The Virginia Tech – U.S. Forest Service
April 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 CNRE-19NP

Return TOC

Table of Contents

This report is a free monthly service of Virginia Tech. Past issues are available at: http://woodproducts.sbio.vt.edu/housing-report.

To request the commentary, please email: buehlmann@gmail.com or dalderman@fs.fed.us

Return TOC

Opening Remarks

April's aggregate housing data was tepid on a monthly basis; yet, on yearly comparison all data are strong to robust with the exception being existing sales. Total housing starts and permits, and new single-family sales declined on a month-over-month basis; yet, were robust on a yearly basis. New single-family construction spending indicated no change on a monthly basis. Regionally, data were mixed across all sectors. The June 8th Atlanta Fed GDPNow™ residential investment spending model projects an aggregate 1.4% for Quarter Two 2018. New private permanent site expenditures were projected for a -0.2% decline; the improvement spending forecast was a 4.5% increase; and the manufactured/mobile housing projection was a -19.4% decline (all: quarterly log change and seasonally adjusted annual rate).[1]

"We remain confident that, despite a first quarter hiccup, economic growth will pick up through the rest of 2018. There are signs that consumer spending is poised to strengthen in the months ahead, and we believe recent fiscal policy actions are likely to contribute to growth this year. Come 2019, however, we expect the fiscal boost to fade, and we adjusted our forecast lower accordingly. We also note mounting downside risks to our projections, including growth-constraining protectionist trade policies and rising oil prices, among others. Meanwhile, housing's upward grind should continue, despite a lackluster first quarter. We expect home sales to post modest gains both this year and next, as prices rise and affordability declines amid low for-sale inventory."[2] – Doug Duncan, Chief Economist, Fannie Mae

This month's commentary also contains applicable housing data, home ownership, building products, and economic 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; 6/8/18;
[2] http://www.fanniemae.com/portal/media/corporate-news/2018/economic-housing-outlook-051718-6706.html; 5/17/18

Return TOC

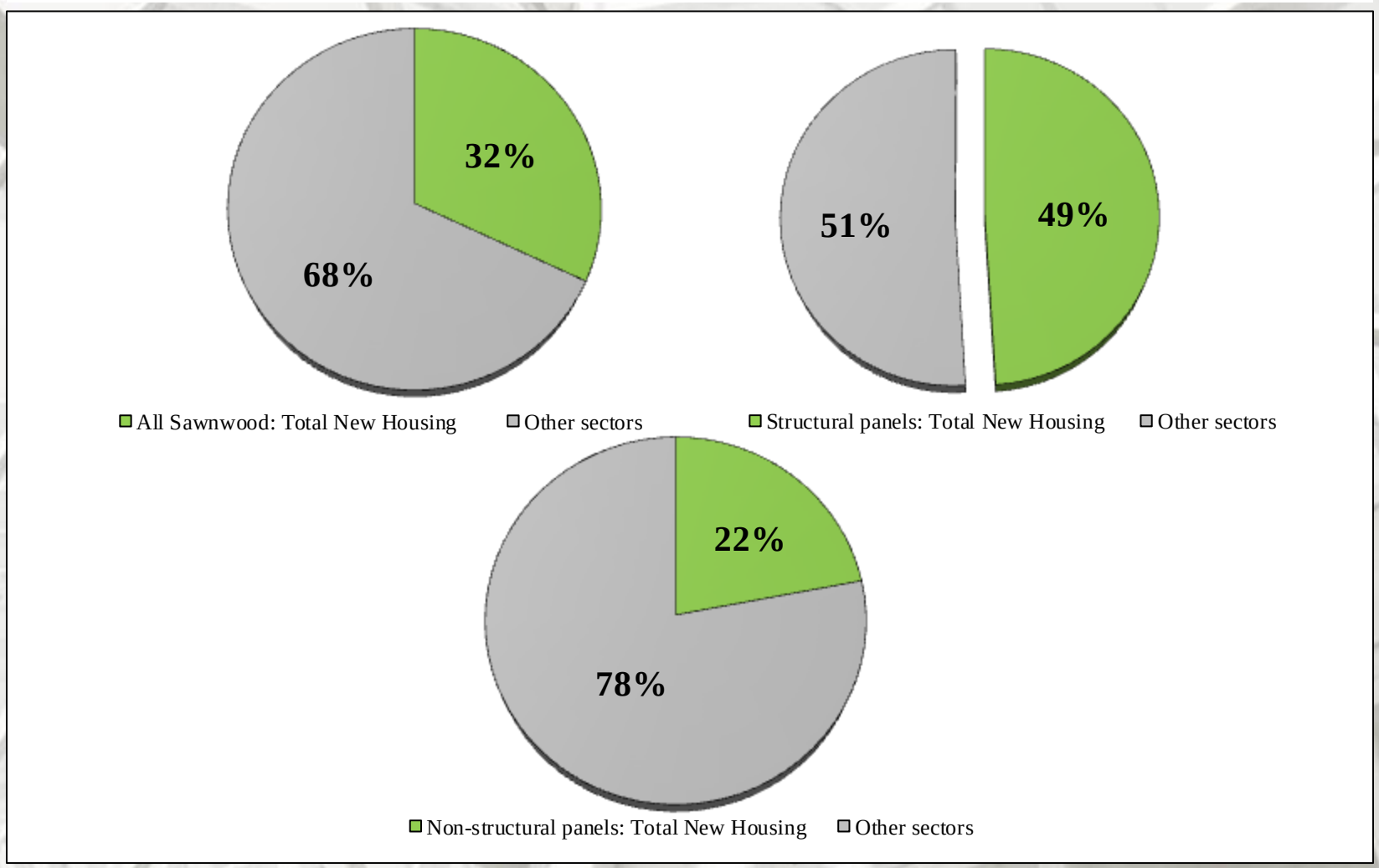
April 2018
Housing Scorecard

	M/M	Y/Y
Housing Starts	▽ 3.7%	Δ 10.5%
Single-Family Starts	Δ 0.1%	Δ 7.2%
Housing Permits	▽ 1.8%	Δ 7.7%
Single-Family Permits	Δ 0.9%	Δ 7.9%
Housing Under Construction	NC 0.0%	Δ 4.7%
Single-Family Under Construction	Δ 1.0%	Δ 11.4%
Housing Completions	Δ 2.8%	Δ 14.8%
Single-Family Completions	▽ 4.0%	Δ 5.5%
New Single-Family House Sales	▽ 1.5%	Δ 11.6%
Private Residential Construction Spending	Δ 4.5%	Δ 9.5%
Single-Family Construction Spending	NC 0.0%	Δ 9.6%
Existing House Sales[1]	▽ 2.5%	▽ 1.4%

Sources: U.S. Department of Commerce-Construction; [1] FRED: Federal Reserve Bank of St. Louis

Return TOC

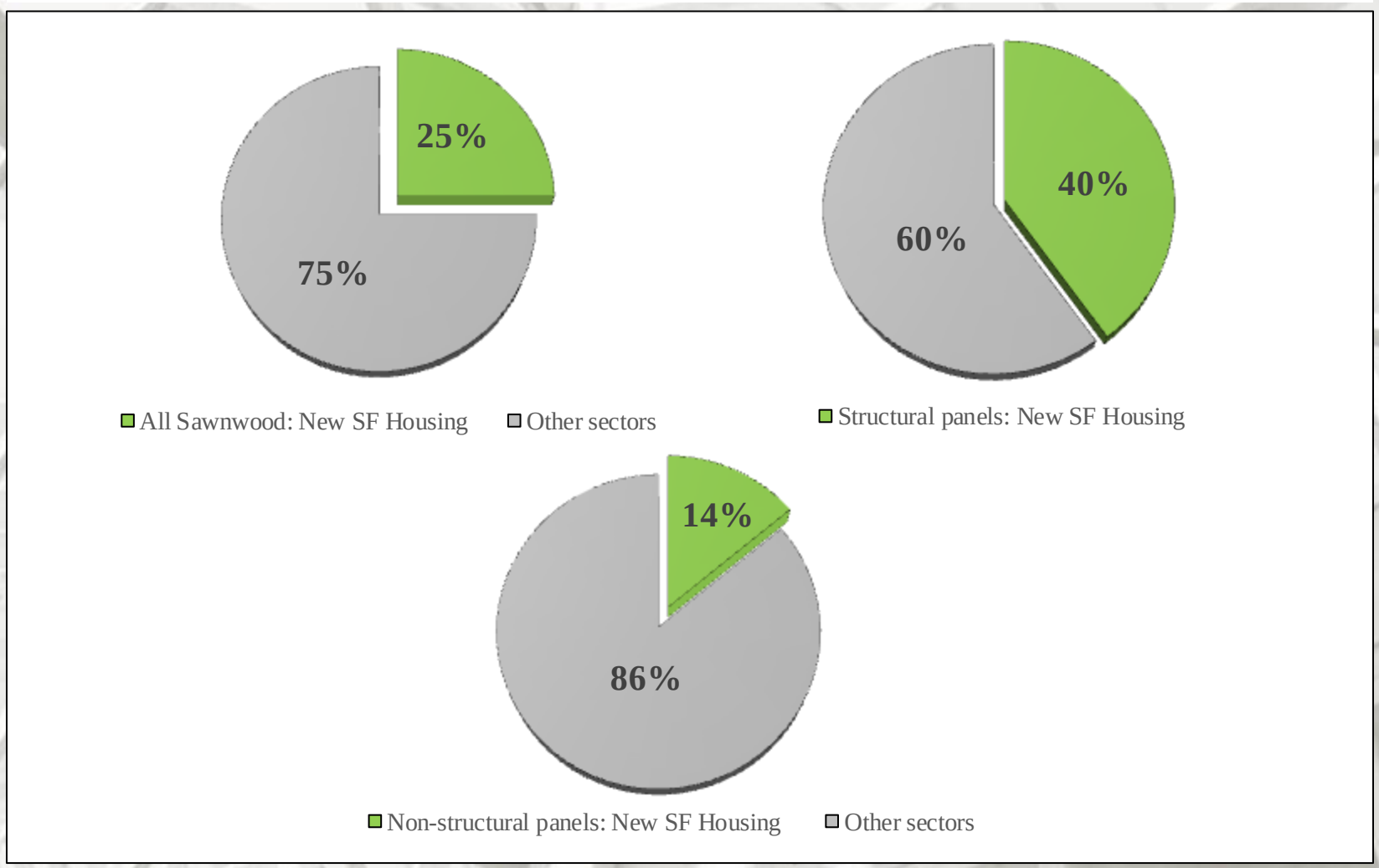
New Construction Percentage of Wood Products Consumption



Source: U.S. Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

Return TOC

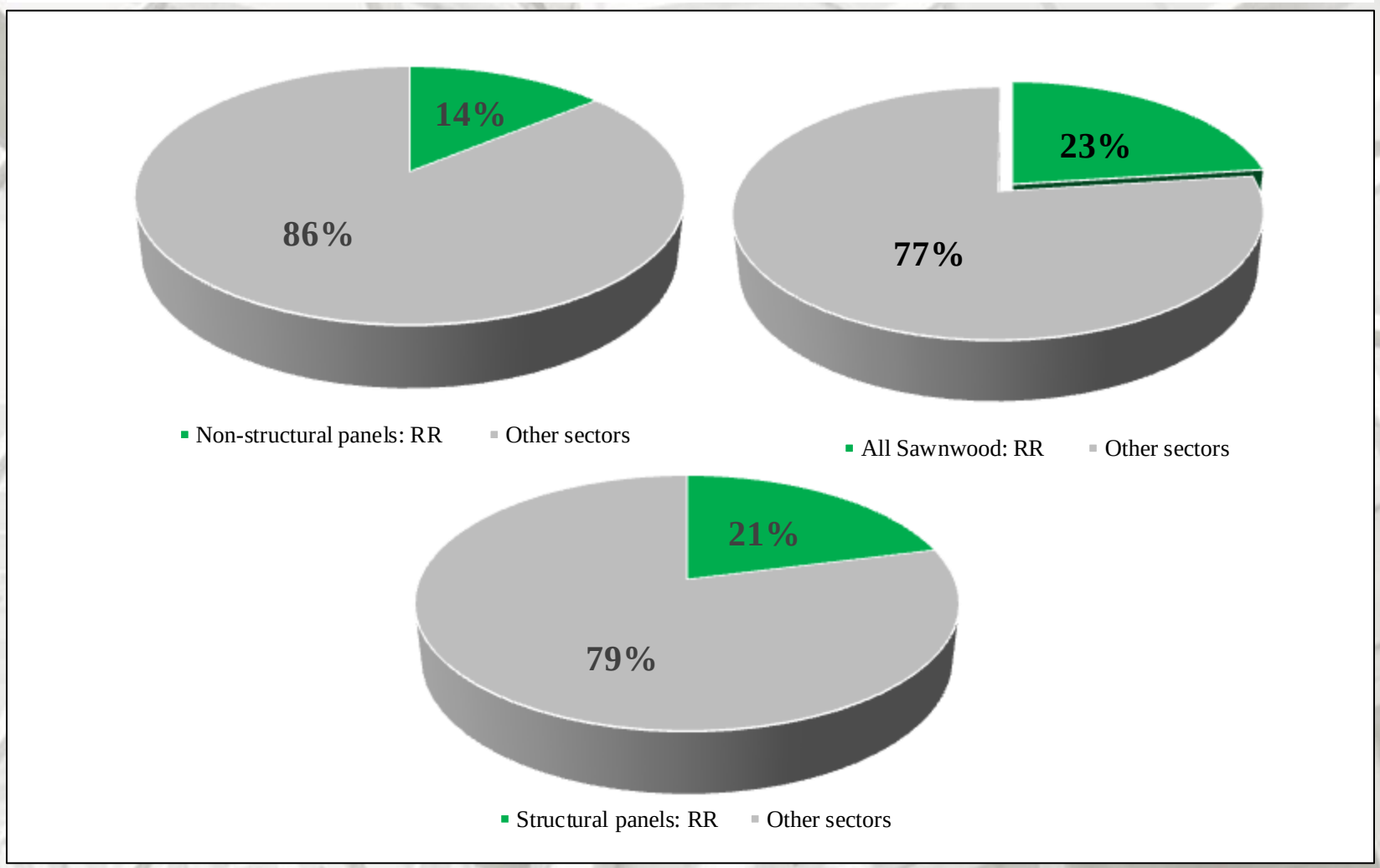
New SF Construction Percentage of Wood Products Consumption



Source: U.S. Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

Return TOC

Repair and Remodeling's Percentage of Wood Products Consumption



Source: U.S. Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

Return TOC

New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
April	1,287,000	894,000	19,000	374,000
March	1,336,000	893,000	15,000	428,000
2017	1,165,000	834,000	17,000	314,000
M/M change	-3.7	0.1	26.7	-12.6
Y/Y change	10.5	7.2	11.8	19.1

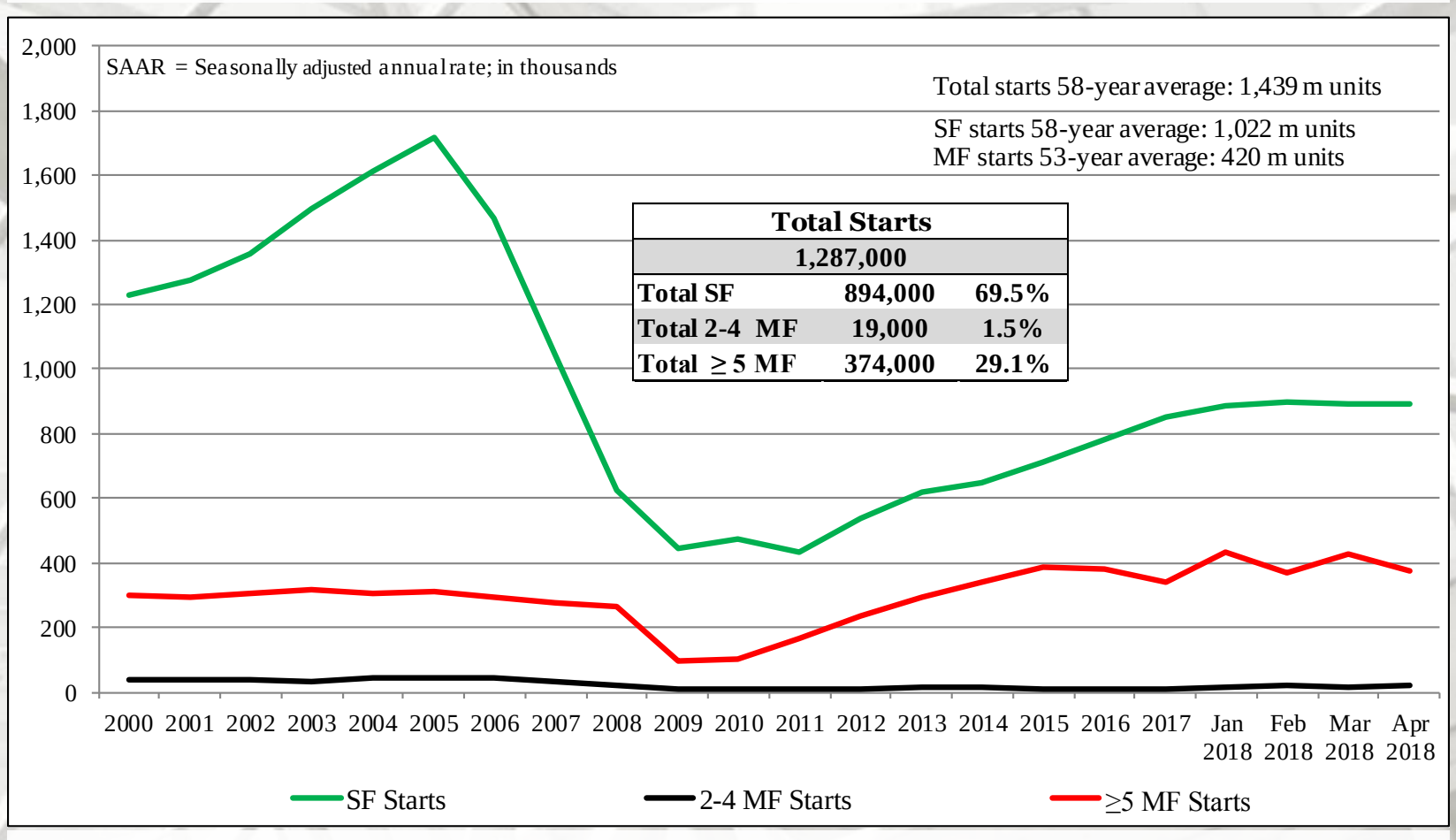
* All start data are presented at a seasonally adjusted annual rate (SAAR).

** 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; 5/16/18

Return TOC

Total Housing Starts



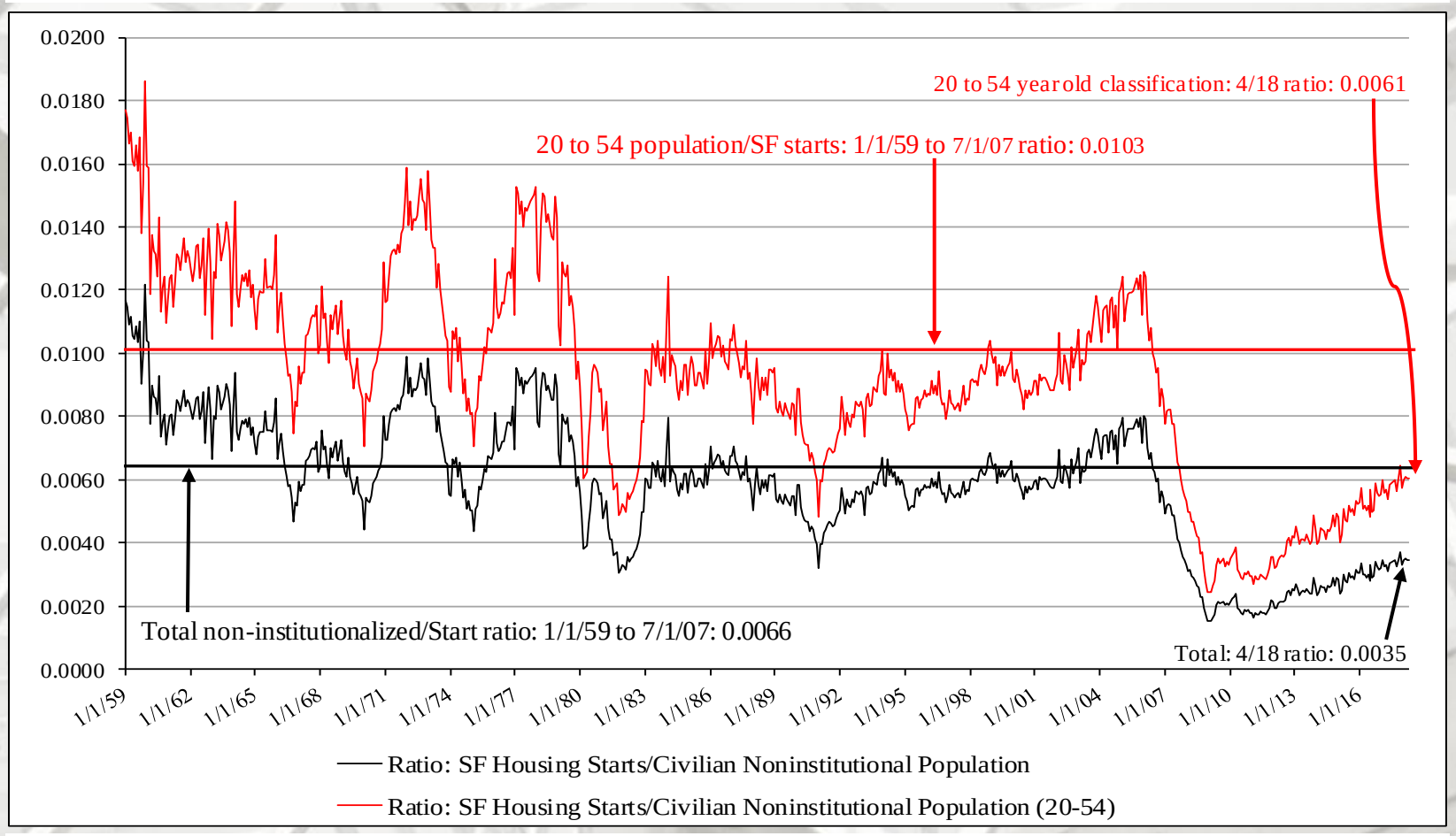
US DOC does not report 2 to 4 multifamily starts directly, this is an estimation: ((Total starts – (SF + 5 unit MF)).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New SF Starts



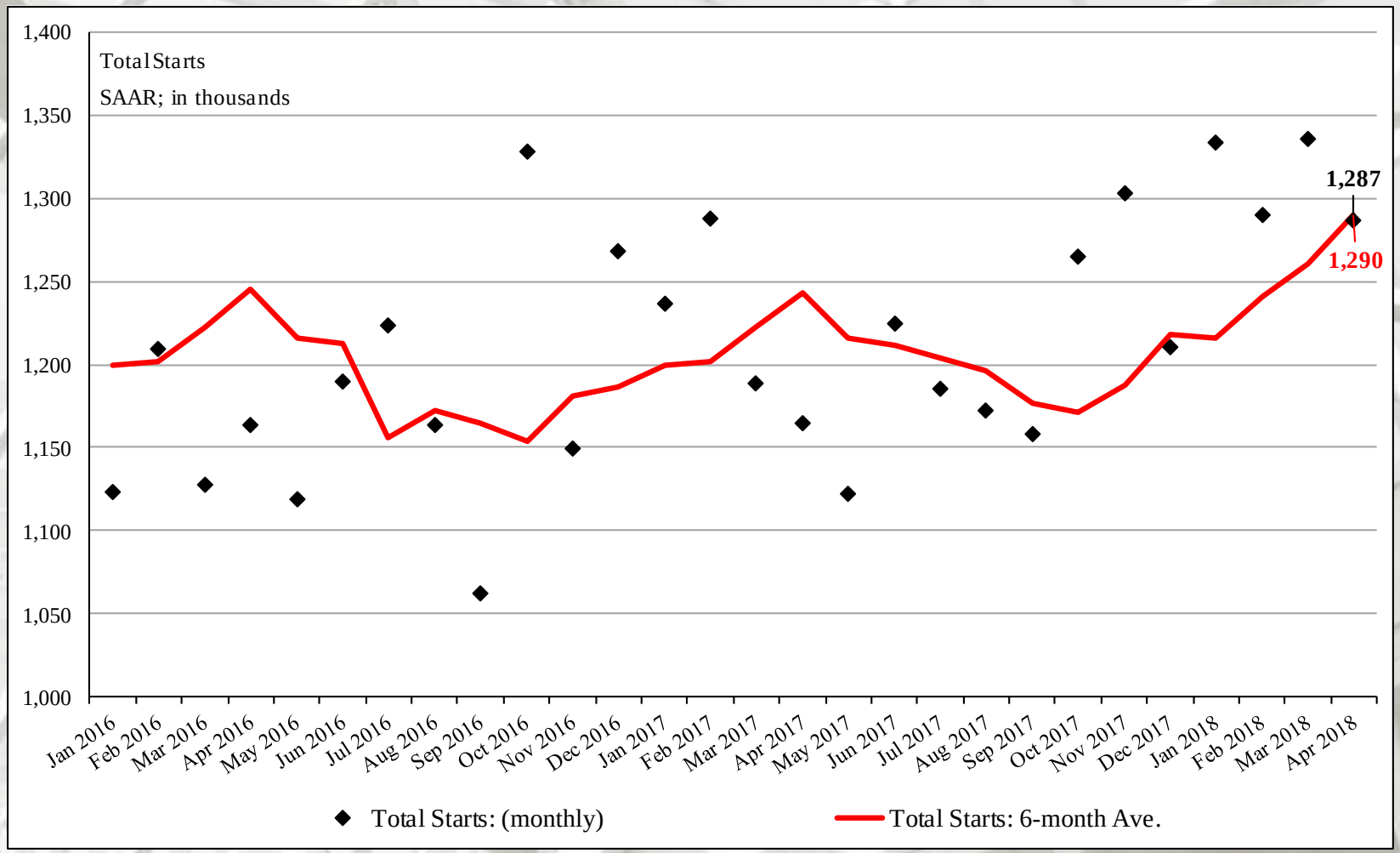
New SF starts adjusted for the US population

From April 1959 to July 2007, the long-term ratio of new SF starts to the total US non-institutionalized population was 0.0066; in April 2017 it was 0.0035 – no change from March (0.0035). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in April 2017 was 0.0061 – also no change from March (0.0061). 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.pdff and The Federal Reserve Bank of St. Louis; 5/16/18

Return TOC

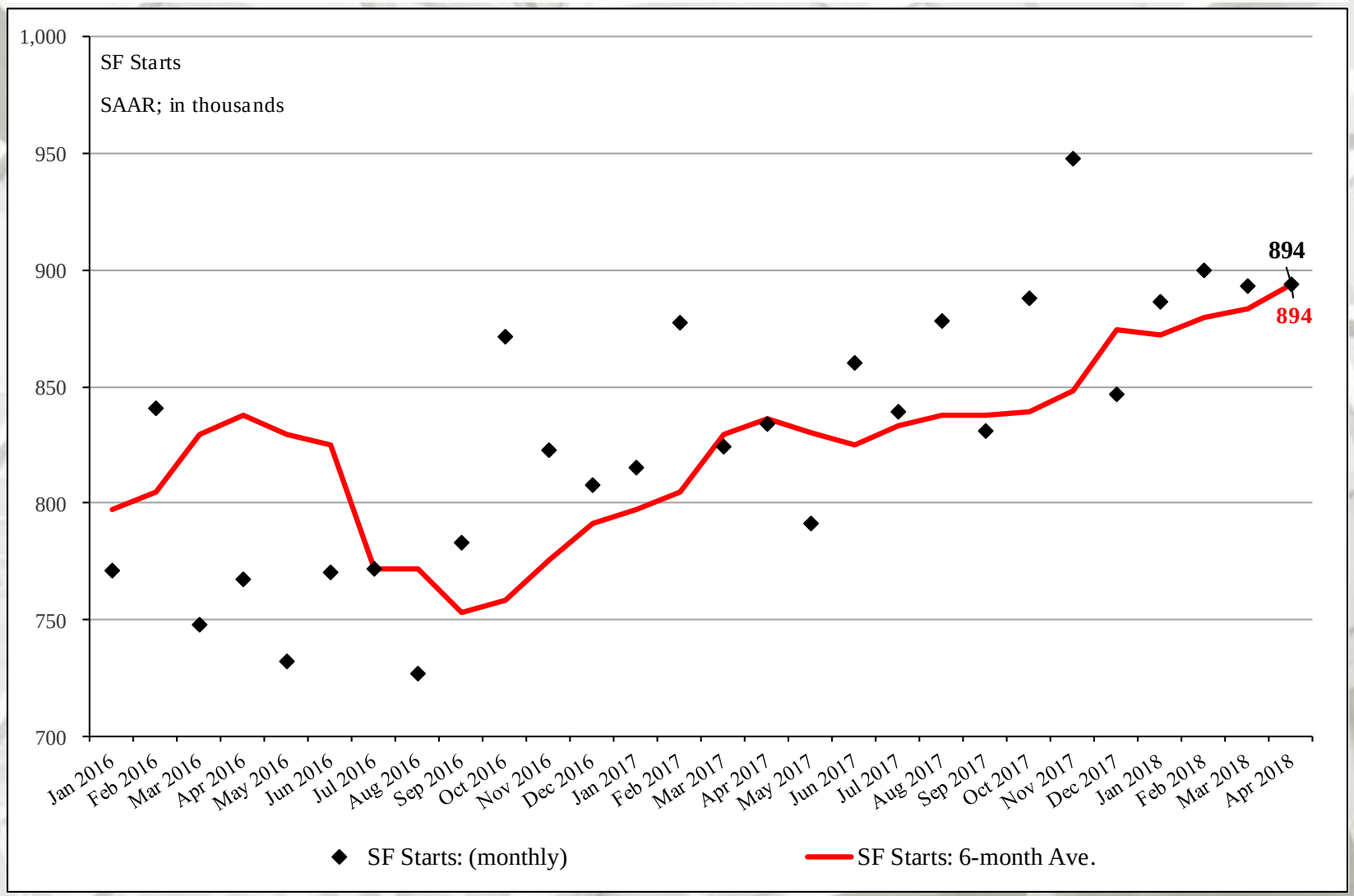
Total Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

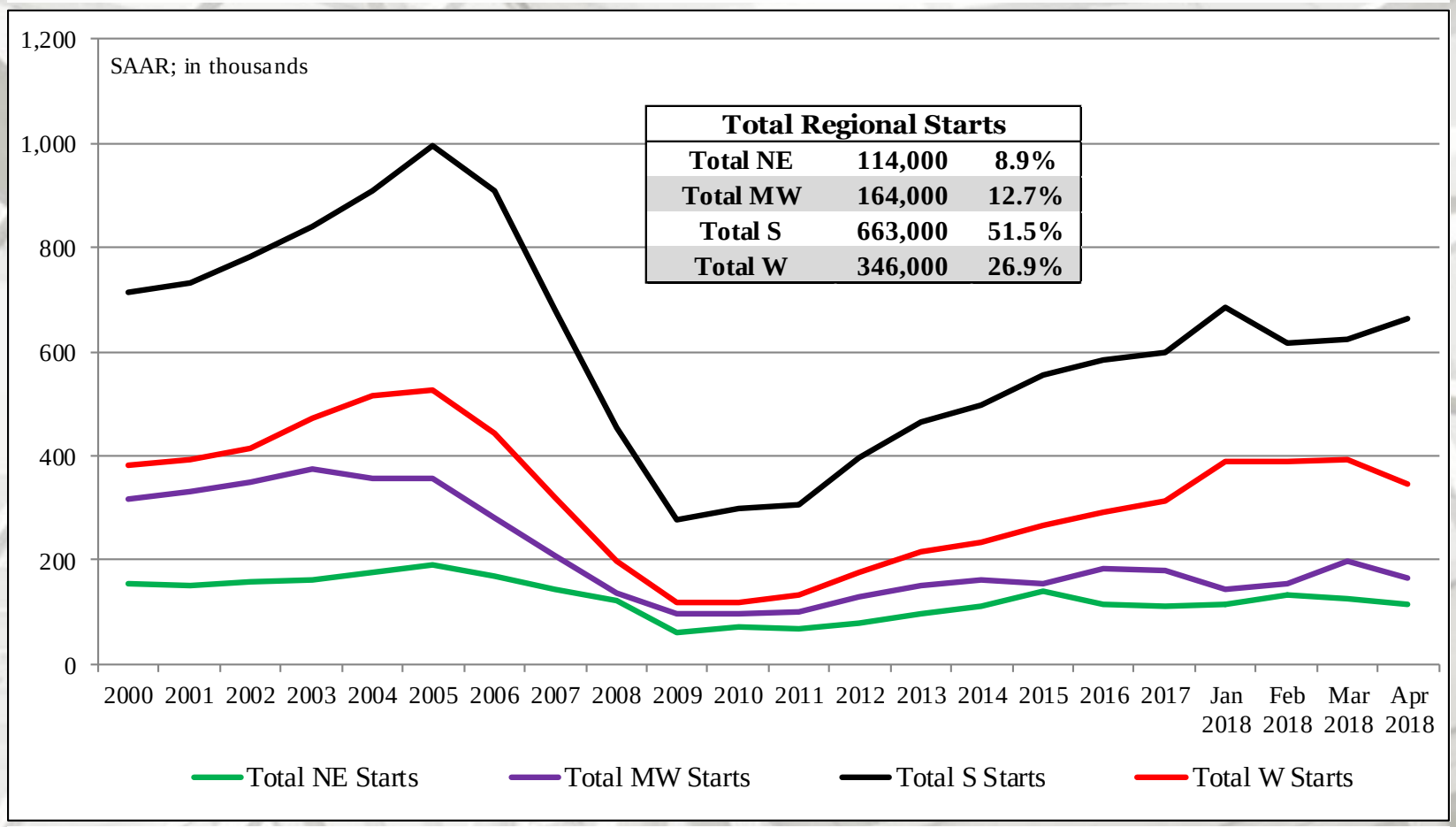
SF Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing Starts by Region



Total Regional Starts		
Total NE	114,000	8.9%
Total MW	164,000	12.7%
Total S	663,000	51.5%
Total W	346,000	26.9%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing Starts by Region

	NE Total	NE SF	NE MF**
April	114,000	56,000	58,000
March	124,000	62,000	62,000
2017	85,000	47,000	38,000
M/M change	-8.1	-9.7	-6.5
Y/Y change	34.1	19.1	52.6

	MW Total	MW SF	MW MF
April	164,000	106,000	58,000
March	196,000	151,000	45,000
2017	201,000	125,000	76,000
M/M change	-16.3	-29.8	28.9
Y/Y change	-18.4	-15.2	-23.7

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; 5/16/18

Return TOC

New Housing Starts by Region

	S Total	S SF	S MF**
April	663,000	518,000	145,000
March	623,000	442,000	181,000
2017	570,000	457,000	113,000
M/M change	6.4	17.2	-19.9
Y/Y change	16.3	13.3	28.3

