The Virginia Tech – U.S. Forest Service
June 2019
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

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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 Delton.R.Alderman@usda.gov

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Opening Remarks

June 2019 United States housing data was similar to May, with the majority of data points reported being negative. Single-family starts and permits, new single-family sales and total housing under construction were positive month-over-month, which is good for the lumber industry. The year-over-year data were similar, with only total housing starts, total and single-family under construction, single-family completions, and new single-family sales positive. The August 8th Atlanta Fed GDPNow™ model estimate for September 2019 projects an aggregate 0.2% increase for residential investment spending. New private permanent site expenditures were projected at a 2.9% decrease; the improvement spending forecast was a 2.7% increase; and the manufactured/mobile housing projection was a 3.6% increase (all: quarterly log change and seasonally adjusted annual rate)[1].

"In the 130 metro areas we analyzed, only 54% of Americans can afford a home priced 20% below the median home price in their area – a reasonable proxy for an entry-level home. The recent plunge in mortgage rates to 3.7% from 4.9% in November added just 3% to that affordability figure. In California, only 34% can afford a home, with San Francisco and San Jose least affordable, at only 11% and 18%, respectively. The most affordable market is Allentown, PA-NJ, where 77.4% of residents are able to purchase a home using our criteria. Because of this affordability gap for would-be home owners, many smart investors continue to invest in rental homes. This strategy of investing in rental homes is responsible for the hottest new home development craze: newly built rental home neighborhoods, an opportunity we first identified in 2015."[2] – Trevor Tetzlaff, Senior Research Analyst and Jeff Hallam, Business Intelligence Developer, John Burns Real Estate Consulting LLC

This month's commentary contains applicable housing data: Section I contains data and commentary and an analysis of occupied ownership and residential electricity customers. Section II includes regional Federal Reserve analysis, private indicators, and economic analysis.

Sources: [1] www.frbatlanta.org/cqer/research/gdpnow.aspx; 8/8/19;
[2] https://www.realestateconsulting.com/54-americans-can-afford-home/; 7/16/19

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June 2019
Housing Scorecard

		M/M		Y/Y
Housing Starts	↓	0.9%	↑	6.2%
Single-Family (SF) Starts	↑	3.5%	↓	0.8%
Housing Permits	↓	6.1%	↓	6.6%
SF Permits	↑	0.4%	↓	4.7%
Housing Under Construction	↑	0.5%	↑	1.2%
SF Under Construction	↓	0.6%	↑	0.2%
Housing Completions	↓	4.8%	↓	3.7%
SF Completions	↓	1.8%	↑	1.6%
New SF House Sales	↑	7.0%	↑	4.5%
Private Residential Construction Spending	↓	0.5%	↓	8.1%
SF Construction Spending	↓	0.7%	↓	8.5%
Existing House Sales[1]	↓	1.7%	↓	2.2%

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

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

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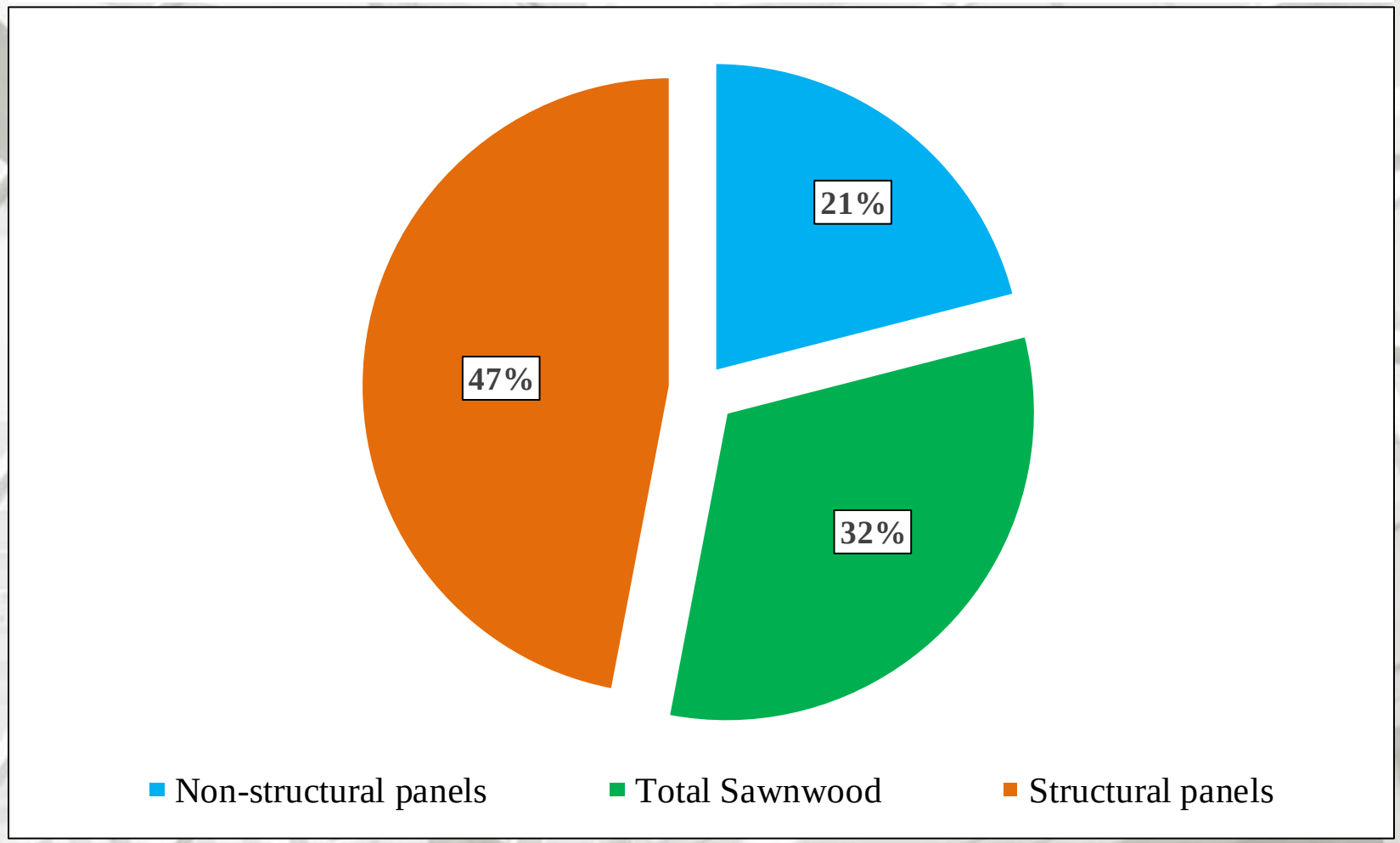
New Construction's Percentage of Wood Products Consumption



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

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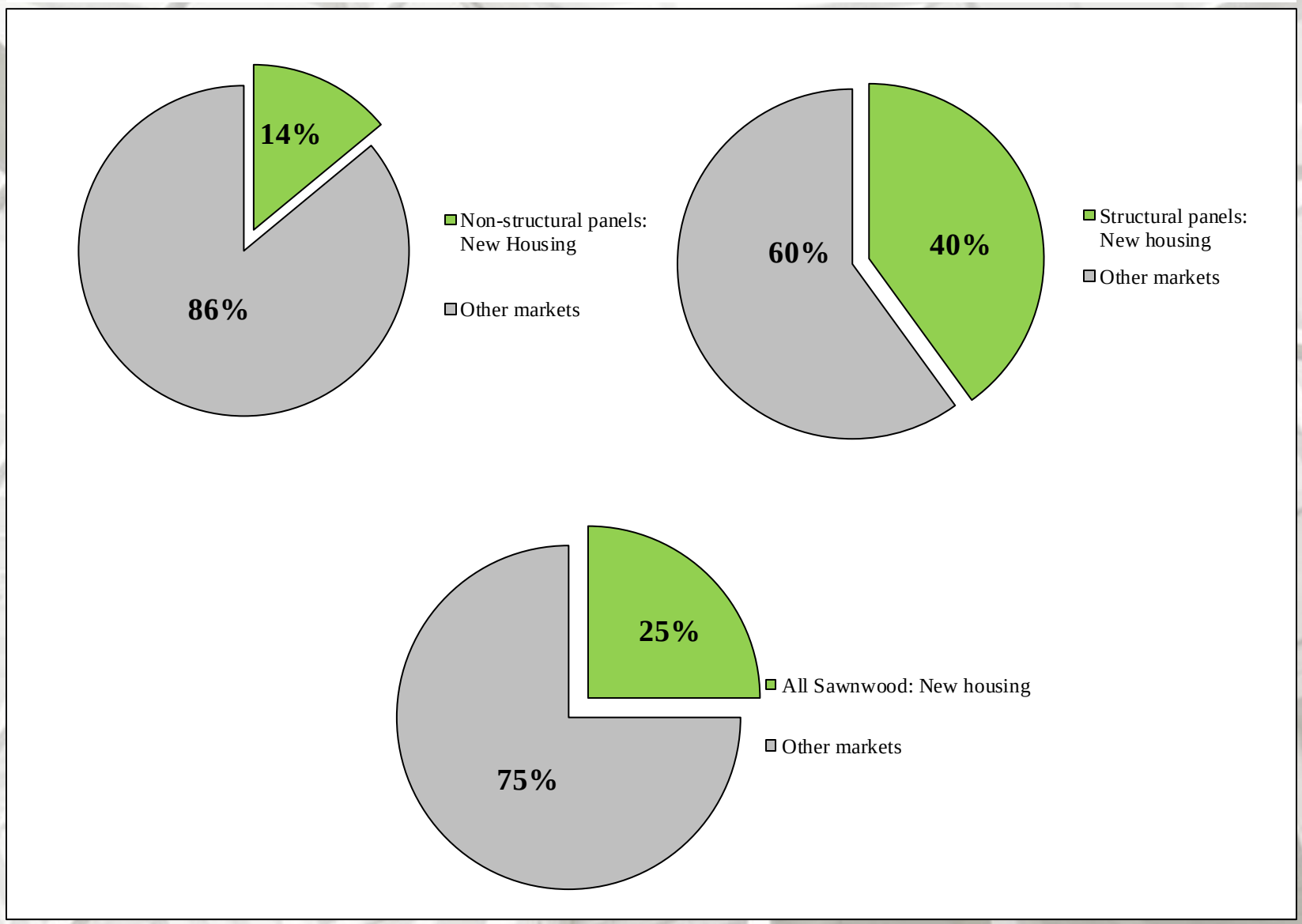
New SF Construction Percentage of Wood Products Consumption



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

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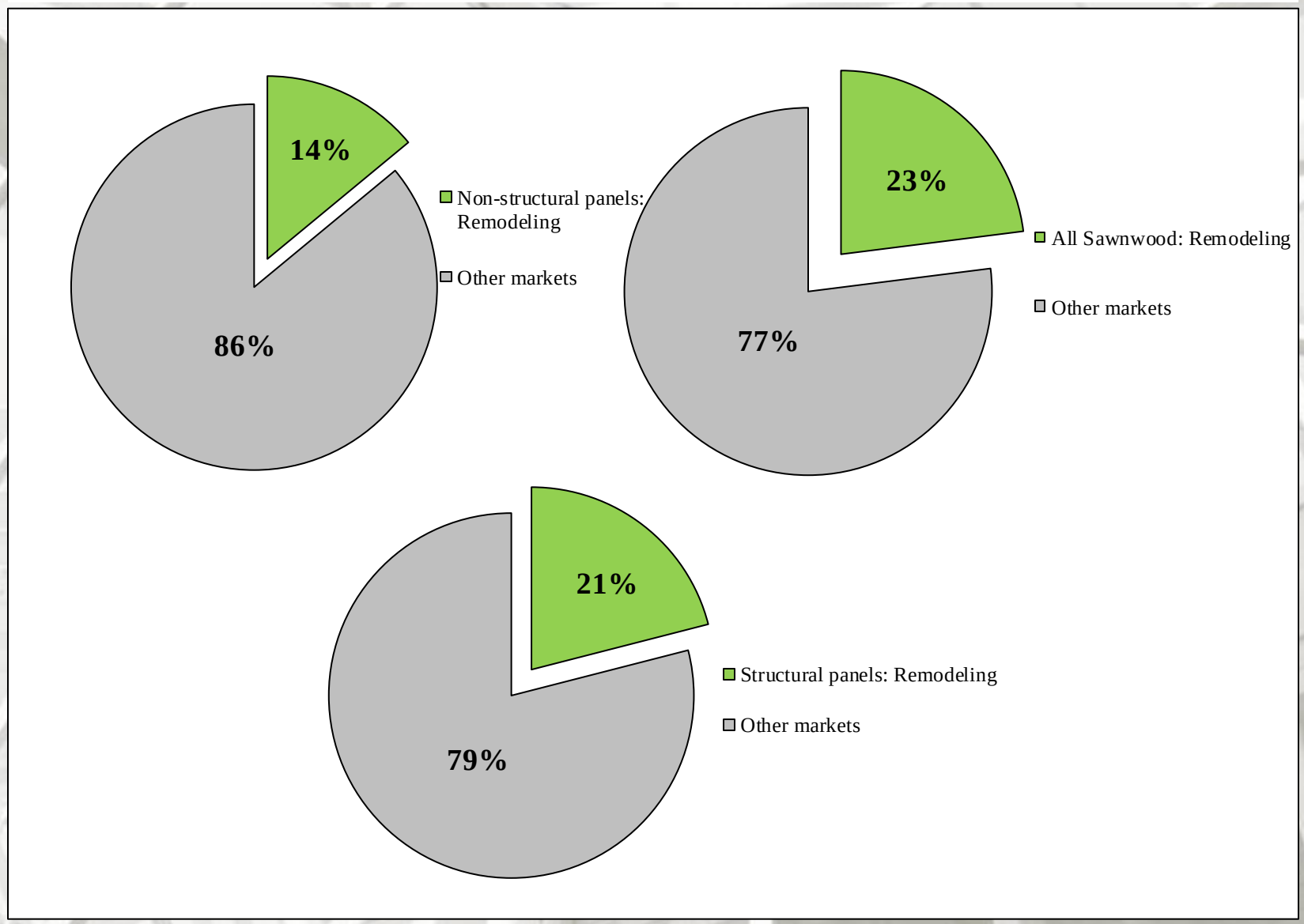
Repair and Remodeling's Percentage of Wood Products Consumption



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

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New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
June	1,253,000	847,000	10,000	396,000
May	1,265,000	818,000	10,000	437,000
2018	1,180,000	854,000	10,000	316,000
M/M change	-0.9	3.5	0.0	-9.4
Y/Y change	6.2	-0.8	0.0	25.3

* 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; 7/17/19

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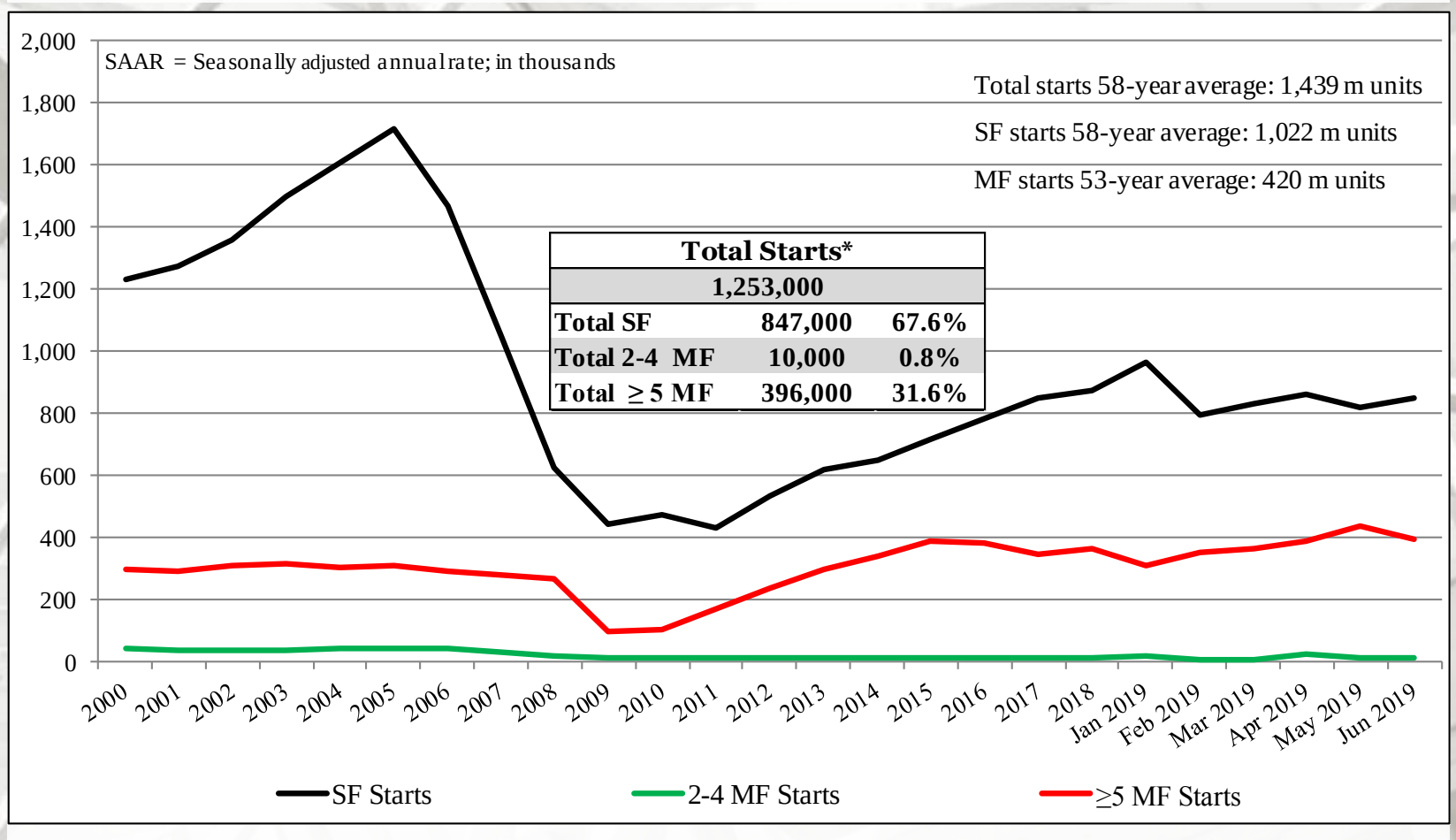
Total Housing Starts



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

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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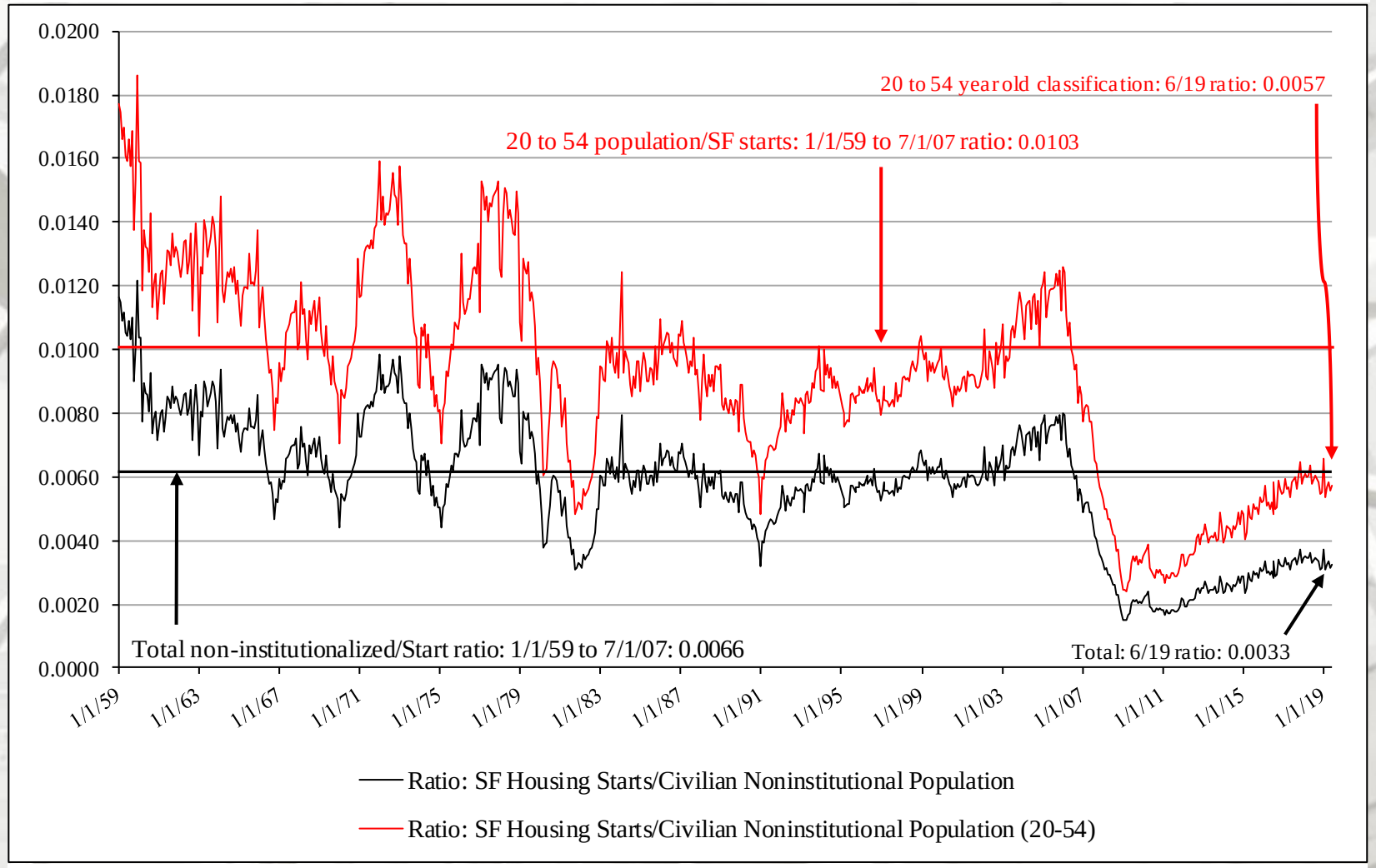
New SF Starts



New SF starts adjusted for the US population

From June 1959 to June 2007, the long-term ratio of new SF starts to the total US non-institutionalized population was 0.0066; in June 2019 it was 0.0033 – an increase from April (0.0032). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in June 2019 was 0.0057 – also an increase from April (0.0056). From a population worldview, new SF 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; 7/17/19

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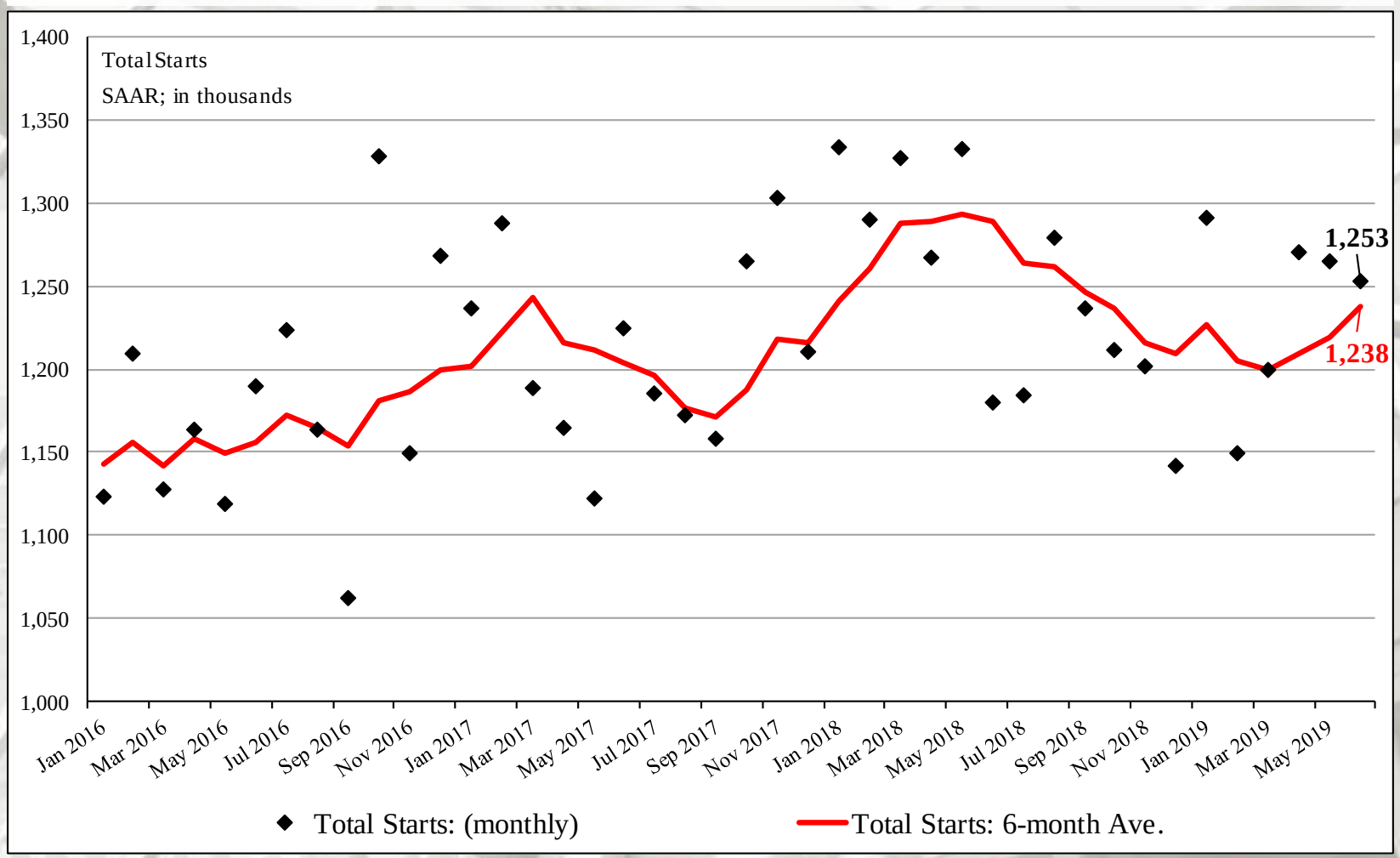
Total Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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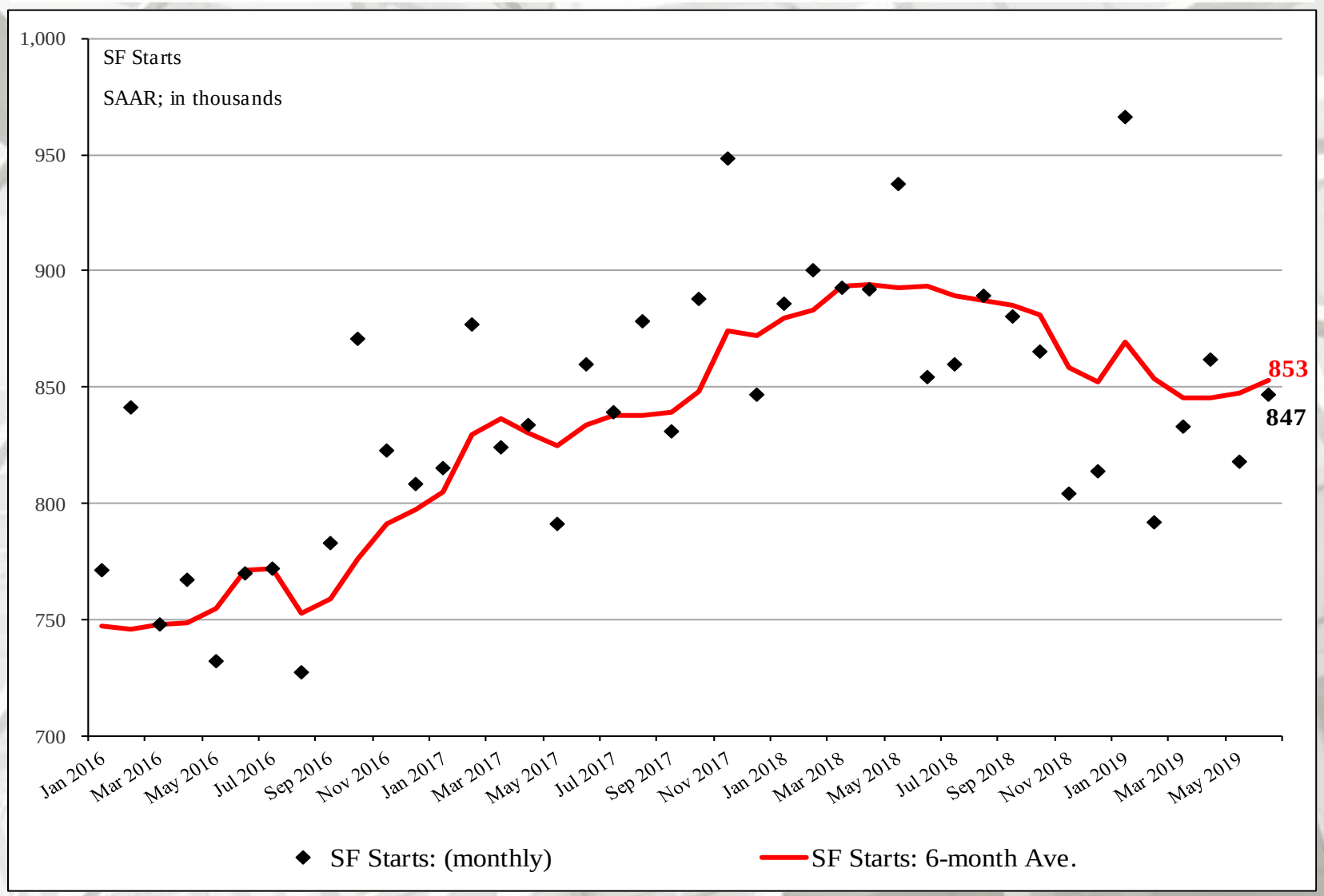
SF Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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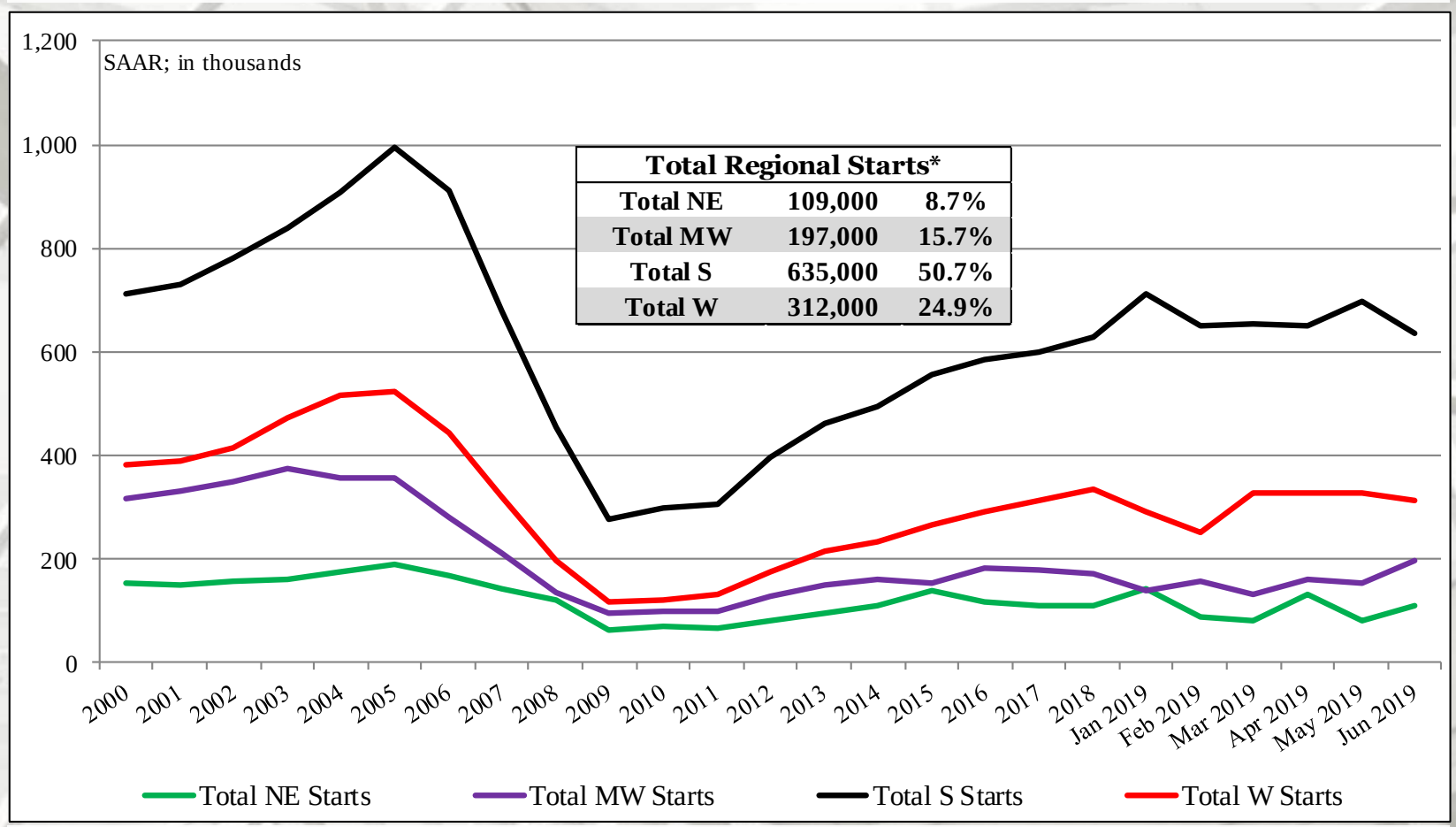
New Housing Starts by Region



Total Regional Starts*		
Total NE	109,000	8.7%
Total MW	197,000	15.7%
Total S	635,000	50.7%
Total W	312,000	24.9%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family starts directly, this is an estimation (Total starts – (SF + ≥ 5 MF starts).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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New Housing Starts by Region

	NE Total	NE SF	NE MF**
June	109,000	46,000	63,000
May	83,000	49,000	34,000
2018	104,000	70,000	34,000
M/M change	31.3	-6.1	85.3
Y/Y change	4.8	-34.3	85.3
	MW Total	**MW SF**	**MW MF**
June	197,000	122,000	75,000
May	155,000	113,000	42,000
2018	164,000	113,000	51,000
M/M change	27.1	8.0	78.6
Y/Y change	20.1	8.0	47.1

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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New Housing Starts by Region

	S Total	S SF	S MF**
June	635,000	478,000	157,000
May	699,000	473,000	226,000
2017	567,000	449,000	118,000
M/M change	-9.2	1.1	-30.5
Y/Y change	12.0	6.5	33.1
	W Total	**W SF**	**W MF**
June	312,000	201,000	111,000
May	328,000	183,000	145,000
2018	345,000	222,000	123,000
M/M change	-4.9	9.8	-23.4
Y/Y change	-9.6	-9.5	-9.8

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; 7/17/19

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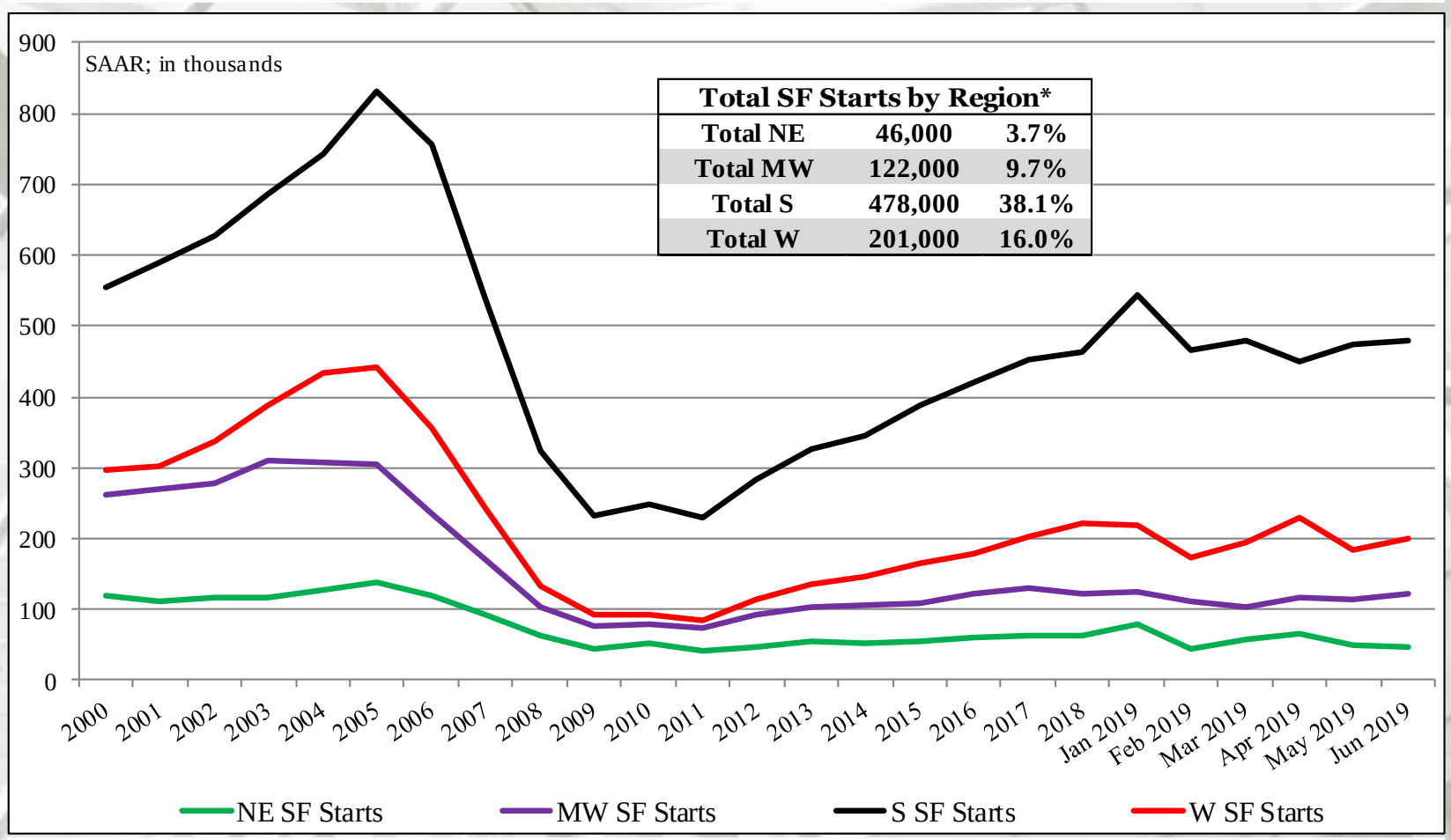
Total SF Housing Starts by Region



