

The Virginia Tech – U.S. Forest Service

May 2017

Housing Commentary: Section I



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2017

Virginia Polytechnic Institute and State University

VCE-ANR 282NP

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

Opening Remarks

The aggregate U.S. housing market hit a stumbling block in May, as most monthly indicators were negative on a month-over-month basis. However, on a year-over-year basis, the majority were positive, with the exception of total permits and starts. Problematic is construction spending, as single-family, multifamily, and improvement expenditures were negative on a month-over-month basis. These sub-sectors bear watching, as the continuation of this pattern may indicate a slowdown in the housing market. Regionally, data were mixed across all sectors. The July 11th Atlanta Fed GDPNow™ model projects aggregate residential investment spending to decrease at a -1.0% percent seasonally adjusted annual rate. New private housing was estimated to decline -2.5% and improvement spending was projected to increase 1.6% in Quarter 2. All declined from Q1's forecasts.¹

“The question is not if home prices can climb without any limit; they can't. Rather, will home price gains gently slow or will they crash and take the economy down with them? For the moment, conditions appear favorable for avoiding a crash. Housing starts are trending higher and rising prices may encourage some homeowners to sell. Moreover, mortgage default rates are low and household debt levels are manageable.”² – David Blitzer, Managing Director and Chairman of the Index Committee, S&P Dow Jones

This month's commentary also contains applicable housing data; new single-family and multifamily and existing housing data; single-family rental units; first-time purchasers; economic information; and demographics. Section I contains data and commentary and Section II includes Federal Reserve analysis; private indicators; and demographic commentary. We hope you find this commentary beneficial.

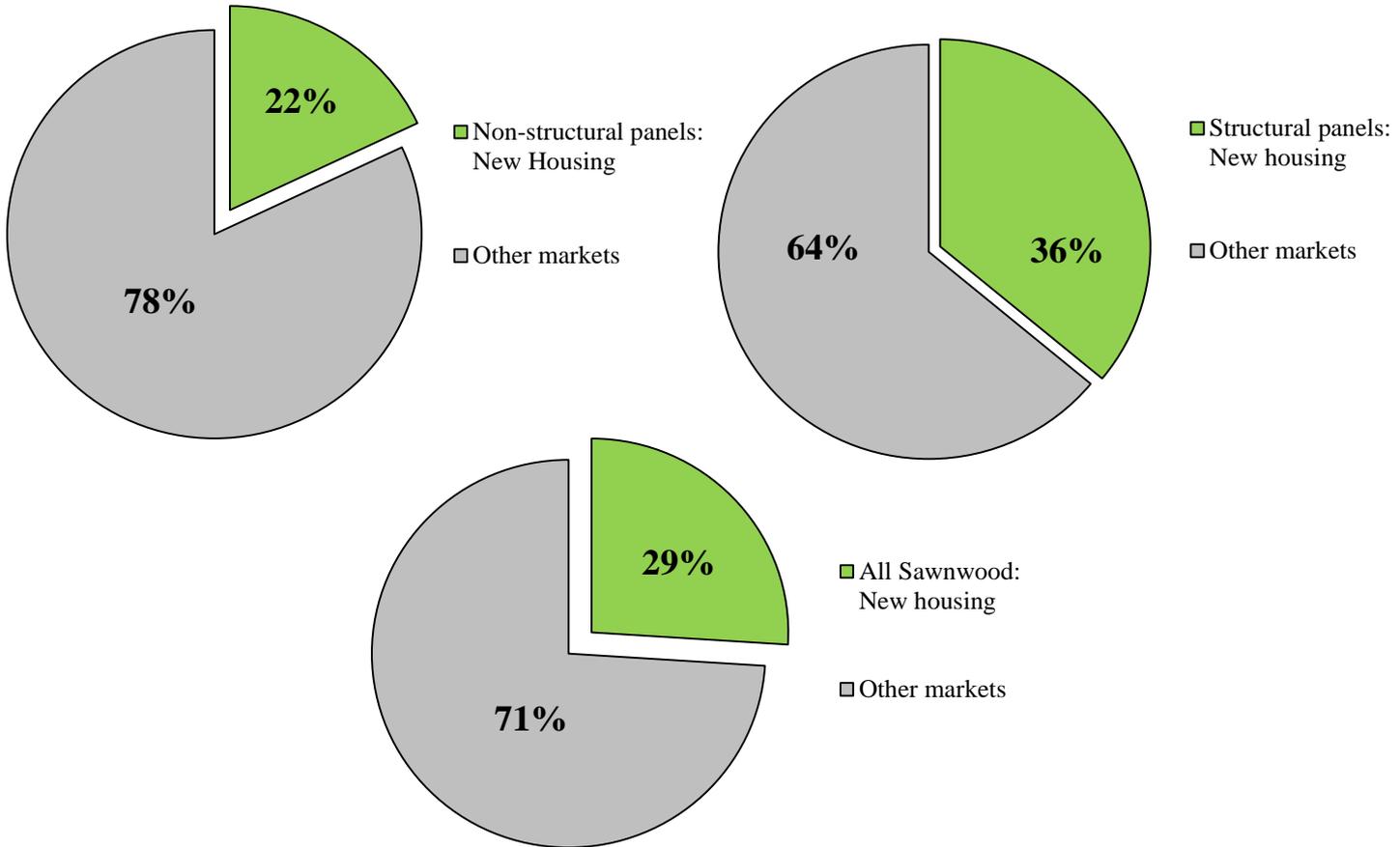
May 2017

Housing Scorecard

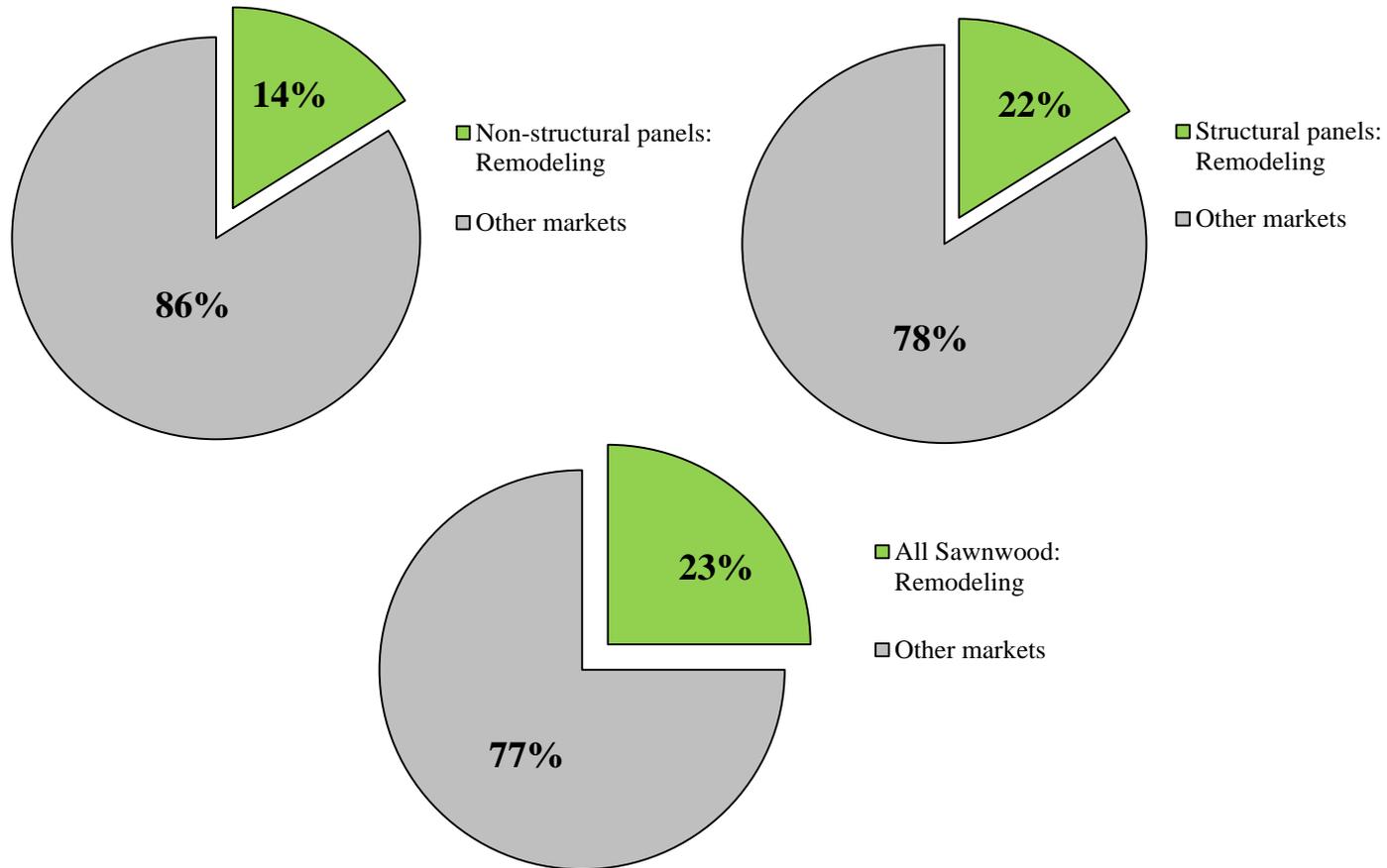
	M/M	Y/Y
Housing Starts	▽ 5.5%	▽ 2.4%
Single-Family Starts	▽ 3.9%	△ 8.5%
Housing Permits	▽ 4.9%	▽ 0.8%
Single-Family Permits	▽ 1.9%	△ 6.0%
Housing Completions	△ 5.6%	△ 14.6%
New Single-Family House Sales	△ 2.9%	△ 8.9%
Private Residential Construction Spending	▽ 0.6%	△ 11.2%
Single-Family Construction Spending	▽ 0.3%	△ 7.9%
Existing House Sales ¹	△ 1.1%	△ 2.7%

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

New Construction's Percentage of Wood Products Consumption



Repair and Remodeling's Percentage of Wood Products Consumption



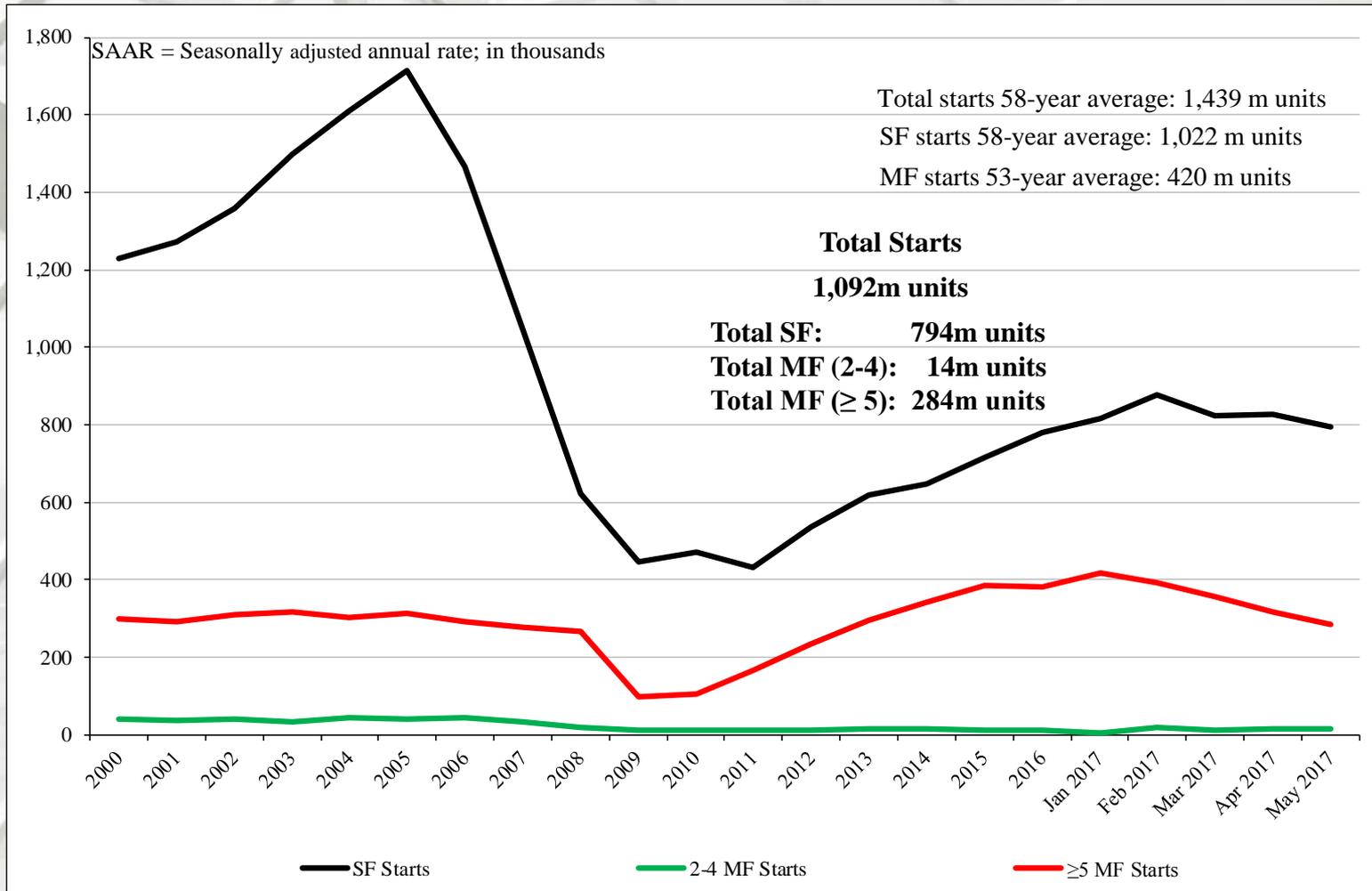
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
May	1,092,000	794,000	14,000	284,000
April	1,156,000	826,000	15,000	315,000
2016	1,119,000	732,000	5,000	382,000
M/M change	-5.5%	-3.9%	-6.7%	-9.8%
Y/Y change	-2.4%	8.5%	180.0%	-25.7%

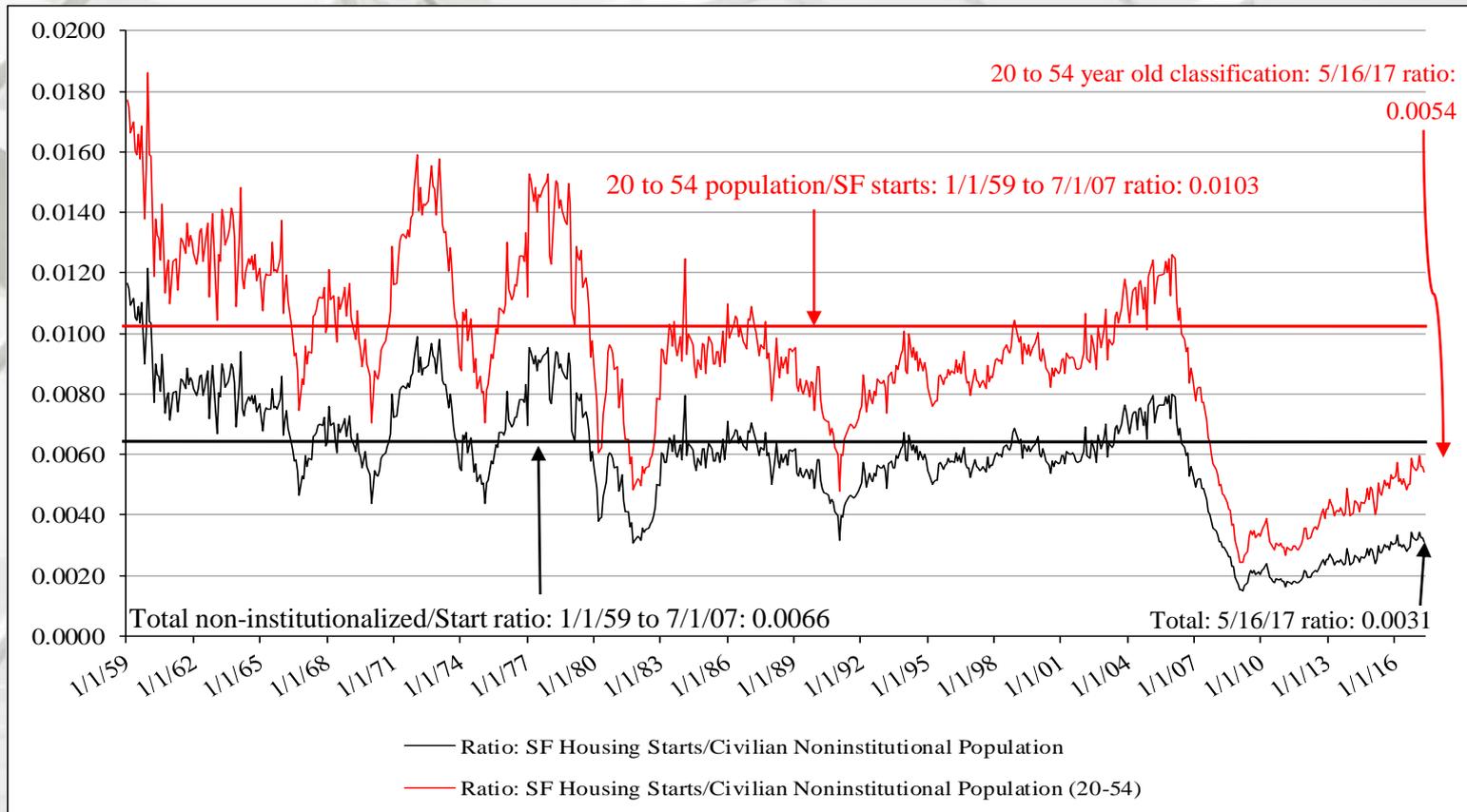
* All start data are presented at a seasonally adjusted annual rate (SAAR).

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

Total Housing Starts



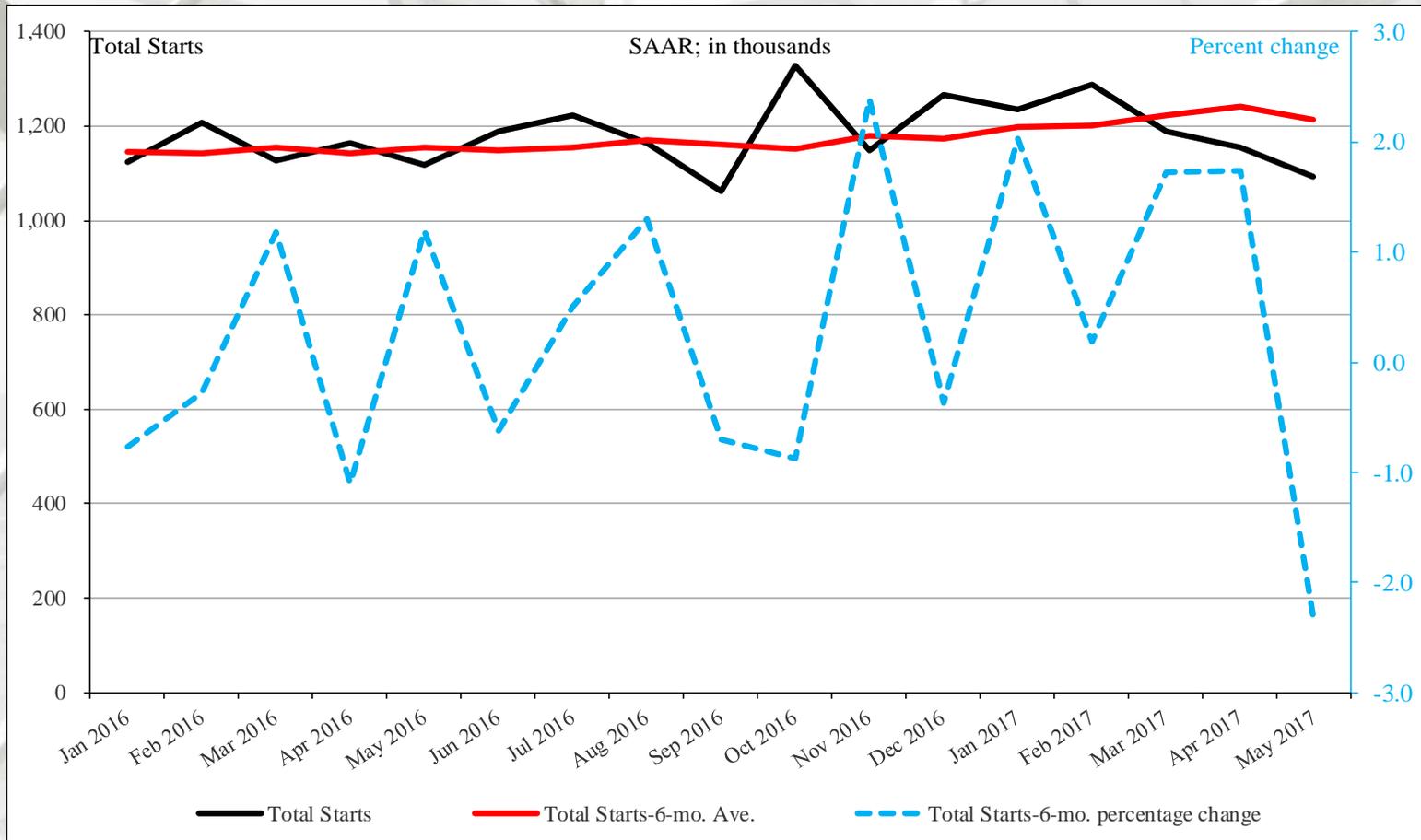
New SF Starts



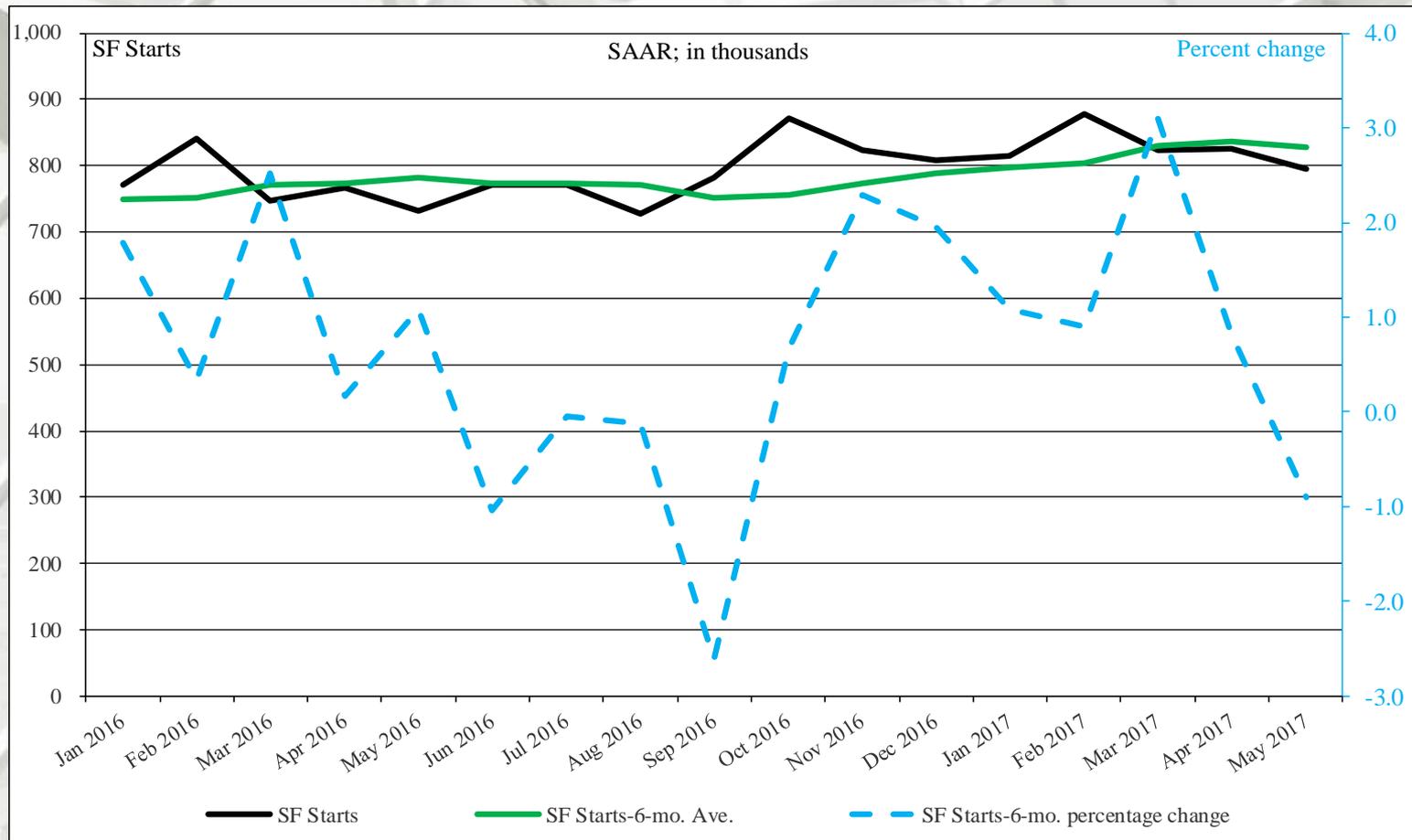
New SF starts adjusted for the US population

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 May 2017 it was 0.0031 – a slight decrease from April (0.0032). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in May 2017 it was 0.0054 – a decline from April (0.0056). From a population worldview, construction is less than what is necessary for changes in population (i.e., under-building).

Total Housing Starts: Six-Month Average



SF Housing Starts: Six-Month Average



New Housing Starts by Region

	NE Total	NE SF	NE MF**
May	87,000	54,000	33,000
April	87,000	48,000	39,000
2016	80,000	56,000	24,000
M/M change	0.0%	12.5%	-15.4%
Y/Y change	8.7%	-3.6%	37.5%

	MW Total	MW SF	MW MF
May	168,000	138,000	30,000
April	185,000	126,000	59,000
2016	190,000	107,000	83,000
M/M change	-9.2%	9.5%	-49.2%
Y/Y change	-11.6%	29.0%	-63.9%

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).