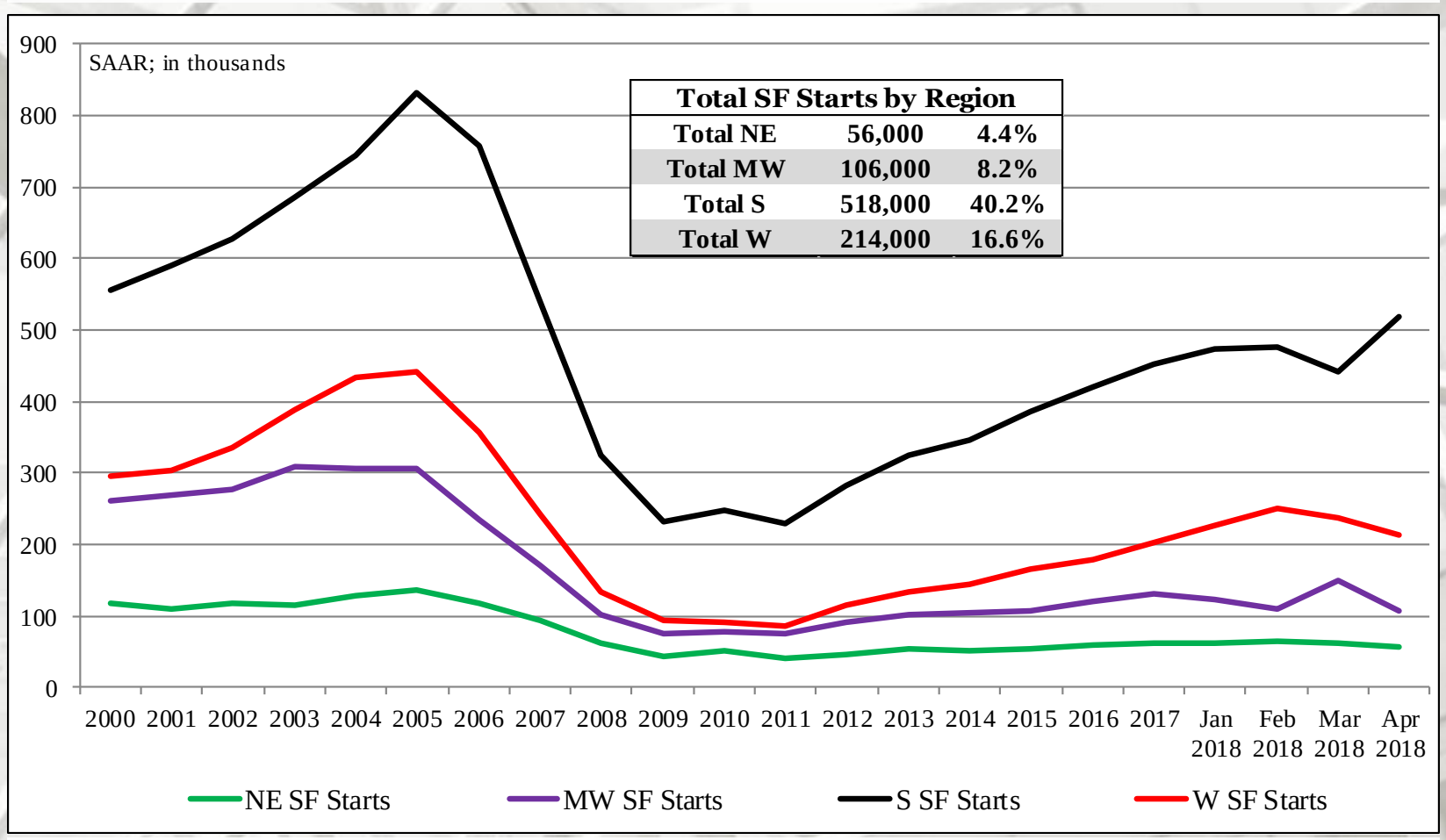
	W Total	W SF	W MF
April	346,000	214,000	132,000
March	393,000	238,000	155,000
2017	309,000	205,000	104,000
M/M change	-12.0	-10.1	-14.8
Y/Y change	12.0	4.4	26.9

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; 5/16/18

Return TOC

Total SF Housing Starts by Region



Total SF Starts by Region		
Total NE	56,000	4.4%
Total MW	106,000	8.2%
Total S	518,000	40.2%
Total W	214,000	16.6%

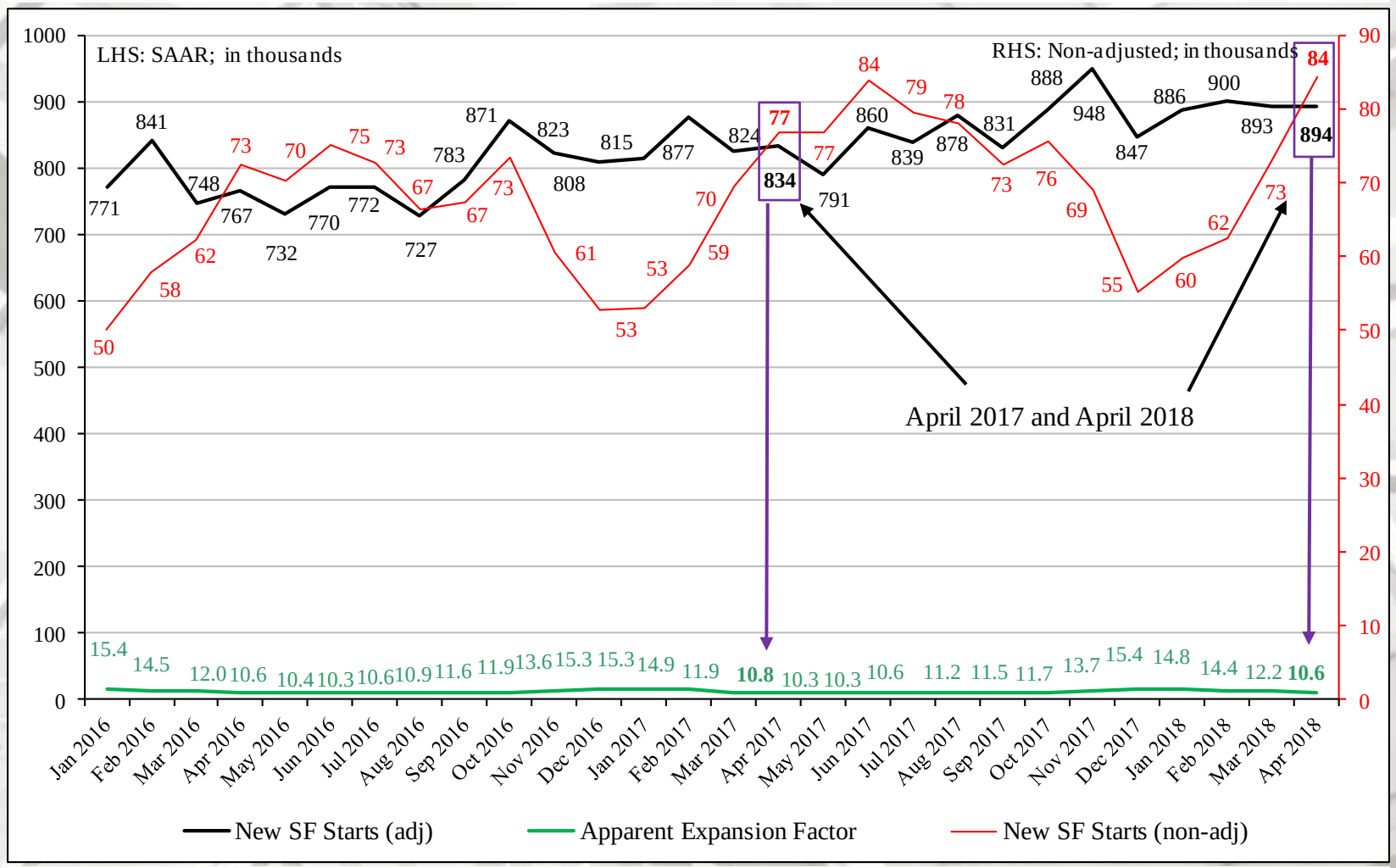
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

Nominal & SAAR SF Starts



Nominal and Adjusted New SF Monthly Starts

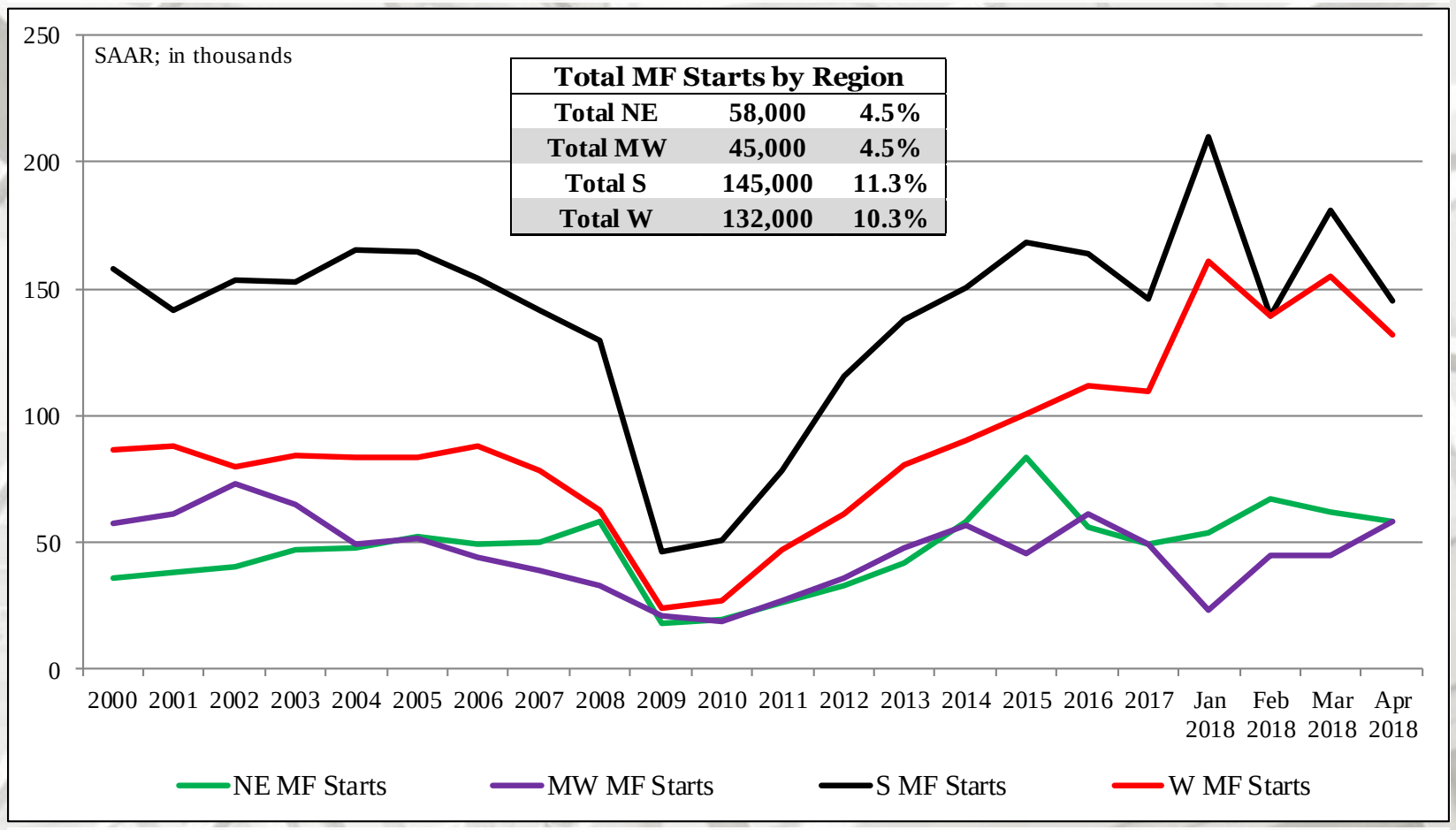
Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

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; 5/16/18

Return TOC

MF Housing Starts by Region



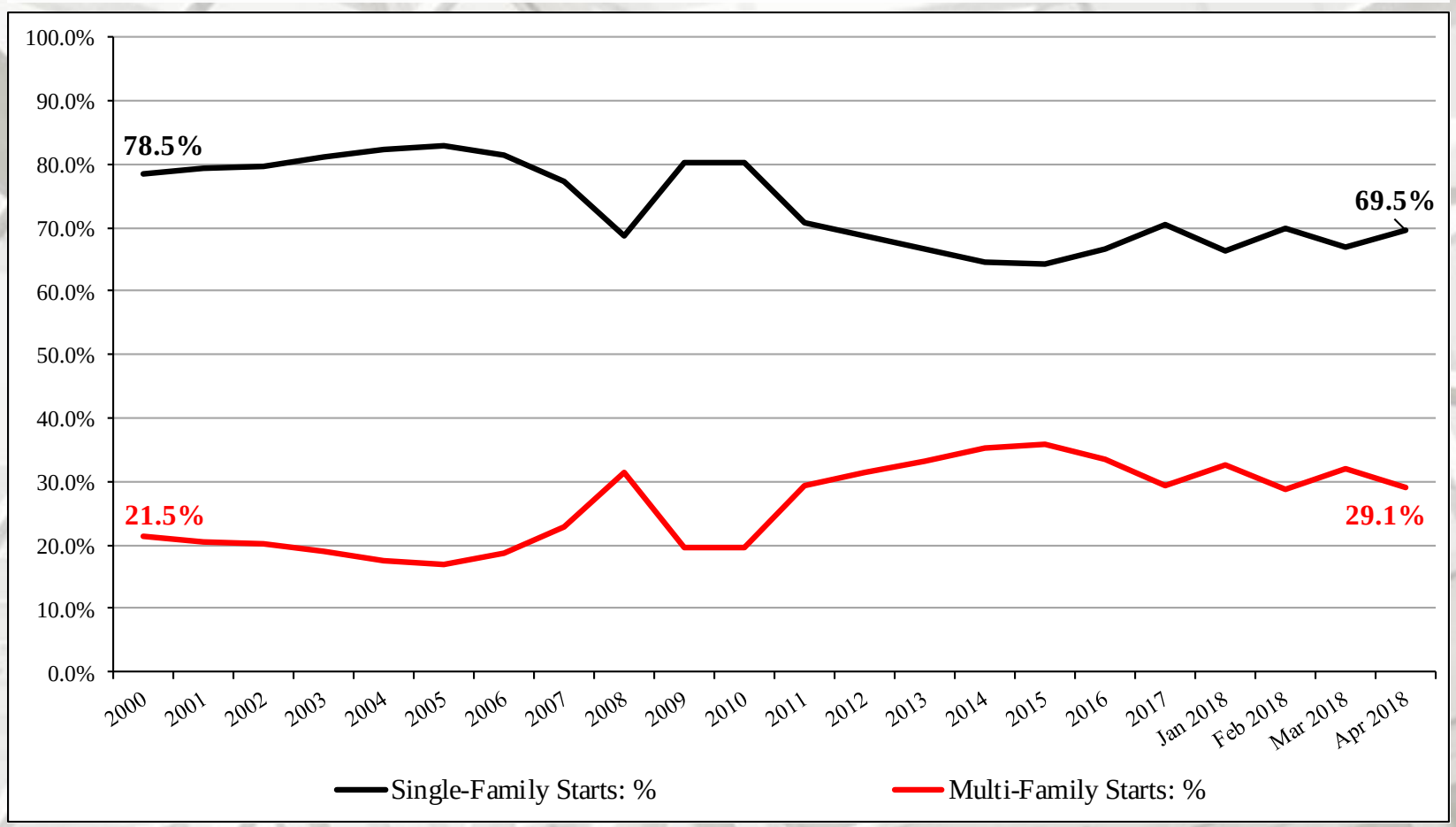
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

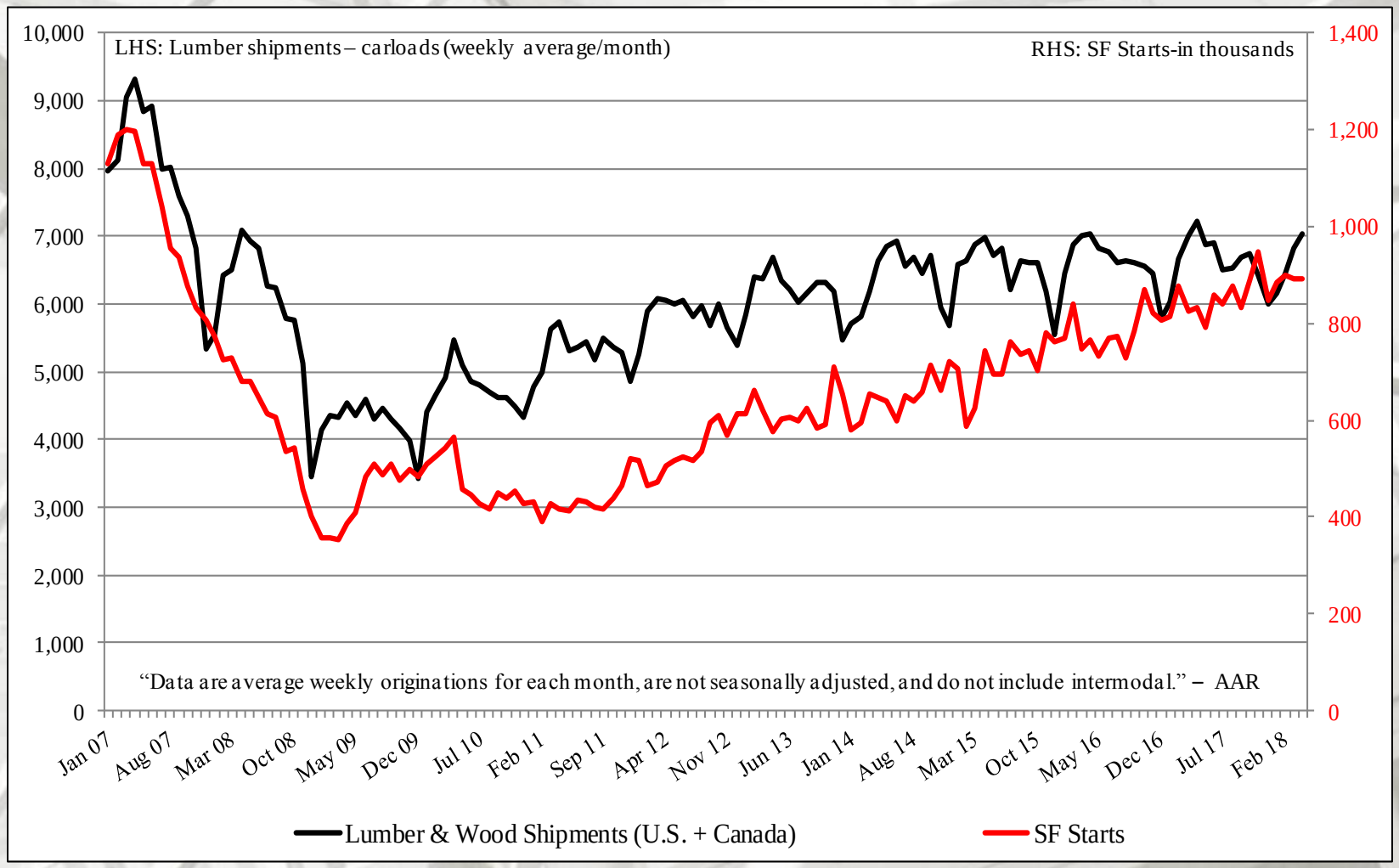
SF & MF Housing Starts (%)



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

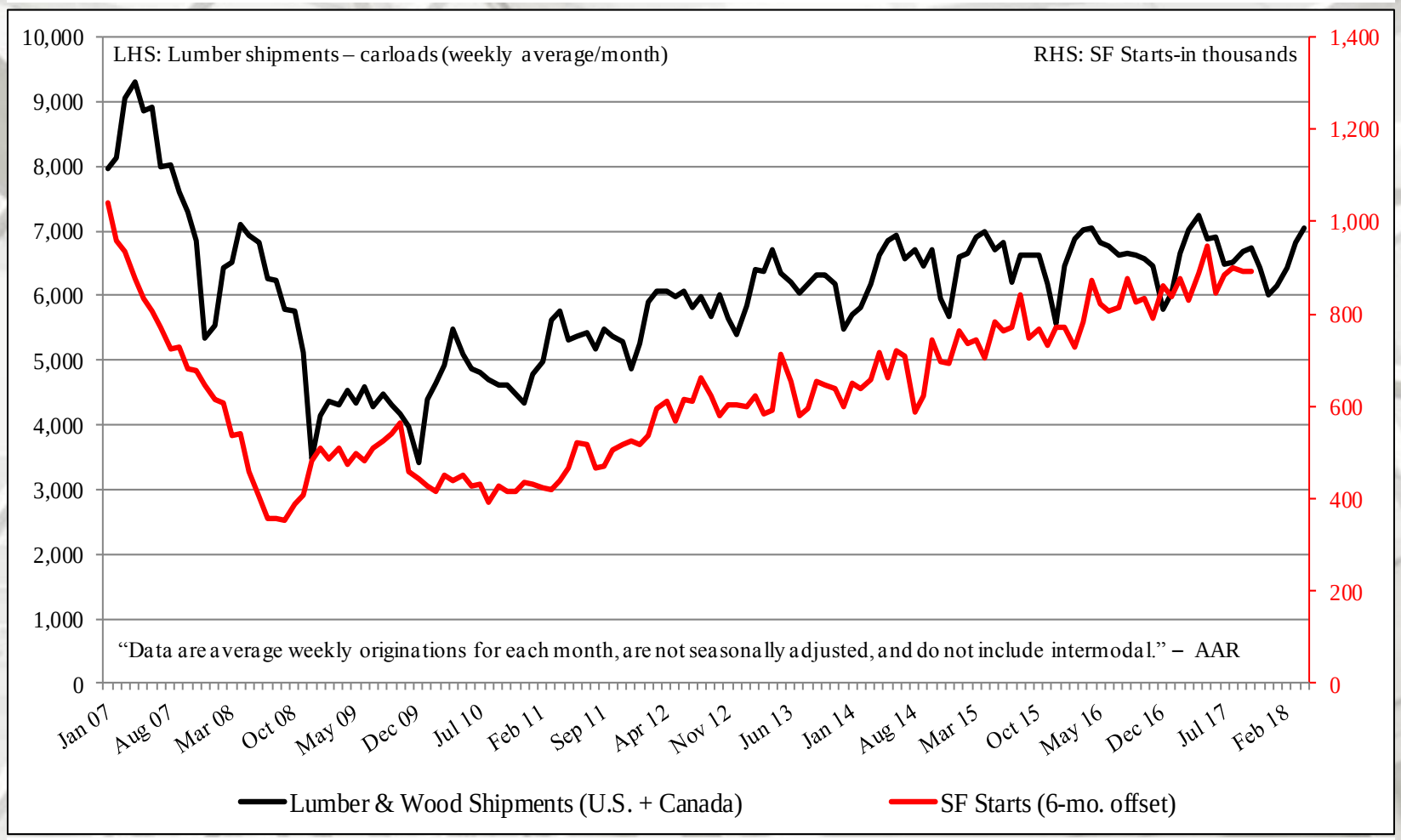
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 5/4/18; U.S. DOC-Construction; 5/16/18

Return 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 April 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 5/4/18; U.S. DOC-Construction; 5/16/18

Return TOC

New Housing Permits

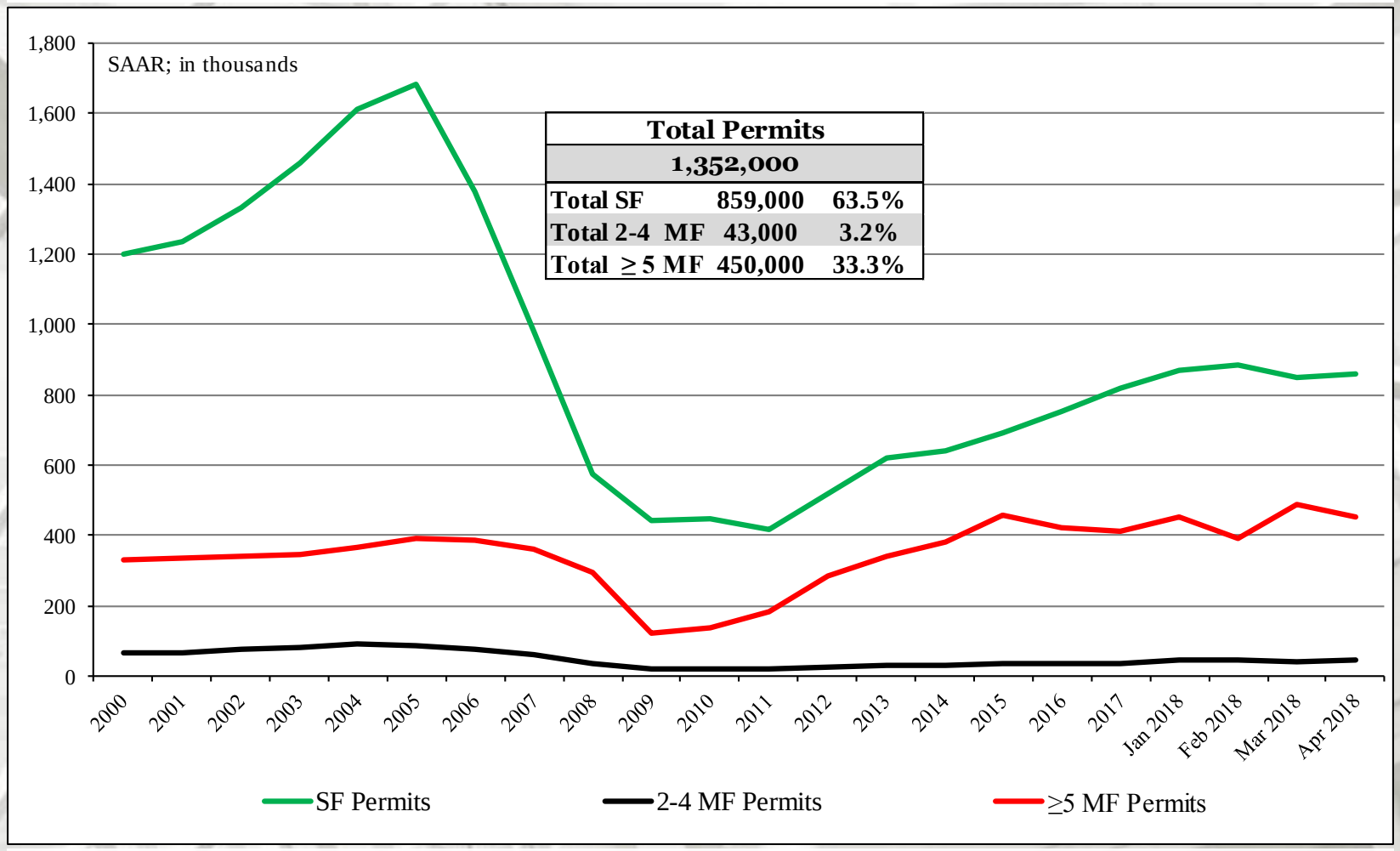
	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
April	1,352,000	859,000	43,000	450,000
March	1,377,000	851,000	40,000	486,000
2017	1,255,000	796,000	36,000	423,000
M/M change	-1.8%	0.9%	7.5%	-7.4%
Y/Y change	7.7%	7.9%	19.4%	6.4%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

Total New Housing Permits



NE = Northeast, MW = Midwest, S = South, W = West

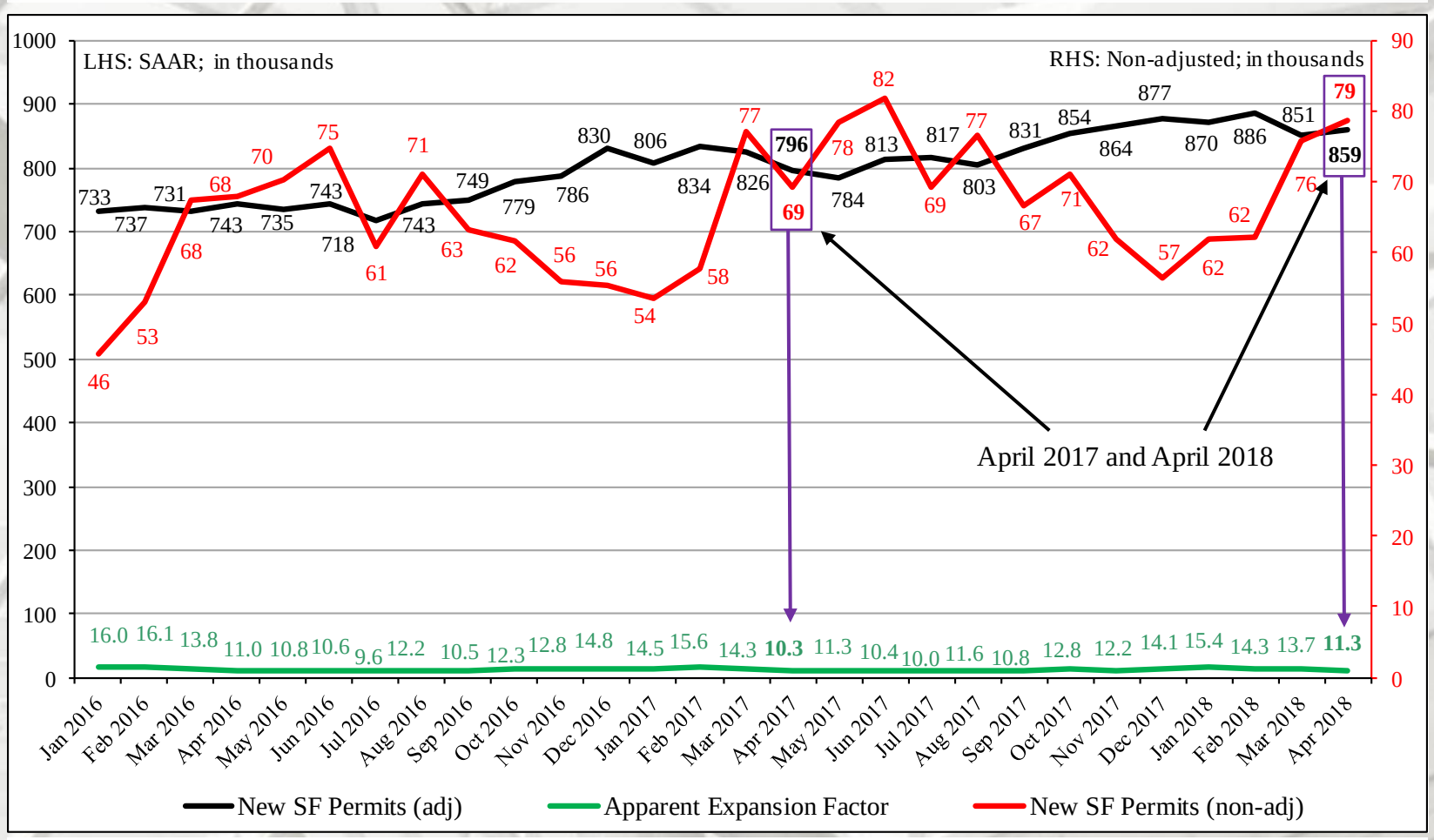
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

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; 5/16/18

Return TOC

New Housing Permits by Region

	NE Total*	NE SF	NE MF**
April	92,000	49,000	43,000
March	135,000	51,000	84,000
2017	120,000	51,000	69,000
M/M change	-31.9%	-3.9%	-48.8%
Y/Y change	-23.3%	-3.9%	-37.7%

	MW Total*	MW SF	MW MF**
April	194,000	122,000	72,000
March	203,000	119,000	84,000
2017	193,000	121,000	72,000
M/M change	-4.4%	2.5%	-14.3%
Y/Y change	0.5%	0.8%	0.0%

* 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; 5/16/18

Return TOC

New Housing Permits by Region

	S Total*	S SF	S MF**
April	730,000	478,000	252,000
March	652,000	456,000	196,000
2017	597,000	431,000	166,000
M/M change	12.0%	4.8%	28.6%
Y/Y change	22.3%	10.9%	51.8%

	W Total*	W SF	W MF**
April	336,000	210,000	126,000
March	387,000	225,000	162,000
2017	345,000	193,000	152,000
M/M change	-13.2%	-6.7%	-22.2%
Y/Y change	-2.6%	8.8%	-17.1%

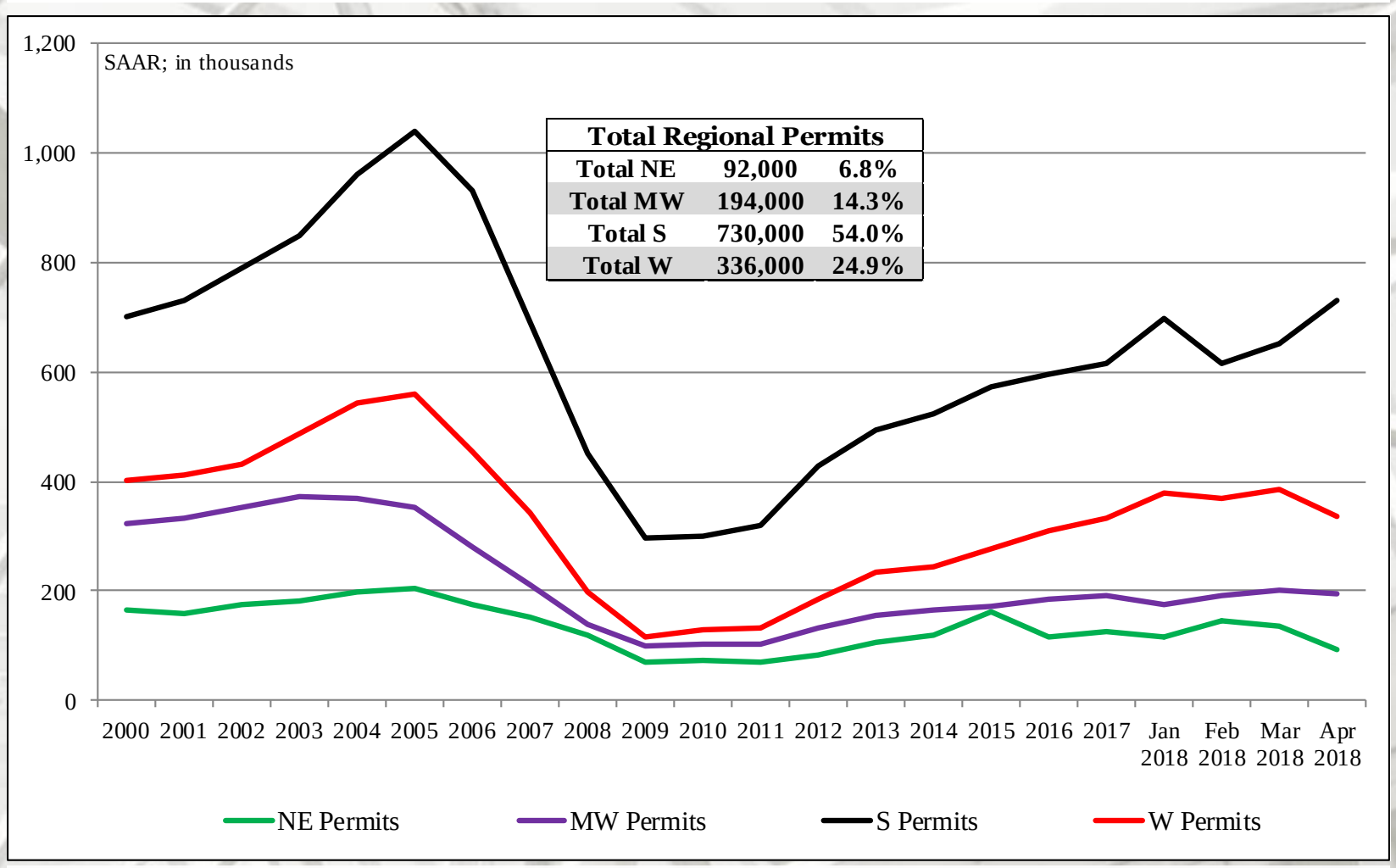
All data are SAAR

** 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; 5/16/18

Return TOC

Total Housing Permits by Region



Total Regional Permits		
Total NE	92,000	6.8%
Total MW	194,000	14.3%
Total S	730,000	54.0%
Total W	336,000	24.9%