Total SF Starts by Region*		
Total NE	46,000	3.7%
Total MW	122,000	9.7%
Total S	478,000	38.1%
Total W	201,000	16.0%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family starts directly, this is an estimation (Total starts – (SF + ≥ 5 MF starts).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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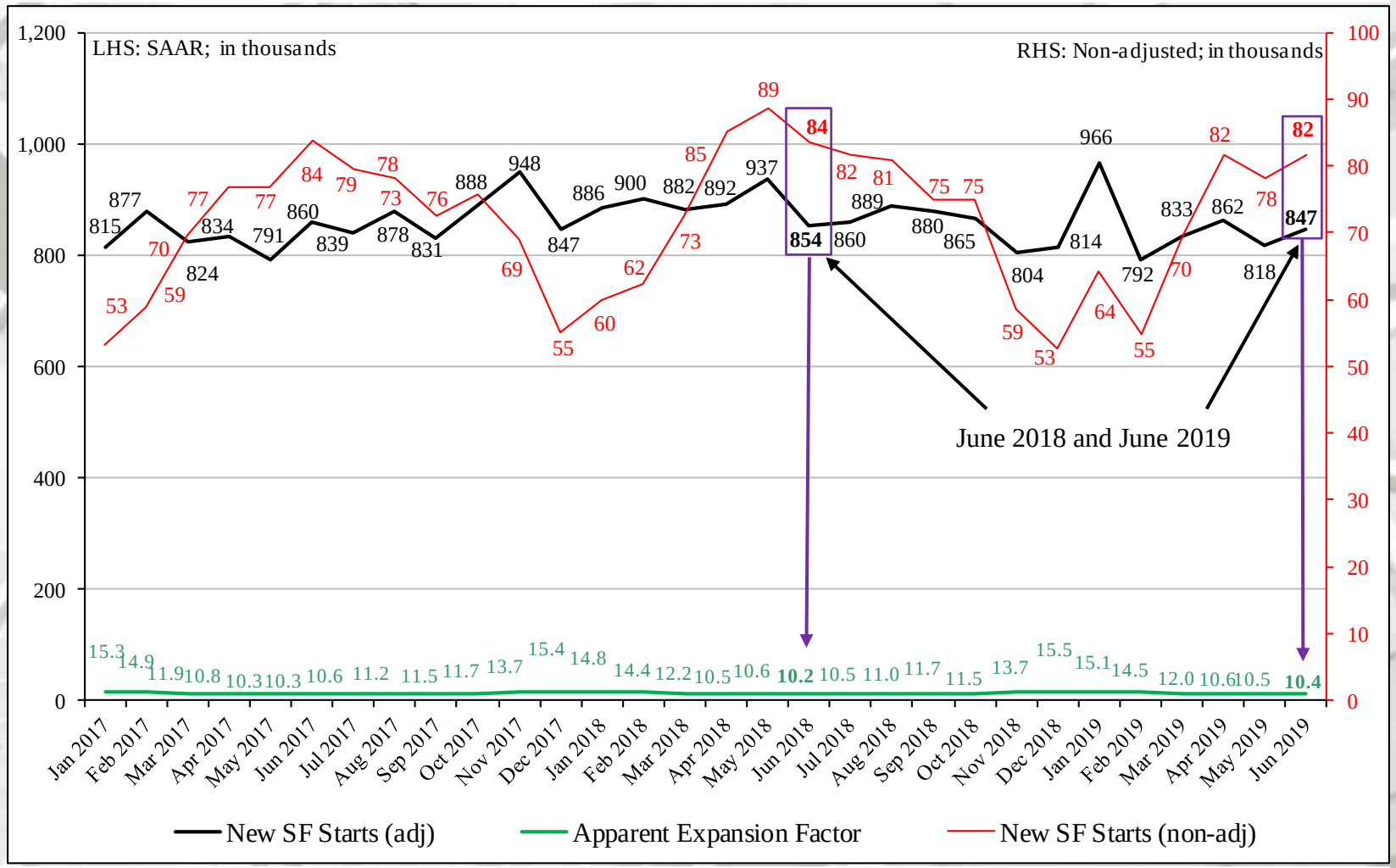
Nominal & SAAR SF Starts



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; 7/17/19

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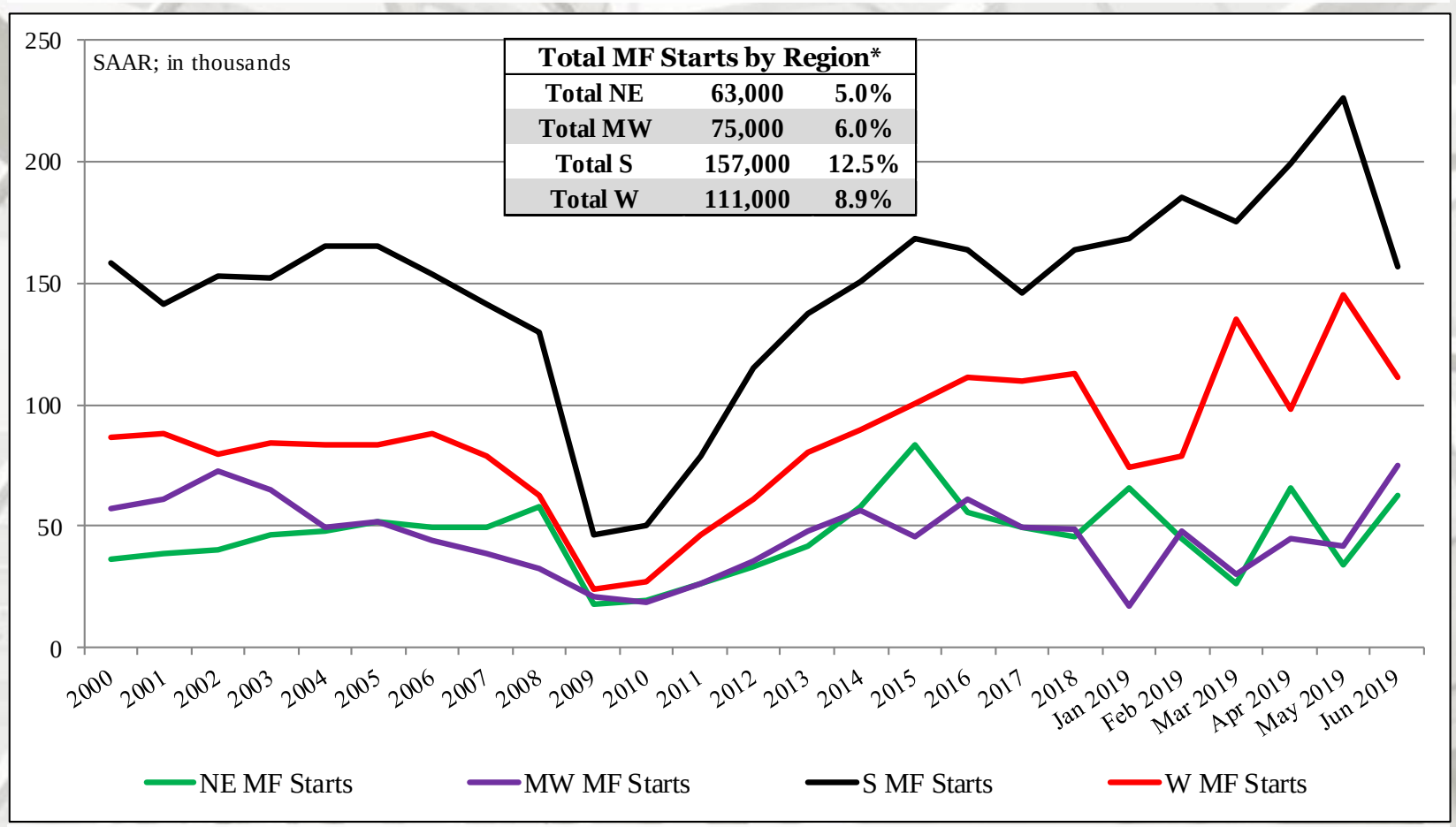
MF Housing Starts by Region



NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family starts directly, this is an estimation (Total starts – (SF + ≥ 5 MF starts).

* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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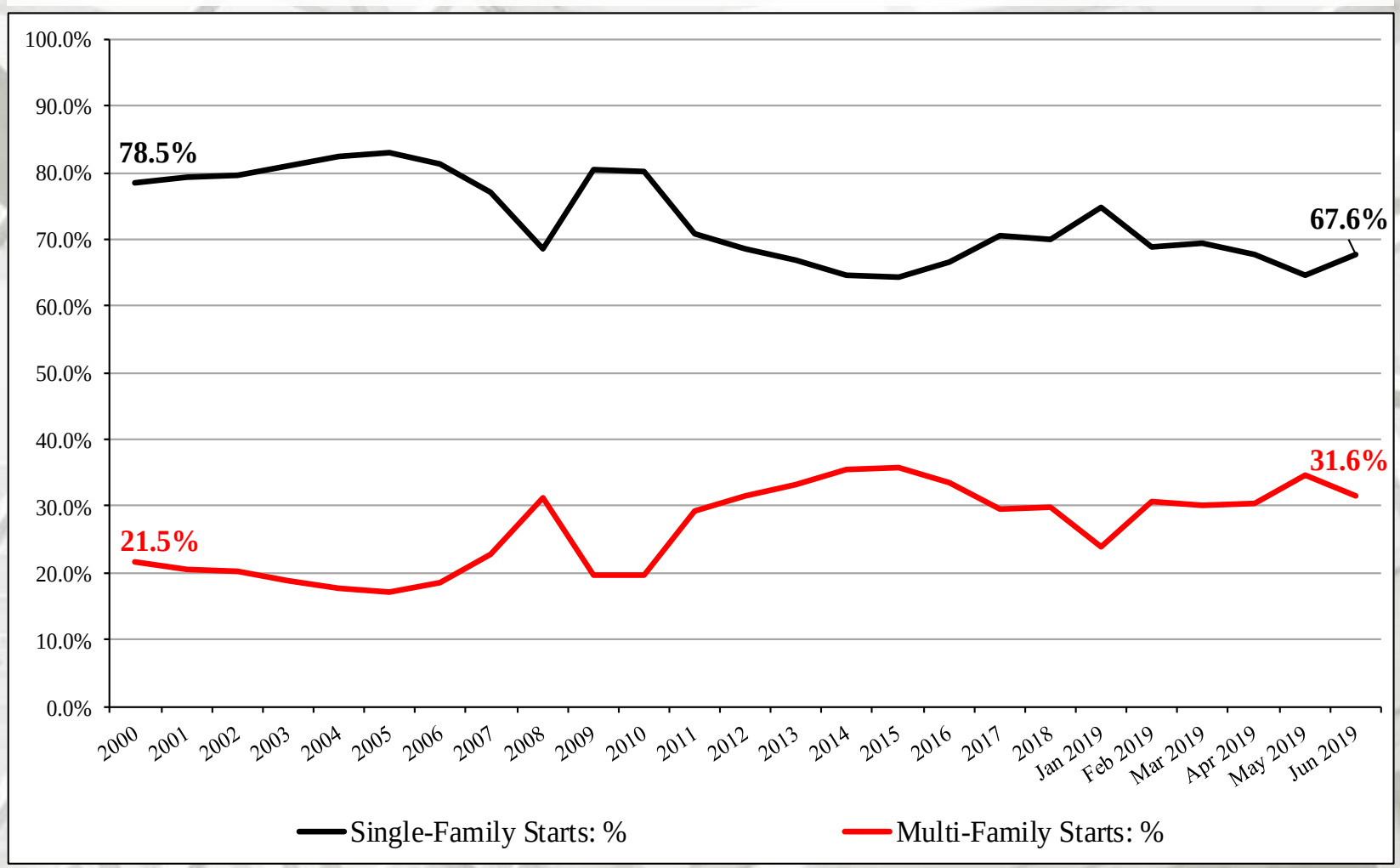
SF vs. MF Housing Starts (%)



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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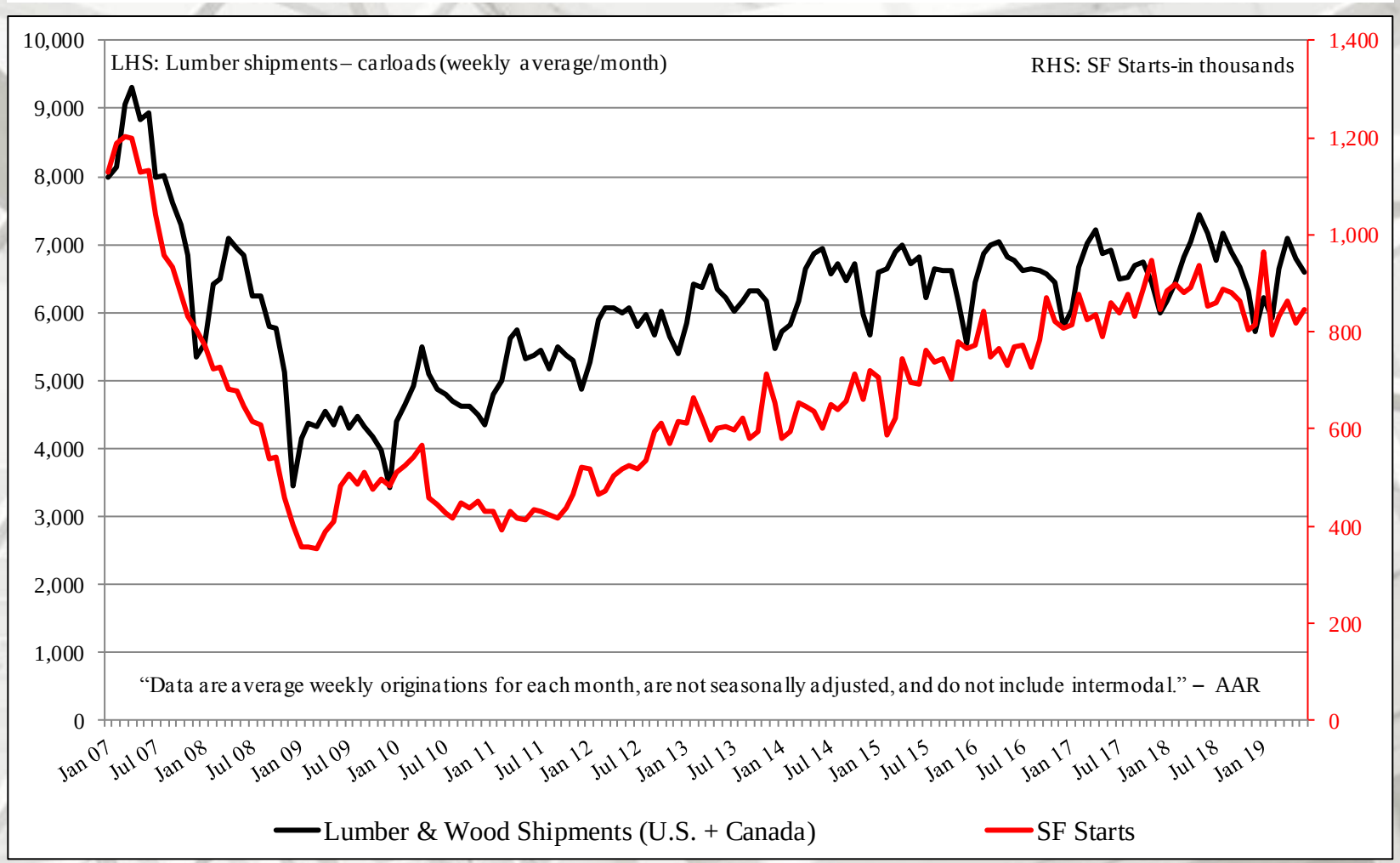
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 7/5/19; U.S. DOC-Construction; 7/17/19

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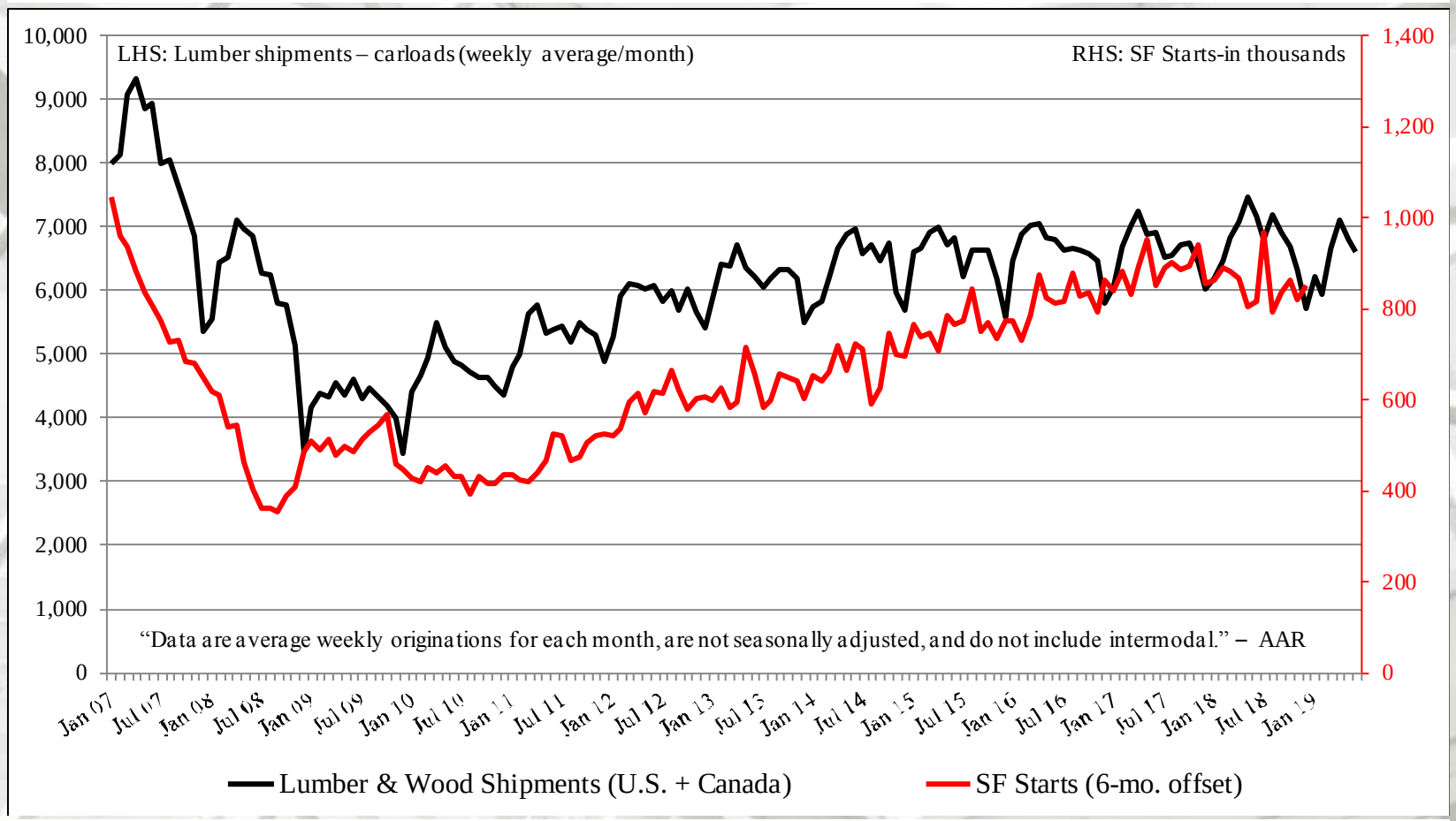
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts: 6-month Offset



In this graph, June 2007 lumber shipments are contrasted with June 2007 SF starts, and continuing through June 2019 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 7/5/19; U.S. DOC-Construction; 7/17/19

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New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
June	1,220,000	813,000	47,000	360,000
May	1,299,000	810,000	35,000	454,000
2018	1,306,000	853,000	38,000	415,000
M/M change	-6.1	0.4	34.3	-20.7
Y/Y change	-6.6	-4.7	23.7	-13.3

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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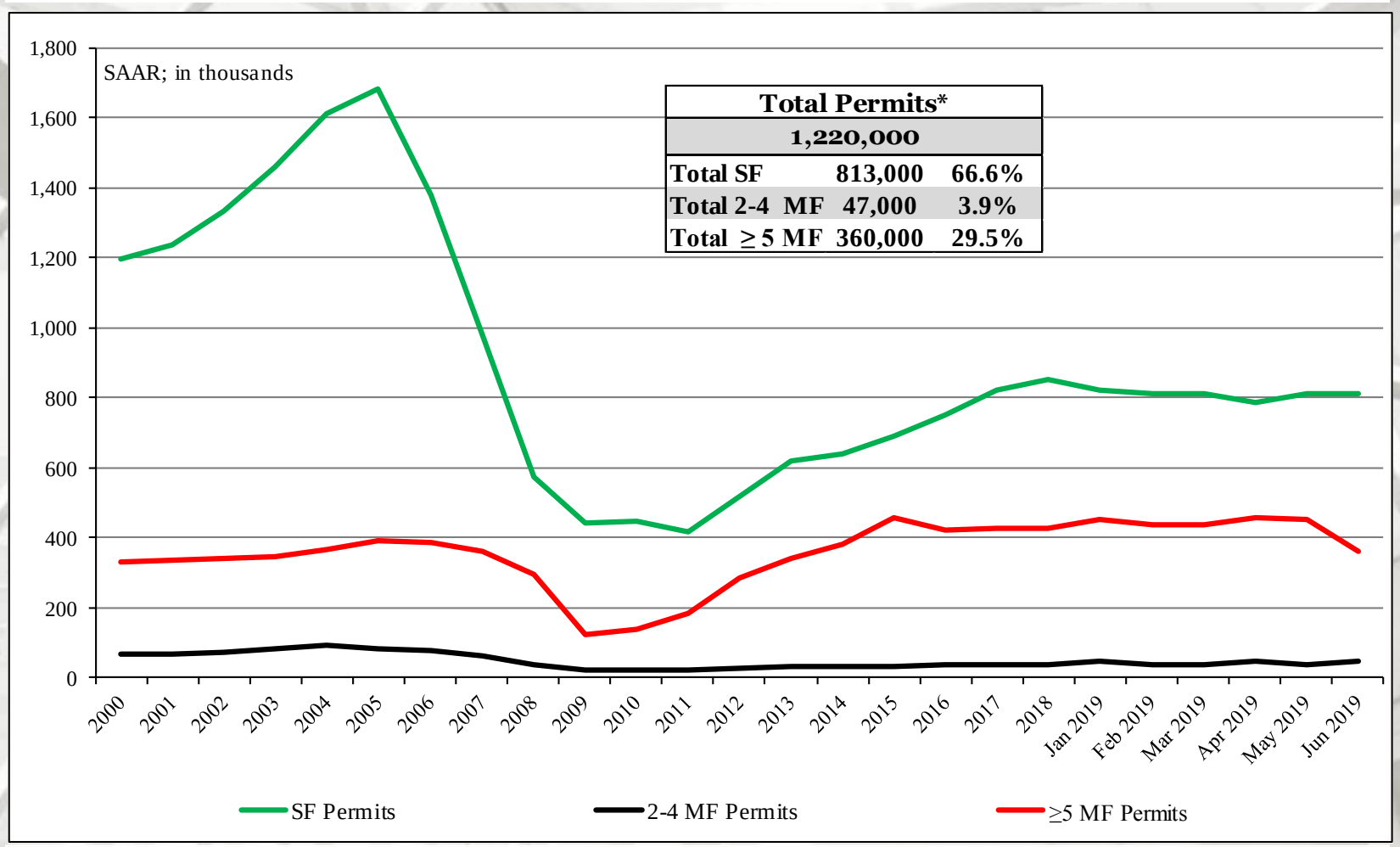
Total New Housing Permits



* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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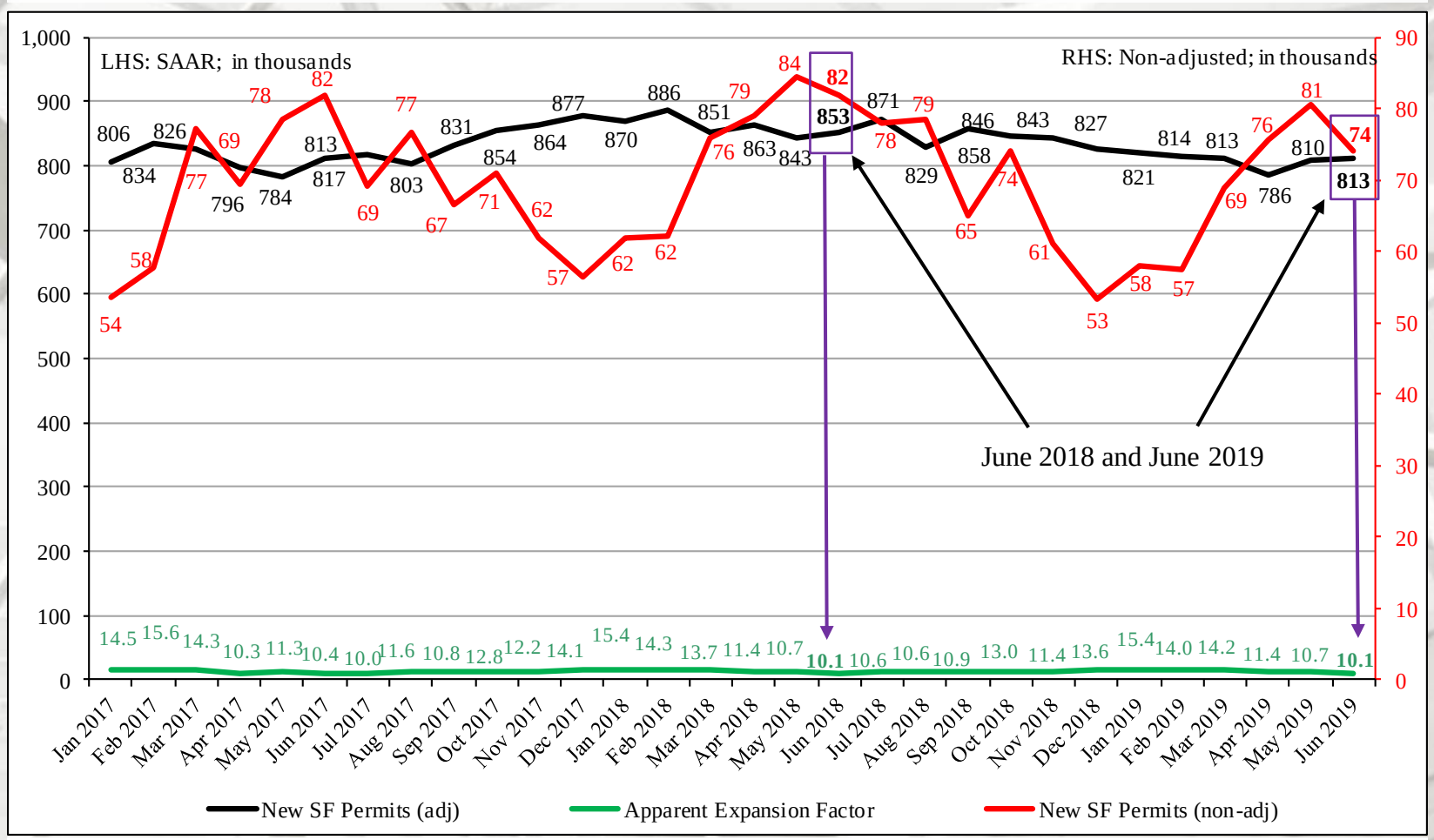
Nominal & SAAR SF Permits



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; 7/17/19

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New Housing Permits by Region

	NE Total*	NE SF	NE MF**
June	117,000	52,000	65,000
May	96,000	49,000	47,000
2018	126,000	54,000	72,000
M/M change	21.9	6.1	38.3
Y/Y change	-7.1	-3.7	-9.7
	MW Total*	**MW SF**	**MW MF****
June	172,000	116,000	56,000
May	173,000	111,000	62,000
2018	173,000	114,000	59,000
M/M change	-0.6	4.5	-9.7
Y/Y change	-0.6	1.8	-5.1

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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New Housing Permits by Region

	S Total*	S SF	S MF**
June	618,000	453,000	165,000
May	690,000	461,000	229,000
2018	681,000	485,000	196,000
M/M change	-10.4	-1.7	-27.9
Y/Y change	-9.3	-6.6	-15.8

	W Total*	W SF	W MF**
June	313,000	192,000	121,000
May	340,000	189,000	151,000
2018	326,000	200,000	126,000
M/M change	-7.9	1.6	-19.9
Y/Y change	-4.0	-4.0	-4.0

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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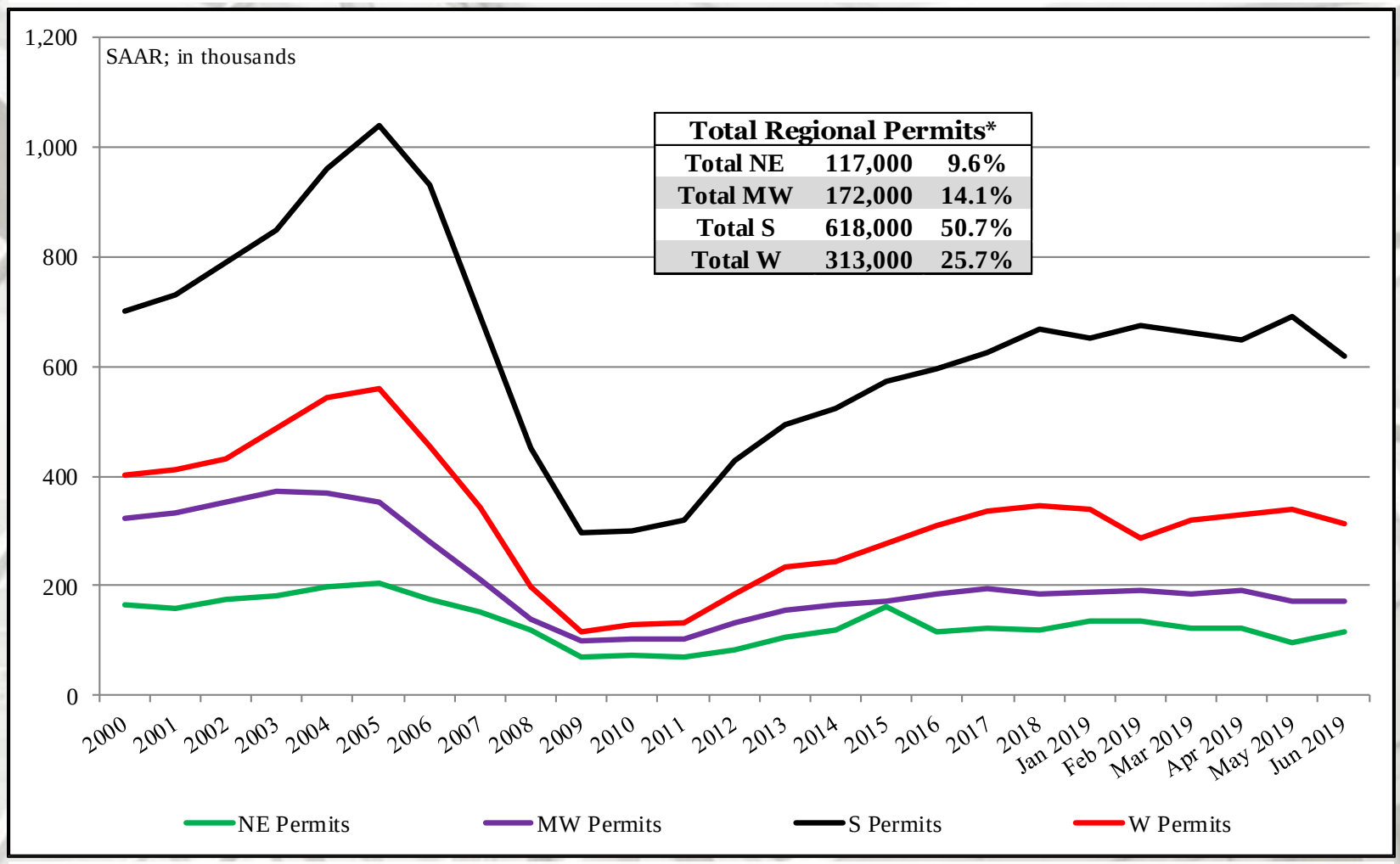
Total Housing Permits by Region



Total Regional Permits*		
Total NE	117,000	9.6%
Total MW	172,000	14.1%
Total S	618,000	50.7%
Total W	313,000	25.7%

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

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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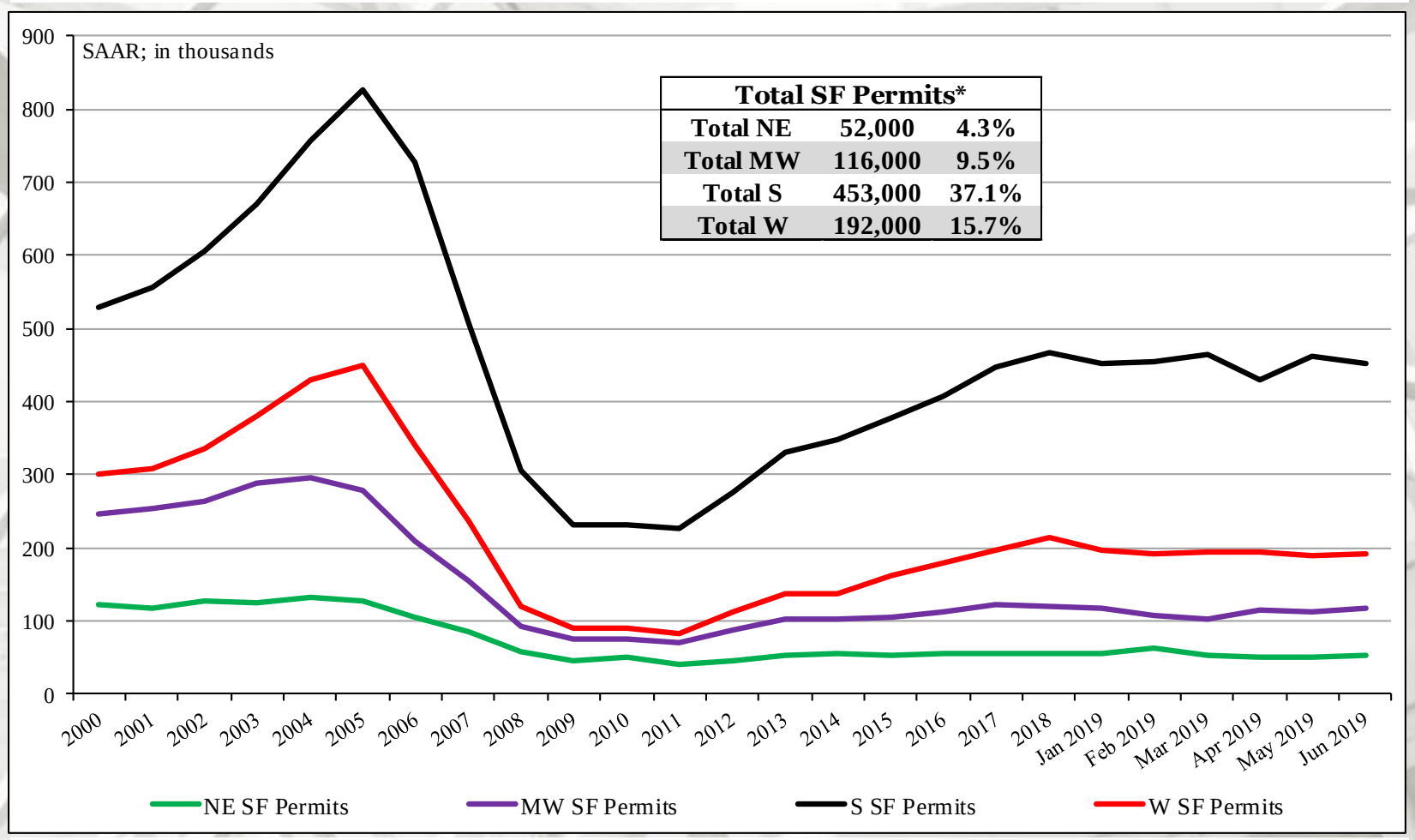
SF Housing Permits by Region



Total SF Permits*		
Total NE	52,000	4.3%
Total MW	116,000	9.5%
Total S	453,000	37.1%
Total W	192,000	15.7%

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

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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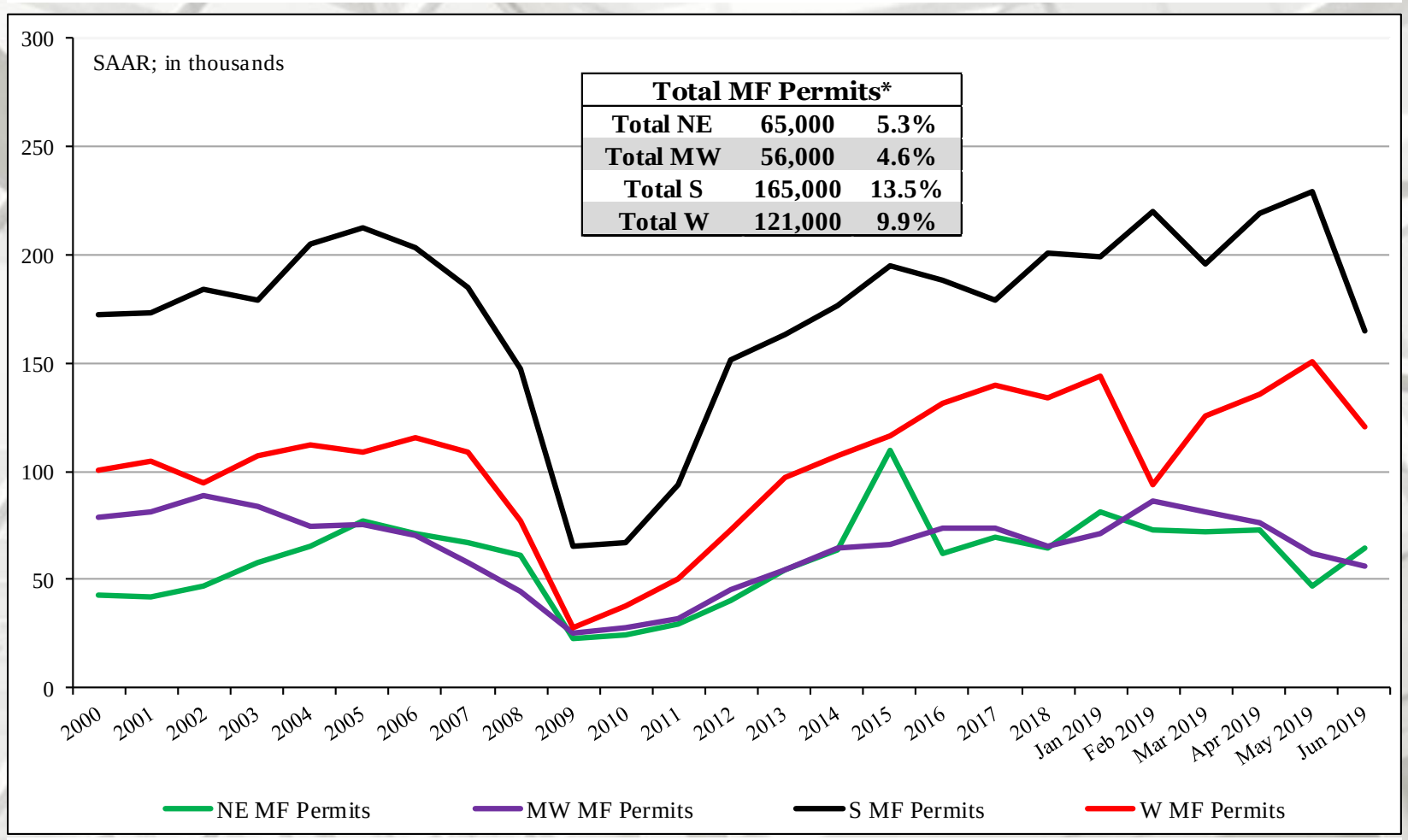
MF Housing Permits by Region