New Housing Starts by Region

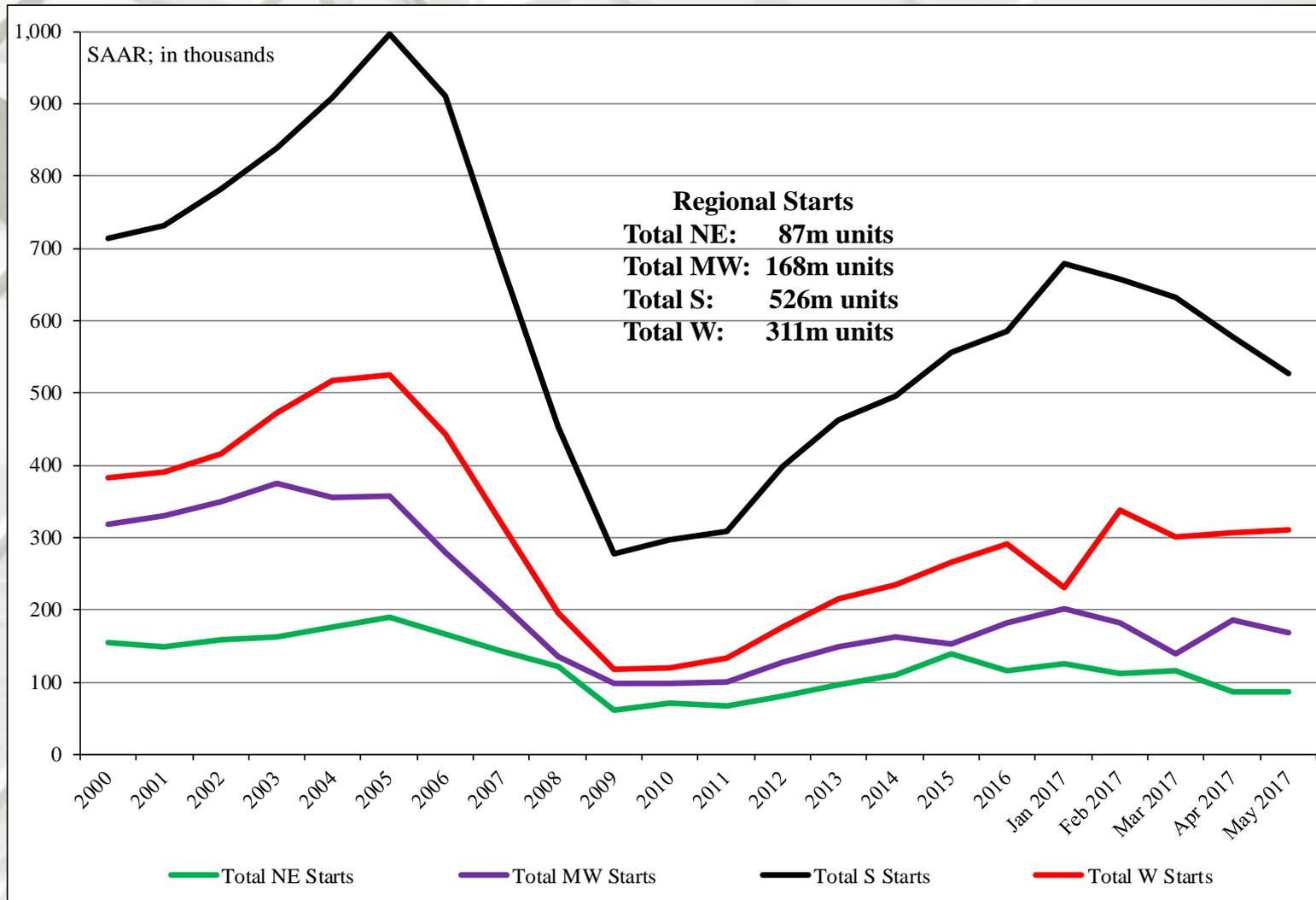
	S Total	S SF	S MF**
May	526,000	409,000	117,000
April	577,000	449,000	128,000
2016	584,000	411,000	173,000
M/M change	-8.8%	-8.9%	-8.6%
Y/Y change	-9.9%	-0.5%	-32.4%

	W Total	W SF	W MF
May	311,000	193,000	118,000
April	307,000	203,000	104,000
2016	265,000	158,000	107,000
M/M change	1.3%	-4.9%	13.5%
Y/Y change	17.4%	22.2%	10.3%

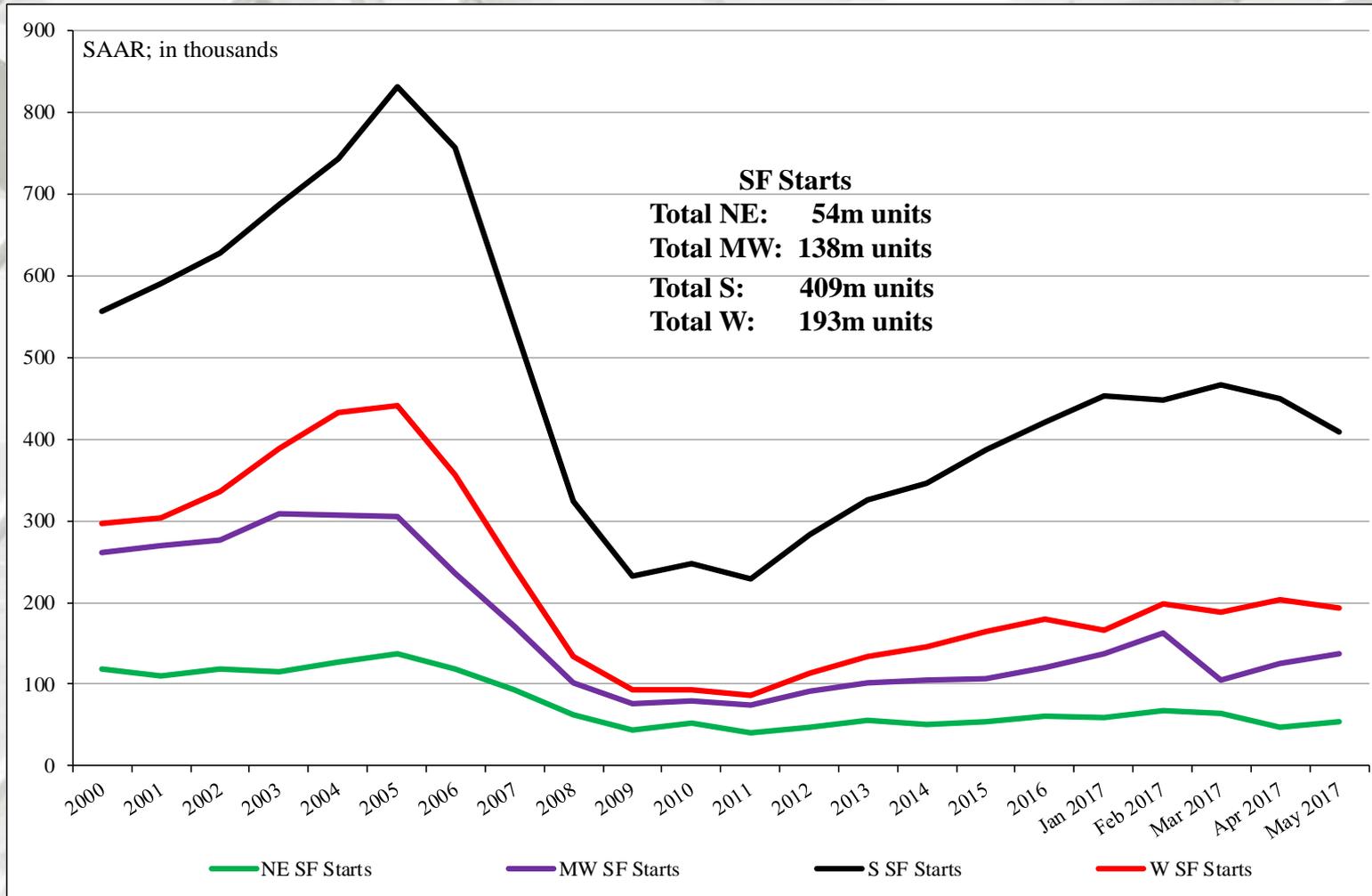
All data are SAAR; S = South and W = West.

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

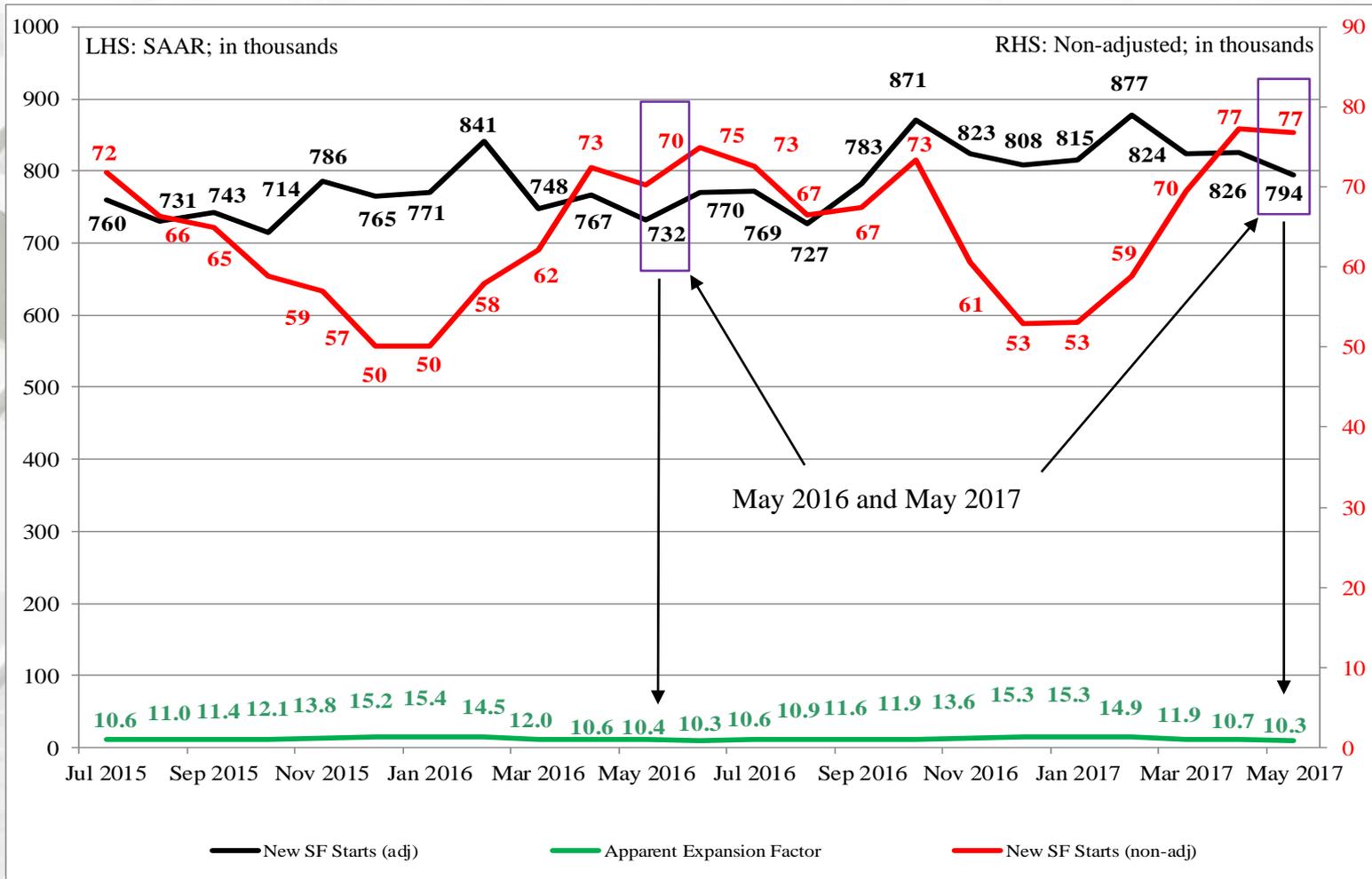
Total Housing Starts by Region



SF Housing Starts by Region



Nominal & SAAR SF Starts

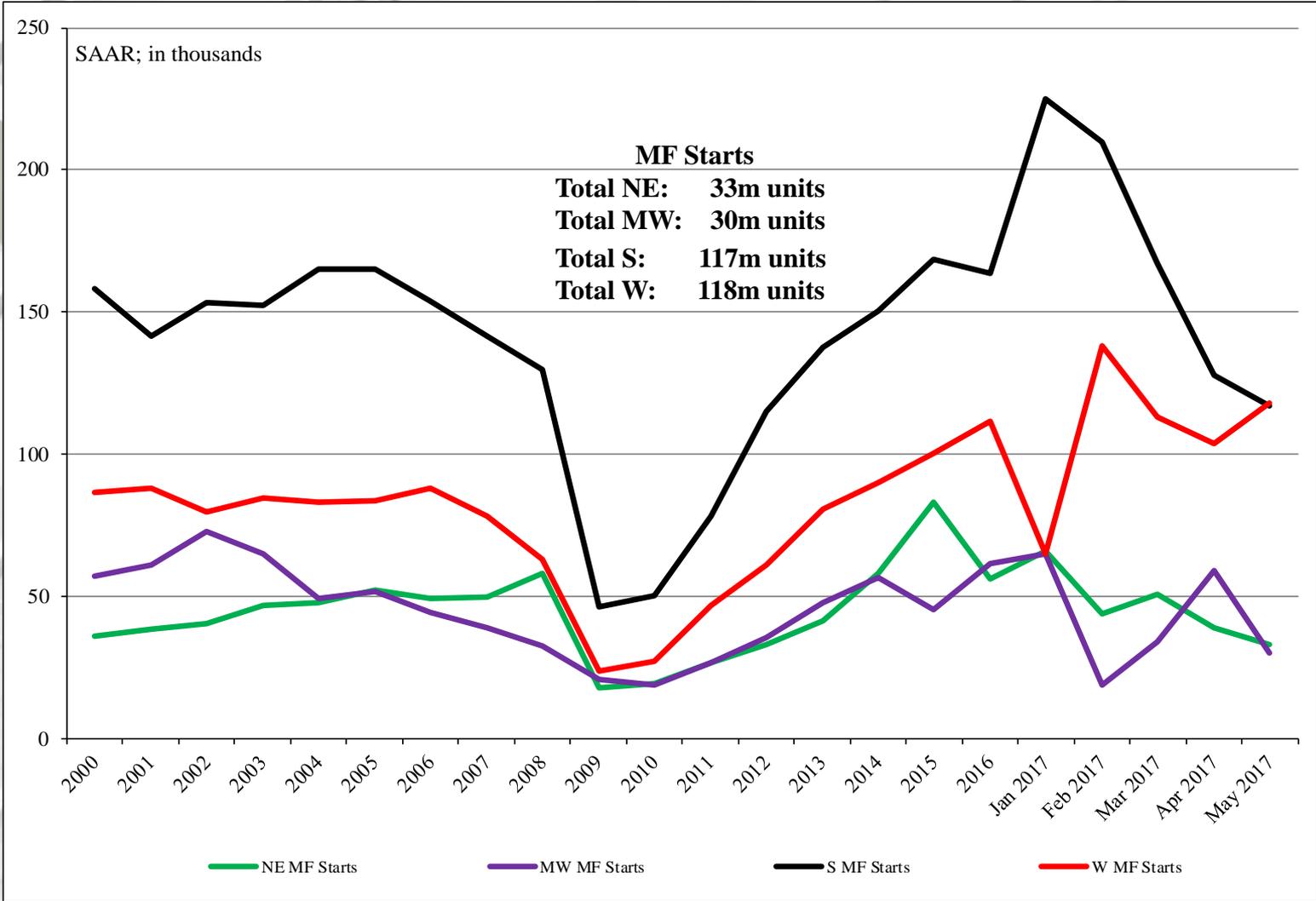


Nominal and Adjusted New SF Monthly Starts

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

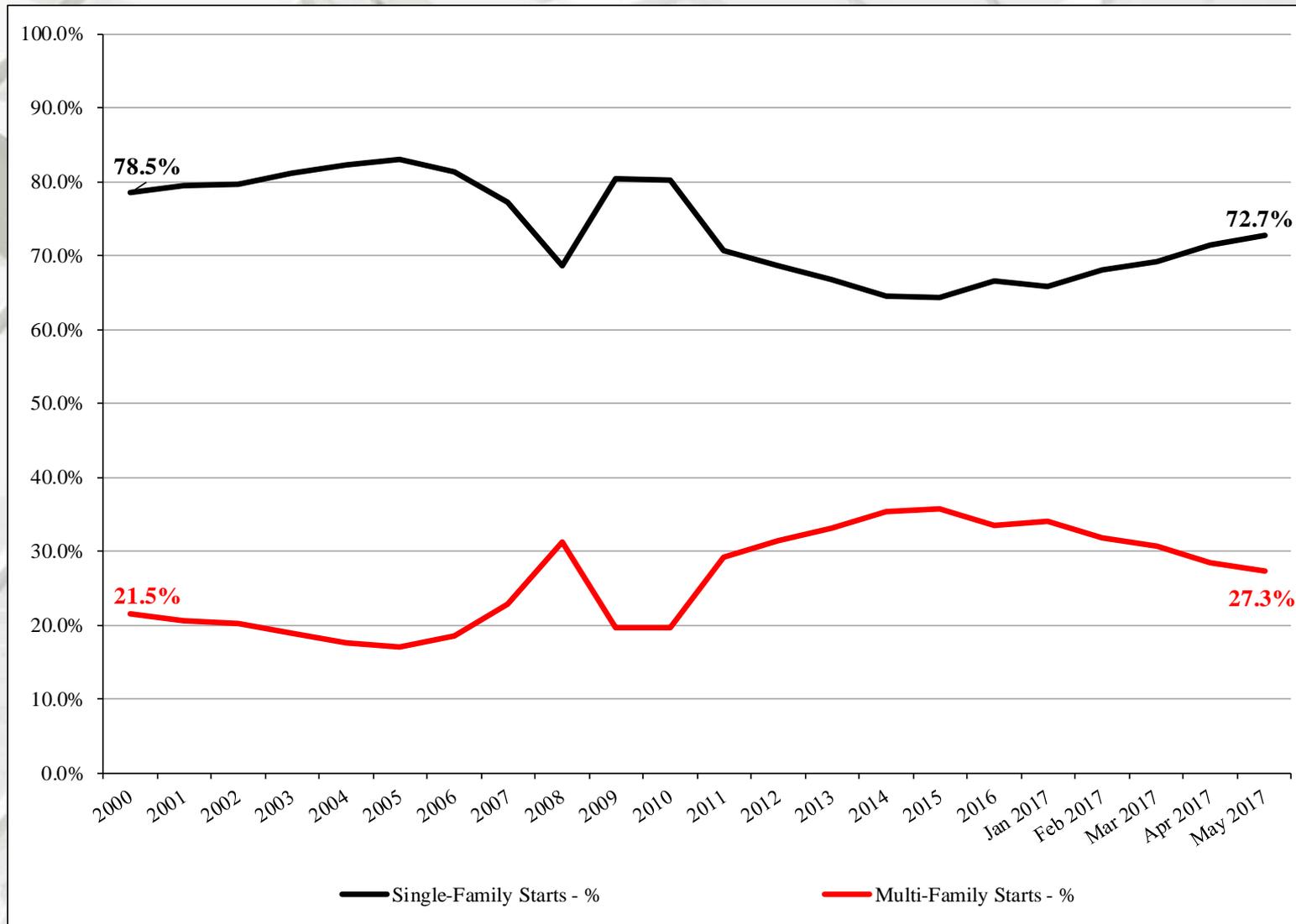
The apparent expansion factor “... is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions).” – U.S. DOC-Construction

MF Housing Starts by Region

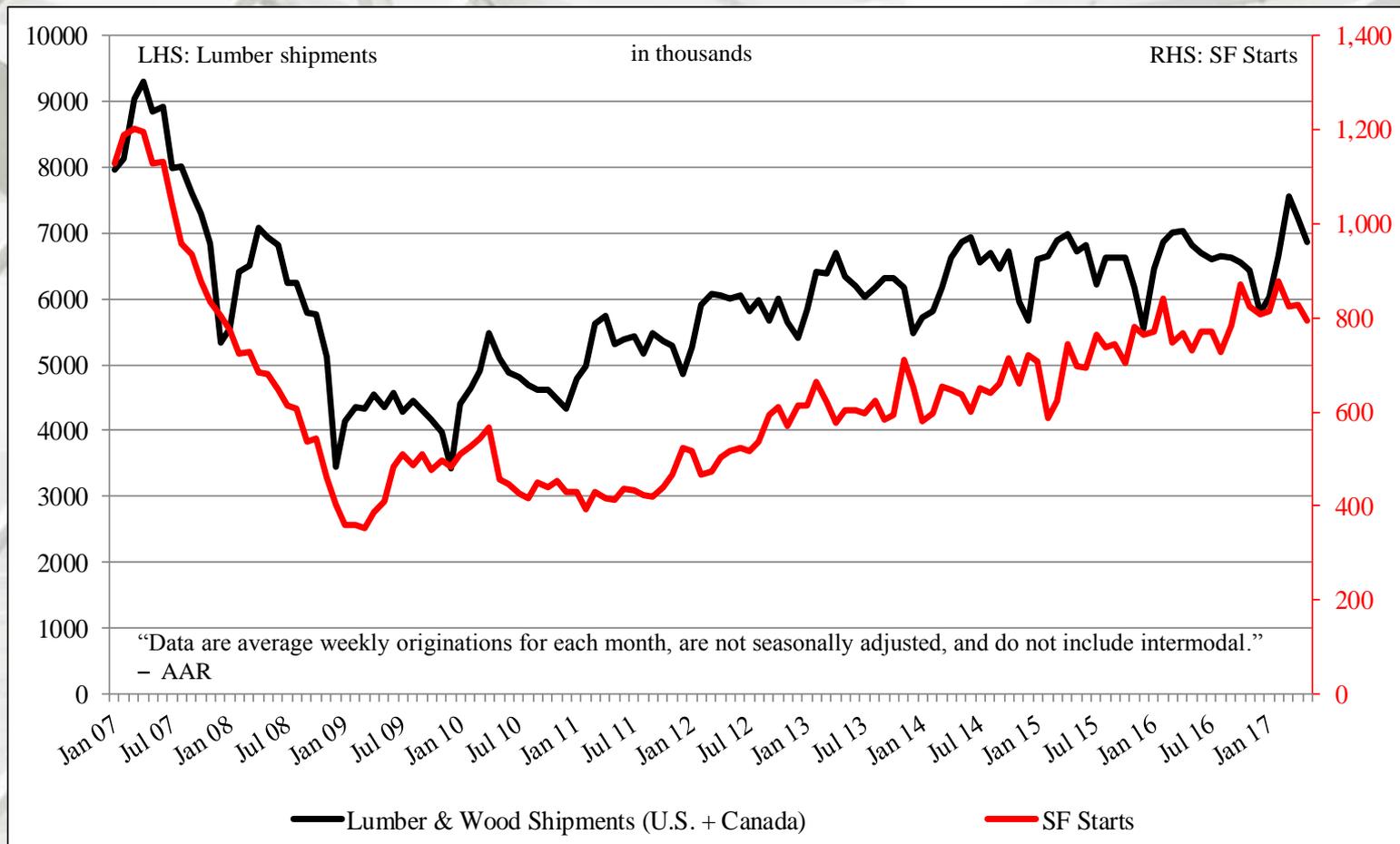


Source: <http://www.census.gov/construction/nrc/pdf/newresconst.pdf>; 6/16/17

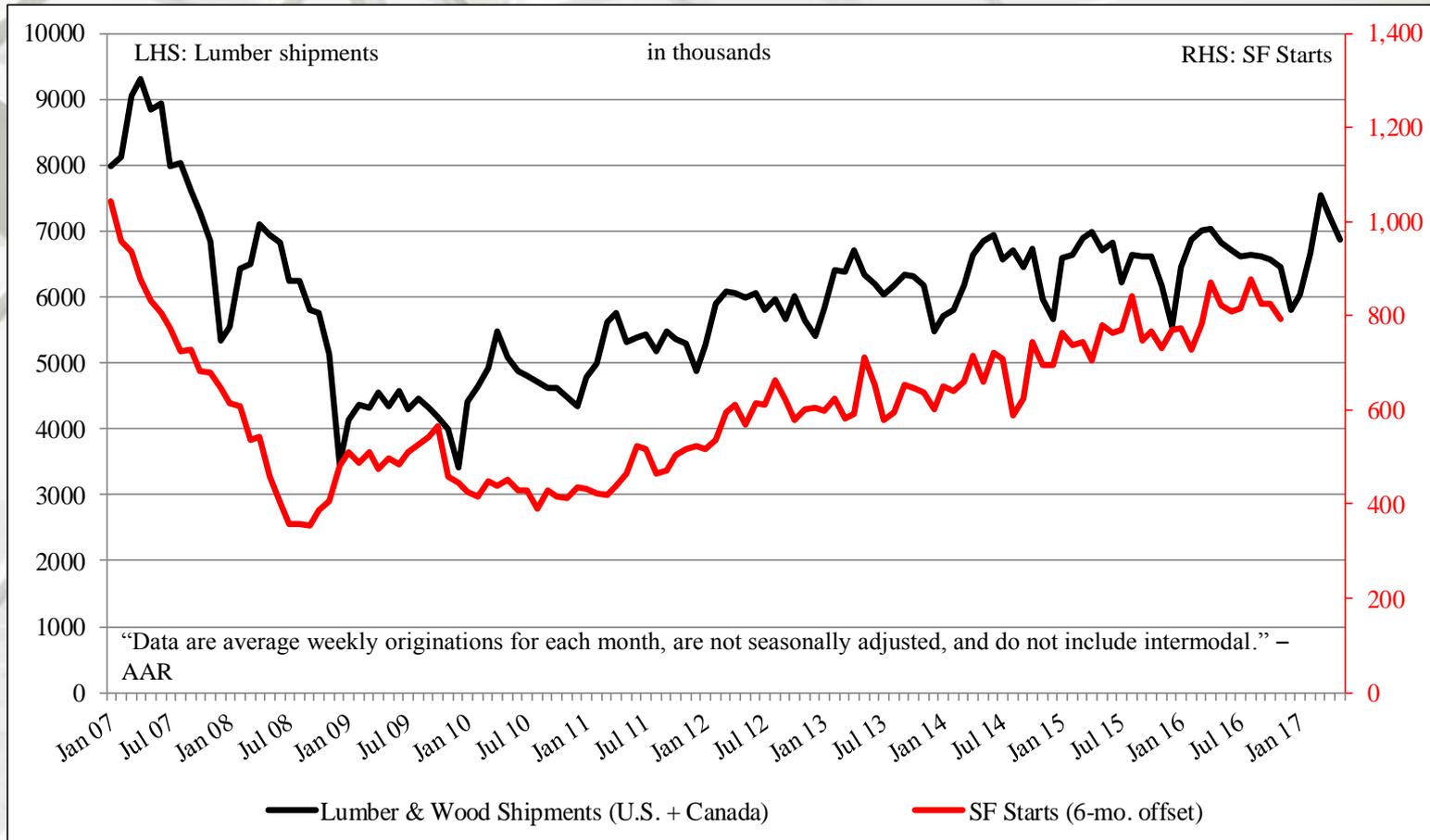
Housing Starts by Percent



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



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



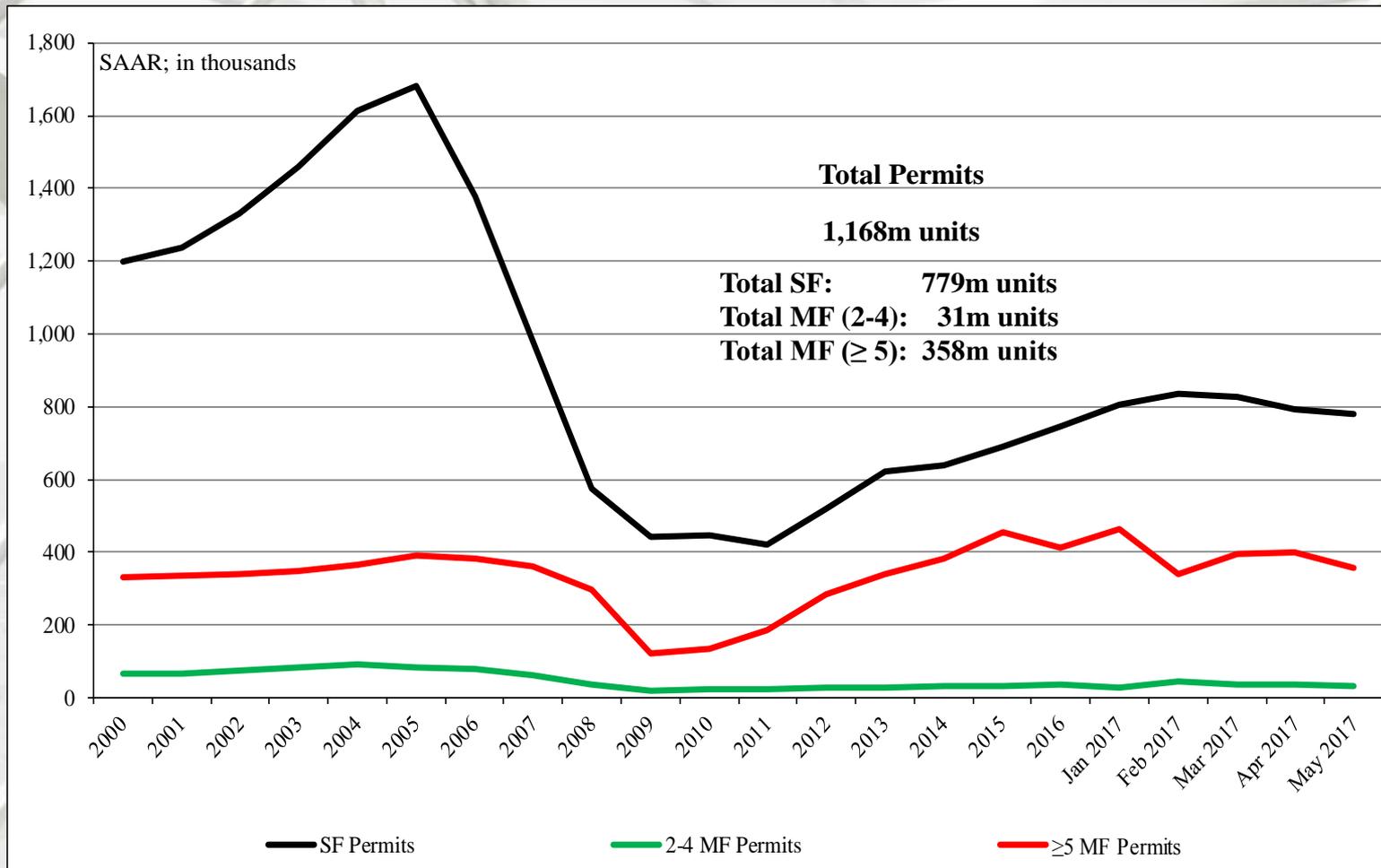
In this graph, January 2007 lumber shipments are contrasted with July 2007 SF starts, and continuing through May 2017 SF starts. The purpose is to discover if lumber shipments relate to future single-family starts. Also, it is realized that lumber and wood products are trucked; however, to our knowledge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