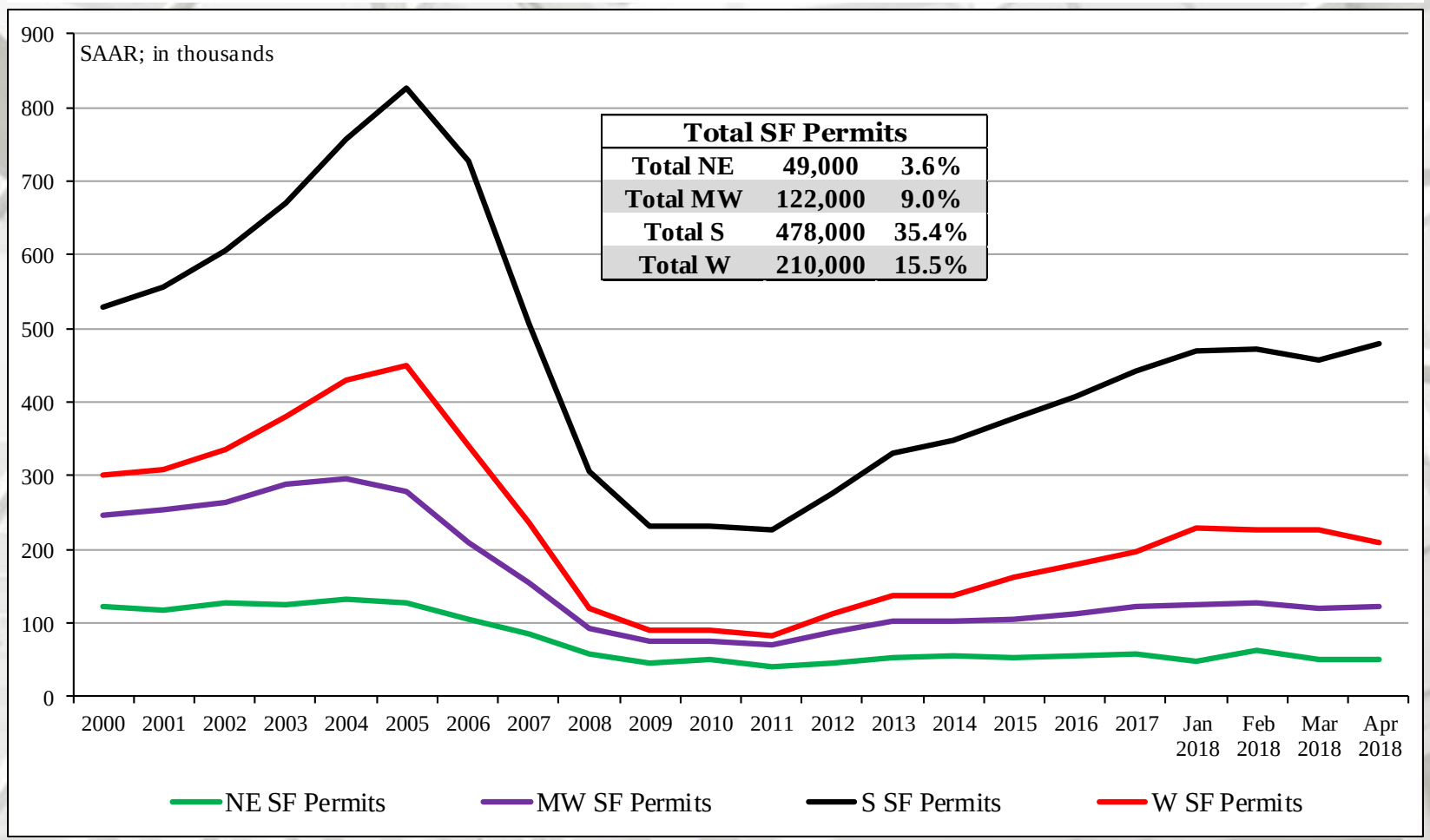
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

SF Housing Permits by Region



Total SF Permits		
Total NE	49,000	3.6%
Total MW	122,000	9.0%
Total S	478,000	35.4%
Total W	210,000	15.5%

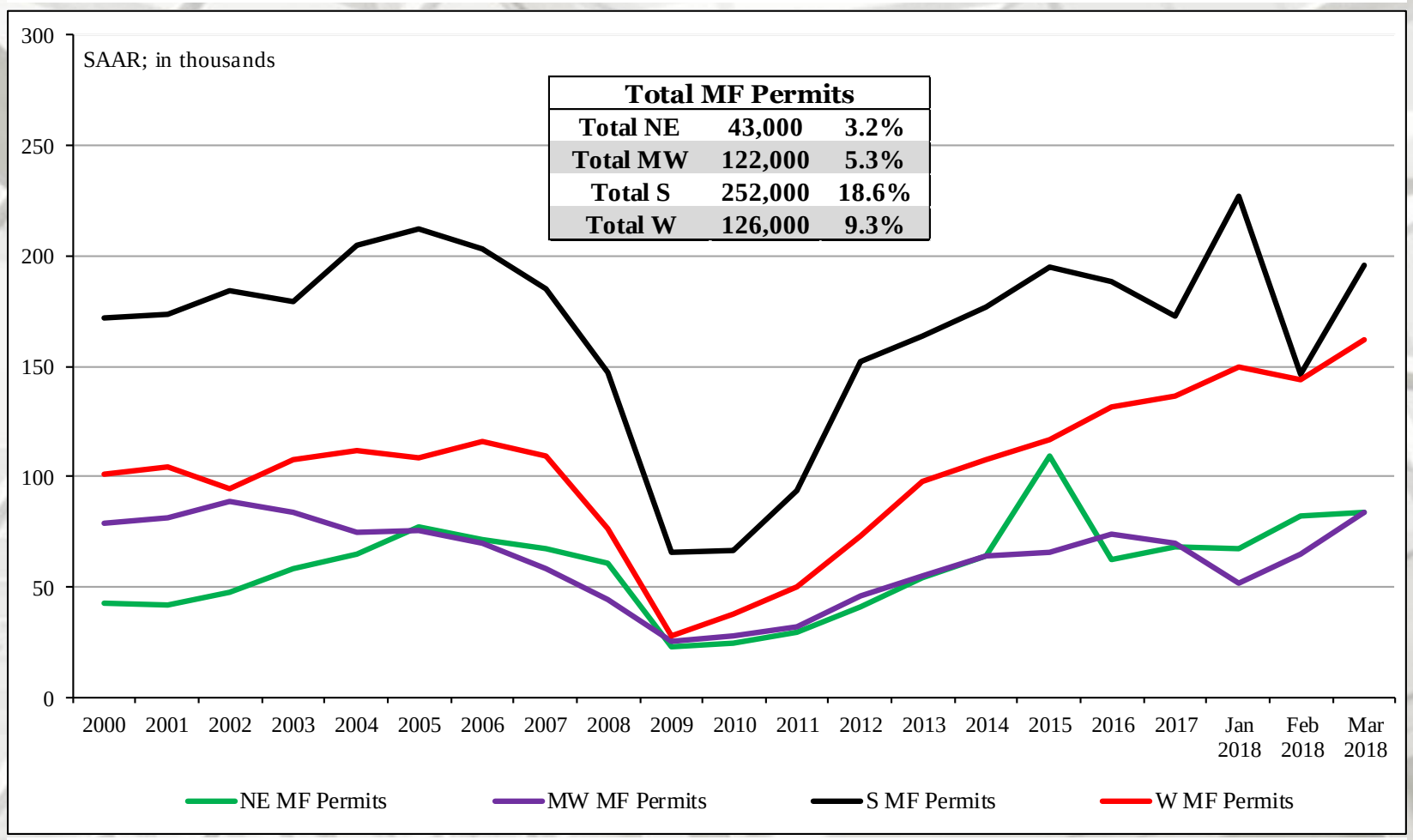
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

MF Housing Permits by Region



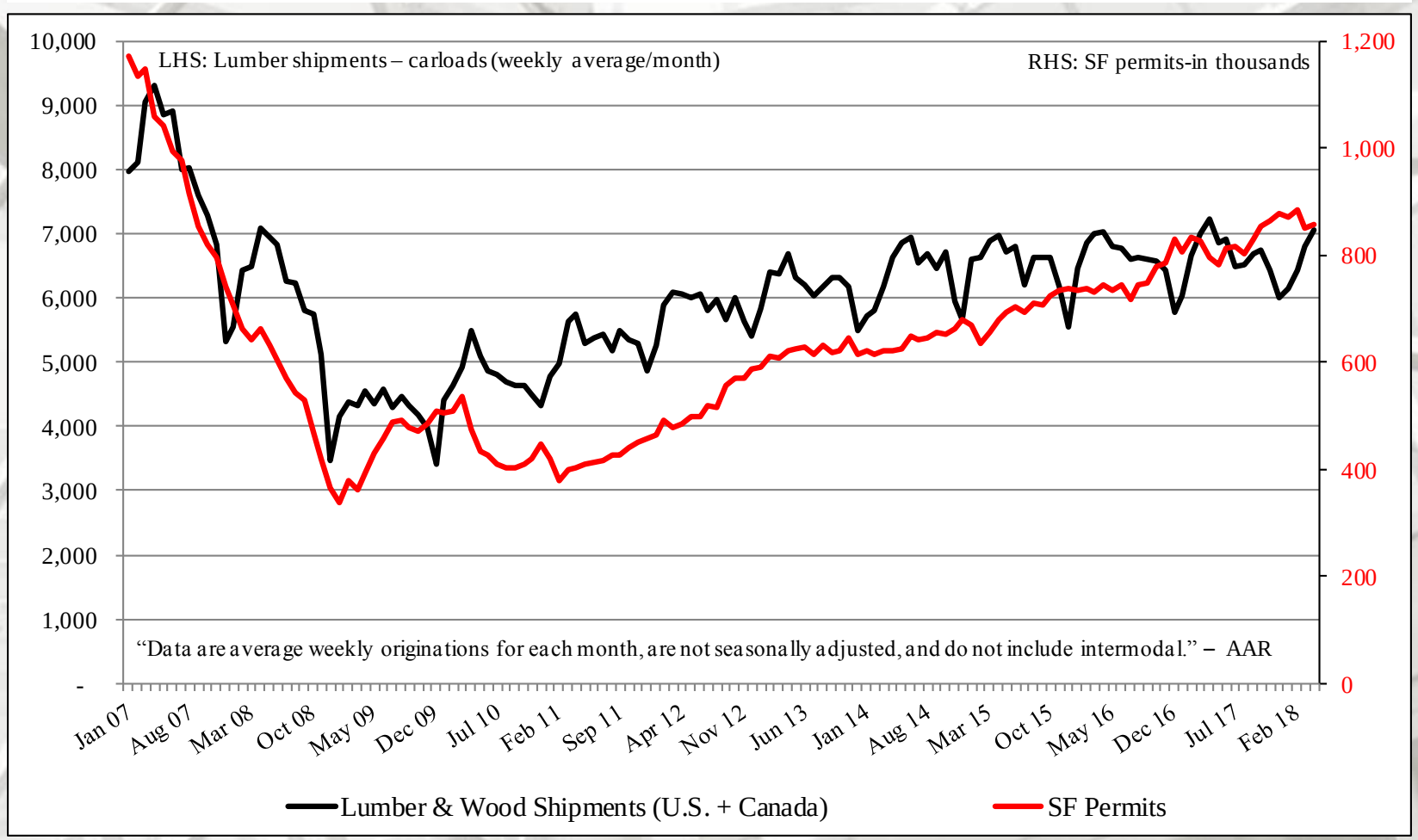
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

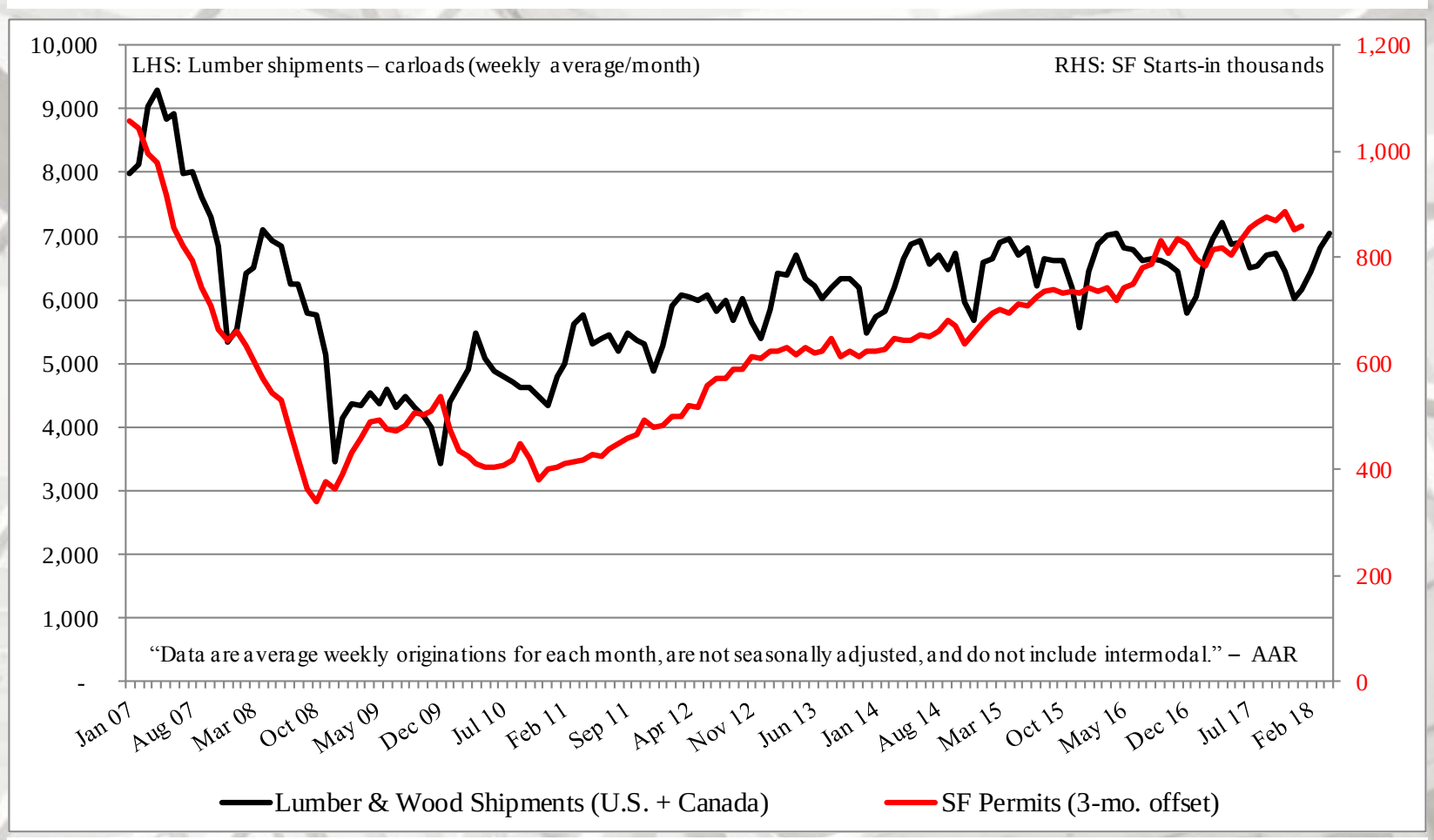
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 5/4/18; U.S. DOC-Construction; 5/16/18

Return 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 April 2018. 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 5/4/18; U.S. DOC-Construction; 5/16/18

Return TOC

New Housing Under Construction (HUC)

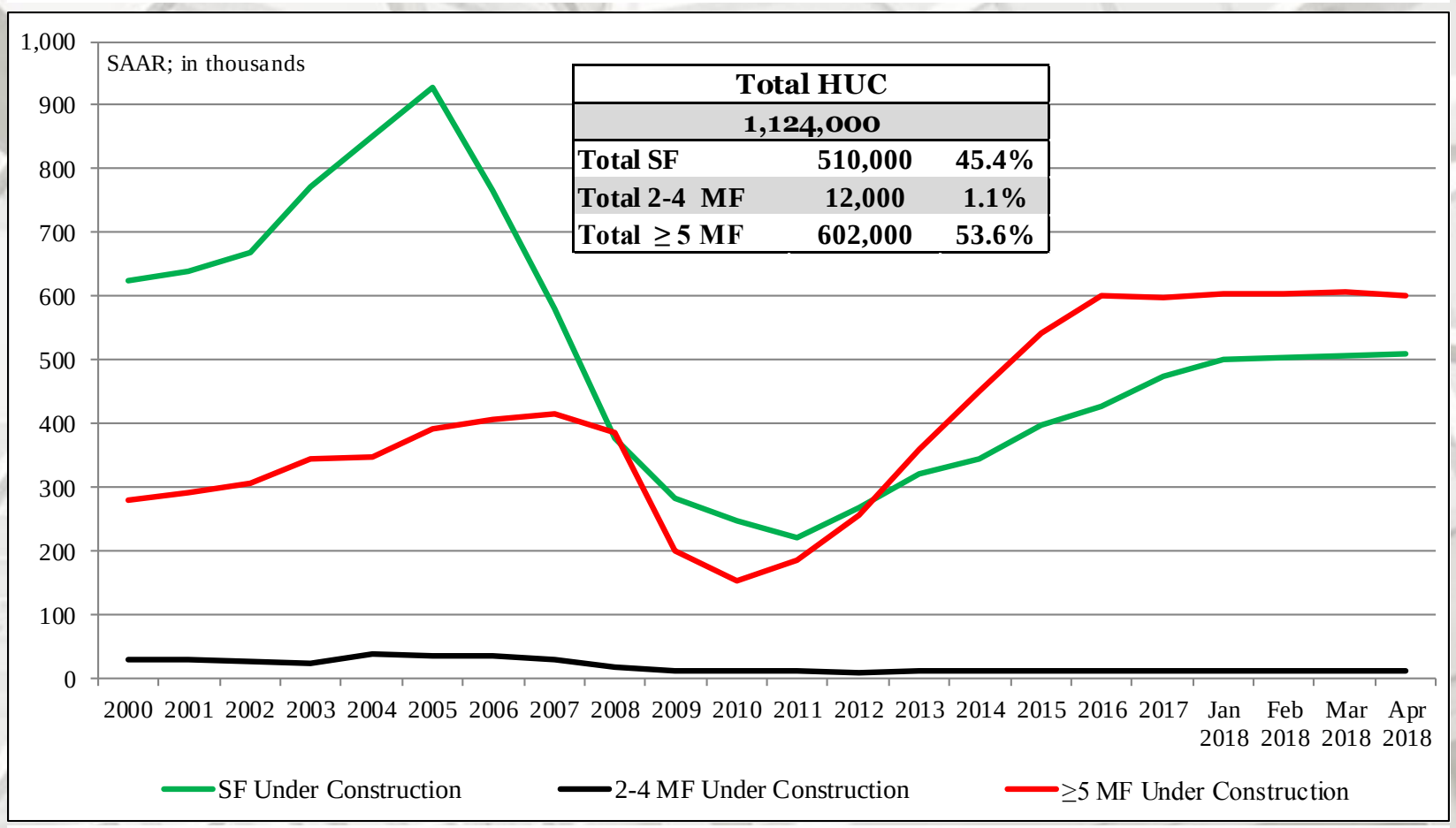
	Total Under Construction*	SF Under Construction	Under Construction	MF ≥ 5 unit Under Construction
April	1,124,000	510,000	12,000	602,000
March	1,124,000	505,000	11,000	608,000
2017	1,074,000	458,000	10,000	606,000
M/M change	0.0%	1.0%	9.1%	-1.0%
Y/Y change	4.7%	11.4%	20.0%	-0.7%

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; 5/16/18

Return TOC

Total Housing Under Construction



Total HUC		
1,124,000		
Total SF	510,000	45.4%
Total 2-4 MF	12,000	1.1%
Total ≥ 5 MF	602,000	53.6%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
April	186,000	53,000	133,000
March	186,000	52,000	134,000
2017	189,000	51,000	138,000
M/M change	0.0%	1.9%	-0.7%
Y/Y change	-1.6%	3.9%	-3.6%

	MW Total	MW SF	MW MF
April	150,000	81,000	69,000
March	155,000	83,000	72,000
2017	151,000	74,000	77,000
M/M change	-3.2%	-2.4%	-4.2%
Y/Y change	-0.7%	9.5%	-10.4%

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; 5/16/18

Return TOC

New Housing Under Construction by Region

	S Total	S SF	S MF**
April	452,000	238,000	214,000
March	450,000	231,000	219,000
2017	446,000	220,000	226,000
M/M change	0.4%	3.0%	-2.3%
Y/Y change	1.3%	8.2%	-5.3%

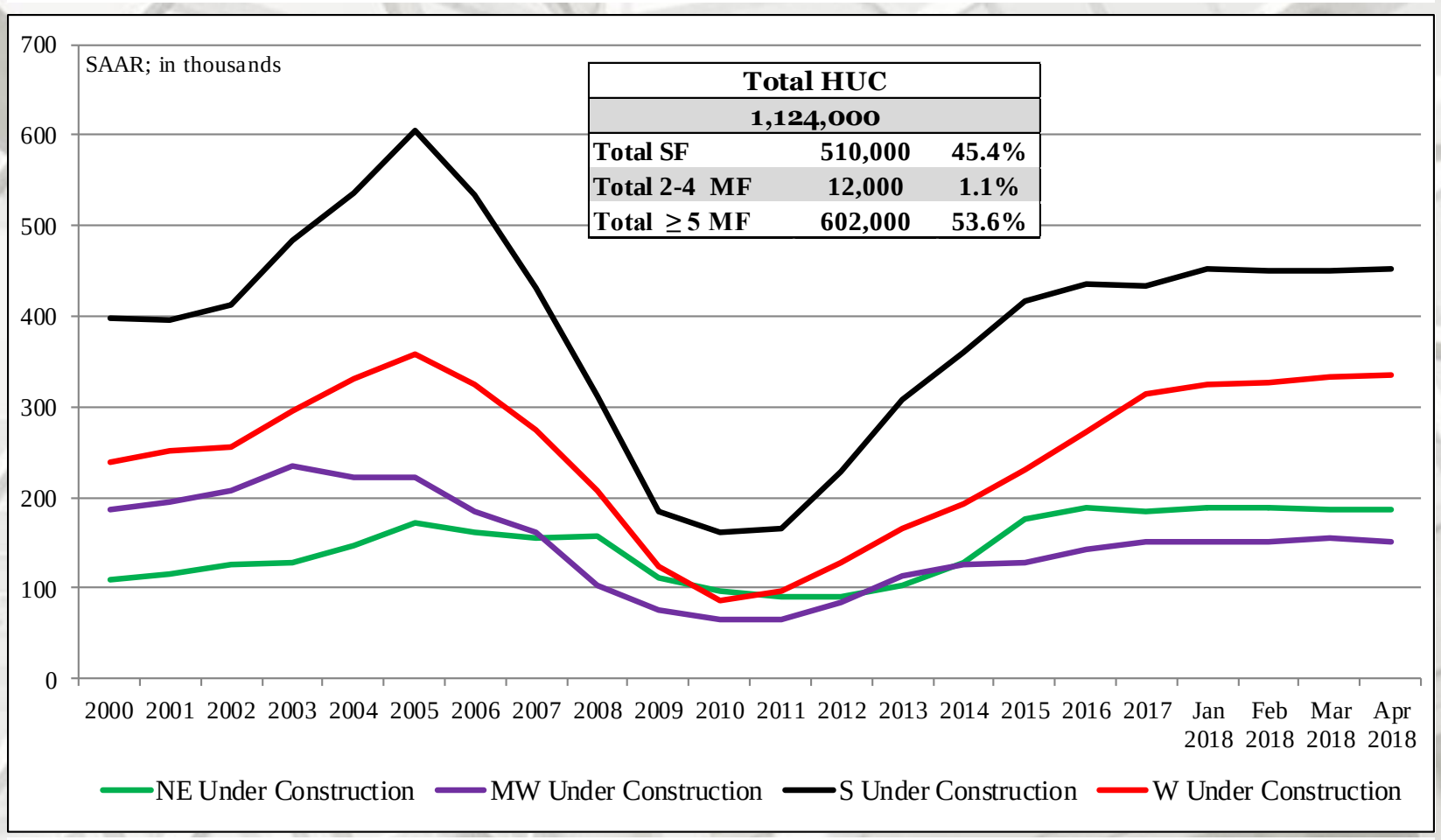
	W Total	W SF	W MF
April	336,000	138,000	198,000
March	333,000	139,000	194,000
2017	288,000	113,000	175,000
M/M change	0.9%	-0.7%	2.1%
Y/Y change	16.7%	22.1%	13.1%

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; 5/16/18

Return TOC

Total Housing Under Construction by Region



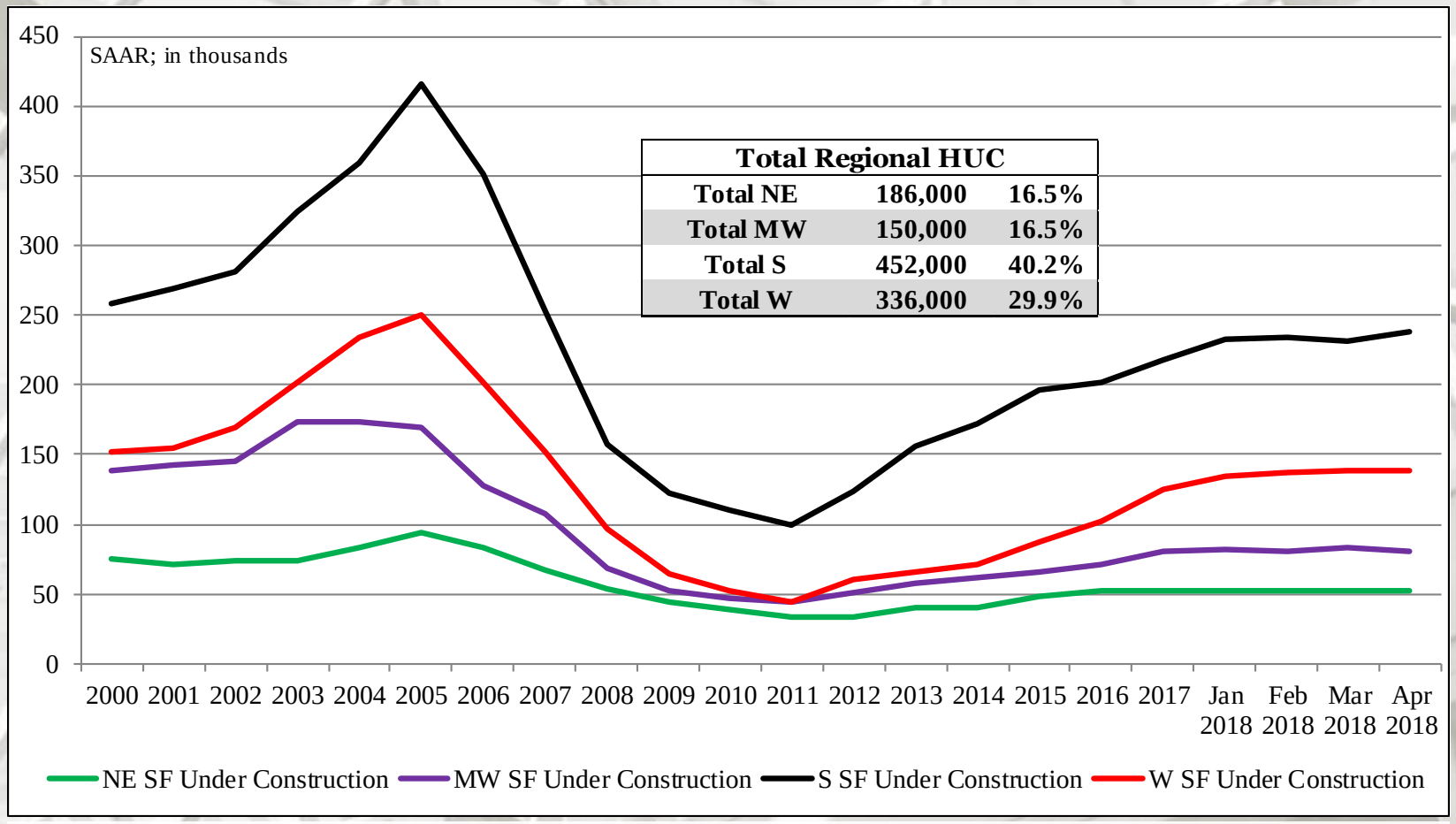
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

SF Housing Under Construction by Region



Total Regional HUC		
Total NE	186,000	16.5%
Total MW	150,000	16.5%
Total S	452,000	40.2%
Total W	336,000	29.9%

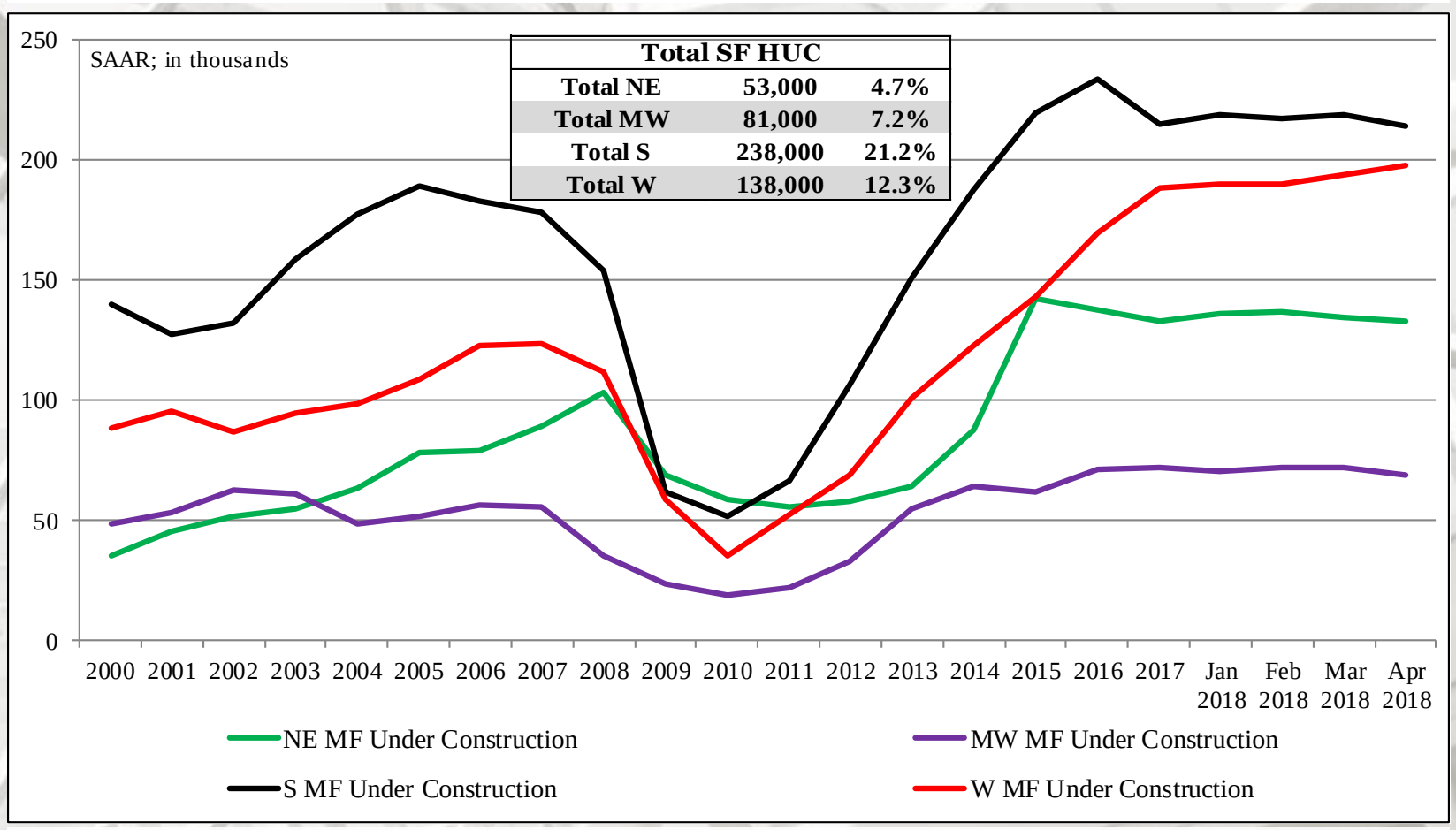
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

MF Housing Under Construction by Region



NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
April	1,257,000	820,000	12,000	425,000
March	1,223,000	854,000	11,000	358,000
2017	1,095,000	777,000	22,000	296,000
M/M change	2.8%	-4.0%	9.1%	18.7%
Y/Y change	14.8%	5.5%	-45.5%	43.6%