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

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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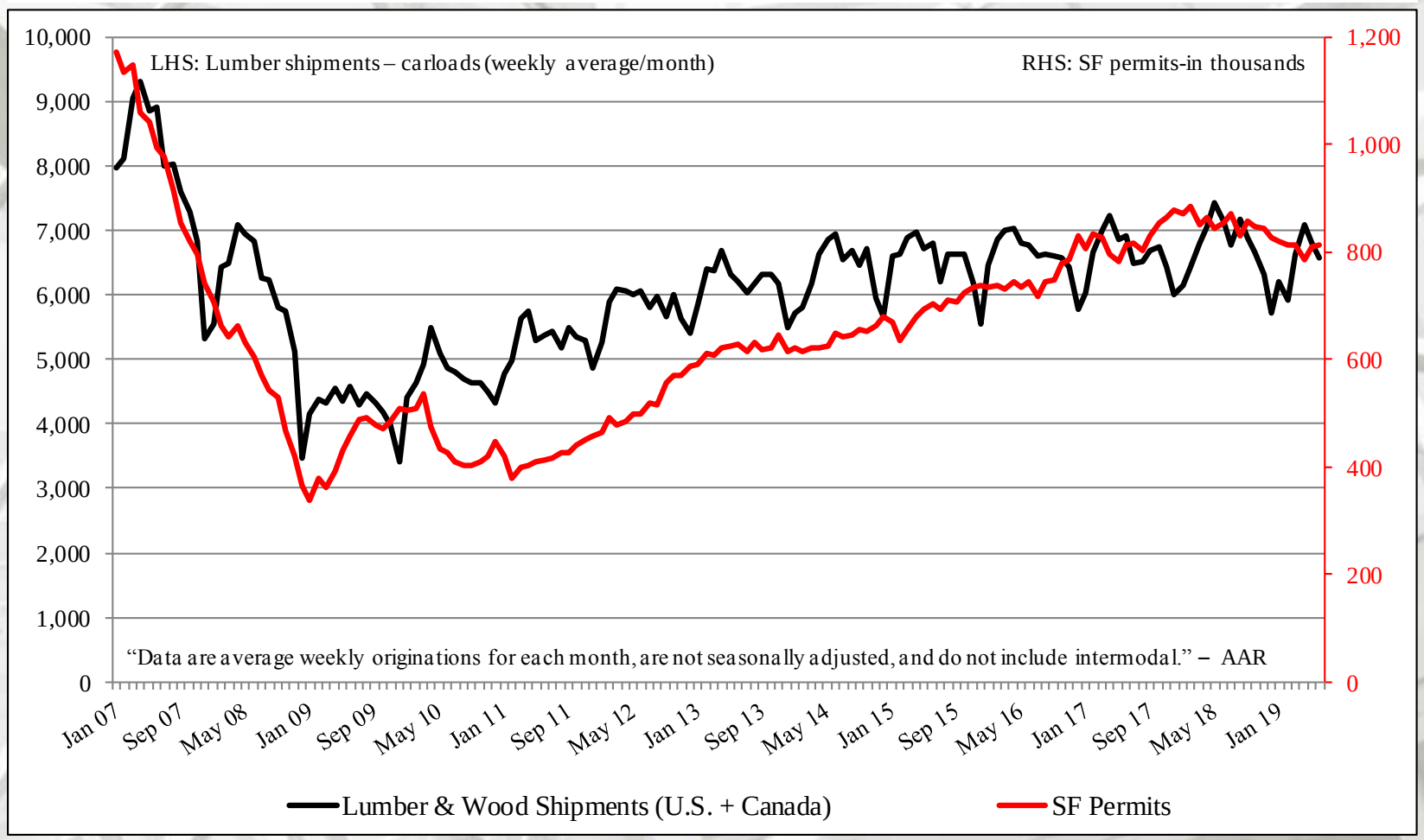
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 7/5/19; U.S. DOC-Construction; 7/17/19

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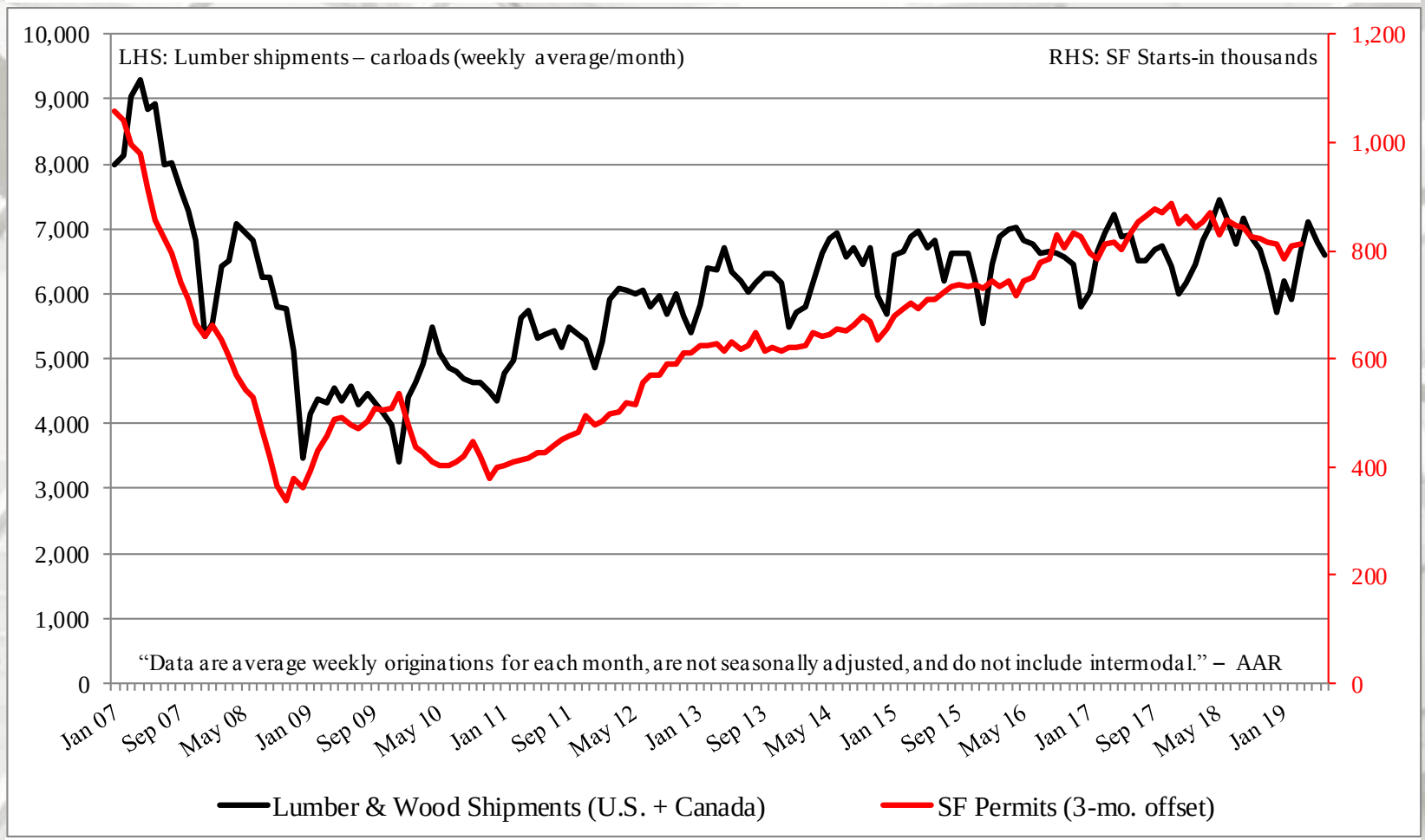
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits: 3-month Offset



In this graph, June 2007 lumber shipments are contrasted with June 2007 SF permits, continuing through June 2019. 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 7/5/19; U.S. DOC-Construction; 7/17/19

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New Housing Under Construction (HUC)

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
July	1,135,000	519,000	11,000	605,000
June	1,129,000	522,000	11,000	596,000
2018	1,121,000	518,000	10,200	591,000
M/M change	0.5	-0.6	0.0	1.5
Y/Y change	1.2	0.2	7.8	2.4

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; 7/17/19

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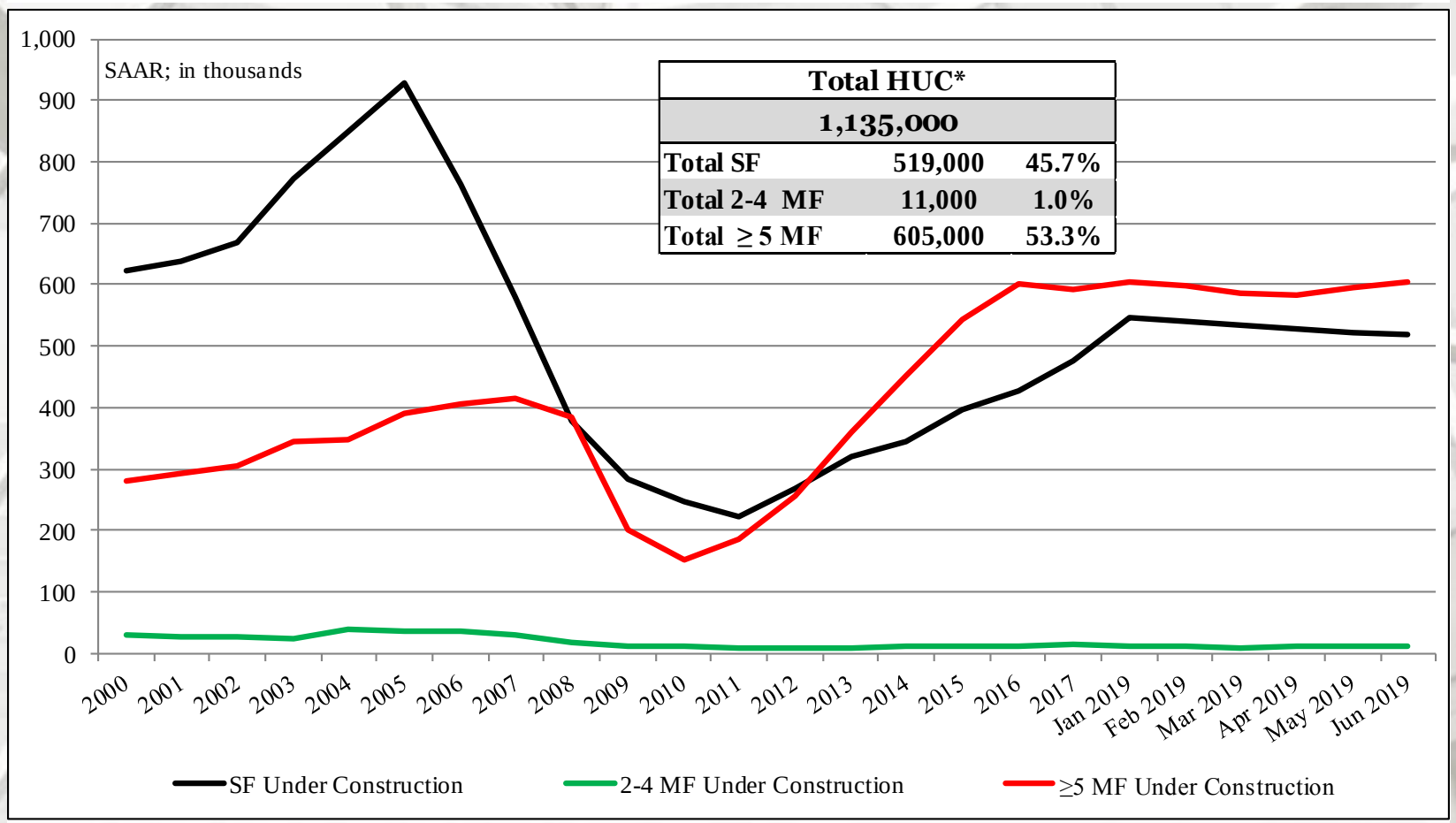
Total Housing Under Construction



US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

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New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
June	180,000	61,000	119,000
May	184,000	64,000	120,000
2018	187,000	57,000	130,000
M/M change	-2.2	-4.7	-0.8
Y/Y change	-3.7	7.0	-8.5
	MW Total	**MW SF**	**MW MF**
June	140,000	75,000	65,000
May	136,000	75,000	61,000
2018	154,000	82,000	72,000
M/M change	2.9	0.0	6.6
Y/Y change	-9.1	-8.5	-9.7

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; 7/17/19

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New Housing Under Construction by Region

	S Total	S SF	S MF**
June	493,000	250,000	243,000
May	489,000	250,000	239,000
2018	448,000	241,000	207,000
M/M change	0.8	0.0	1.7
Y/Y change	10.0	3.7	17.4
	W Total	**W SF**	**W MF**
June	322,000	133,000	189,000
May	320,000	133,000	187,000
2018	332,000	138,000	194,000
M/M change	0.6	0.0	1.1
Y/Y change	-3.0	-3.6	-2.6

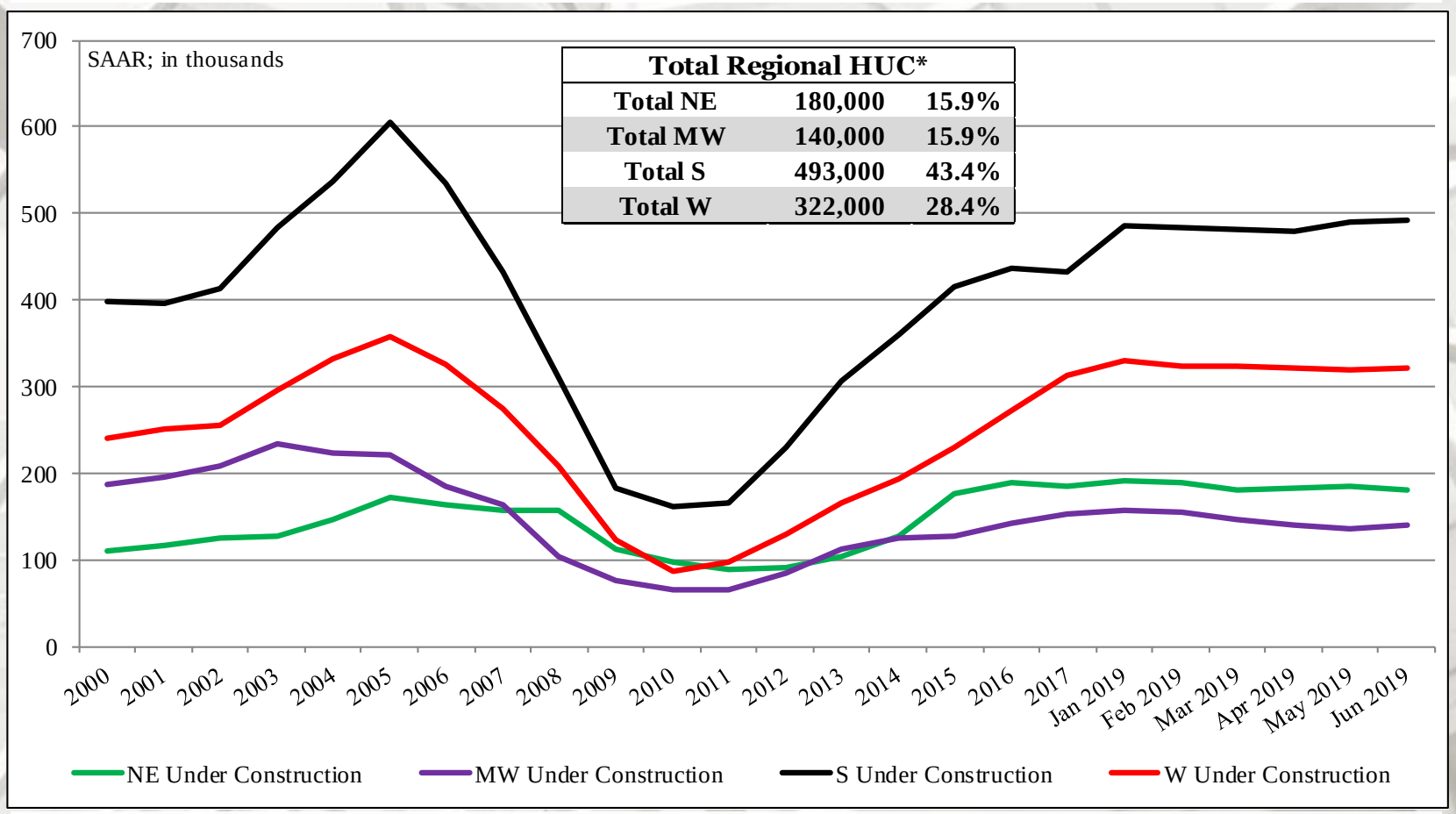
All data are SAAR; S = South and W = West.

** 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; 7/17/19

Return TOC

Total Housing Under Construction by Region



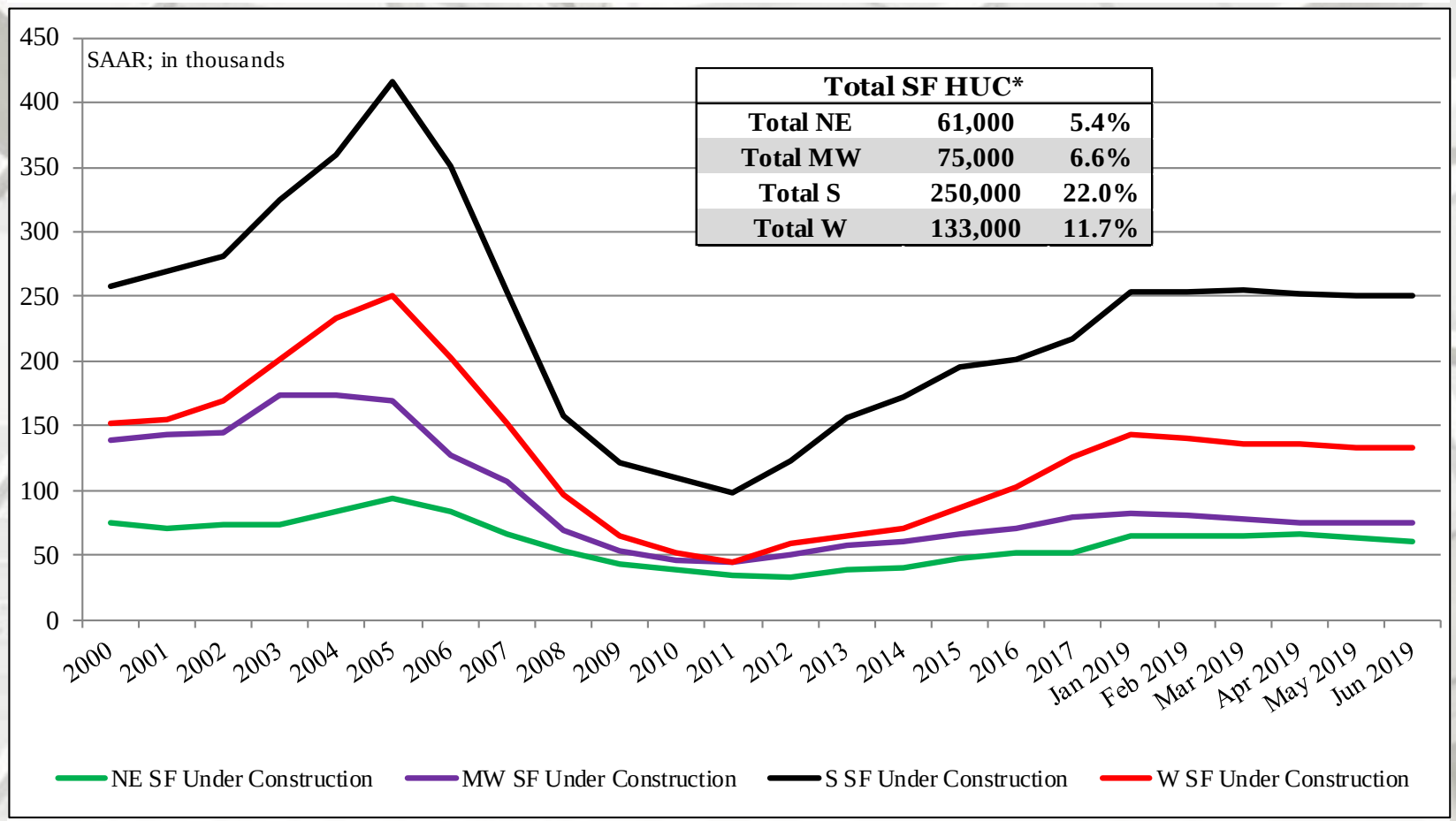
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

SF Housing Under Construction by Region



Total SF HUC*		
Total NE	61,000	5.4%
Total MW	75,000	6.6%
Total S	250,000	22.0%
Total W	133,000	11.7%

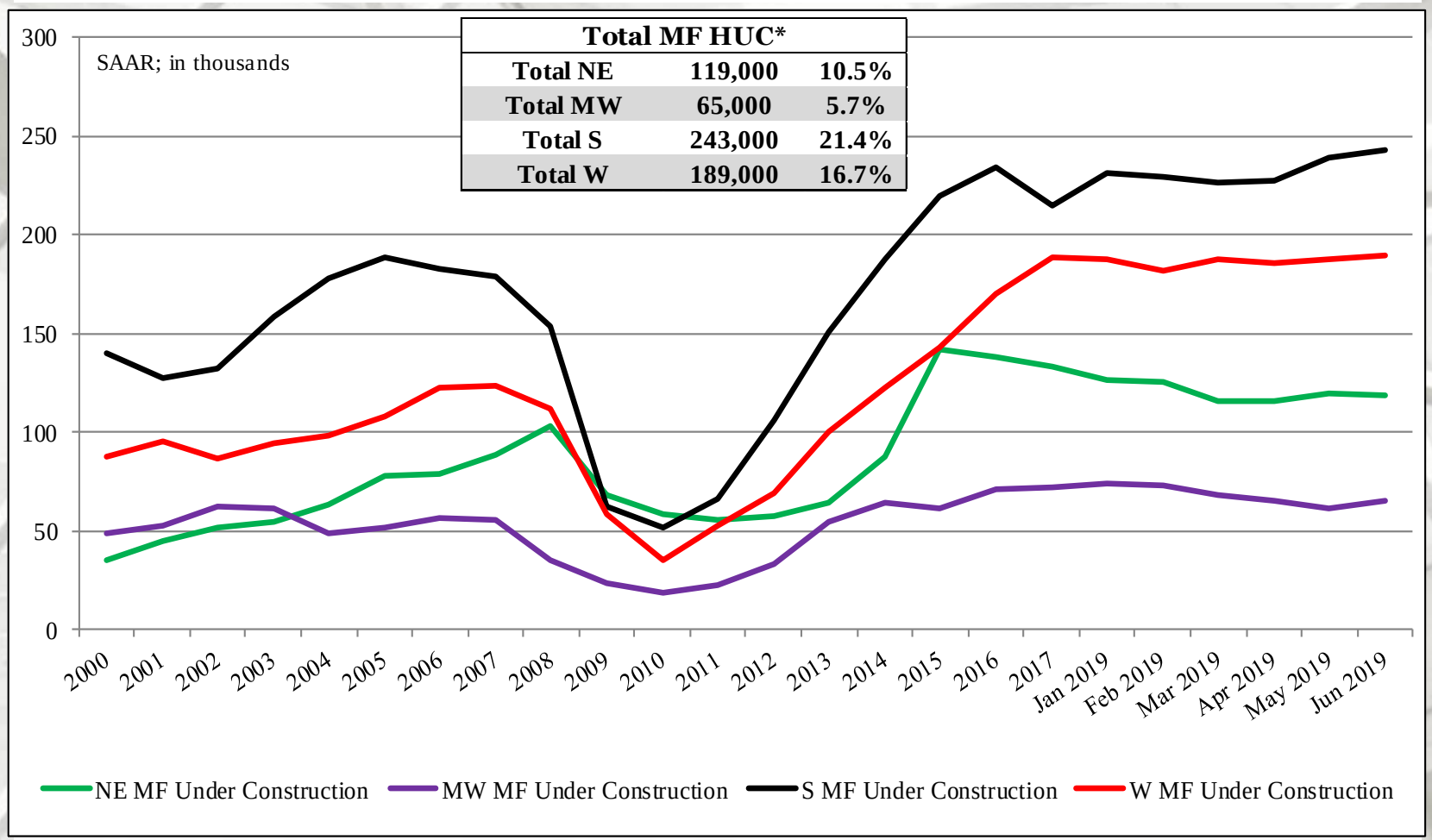
NE = Northeast, MW = Midwest, S = South, W = West.
US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

MF Housing Under Construction by Region



Total MF HUC*		
Total NE	119,000	10.5%
Total MW	65,000	5.7%
Total S	243,000	21.4%
Total W	189,000	16.7%

NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
June	1,161,000	870,000	8,000	283,000
May	1,220,000	886,000	5,000	329,000
2018	1,205,000	856,000	7,000	342,000
M/M change	-4.8%	-1.8%	60.0%	-14.0%
Y/Y change	-3.7%	1.6%	14.3%	-17.3%

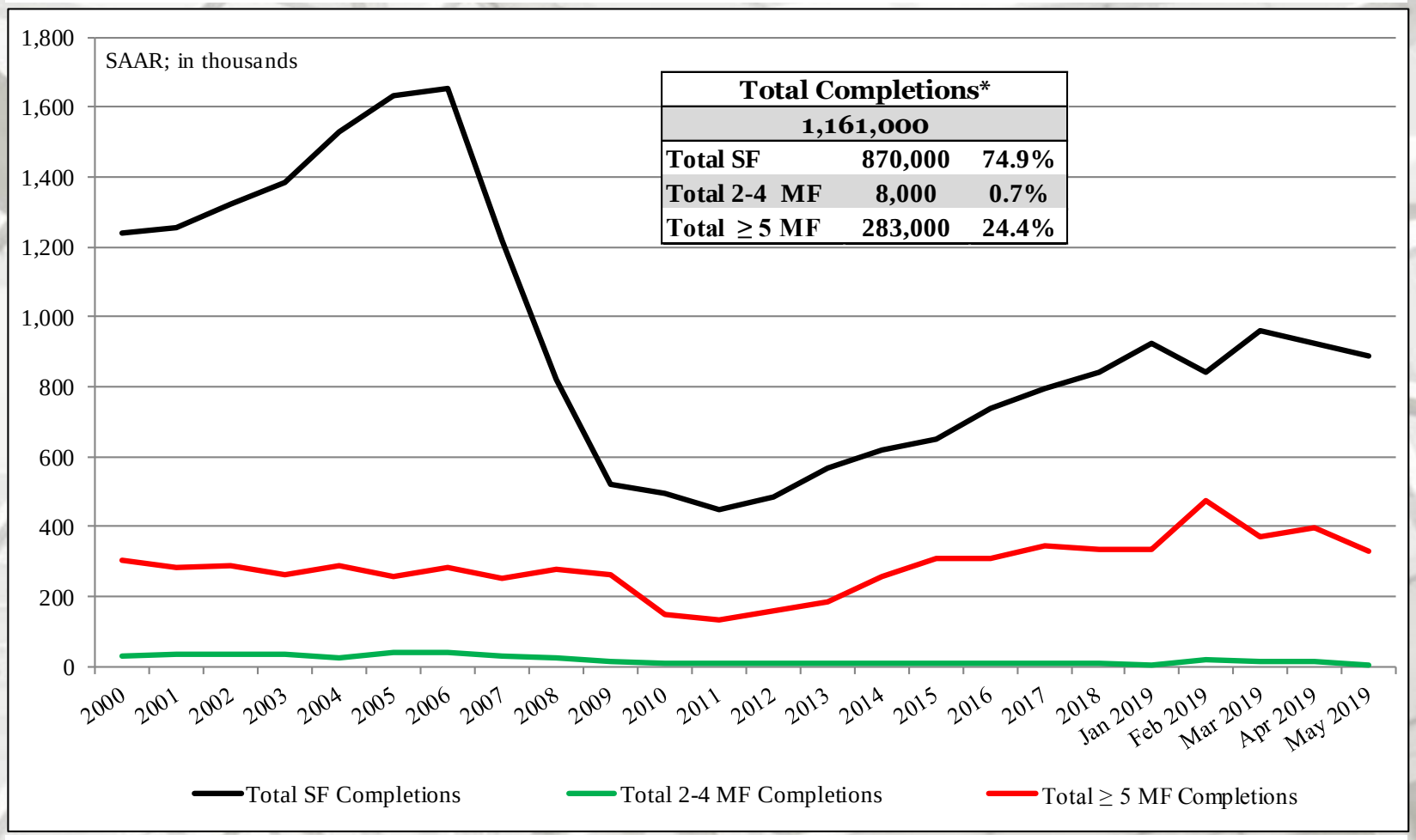
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

** 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; 7/17/19

Return TOC

Total Housing Completions



Total Completions*		
1,161,000		
Total SF	870,000	74.9%
Total 2-4 MF	8,000	0.7%
Total ≥ 5 MF	283,000	24.4%

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

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

New Housing Completions by Region

	NE Total	NE SF	NE MF**
June	116,000	73,000	43,000
April	103,000	71,000	32,000
2018	78,000	49,000	29,000
M/M change	12.6%	2.8%	34.4%
Y/Y change	48.7%	49.0%	48.3%
	MW Total	**MW SF**	**MW MF**
June	140,000	124,000	16,000
April	205,000	115,000	90,000
2018	169,000	118,000	51,000
M/M change	-31.7%	7.8%	-82.2%
Y/Y change	-17.2%	5.1%	-68.6%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

New Housing Completions by Region

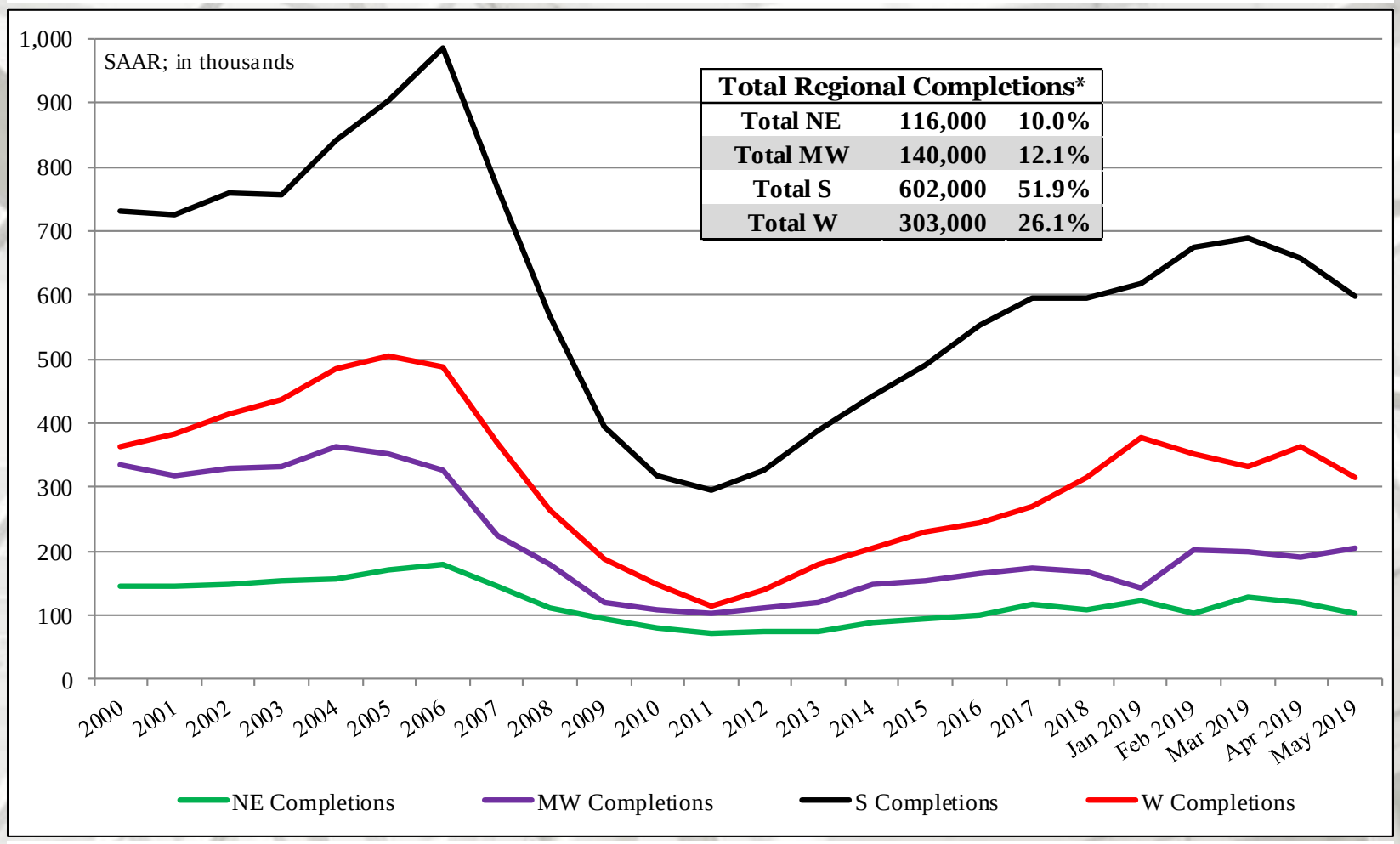
	S Total	S SF	S MF**
June	602,000	472,000	130,000
April	598,000	487,000	111,000
2018	602,000	444,000	158,000
M/M change	0.7%	-3.1%	17.1%
Y/Y change	0.0%	6.3%	-17.7%
	W Total	**W SF**	**W MF**
June	303,000	201,000	102,000
April	314,000	213,000	101,000
2018	356,000	245,000	111,000
M/M change	-3.5%	-5.6%	1.0%
Y/Y change	-14.9%	-18.0%	-8.1%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

Total Housing Completions by Region



Total Regional Completions*		
Total NE	116,000	10.0%
Total MW	140,000	12.1%
Total S	602,000	51.9%
Total W	303,000	26.1%

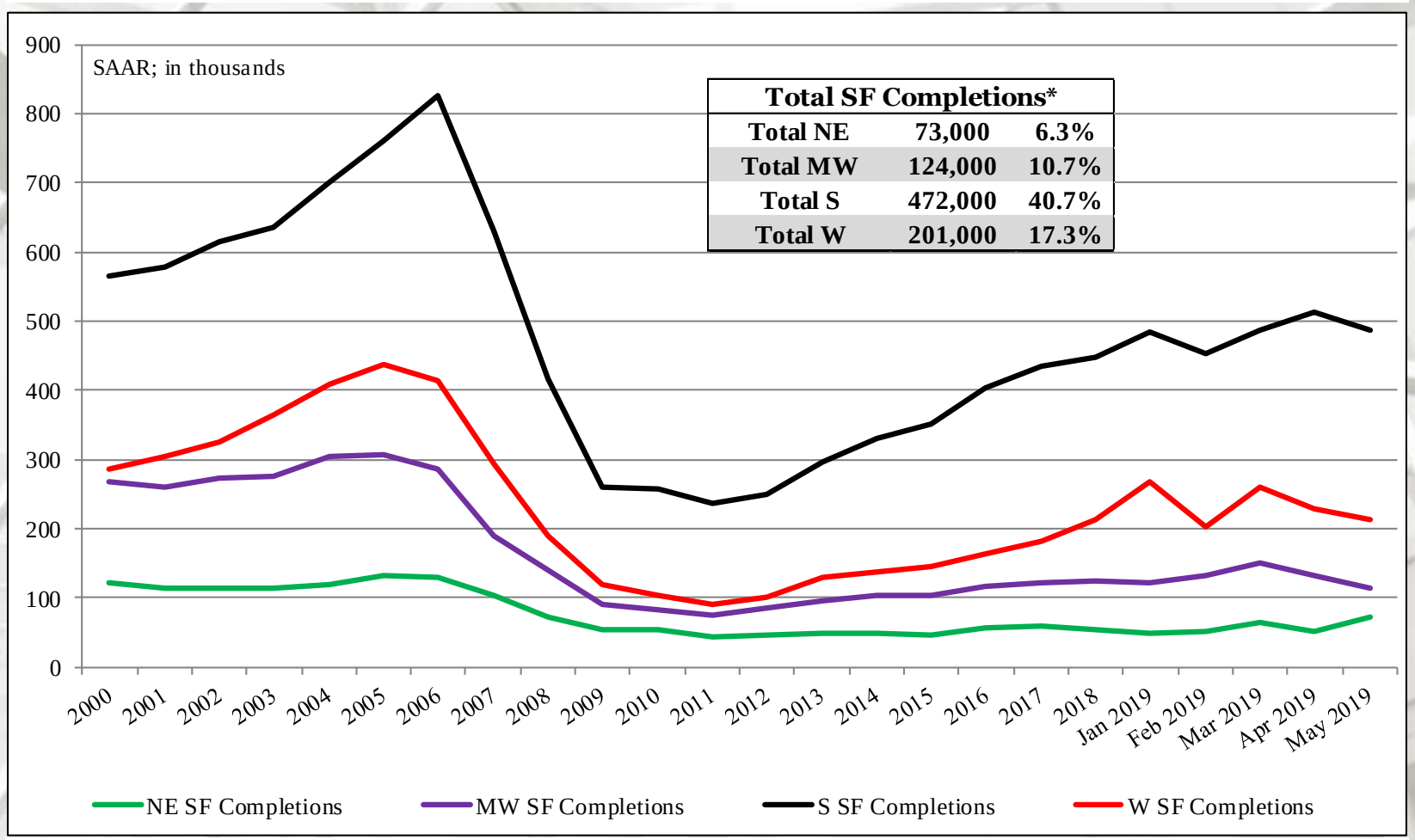
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