New Housing Permits

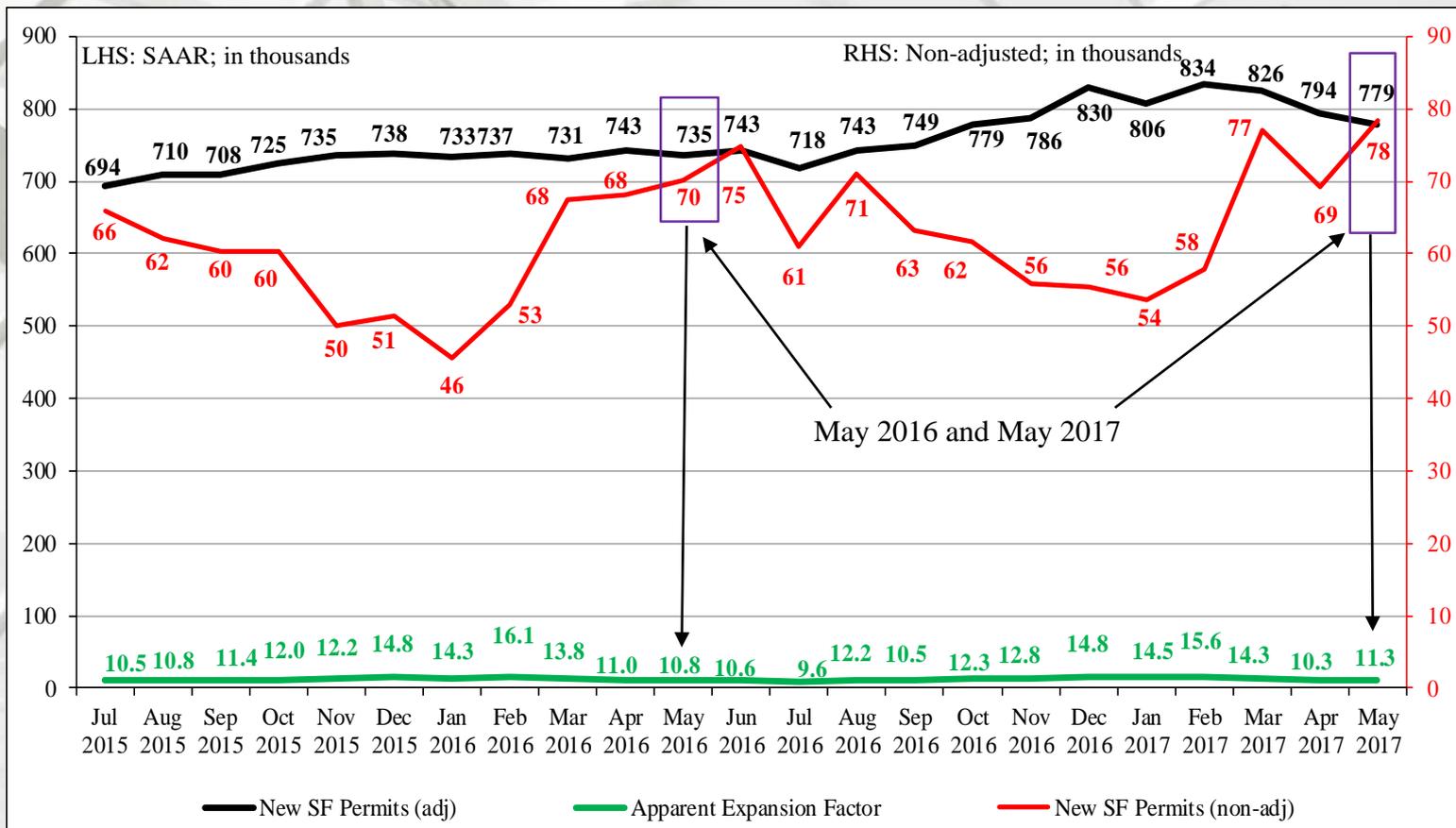
	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
May	1,168,000	779,000	31,000	358,000
April	1,228,000	794,000	36,000	398,000
2016	1,178,000	735,000	31,000	412,000
M/M change	-4.9%	-1.9%	-13.9%	-10.1%
Y/Y change	-0.8%	6.0%	0.0%	-13.1%

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

Total New Housing Permits



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

New Housing Permits by Region

	NE Total*	NE SF	NE MF**
May	124,000	54,000	70,000
April	120,000	53,000	67,000
2016	103,000	52,000	51,000
M/M change	3.3%	1.9%	4.5%
Y/Y change	20.4%	3.8%	37.3%

	MW Total*	MW SF	MW MF**
May	174,000	108,000	66,000
April	192,000	124,000	68,000
2016	177,000	109,000	68,000
M/M change	-9.4%	-12.9%	-2.9%
Y/Y change	-1.7%	-0.9%	-2.9%

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

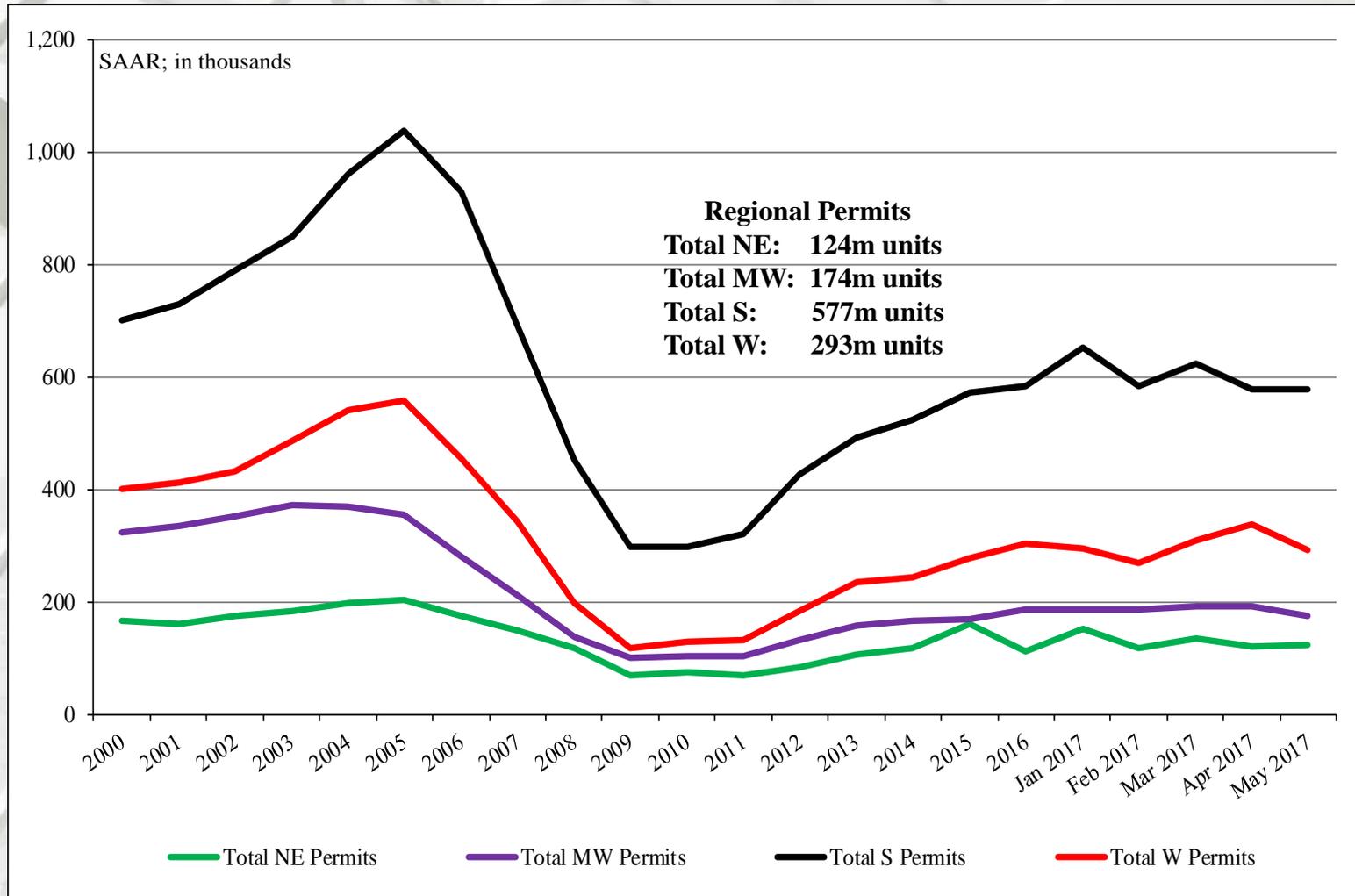
New Housing Permits by Region

	S Total*	S SF	S MF**
May	577,000	434,000	143,000
April	579,000	424,000	155,000
2016	566,000	402,000	164,000
M/M change	-0.3%	2.4%	-7.7%
Y/Y change	1.9%	8.0%	-12.8%

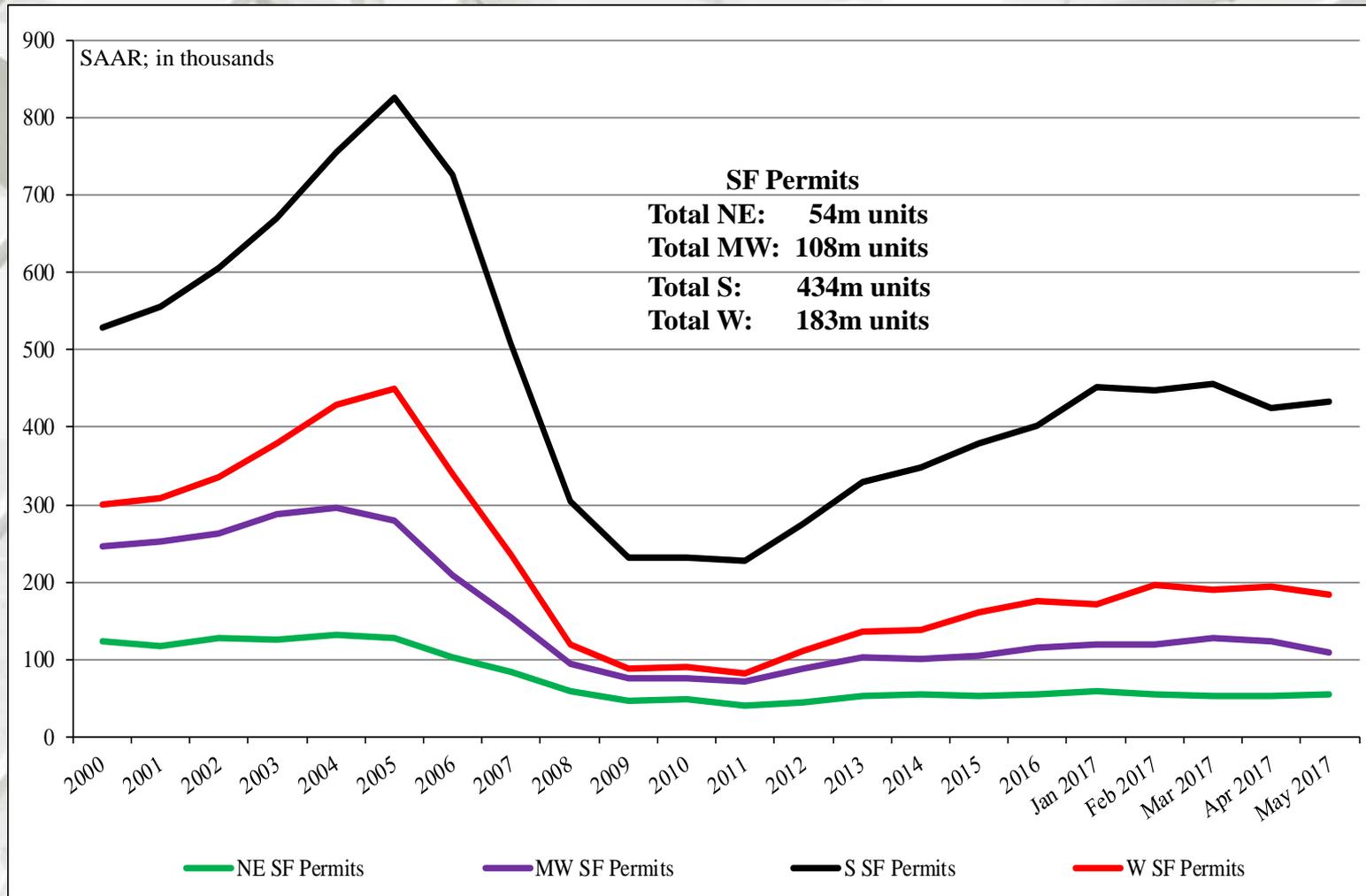
	W Total*	W SF	W MF**
May	293,000	183,000	110,000
April	337,000	193,000	144,000
2016	332,000	172,000	160,000
M/M change	-13.1%	-5.2%	-23.6%
Y/Y change	-11.7%	6.4%	-31.3%

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

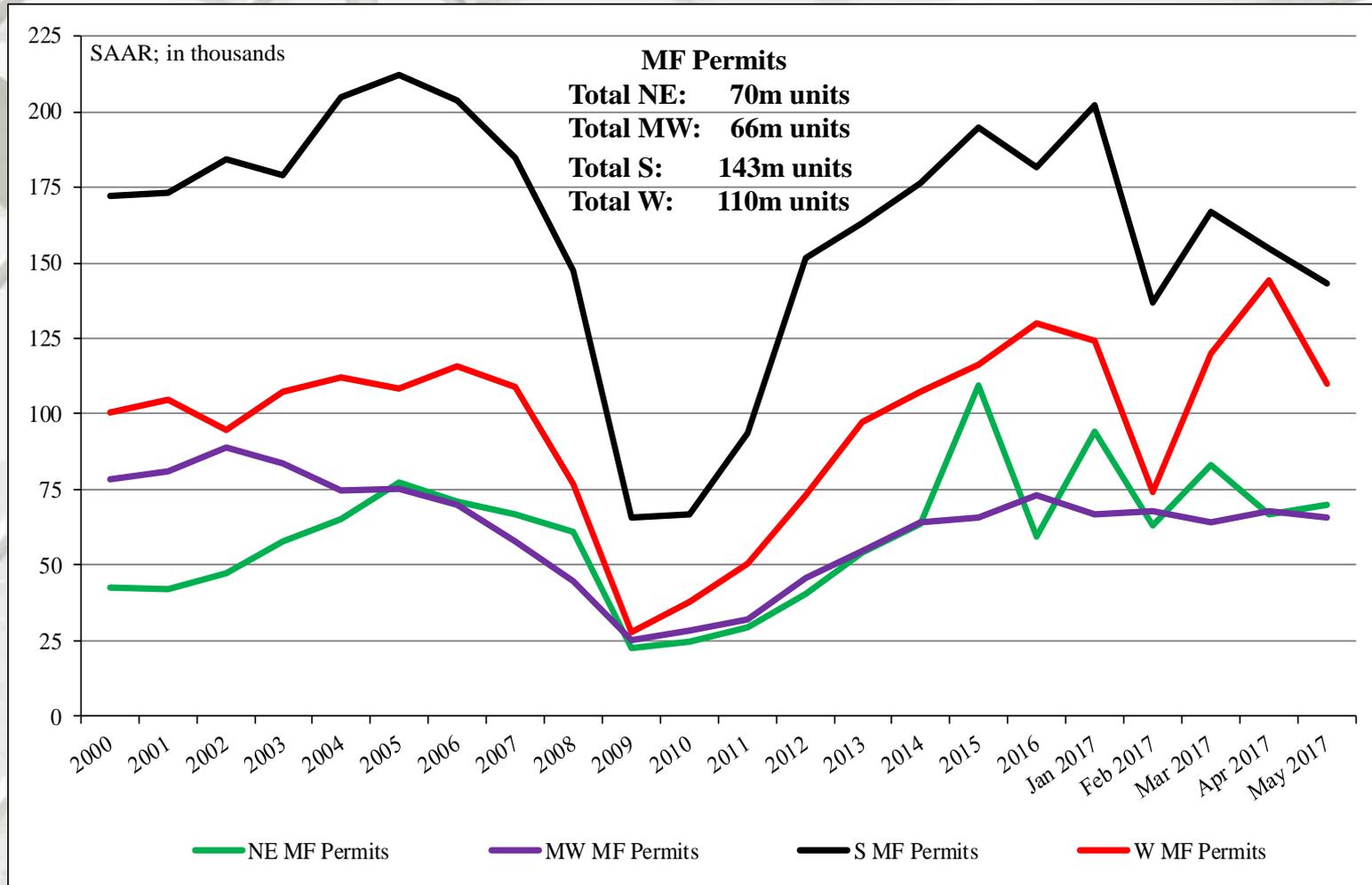
Total Housing Permits by Region



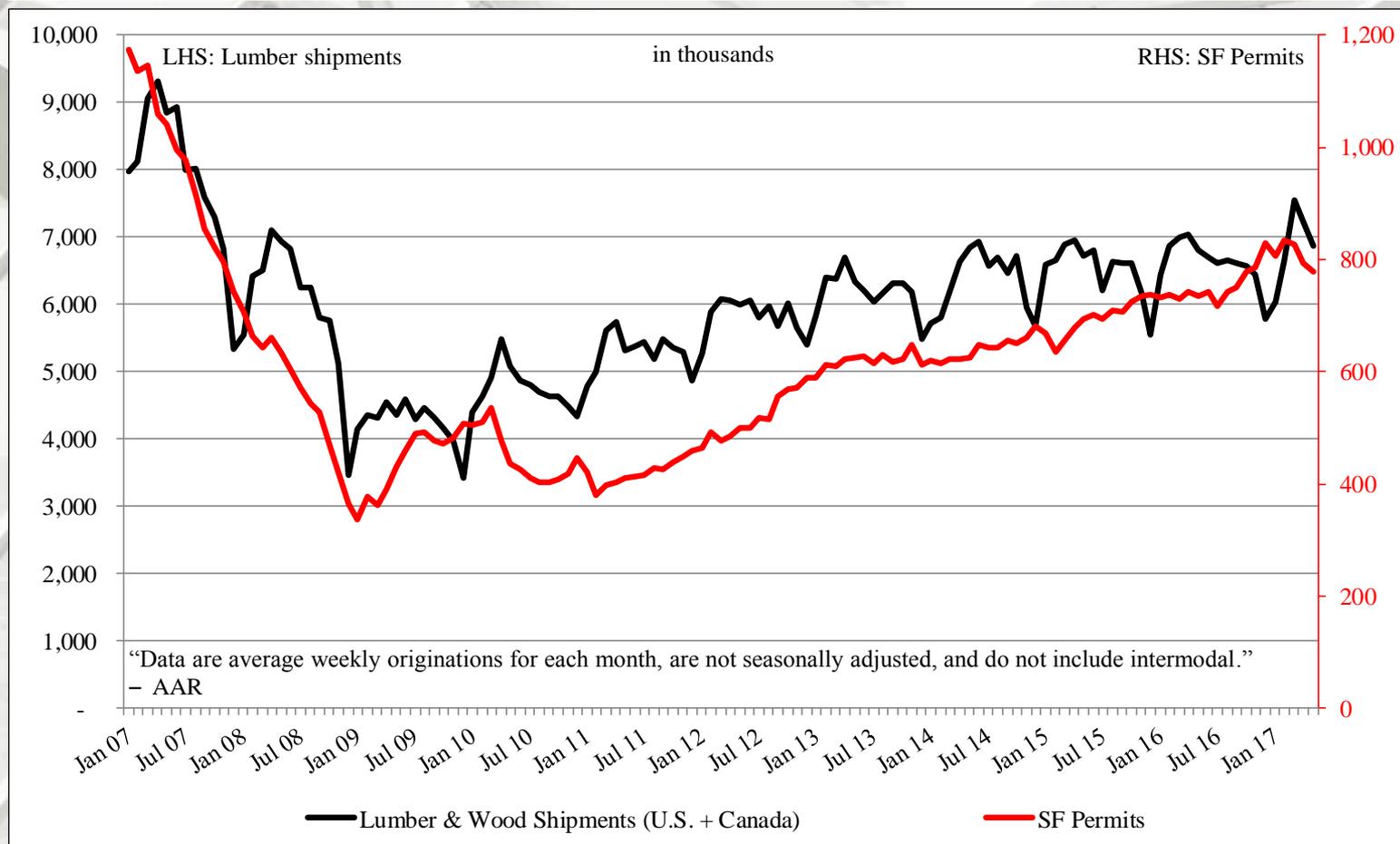
SF Housing Permits by Region



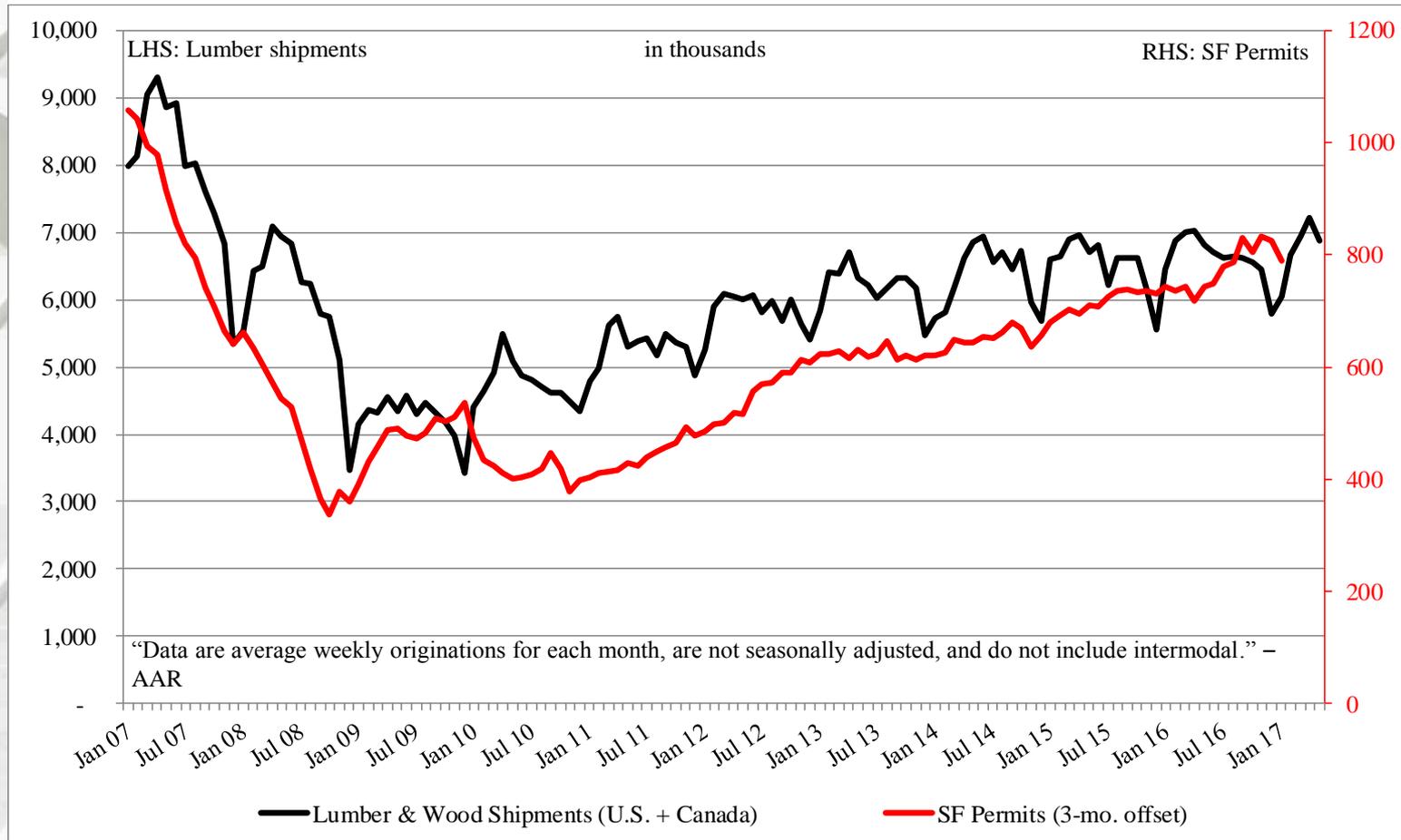
MF Housing Permits by Region



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



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



In this graph, January 2007 lumber shipments are contrasted with May 2007 SF permits, continuing through May 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.