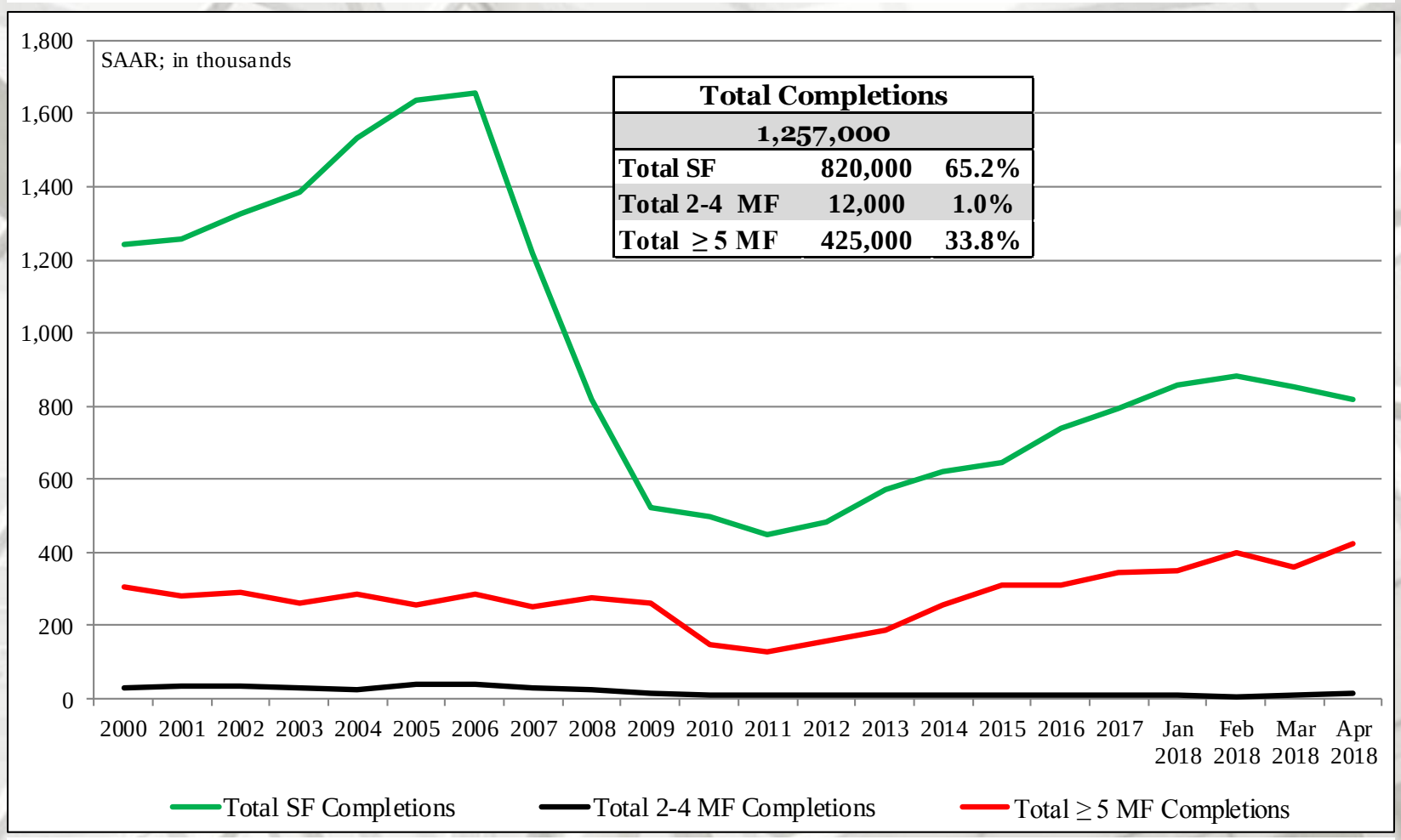
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

Total Housing Completions



Total Completions		
1,257,000		
Total SF	820,000	65.2%
Total 2-4 MF	12,000	1.0%
Total ≥ 5 MF	425,000	33.8%

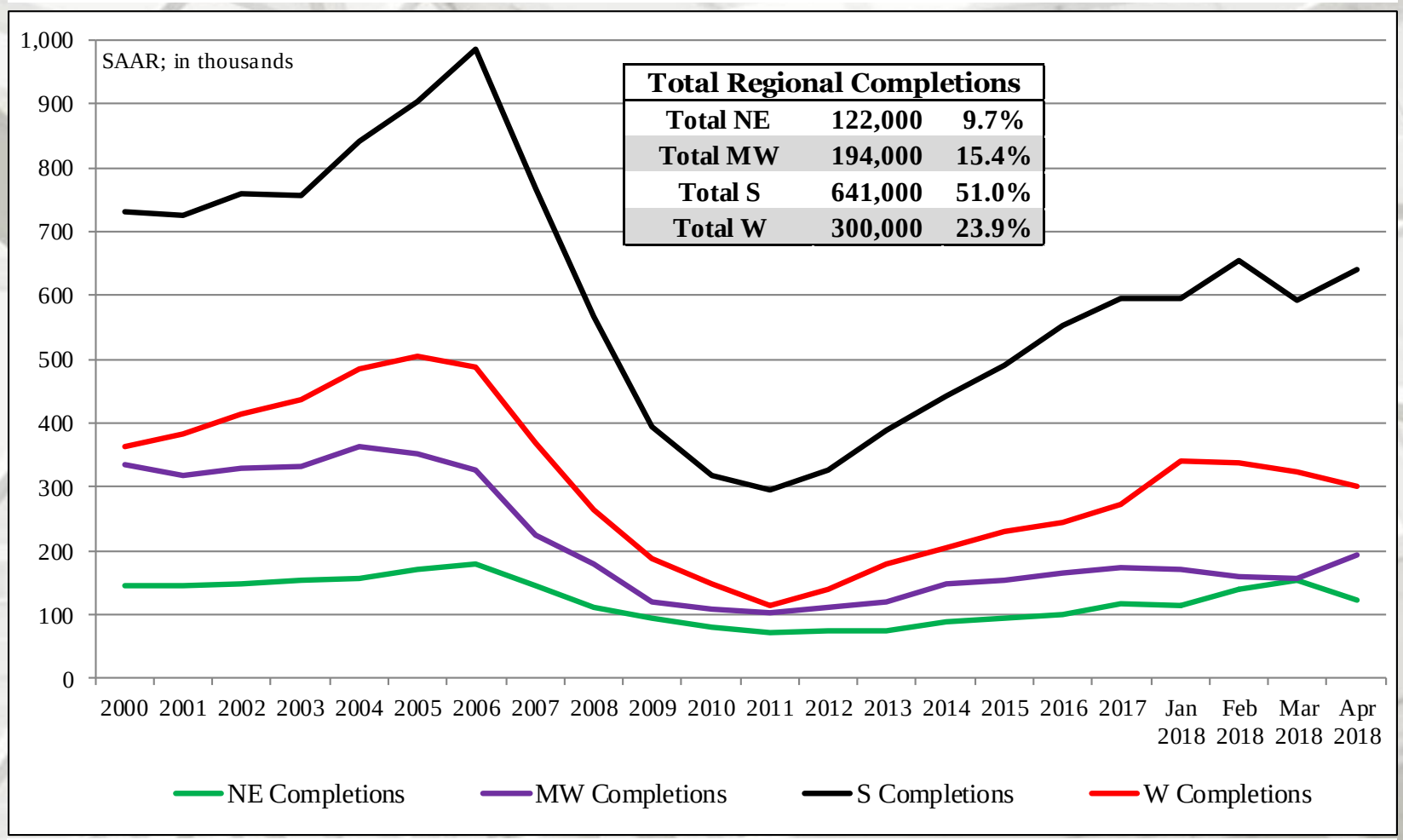
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

Total Housing Completions by Region



Total Regional Completions		
Total NE	122,000	9.7%
Total MW	194,000	15.4%
Total S	641,000	51.0%
Total W	300,000	23.9%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing Completions by Region

	NE Total	NE SF	NE MF**
April	122,000	51,000	71,000
March	153,000	64,000	89,000
2017	87,000	60,000	27,000
M/M change	-20.3%	-20.3%	-20.2%
Y/Y change	40.2%	-15.0%	163.0%

	MW Total	MW SF	MW MF
April	194,000	130,000	64,000
March	156,000	111,000	45,000
2017	181,000	126,000	55,000
M/M change	24.4%	17.1%	42.2%
Y/Y change	7.2%	3.2%	16.4%

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; 5/16/18

Return TOC

New Housing Completions by Region

	S Total	S SF	S MF**
April	641,000	425,000	216,000
March	591,000	464,000	127,000
2017	593,000	425,000	168,000
M/M change	8.5%	-8.4%	70.1%
Y/Y change	8.1%	0.0%	28.6%

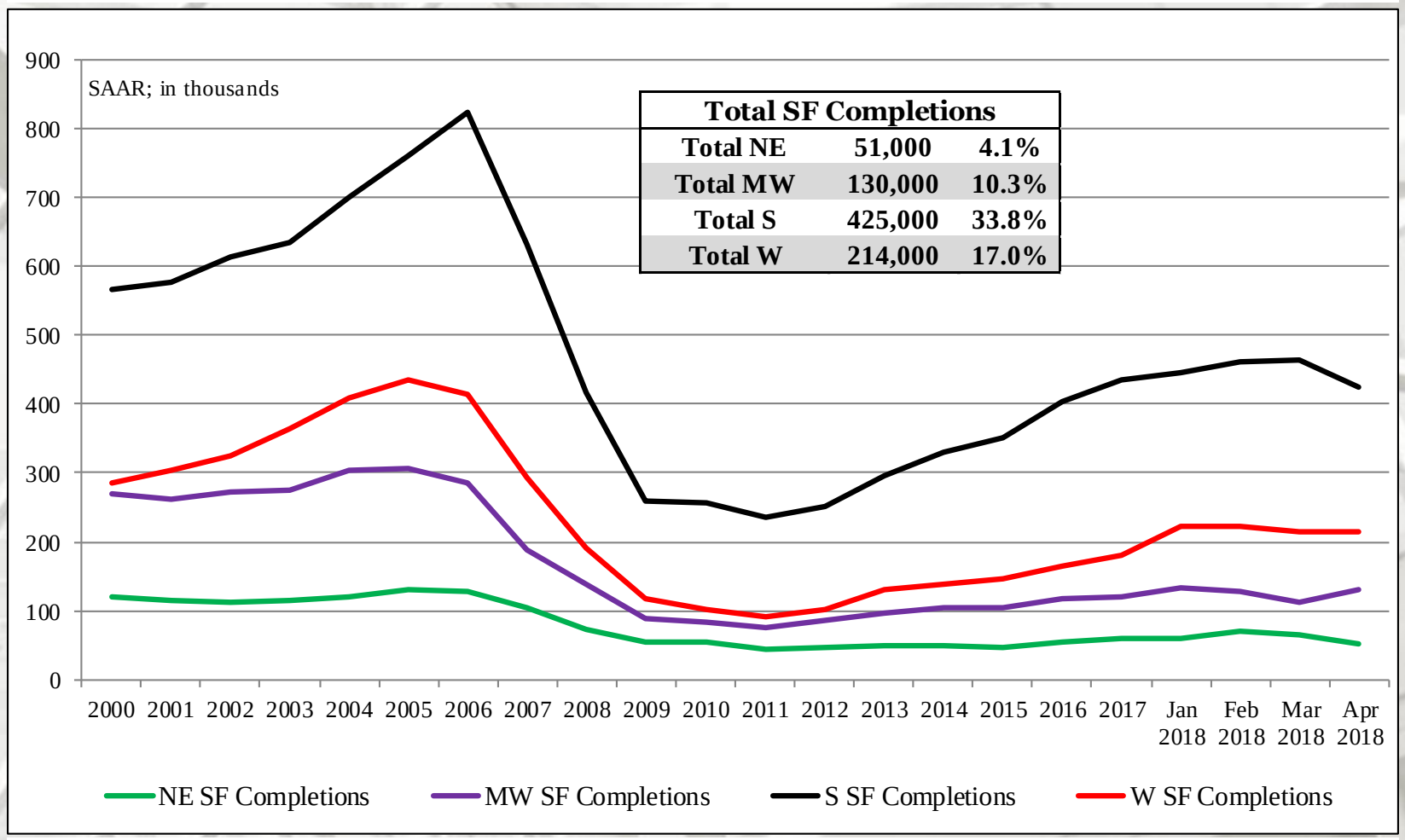
	W Total	W SF	W MF
April	300,000	214,000	86,000
March	323,000	215,000	108,000
2017	234,000	166,000	68,000
M/M change	-7.1%	-0.5%	-20.4%
Y/Y change	28.2%	28.9%	26.5%

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; 5/16/18

Return TOC

Total Housing SF Completions by Region



Total SF Completions		
Total NE	51,000	4.1%
Total MW	130,000	10.3%
Total S	425,000	33.8%
Total W	214,000	17.0%

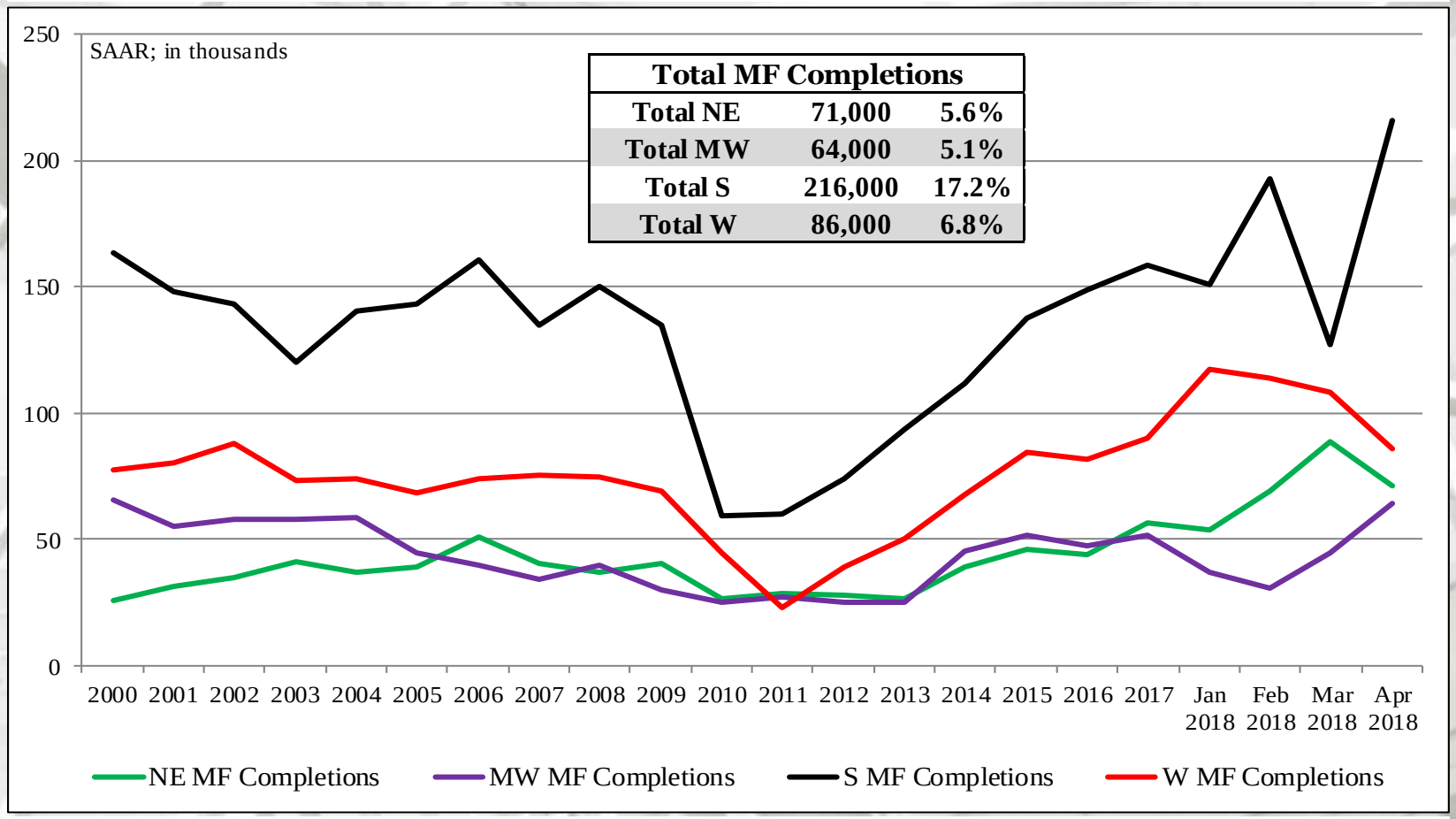
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Housing MF Completions by Region



NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

All data are SAAR; NE = Northeast and MW = Midwest; * Percentage of total housing completions.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/16/18

Return TOC

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
April	662,000	$312,400	$407,300	5.4
March	672,000	$335,400	$366,000	5.3
2017	593,000	$311,100	$365,800	5.4
M/M change	-1.5%	-6.9%	11.3%	1.9%
Y/Y change	11.6%	0.4%	11.3%	0.0%

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

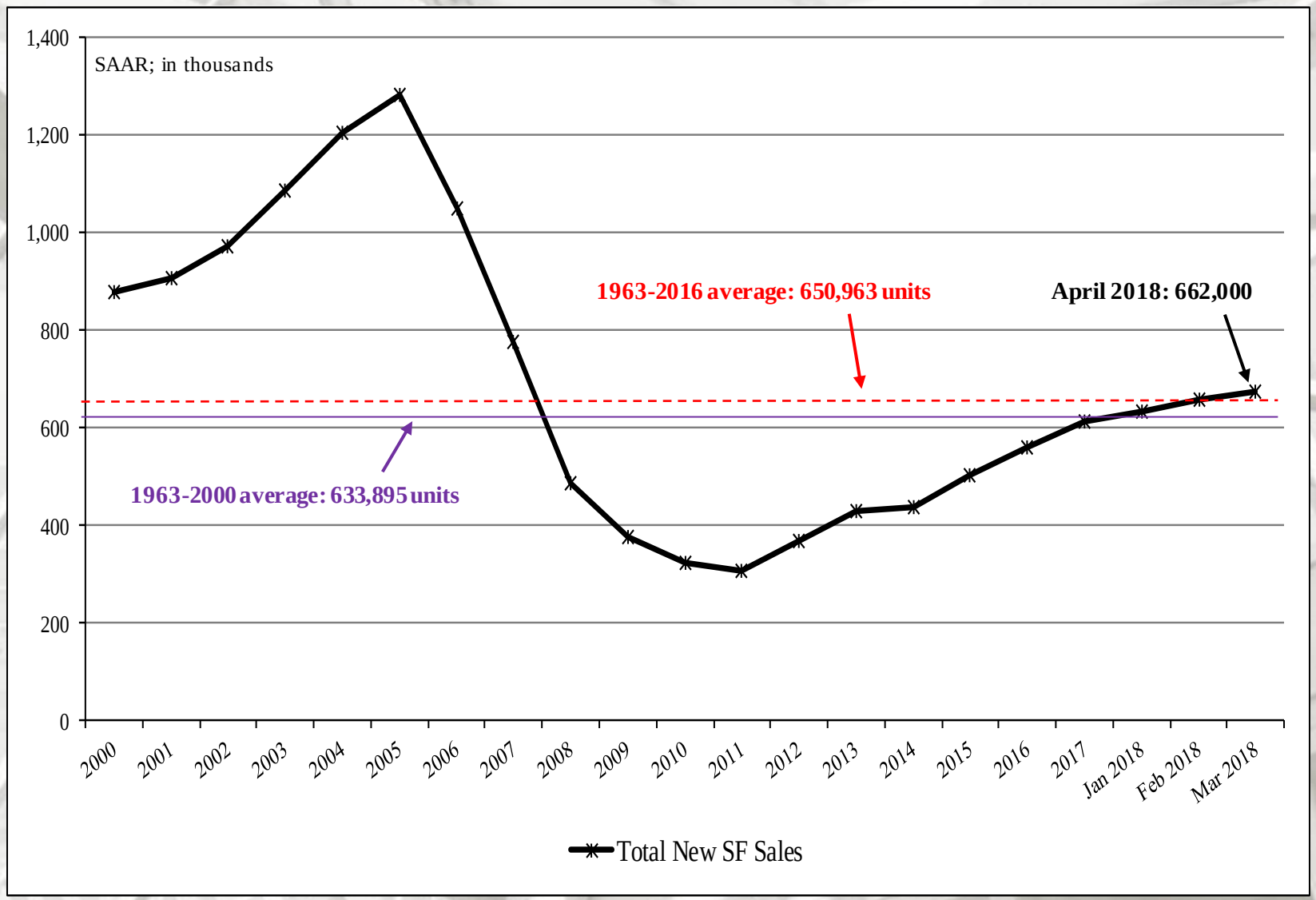
New SF sales were less than the consensus forecast (677 m)[3]. The past three month's new SF sales data were revised:

January initial: 593 m revised to 633 m;
February initial: 618 m revised to 659 m;
March initial: 694 m revised to 672 m.

Sources: [1]http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf
[3] http://mam.econoday.com/byshoweventfull.asp; 5/23/18

Return TOC

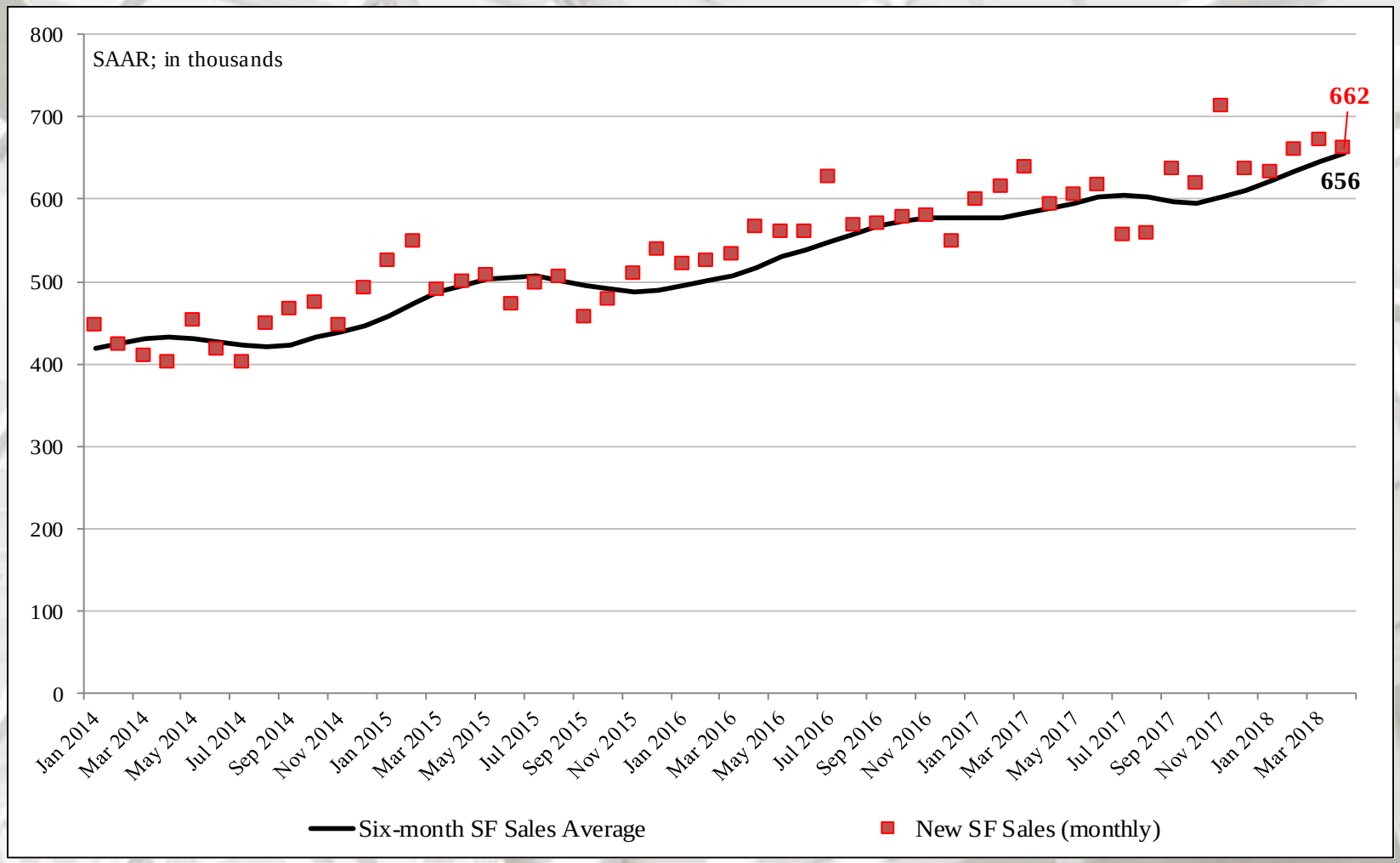
New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF Housing Sales: Six-month average & monthly



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales by Region and Price Category

	NE SF Sales	MW SF Sales	S SF Sales	W SF Sales
April	40,000	91,000	355,000	176,000
March	36,000	91,000	354,000	191,000
2017	38,000	72,000	335,000	148,000
M/M change	11.1%	0.0%	0.3%	-7.9%
Y/Y change	5.3%	26.4%	6.0%	18.9%

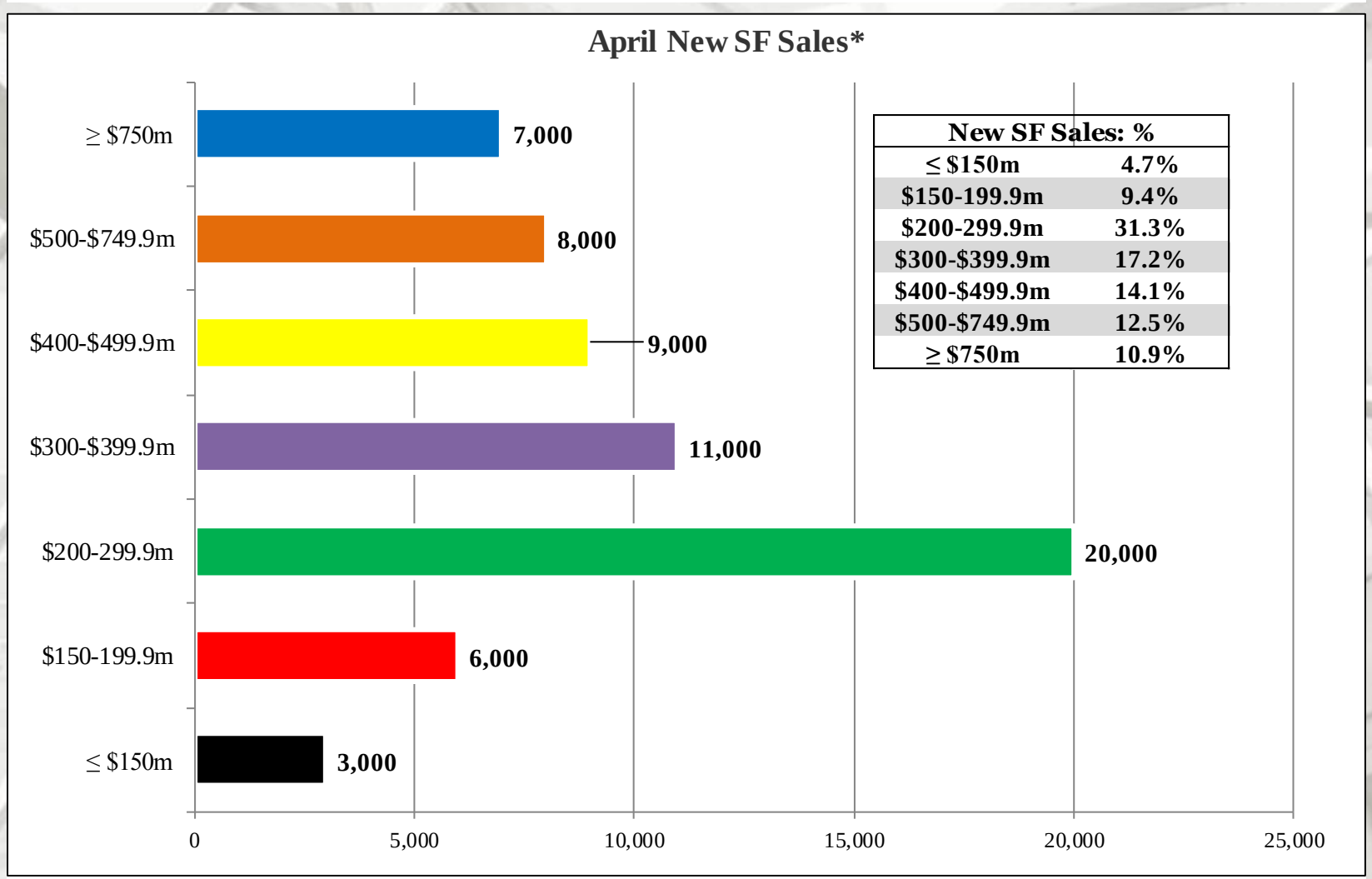
	≤ $150m	$150 - $199.9m	$200 - 299.9m	$300 - $399.9m	$400 - $499.9m	$500 - $749.9m	≥ $750m
April[1,2,3,4]	3,000	6,000	20,000	11,000	9,000	8,000	7,000
March	3,000	6,000	18,000	19,000	10,000	8,000	3,000
2017	1,000	5,000	21,000	12,000	9,000	6,000	3,000
M/M change	0.0%	0.0%	11.1%	-42.1%	-10.0%	0.0%	133.3%
Y/Y change	200.0%	20.0%	-4.8%	-8.3%	0.0%	33.3%	133.3%
% of New SF sales	4.7%	9.4%	31.3%	17.2%	14.1%	12.5%	10.9%

[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; 5/23/18;
[4]https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

Return TOC

New SF House Sales



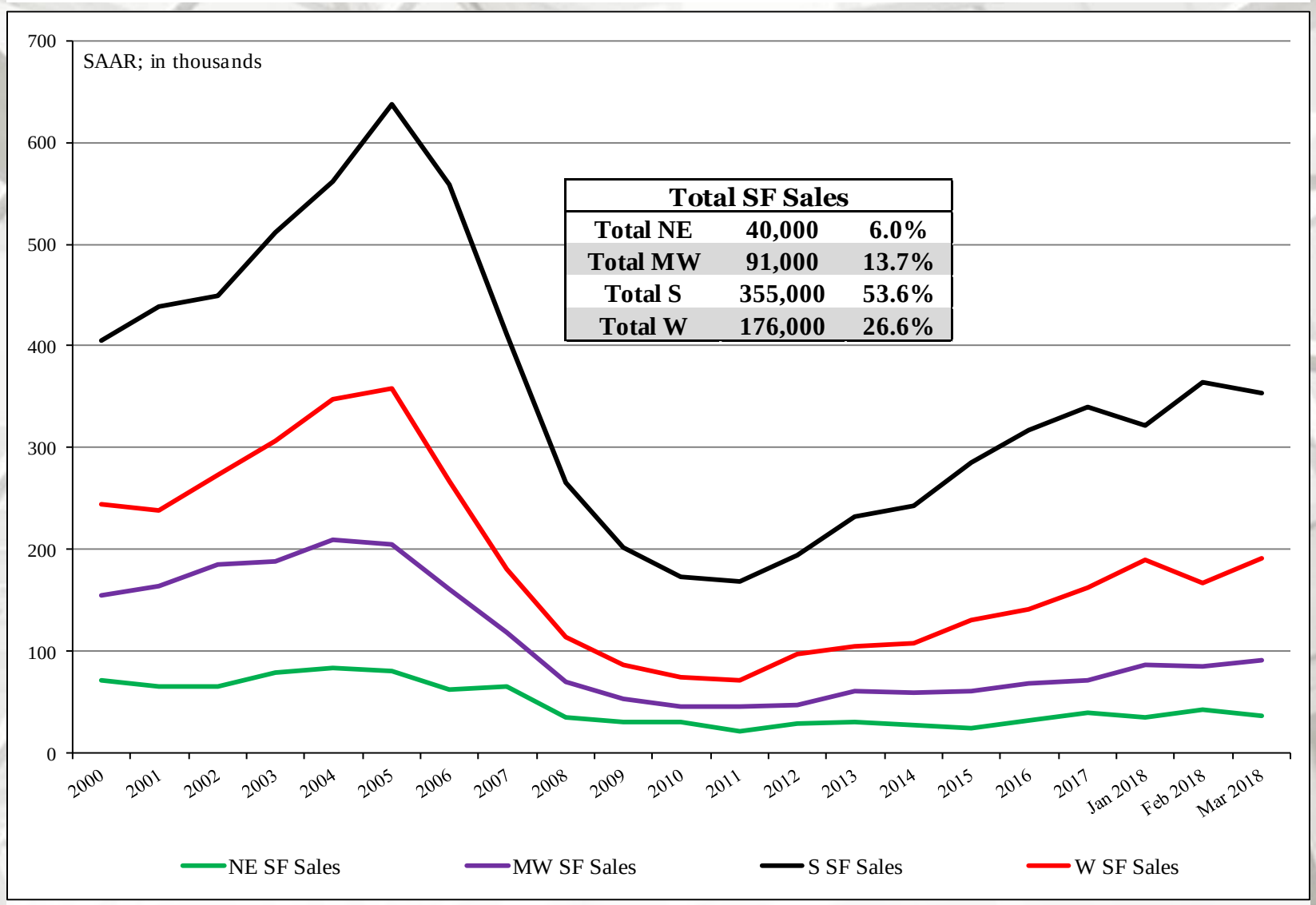
New SF Sales: %	
≤ $150m	4.7%
$150-199.9m	9.4%
$200-299.9m	31.3%
$300-$399.9m	17.2%
$400-$499.9m	14.1%
$500-$749.9m	12.5%
≥ $750m	10.9%

* Total new sales by price category and percent.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales by Region



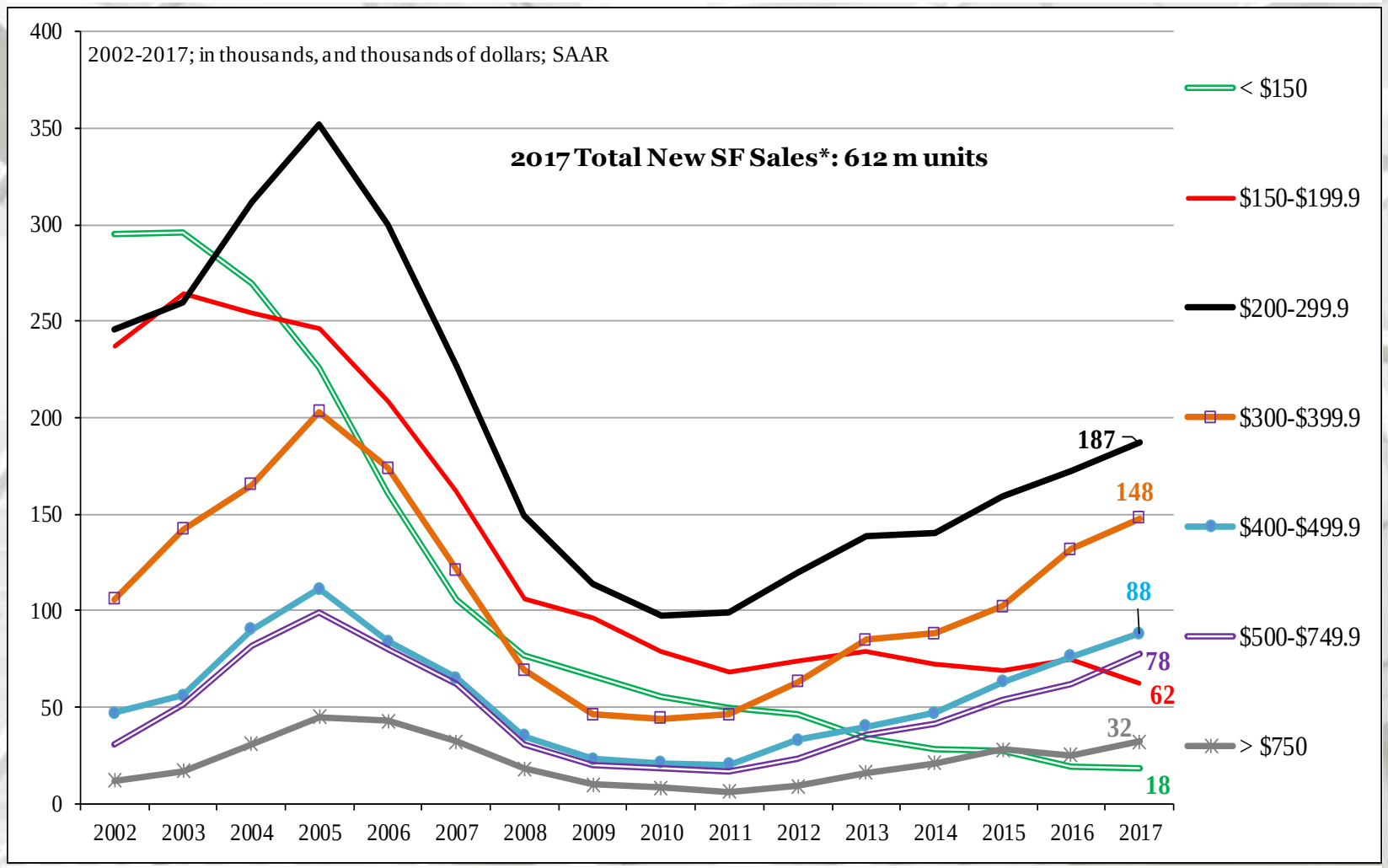
Total SF Sales		
Total NE	40,000	6.0%
Total MW	91,000	13.7%
Total S	355,000	53.6%
Total W	176,000	26.6%