SF Housing Completions by Region



Total SF Completions*		
Total NE	73,000	6.3%
Total MW	124,000	10.7%
Total S	472,000	40.7%
Total W	201,000	17.3%

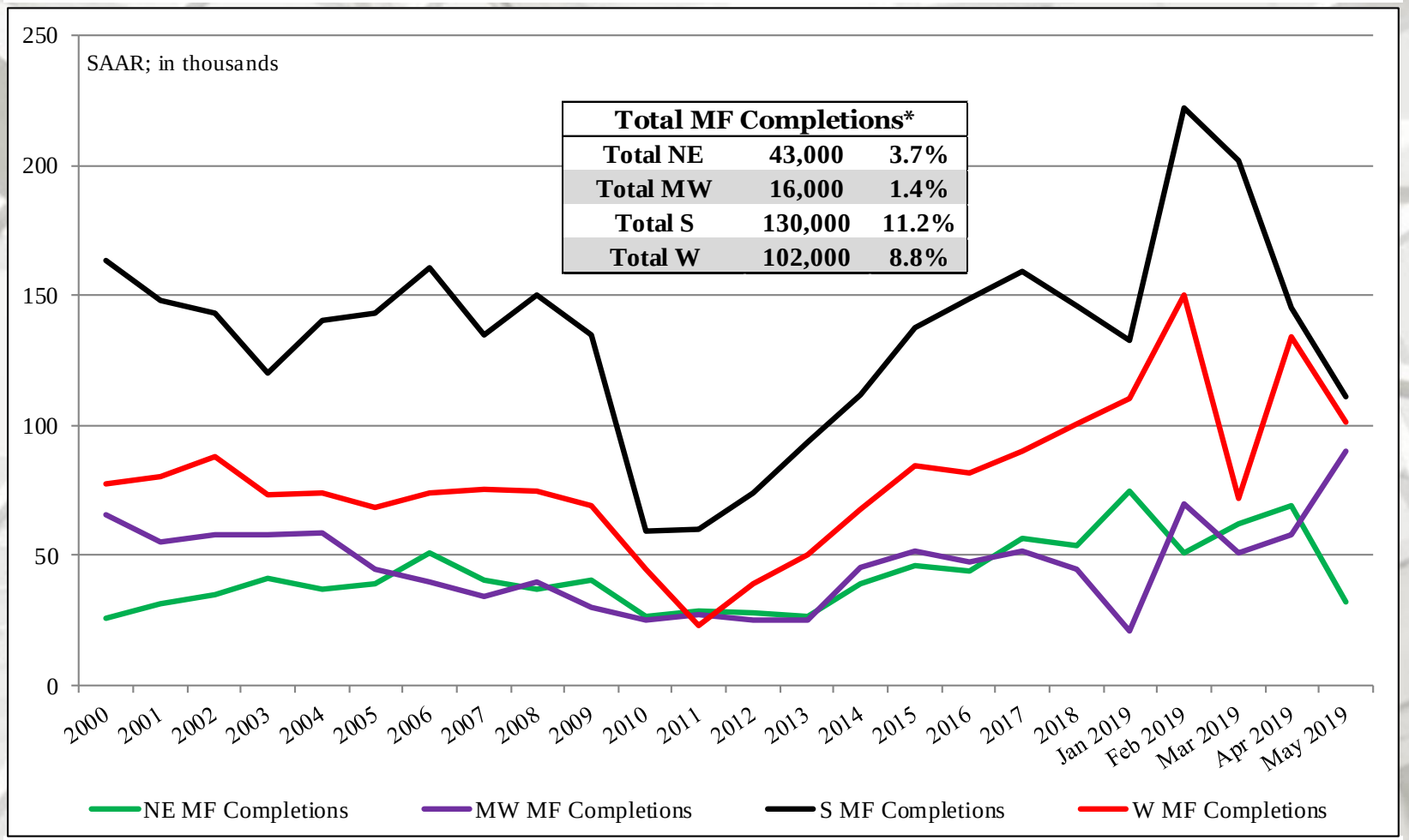
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly, this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

MF Housing 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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/17/19

Return TOC

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
June	646,000	$310,400	$368,600	6.3
May	604,000	$303,500	$371,200	6.7
2018	618,000	$310,500	$370,100	6.0
M/M change	7.0%	2.3%	-0.7%	-6.0%
Y/Y change	4.5%	0.0%	-0.4%	5.0%

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

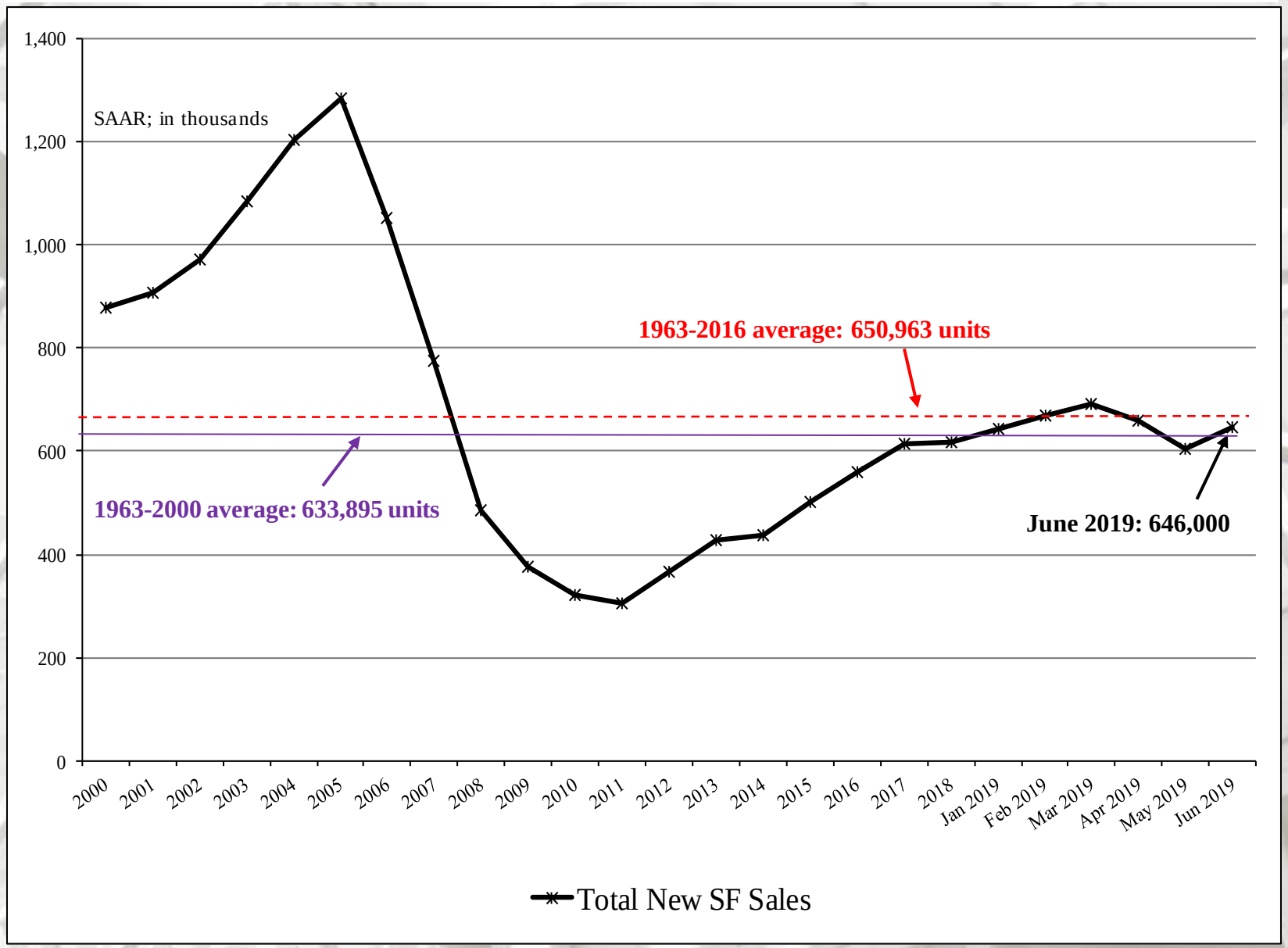
New SF sales were less than the consensus forecast[3] of 660 m (range: 635 m to 676 m). The past three month's new SF sales data also were revised:

March initial:	692 m revised to 693 m;
April initial:	673 m revised to 658 m;
May initial:	626 m revised to 604 m.

Sources: [1] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/24/19; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf
[3] http://us.econoday.com/; 7/24/19

Return TOC

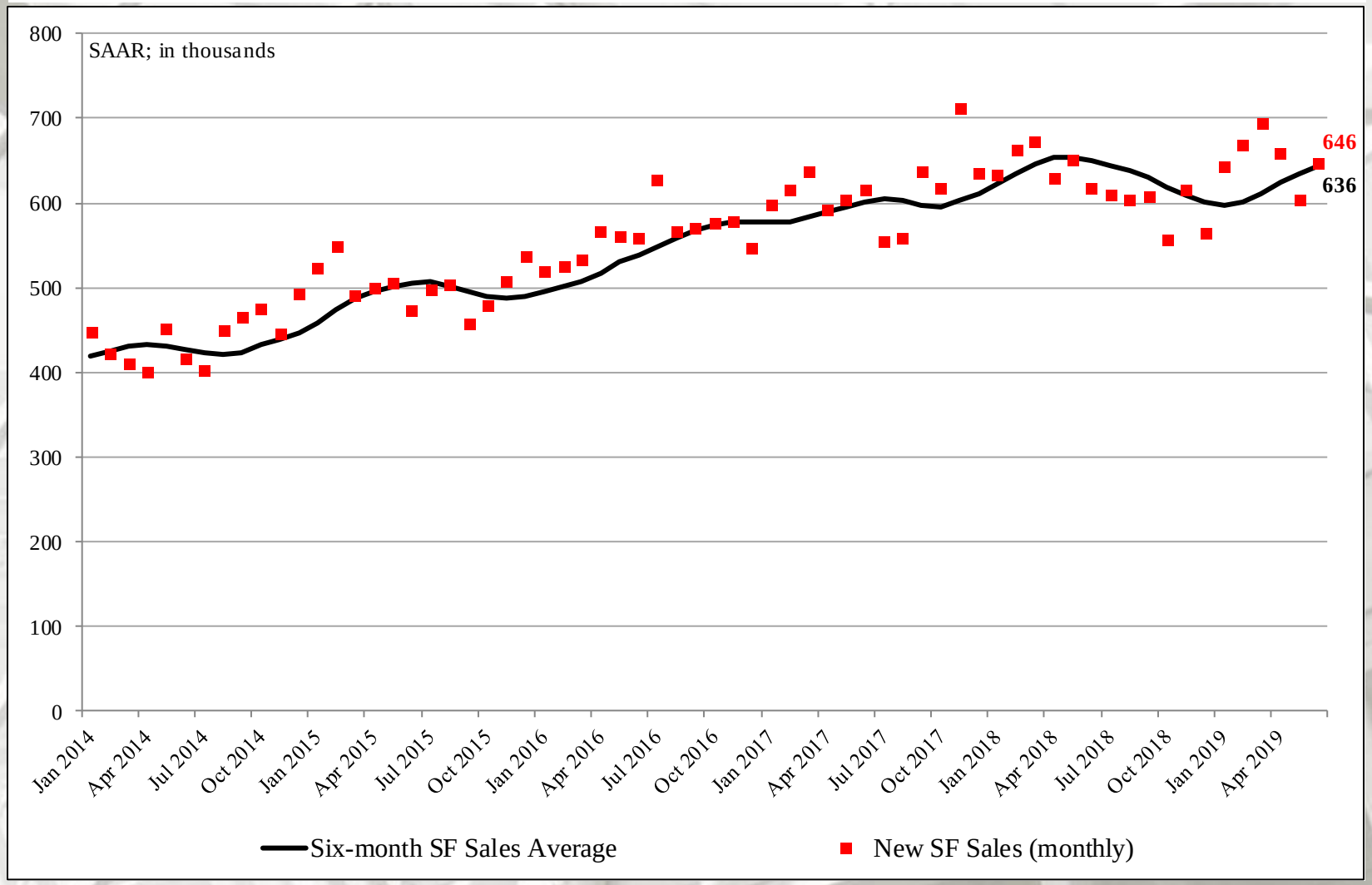
New SF House Sales



Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF Housing Sales: Six-month average & monthly



Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales by Region and Price Category

	NE	MW	S	W
June	23,000	56,000	382,000	185,000
May	24,000	76,000	381,000	123,000
2018	46,000	68,000	349,000	155,000
M/M change	-4.2%	-26.3%	0.3%	50.4%
Y/Y change	-50.0%	-17.6%	9.5%	19.4%

	≤ $150m	$150 - $199.9m	$200 - 299.9m	$300 - $399.9m	$400 - $499.9m	$500 - $749.9m	≥ $750m
June[1,2,3,4]	Z[5]	6,000	21,000	15,000	7,000	5,000	3,000
May	2,000	5,000	22,000	13,000	8,000	6,000	3,000
2018	1,000	4,000	15,000	12,000	6,000	7,000	3,000
M/M change		20.0%	-4.5%	15.4%	-12.5%	-16.7%	0.0%
Y/Y change		0.0%	10.5%	15.4%	0.0%	-37.5%	50.0%
New SF sales: %	0.0%	10.5%	36.8%	26.3%	12.3%	8.8%	5.3%

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

[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 June not add to total because of rounding.

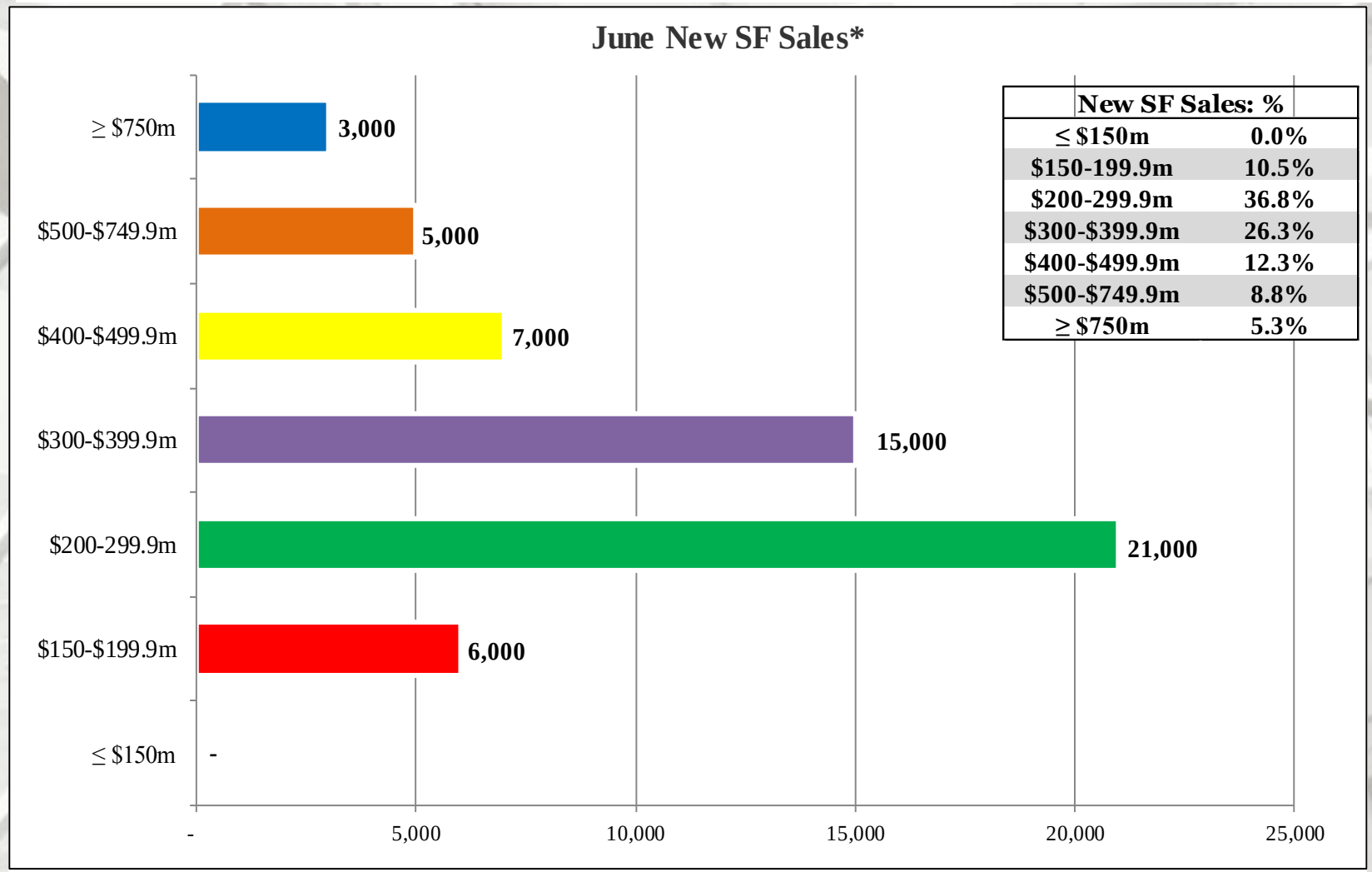
[4] Housing prices are adjusted at irregular intervals.

[5] Z = Less than 500 units or less than 0.5 percent

Sources: [1,2,3] https://www.census.gov/construction/nrs/index.html; 7/24/19;
[4]https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

Return TOC

New SF House Sales



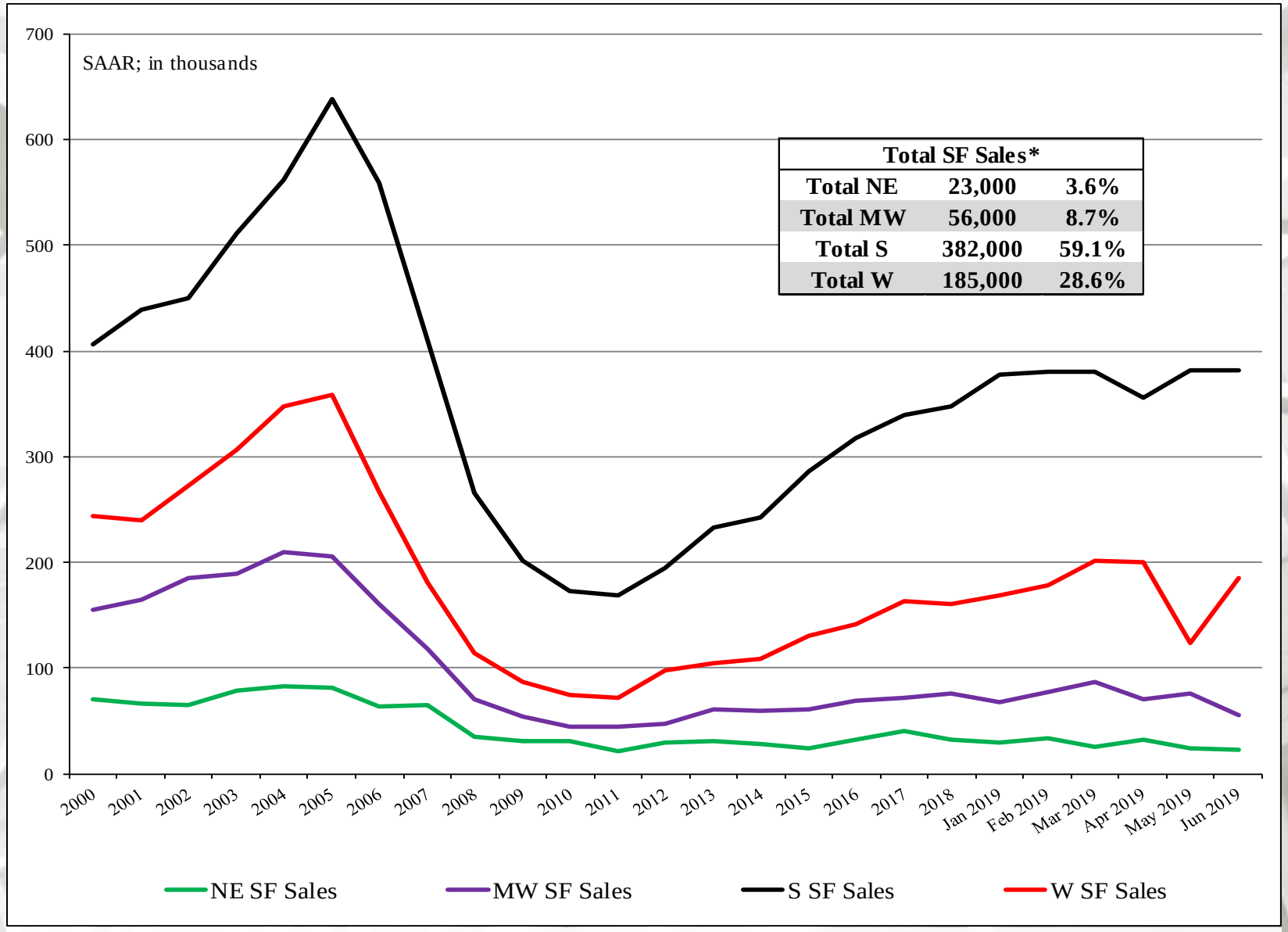
New SF Sales: %	
≤ $150m	0.0%
$150-199.9m	10.5%
$200-299.9m	36.8%
$300-$399.9m	26.3%
$400-$499.9m	12.3%
$500-$749.9m	8.8%
≥ $750m	5.3%

* Total new sales by price category and percent.

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales by Region



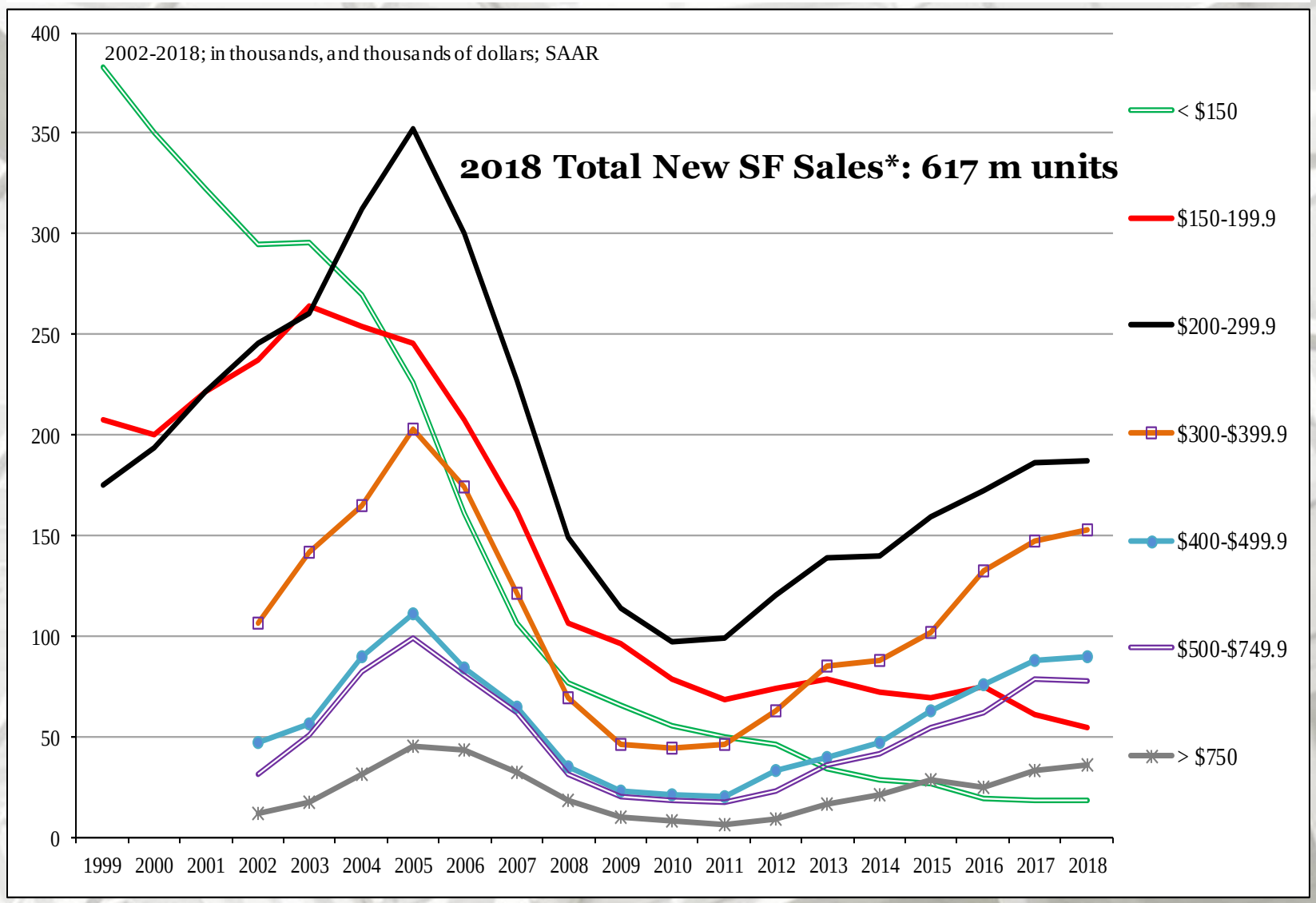
Total SF Sales*		
Total NE	23,000	3.6%
Total MW	56,000	8.7%
Total S	382,000	59.1%
Total W	185,000	28.6%

NE = Northeast; MW = Midwest; S = South; W = West
* Percentage of total new sales.

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales by Price Category



Source: https://www.census.gov/construction/nrs/index.html; 6/25/19

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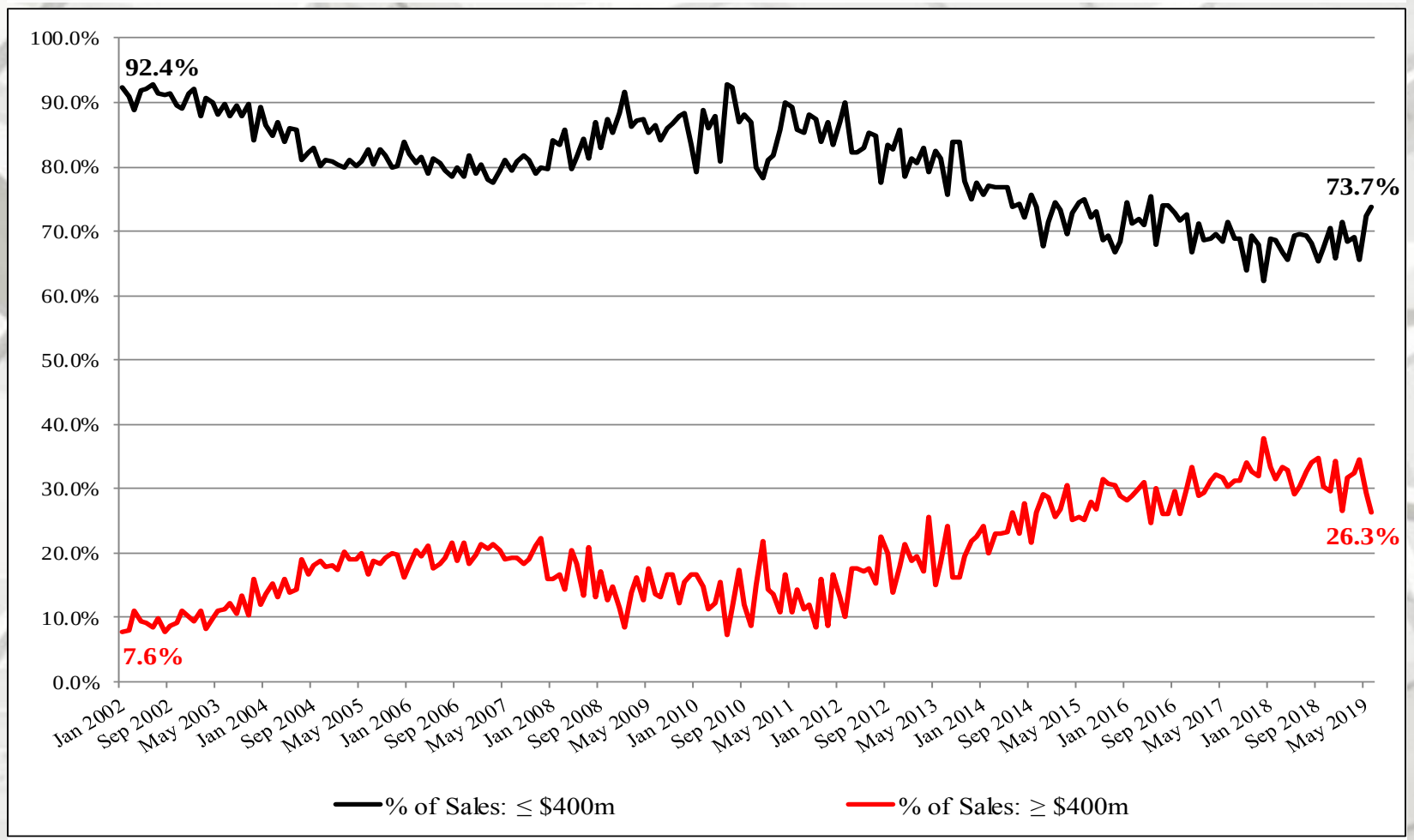
New SF House Sales



New SF Sales $400m houses: 2002 – June 2019

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] https://www.census.gov/construction/nrs/index.html; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 7/24/19

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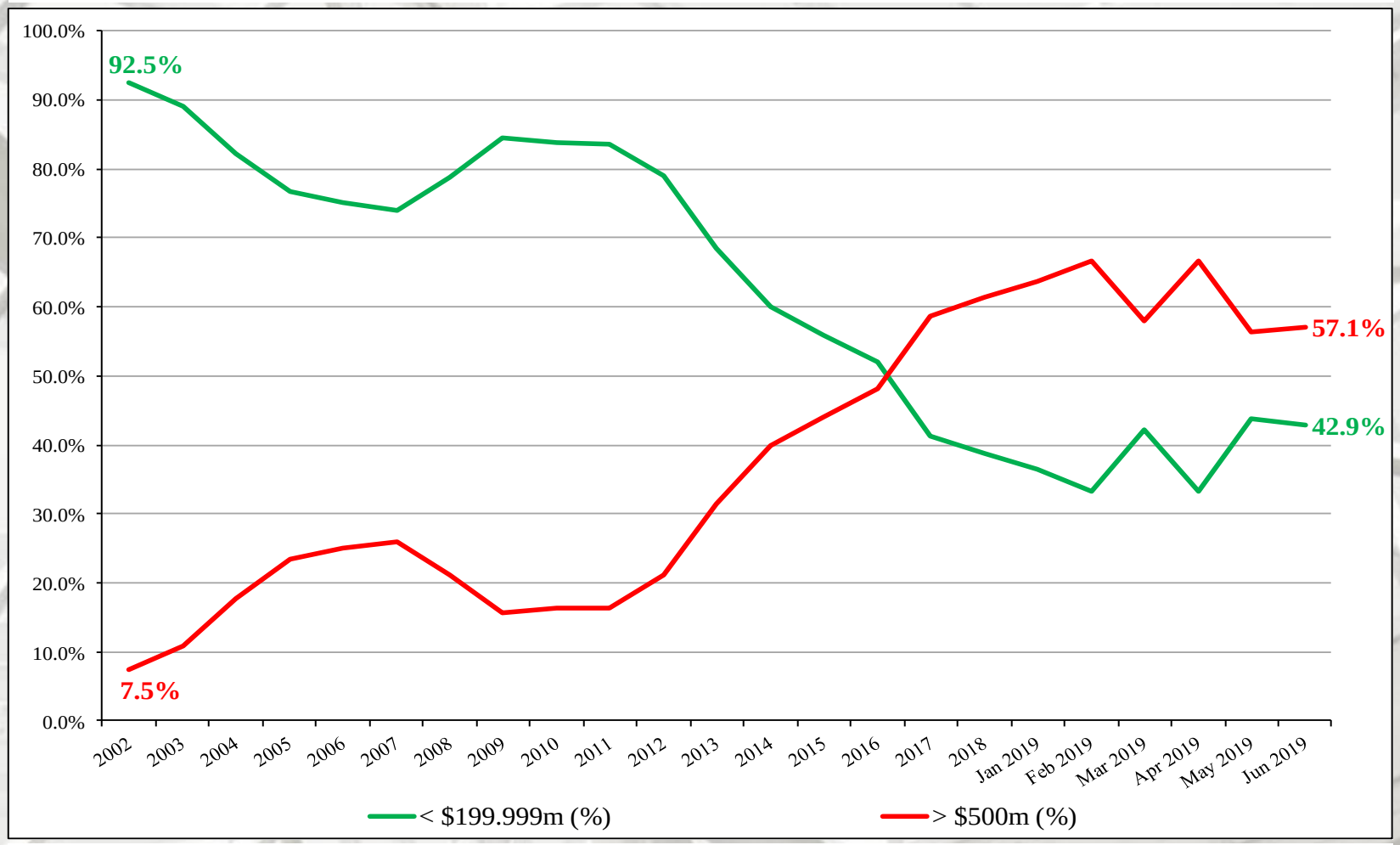
New SF House Sales



New SF Sales: ≤ $ 200m and ≥ $500m: 2002 to June 2019

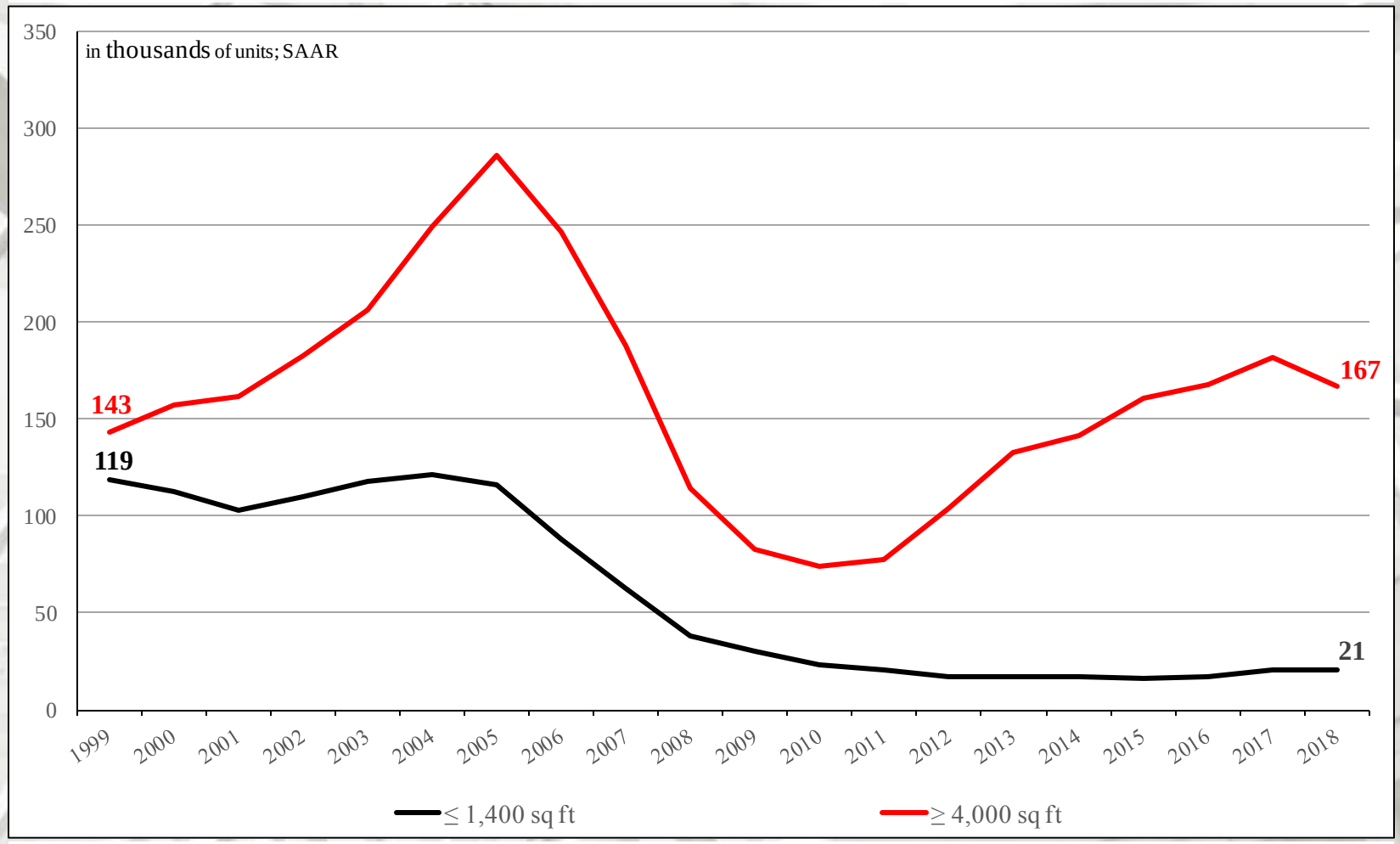
The number of ≤ $200 thousand plus SF houses has declined dramatically since 2002 [1, 2]. Subsequently, from 2012 onward, the ≥ $500 thousand class has soared (on a percentage basis) in contrast to the ≤ $200m class. One of the most oft mentioned reasons for this occurrence is builder net margins.

Note: Sales values are not adjusted for inflation.