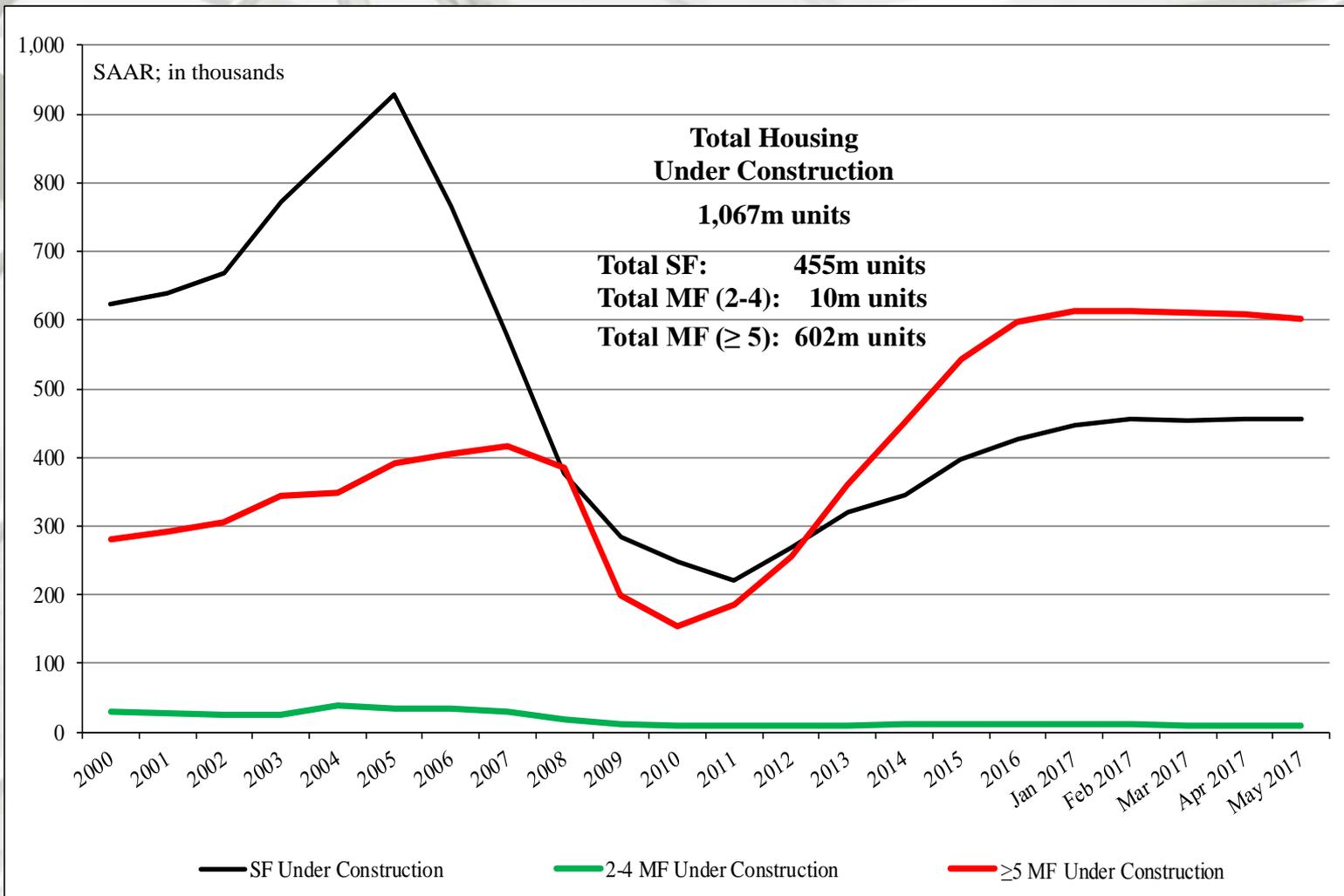
New Housing Under Construction

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
May	1,067,000	455,000	10,000	602,000
April	1,075,000	457,000	10,000	608,000
2016	1,009,000	429,000	10,000	570,000
M/M change	-0.7%	-0.4%	0.0%	-1.0%
Y/Y change	5.7%	6.1%	0.0%	5.6%

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)).

Total Housing Under Construction



New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
May	189,000	51,000	138,000
April	190,000	51,000	139,000
2016	190,000	50,000	140,000
M/M change	-0.5%	0.0%	-0.7%
Y/Y change	-0.5%	2.0%	-1.4%
	MW Total	MW SF	MW MF
May	148,000	74,000	74,000
April	147,000	74,000	73,000
2016	136,000	72,000	64,000
M/M change	0.7%	0.0%	1.4%
Y/Y change	8.8%	2.8%	15.6%

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).

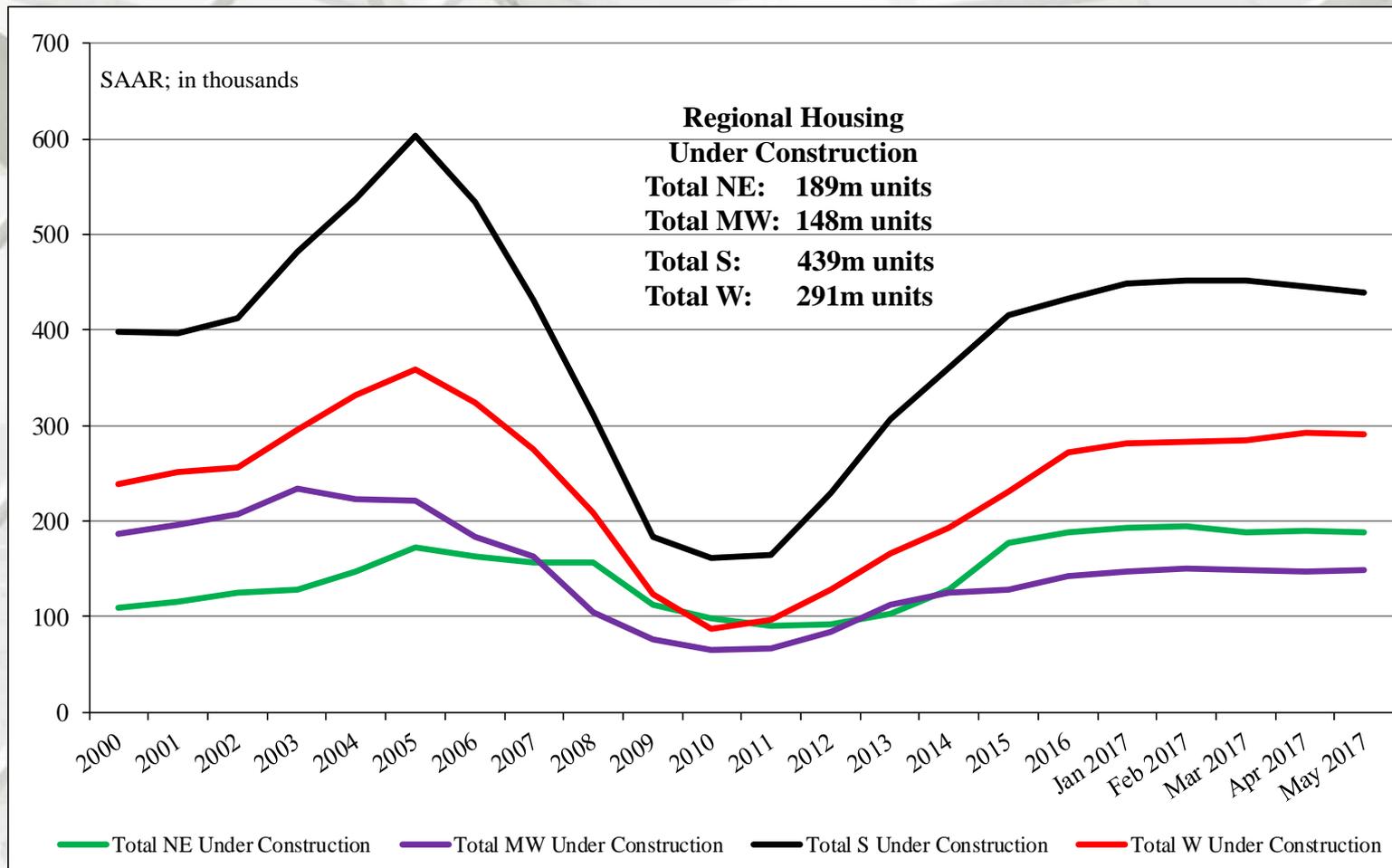
New Housing Under Construction by Region

	S Total	S SF	S MF**
May	439,000	217,000	222,000
April	446,000	218,000	228,000
2016	436,000	211,000	225,000
M/M change	-1.6%	-0.5%	-2.6%
Y/Y change	0.7%	2.8%	-1.3%
	W Total	W SF	W MF
May	291,000	113,000	178,000
April	292,000	114,000	178,000
2016	247,000	96,000	151,000
M/M change	-0.3%	-0.9%	0.0%
Y/Y change	17.8%	17.7%	17.9%

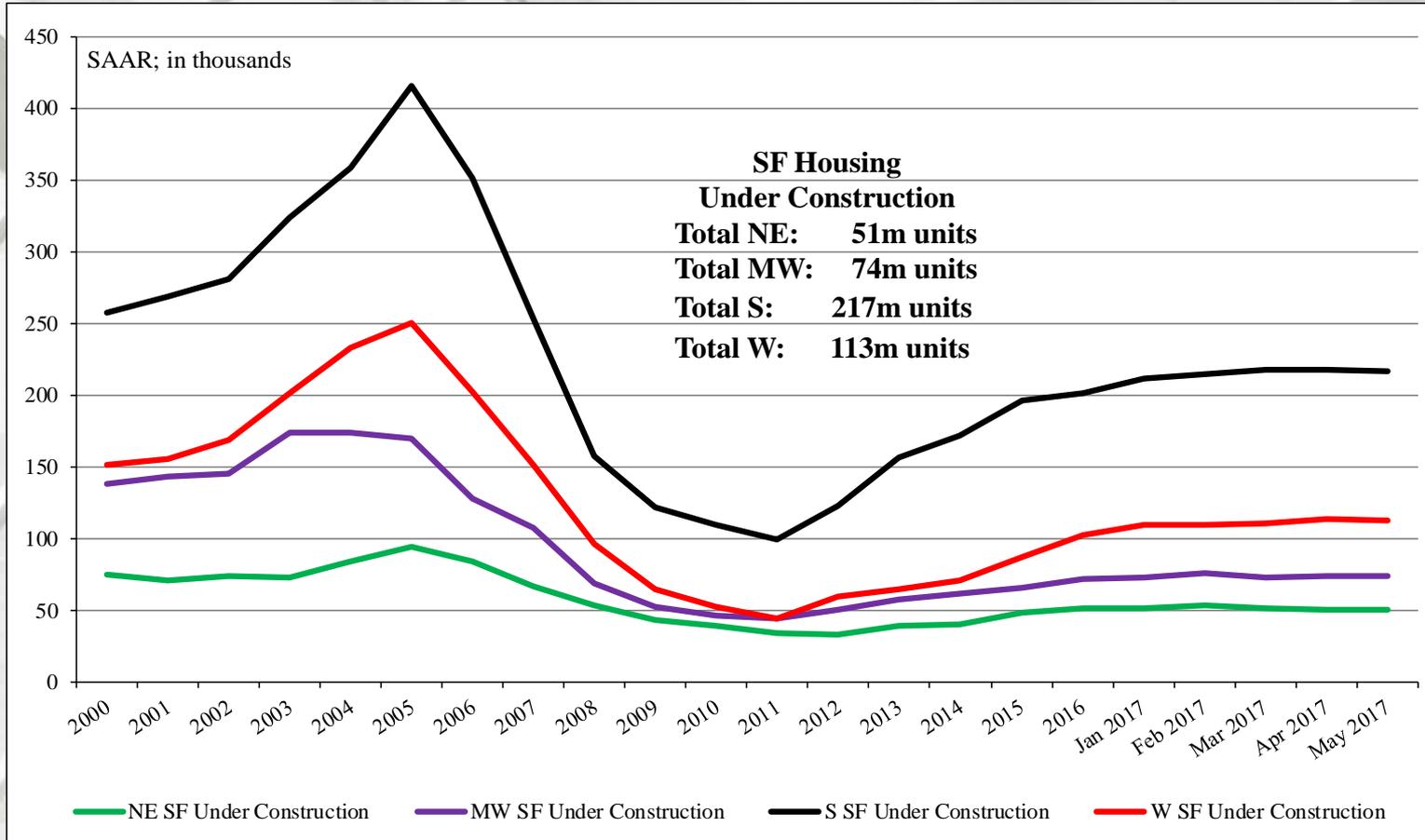
All data are SAAR; S = South and W = West.

** US DOC does not report multifamily units under construction directly, this is an estimation
(Total under construction – SF under construction).

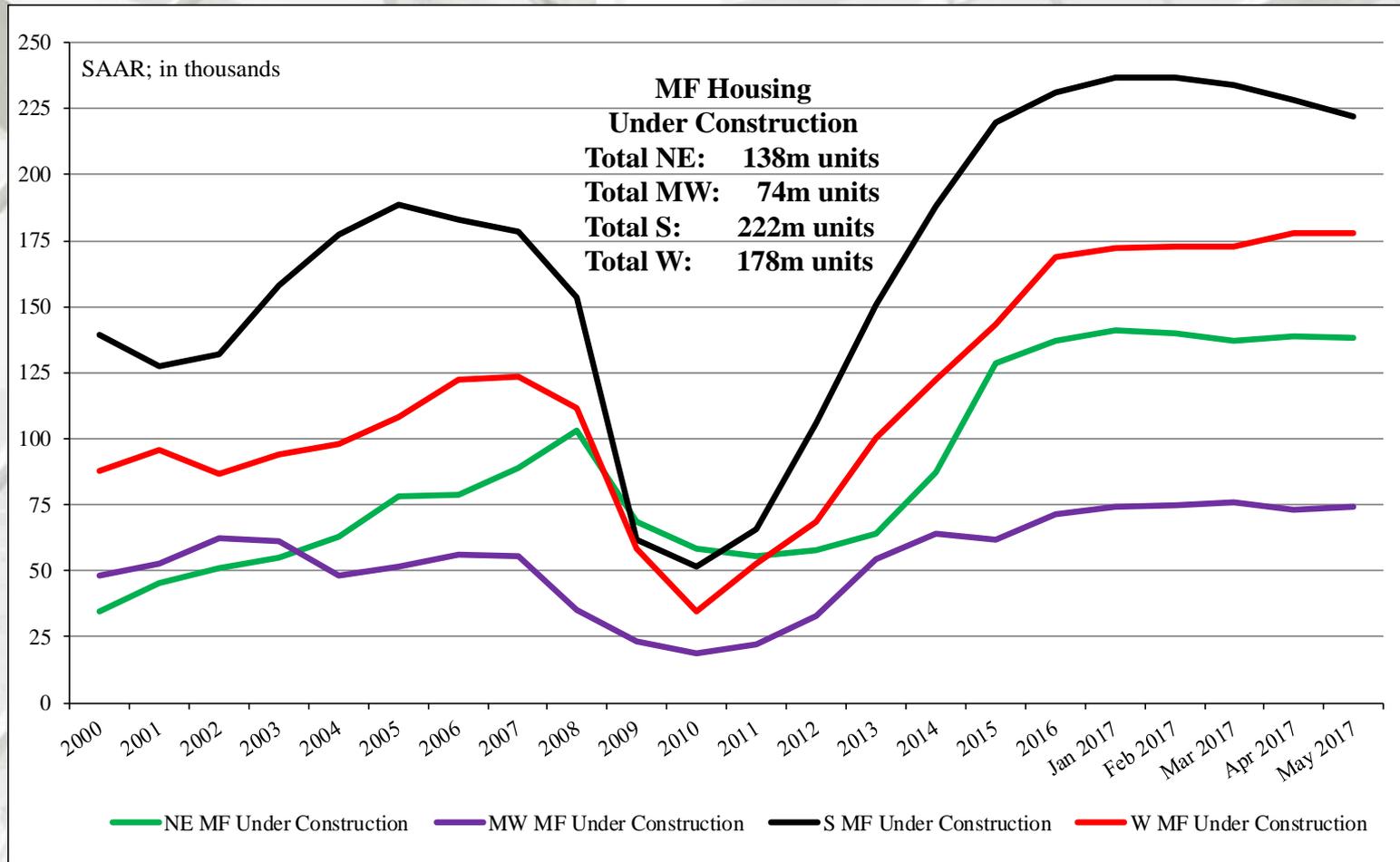
Total Housing Under Construction by Region



SF Housing Under Construction by Region



MF Housing Under Construction by Region



New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit**	MF ≥ 5 unit Completions
May	1,164,000	817,000	12,000	335,000
April	1,102,000	779,000	24,000	299,000
2016	1,016,000	724,000	9,000	283,000
M/M change	5.6%	4.9%	-50.0%	12.0%
Y/Y change	14.6%	12.8%	33.3%	18.4%

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)).

Total Housing Completions by Region

	NE Total	NE SF	NE MF**
May	111,000	57,000	54,000
April	90,000	62,000	28,000
2016	69,000	47,000	22,000
M/M change	23.3%	-8.1%	92.9%
Y/Y change	60.9%	21.3%	145.5%
	MW Total	MW SF	MW MF
May	153,000	127,000	26,000
April	186,000	128,000	58,000
2016	174,000	125,000	49,000
M/M change	-17.7%	-0.8%	-55.2%
Y/Y change	-12.1%	1.6%	-46.9%

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).

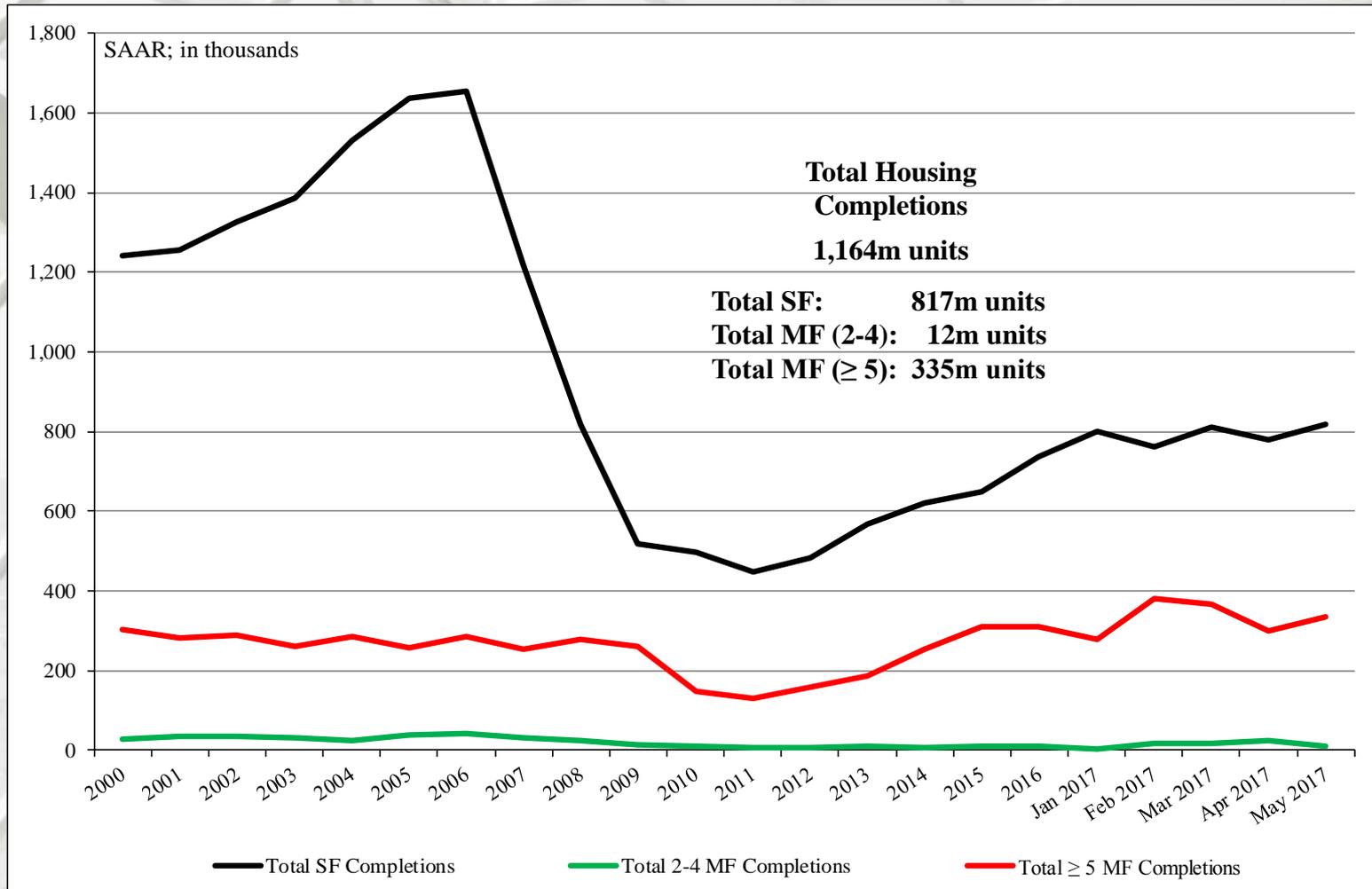
Total Housing Completions by Region

	S Total	S SF	S MF**
May	606,000	431,000	175,000
April	592,000	421,000	171,000
2016	538,000	394,000	144,000
M/M change	2.4%	2.4%	2.3%
Y/Y change	12.6%	9.4%	21.5%
	W Total	W SF	W MF
May	294,000	202,000	92,000
April	234,000	168,000	66,000
2016	235,000	158,000	77,000
M/M change	25.6%	20.2%	39.4%
Y/Y change	25.1%	27.8%	19.5%

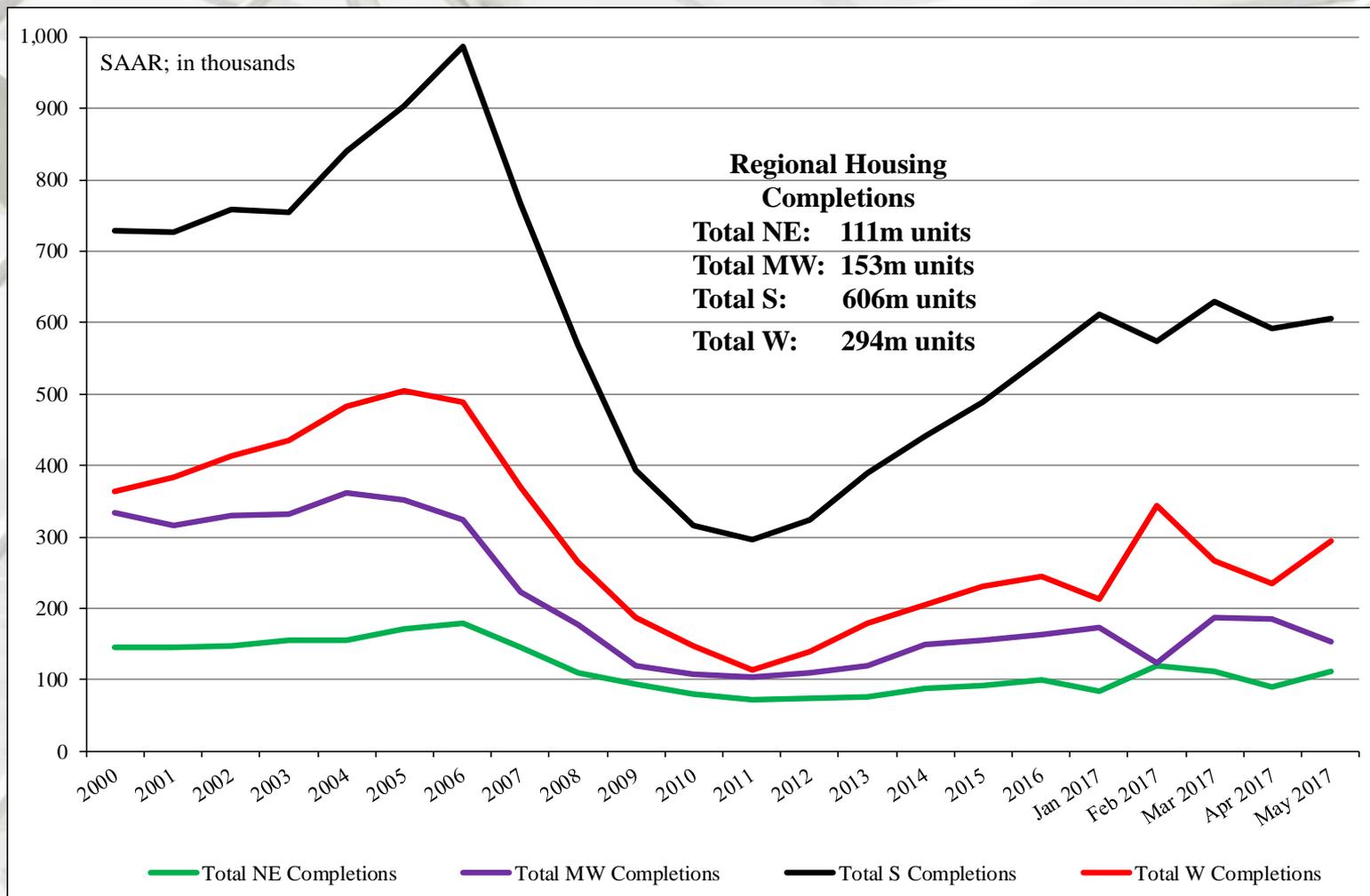
All data are SAAR; S = South and W = West.

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

Total Housing Completions



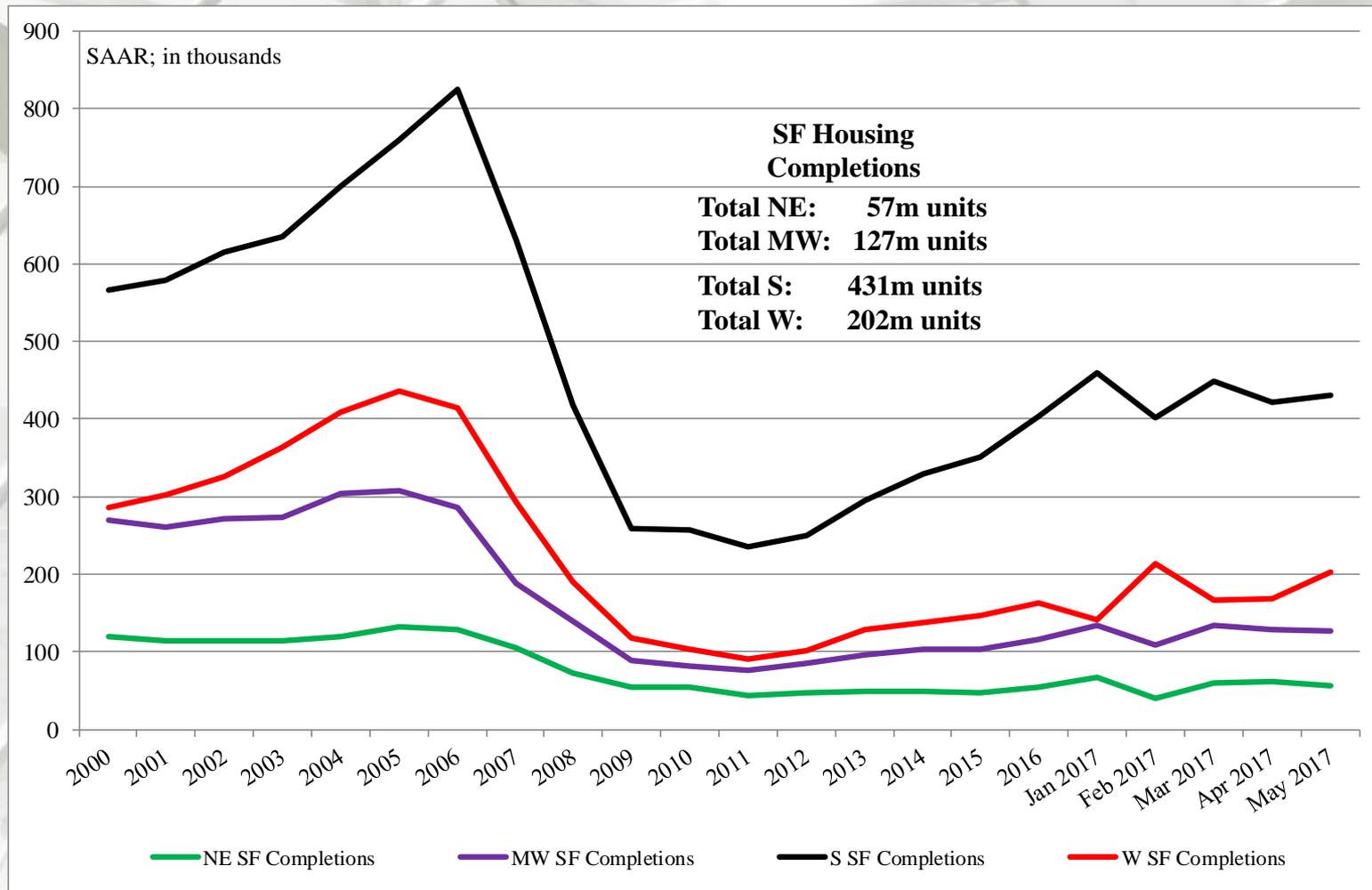
New Housing Completions by Region



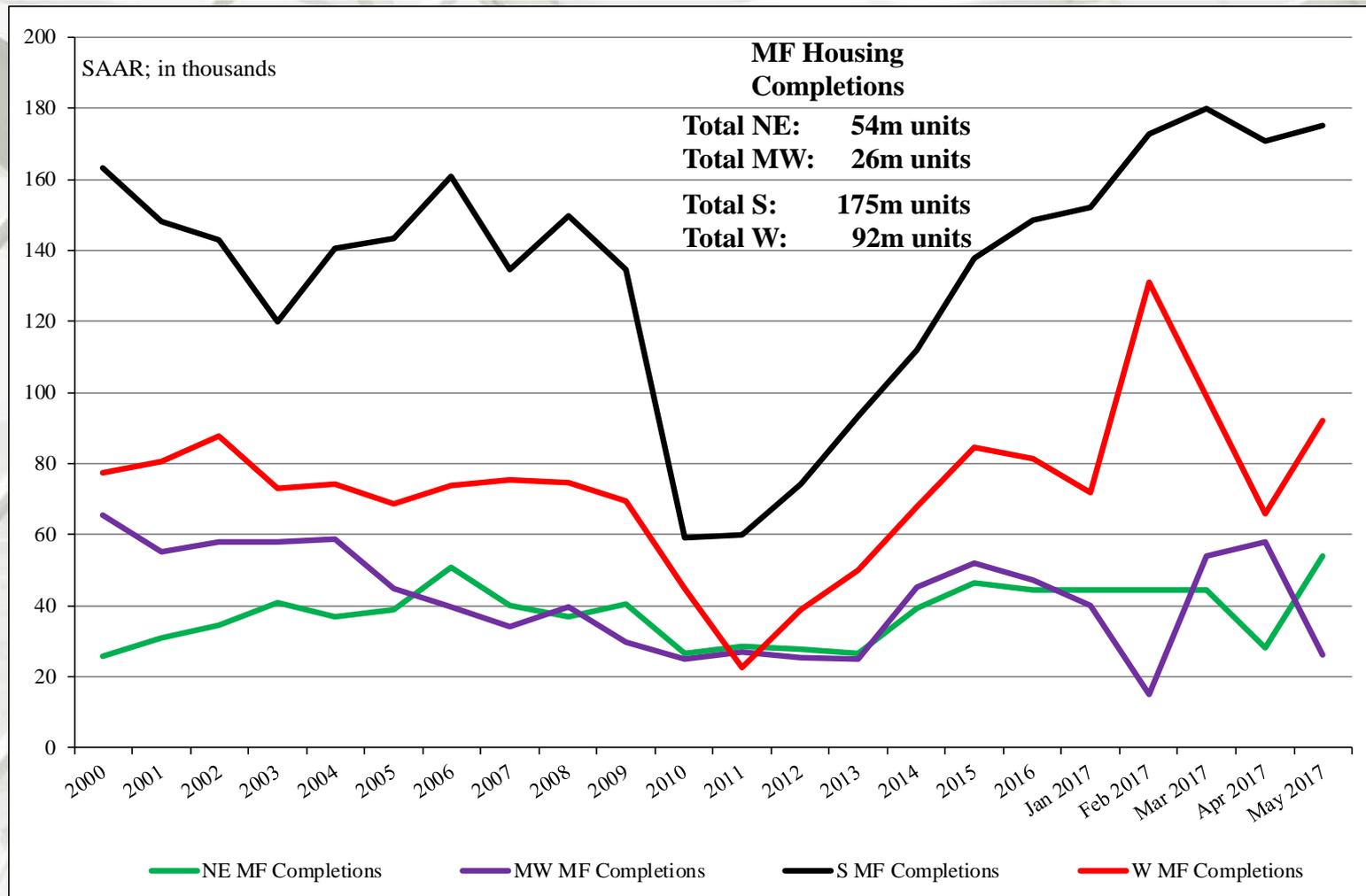
All data are SAAR; NE = Northeast and MW = Midwest.