* Percentage of total new sales.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales by Price Category

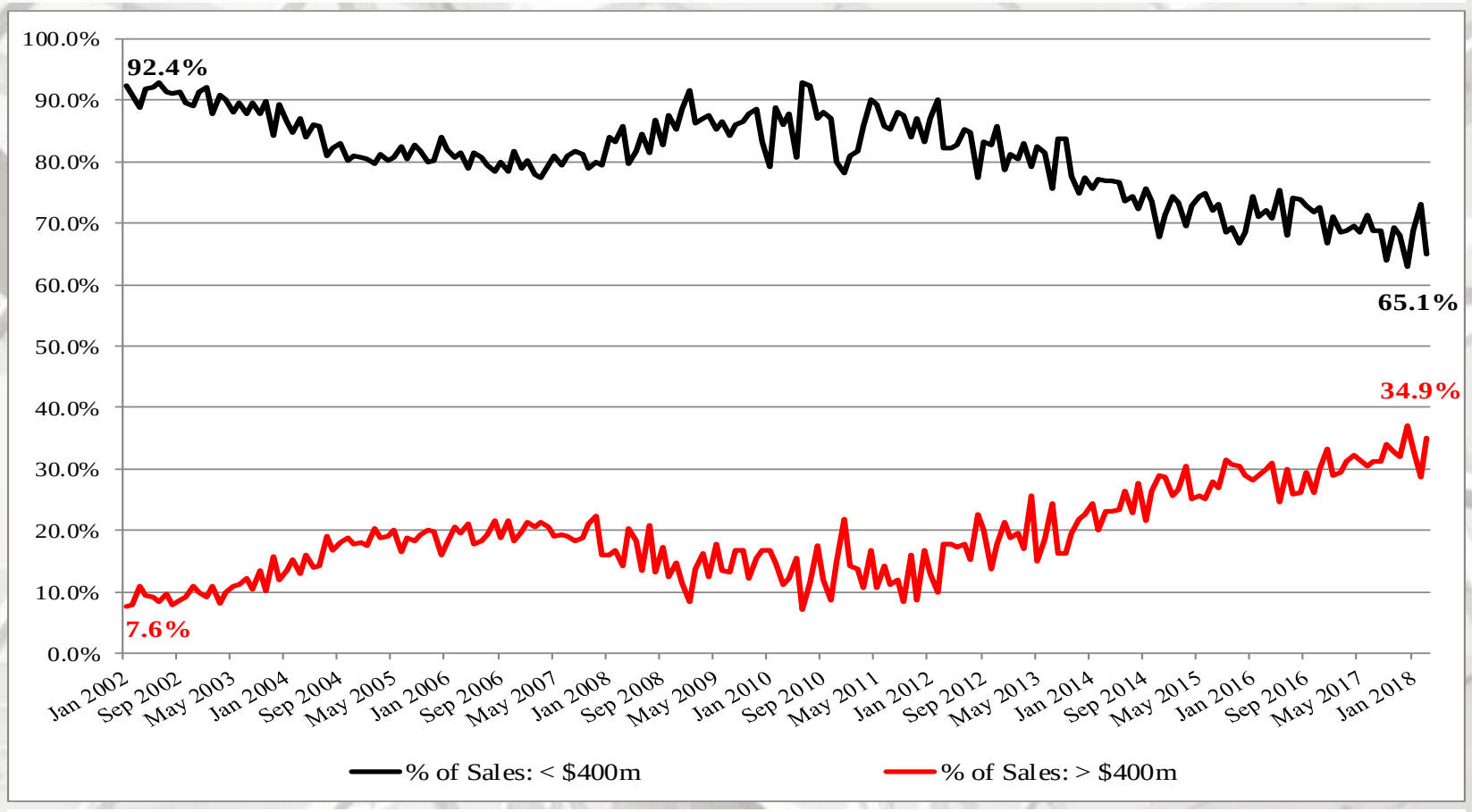


* Sales tallied by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales



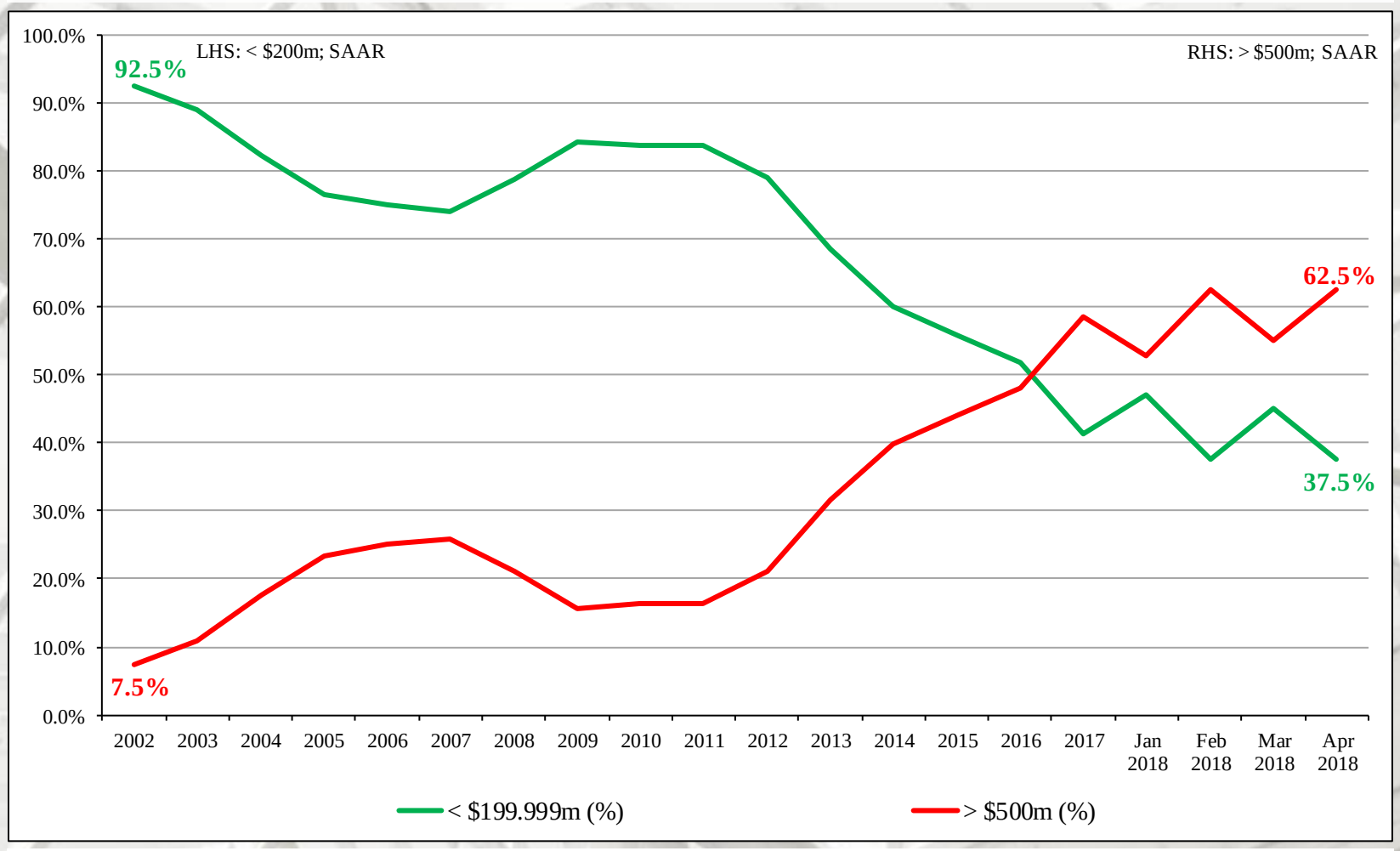
New SF Sales $400m houses: 2002 – April 2018

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 5/23/18

Return TOC

New SF House Sales



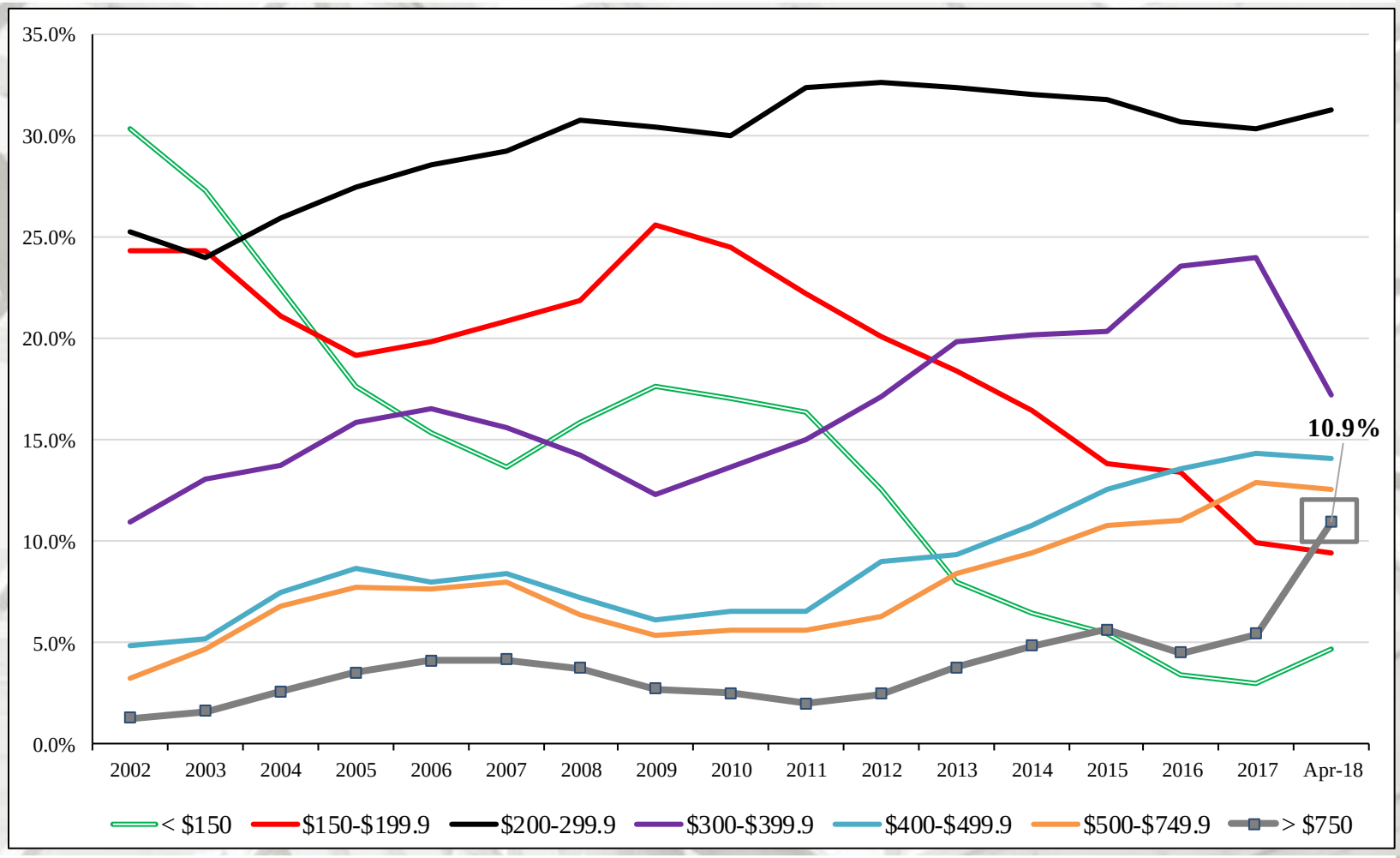
New SF Sales: < $ 200m and > $500m: 2002 to April 2018

The number of < $200 thousand plus SF houses has declined dramatically since 2002 [1, 2]. Subsequently, from 2012 onward, the > $500 thousand class has soared (on a percentage basis) in contrast to the < $200m class. One of the most oft mentioned reasons for this occurrence is builder margins. Note: Sales values not adjusted for inflation.

Source: [1] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 5/23/18

Return TOC

New SF House Sales



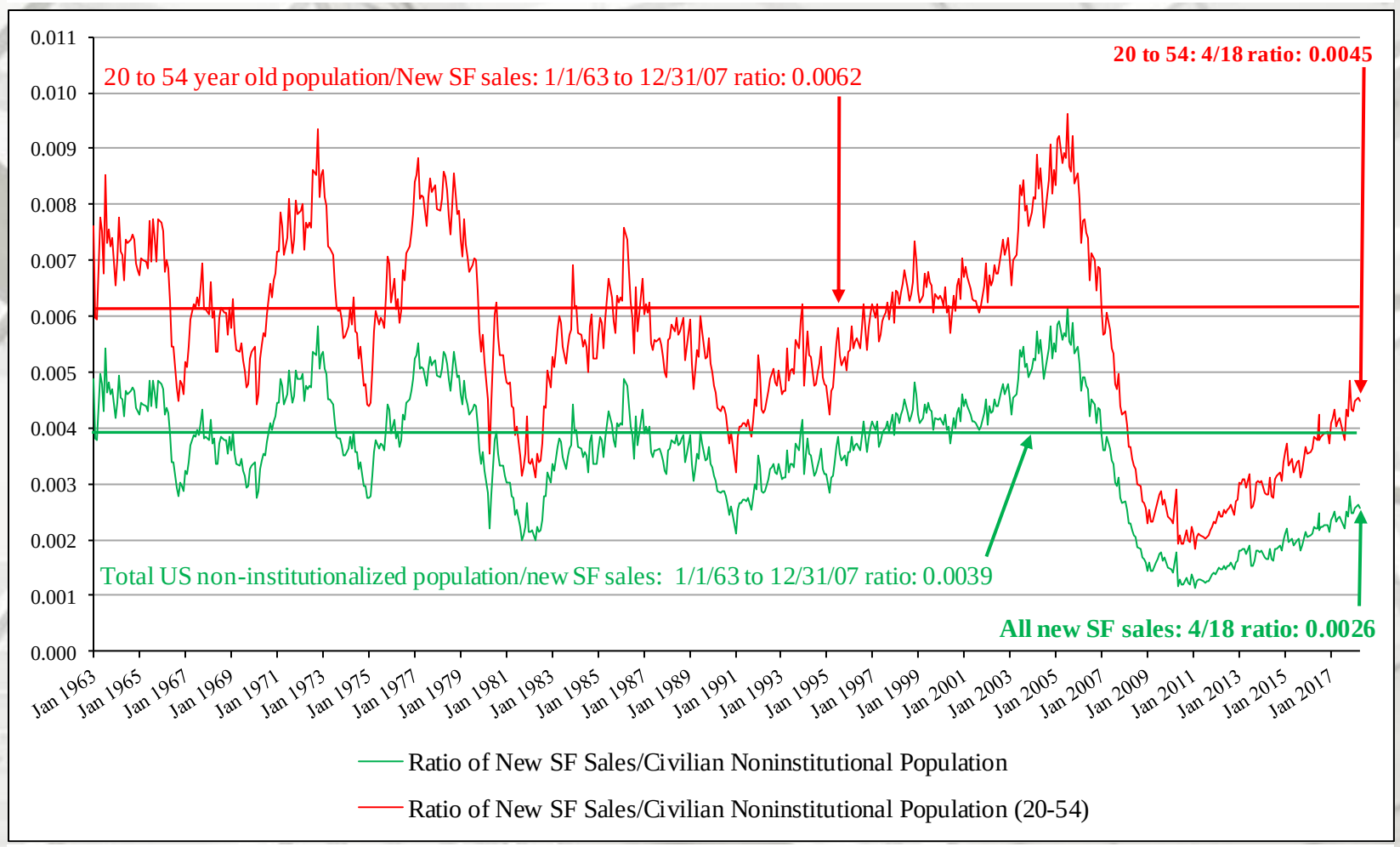
New SF Total Sales Percentages

Sales of SF houses in the greater than or equivalent to $750.000 category, for the first-time since data reporting – exceeded 10% of all new SF sales. The question, will this be revised downward in the upcoming months?

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales



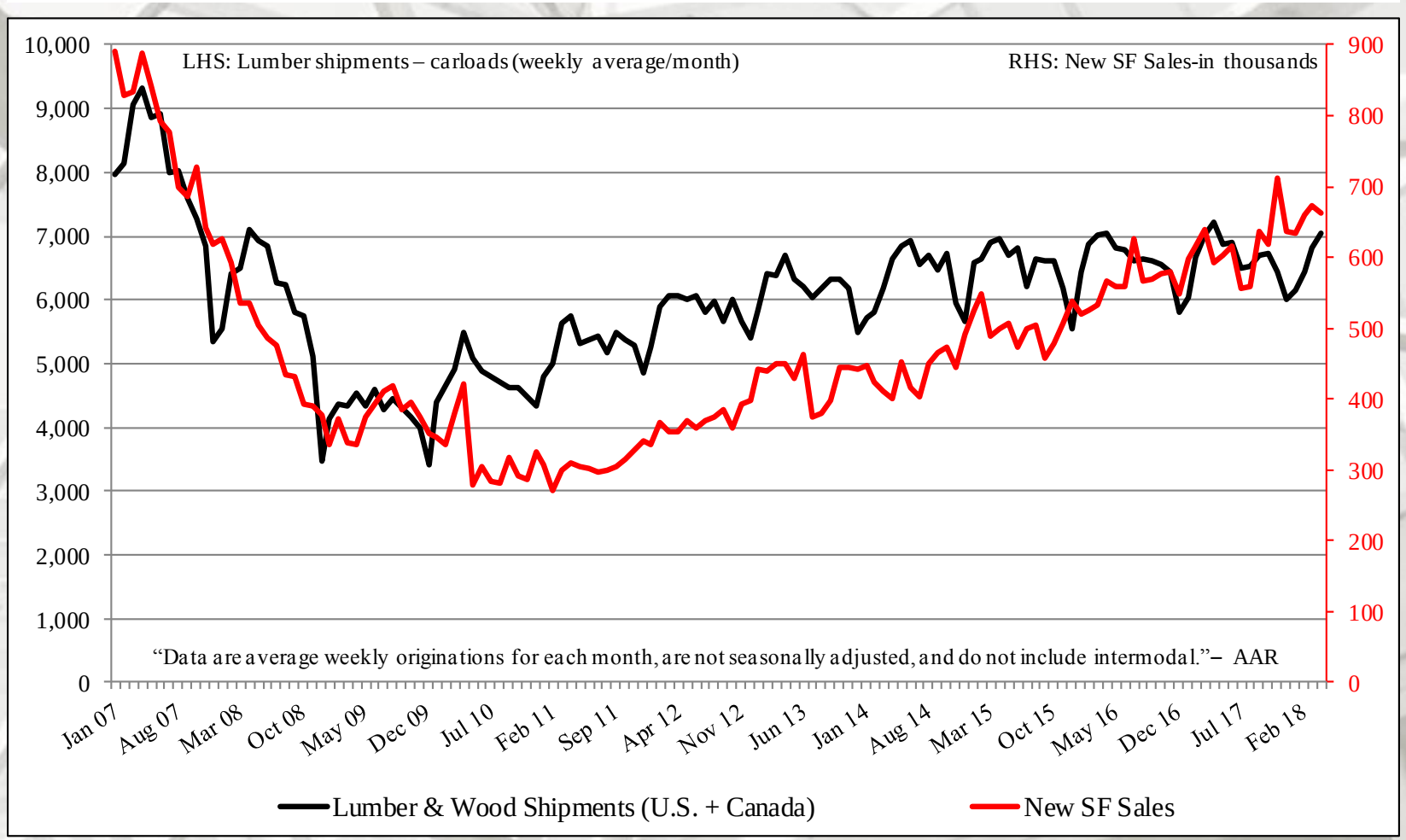
New SF sales adjusted for the US population

From April 1963 to November 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in April 2018 it was 0.0026 – no change from March. The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in April 2018 it was 0.0045 – a slight decrease from March (0.0046). All are non-adjusted data. From a population viewpoint, construction is less than what is necessary for changes in the population (i.e., under-building).

Sources: http://www.census.gov/construction/nrs/xls/newressales.xls and The Federal Reserve Bank of St. Louis; 5/23/18

Return TOC

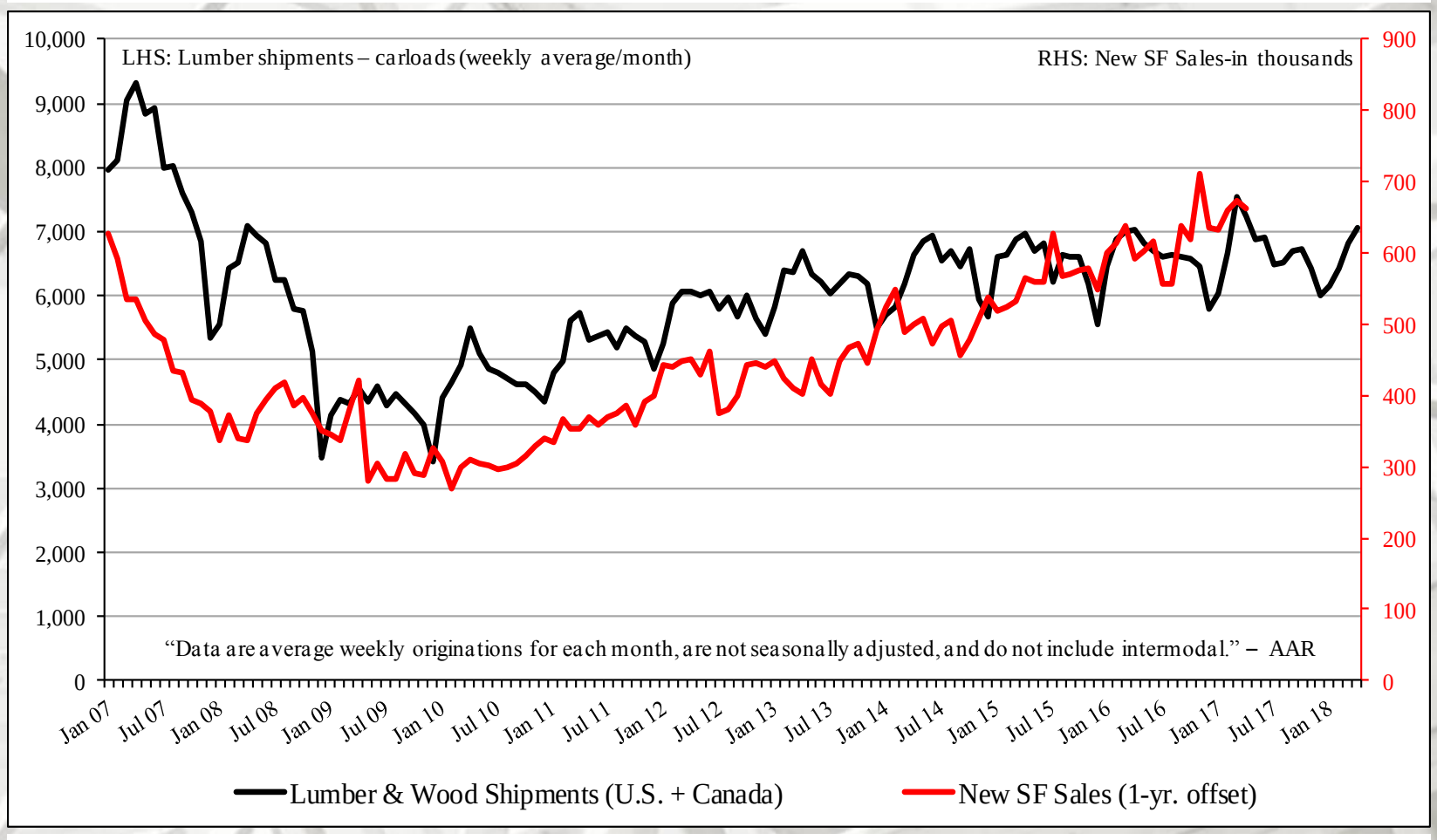
Railroad Lumber & Wood Shipments vs. U.S. SF House Sales



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 5/4/18; U.S. DOC-Construction; 5/23/18

Return TOC

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

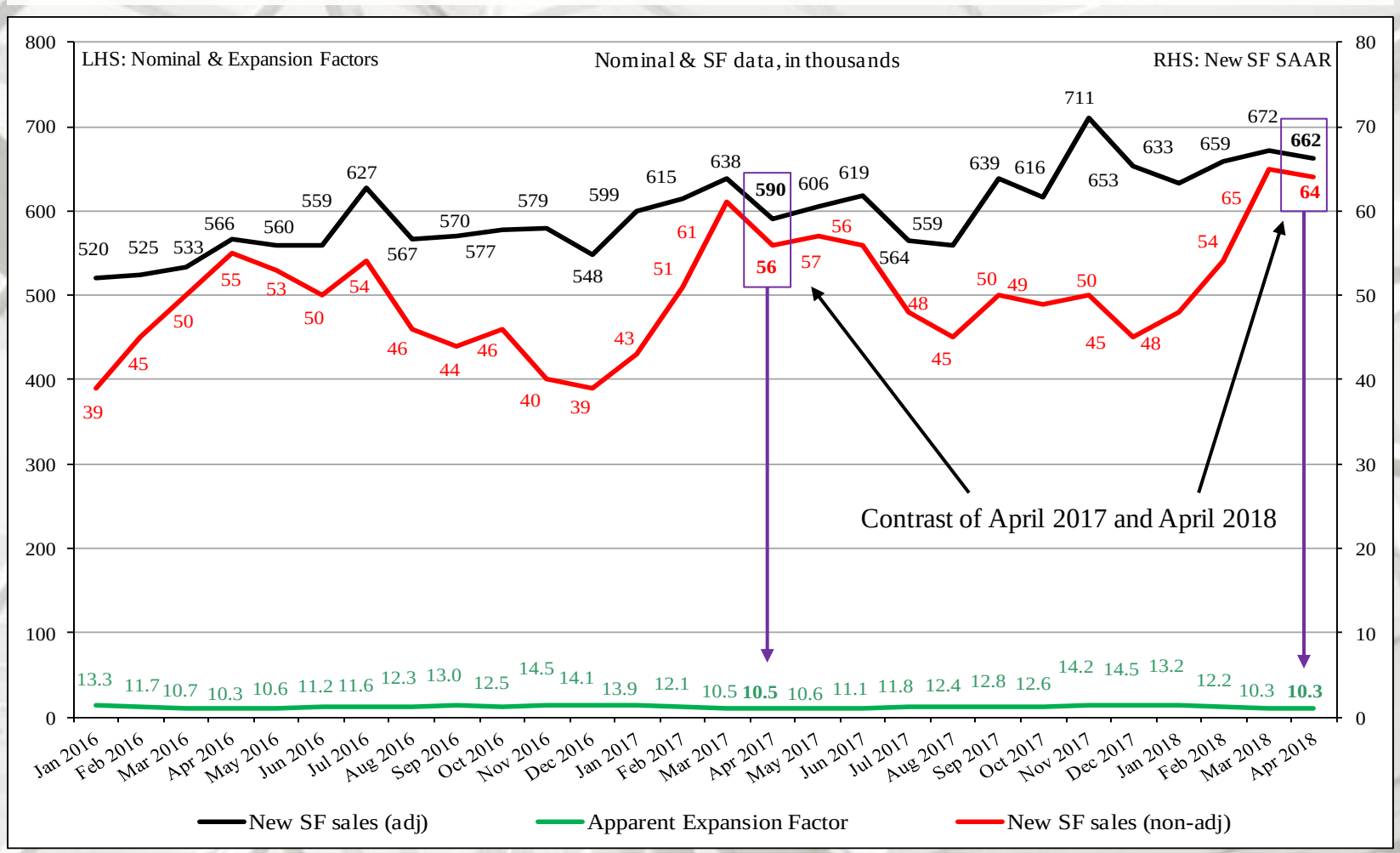


In this graph, January 2007 lumber shipments are contrasted with January 2008 SF sales, and continuing through April 2018. The purpose is to discover if lumber shipments relate to future single-family sales. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 5/4/18; U.S. DOC-Construction; 5/23/18

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; 5/23/18

Return TOC

New SF House Sales

New SF Houses Sold During Period				
	Total	Not started	Under Construction	Completed
April	662,000	221,000	231,000	210,000
March	672,000	181,000	244,000	247,000
2017	593,000	185,000	224,000	184,000
M/M change	-1.5%	22.1%	-5.3%	-15.0%
Y/Y change	11.6%	19.5%	3.1%	14.1%
Total percentage		33.4%	34.9%	31.7%

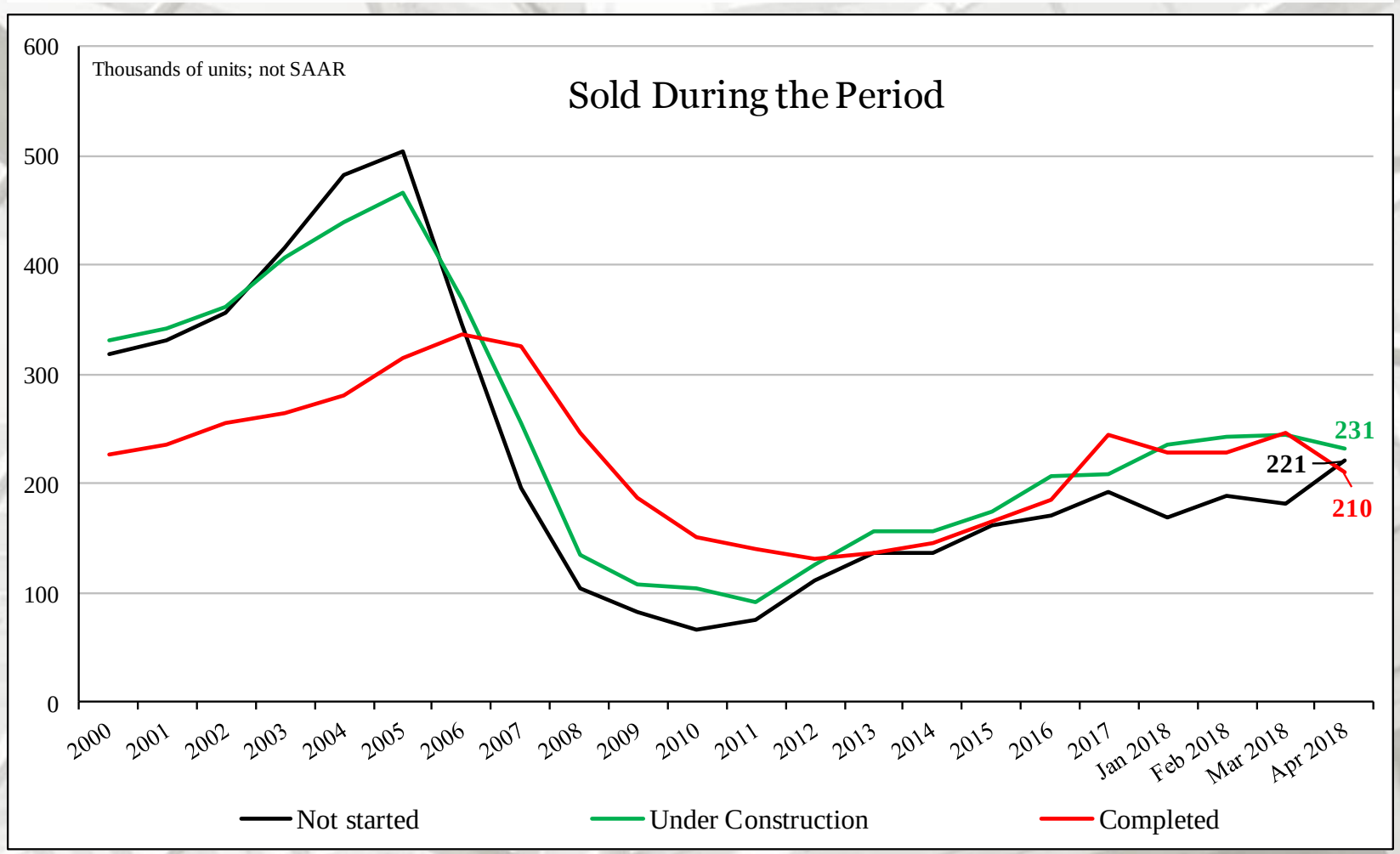
New SF Houses Sold During Period

In April 2018, a substantial portion of new sales – 33.4% – have not been started.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