Source: [1] https://www.census.gov/construction/nrs/index.html; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 7/24/19

Return TOC

Total New SF House Sales by Square Feet of Floor Area



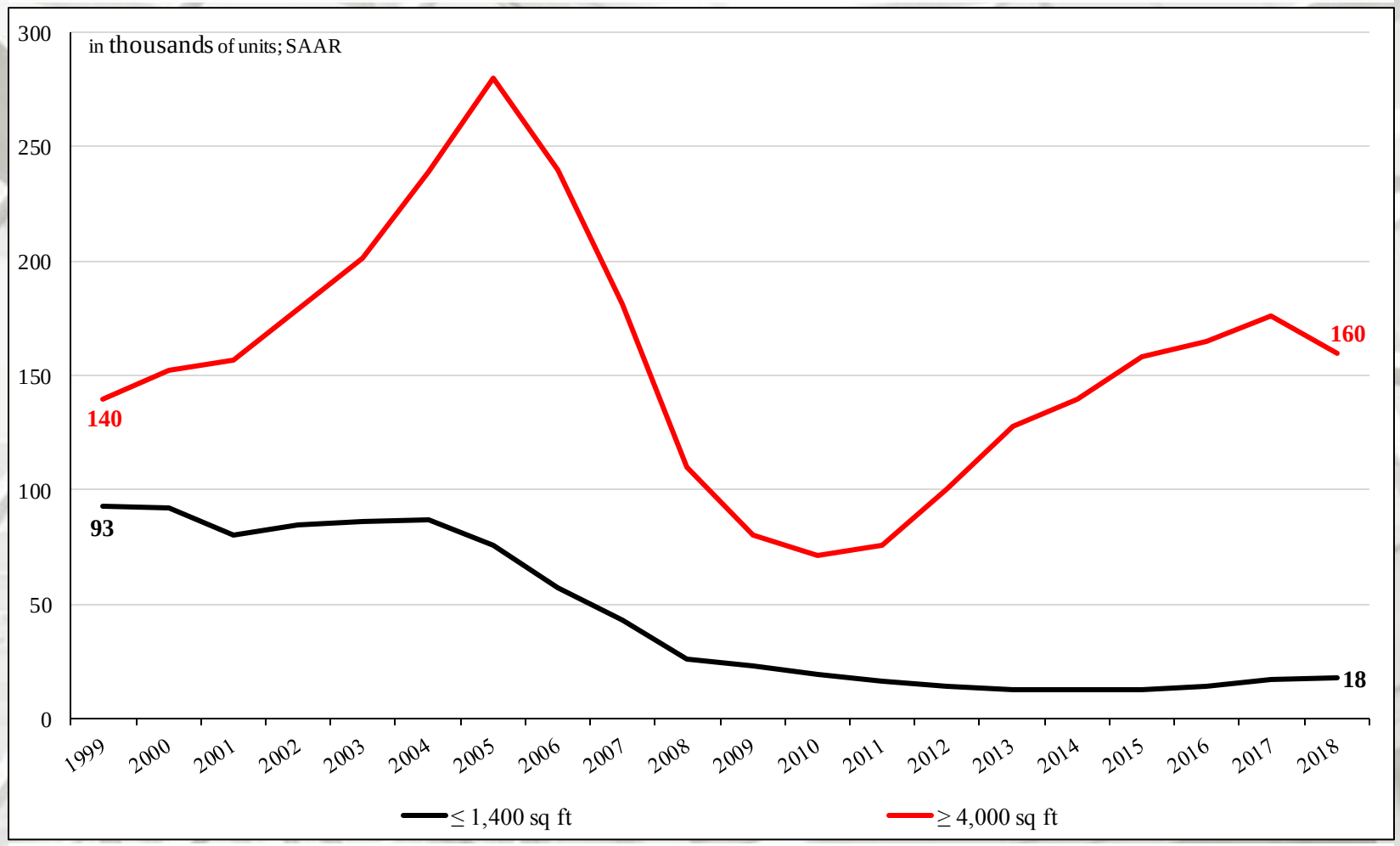
Total new SF Sales: ≤ 1,400 square feet and ≥ 4,000 square feet: 1999 to 2018

The number of SF houses sold (≥4,000 sq ft) has risen dramatically since 2010 in comparison to the ≤ 1,400 sq ft houses. Some of the most oft mentioned reasons for this is builder net margins and regulation.

Source: https://www.census.gov/construction/chars/pdf/soldsquarefeet.pdf ; 7/12/19

Return TOC

New Detached SF House Sales by Square Feet of Floor Area



New Detached SF Sales: ≤ 1,400 square feet and ≥ 4,000 square feet: 1999 to 2018

Source: https://www.census.gov/construction/chars/pdf/soldsquarefeet.pdf ; 7/12/19

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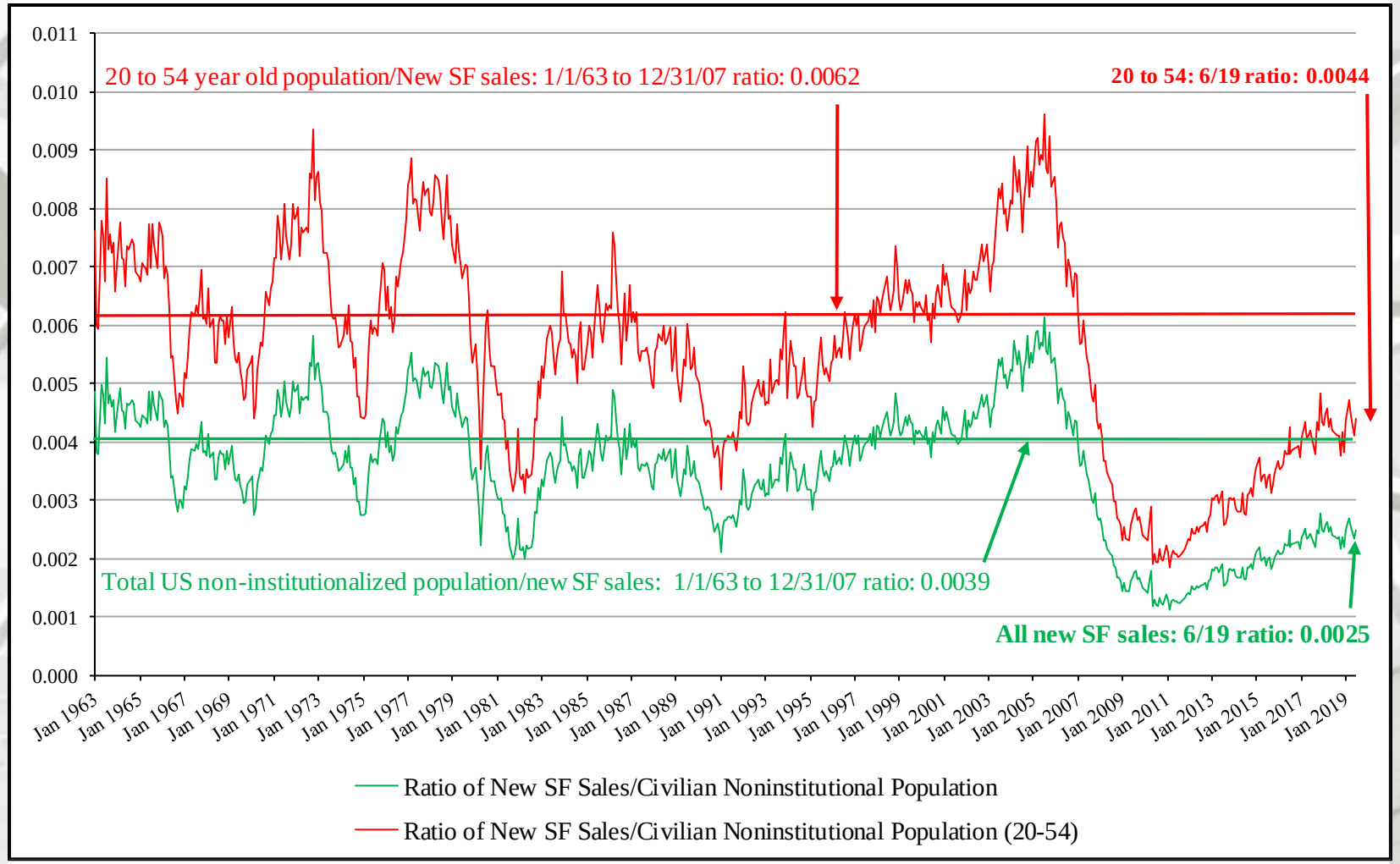
New SF House Sales



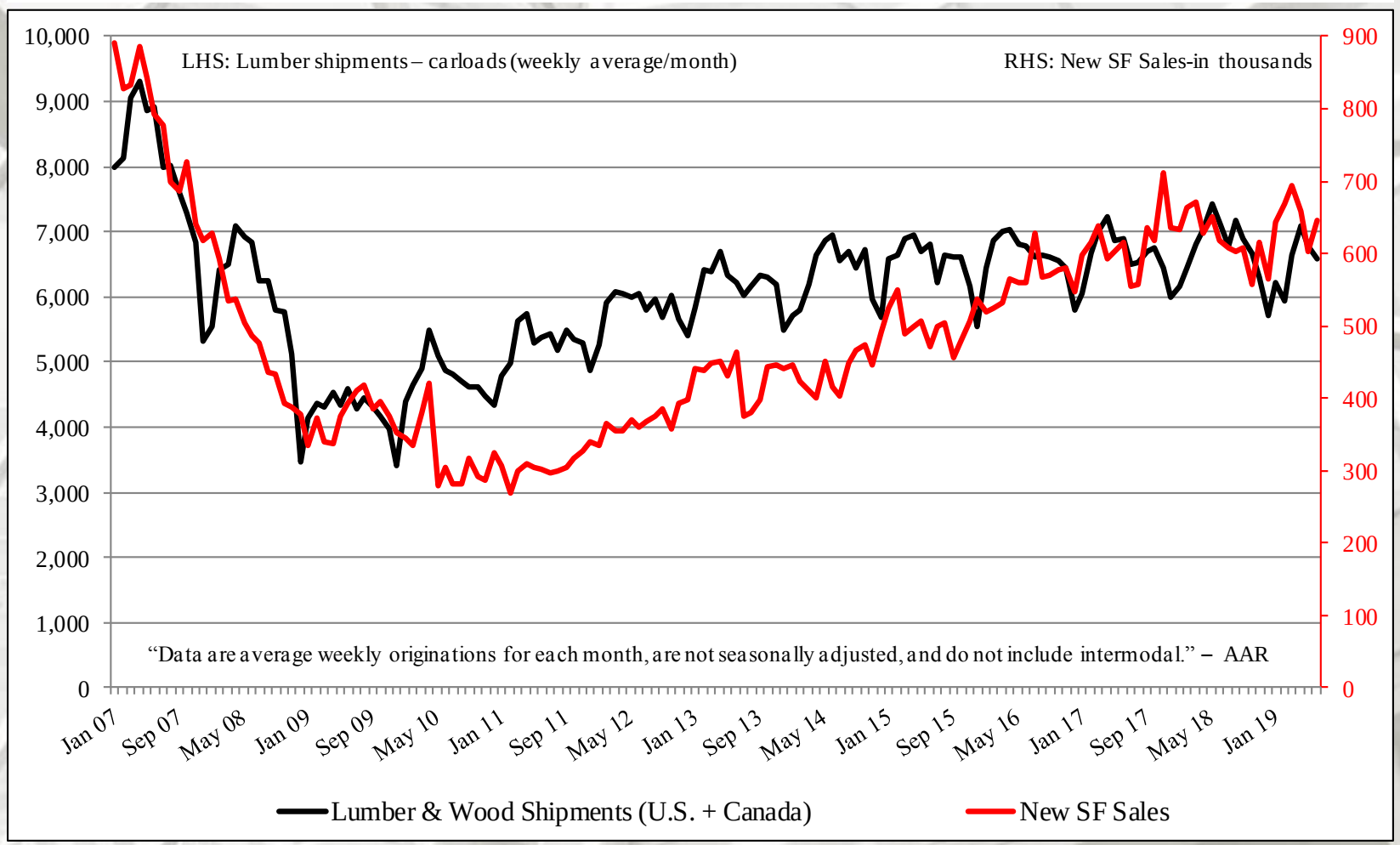
New SF sales adjusted for the US population

From June 1963 to June 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in June 2019 it was 0.0025 – an increase from May (0.0023). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in June 2019 it was 0.0044 – an increase from April (0.0041). 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: https://www.census.gov/construction/nrs/index.html and The Federal Reserve Bank of St. Louis; 7/24/19

Return TOC

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



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 7/5/19; U.S. DOC-Construction; 7/24/19

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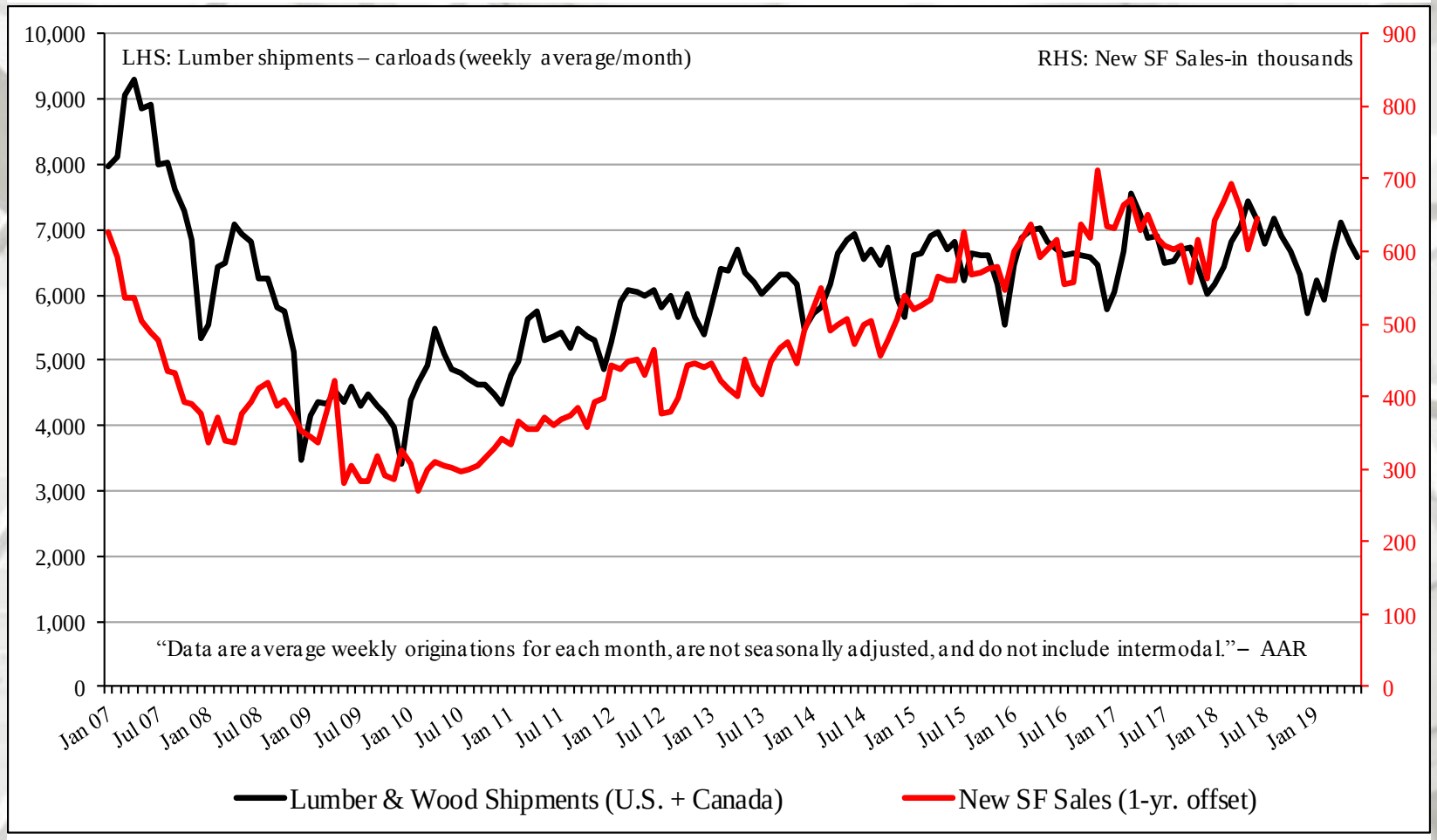
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Sales: 1-year Offset



In this graph, June 2007 lumber shipments are contrasted with June 2008 SF sales, and continuing through June 2019. 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 7/5/19; U.S. DOC-Construction; 7/24/19

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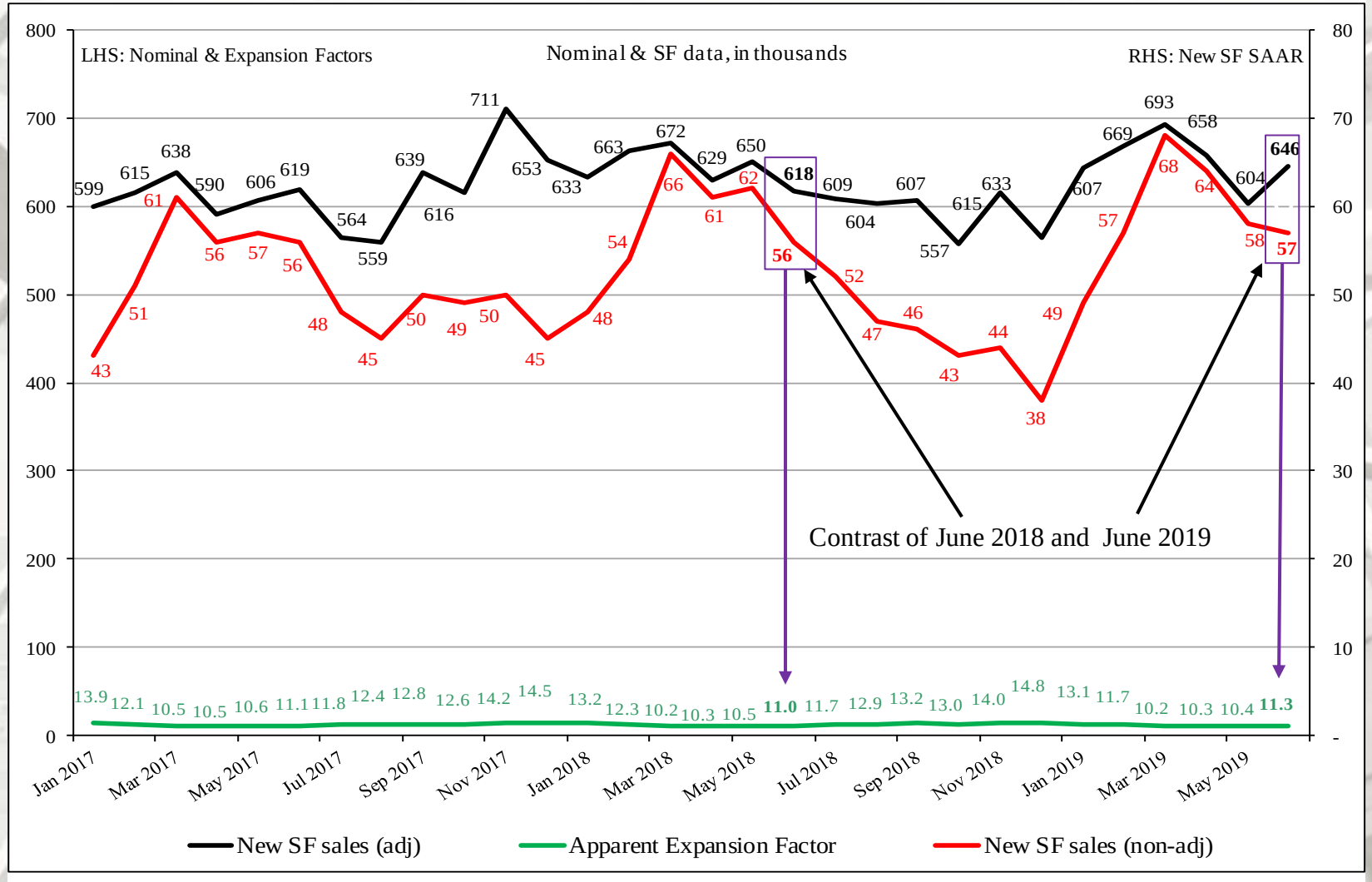
Nominal vs. SAAR New SF House Sales



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: https://www.census.gov/construction/nrs/index.html; 7/24/19

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New SF House Sales

New SF Houses Sold During Period				
	Total	Not started	Under Construction	Completed
June	646,000	205,000	195,000	246,000
May	604,000	153,000	214,000	237,000
2018	618,000	166,000	236,000	216,000
M/M change	7.0%	34.0%	-8.9%	3.8%
Y/Y change	4.5%	23.5%	-17.4%	13.9%
Total percentage		31.7%	30.2%	38.1%

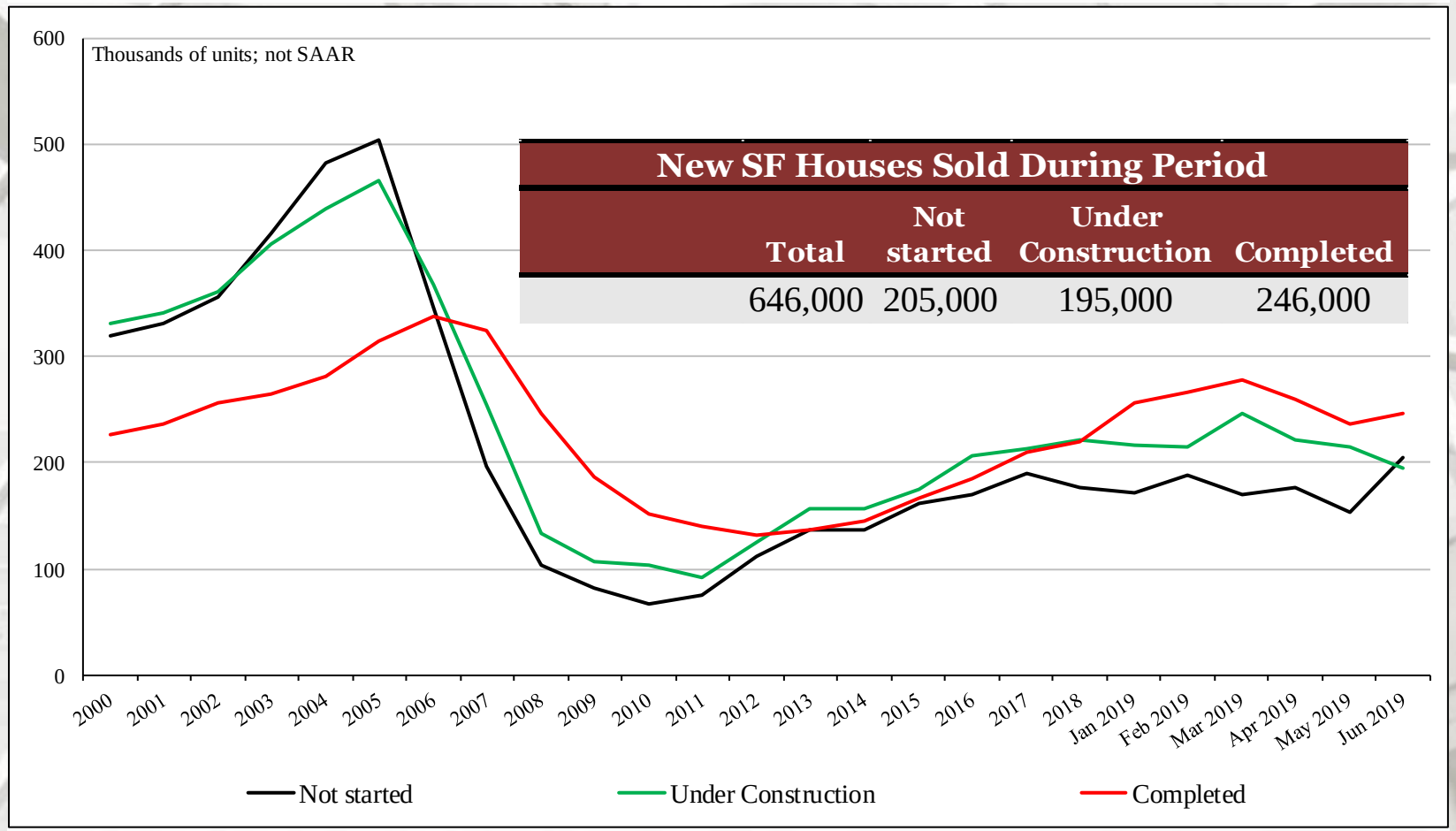
New SF Houses Sold During Period

In June 2018, a substantial portion of new sales, 31.7% – have not been started; an increase from May.
Not SAAR

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales: Sold During Period



New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
	646,000	205,000	195,000	246,000

Not SAAR

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales

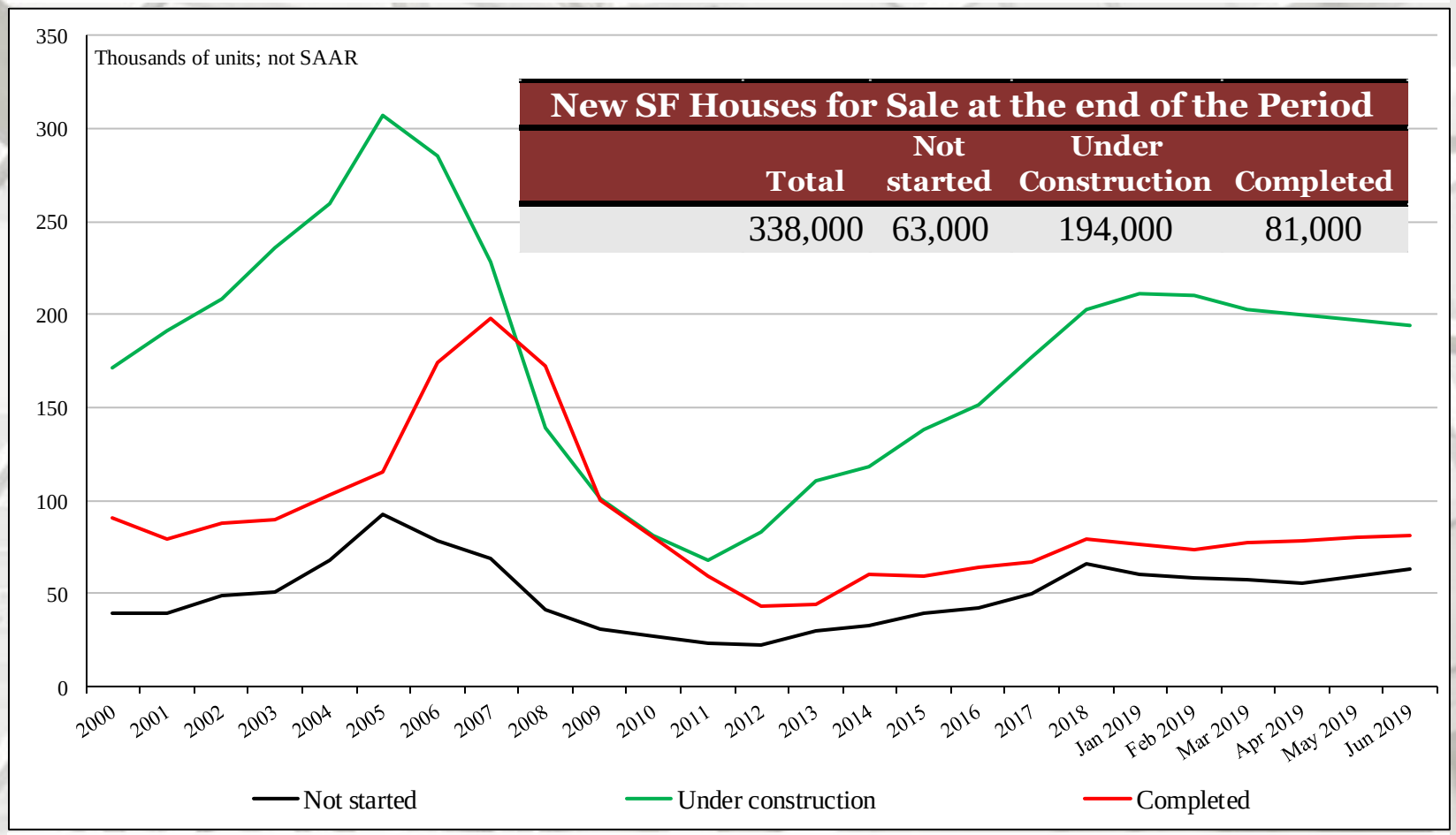
New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
June	338,000	63,000	194,000	81,000
May	336,000	59,000	197,000	80,000
2018	309,000	56,000	191,000	62,000
M/M change	0.6%	6.8%	-1.5%	1.3%
Y/Y change	9.4%	12.5%	1.6%	30.6%
Total percentage		18.6%	57.4%	24.0%

Not SAAR

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales: For Sale at End of Period



New SF Houses for Sale at the end of the Period			
Total	Not started	Under Construction	Completed
338,000	63,000	194,000	81,000

Not SAAR

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

Return TOC

New SF House Sales

New SF Houses for Sale at the end of the Period by Region*					
	Total	NE	MW	S	W
June	336,000	29,000	39,000	183,000	85,000
May	332,000	29,000	39,000	181,000	84,000
2018	308,000	26,000	41,000	160,000	81,000
M/M change	1.2%	0.0%	0.0%	1.1%	1.2%
Y/Y change	9.1%	11.5%	-4.9%	14.4%	4.9%

NE = Northeast; MW = Midwest; S = South; W = West
Not SAAR

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

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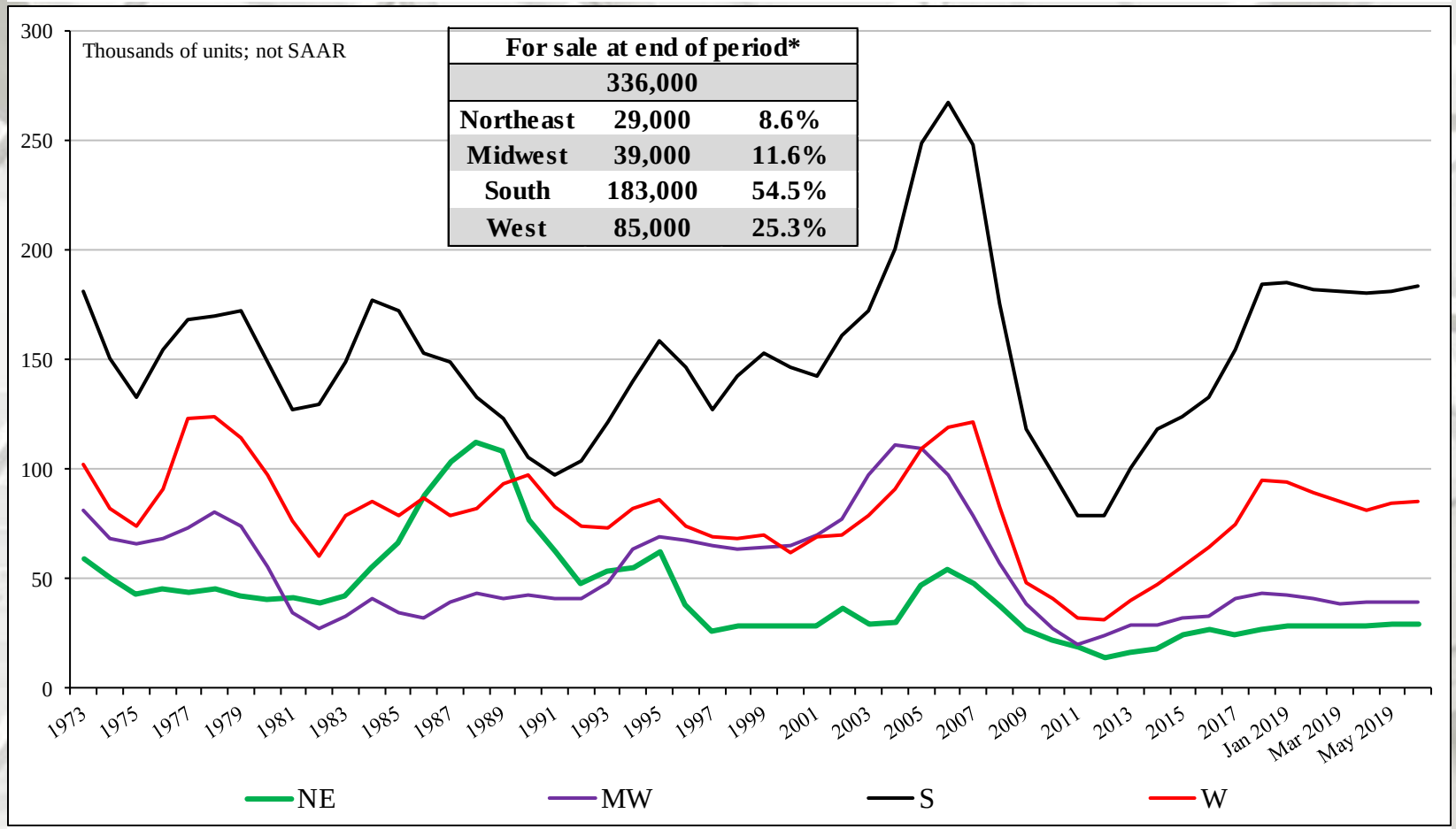
New SF Houses Sale at End of Period by Region



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

* Percentage of new SF sales.

Source: https://www.census.gov/construction/nrs/index.html; 7/24/19

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June 2019
Construction Spending

	Total Private Residential*	SF	MF	Improvement**
June	$507,231	$263,582	$66,198	$177,451
May	$509,690	$265,392	$66,044	$178,254
2018	$551,668	$288,162	$59,350	$204,156
M/M change	-0.5%	-0.7%	0.2%	-0.5%
Y/Y change	-8.1%	-8.5%	11.5%	-13.1%

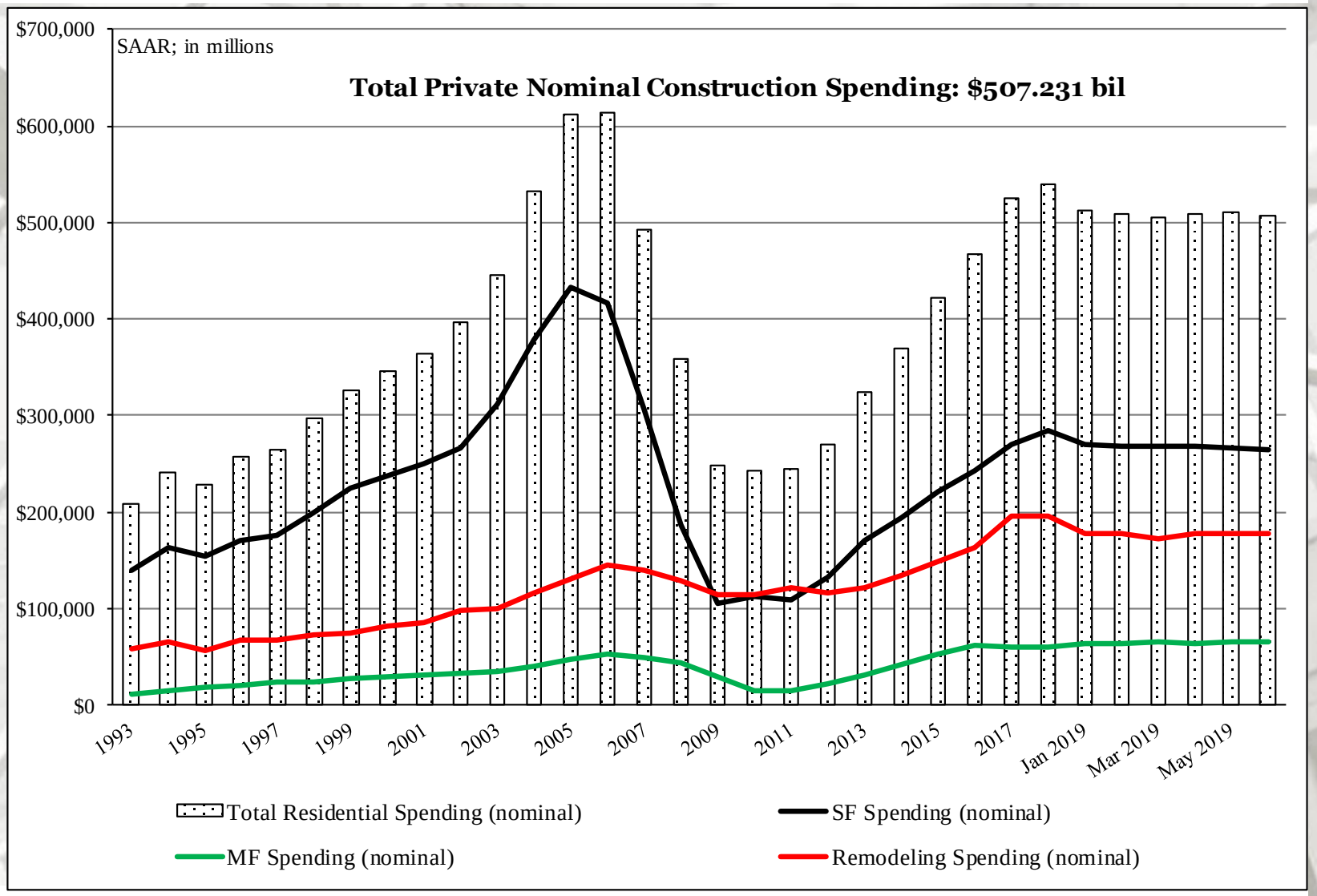
* billion.
** The US DOC does not report improvement spending directly, this is a monthly estimation: ((Total Private Spending – (SF spending + MF spending)).