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

SF Housing Completions by Region



MF Housing Completions by Region



New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
May	610,000	\$345,800	\$406,400	5.3
April	593,000	\$310,200	\$367,700	5.3
2016	560,000	\$296,000	\$350,000	5.2
M/M change	2.9%	11.5%	10.5%	0.0%
Y/Y change	8.9%	16.8%	16.1%	1.9%

* All sales data are presented at a seasonally adjusted annual rate (SAAR) ¹.

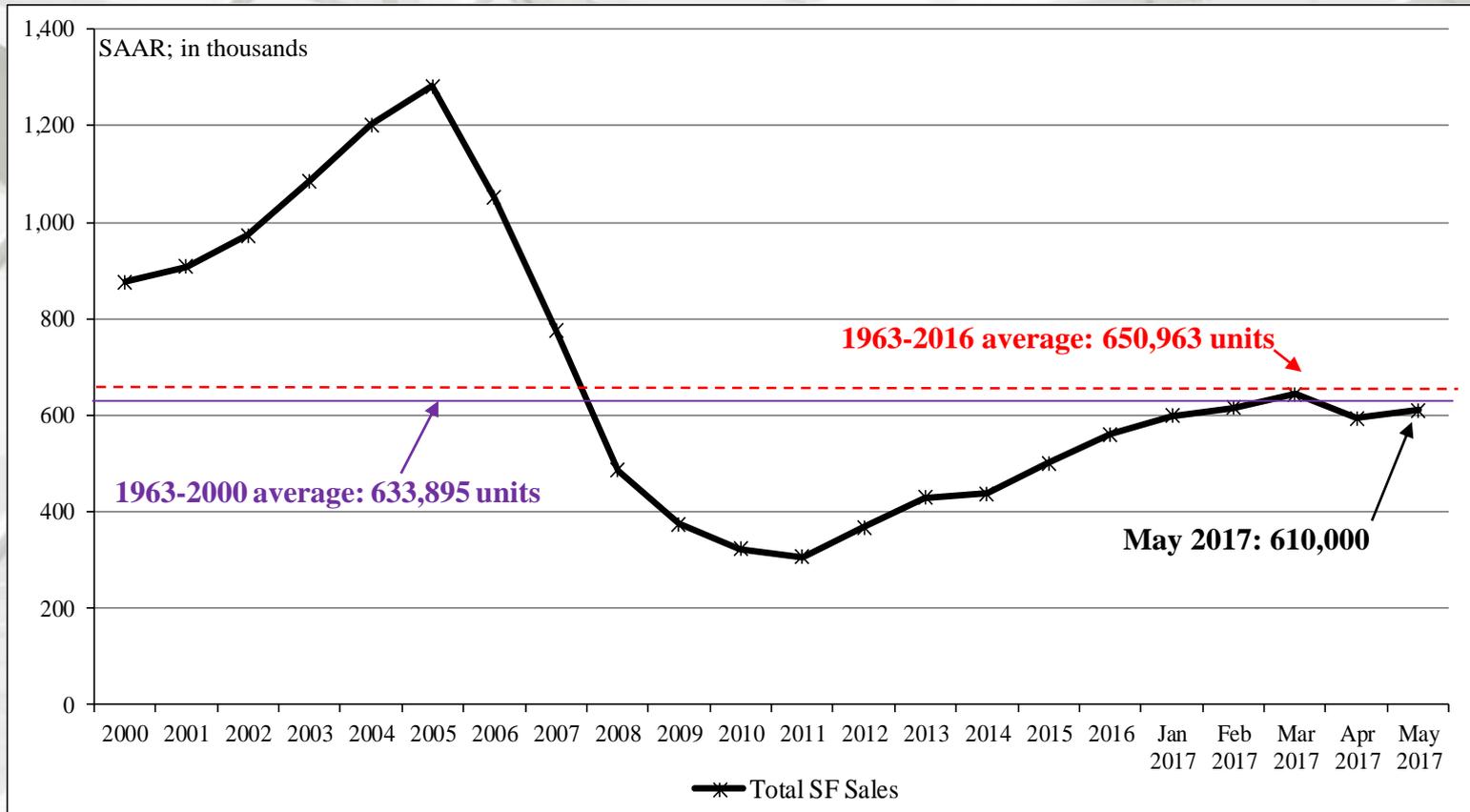
New SF sales were more than the consensus forecast (600 m)². The past three month's new SF sales data were revised upward:

February initial: 607 m revised to 615 m;
 March initial: 642 m revised to 644 m;
 April initial: 569 m revised to 593 m.

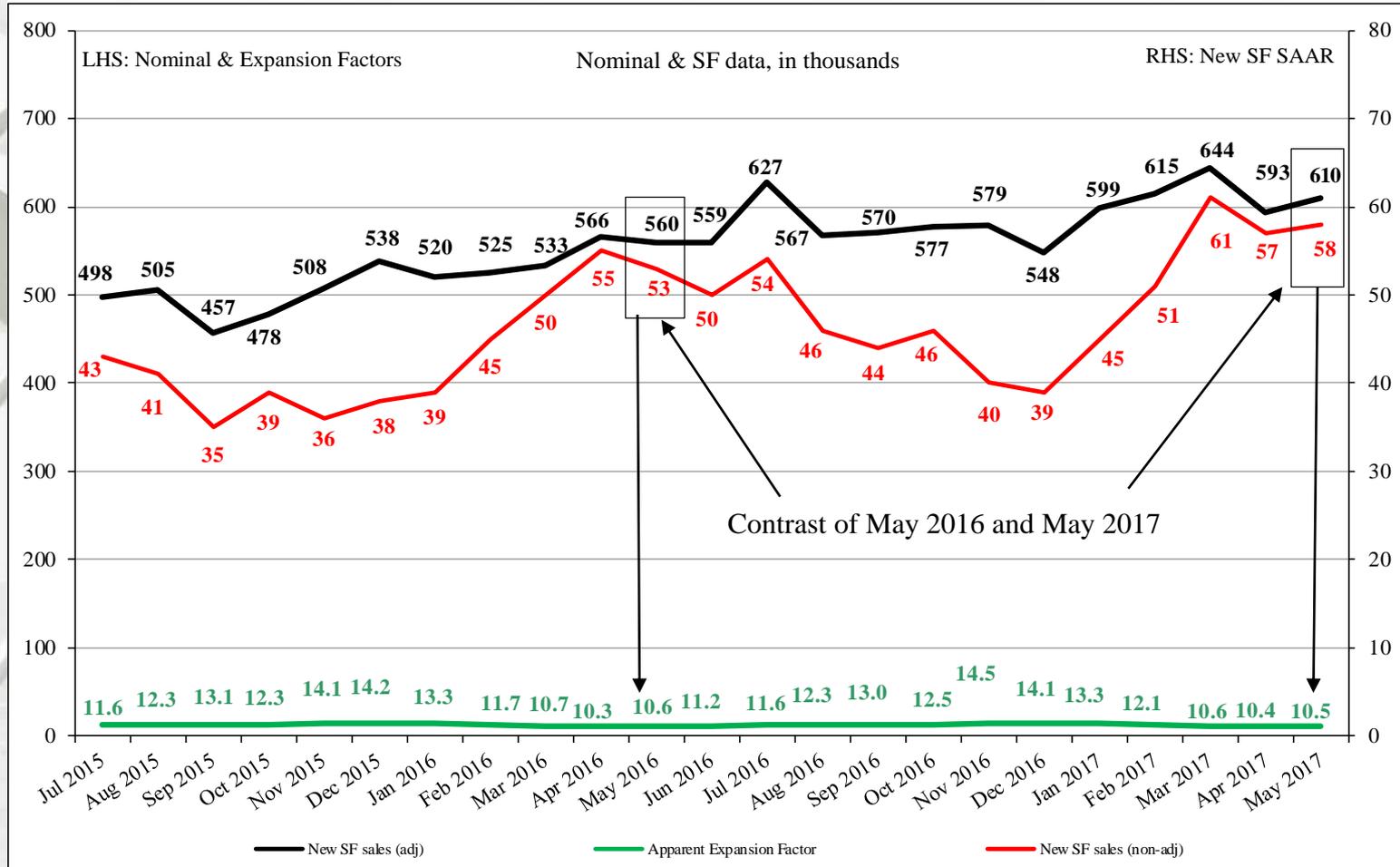
Source: ¹<http://www.census.gov/construction/nrc/pdf/newresconst.pdf>; 6/23/17;

²<http://www.cnbc.com/2017/06/23/may-2017-new-home-sales.html>; 6/23/17

New SF House Sales



Nominal vs. SAAR New SF House Sales

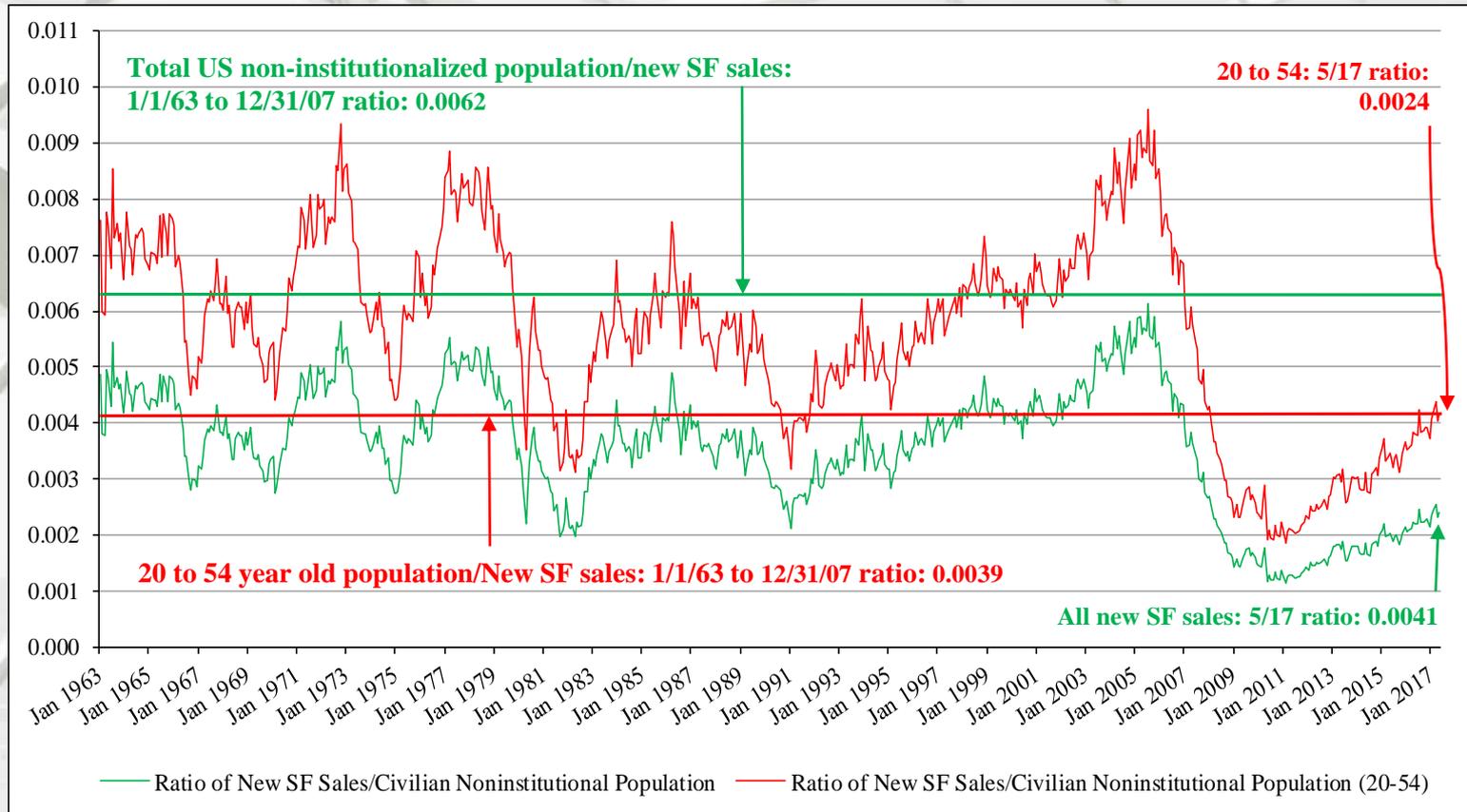


Nominal and Adjusted New SF Monthly Sales

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

New SF House Sales



New SF sales adjusted for the US population

From January 1963 to May 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in May 2017 it was 0.0024 – a slight increase from April (0.0023). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in May 2017 it was 0.0041 – also a slight increase from April (0.0040). All are non-adjusted data. From a population viewpoint, construction is less than what is necessary for changes in population (i.e., under-building).

New SF House Sales by Region and Price Category

	NE SF Sales	MW SF Sales	S SF Sales	W SF Sales
May	33,000	55,000	360,000	162,000
April	37,000	74,000	339,000	143,000
2016	33,000	72,000	313,000	142,000
M/M change	-10.8%	-25.7%	6.2%	13.3%
Y/Y change	0.0%	-23.6%	15.0%	14.1%

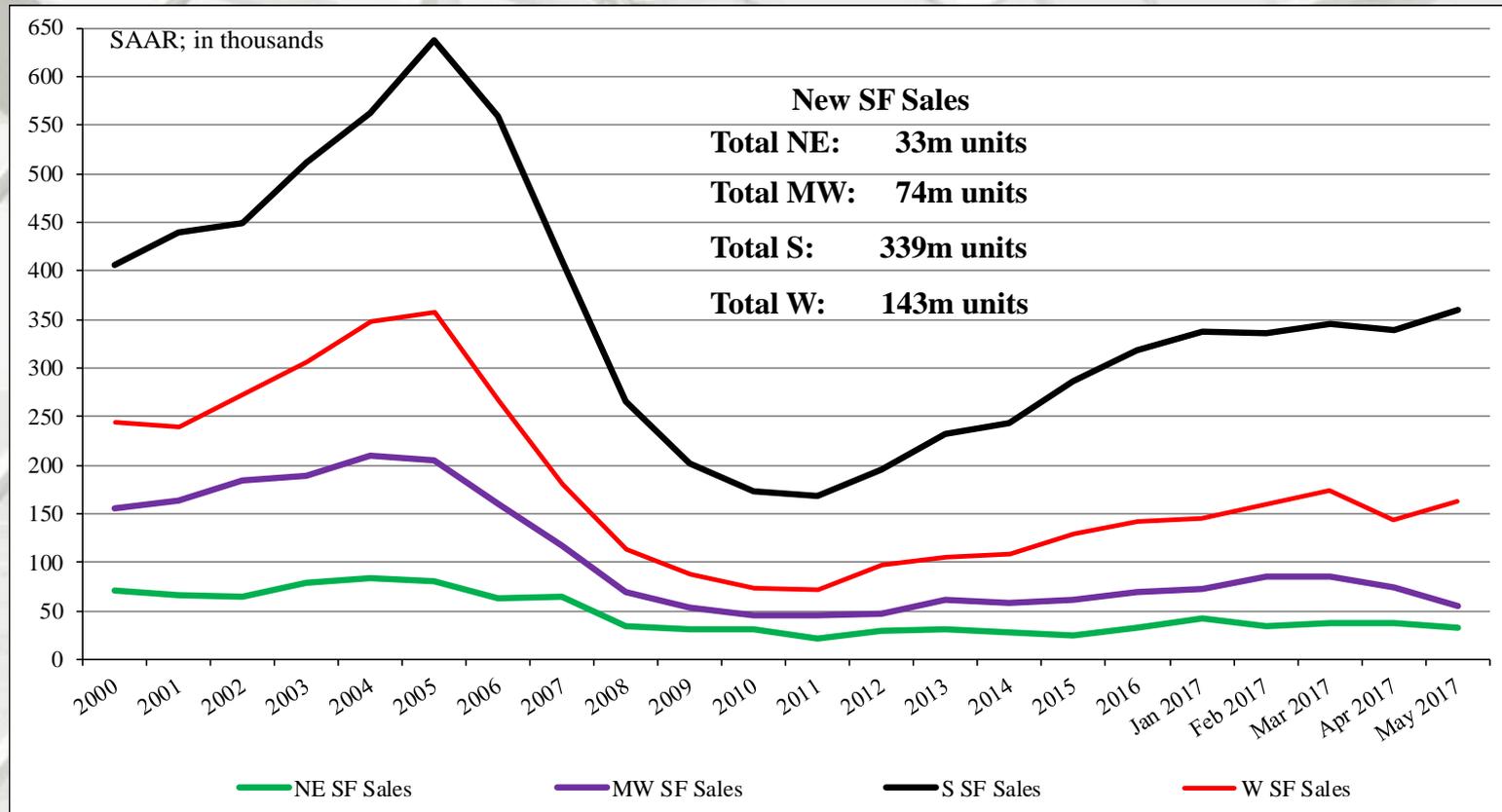
	≤ \$150m	\$150 - \$199.9m	\$200 - 299.9m	\$300 - \$399.9m	\$400 - \$499.9m	\$500 - \$749.9m	≥ \$750m
May ^{1,2}	2,000	6,000	14,000	16,000	9,000	7,000	4,000
April	1,000	5,000	22,000	12,000	9,000	6,000	3,000
2016	2,000	9,000	16,000	13,000	6,000	5,000	2,000
M/M change	100.0%	20.0%	-36.4%	33.3%	0.0%	16.7%	33.3%
Y/Y change	0.0%	-33.3%	-12.5%	23.1%	50.0%	40.0%	100.0%

All data are SAAR.

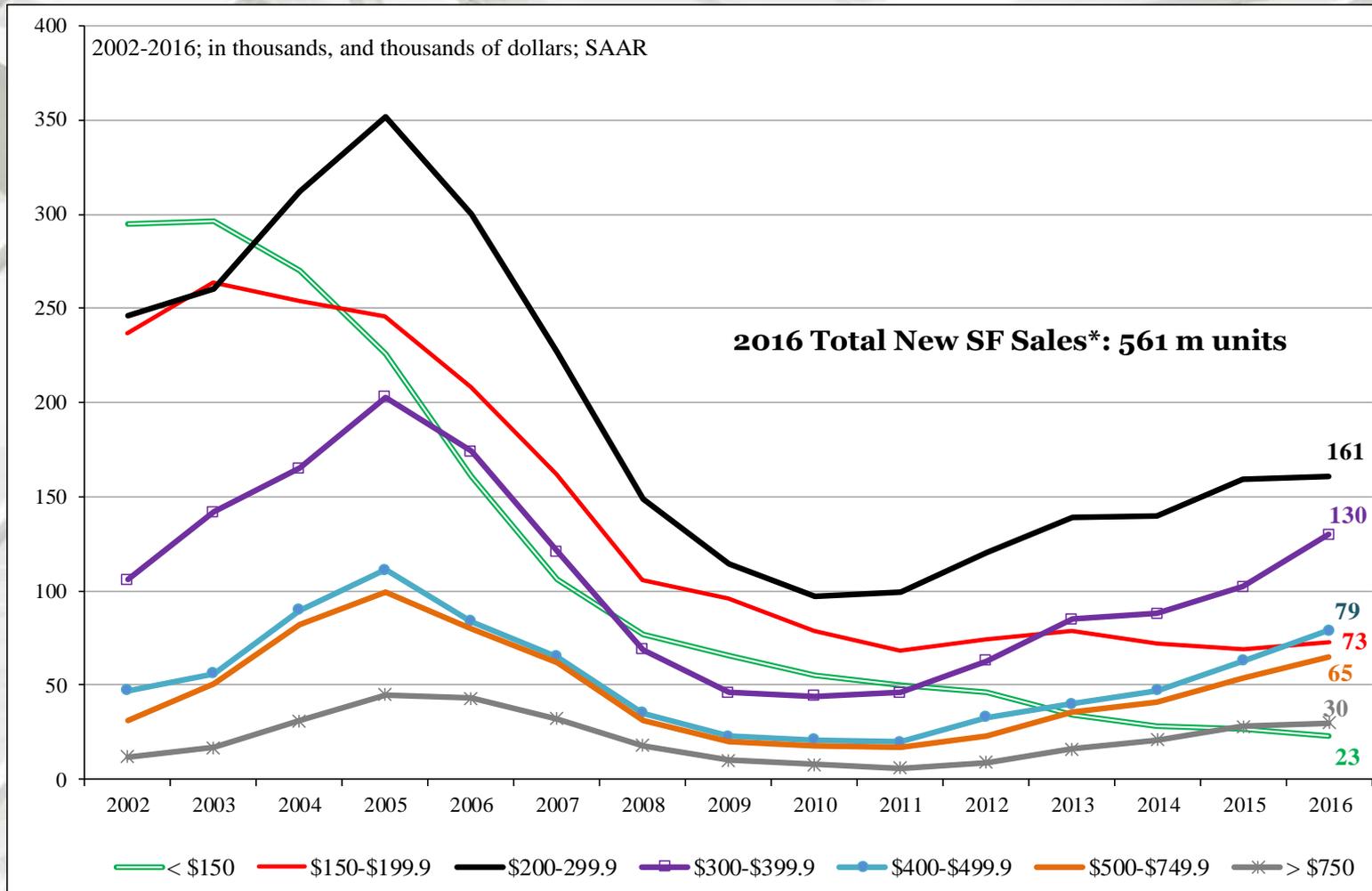
¹ Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;

² Detail may not add to total because of rounding.