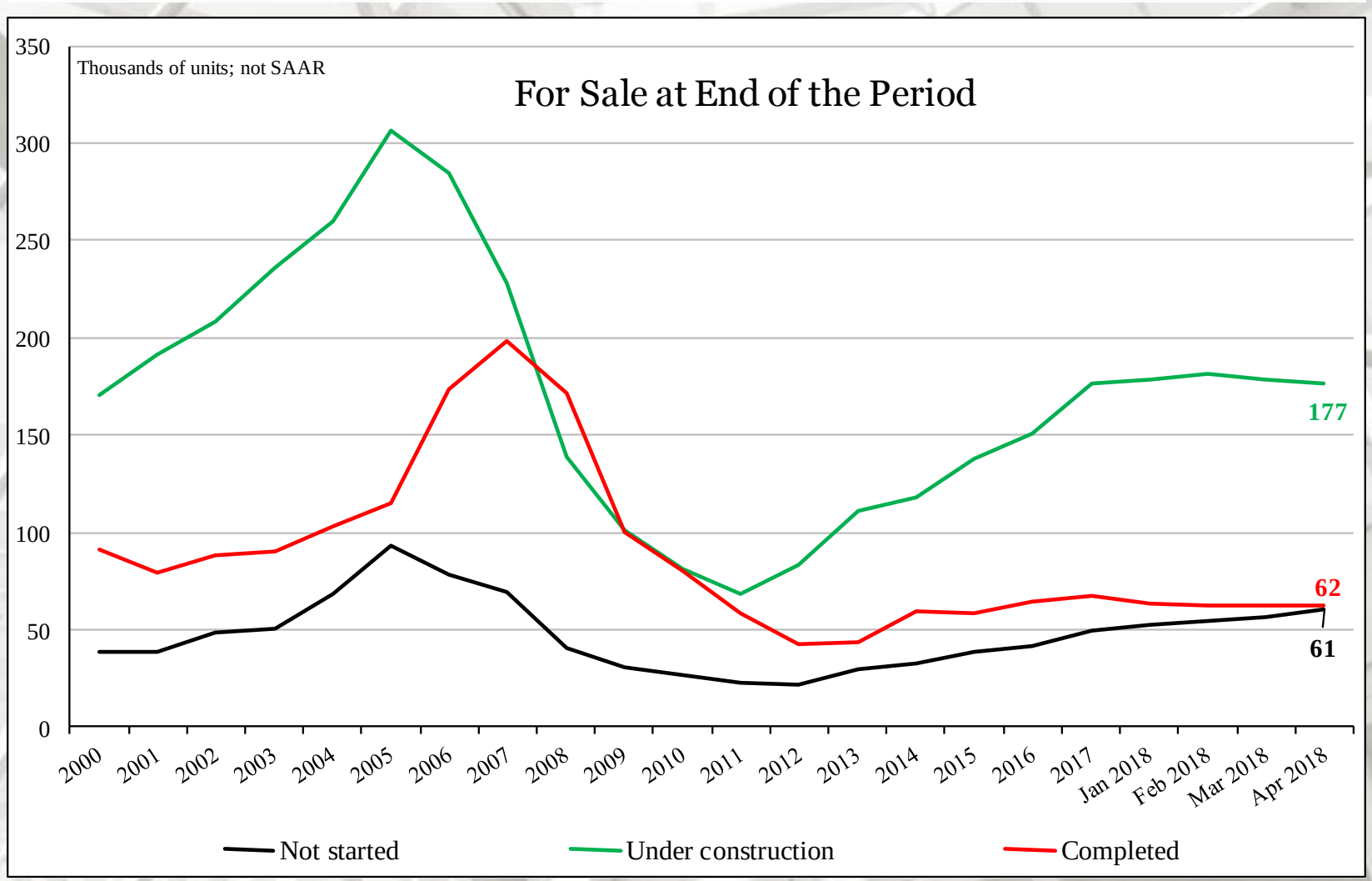
New SF House Sales

New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
April	300,000	61,000	177,000	62,000
March	298,000	57,000	179,000	62,000
2017	262,000	46,000	158,000	58,000
M/M change	0.7%	7.0%	-1.1%	0.0%
Y/Y change	14.5%	32.6%	12.0%	6.9%
Total percentage		20.3%	59.0%	20.7%

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF House Sales

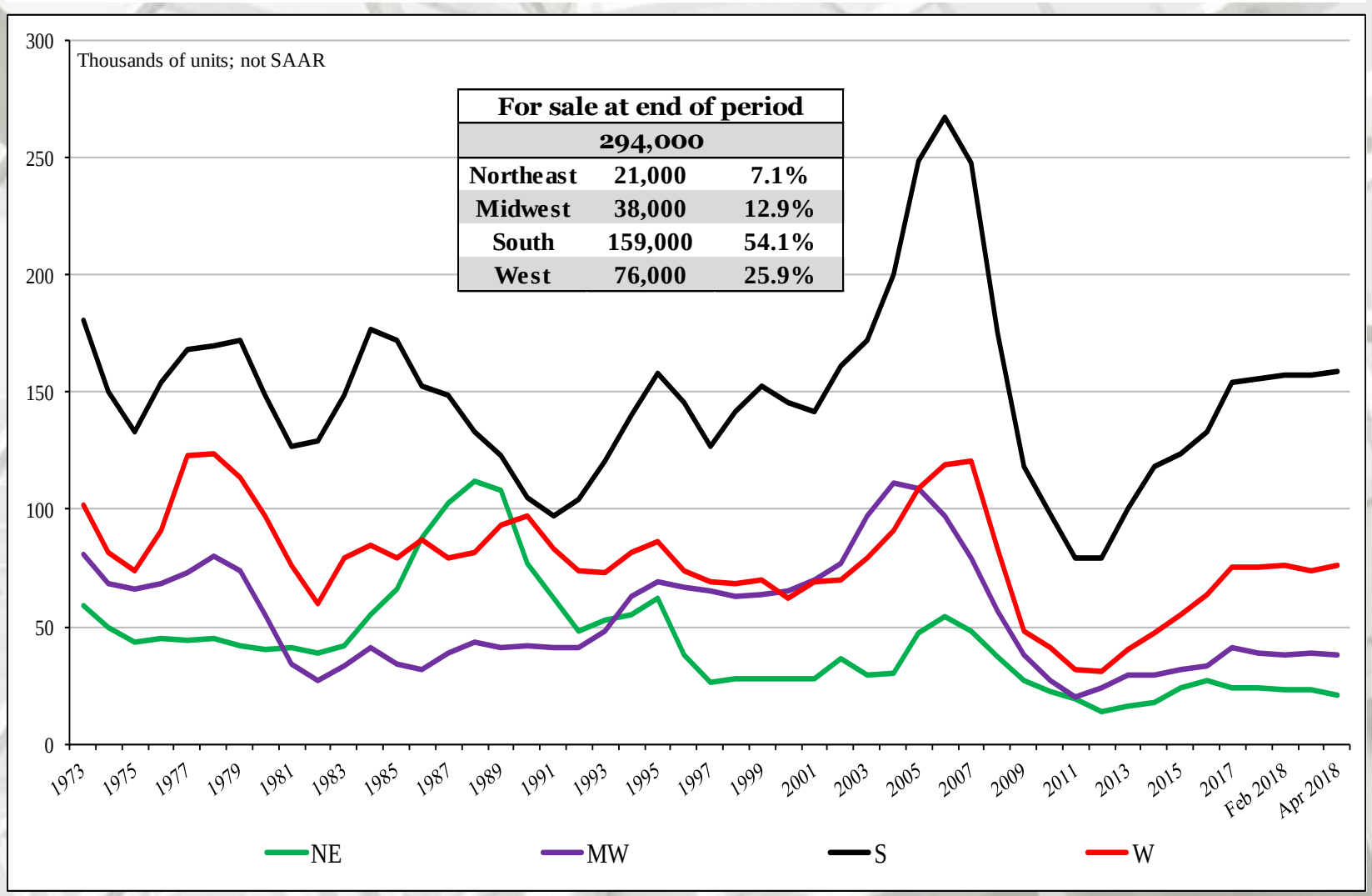
New SF Houses for Sale at the end of the Period by Region*					
	Total	NE	MW	S	W
April	294,000	21,000	38,000	159,000	76,000
March	293,000	23,000	39,000	157,000	74,000
2017	262,000	25,000	35,000	139,000	63,000
M/M change	0.3%	-8.7%	-2.6%	1.3%	2.7%
Y/Y change	12.2%	-16.0%	8.6%	14.4%	20.6%

* Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

New SF Houses Sale at End of Period by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 5/23/18

Return TOC

April 2018
Construction Spending

	Total Private Residential*	SF	MF	Improvement**
April	$556,294	$285,703	$61,955	$208,636
March	$532,432	$285,587	$59,820	$187,025
2017	$507,841	$260,738	$64,553	$182,550
M/M change	4.5%	0.0%	3.6%	11.6%
Y/Y change	9.5%	9.6%	-4.0%	14.3%

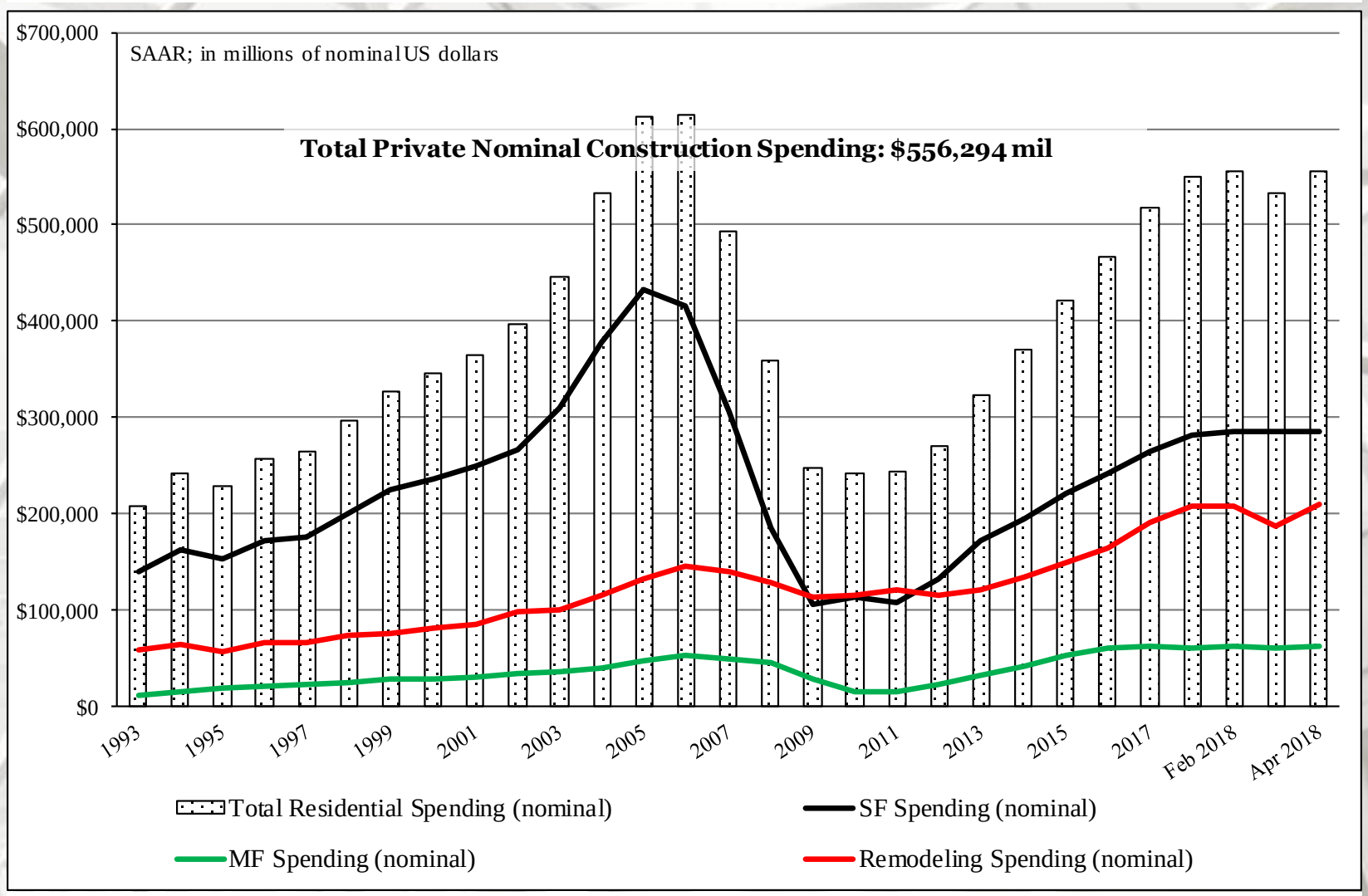
* Millions

** 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; 6/1/18

Return TOC

Total Construction Spending (nominal): 1993 – April 2018

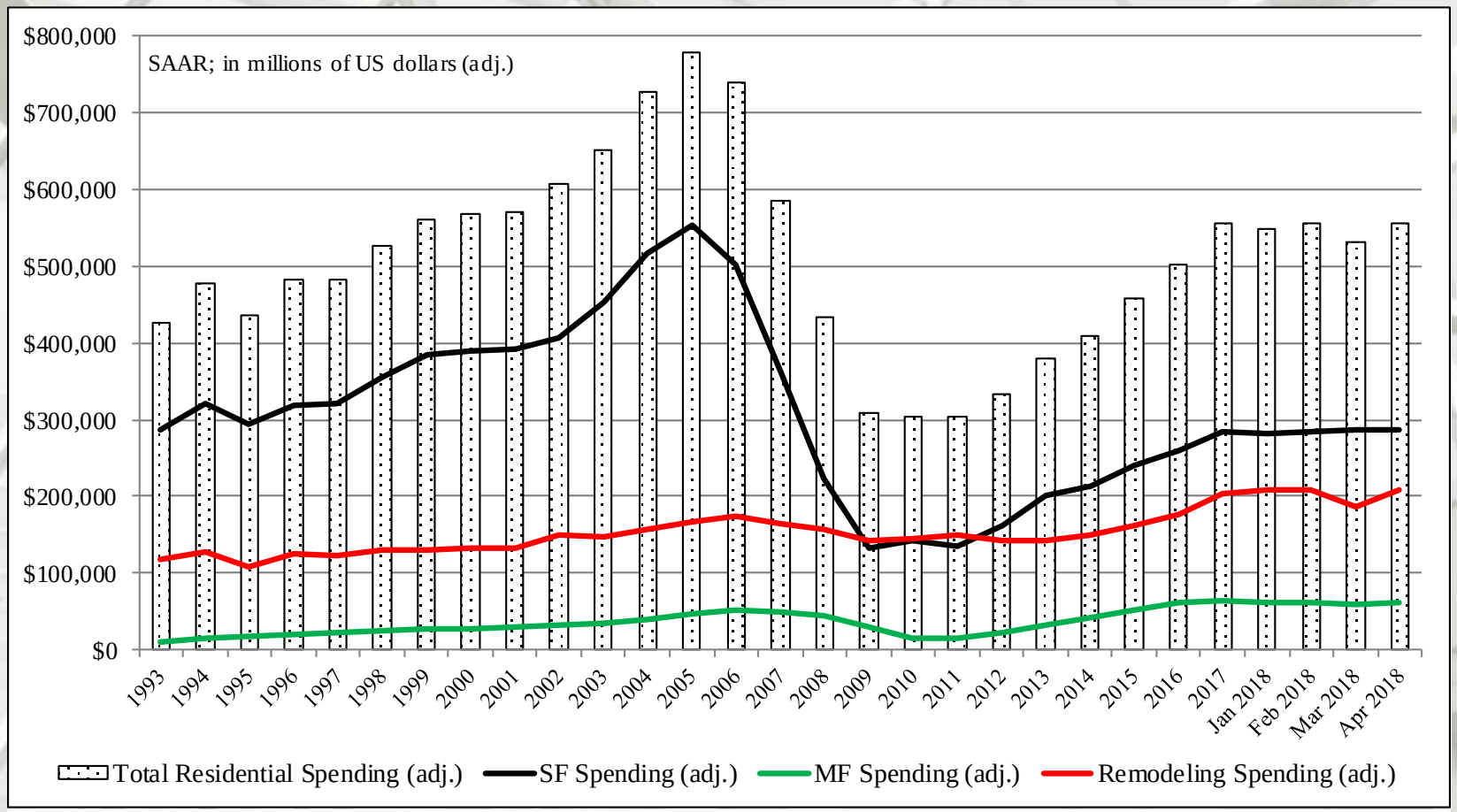


Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2018.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 6/1/18

Return TOC

Total Construction Spending (adjusted): 1993-2018*

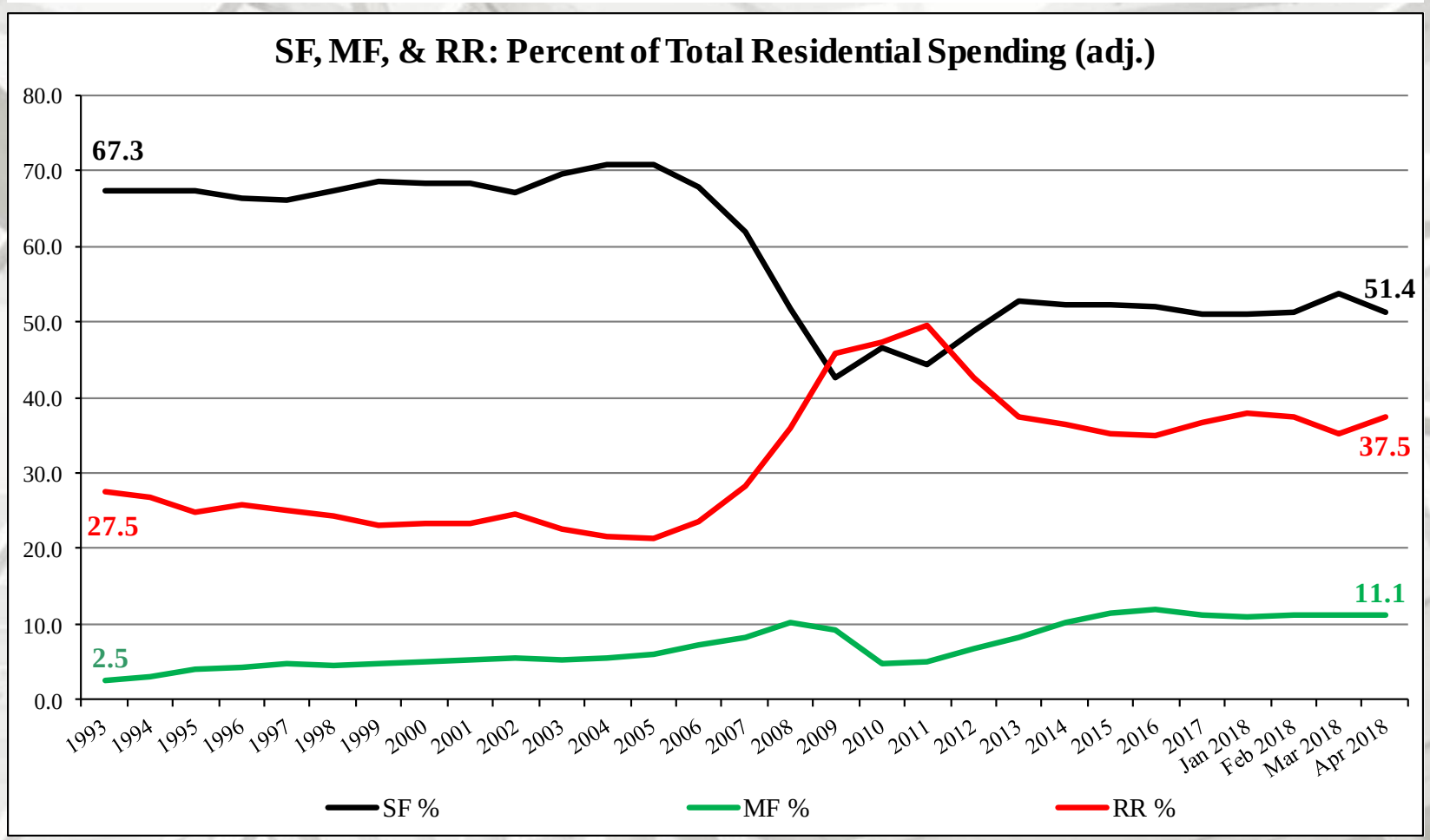


Reported in adjusted US$: 1993 – 2017 (adjusted for inflation, BEA Table 1.1.9); *January 2018 to April 2018 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 6/1/18

Return TOC

Construction Spending Shares: 1993 to April 2018



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

MF spending average: 7.5%

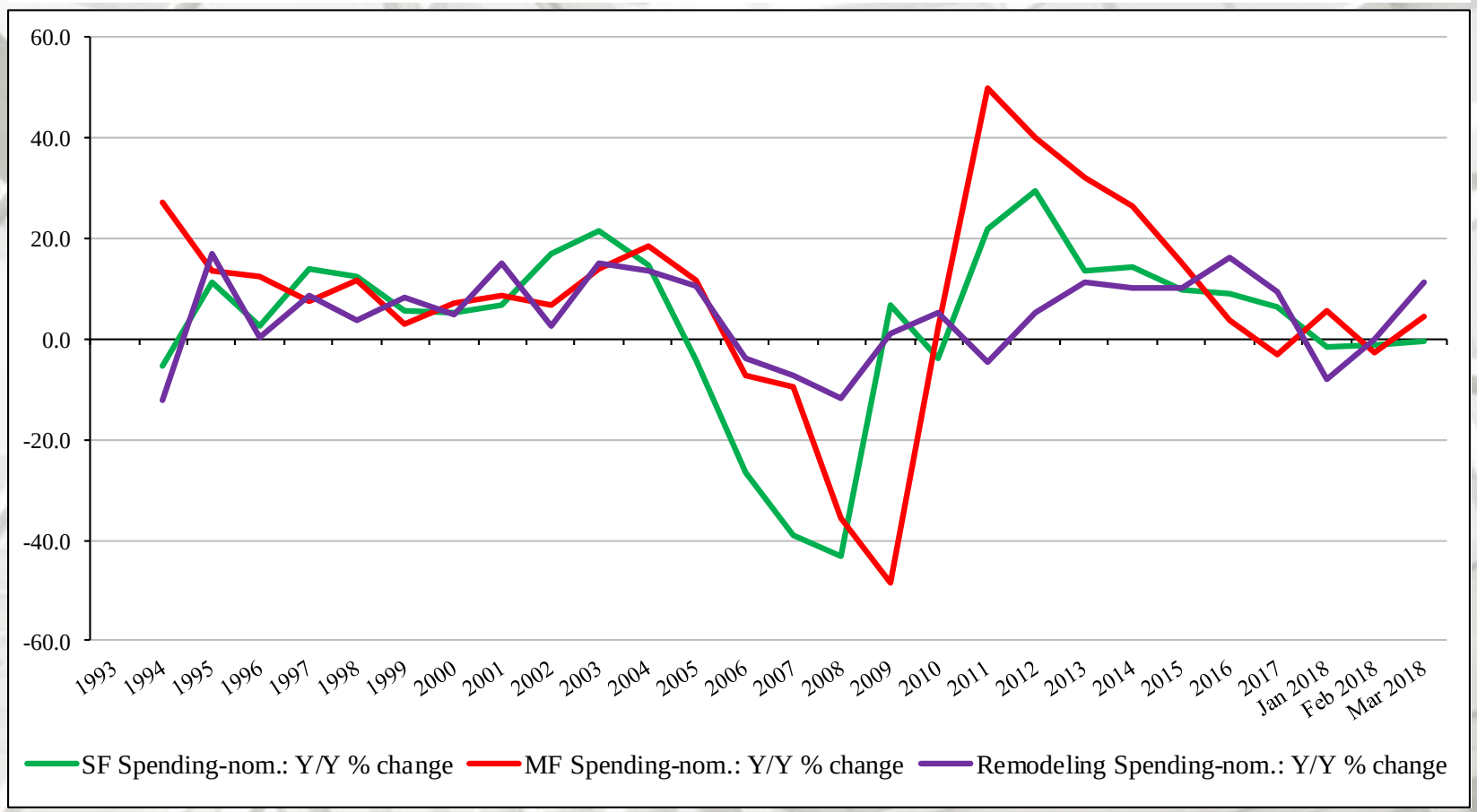
Residential remodeling (RR) spending average: 23.3% (SAAR).

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

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 6/1/18

Return TOC

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



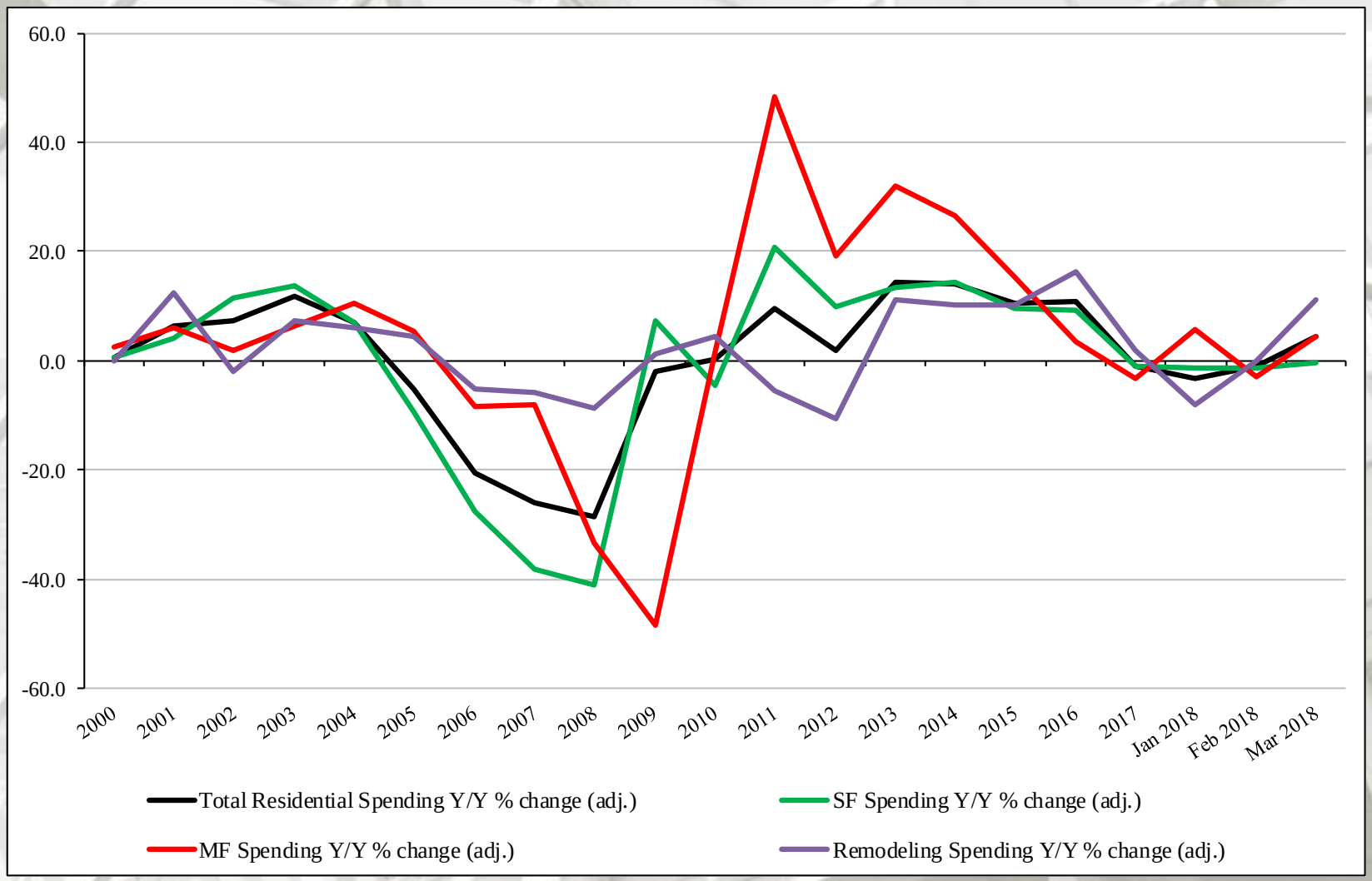
Residential Construction Spending: Percentage Change, 1993 to April 2018

Presented above is the percentage change of inflation adjusted Y/Y construction spending. All spending measures declined, on a percentage basis, year-over-year.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 6/1/18

Return TOC

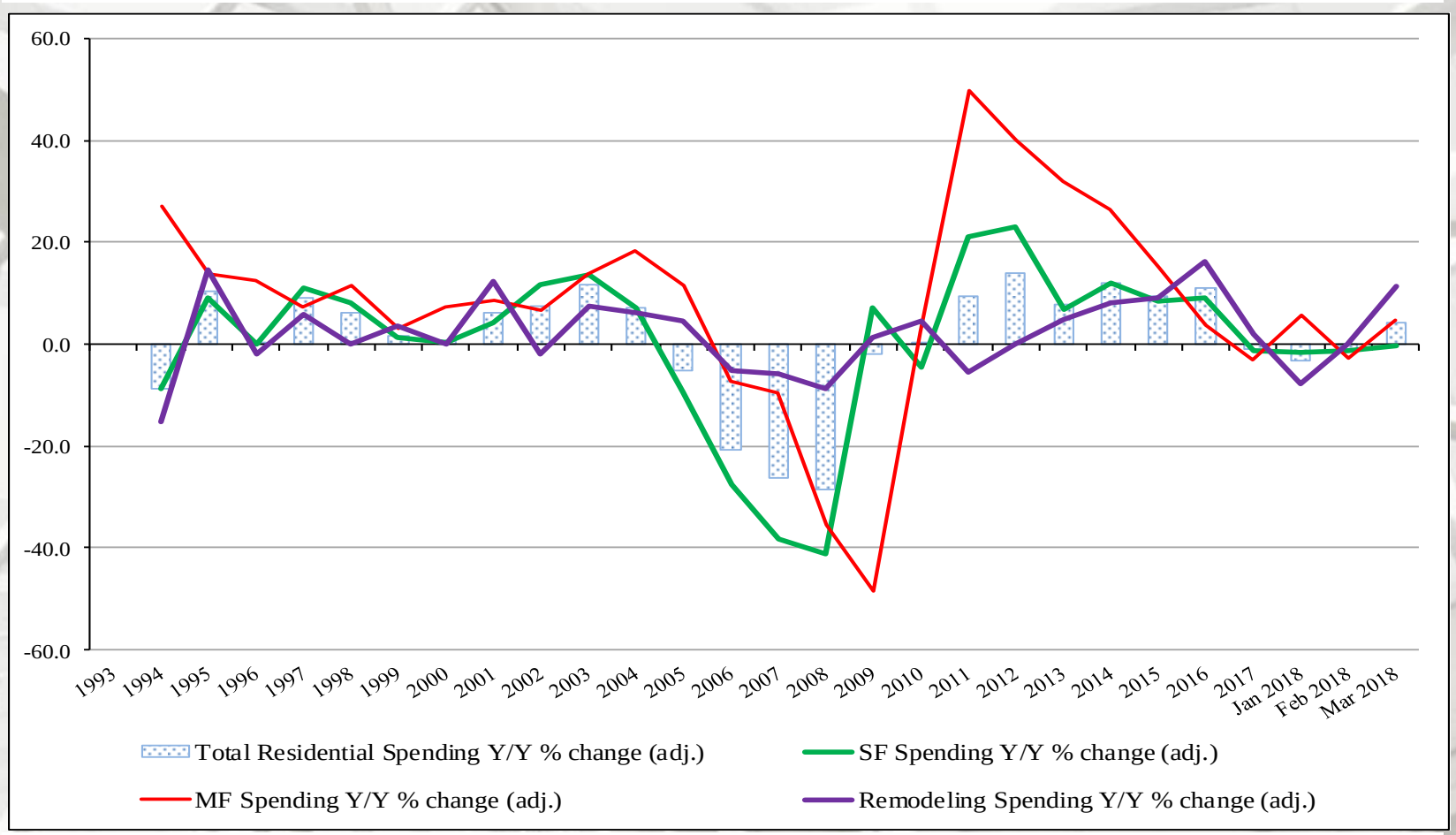
Adjusted Construction Spending: Y/Y Percentage Change, 2000 to April 2018



Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 6/1/18

Return TOC

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



Residential Construction Spending:

Percentage Change, 1993 to April 2018

Total, MF, and remodeling spending rebounded strongly – however, SF appears to have leveled-off.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 6/1/18

Return TOC

Remodeling

Metrostudy

Remodeling Activity, Already a Record-Setter, Will Grow Even More in 2018, RRI Finds

Index as of 1Q18 up 5.2% over year earlier; good times forecast for 2019, too.

"Big-ticket remodeling activity, already enjoying record economic conditions, is growing at its fastest pace in four years and should rise 5.1% this year alone, Metrostudy said today as it released its latest Residential Remodeling Index (RRI).

The RRI as of the first quarter of 2018 stood as 112.9, its highest reading ever. That number means the economic conditions known to influence remodeling activity are 12.9% better than the old peak in early 2007, just before the Great Recession. The RRI has shown year-over-year gains for 24 consecutive quarters, and as of 1Q18 it was 5.2% above the year-earlier level – the highest such annual growth since the first quarter of 2014 – and was 1.4% better than it was just three months prior.

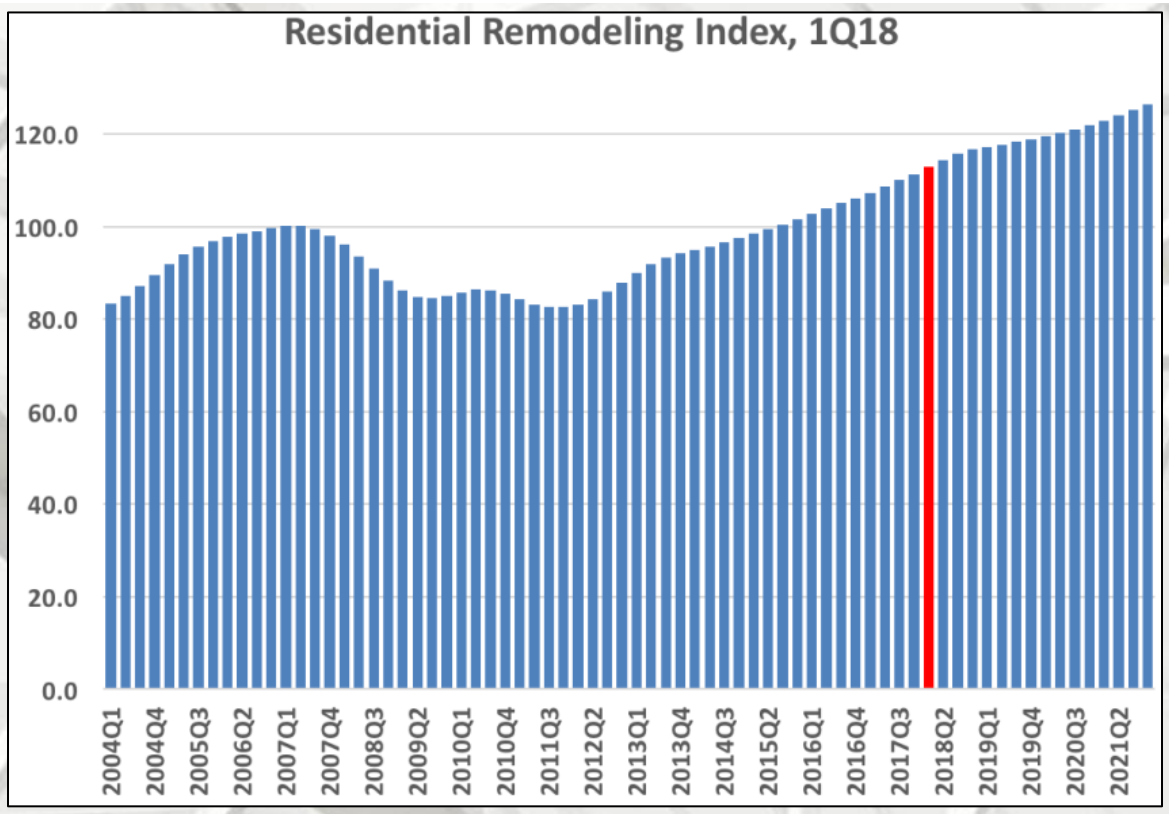
The index is based on a statistical model that takes into account such data as household level remodeling permits, employment statistics, and a market's economic health. It then uses that model to predict the number and dollar volume of home improvement and replacement projects worth at least $1,000.