All data are SAARs and reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 8/1/19

Return TOC

Total Construction Spending (nominal): 1993 – June 2019



Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2019.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 8/1/19

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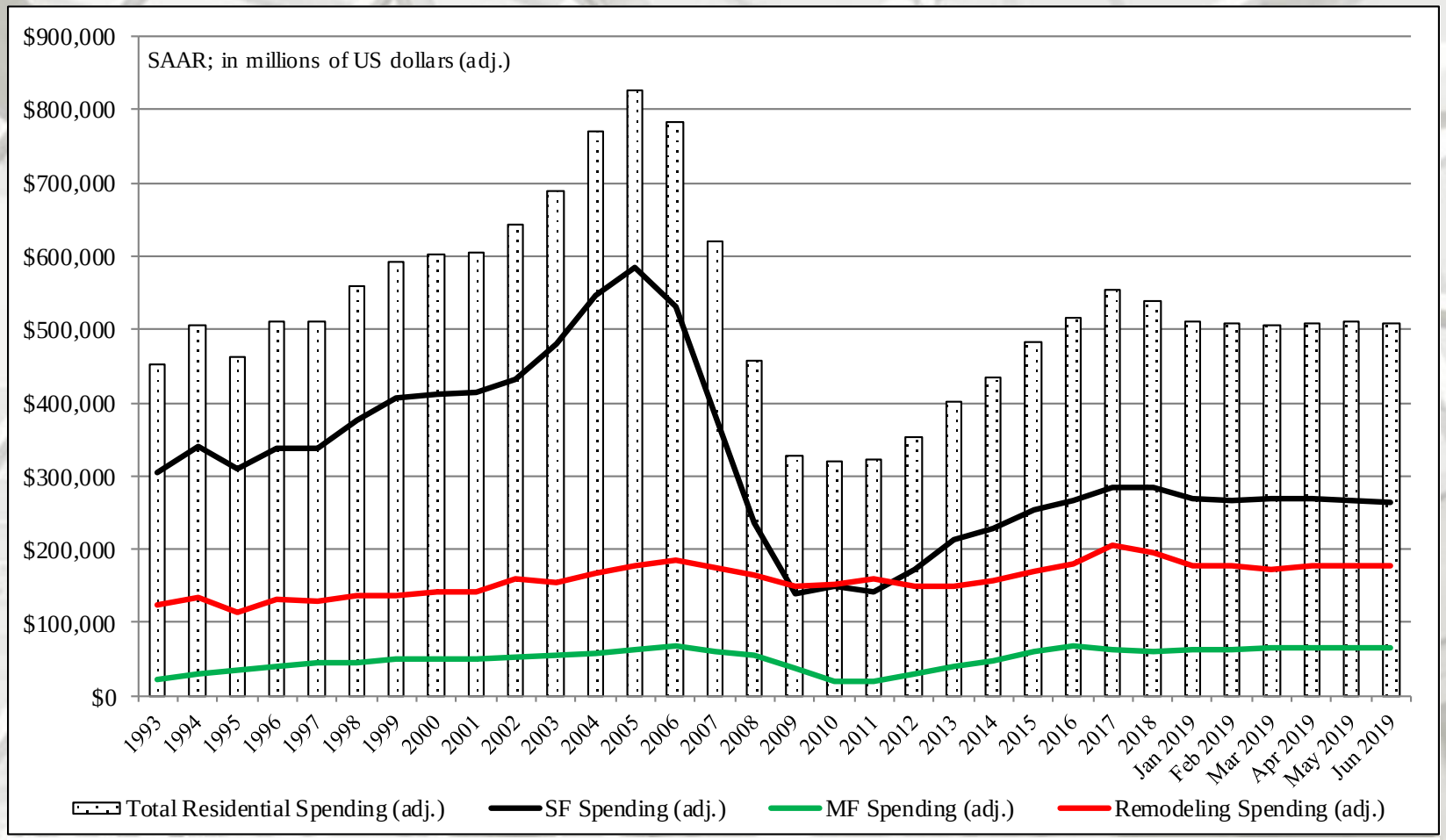
Total Construction Spending (adjusted): 1993-2019*



Reported in adjusted US$: 1993 – 2018 (adjusted for inflation, BEA Table 1.1.9); *January to June 2019 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 8/1/19

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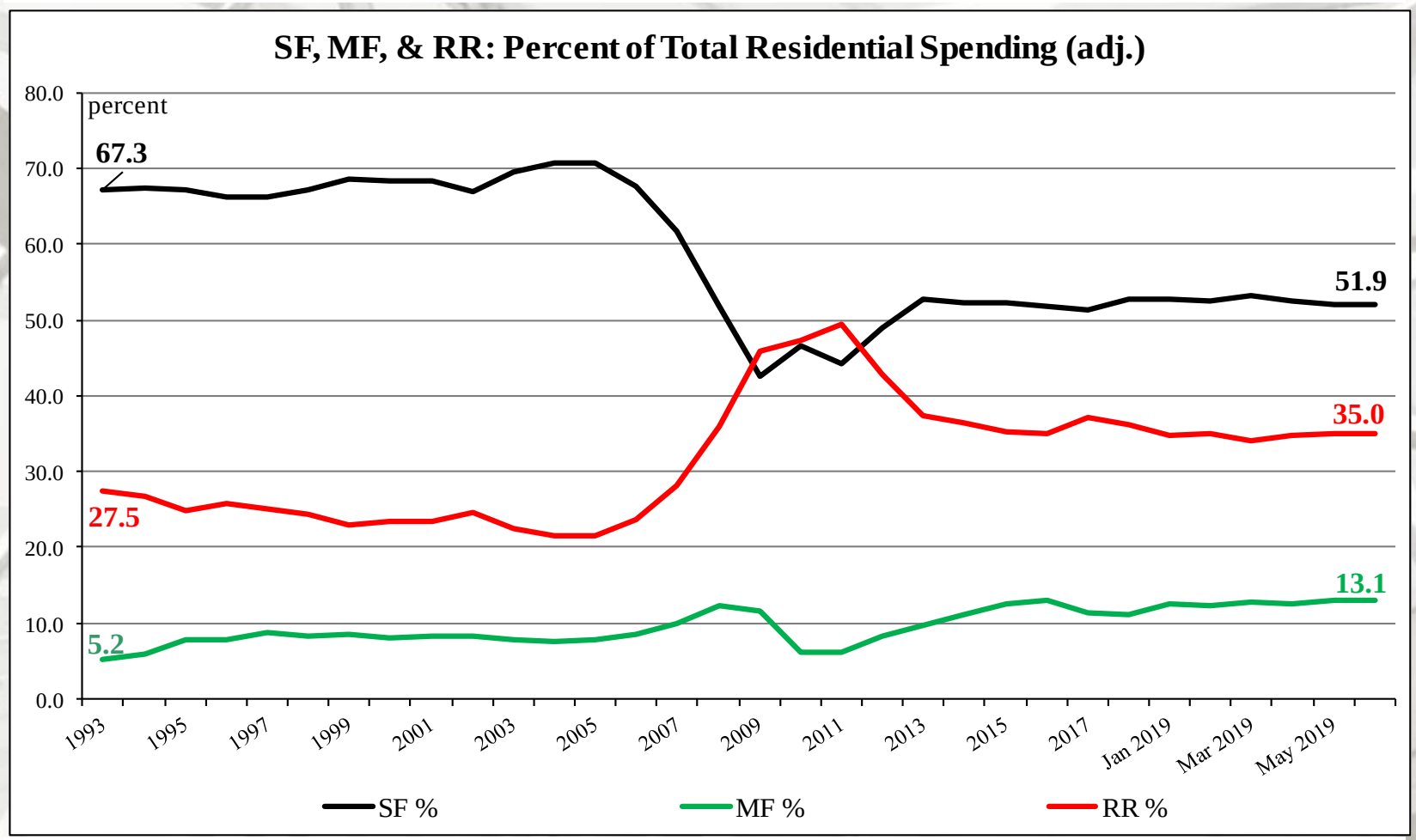
Construction Spending Shares: 1993 to June 2019



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 2017 (adjusted for inflation, BEA Table 1.1.9); Jan-June 2018 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 8/1/19

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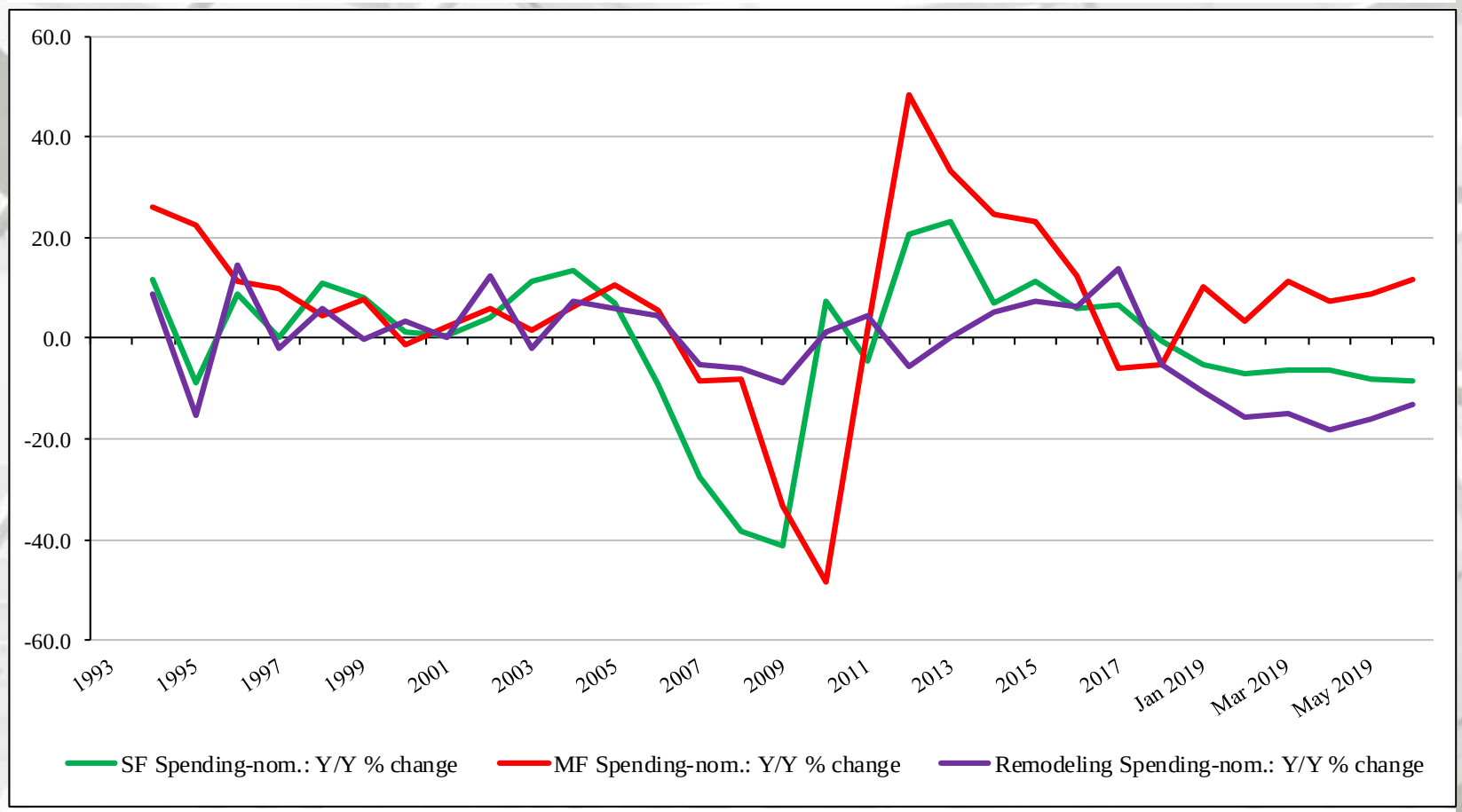
Adjusted Construction Spending: Y/Y Percentage Change, 1993 to June 2019



Nominal Residential Construction Spending: Y/Y percentage change, 1993 to June 2019

Presented above is the percentage change of inflation adjusted Y/Y construction spending. Only MF expenditures were positive on a percentage basis, year-over-year. 2019 data reported in nominal dollars.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 8/1/19

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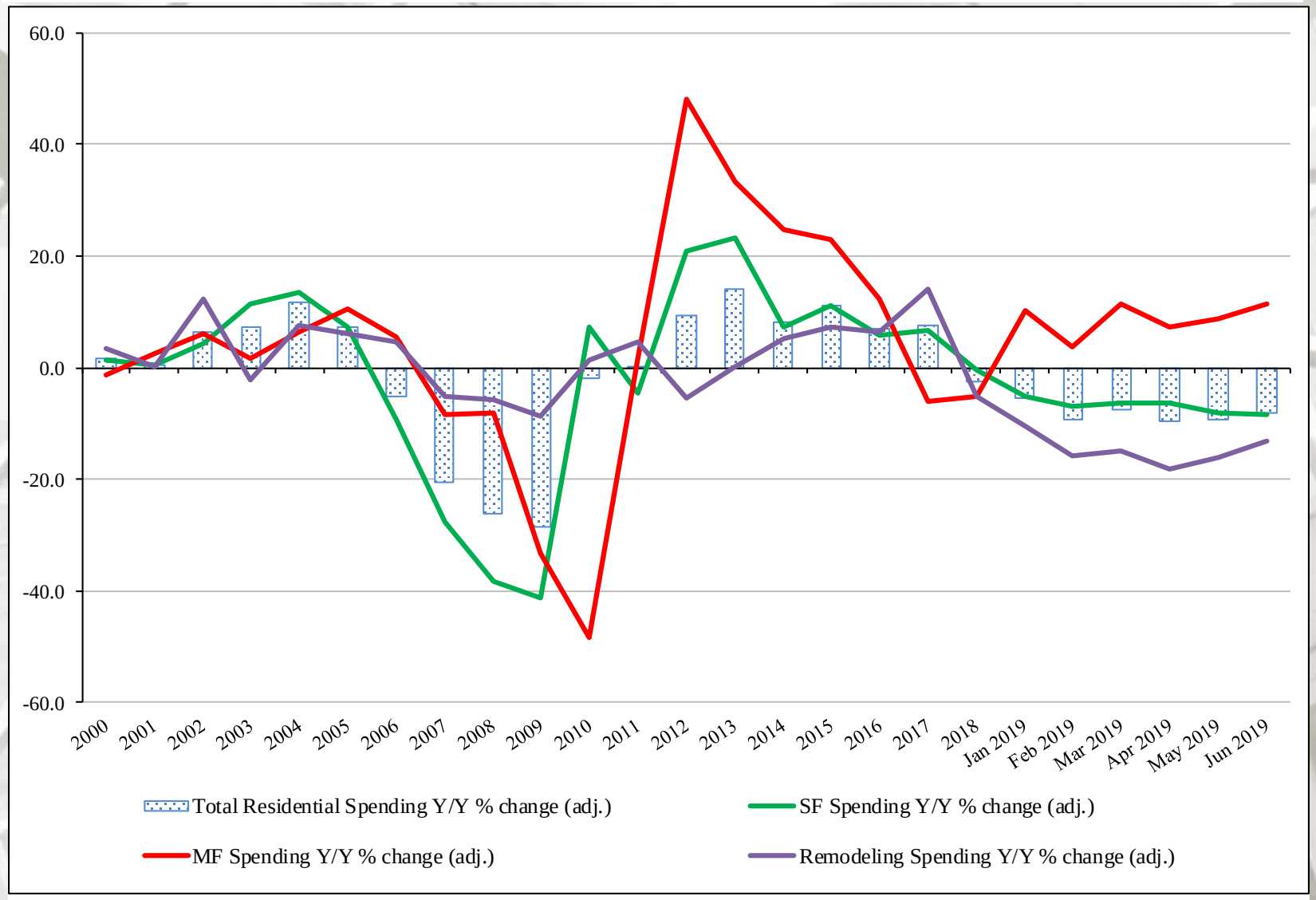
Adjusted Construction Spending: Y/Y Percentage Change, 2000 to June 2019



Adjusted dollar values; except 2019 data – reported in nominal dollars.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 8/1/19

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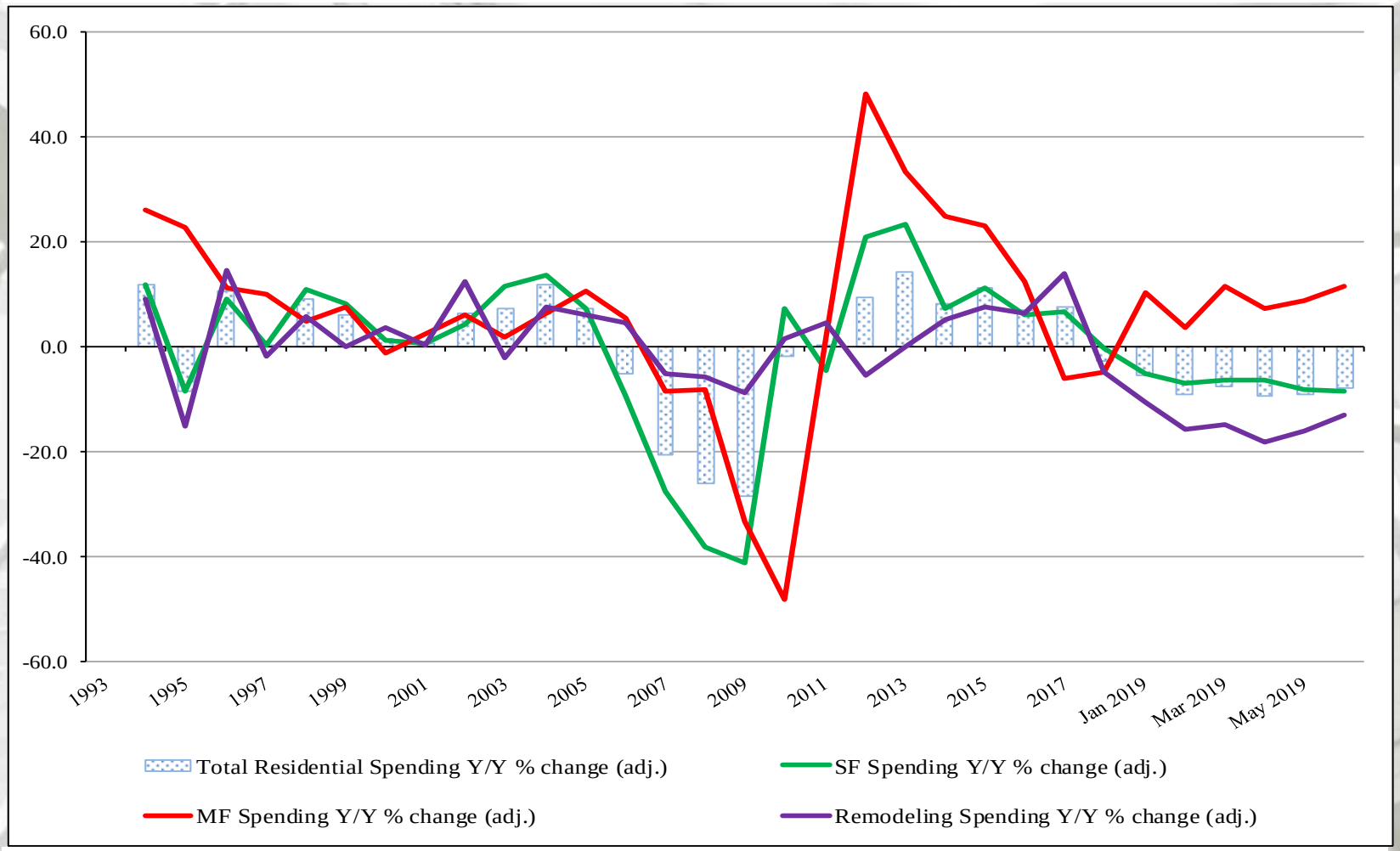
Total Adjusted Construction Spending: Y/Y Percentage Change, 1993 to June 2019



Inflation Adjusted Residential Construction Spending:

Y/Y percentage change, 1993 to June 2019

Only MF expenditures improved in June, all others declined; 2019 data reported in nominal dollars.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 8/1/19

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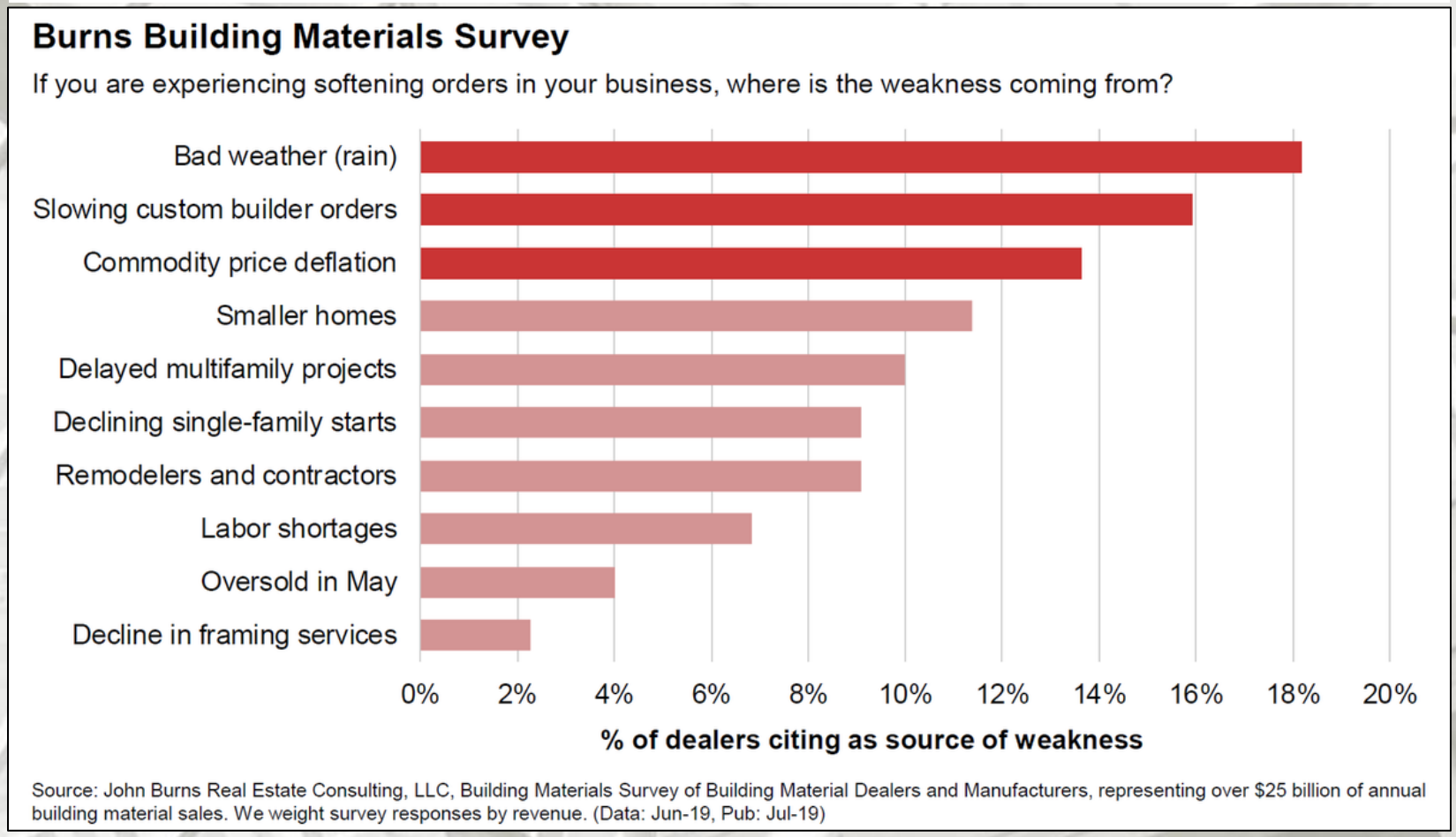
Construction Spending

Top 10 reasons why orders are declining for lumber & building material dealers.



Source: https://twitter.com/RickPalaciosJr/status/1156218877769998336; 7/30/19

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Remodeling

Harvard Joint Center for Housing Studies

Steep Slowdown Projected In Home Improvements

"Growth in residential remodeling spending is expected to slow considerably by the middle of next year, according to our latest **Leading Indicator of Remodeling Activity (LIRA)**. The LIRA projects that annual gains in homeowner expenditures for improvements and repairs will shrink from 6.3 percent in the current quarter to just 0.4 percent by the second quarter of 2020.

Declining home sales and homebuilding activity coupled with slower gains in permitting for improvement projects will put the brakes on remodeling growth over the coming year. However, if falling mortgage interest rates continue to incentivize home sales, refinancing, and ultimately remodeling activity, the slowdown may soften some.

With the release of new benchmark data from the American Housing Survey, we've also lowered our projection for market size about 6 percent to $323 billion. Spending in 2016 and 2017 was not nearly as robust as expected, growing only 5.4 percent over these two years compared to 11.9 percent as estimated." – Abbe Will, Research Associate & Associate Project Director, Remodeling Futures, Joint Center for Housing Studies

Source: https://www.jchs.harvard.edu/blog/steep-slowdown-projected-in-home-improvements/; 7/18/19

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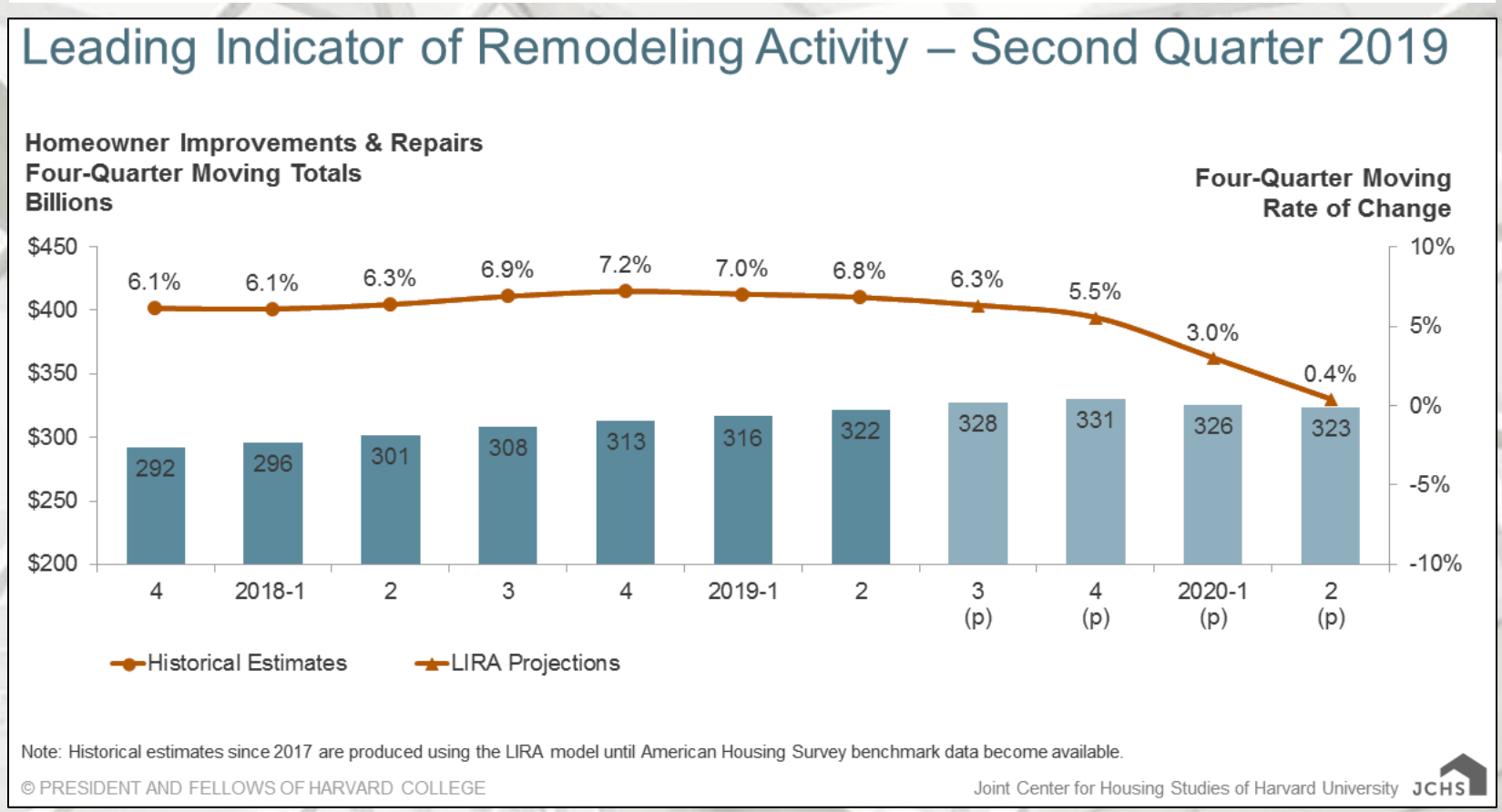
Remodeling



Source: https://www.jchs.harvard.edu/blog/steep-slowdown-projected-in-home-improvements/; 7/18/19

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Remodeling

BuildFax

Remodeling Spending Growth To Slow In Most Major Metros In 2019

"According to the latest from housing data and analytics company BuildFax, remodeling activity increased in June in five of the top 10 metropolitan statistical areas – Philadelphia, Chicago, Los Angeles, Miami and Washington, D.C.

Philadelphia and Chicago saw the largest greatest gains year over year in remodeling activity, rising 15.2% and 5.06% respectively. Remodeling also grew a modest 1.57% in Los Angeles, 0.39% in Miami and 0.25% in Washington, D.C., according to BuildFax.

According to the report, Philadelphia stands out for resisting the national trend, posting gains and beating records for the number of houses sold from October to December 2018 when the rest of the country saw its housing activity decline. BuildFax said this could be attributed to increased domestic migration to the city or housing investments.

In Chicago and Los Angeles, where new construction activity has declined in the last year, we are likely seeing gains in remodeling because buyers are hesitant to enter the market and would rather reinvest in their current properties." – Jessica Guerin, Editor, HousingWire

Source: https://www.housingwire.com/articles/49402-homeowners-in-these-cities-are-doing-the-most-remodeling/; 6/24/19

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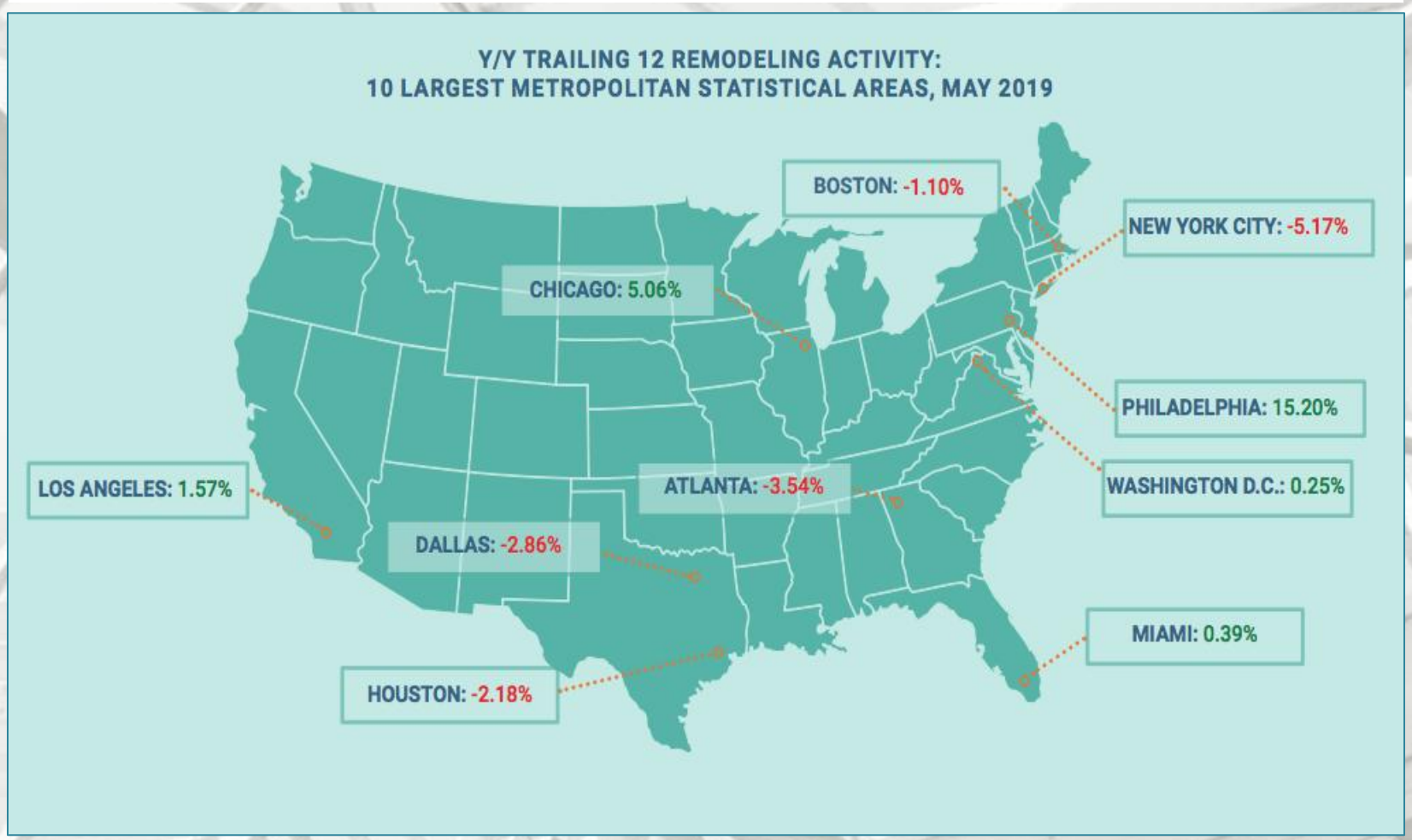
Remodeling



Source: https://www.housingwire.com/articles/49402-homeowners-in-these-cities-are-doing-the-most-remodeling/; 6/24/19

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Existing House Sales

National Association of Realtors

June 2019 sales: 5.340 thousand

	Existing Sales	Median Price	Mean Price	Month's Supply
June	5,270,000	$285,700	$321,600	4.4
May	5,360,000	$278,200	$314,600	4.3
2018	5,390,000	$273,800	$311,900	4.3
M/M change	-1.7%	2.7%	2.2%	2.3%
Y/Y change	-2.2%	4.3%	3.1%	2.3%

All sales data: SAAR

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 7/23/19

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Existing House Sales

	Existing SF Sales	SF Median Price	SF Mean Price
June	4,690,000	288,900	323,600
May	4,760,000	280,900	316,300
2018	4,770,000	276,500	313,600
M/M change	-1.5%	2.7%	2.3%
Y/Y change	-1.7%	4.5%	3.2%

	NE	MW	S	W
June	680,000	1,250,000	2,250,000	1,090,000
May	670,000	1,230,000	2,330,000	1,130,000
2018	710,000	1,270,000	2,260,000	1,150,000
M/M change	1.5%	1.6%	-3.4%	-3.5%
Y/Y change	-4.2%	-1.6%	-0.4%	-5.2%

All sales data: SAAR.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 7/23/19

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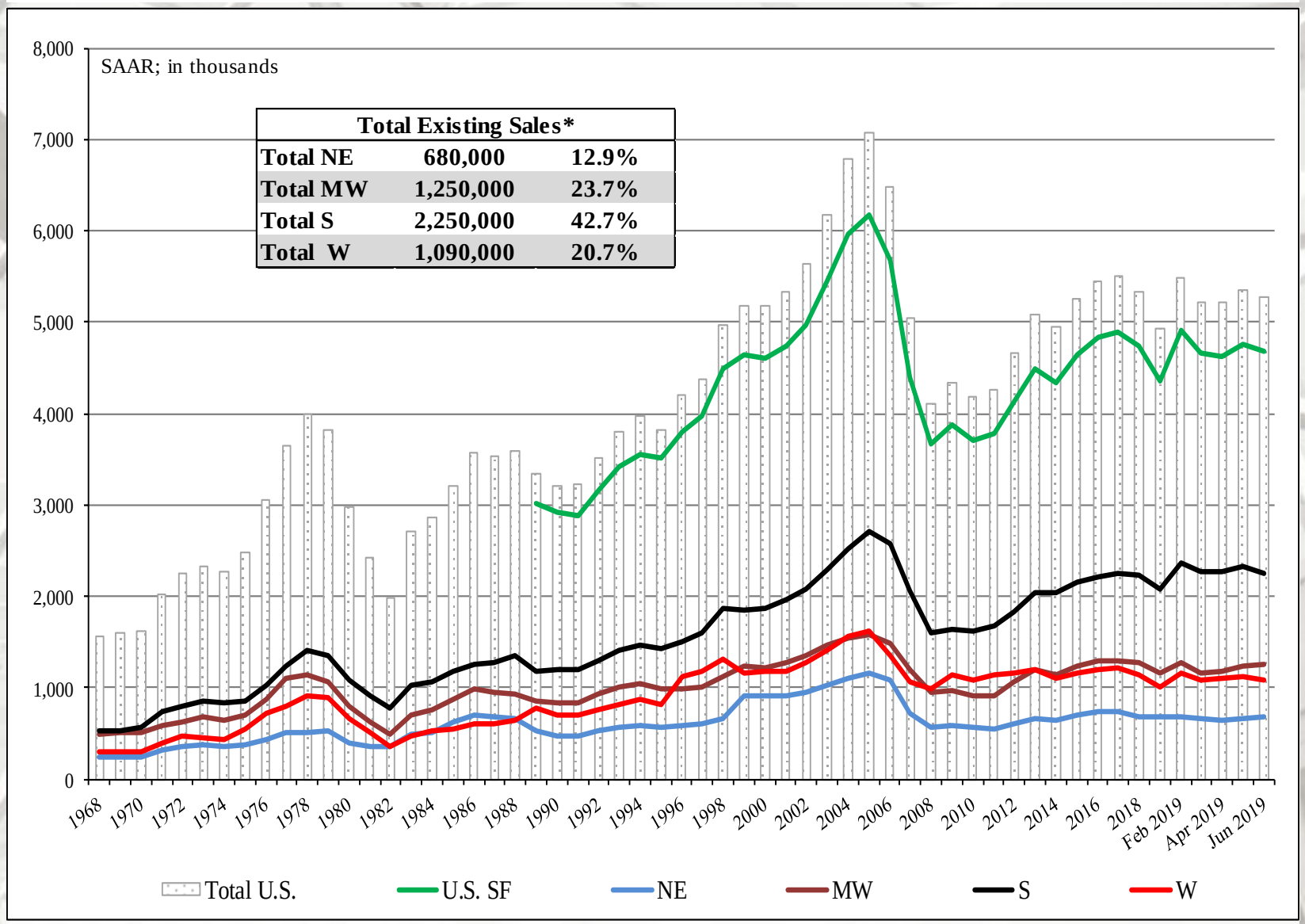
Existing House Sales



NE = Northeast; MW = Midwest; S = South; W = West
* Percentage of existing sales.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 7/23/19

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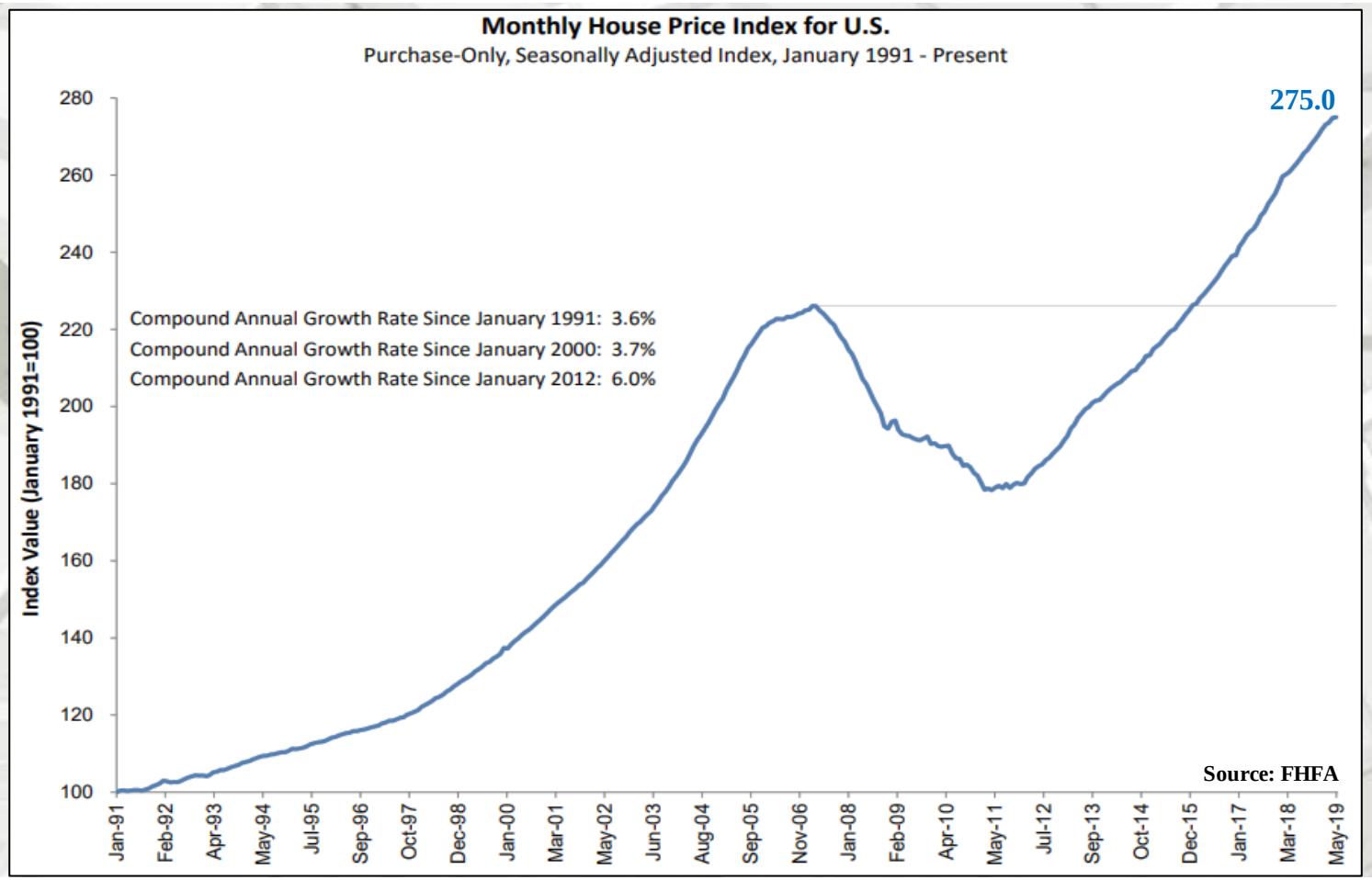
U.S. Housing Prices



FHFA House Price Index Up 0.1 Percent in May; Up 5.0 Percent from Last Year

"The FHFA House Price Index (HPI) reported a **0.1 percent** increase in U.S. house prices in May from the previous month. From May 2018 to May 2019, house prices were up 5.0 percent. For the nine census divisions, seasonally adjusted monthly price changes from April 2019 to May 2019 ranged from -1.0 percent in the East South Central division to +0.5 percent in the South Atlantic division. The 12-month changes were all positive, ranging from +3.6 percent in the West South Central division to +6.7 percent in the Mountain division." – Corinne Russell and Stefanie Johnson, FHFA

Source: https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/HPI_May2019.pdf; 7/23/19

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U.S. Housing Prices

"The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported a 3.4% annual gain in May, down from 3.5% in the previous month. The 10-City Composite annual increase came in at 2.2%, down from 2.3% in the previous month. The 20-City Composite posted a 2.4% year-over-year gain, down from 2.5% in the previous month.