New SF House Sales by Region



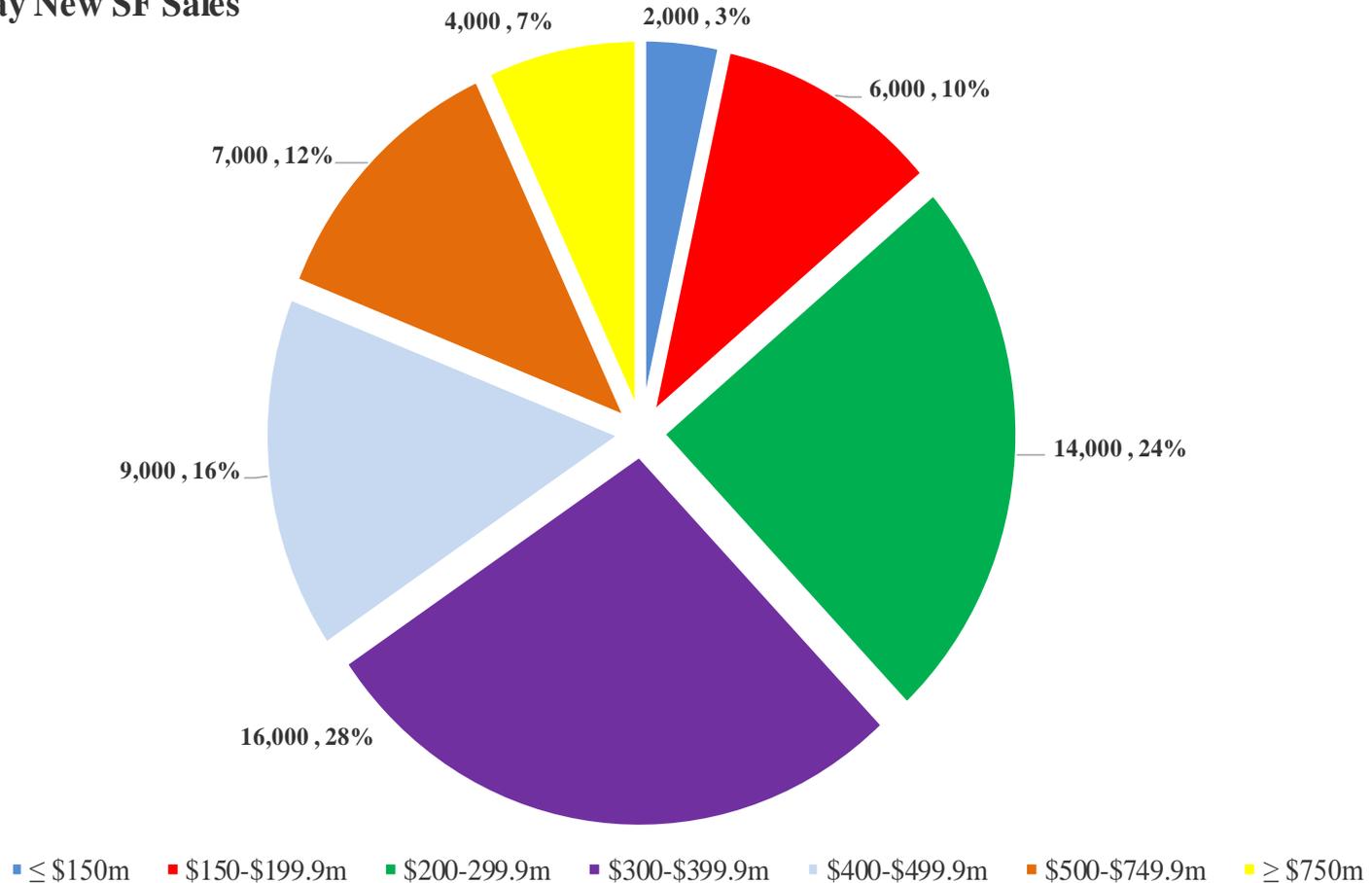
New SF House Sales by Price Category



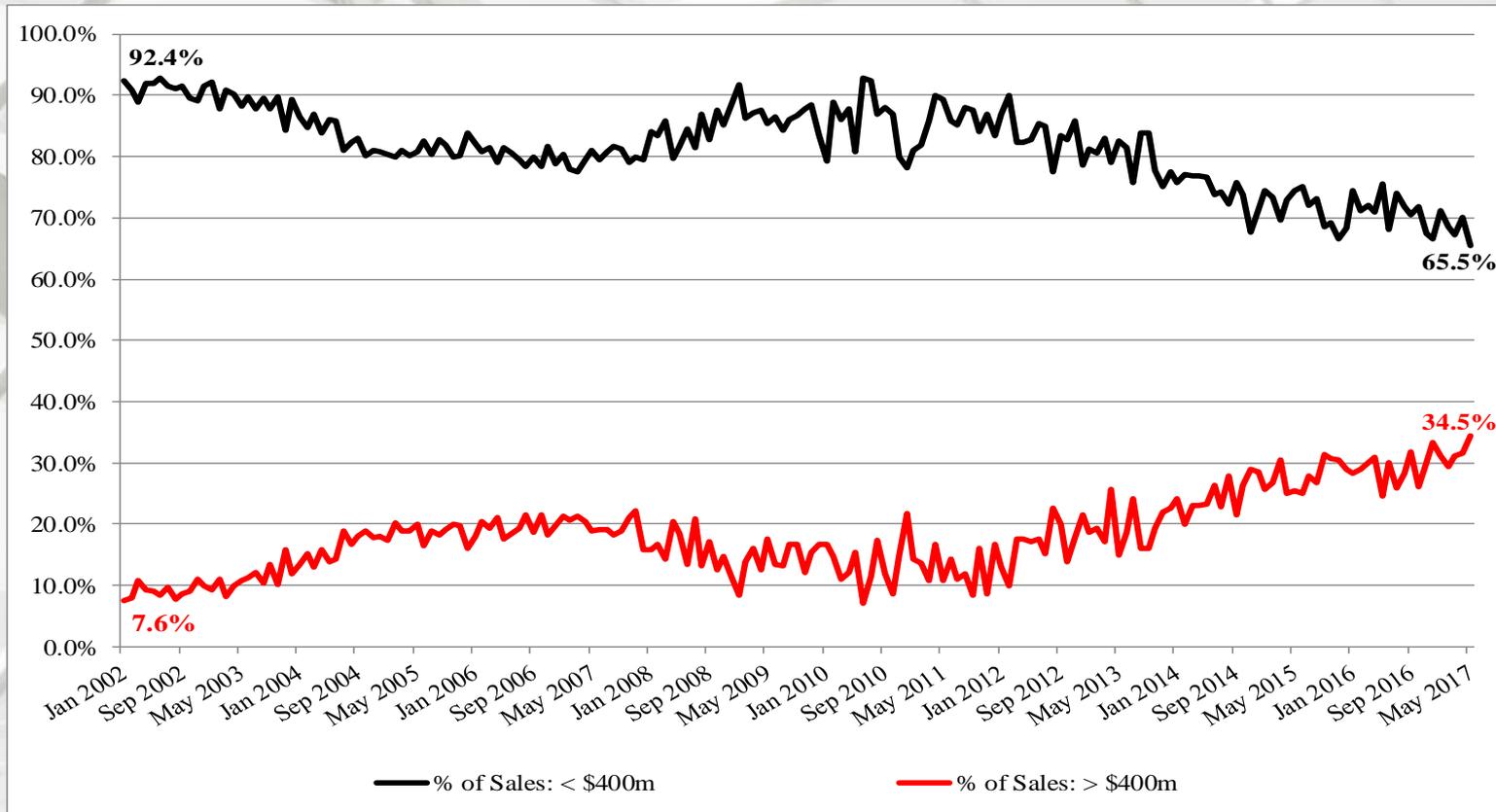
* Sales tallied by price category.

New SF House Sales

May New SF Sales



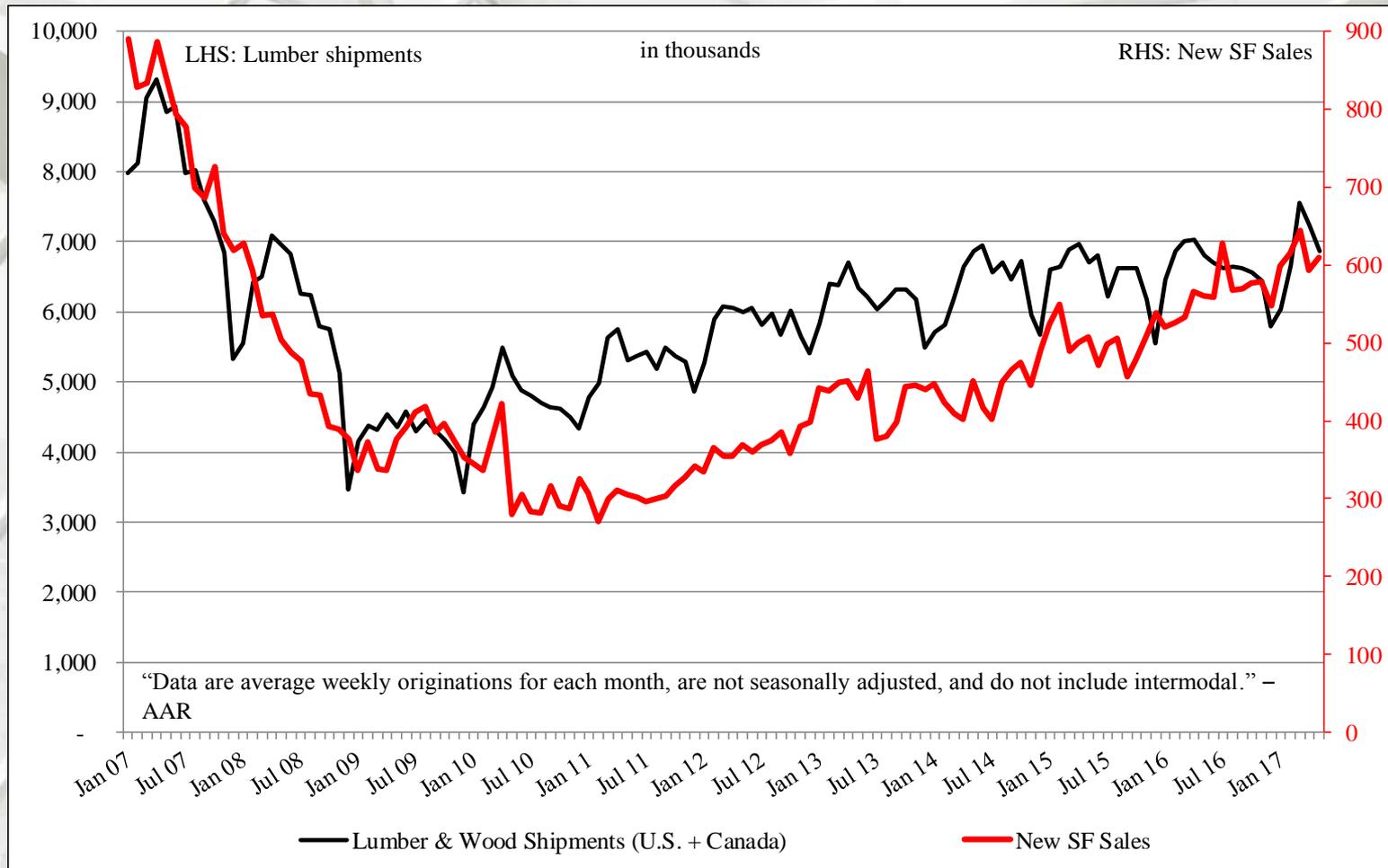
New SF House Sales



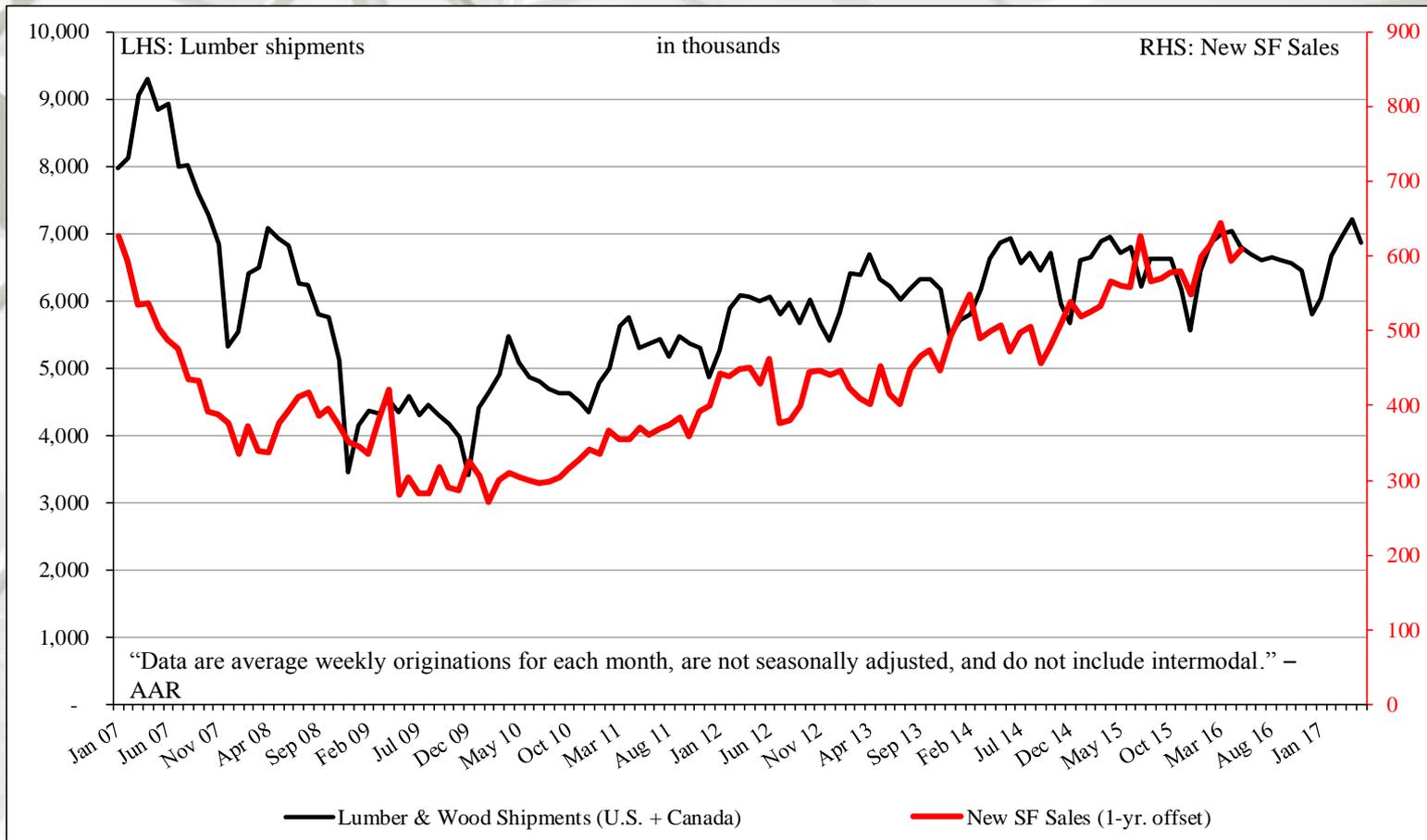
New SF Sales: 2002 – May 2017

The sales share of \$400 thousand plus SF houses is presented above. Since the beginning of 2012, the upper priced houses have and are garnering a greater percentage of sales. The wider the spread, the more high-end luxury homes were 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.

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



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



In this graph, initially January 2007 lumber shipments are contrasted with January 2008 new SF sales through May 2017 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.

May 2017 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
May	\$509,619	\$259,867	\$61,984	\$187,768
April	\$512,679	\$260,708	\$64,068	\$187,903
2016	\$458,283	\$240,929	\$60,198	\$157,156
M/M change	-0.6%	-0.3%	-3.3%	-0.1%
Y/Y change	11.2%	7.9%	3.0%	19.5%

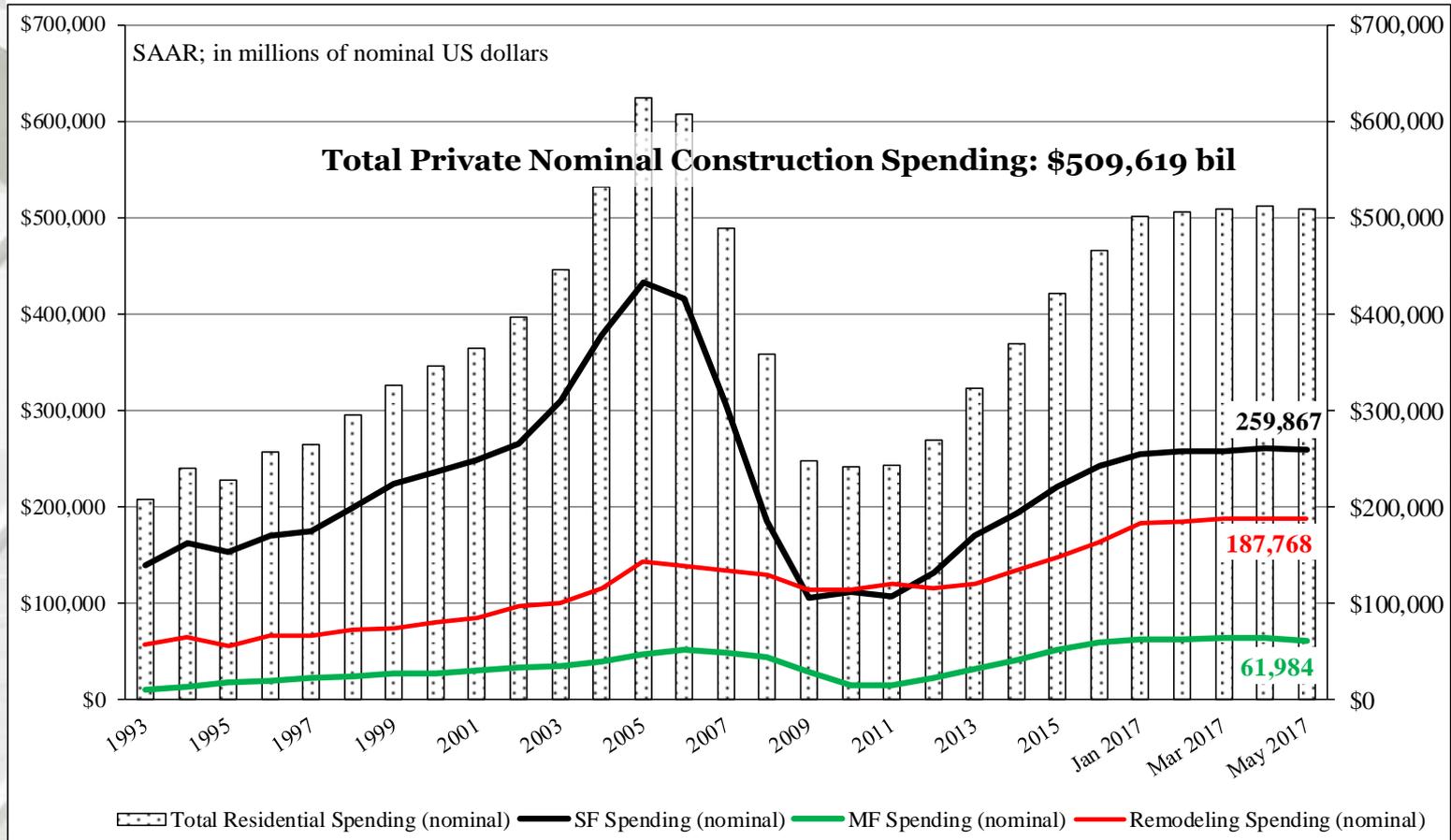
* Millions

** 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\$.

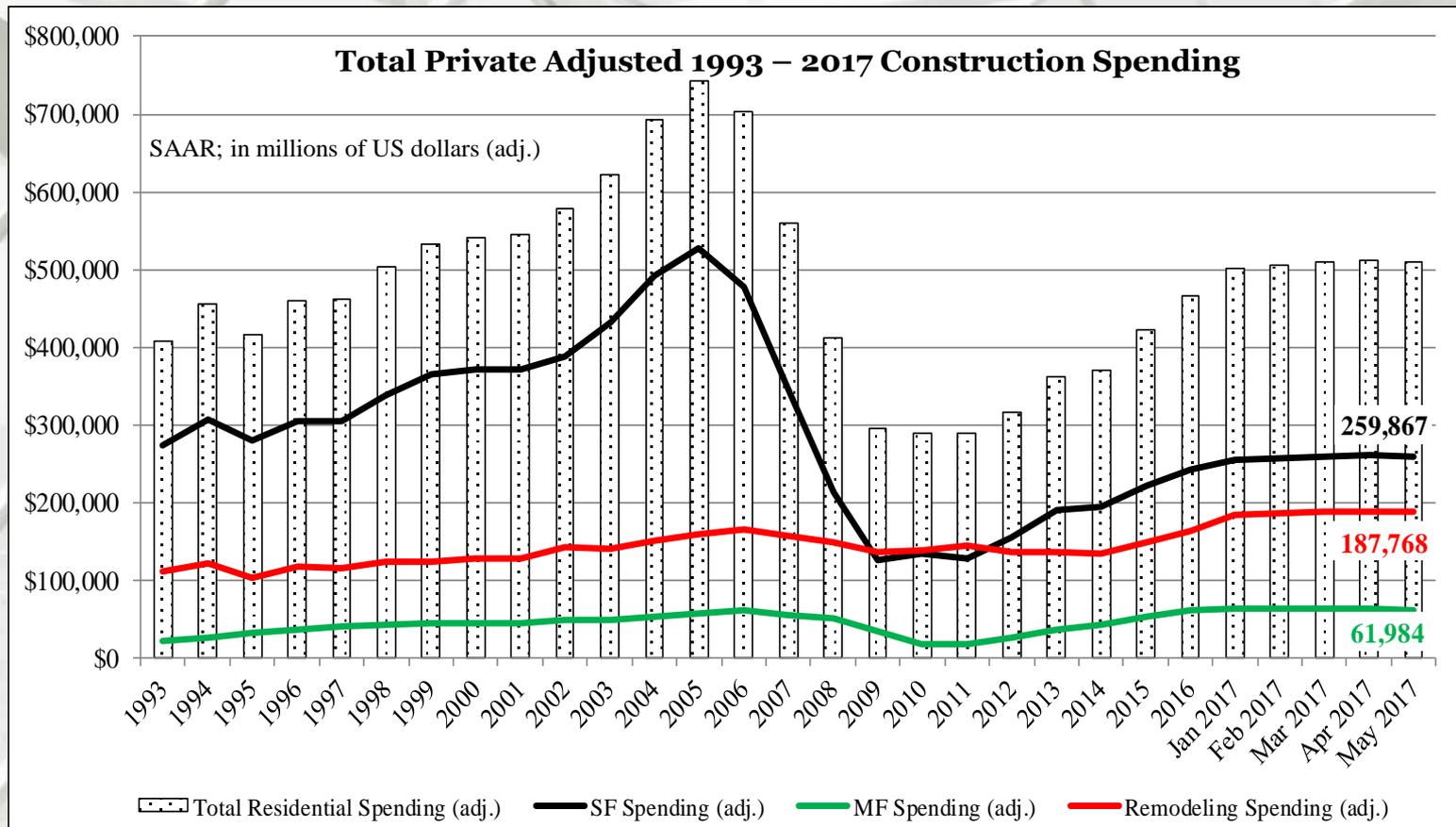
Total Construction Spending (nominal): 1993 – May 2017



Reported in nominal US\$.

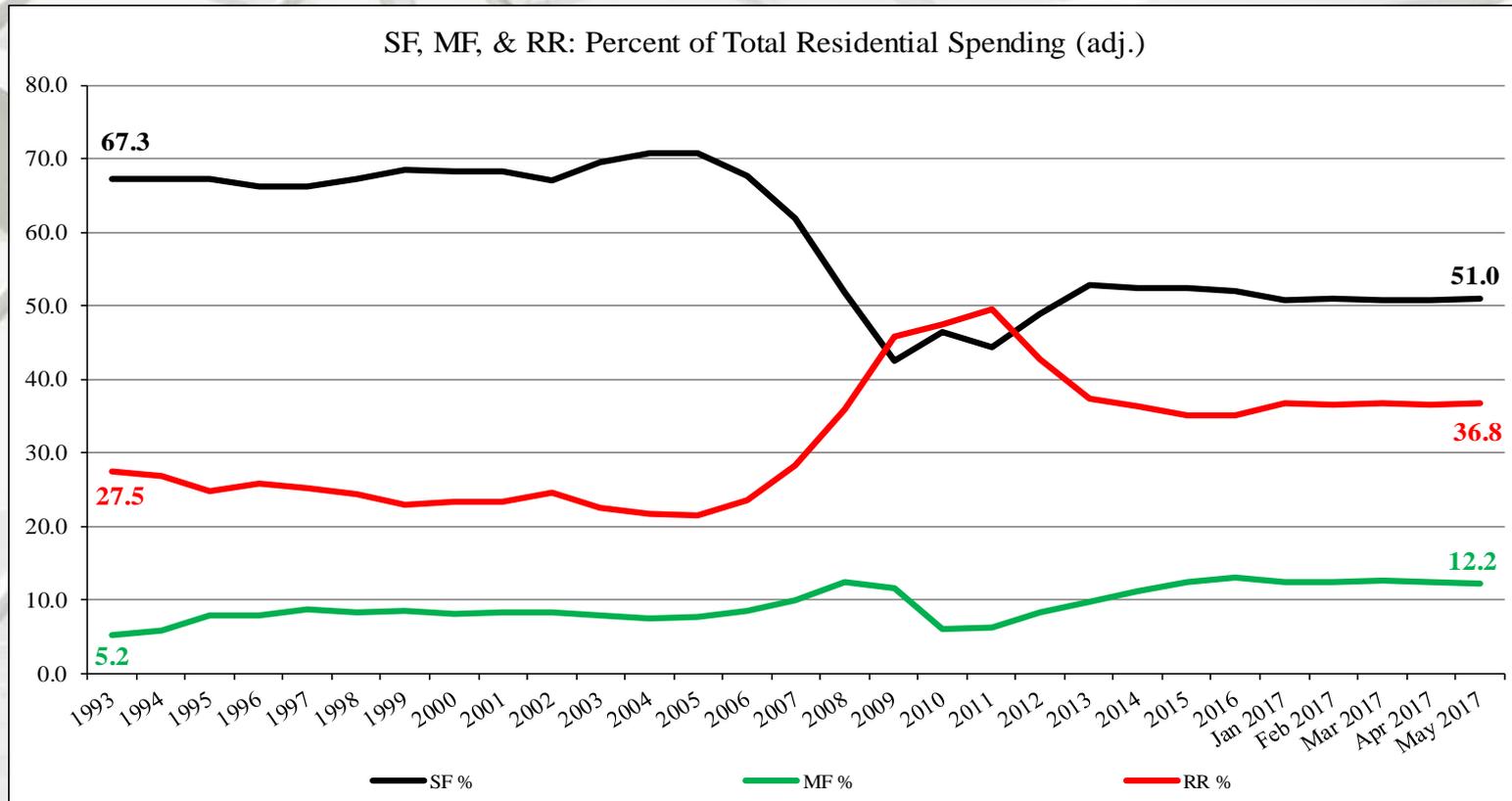
The US DOC does not report improvement spending directly, this is a monthly estimation for 2017.

Total Construction Spending (adjusted): 1993-2017*



Reported in adjusted US\$: 1993 – 2016 (adjusted for inflation, BEA Table 1.1.9); *January-May 2017 reported in nominal US\$.

Construction Spending Shares: 1993 to May 2017



Total Residential Spending: 1993 through 2006

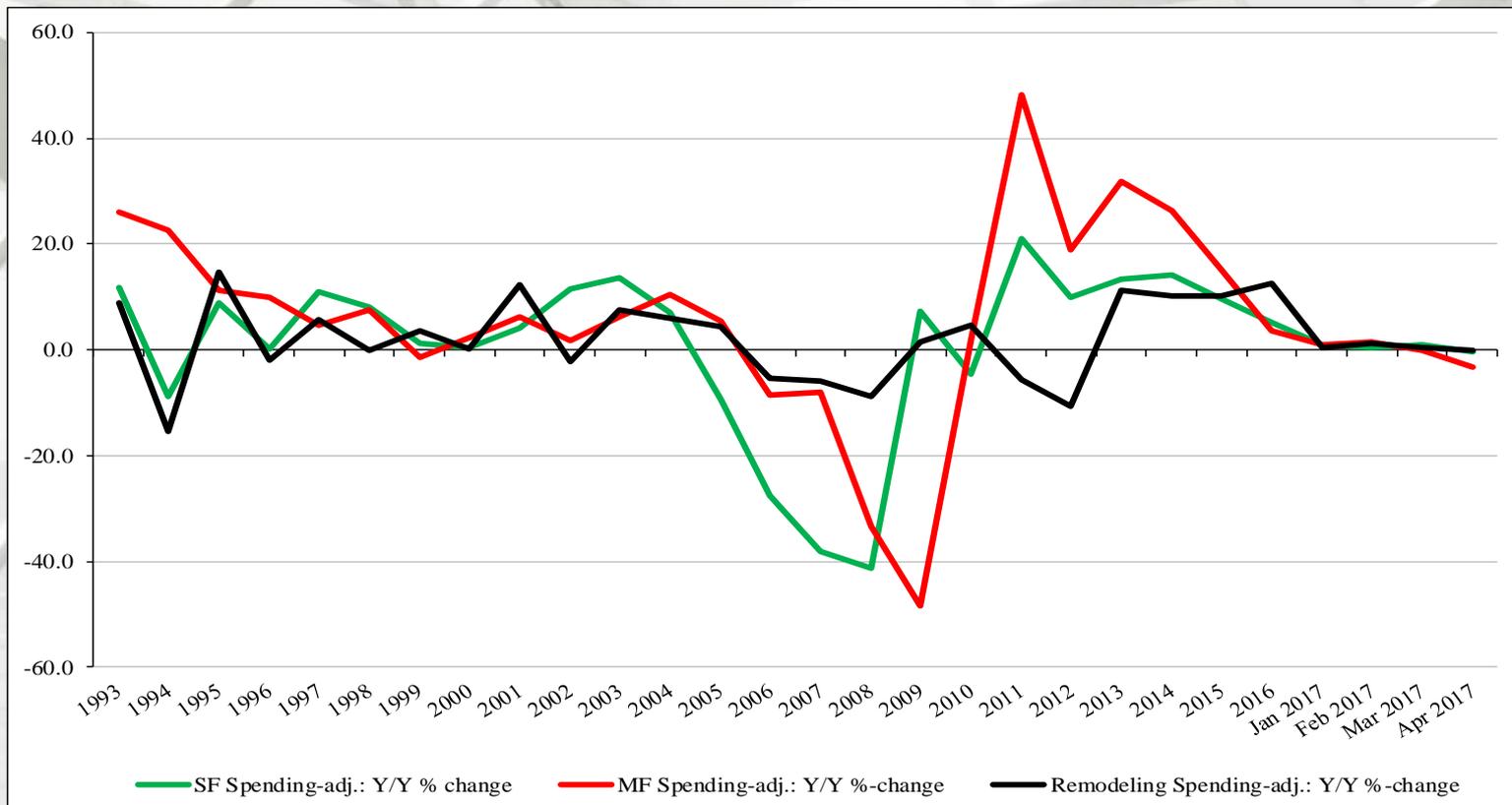
SF spending average: 69.2%

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-May 2017 reported in nominal US\$.