Metrostudy – a sister company to REMODELING – now predicts the number of remodeling projects worth $1,000 and above nationwide will rise 5% this year to $12.55 million, while the value of those projects will climb 6.5% to $194.2 billion. And after the index climbs 5.1% this year, it should go up another 2.7% in 2019, the data operation believes. Actual rates this year will vary among the nation's 381 Metropolitan Statistical Areas, but 370 of them will see growth and the average will be about 4.2%." – Craig Webb, Metrostudy

Source: http://www.metrostudy.com/remodeling-activity-already-record-setter-will-grow-even-2018-rri-finds/; 5/17/18

Return TOC

Remodeling



Metrostudy

"Remodeling activity is being driven by solid gains in employment and rising home values, factors that are giving homeowners the confidence to invest in their homes. Americans are not only undertaking a greater number of remodeling projects, but larger and more expensive ones. And as a reflection of the long, slow economic expansion that we have been in, many more Americans are just now initiating replacement-type projects that had been deferred during the recovery from the Great Recession. We expect another strong year for the remodeling industry in 2018, and are waiting to see what effect recent tax cuts have on the economy. Early surveys suggest some Americans are increasing their remodeling budgets due to their taxes being lowered." – Mark Boud, Chief Economist, Metrostudy

Source: http://www.metrostudy.com/remodeling-activity-already-record-setter-will-grow-even-2018-rri-finds/; 5/17/18

Return TOC

Existing House Sales

National Association of Realtors
April 2018 sales: 5,460 thousand

	Existing Sales*	Median Price	Mean Price	Month's Supply
April	5,460,000	$257,900	$297,300	4.0
March	5,600,000	$249,800	$289,000	3.5
2017	5,540,000	$245,000	$287,800	4.2
M/M	-2.5%	3.2%	2.9%	14.3%
Y/Y change	-1.4%	5.3%	3.3%	-4.8%

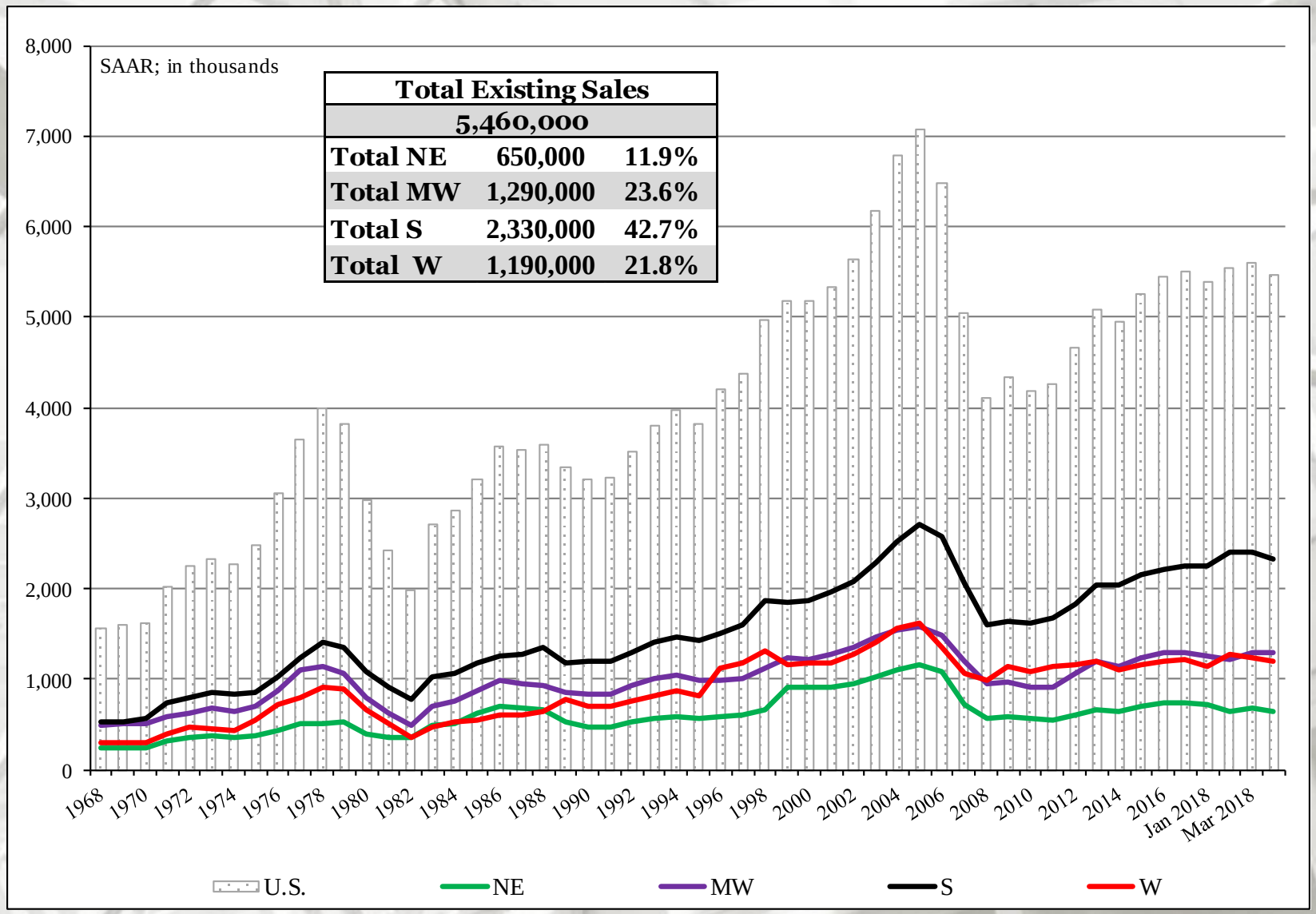
	NE Sales	MW Sales	S Sales	W Sales
April	650,000	1,290,000	2,330,000	1,190,000
March	680,000	1,290,000	2,400,000	1,230,000
2017	730,000	1,330,000	2,280,000	1,200,000
M/M change	-4.4%	0.0%	-2.9%	-3.3%
Y/Y change	-11.0%	-3.0%	2.2%	-0.8%

* All sales data: SAAR

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 5/24//18

Return TOC

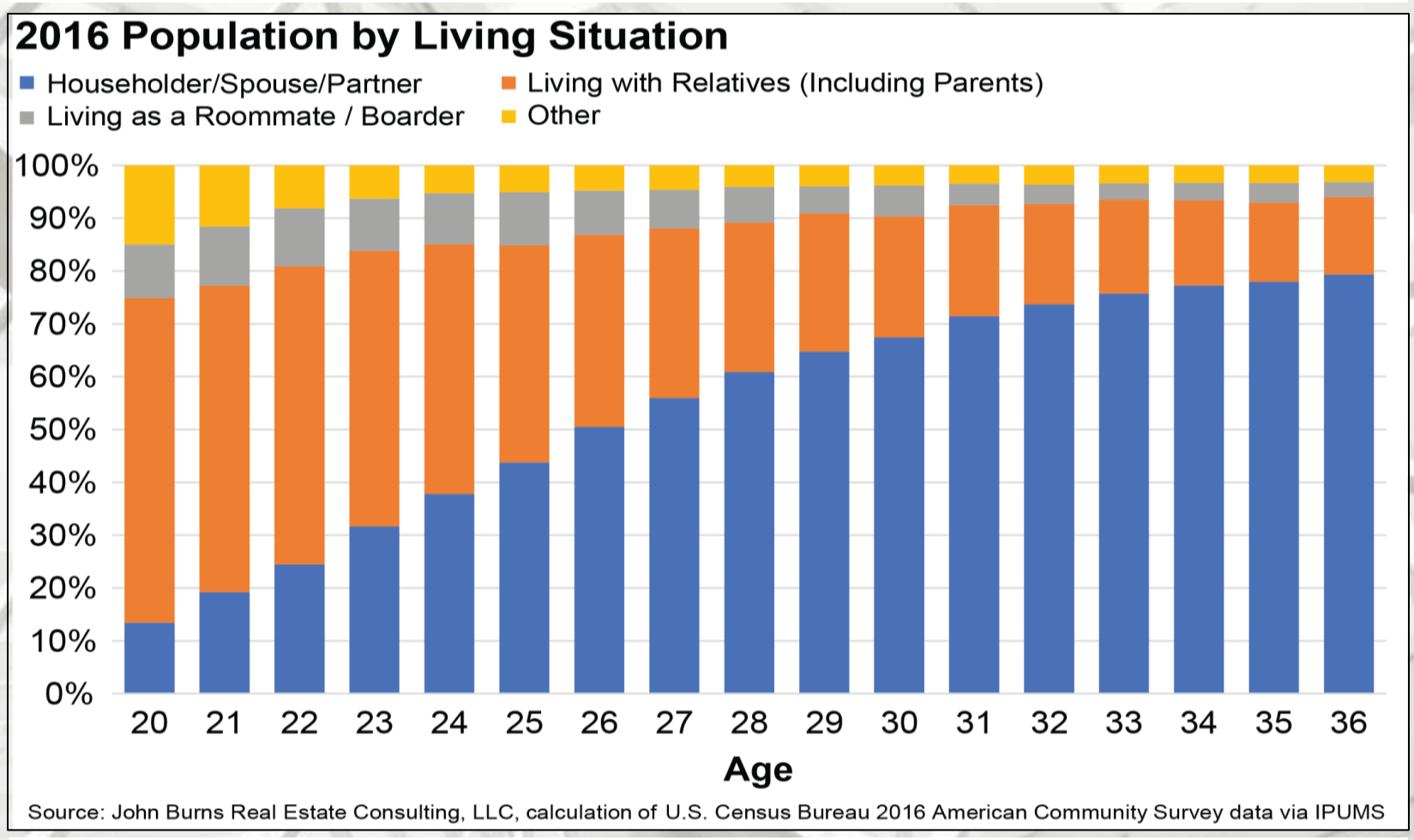
Total Existing House Sales



Sources: https://fred.stlouisfed.org/series/EXHOSLUSM495S & https://www.huduser.gov/portal/ushmc/ushmc_archive.html; 5/24/18

Return TOC

Home Ownership



A 5-Year Delay in Homeownership, Other Big Shifts

"Generational definitions of millennial tend to be too broad. As our company's housing demographer, I am responsible for bringing clarity on these categories to our clients. Here are two great charts and five interesting conclusions on household formation and homeownership today." – Chris Porter, Chief Demographer, John Burns Real Estate Consulting, LLC

Source: https://www.realestateconsulting.com/5-year-delay-other-big-shifts//; 5/14/18 chartbook-april-2018/view/full_report; 6/1/18

Return TOC

Home Ownership

A 5-Year Delay in Homeownership, Other Big Shifts

- "**Household formation rises an average of 5.4% per year during your 20s**. 13% of 20-year-olds head a household today, compared to 67% of 30-year-olds and 79% of 36-year-olds[1].
- **Homeownership rises an average of 3.0% per year during your 20s**. Only 8% of 20-year-old householders own a home today, compared to 38% of 30-year-olds and 52% of 36-year-olds[2].

Significant shifts occurred from the peak of the last cycle in 2006 to 2016, the latest available data. Young adults are:

- **5% more likely to be living with parents at age 36**. 15% of 36-year-olds live with parents/relatives at age 36, compared to just 10% of 36-year-olds ten years prior.
- **Forming households two years later**. 50% of young adults now head a home by age 26, compared to 50% heading a home by age 24 in 2006.
- **Buying a home five years later**. Homeownership reaches 50% by age 36 today, compared to 50% homeownership at age of 31 in 2006." – Chris Porter, Chief Demographer, John Burns Real Estate Consulting, LLC

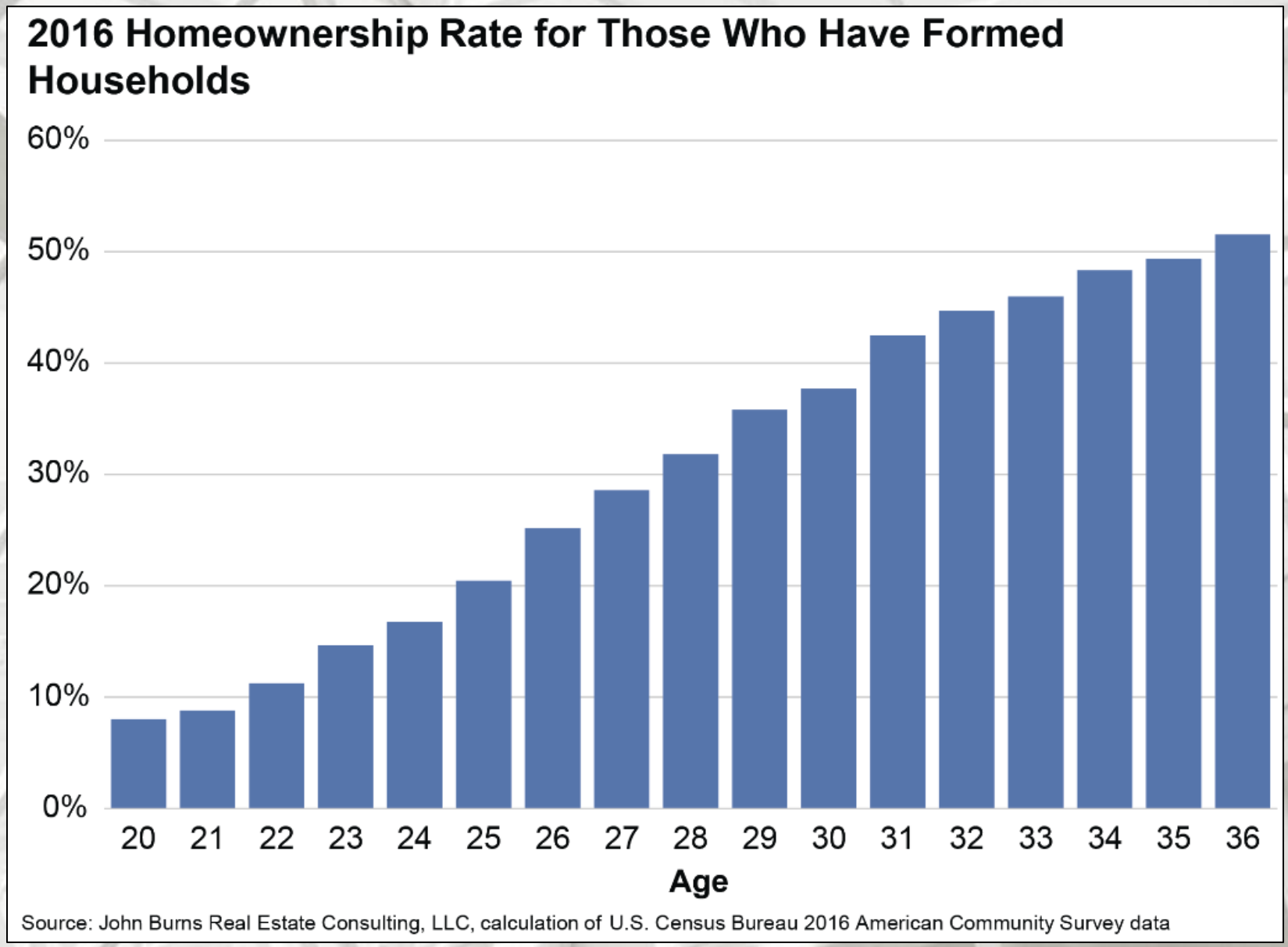
[1] We consider couples living together to both be heading a home.

[2] The percentage of people owning a home is actually lower, as homeownership rates are the percentage of households who own and not the percent of people who own.

Source: https://www.realestateconsulting.com/5-year-delay-other-big-shifts//; 5/14/18 [illegible]chartbook-april-2018/view/full_report; 6/1/18

Return TOC

Home Ownership



Source: https://www.realestateconsulting.com/5-year-delay-other-big-shifts//; 5/14/18 chartbook-april-2018/view/full_report; 6/1/18

Return TOC

Home Ownership

A 5-Year Delay in Homeownership, Other Big Shifts

"Remember that 2006 had levels of homeownership that may never be achieved again. So what to do with all of this?

- **Make better housing demand conclusions**. Know the life experiences of your target tenant or buyer. Don't consider all millennials to be the same. The 1990s Connectors born in 1995 owned just over 56,000 homes in 2016, while the 1980s Sharers born in 1985 owned more than 800,000 homes.
- **Simplify your decision-making using our 4-5-6 rule**.
  - **4 disruptors**. Government policies, economic cycles, new technologies, and shifts in social acceptability have made dramatic changes to household formation and homeownership. Government policies, new technologies, and societal shifts seem to be changing more rapidly than ever.
  - **5 life stages**. Each of those disruptors is impacting people differently whether they are young adults, families, or older. The emergence of ride sharing has impacted young adults much differently than families and retirees.
  - **6 questions**. Use our rule to maximize your revenue by clarifying the who, what, when, where, why, and how you will succeed." – Chris Porter, Chief Demographer, John Burns Real Estate Consulting, LLC

Source: https://www.realestateconsulting.com/5-year-delay-other-big-shifts/; 5/14/18

Return TOC

Home Ownership

Yielding To Slowing Household Formations

Experts from Freddie Mac and Metrostudy share insight into household formations.

"For generations, U.S. household formations have followed a distinct timeline: Children move out of parents' homes to go to college, leave college, rent their own place, get married, buy a home, and years later buy a move-up home.

Today, these timelines are changing. New generations are starting households later in life. Leonard Kiefer, deputy chief economist at Freddie Mac, speaks to some of the impediments to household formation in this short video.

Yielding To Slowing Household Formations

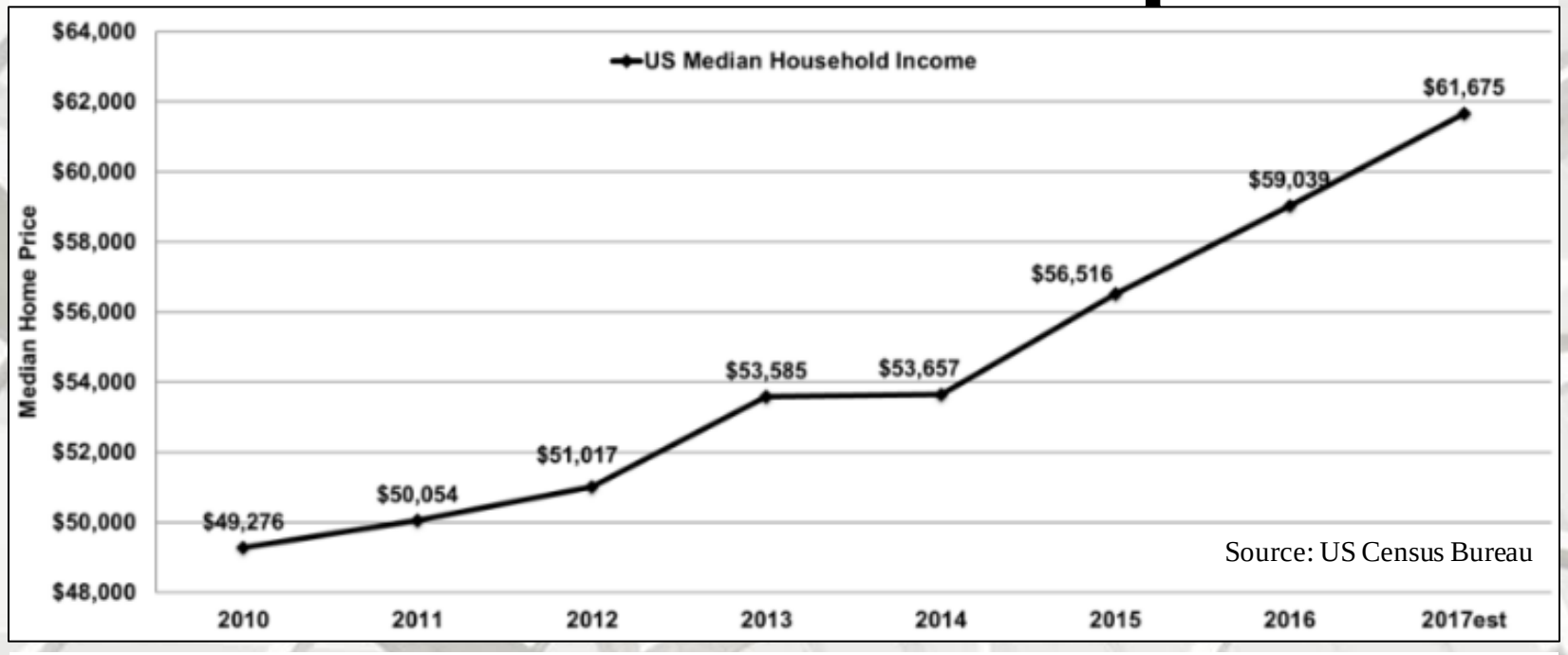
http://www.builderonline.com/ab9f07d9-5b3c-40f3-9b7c-a70259be7021

At the same time that buyers are slowing down their timeline for purchase, builders are slowing down construction. Kiefer attributes that to lack of land and labor, and doesn't see a quick solution for either." – Jennifer Castenson, Director of Thought Leadership Content, Hanley Wood

Source: http://www.builderonline.com/design/consumer-trends/yielding-to-slowing-household-formations_o; 5/2/18

Return TOC

Home Ownership



Yielding To Slowing Household Formations

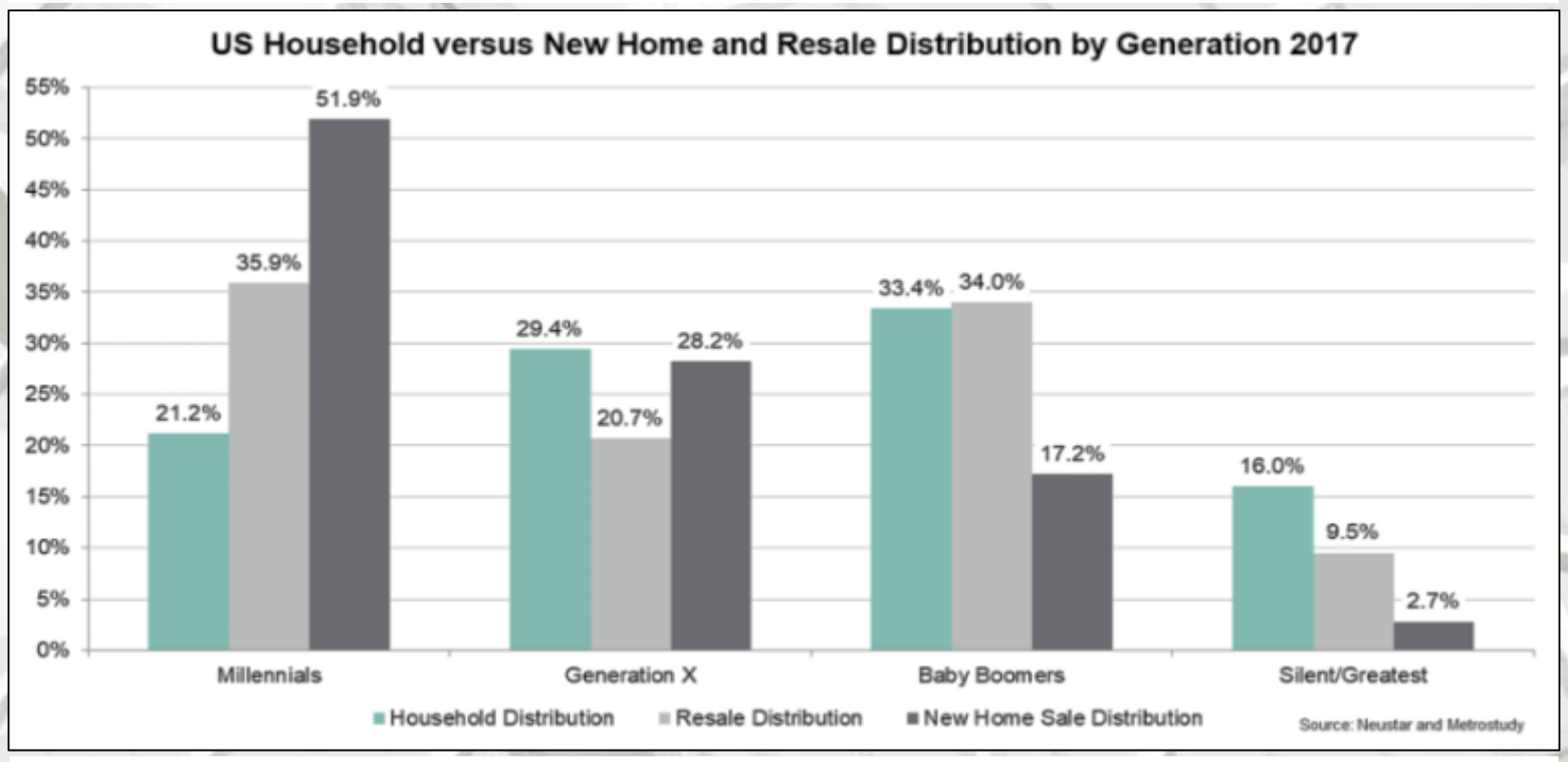
"Paige Shipp, regional director at Metrostudy, also shows that even as new household formations continue to increase, millennial household formation is slower than previous generations. Why?

"Millennials rent longer than previous generations due to higher levels of debt, and enjoying a renter's lifestyle," Shipp says. "They also are facing the highest rental prices in history, which makes it hard to save for a down payment. And, they were scarred by watching friends and families go through the recession, making them a very pessimistic group. Finally, rapid housing price appreciation has limited the options available for them to move into a first-time product."" – Jennifer Castenson, Director of Thought Leadership Content, Hanley Wood

Source: http://www.builderonline.com/design/consumer-trends/yielding-to-slowing-household-formations_o; 5/2/18

Return TOC

Home Ownership



Yielding To Slowing Household Formations

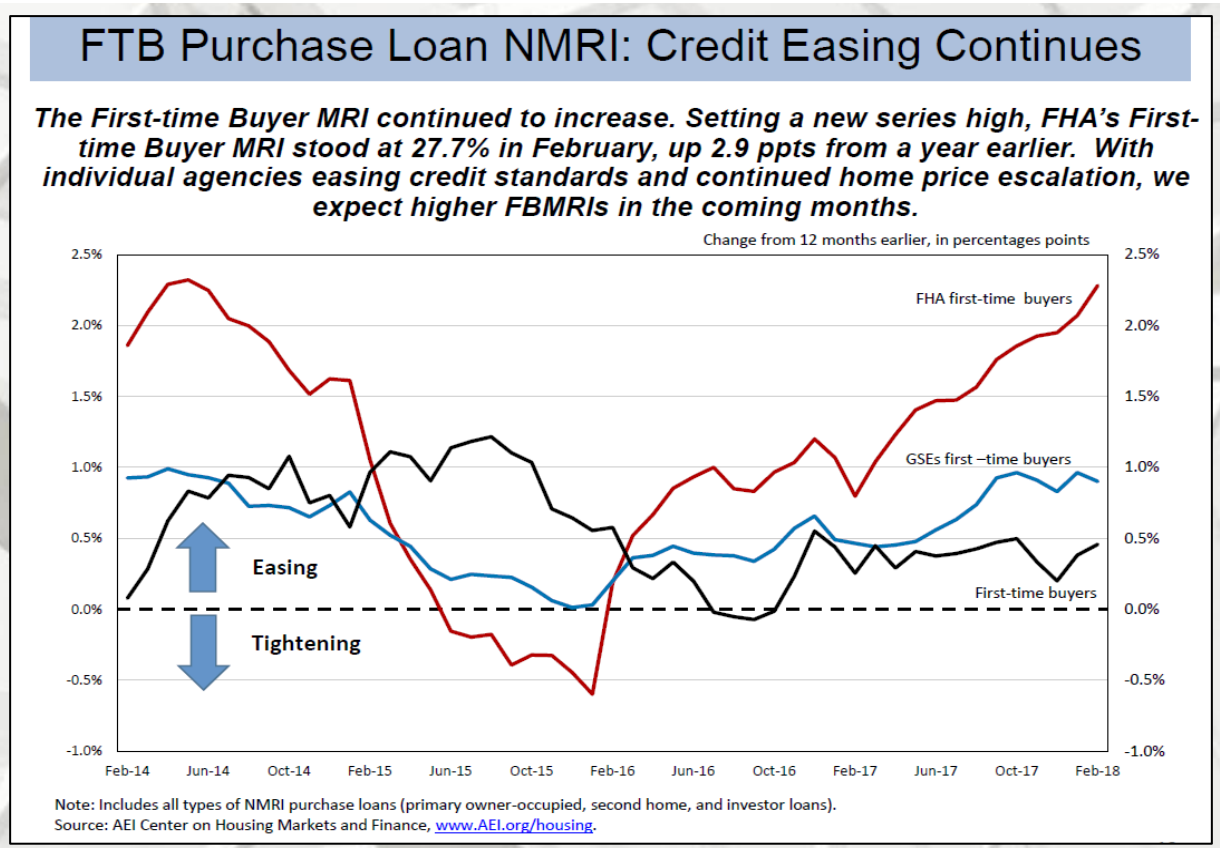
"Now, not only are millennial emerging as home buyers, but they are also choosing — at staggering rates — to buy new over resale. In this Metrostudy and Neustar chart, the green bars show that millennials are dominating new-home sales, with nearly 52% of all new-home sales.

As Kiefer points out, there is not a lot of entry-level product for this group to move into, even though the Metrostudy numbers show it's their preference. Kiefer anticipates that the demand will build to a point that builders start to focus on this product in the next three to four years." – Jennifer Castenson, Director of Thought Leadership Content, Hanley Wood

Source: http://www.builderonline.com/design/consumer-trends/yielding-to-slowing-household-formations_o; 5/2/18

Return TOC

First-Time Purchasers



AEI International Center on Housing Risk

Mortgage Risk Index release of January 2018 data

"First-time buyer (FTB) mortgage risk jumped in February, helping FTBs overcome rising prices driven by dwindling inventories of homes for sale. The FTB National Mortgage Risk Index (FBMRI) for February was up .5 ppt from a year ago and up 2.3 ppts from February 2013. Setting a new series high, FHA's First-time Buyer MRI stood at 27.6% in February, up 2.3 ppts from a year earlier. FHA and Fannie Mae's outsized monthly risk increases are making entry-level homes less affordable, since in a seller's market, prices rise faster than incomes as long as the marginal buyer, who sets the price for all, has access to higher leverage. FTB volume by count also rose 1% from already elevated levels a year ago." – Edward Pinto and Tobias Peter, AEI International Center on Housing Risk

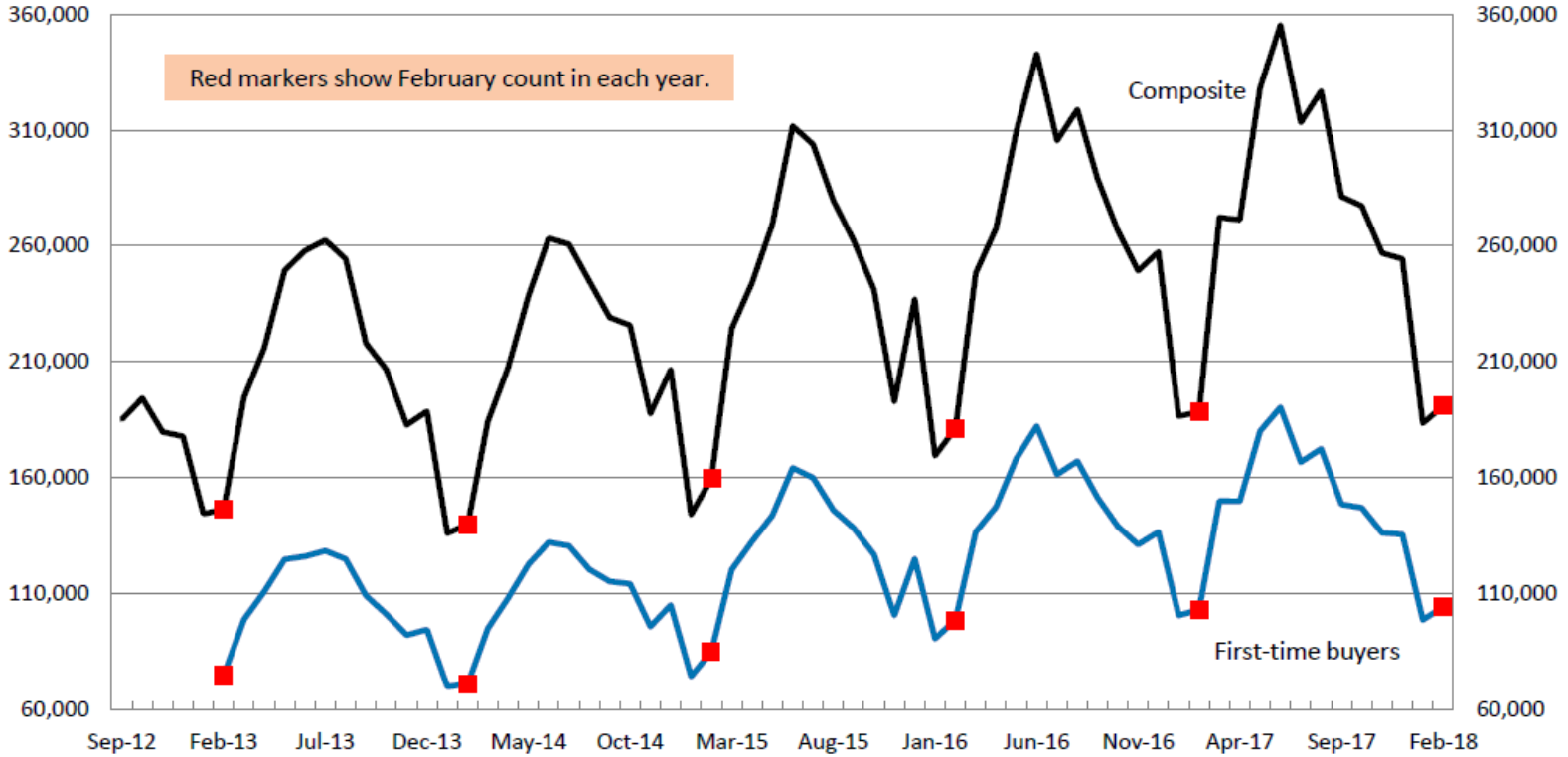
Source: https://www.aei.org/publication/first-time-buyer-indices-update-on-february-2018-data/, 5/29/18

Return TOC

First-Time Purchasers

Housing Demand Remains Strong

Agency FTB volume increased 1 percent and 40 percent compared to one and five years ago, respectively. Agency purchase loan volume in February was up 1 percent and 31 percent from a year and five years earlier, respectively. Our prognosis of flat housing demand in 2018 is holding.