Annual Home Price Gains Dip To 3.4% According To S&P CoreLogic Case-Shiller Index

"Nationally, year-over-year home price gains were lower in May than in April, but not dramatically so and a broad-based moderation continued. Among 20 major U.S. city home price indices, the average YOY gain has been declining for the past year or so and now stands at the moderate nominal YOY rate of 3.1%.

Though home price gains seem generally sustainable for the time being, there are significant variations between YOY rates of change in individual cities. Seattle's home price index is now 1.2% lower than it was in May 2018, the first negative YOY change recorded in a major city in a number of years. On the other hand, Las Vegas and Phoenix, while cooler than they were during 2018, remain quite strong at 6.4% and 5.7% YOY gains, respectively. Whether negative YOY rates of change spread to other cities remains to be seen; for now, there is still substantial diversity in local trends. Nationally, increasing housing supply points to somewhat weakened demand, but the fact that seven cities experienced stronger YOY price gains in May than they did in April suggests an underlying resiliency that may mitigate the risk of overshooting to the downside at the national level." – Philip Murphy, Managing Director and Global Head of Index Governance, S&P Dow Jones Indices

Source: https://us.spindices.com/documents/indexnews/announcements/20190730-965771/965771_cshomeprice-release-0730.pdf; 7/30/19

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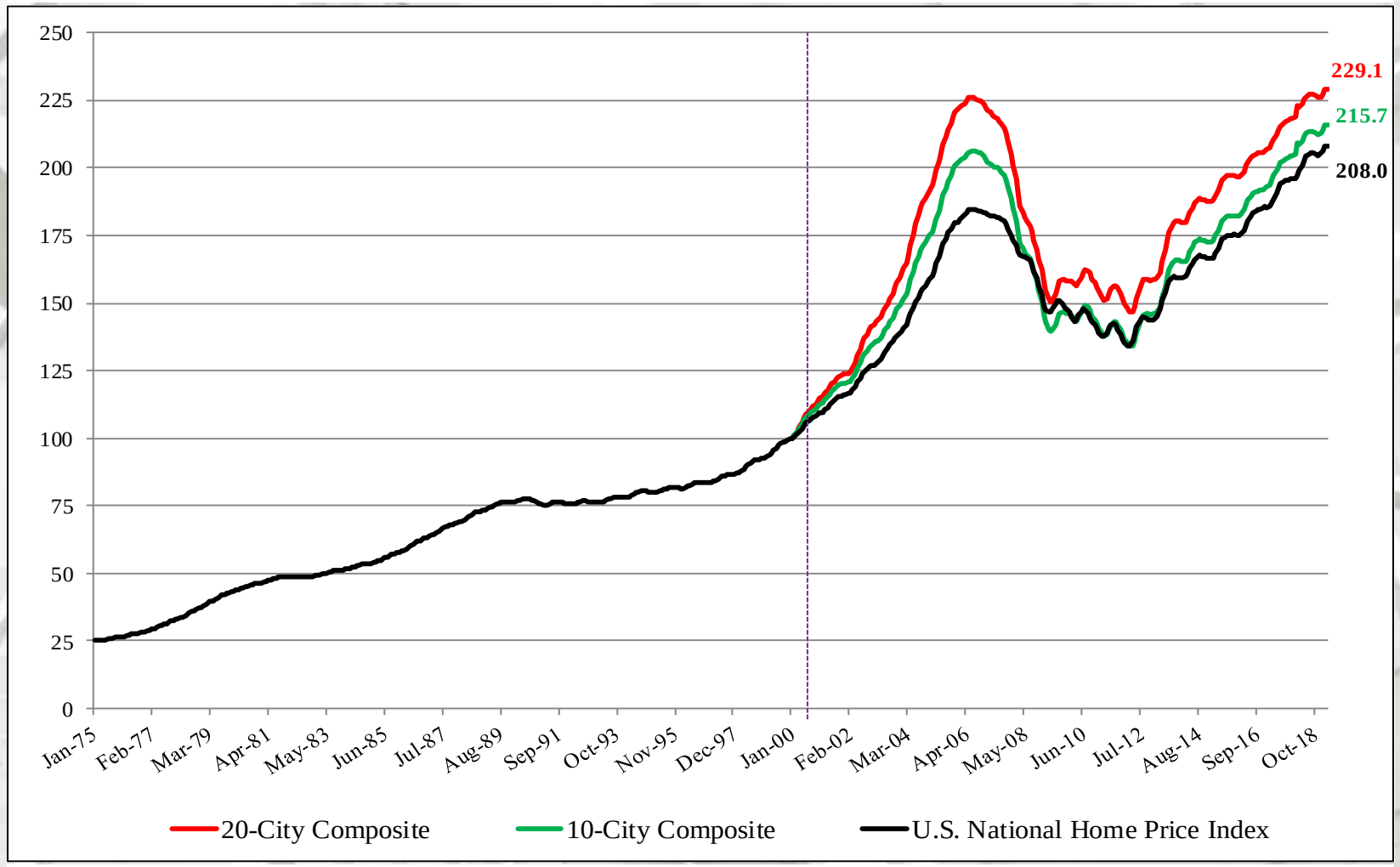
S&P/Case-Shiller Home Price Indices



"Las Vegas, Phoenix and Tampa reported the highest year-over-year gains among the 20 cities. In May, Las Vegas led the way with a 6.4% year-over-year price increase, followed by Phoenix with a 5.7% increase, and Tampa with a 5.1% increase. Seven of the 20 cities reported greater price increases in the year ending May 2019 versus the year ending April 2019." – Soogyung Jordan, Global Head of Communications, S&P CoreLogic

Source: https://us.spindices.com/documents/indexnews/announcements/20190730-965771/965771_cshomeprice-release-0730.pdf; 7/30/19

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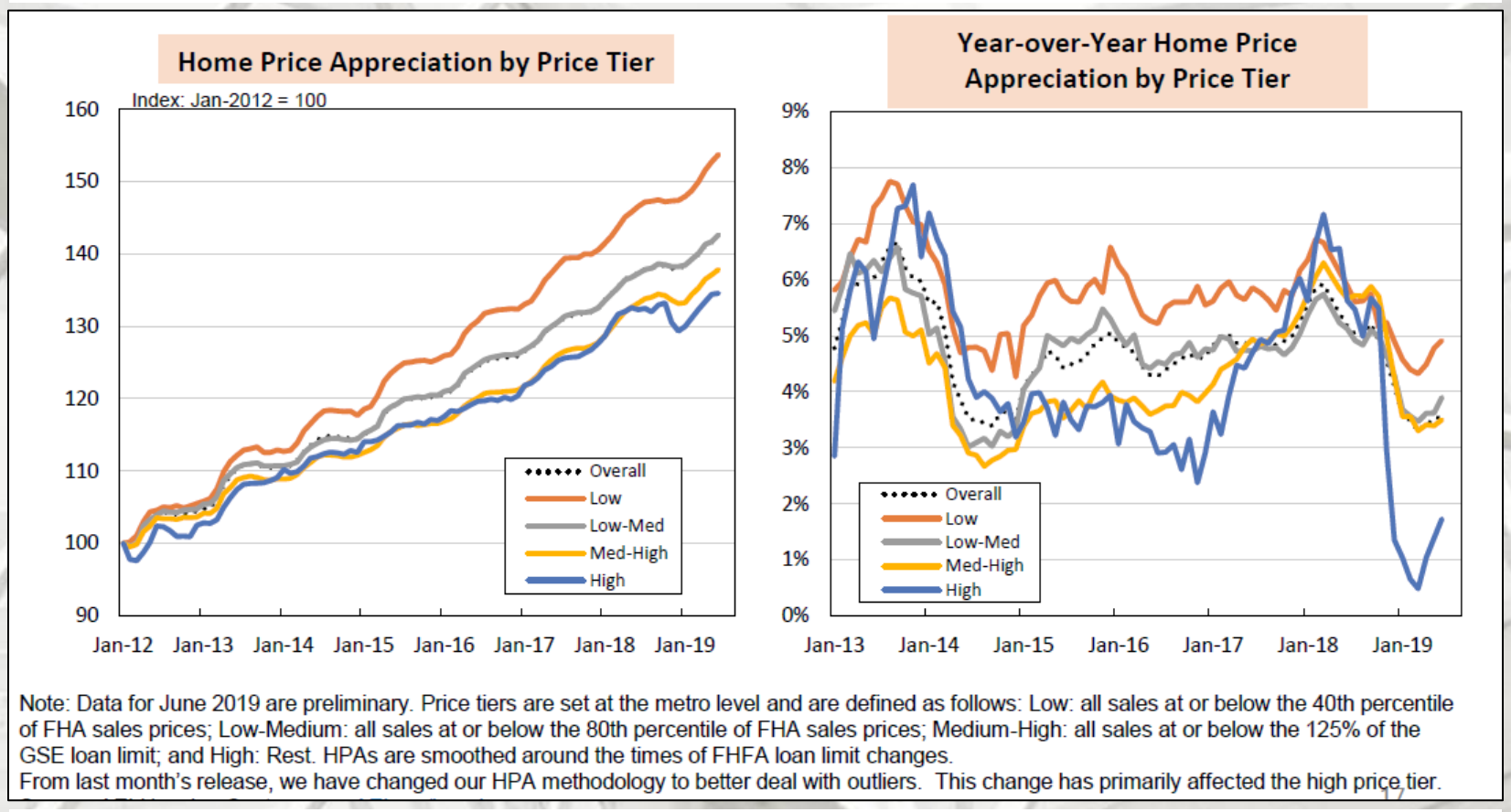
U.S. Housing Prices



Note: Data for June 2019 are preliminary. Price tiers are set at the metro level and are defined as follows: Low: all sales at or below the 40th percentile of FHA sales prices; Low-Medium: all sales at or below the 80th percentile of FHA sales prices; Medium-High: all sales at or below the 125% of the GSE loan limit; and High: Rest. HPAs are smoothed around the times of FHFA loan limit changes.
From last month's release, we have changed our HPA methodology to better deal with outliers. This change has primarily affected the high price tier.

National House Price Appreciation (HPA) by Price Tier

"In June 2019, overheating of the low price tier not only continued, but reaccelerated (left panel). HPA in the low price tier was 4.9 % year over year (yoy). In the low medium and medium high tiers, HPA was 3.9 % and 3.5%, respectively. HPA in the high tier (about 8% of the market) was a more modest 1.7." – Edward Pinto and Tobias Peter, AEI Center on Housing Markets and Finance

Sources: http://www.aei.org/national-and-metro-housing-market-indicators/; 7/29/19

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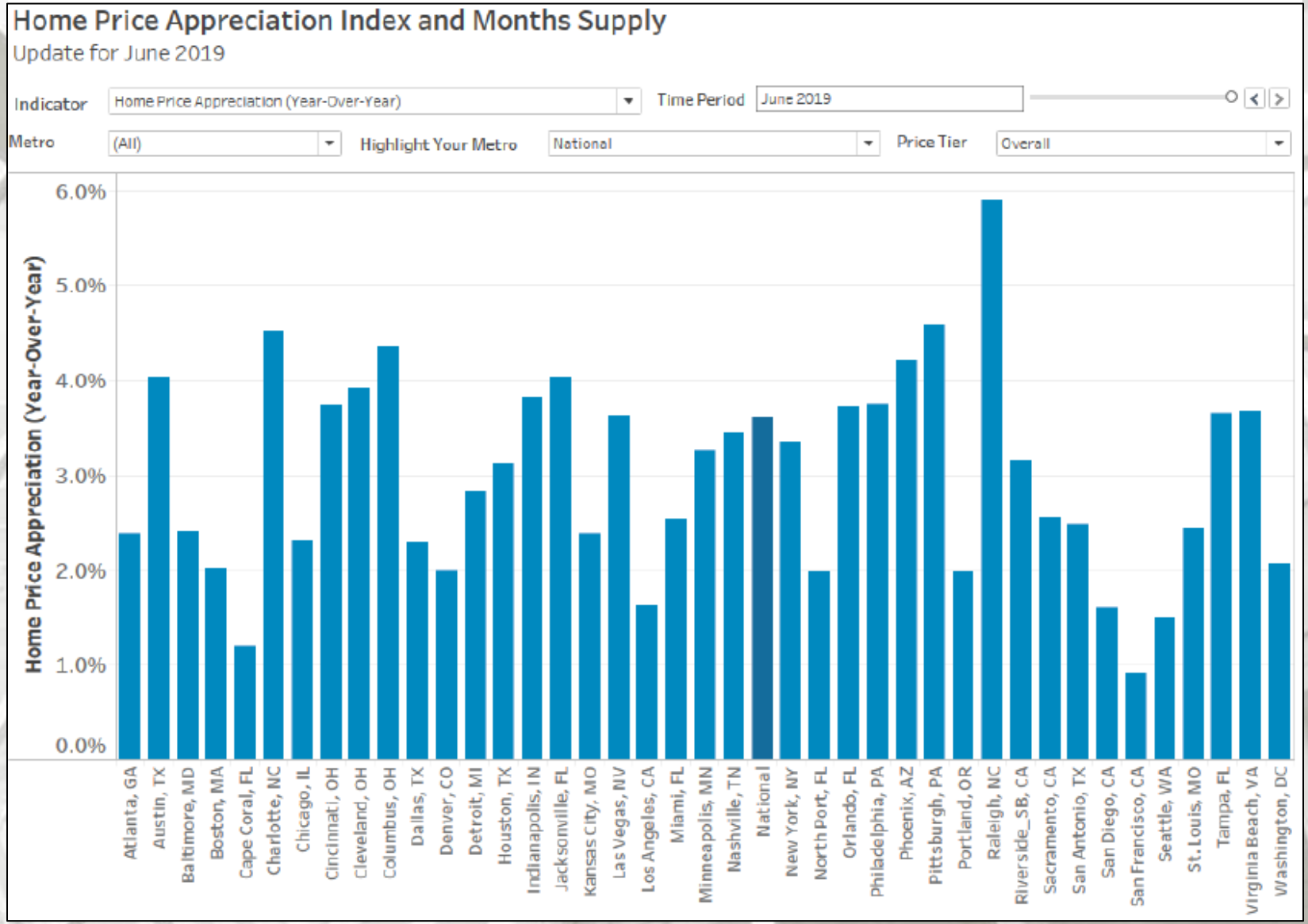
U.S. Housing Prices

House Price Appreciation (HPA): Largest 40 Metros



Sources: http://www.aei.org/national-and-metro-housing-market-indicators/; 7/29/19

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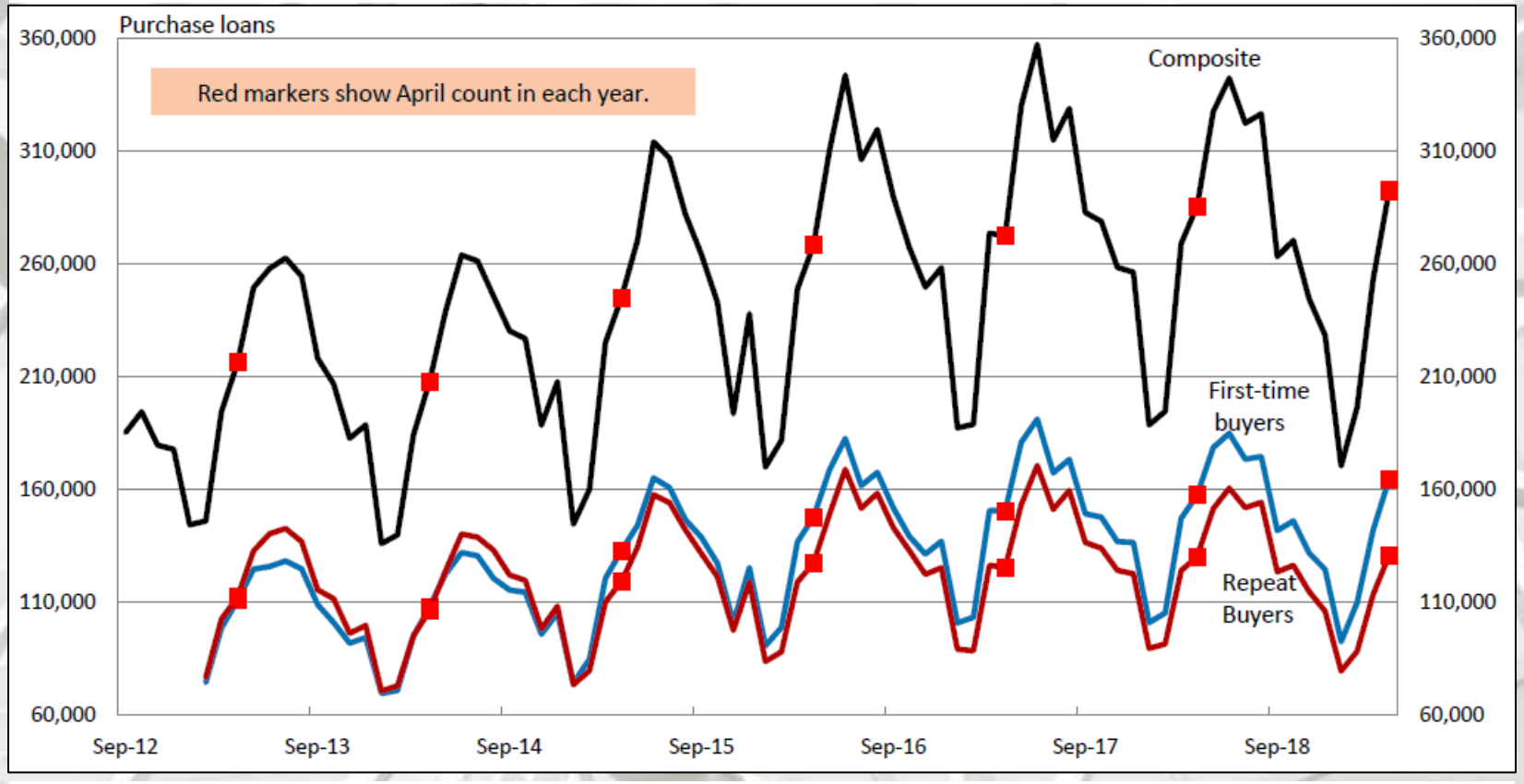
First-Time House Buyers



Leverage Fueled Housing Demand Powered with Lower Rates

"Purchase volume in April 2019 increased 2.4 percent from a year earlier and is up 35 percent from 6 years ago. First time buyer (FTB) volume was up 4.5 percent, while repeat buyer volume was unchanged (+0.3%). FTBs are leveraging lower rates and access to credit to overcome higher home prices, while move up buyers, with less access to credit, are electing to stay put in larger numbers and some may be poached by private portfolio Lenders." – Edward Pinto and Tobias Peter, AEI Center on Housing Markets and Finance

Note: First-time buyer volume not available before February 2013.

Sources: http://www.aei.org/national-and-metro-housing-market-indicators/; 7/29/19

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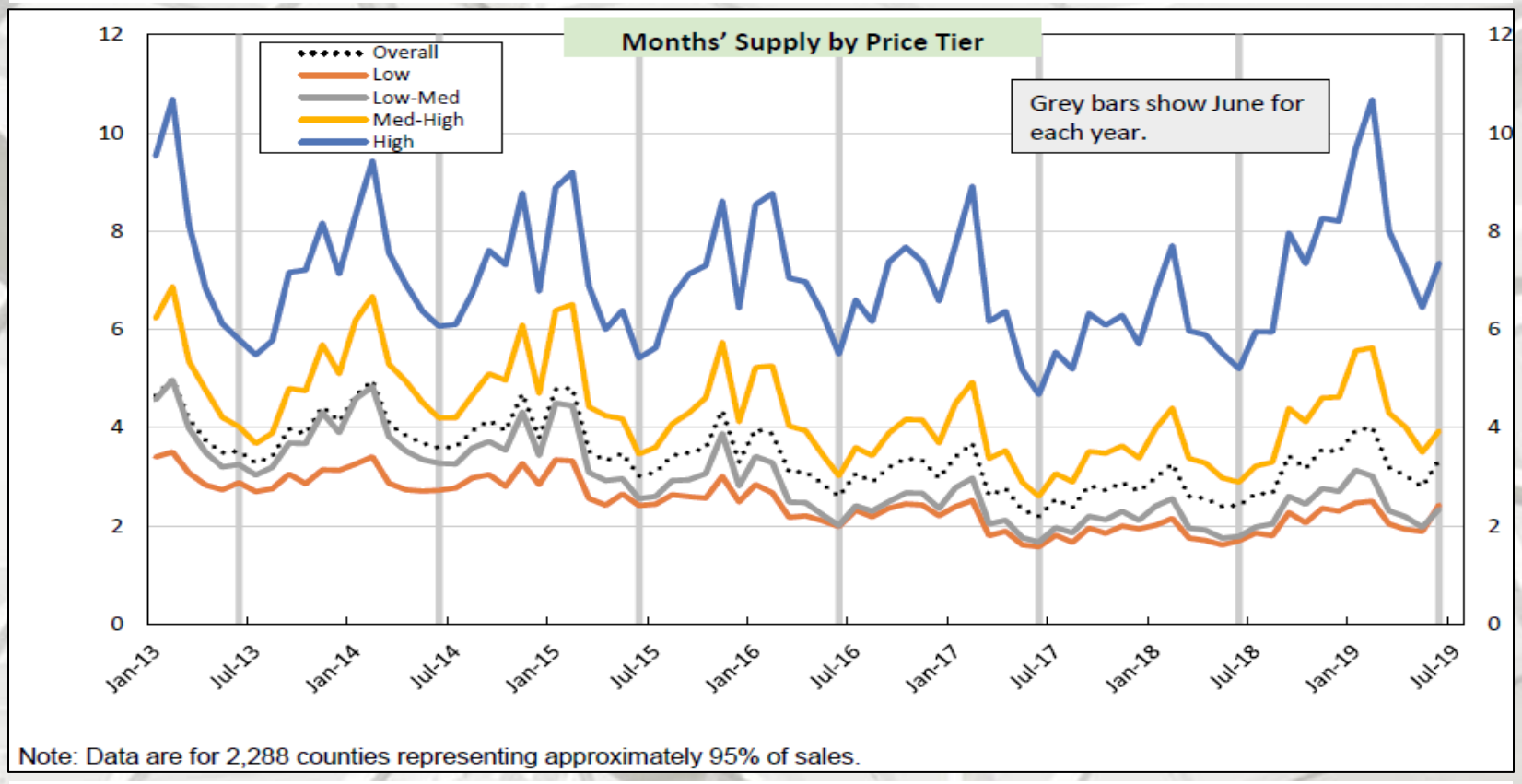
First-Time House Buyers



Supply Demand Imbalance Is Greatest in the Low Price Tier

"There has been a growing bifurcation in months' supply trends in the market between the entry level (low and low med) vs. move up (med high and high) segments. From a year ago, months' supply has increased at all price points, but most at the upper end of the market. Inventories remain historically tight at the lower end, continuing the strong seller's market, which implies that house prices will continue to increase, thereby worsening affordability." – Edward Pinto and Tobias Peter, AEI Center on Housing Markets and Finance

Sources: http://www.aei.org/national-and-metro-housing-market-indicators/; 7/29/19

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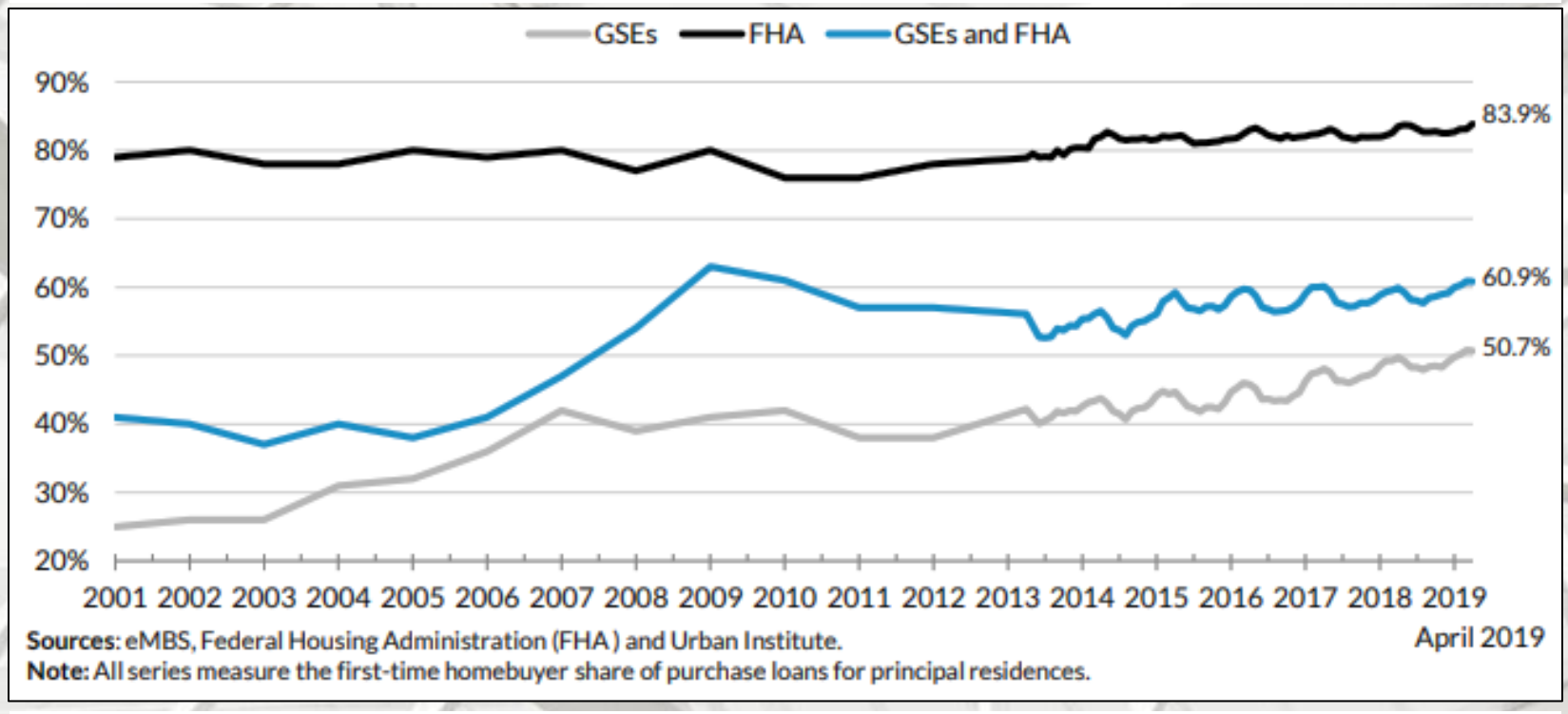
First-Time House Buyers



Urban Institute

"In April 2019, the combined first-time homebuyer (FTHB) share for FHA and GSE purchase loans remained at 60.9 percent, the highest level in the last decade. The FTHB share for FHA, which has always been more focused on first time homebuyers, reached an historic high of 83.9 percent in April 2019. The GSE FTHB share in April was 50.7 percent. …, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and higher LTV and higher DTI, thus paying a higher interest rate." – Bing Lai, Research Associate, Housing Finance Policy Center

Sources: https://www.urban.org/sites/default/files/publication/100723/july_chartbook_2019_1.pdf; 7/30/19

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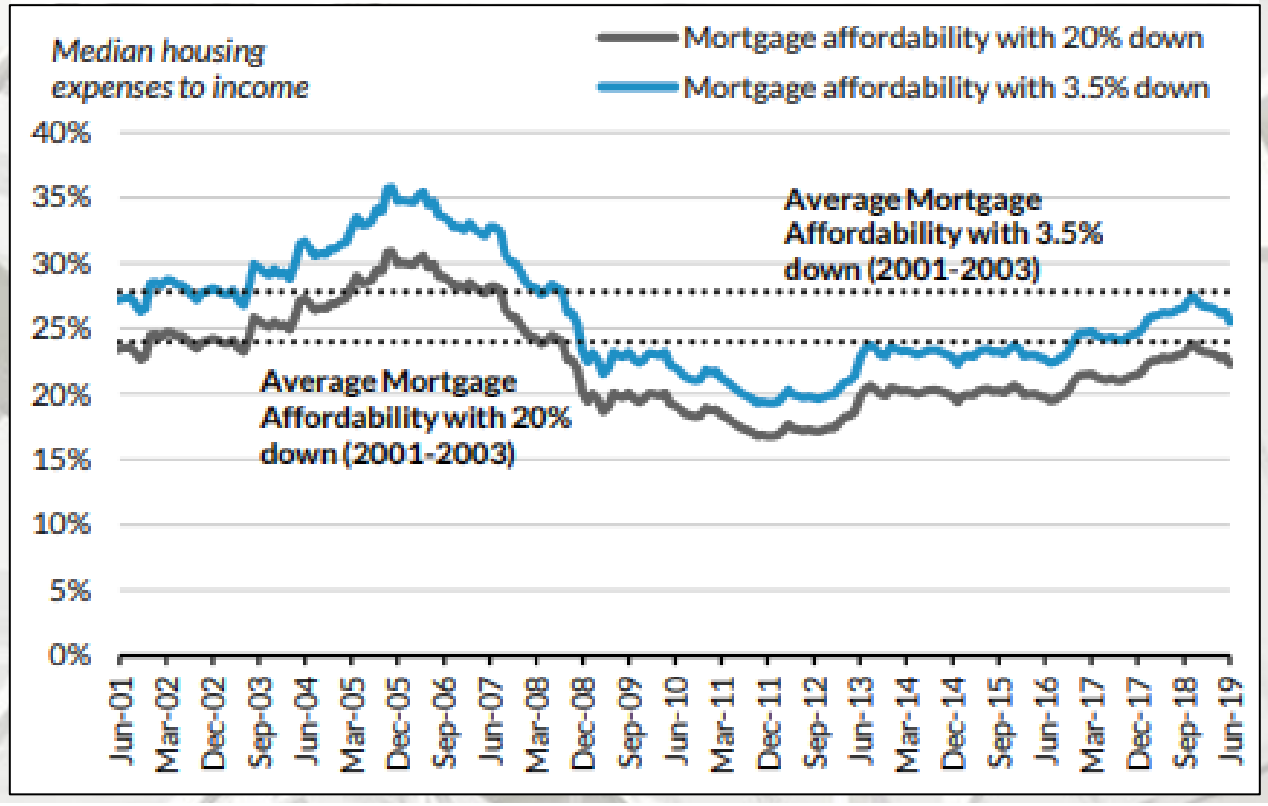
Housing Affordability

National Housing Affordability Over Time



Urban Institute

"Home prices remain affordable by historic standards, despite price increases over the last 7 years, as interest rates remain relatively low in an historic context. As of June 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 22.2 percent; with 3.5 down, it is 25.5 percent. Since February, the median housing expenses to income ratio has been slightly lower than the 2001 - 2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA." – Laurie Goodman, VP, Housing Finance Policy Center

Sources: https://www.urban.org/sites/default/files/publication/100723/july_chartbook_2019_1.pdf; 7/30/19

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Mortgage Credit Availability

Mortgage Credit Availability Decreased in July

"Mortgage credit availability decreased in July 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 fell by 0.4 percent to 189.0 in July. 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 0.1 percent, while the Government MCAI decreased by 1.0 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 0.7 percent, and the Conforming MCAI fell by 0.8 percent.

