOC

Summary

In summary:

Most of January's data returned to positive readings. The U.S. housing market can be summed as being in a steady, slow-growth mode. Monthly construction spending was lackluster again, as SF and improvement expenditures were barely positive on a month-over-month basis. A conundrum is the continued volatility in new SF sales data. Hopefully this series will have reduced variance in the upcoming months. Once more, new SF lower-priced tier house sales were well less than historical averages. The new construction housing market needs consistent improvement in this category to influence the housing construction market upward.

Housing, in the majority of categories, continues to be substantially less than their historical averages. The new SF housing construction sector is where the majority of value-added forest products are utilized and this housing sector has room for improvement.

Pros:

1) Historically low interest rates are still in effect, though in aggregate rates are incrementally rising (future Fed actions may cause *i*-rates to rise);
2) As a result, housing affordability is good for many in the U.S. – but not all of the U.S.;
3) Select builders are beginning to focus on entry-level houses.

Cons:

1) Lot availability and building regulations (according to several sources);
2) Household formations are still lagging historical averages;
3) Changing attitudes towards SF ownership;
4) Job creation is improving and consistent but some economists question the quantity and types of jobs being created;
5) Debt: Corporate, personal, government – United States and globally;
6) Other global uncertainties.

Return TOC

Virginia Tech Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by Virginia Tech. The views and opinions of authors expressed herein do not necessarily state or reflect those of Virginia Tech, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents sent out or made available from this server, neither Virginia Tech nor any of its employees, makes any warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by Virginia Tech of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Virginia Tech does not exercise any editorial control over the information you November find at these locations. All links are provided with the intent of meeting the mission of Virginia Tech's web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

Virginia Tech prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the author. Virginia Tech is an equal opportunity provider and employer.

Return TOC

U.S. Department of Agriculture Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents available from this server, neither the United States Government nor any of its employees, makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by the U.S. Department of Agriculture of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, the Department does not exercise any editorial control over the information you November find at these locations. All links are provided with the intent of meeting the mission of the Department and the Forest Service web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202.720.2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call 800.795.3272 (voice) or 202.720.6382 (TDD). The USDA is an equal opportunity provider and employer.

Return TOC