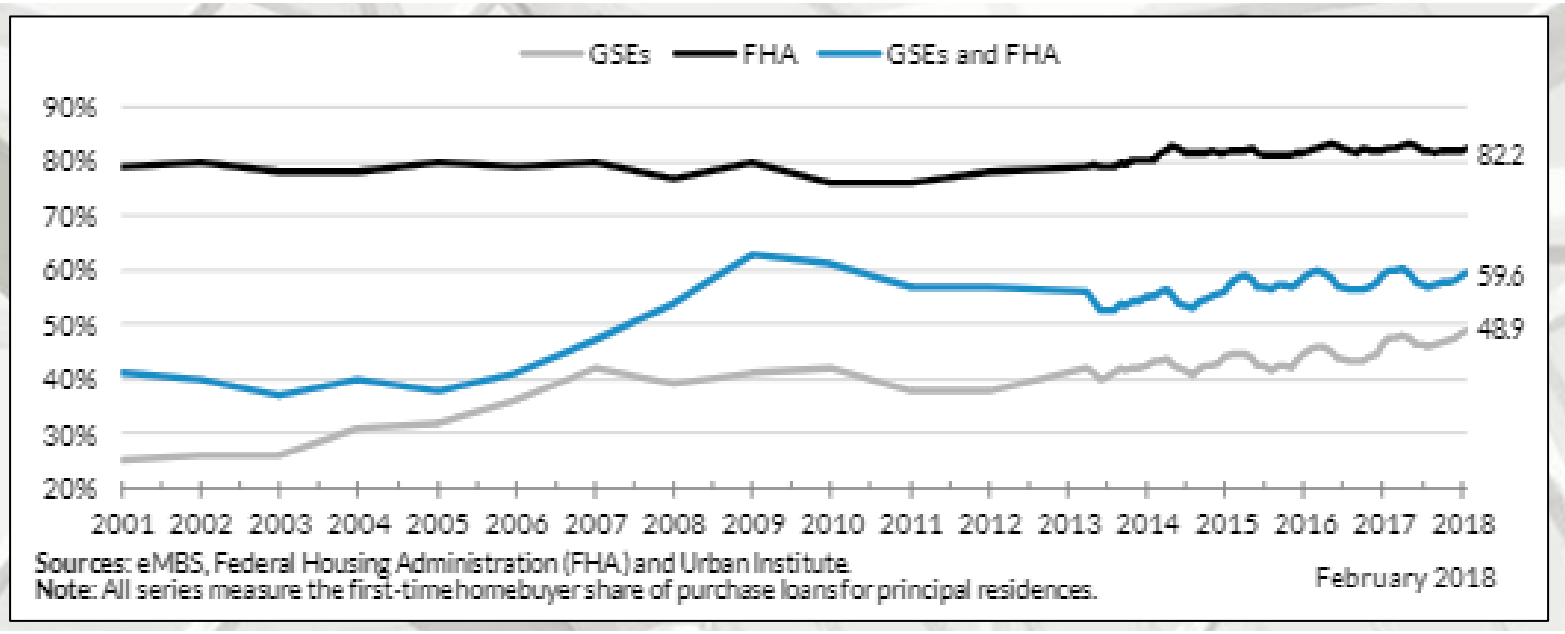
Note: The number of agency home purchase mortgages with a government guarantee. November 2017 count is a preliminary estimate. First-time buyer volume not available before February 2013.

Source: AEI Center on Housing Markets and Finance, www.AEI.org/housing.

Source: https://www.aei.org/publication/first-time-buyer-indices-update-on-february-2018-data/, 5/29/18

Return TOC

First-Time Purchasers



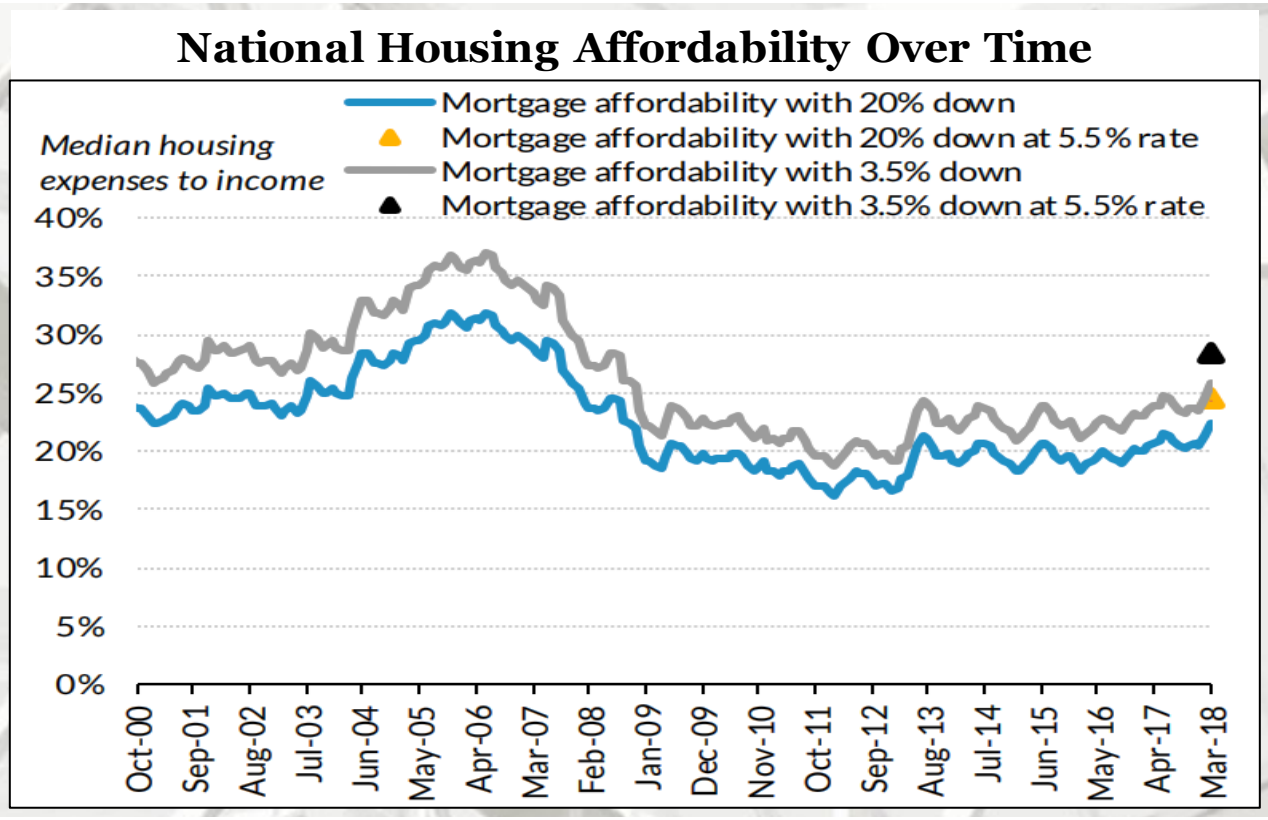
Urban Institute

"In February 2018, the first-time homebuyer share of GSE purchase loans was 48.9 percent, its highest level in recent history. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent; it stood at 82.2 percent in February 2018. … 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." – Laurie Goodman, *et al.*, Co-director, Housing Finance Policy Center

Sources: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-may-2018/view/full_report; 5/23/18

Return TOC

Housing Affordability



Urban Institute

"Home prices remain affordable by historic standards, despite increases over the last five years and the recent interest rate hikes. As of March 2018, the share of median income needed for the monthly mortgage payment with a 20% down payment stood at 22 percent. With a 3.5% down payment, the share of income is higher, at 26 percent in March 2018. If interest rates rise to 5.5%, the housing expenses to income share with both a 20 percent and a 3.5 percent down payment would be equivalent to the 2001-03 averages (24 and 28 percent, respectively). … ." – Bing Lai, Research Associate, Housing Finance Policy Center

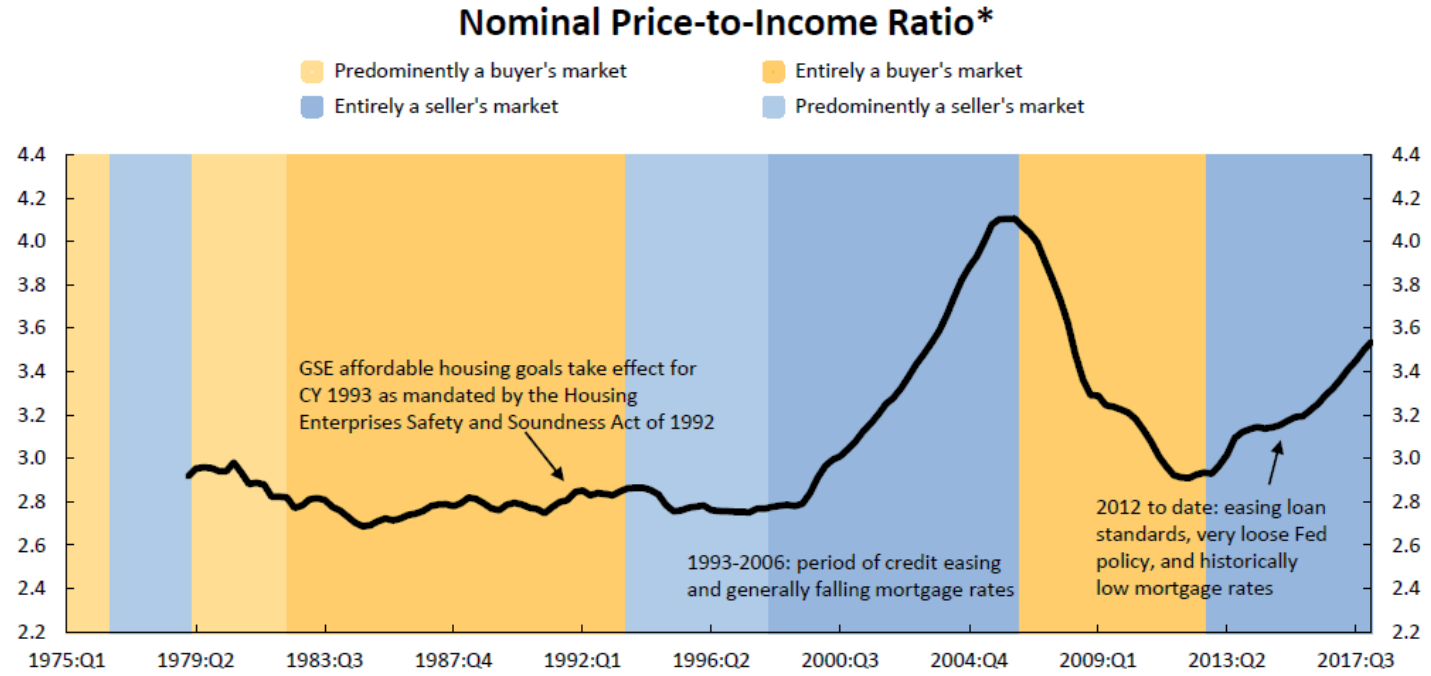
Sources: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-may-2018/view/full_report; 5/23/18

Return TOC

Housing Affordability

Affordability Worsens in a Seller's Market

Nominal Price-to-Income Ratio* has retraced more than half of the drop from the 2006 peak to the 2012 trough. Combination of a highly accommodative monetary policy and easier lending promotes further capital flows into real estate, increasing potential for economic damage as highly leveraged lending fuels cyclically volatile housing sector.



* Calculated as median house price divided by median household income.

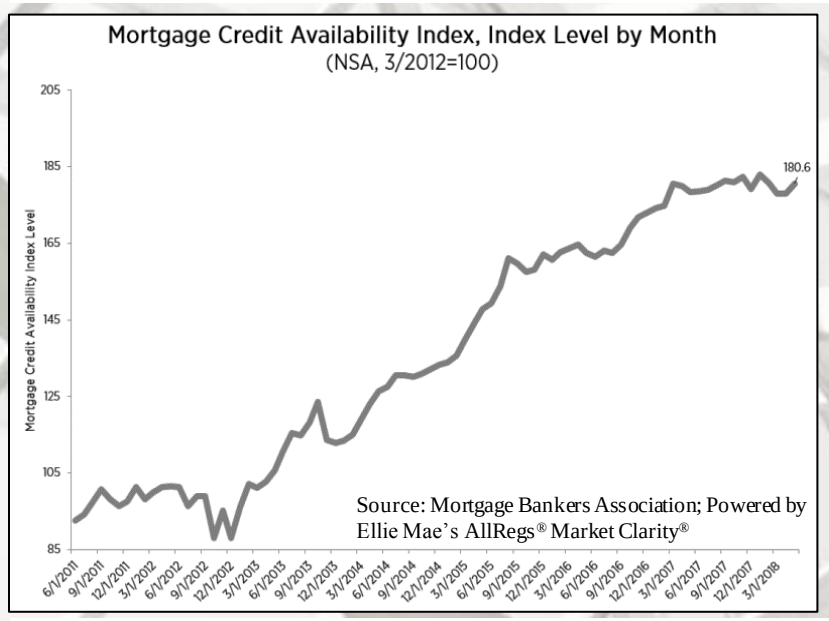
Note: The National Association of Realtors (NAR) defines a seller's market as inventory that is less than or equal to 6 months of sales. NAR data pertain to existing homes; not available before June 1982. Data from the Census Bureau for new home inventories used before June 1982.

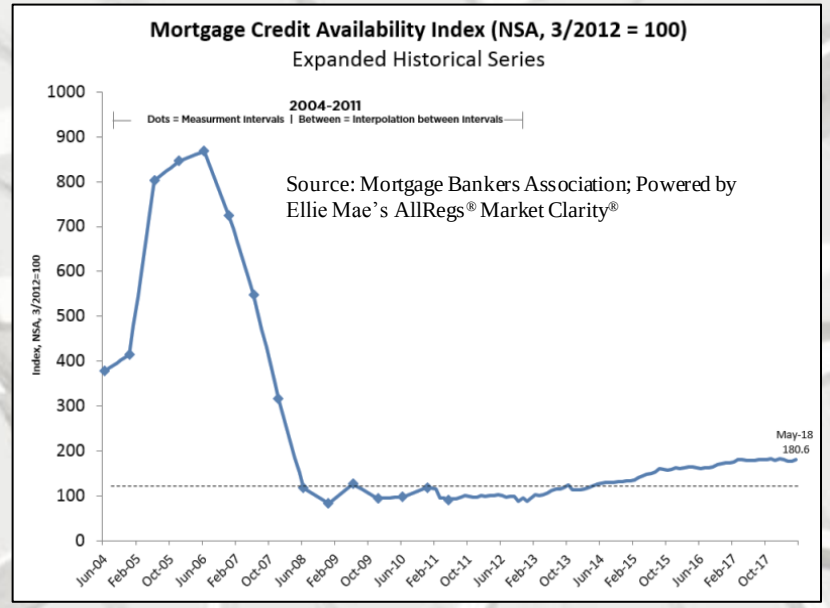
Source: Zillow, Census Bureau, and the NAR.

Source: https://www.aei.org/publication/first-time-buyer-indices-update-on-february-2018-data/, 5/29/18

Return TOC

Mortgage Credit Availability





Mortgage Credit Availability Unchanged in April

"Mortgage credit availability increased in May according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) which analyzes data from Ellie Mae's AllRegs® Market Clarity® business information tool. The MCAI increased 1.5 percent to 180.6 in May. 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 increased (up 2.0 percent) and the Government MCAI increased (up 1.0 percent). Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 2.2 percent while the Conforming MCAI increased by 1.9 percent.

The expansion of offerings across all loan types drove credit availability to its highest level in three months. In particular, the conventional index and jumbo index both rose to their highest levels since March 2011. This was mainly caused by increased investor interest in jumbo loans and high balance conforming loans." – Joel Kan, Vice President of Research and Economics, MBA

Source: https://www.mba.org/2018-press-releases/june/mortgage-credit-availability-increased-in-may; 6/12/18

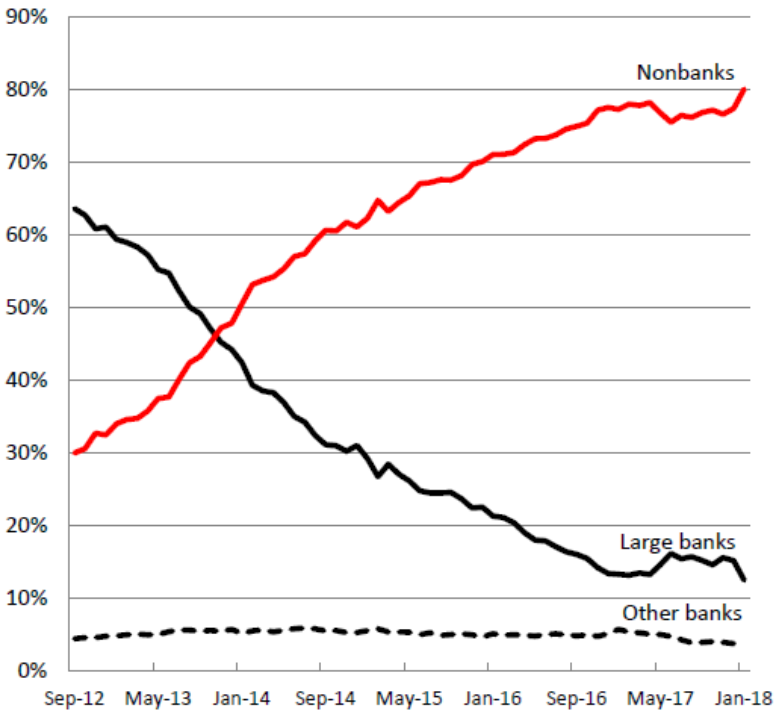
Return TOC

Mortgage Credit

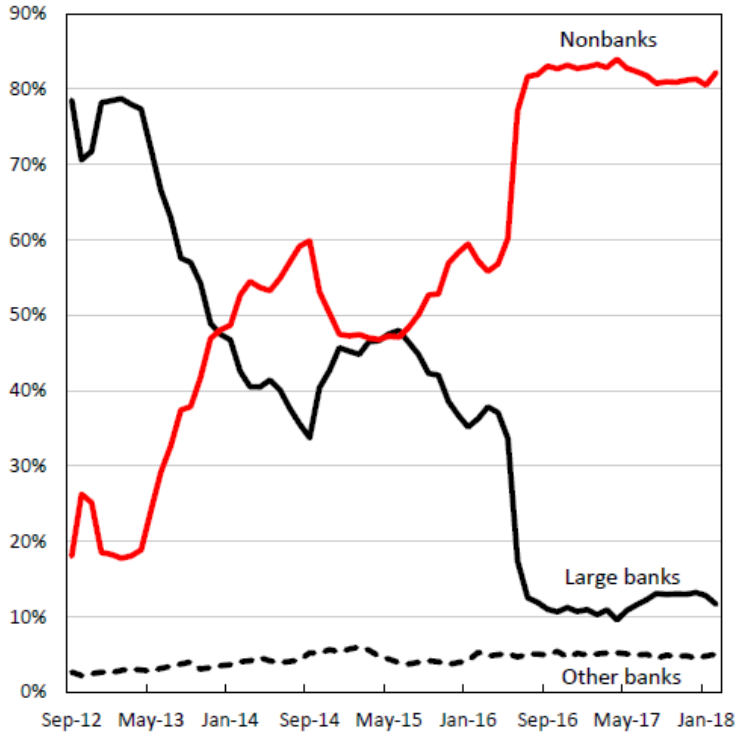
Origination Shares Issuer Lender Type, FHA and RHS Purchase Loans

Similar dramatic market shifts occurred from large banks to nonbanks for both FHA and RHS loans. Today nonbanks account of 80% of FHA and RHS originations.

FHA Purchase Origination Shares*



RHS Purchase Origination Shares*



*Origination shares do not show shares for State Housing Finance Agencies and Credit Unions which account for about 4% of the FHA Purchase market and 1% of the RHS Purchase market.

Source: AEI Center on Housing Markets and Finance, www.AEI.org/housing.

11

Source: https://www.aei.org/publication/first-time-buyer-indices-update-on-february-2018-data/, 5/29/18

Return TOC

United States Housing

Building Products -- averaging $80,566 per New Home -- Under Price Pressure

"Curious to look at the math of how $55 billion in annual building materials expenses roll up and break down in the new-home market, account for a quarter of a home's price tag, and add up to $105 billion in remodeling materials and products each year?

A new Bank of America Merrill Lynch report -- "Who Builds the House—2018" [*note, subscriber content*] -- subjects both the new residential and remodeling market places to a fascinating market "sizing" research exercise, aggregating and averaging data in such a way as to show a model for materials and products input costs. Although America's thousands of home builders don't buy, build, or model their businesses on averages, estimates, or aggregates, the analysis of 14 major product and materials component groups is helpful in revealing why all the fuss about price inflation pressures as builders work to subtract costs and offer lower-priced home models.

The fascinating snapshot schematic from the report looks like this (following slide):" – John McManus, Editorial and Digital Content Director, Builder, Hanley Wood

Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

Return TOC

United States Housing

Building Products -- averaging $80,566 per New Home -- Under Price Pressure

""*We estimate that the value of content in an average US single-family new home has grown at a compounded annual growth rate (CAGR) of 3.6% from $23,073 in 1982 to $80,566 in 2017. Our $80,566 estimate includes $2,047 of content attributable to an "other" category, which is an aggregate of sundry items outside of the 14 major groups. Materials constitute roughly 25% of the sale price of a new house, with the 2017 median sale price reaching $321,000 according to the US Census Bureau. This foots fairly well with our $80,566 content estimate ($80,566/25% = $322,264).*

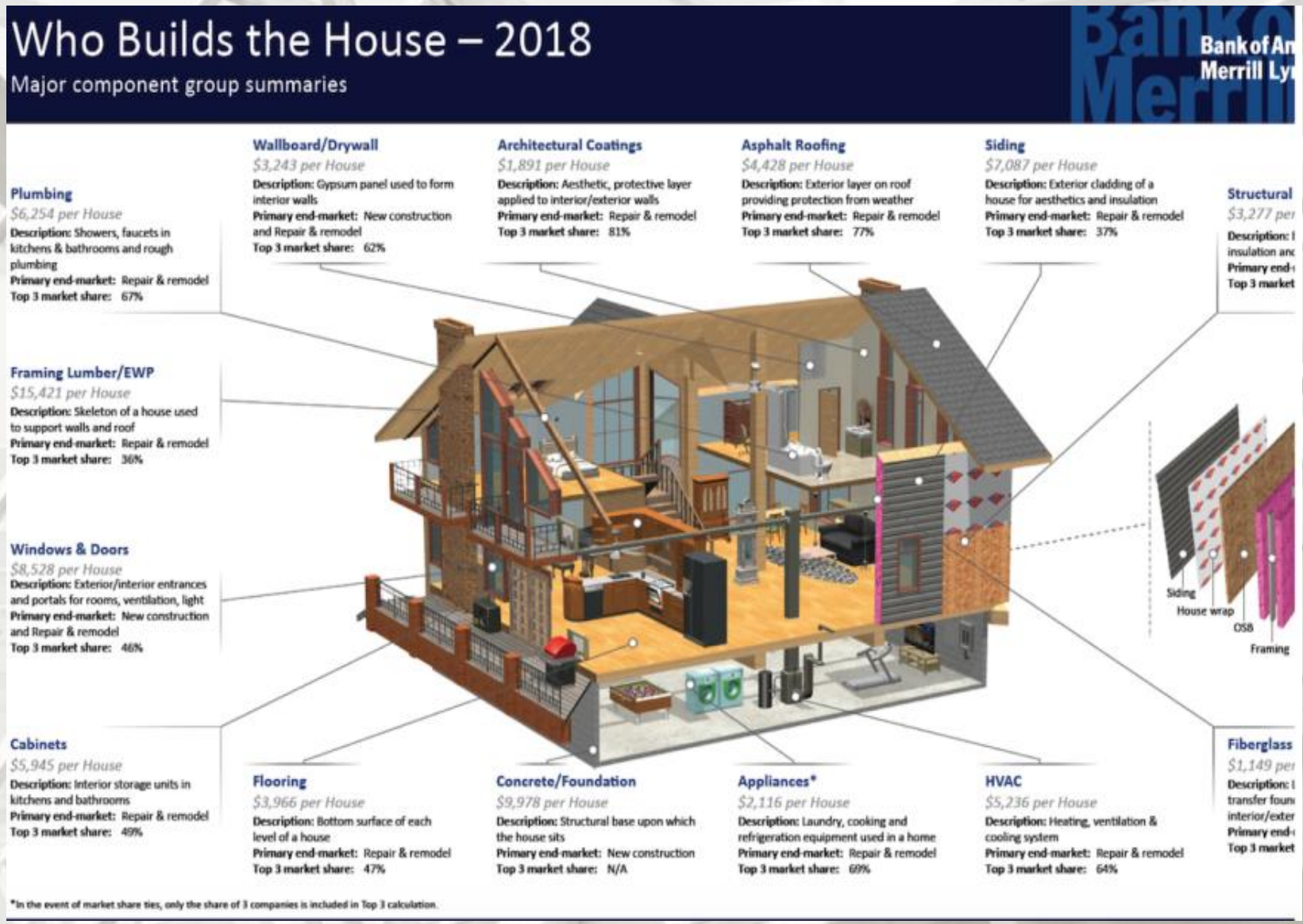
We estimate an overall opportunity for building products content (excluding labor) in the US new single-family home construction market of roughly $55bn. We derive our $55bn estimate by multiplying the residential new construction exposure of each component group by its total addressable market and aggregating the results. This approach is backstopped by multiplying our estimated dollar content per home of $80,566 by 2017 new home sales of 614K and by 2017 single family starts of 851K, which implies a residential new construction market range of $49bn-$69bn."

Further, the report sizes market share for the building products and materials supplier leaders in each of its 14 separate component categories, essentially diagramming market leaders in each part of the a home's construction. All in, the report notes that the top three players in each of the 14 products and materials components of a home, own 60% or more of the market, and that consolidation continues." – John McManus, Editorial and Digital Content Director, Builder, Hanley Wood

Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

Return TOC

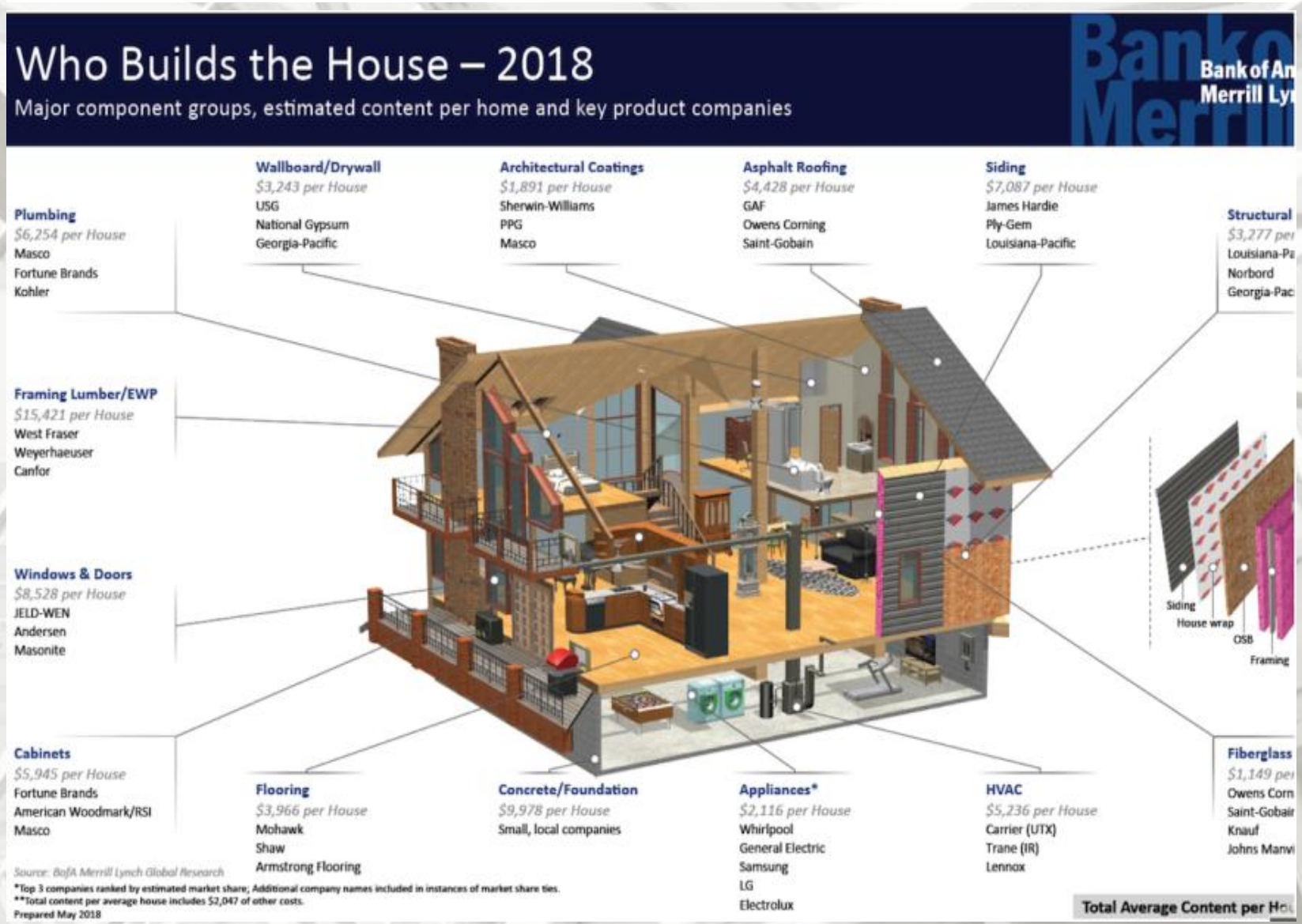
United States Housing



Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

Return TOC

United States Housing



Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

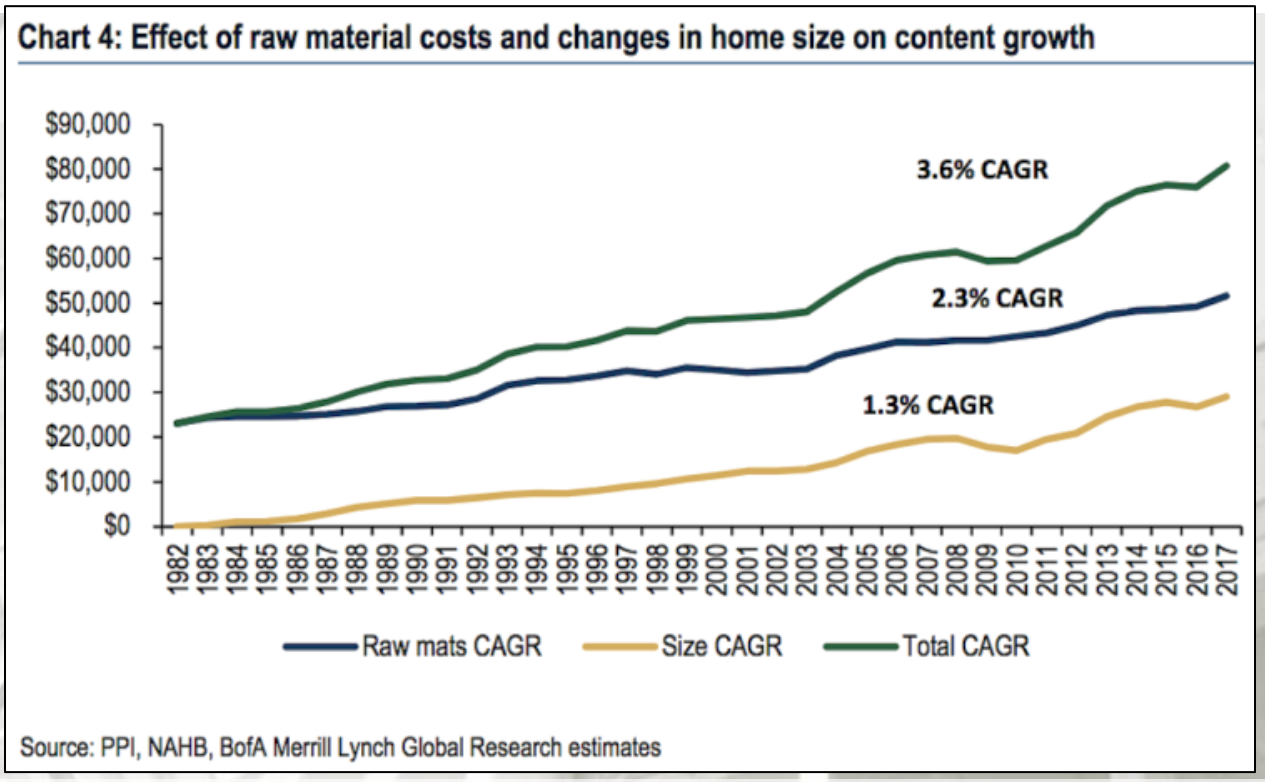
Return TOC

United States Housing

Building Products -- averaging $80,566 per New Home -- Under Price Pressure

"Again, nobody builds to an average or aggregate, so for different geographical markets, different square footages, different customer segment specs, different national and local deals and installation nodes, these figures can become far from precise when it comes to applying them to specific projects.

Here's the way the analysis takes on the trajectory of building materials and product input expense as a historical trend:" – John McManus, Editorial and Digital Content Director, Builder, Hanley Wood



Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

Return TOC

United States Housing

Building Products -- averaging $80,566 per New Home -- Under Price Pressure

""*Based on 18 distinct producer price indices (including "other" category), we estimate that the raw material content in an average single-family home increased from roughly $23,073 in 1982 (base year, index=100) to $51,523 in 2017, representing a CAGR of approximately 2.3%. In addition, the average square footage of floor area in a new single-family home increased at a 1.3% CAGR from 1,710 to 2,674 over the same period. Given that 1982 was the base year for this analysis, the size impact rose from $0/home in 1982 to $29,044/home in 2017. For consistency, we employ the same size factor (current year average square footage/1982 average square footage) for each component group. The sum of the raw material and square footage inputs equate to our total content per home estimate in each year. Therefore, we estimate that total content in an average single-family home increased from $23,073 in 1982 to $80,566 in 2017."*

As the new home unit growth recovery continues through 2018 and into 2019, it's more and more evident that upward pressure on prices of materials, land, and labor -- each hitting home builders' investment and operations structures at different time periods -- are a risk to making money in the business, especially for smaller companies that pay more for capital.

… Looking from the outside in at the data, many conclude that 2018 will be a good year for builders, and lead into another good year in 2019.

Many of those builders, on the inside looking out, might reply: "Define good."" – John McManus, Editorial and Digital Content Director, Builder, Hanley Wood

Sources: http://www.builderonline.com/building/building-products-averaging-80-566-per-new-home-under-price-pressure_o; 5/16/18

Return TOC

Summary

In summary:

The U.S. housing construction market was robust in April, with the exception of existing house sales). On a monthly basis, April data was lukewarm, New SF starts, permits, and completions were positive on a monthly basis. Regionally, data were mixed across all sectors. Once again, new SF lower-priced tier house sales were less than historical averages. The new SF construction 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) Increasing interest rates;
3) Household formations are still lagging historical averages;
4) Changing attitudes towards SF ownership;
5) Job creation is improving and consistent but some economists question the quantity and types of jobs being created;
6) Debt: Corporate, personal, government – United States and globally;
7) 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 otherwis e, 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 an y warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes an y 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 exerci se any editorial control over the information you November find at these locations. All links are provided with the intent of meetin g 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, c olor, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexu al 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 alternativ e 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