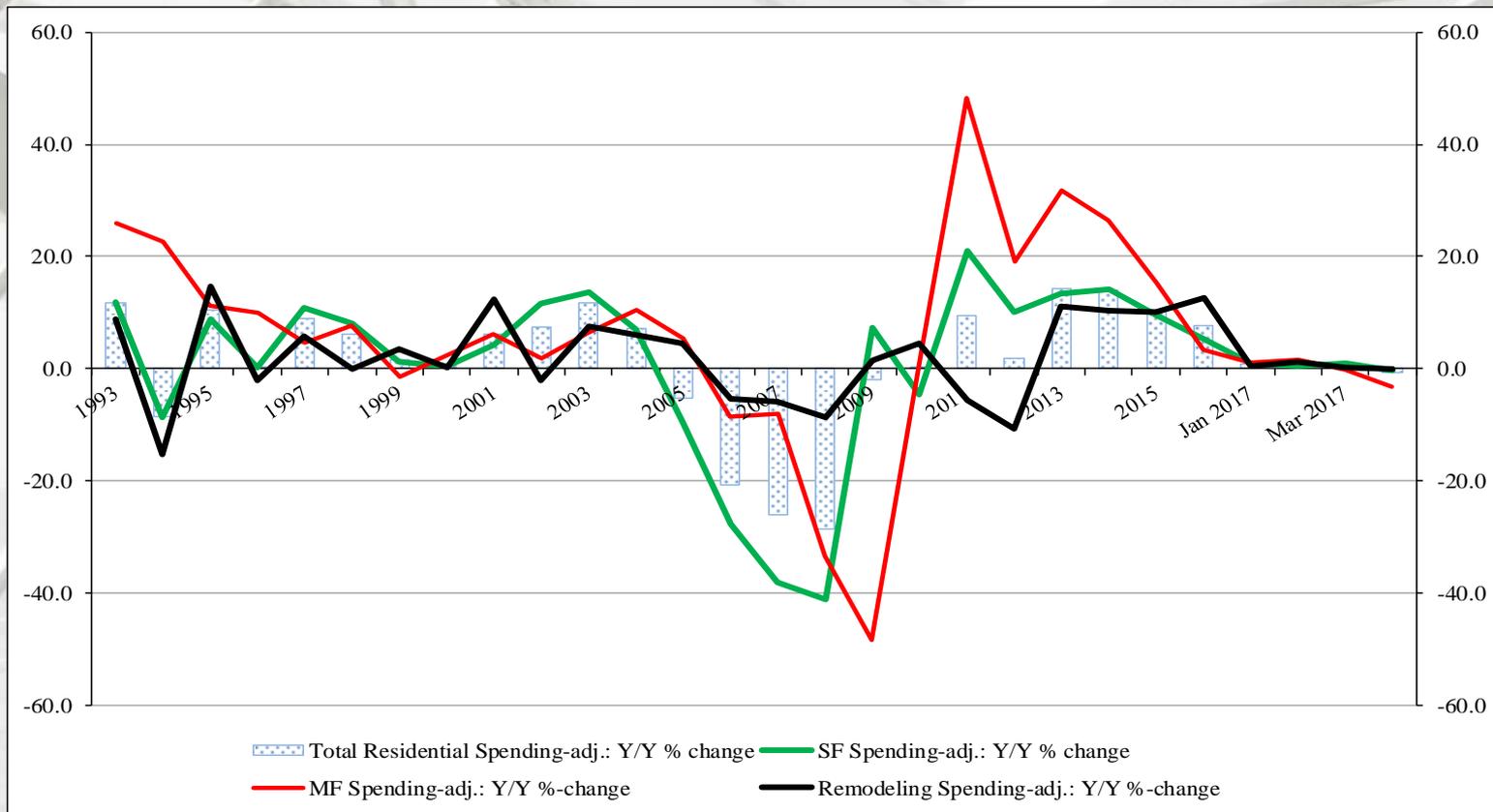
Adjusted Construction Spending: Percentage Change, 1993 to May 2017



Residential Construction Spending: Percentage Change, 1993 to May 2017

Presented above is the percentage change of inflation adjusted Y/Y construction spending (1993-2016). Since mid-2015 – SF, MF, and RR spending are in an apparent decreasing trend.

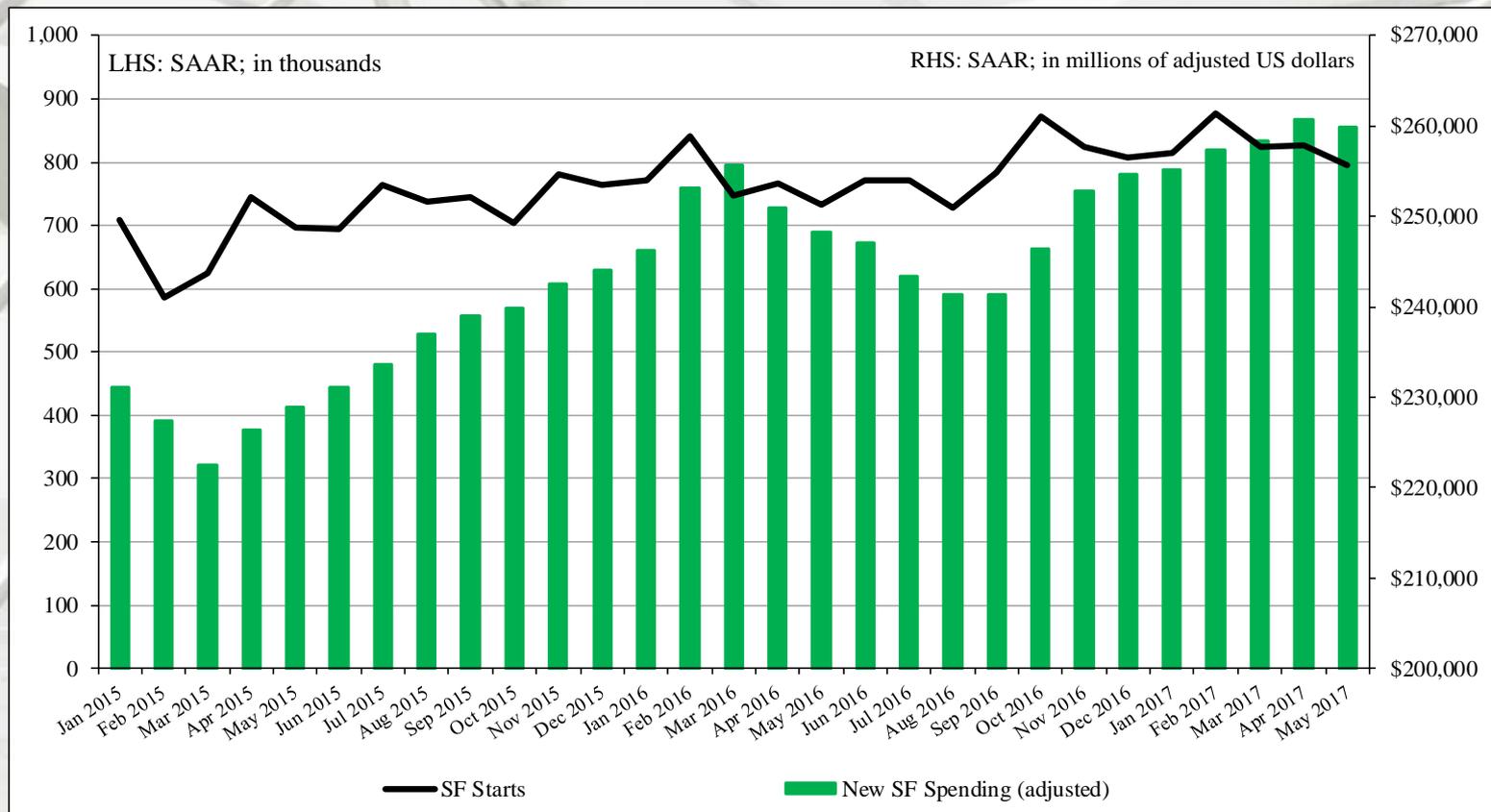
Total Adjusted Construction Spending: Percentage Change, 1993 to May 2017



Residential Construction Spending: Percentage Change, 1993 to May 2017

The questions are: Is construction spending normalizing – aside from a one-month decline? Or has housing turned over? Or, are there other explanations? May is only one-month's data; yet, the aggregate percentage change in construction spending has been declining since 2014's end. This metric bears scrutiny in the upcoming months.

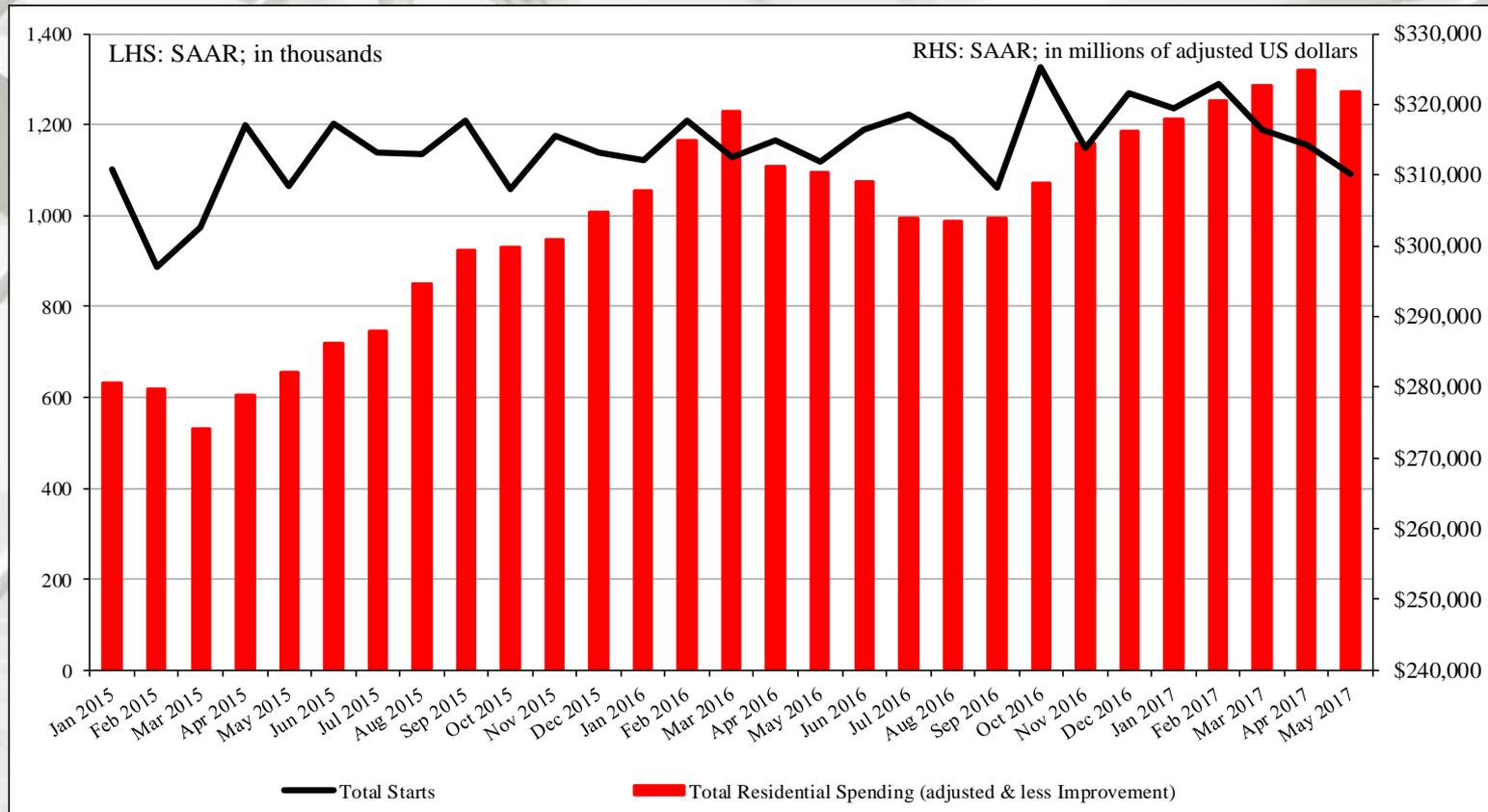
SF Adjusted Construction Spending and SF Starts: January 2015 to May 2017



SF Residential Construction Spending: January 2015 to May 2017

One explanation for the decline in SF spending is the constrained number of SF starts from Quarter 4 of 2016 through Quarter 3 of 2016. Generally, there is about a 9-month period from start to completion. The bright point is the robust increase in SF starts beginning in Quarter 4 of 2016.

Total Adjusted Construction Spending and Total Starts: January 2015 to May 2017



Total Residential Construction Spending: January 2015 to May 2017

The overall all decline in construction spending appears to be attributable to the decrease in SF expenditures. As noted in the previous slide, SF starts rebounded in Quarter 4 2016.

Existing House Sales

National Association of Realtors (NAR®)

May 2017 sales: 5.620 million (SAAR)

	Existing Sales*	Median Price	Mean Price	Month's Supply
May	5,620,000	\$252,800	\$294,600	4.2
April	5,560,000	\$245,000	\$287,500	4.1
2016	5,470,000	\$238,900	\$280,900	4.7
M/M change	1.1%	3.2%	2.5%	2.4%
Y/Y change	2.7%	5.8%	4.9%	-10.6%

* All sales data: SAAR

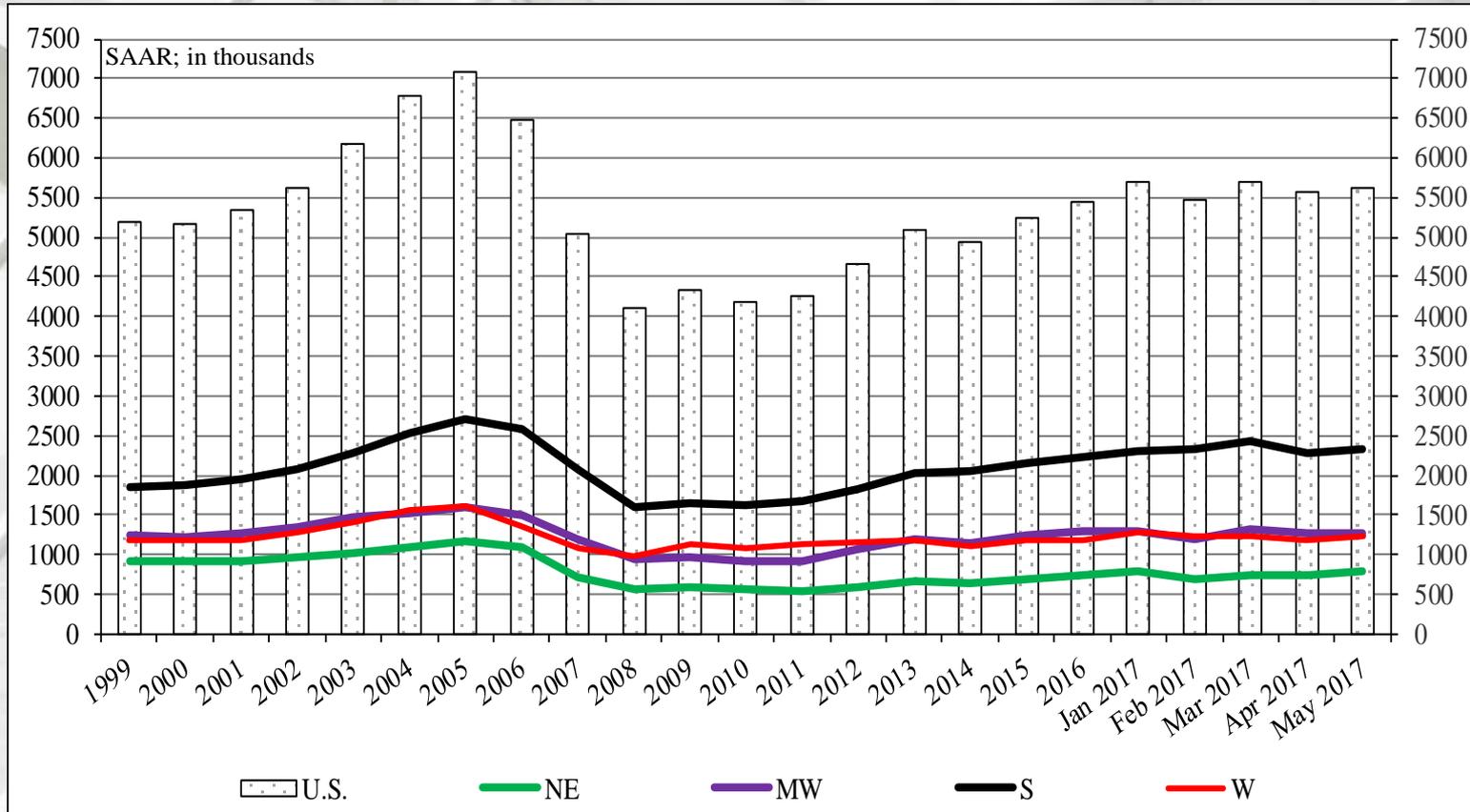
Existing House Sales

	NE Sales	MW Sales	S Sales	W Sales
May	780,000	1,280,000	2,340,000	1,220,000
April	730,000	1,280,000	2,290,000	1,180,000
2016	760,000	1,290,000	2,240,000	1,180,000
M/M change	6.8%	0.0%	2.2%	3.4%
Y/Y change	2.6%	-0.8%	4.5%	3.4%

	Distressed House Sales	Foreclosures	Short-Sales	All-Cash Sales	Individual Investor Purchases*	Cash Purchases
May	5%	4%	1%	22%	16%	64%
April	5%	3%	2%	21%	15%	57%
2016	6%	5%	1%	24%	22%	63%

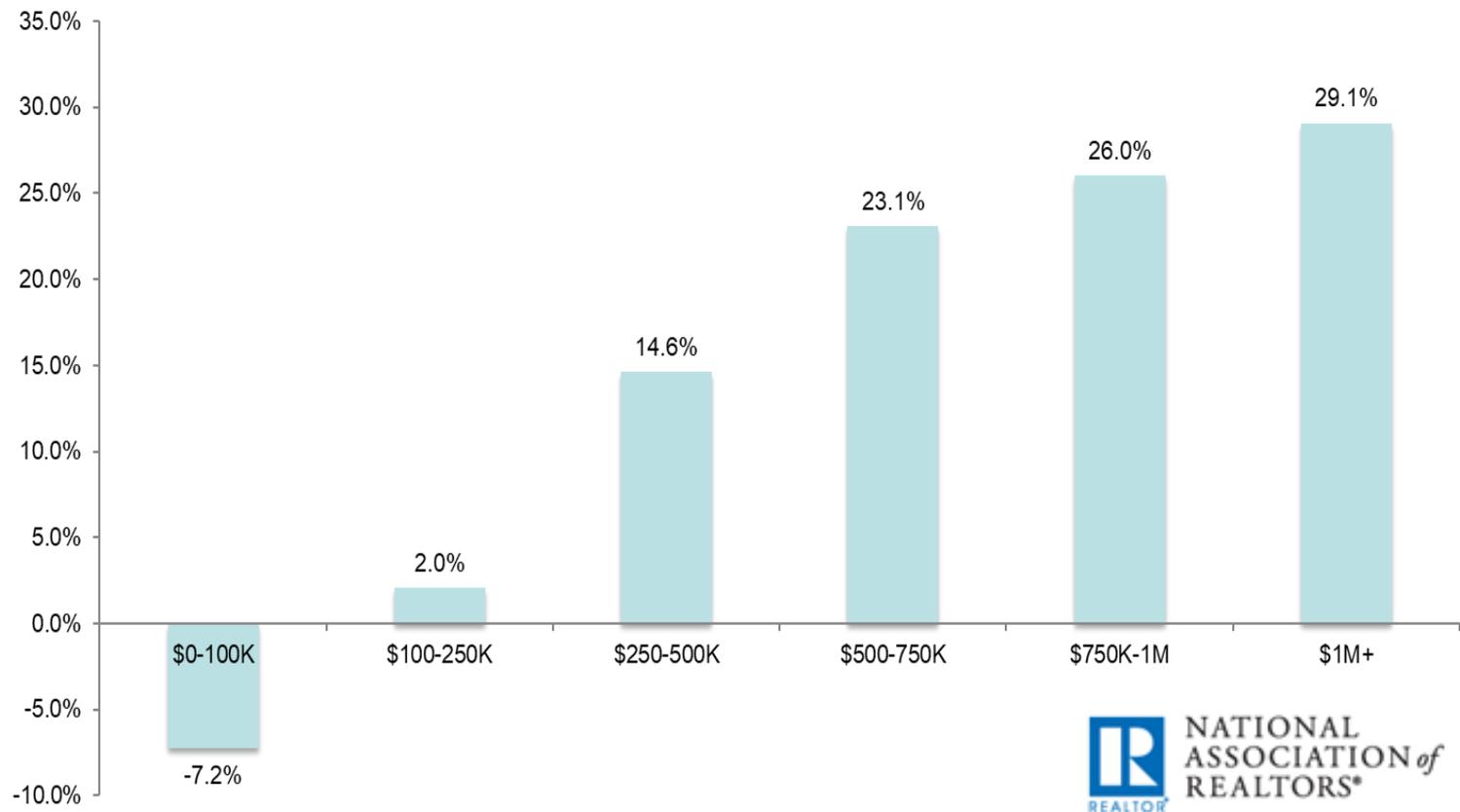
* Next column reports percentage of cash purchases.

Total Existing House Sales



Changes in Existing House Sales

Percent Change in Sales From a Year Ago by Price Range



SF Rental Market

The American Dream No Longer Requires Homeownership

“Single-Family Rentals are nearly half of the total rental housing supply. SFRs have grown from just 10 million units in 2005 to over 16 million units today, and could approach 20 million by 2020 based on current trends. Of the 16 million SFR houses, a tiny fraction – just 200,000 – are owned by institutional investors, and 130,000 are owned by Single-Family Rental REITs. As the SFR market is highly fragmented, the average SFR owner manages just 1-2 properties.

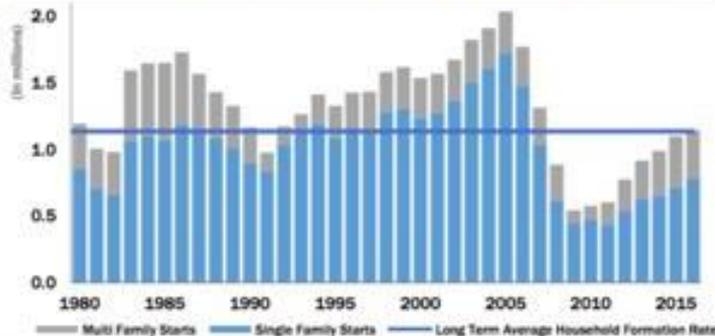
More than in any other financial market, the financial crisis resulted in massive dislocations within the single-family housing market. From this dislocation emerged the institutionalization of single-family housing whereby well-capitalized companies, including newly-formed public REITs and large private equity firms, purchased distressed properties by the thousands. Between 2009 and 2014, over 150,000 single-family homes were purchased by public REITs and private equity firm Blackstone.

Even after the devastation of the financial crisis, the desire to raise a family in a spacious house in a good school district remains appealing to most Americans. The willingness or ability to actually own that house, however, is another story. Housing affordability has become a significant issue in recent years as home price appreciation has significantly outpaced income growth and mortgage credit remains out of reach for younger, less credit-worthy applicants.” – Hoya Capital Real Estate

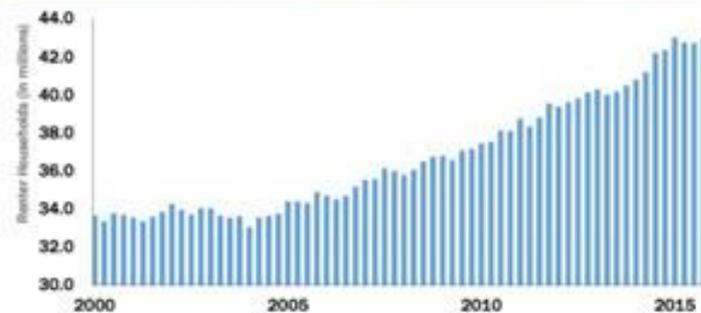
SF Rental Market

SINGLE-FAMILY INDUSTRY OVERVIEW

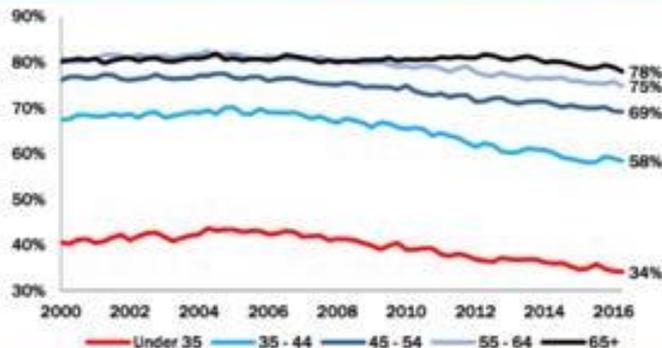
HOUSEHOLD FORMATIONS OUTPACE HOUSING SUPPLY (1)



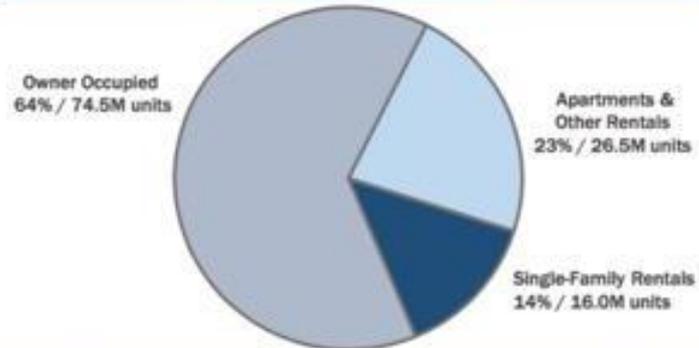
SUBSTANTIAL GROWTH IN RENTER HOUSEHOLD DEMAND (2)



HOMEOWNERSHIP DECLINE SUPPORTS RENTAL DEMAND (2)



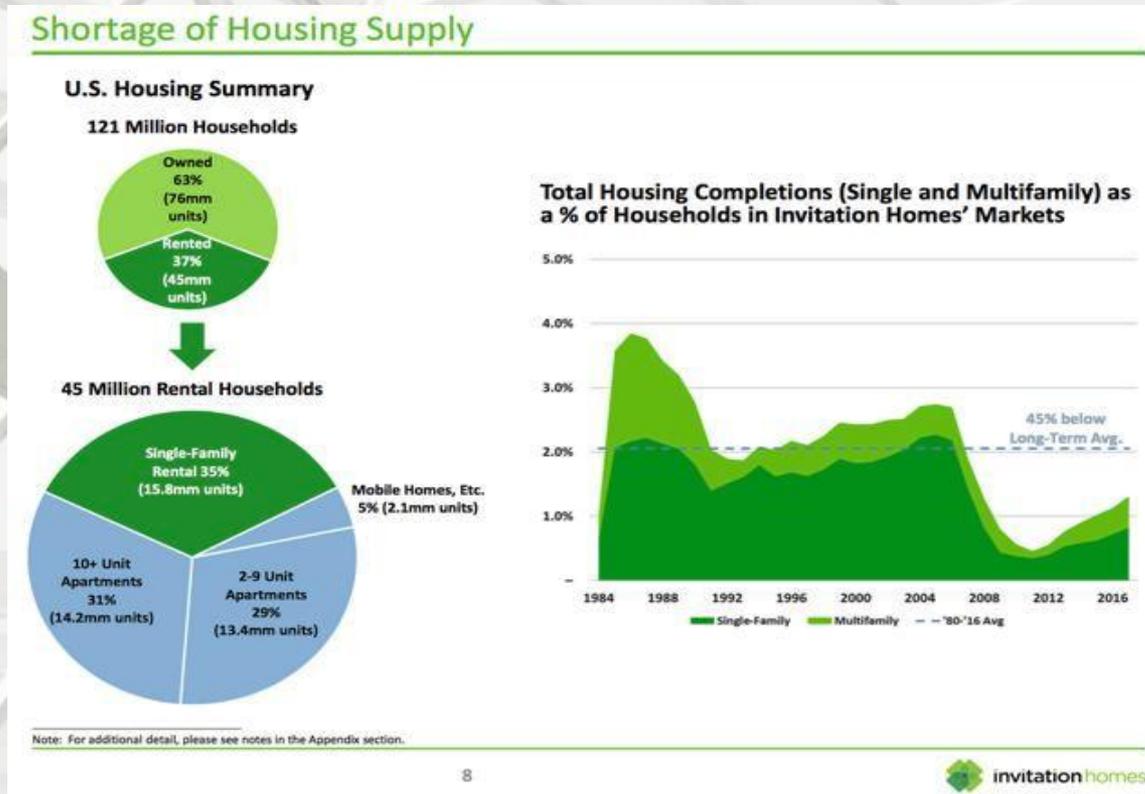
TOTAL HOUSING STOCK (2)



Accelerating demand for single-family rental housing supported by fundamental shifts in demographics and consumer preferences

(1) Federal Reserve Bank of St. Louis Economic Data and U.S. Census Bureau.
(2) U.S. Census Bureau 2016.

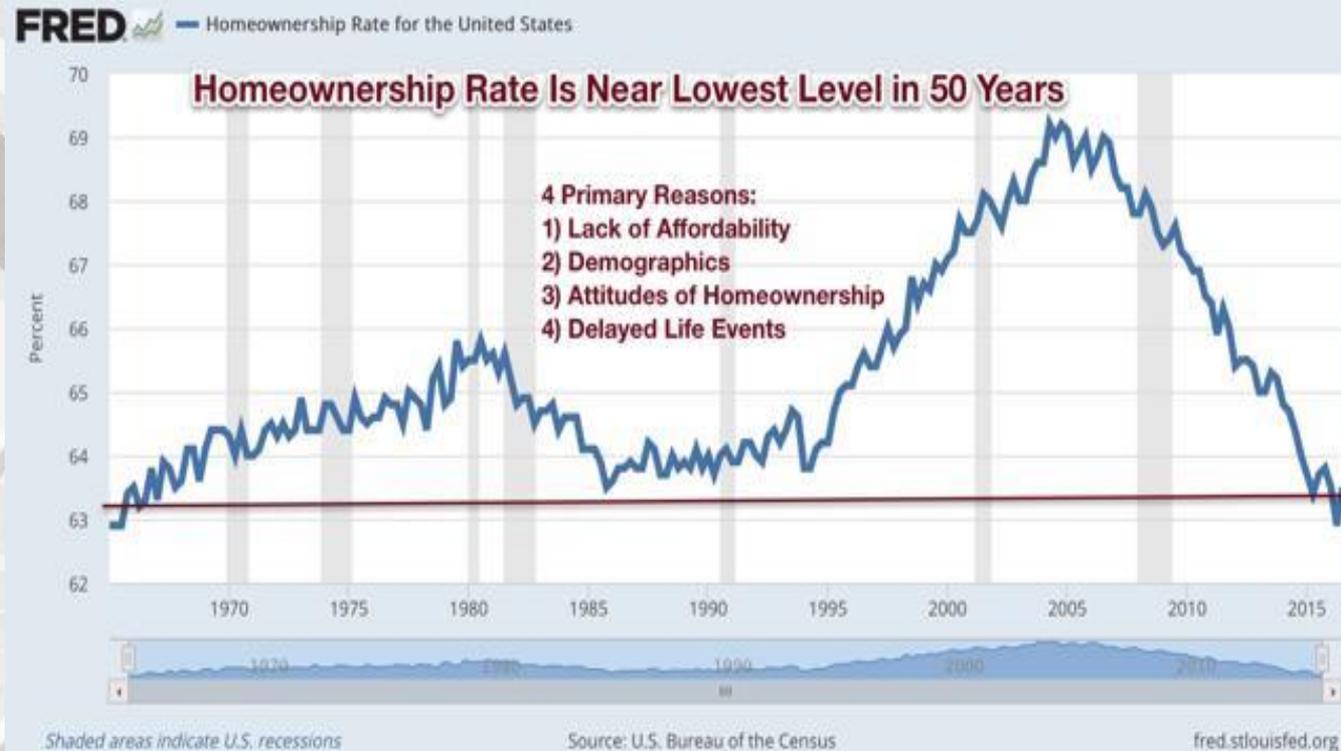
SF Rental Market



The American Dream No Longer Requires Homeownership

“In a twist of fate, a significant share of the renters in SFR homes are, in fact, former homeowners that were foreclosed on during the crisis. More than half of the foreclosed homeowners ended up moving into a SFR. At 63%, the homeownership rate is near its lowest level in the past 50 years. The homeownership rate in the US are slightly lower than the developed country average of roughly 65-70%.” – Hoya Capital Real Estate

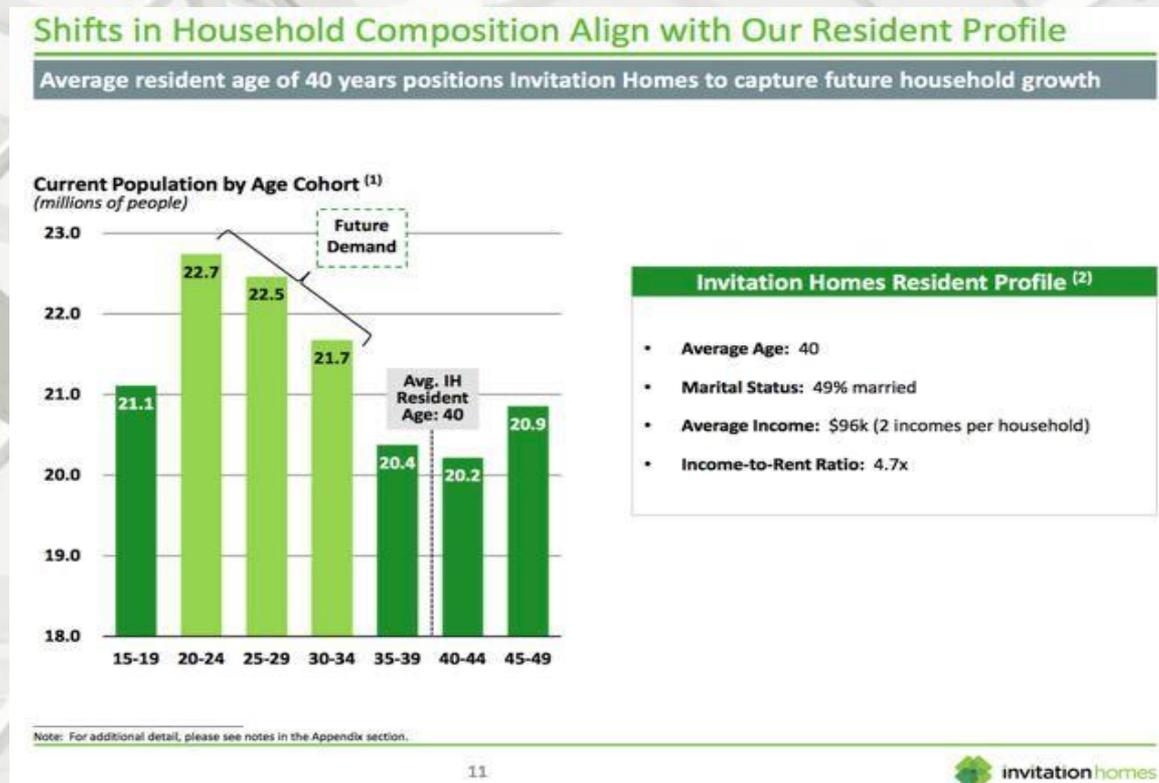
SF Rental Market



The American Dream No Longer Requires Homeownership

“We identify four primary reasons: lack of affordability, negative attitudes towards homeownership, demographics that are more favorable towards renting, and delaying major life events such as marriage and children. We discuss these themes in greater detail regularly in our published research.” – Hoya Capital Real Estate

SF Rental Market



The American Dream No Longer Requires Homeownership

“We discussed in further detail the trends we see from the millennial generation when it comes to homeownership in “[Buy or Rent?](#)” The economics of buying versus owning are unique to each individual’s circumstances, but for most millennials, renting appears to be the better option at these current home price valuations. The value of optionality cannot be overlooked. This large cohort of renters may shift out of traditional multifamily housing into single-family rentals over the next decade.” – Hoya Capital Real Estate

SF Rental Market

The American Dream No Longer Requires Homeownership

Bottom Line

“The rate of homeownership in the United States remains near multi-decade lows. Demographics, affordability, and attitudes towards ownership continue to suggest that the ‘American Dream’ no longer requires homeownership. The institutionalization of the Single-Family Rental ((NYSE:SFR)) market has coincided with the decline in homeownership. SFR REITs emerged from the market dislocations that occurred during the financial crisis.

The amount of single-family rentals has exploded in the last decade and may reach 20 million by 2020. Nearly half of the total rental supply is single-family houses. Critics continue to question the sustainability of the business model, particularly if home price appreciation outpaces potential rent growth. For commercial real estate investors, home prices are often seen as ‘irrational.’ Scale and focus in specific markets has allowed these REITs to keep capex and maintenance costs in check. Investors have applauded these REITs’ focus on reaching a critical mass

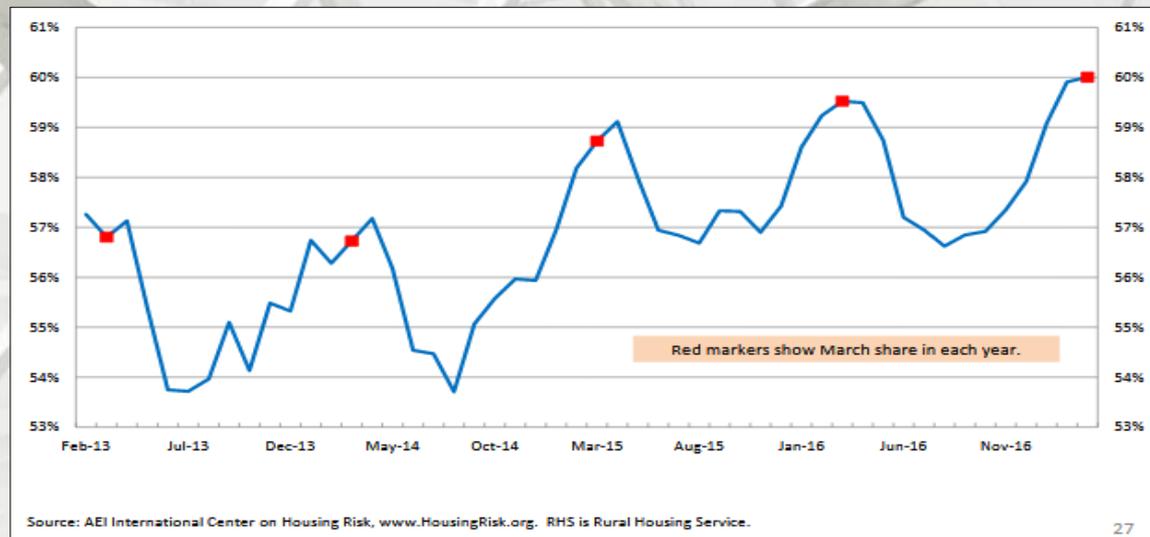
The market has conveyed several important lessons. First, scale is critical. A ‘critical mass’ of local inventory is necessary to minimize the per unit costs of maintenance and leasing. Second, technology and productivity are the wild cards that will determine the fate of the institutional SFR industry. Logistically, managing portfolios of thousands of SFR homes was impossible less than a decade ago.” – Hoya Capital Real Estate

First-Time Purchasers

National Association of Realtors (NAR®)

33% of sales in May 2017 – 34% in April 2017 and 30% in May 2016

American Enterprise Institute International Center on Housing Risk

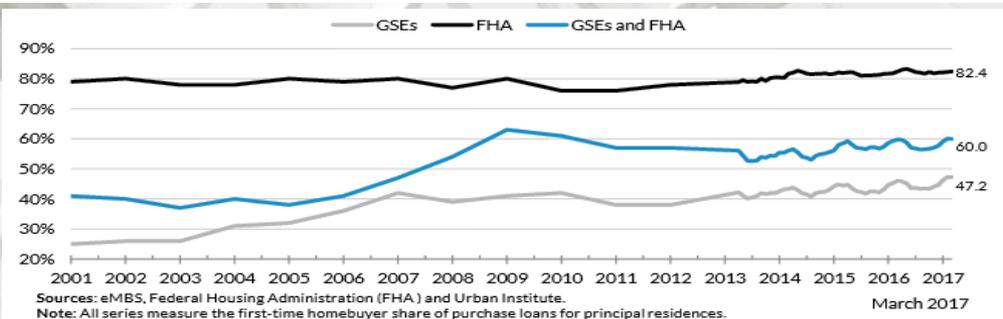


“The Agency First-Time Buyer Mortgage Share Index continued to climb in March as first-time buyer volume (by count) surged 12.3 percent. The index stood at 60.0% in March, up from 59.5% a year ago.” – Edward Pinto, Codirector, American Enterprise Institute’s International Center on Housing Risk

First-Time Purchasers

Urban Institute

“In March 2017, the first-time homebuyer share of GSE purchase loans remained stable at 47.2%, after reaching a historical high last month. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and stood at 82.4 percent in March 2017, down from the peak of 83.3 percent in May 2016. The bottom table shows that based on mortgages originated in March 2016, 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



Comparison of First-Time and Repeat Homebuyers, GSE and FHA Originations

Characteristics	GSEs		FHA		GSEs and FHA	
	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount (\$)	225,321	249,017	196,369	221,629	210,315	242,573
Credit Score	740.0	755.6	675.6	683.8	706.6	738.7
LTV (%)	86.8	79.3	97.3	95.9	92.2	83.2
DTI (%)	34.2	35.1	41.9	42.9	38.2	37.0
Loan Rate (%)	4.37	4.26	4.29	4.23	4.33	4.25

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in March 2017.

First-Time Purchasers

National Association of Realtors (NAR®)

34% of sales in April 2017 – 32% in March 2017 and 32% in April 2016

American Enterprise Institute International Center on Housing Risk

“The First-Time Buyer Mortgage Risk Index (FBMRI) for Agency purchase loans stood at 16.1 percent in February, a series high and up 0.4 ppt. from February 2016. The Agency FBMRI is 6.4 ppts. higher than the repeat buyer MRI. The gap has widened 0.8 ppt. from a year earlier. Maintaining a series high, FHA’s First-Time Buyer NMRI stood at 25.1 percent in February, up 0.9 ppt. from a year earlier and up 1.0 ppt. from two years earlier (before FHA’s mortgage insurance premium cut).”

“The on-going housing boom is built on the backs of first-time buyers. These buyers are using government guaranteed financing to take on ever greater levels of leverage to chase rapidly increasing entry-level home prices, a trend that is unsustainable over the long term.” – Edward Pinto, Codirector of the American Enterprise Institute’s International Center on Housing Risk

“Down payment requirements don’t pose the hurdle to homeownership as commonly believed. Helped in part by various programs from State Housing Finance Agencies, 21 percent of first-time buyer purchases in February did not require any down payment.” – Tobias Peter, Senior Research Analyst, AEI’s International Center on Housing Risk

First-Time Purchasers

Genworth Mortgage Insurance

First-Time Homebuyer Market Report

Key Findings:

1. “Between 1994 and 2016, first-time homebuyers purchased on average 1.8 million single-family homes each year, accounting for over one in three of all single-family homes sold, and 45 percent of the purchase mortgages originated.
2. First-time homebuyers have led the housing recovery, contributing over 60 percent of the sales growth in the housing market over the past five years and 85 percent of the growth in the past two years. The resurgence of the first-time homebuyer market has contributed to very tight housing supplies and accelerating home prices, especially at the “low” end of the housing market.
3. During the Housing Crisis, the number of single-family homes sold to first-time homebuyers saw a peak to trough decline of 900,000 units (43 percent) – reaching a trough of just 1.2 million units in 2011. Over the last 10 years, the housing market has seen 3 million fewer first-time homebuyers in aggregate compared to the historical average.
4. The first-time homebuyer market stagnated during the historic housing expansion of the 1990s and early 2000s, leading to a decline in first-time homebuyer mix. Instead, it was repeat homebuyers, including second-home buyers and investors, who led the surge in housing activity.” – Tian Liu, Chief Economist, Genworth Mortgage Insurance

First-Time Purchasers

First-Time Homebuyer Market Report

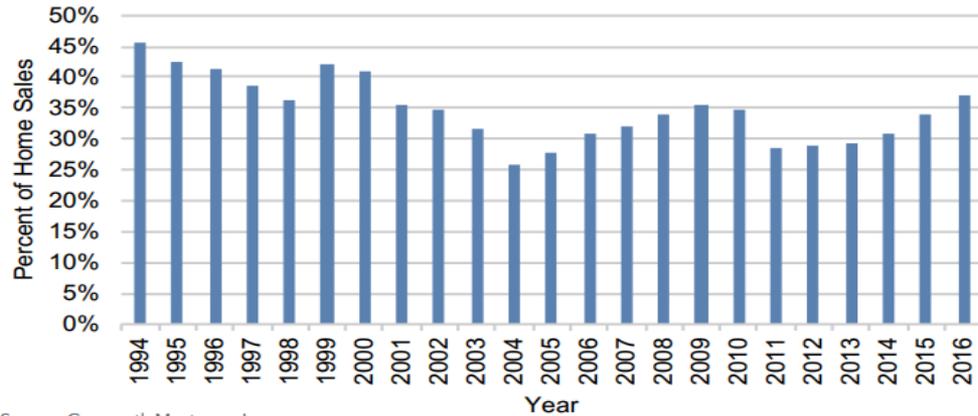
Key Findings:

5. “The expansion of government lending programs and the implementation of the first-time homebuyer tax credit provided temporary support to first-time homebuyers. Between 2008 and 2010, first-time homebuyers represented 35 percent of all single-family home sales, which is close to its historical average. However, the percentage of single-family home sales to first-time homebuyers declined once the tax credit expired, and stayed below 30 percent for these three years.
6. First-time homebuyers have always demonstrated a greater need for low down payment mortgage products. Between 1994 and 2016, 73 percent of first-time homebuyers chose such products compared to 30-50 percent for repeat homebuyers. Mortgage products with a lower down payment will likely have a higher first-time homebuyer mix.
7. Private mortgage insurance and FHA (government-backed mortgage insurance) are the two leading products for first-time homebuyers and have together accounted for close to 1 million first-time homebuyers a year since 1994. They have played a key role in reviving the first-time homebuyer market in the current recovery, accounting for approximately 80 percent of its growth in the past two years.
8. First-time homebuyers purchased 2 million single-family homes in 2016, 15 percent more than 2015 – and the most since 2006. During the first quarter of 2017, there were more first-time homebuyers than any other year since 2005. A total of 424,000 single-family homes were sold to first-time homebuyers, up 11 percent from a year ago, and accounting for 38 percent of all single-family homes.” – Tian Liu, Chief Economist, Genworth Mortgage Insurance

First-Time Purchasers

Fig. 1

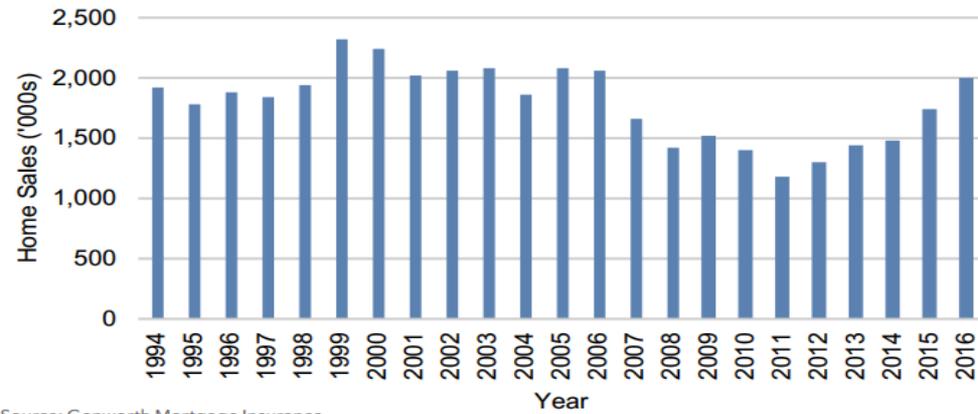
First-Time Homebuyers Mix



Source: Genworth Mortgage Insurance

Fig. 2

First-Time Homebuyers Market



Source: Genworth Mortgage Insurance

First-Time Purchasers

Three Million Missing First-Time Homebuyers from the Housing Bust

“One of the reasons for building a longer time sequence of the first-time homebuyer market is to develop a historical perspective on the cyclical nature of the housing market. Although the first-time homebuyer market is close to the previous peak, the Housing Crisis has left a very large deficit in the first-time homebuyer market. Since 2007, first-time homebuyers have averaged just 1.5 million a year, which is 300,000 fewer than the historical average. Over 10 years, this amounted to three million first-time homebuyers missing from the housing market. Between 2007 and 2015, the number of first-time homebuyers was lower than its historical average every year. This is consistent with the census data showing a 4-5 point increase in the proportion of 18-34 year olds living with their parents⁶, as well as historically low home ownership rates⁷. As economic growth continues, we expect many of these three million missing first-time homebuyers to eventually buy a home, which will be a source of future growth. In turn, first-time homebuyers who purchased in 2015 and later will likely accumulate sufficient home equity over the next five to ten years to fuel the next wave of repeat homebuyers.

The 3 million missing first-time homebuyers accumulated over the past decade, as well as the Millennials reaching the household formation age will be two likely sources of further growth for the first-time homebuyer market over the next few years, which can push the first-time homebuyer market over 2 million units a year over the next few years. This should generate continued demand for growth in low down payment purchase mortgage lending, and in the demand for single-family homes priced below the median home price. We will likely see faster home price appreciation at the “lower” end of the housing market. This will provide fresh growth opportunities to homebuilders at a time when the high-end market is showing less opportunity for growth.” – Tian Liu, Chief Economist, Genworth Mortgage Insurance

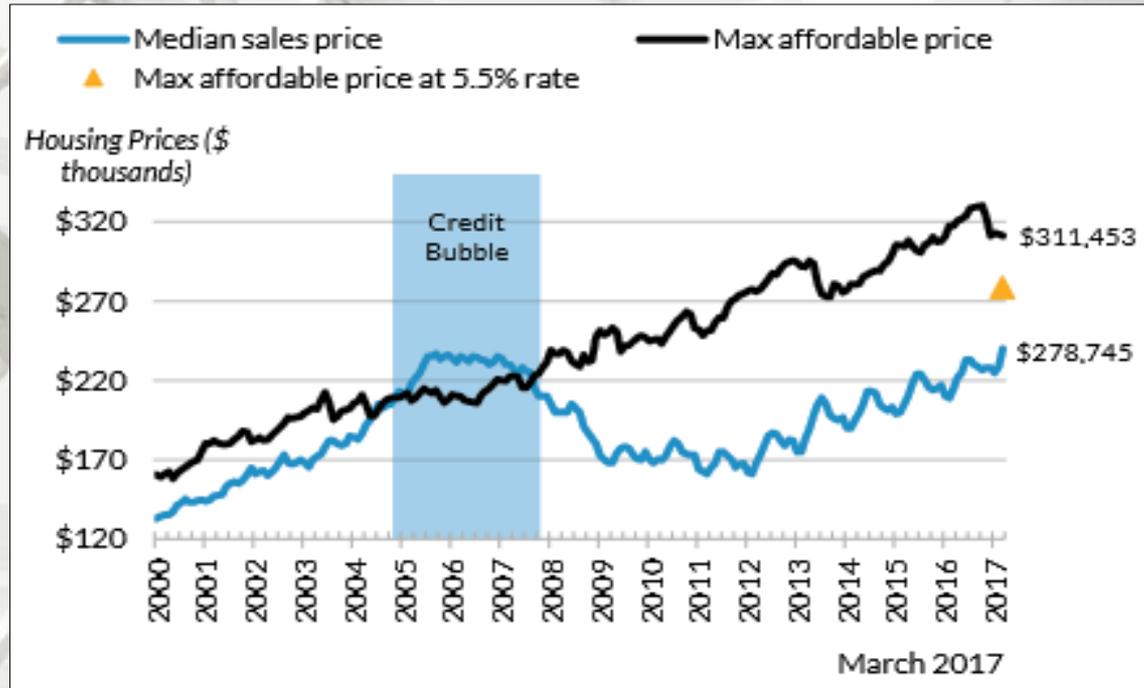
First-Time Purchasers

Conclusion

“Our belief in the importance of the first-time homebuyer market and the lack of data for this important market segment motivated this study and we will update this series on a quarterly basis. We hope that the release of this study will lead to more research and data on the first-time homebuyer market. This study provides an estimate of the first-time homebuyer market (1.8 million a year historically), confirming its importance to the overall housing market (35 percent of single-family homes sold) and mortgage market (45 percent of purchase mortgages). By looking over the last two housing cycles, it is very clear that first-time homebuyers and repeat homebuyers have shown very different trends. Repeat homebuyers drove the housing boom of the 1990s and early 2000s, suffered a bigger setback during the Housing Crisis, and have experienced very slow recovery. In contrast, first-time homebuyers were relatively stagnant during the last housing boom. It also confirms what we have seen in the mortgage insurance industry: that the first-time homebuyer market has been growing rapidly since 2014 (85 percent of the growth in home sales), and that it still has more potential to grow (three million first-time homebuyers missing in the last 10 years).

We believe that two key attributes of the current housing market — low inventory and rapid home price appreciation — are the direct results of the rapid growth in the first-time homebuyer market. Our study also sheds light on the down payment affordability challenge facing first-time homebuyers and how the mortgage market has addressed that problem through the development of low down payment mortgage products. These products have served the needs of first-time homebuyers (73 percent of first-time homebuyers choose low down payment mortgages; first-time homebuyer mix moves inversely with down payment size). The lesson learned from the Housing Crisis is that we need to ensure that low down payment mortgages are sustainable over the long run.” – Tian Liu, Chief Economist, Genworth Mortgage Insurance

Housing Affordability



Urban Institute

“Home prices are still very affordable by historic standards, despite increases over the last four years and the recent interest rate hike. Even if interest rates rise to 5.5 percent, affordability would still be at the long term historical average.” – Bing Lai, Research Associate, Housing Finance Policy Center

Summary

In summary:

May's aggregate U.S. housing market hit a stumbling block, as most monthly indicators were negative on a month-over-month basis. Yet, on a year-over-year basis, the majority were positive, with the exception being total permits and starts. Problematic is construction spending, as SF, MF, and improvement expenditures were negative on a month-over-month basis. These sub-sectors bear watching, as the continuation of this pattern may indicate a slowdown in the housing market. The bottom line, it was one-month's data – we should wait a few month's and then form observations. Once again, new SF lower-priced tier house sales struggled. It bears repeating, the 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 forest products are used 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;
- 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) Changing attitudes towards SF ownership
- 3) Gentrification;
- 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.

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