Credit availability in July decreased overall, driven by declines in the conforming and government indices. Conditions tightened some for borrowers with high loan-to-value ratios and lower credit scores. One outlier was the jumbo index, which increased to its highest level since the inception of this survey in 2012. The decline in the government index resulted from a pullback by investors in government high-balance and streamlined refinance products." – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

Source: https://www.mba.org/2019-press-releases/august/mortgage-credit-availability-decreased-in-july; 8/8/19

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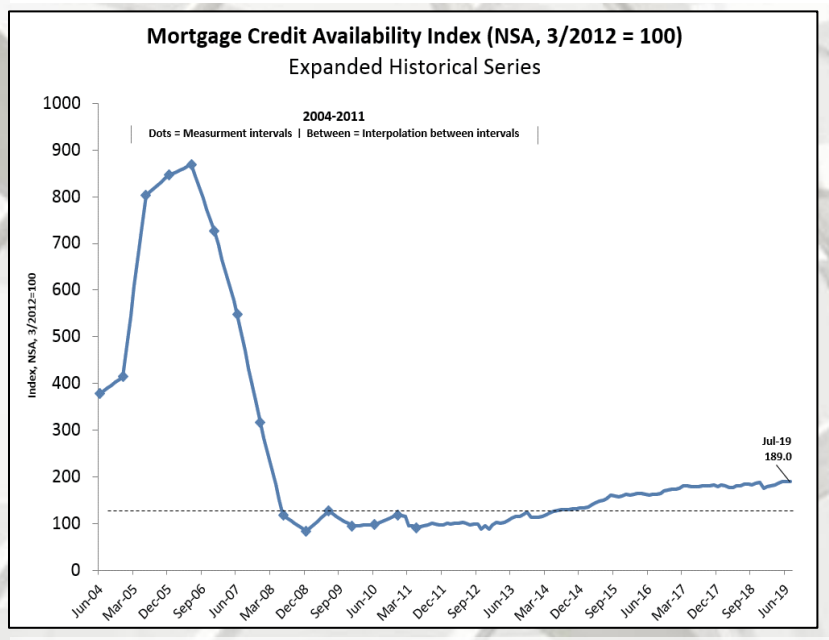
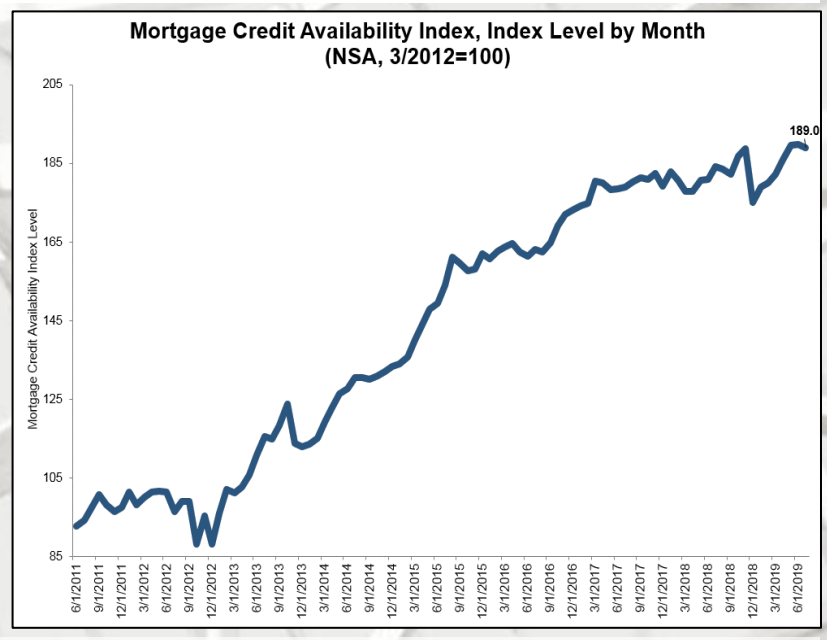
Mortgage Credit Availability





Source: *Mortgage Bankers Association; Powered by Ellie Mae's AllRegs® Market Clarity®*

Source: https://www.mba.org/2019-press-releases/august/mortgage-credit-availability-decreased-in-july; 8/8/19

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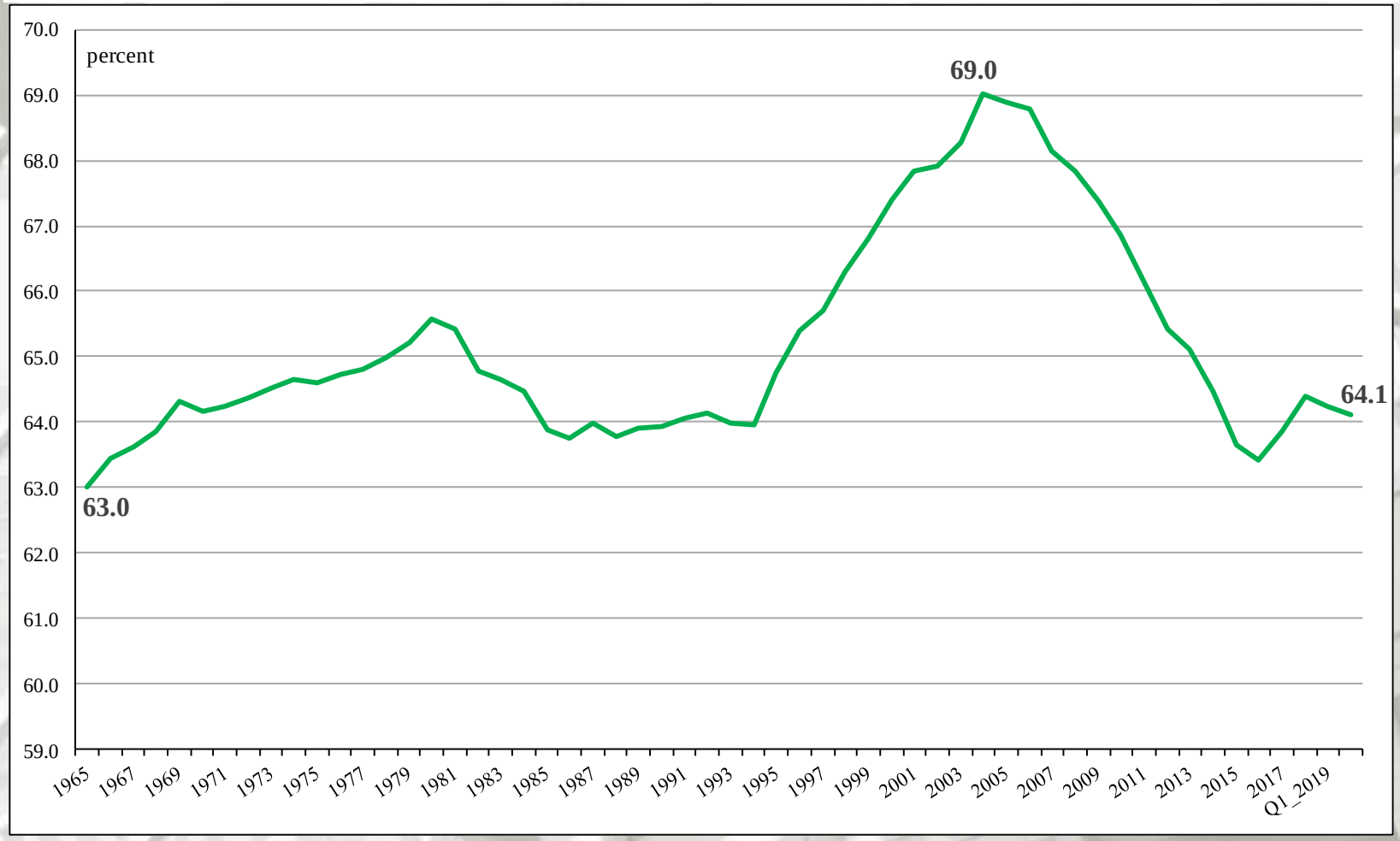
Housing Occupancy & Ownership

House Ownership Rate



Source: https://www.census.gov/housing/hvs/index.html; 7/25/19

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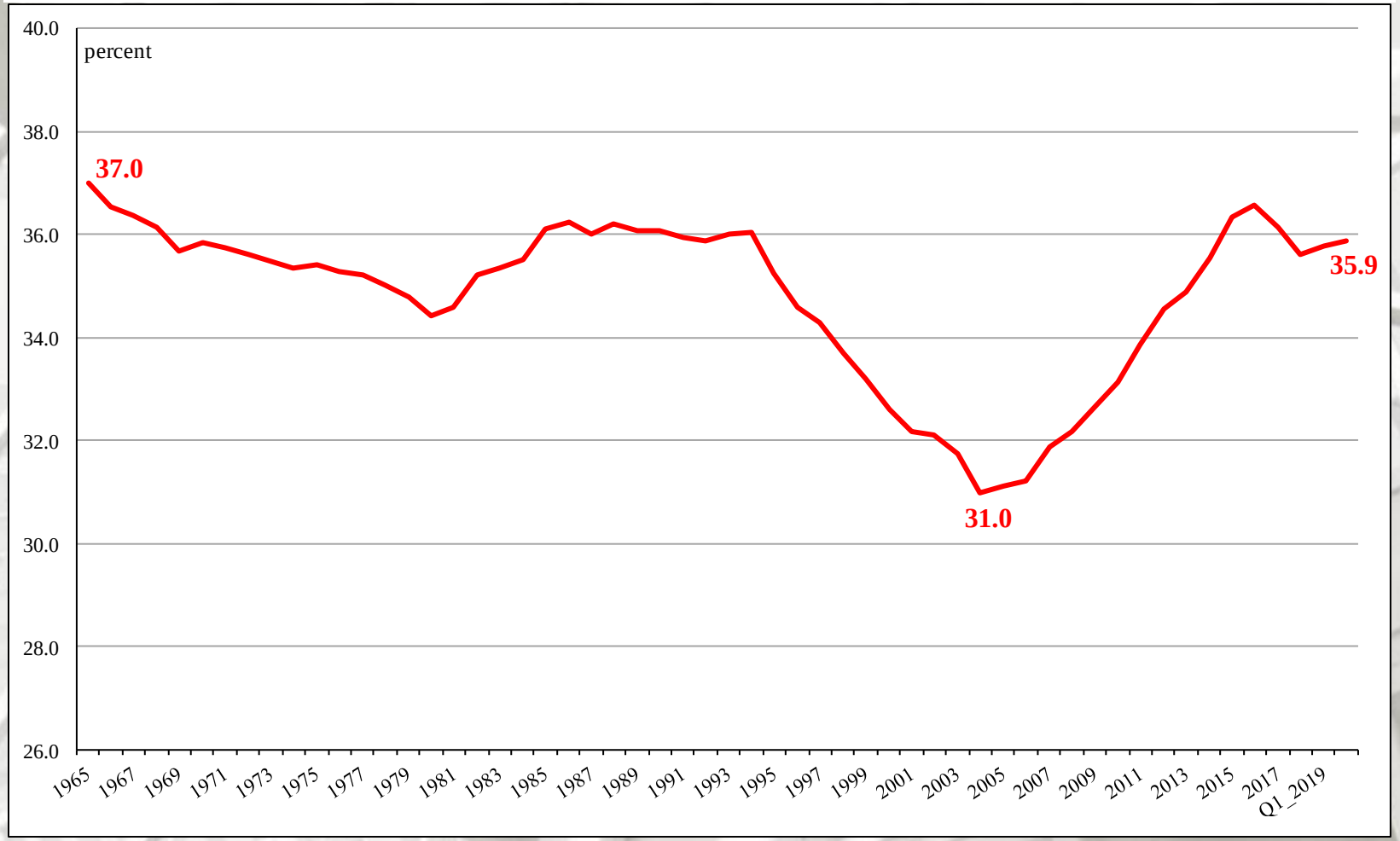
Housing Occupancy & Ownership

Rentership Rate



Source: https://www.census.gov/housing/hvs/index.html; 7/25/19

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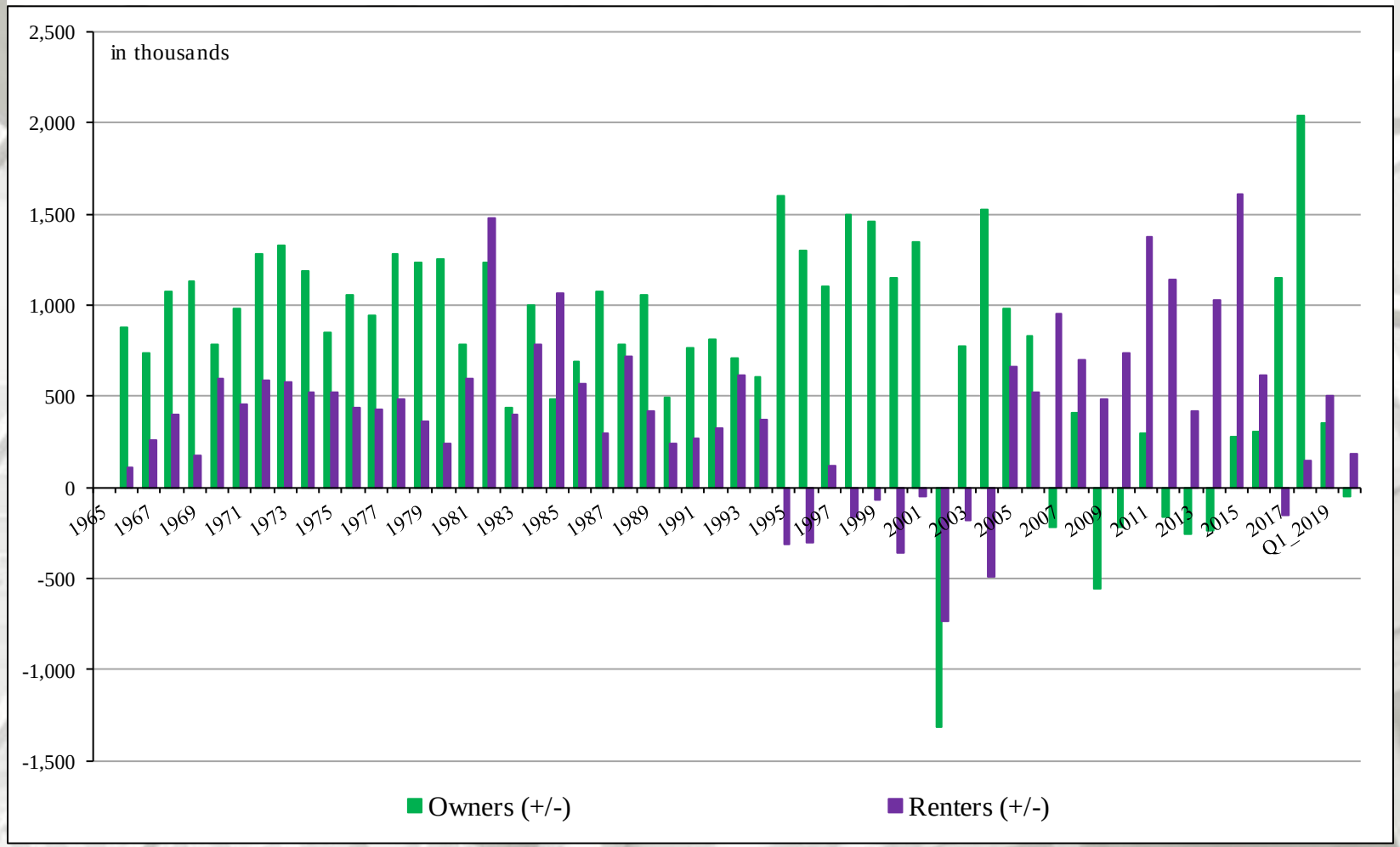
Housing Occupancy & Ownership

Owner Occupied vs. Renter Occupied Housing



Source: https://www.census.gov/housing/hvs/index.html; 7/25/19

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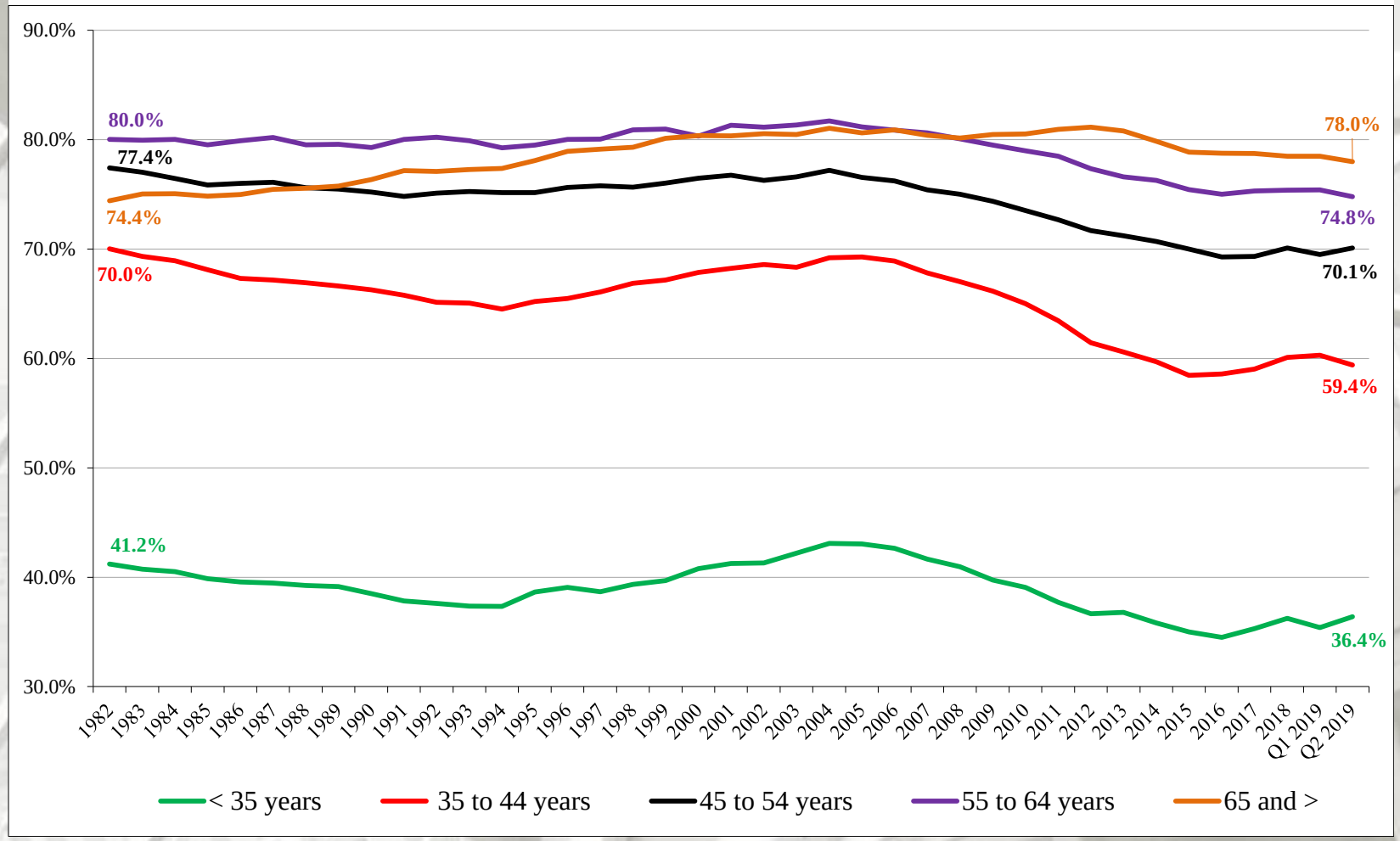
Housing Occupancy & Ownership

Owner Occupied Housing by Age Class



Source: https://www.census.gov/housing/hvs/index.html; 7/25/19

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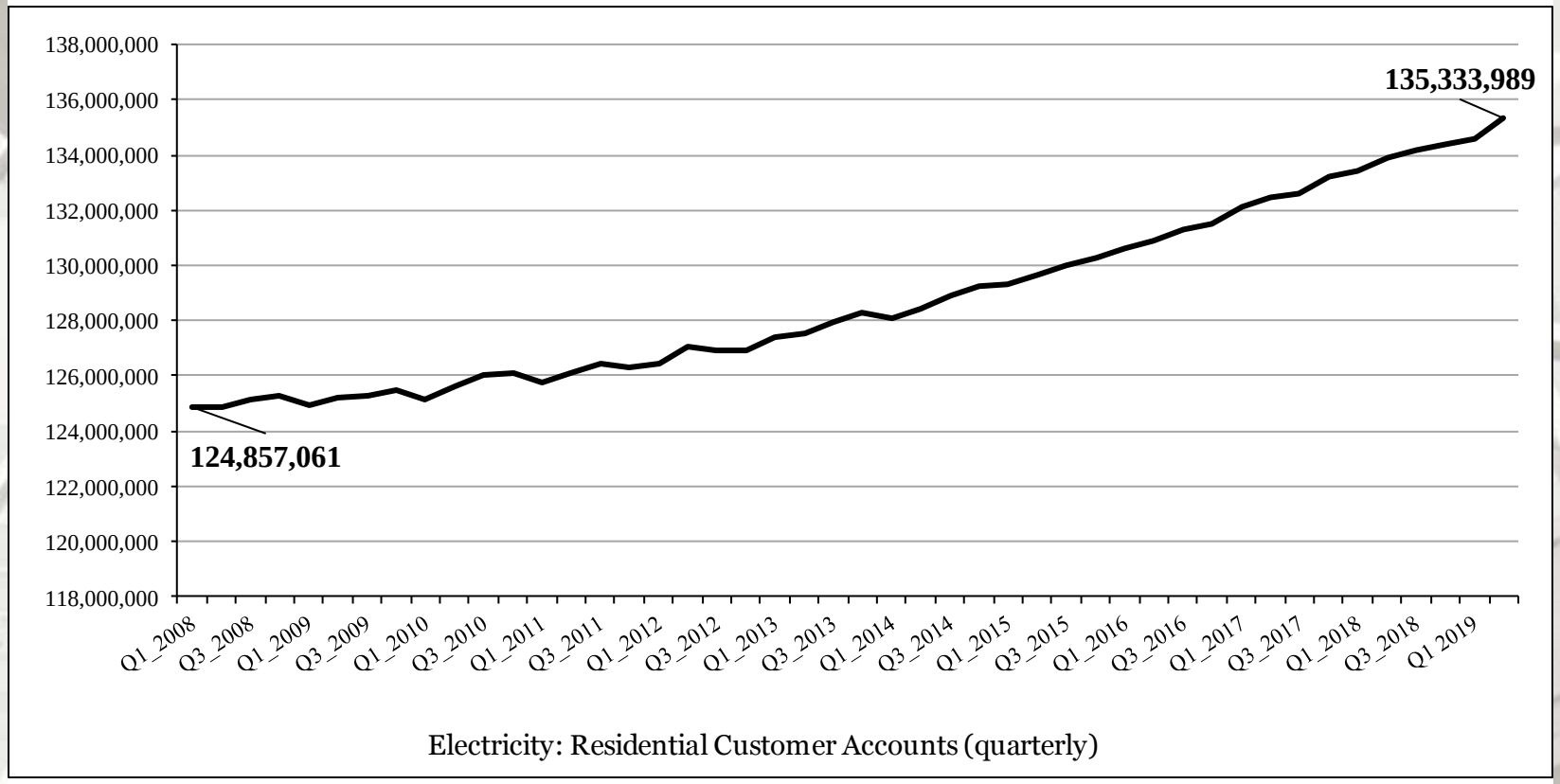
Housing Occupancy & Ownership

Residential Electricity Customer Accounts (quarterly)*



* Q2 2019 is an author's estimate.

Source: https://www.eia.gov/electricity/monthly; 7/25/19

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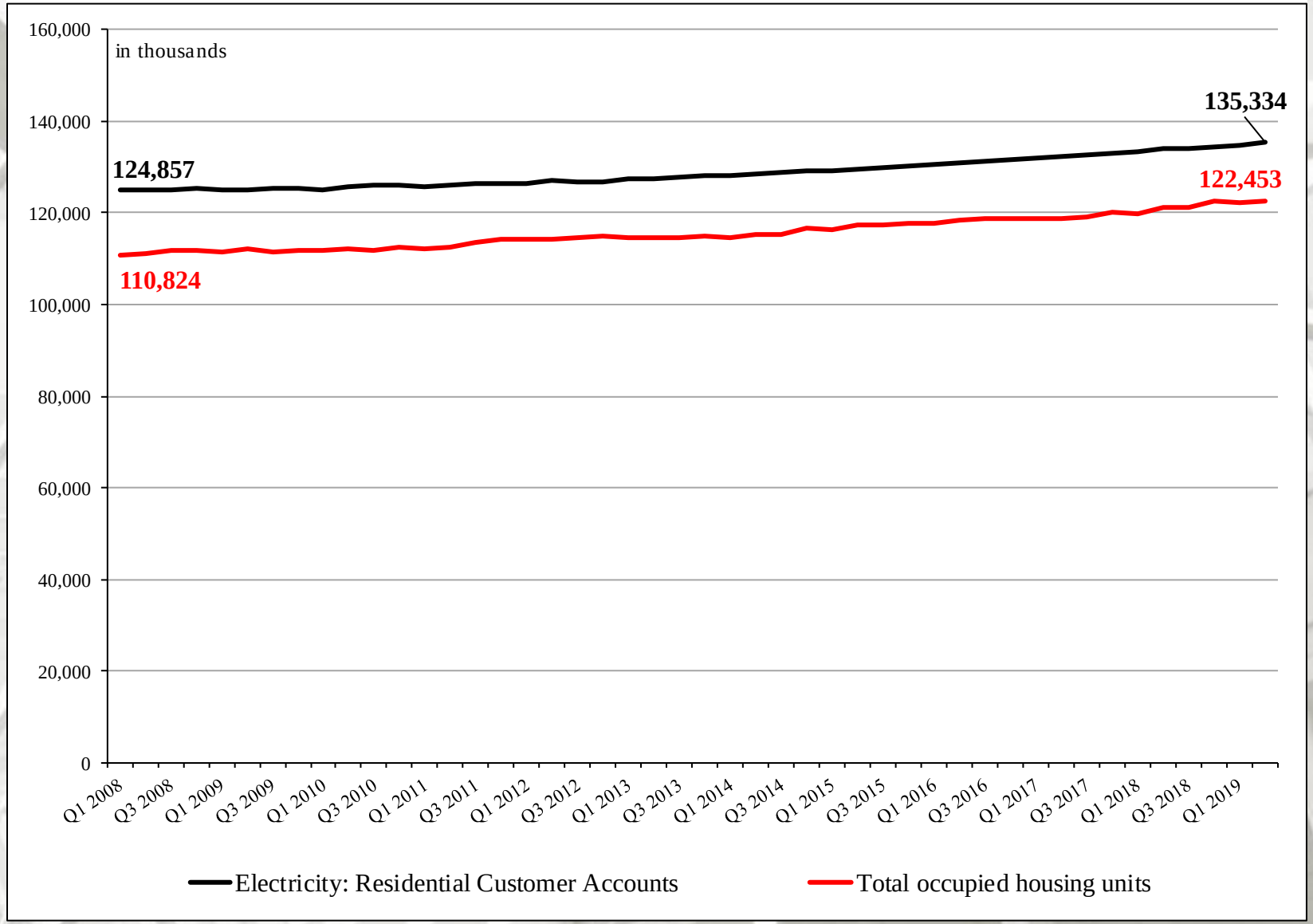
Housing Occupancy & Ownership

Residential Electricity Customers & Occupied Housing



Source: https://www.eia.gov/electricity/monthly and https://www.census.gov/housing/hvs/index.html; 7/25/19

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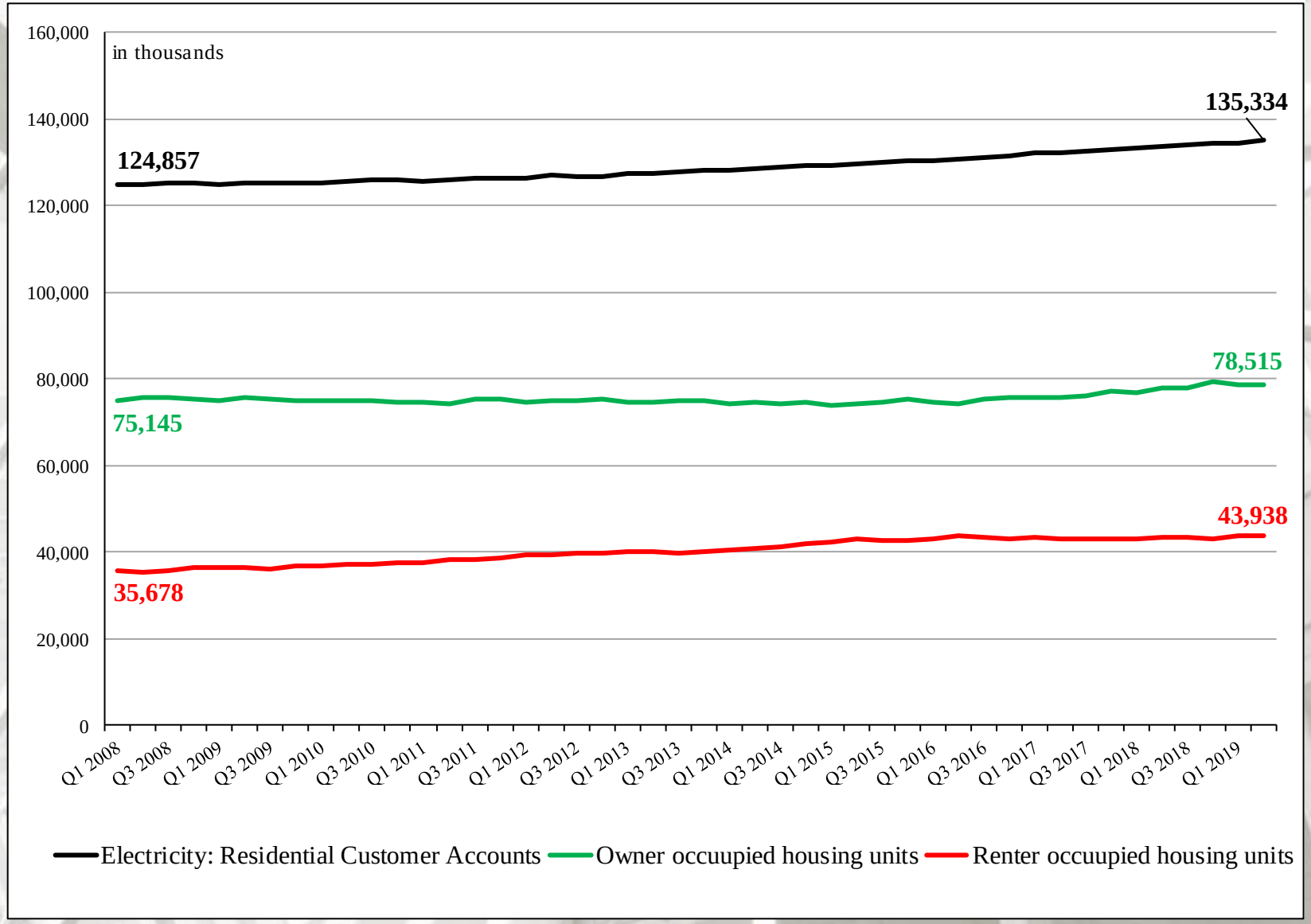
Housing Occupancy & Ownership

Residential Electricity Customers & Occupied Housing



Source: https://www.eia.gov/electricity/monthly and https://www.census.gov/housing/hvs/index.html; 7/25/19

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Housing Occupancy & Ownership

Residential Electricity Customers & Occupied Housing

The U.S. Census reported there were 139,497 thousand houses in the second quarter of 2019.

Occupied houses were 122,453 thousand: 78,515 owner-occupied and 43,938 renter-occupied.

Vacant houses were estimated at 17,044 thousand; of which 13,157 are vacant year round.

The author estimates there were 135,334 thousand residential electricity customers in Q2 2019.

The contrast of Q2 2019 residential vacancies and house ownership, and residential electricity customers, appear to indicate that the U.S. housing market may be performing better than the data and headlines indicate – albeit the upper end SF and MF subsectors.

Source: https://www.eia.gov/electricity/monthly and https://www.census.gov/housing/hvs/index.html; 7/25/19

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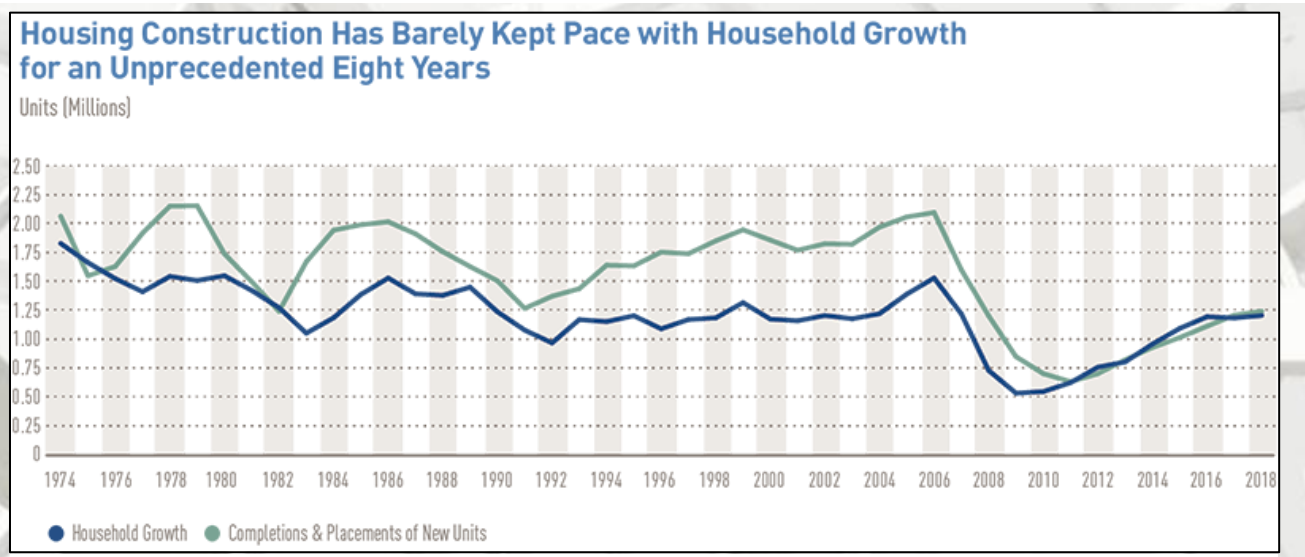
U.S. Housing Market Overview



Notes: Household growth estimates are based on three-year trailing averages. Placements refer to newly built mobile homes placed for residential use.
Source: JCHS tabulations of US Census Bureau, Housing Vacancy Surveys and New Residential Construction data.

Harvard Joint Center for Housing Studies

Headlines From the 2019 State of the Nation's Housing Report

"**1. The slow rebound in construction has resulted in a nationwide shortage of housing**

While household growth has rebounded back to levels from the 1990s and early 2000s, construction activity in 2018 remained less than that of any year from 1982 through the downturn in 2008. This has meant that for the last eight years, construction of new units has only equaled household growth (Report Figure 1), which is important because construction generally needs to exceed household growth by 30 percent or more to not only accommodate household growth but also to replace the roughly 250,000 units per year lost to demolition, account for second homes, and ensure a stable vacancy rate. For a few years, excess vacancies left over from the mid-2000s boom were able to cover for the lack of new construction, but now markets are tight and vacancies are at their lowest levels in decades." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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U.S. Housing Market Overview

Headlines From the 2019 State of the Nation's Housing Report

"**2. Housing affordability continues to be a key challenge**

In 2017, over 38 million households – or nearly a third (31 percent) of all households in the US were considered cost-burdened because they spent more than 30 percent of their incomes on housing. Additionally, roughly 18 million households (15 percent) were severely cost burdened because they spent over half their incomes on housing. Burden rates were highest for renters: nearly half (47 percent) of all renter households were cost burdened and nearly one in four (24 percent) were severely burdened. Although cost-burden rates have fallen from post-recession highs, the number of cost-burdened households is still up by 6.3 million (20 percent) since 2001.

3. Cost burdens are no longer just a problem for low-income renters

Since peaking in 2011, the renter cost-burden rate has fallen by 3.3 percentage points, from 50.7 to 47.4 percent. However, rates are on the rise for nearly all income groups. Growth was particularly large for moderate- and middle-income renter households (Report Figure 4). For example, in 2011-2017, burden rates were up 4.6 percentage points among renters earning $30,000-$45,000 (in constant dollars), while rates rose 2.9 percentage points for those earning between $45,000 and $75,000. Moreover, since 2001, cost-burden rates for renters earning $45,000-$75,000 have nearly doubled, rising from 13 percent in 2001 to 25 percent in 2017. With high costs of housing affecting a broader segment of the population, addressing the issue of housing affordability is increasingly part of policy discussions taking place across the nation." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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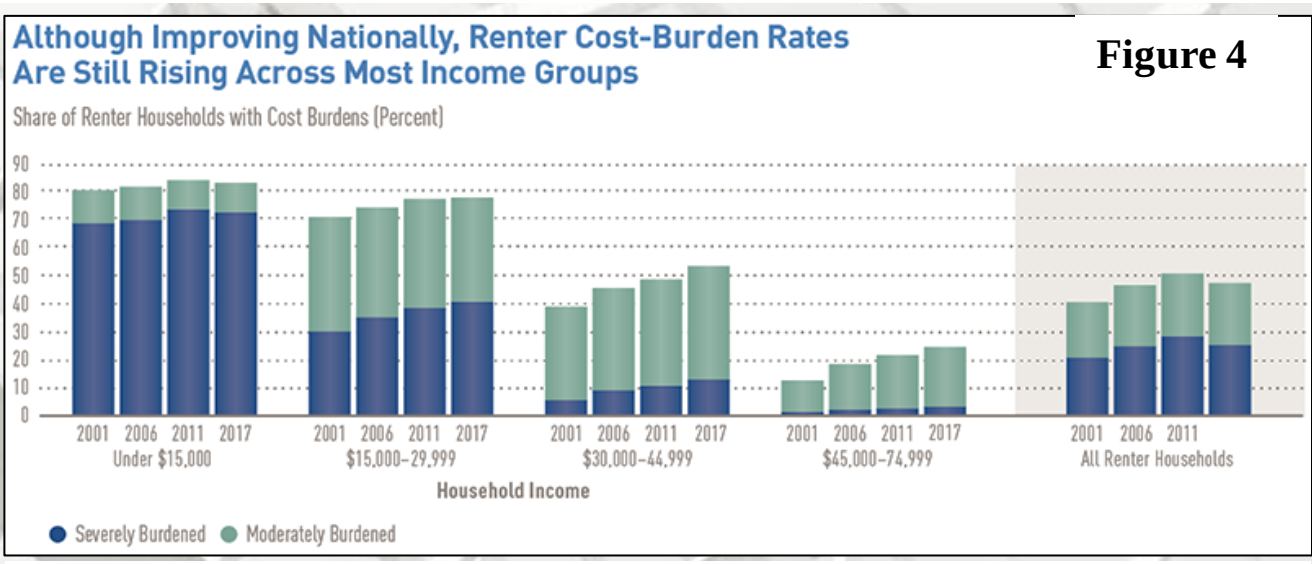
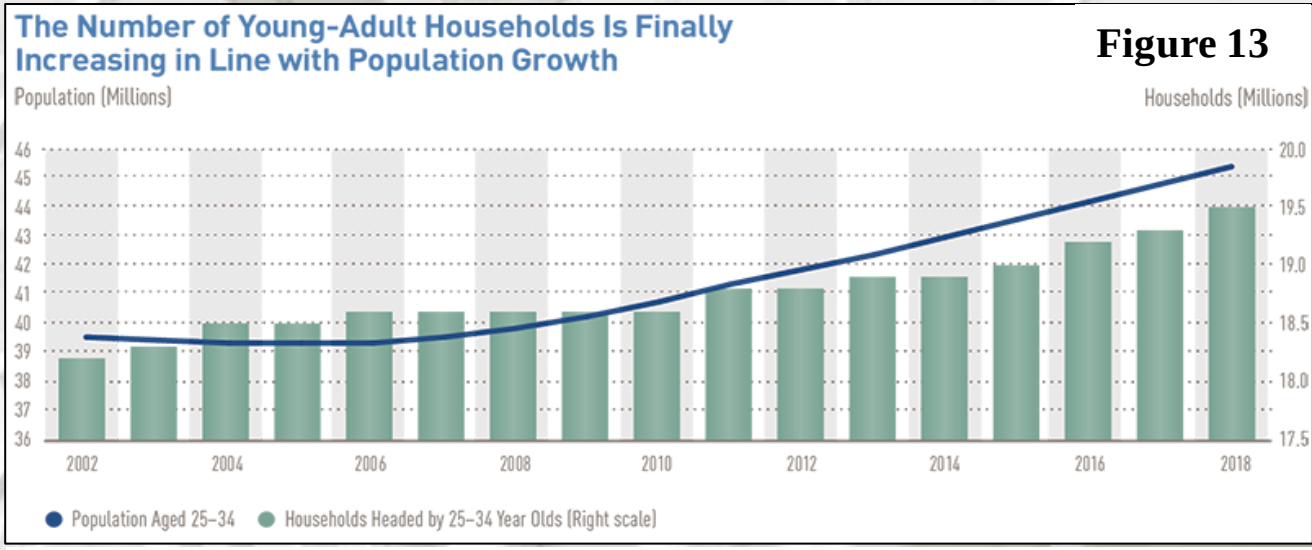
Figure 4



Notes: Household incomes are adjusted to 2017 dollars using the CPI-U for All Items. Moderately (severely) cost-burdened households pay 30-50% (more than 50%) of income for housing. Households with zero or negative income are assumed to have severe burdens, while households paying no cash rent are assumed to be without burdens.
Source: JCHS tabulations of US Census Bureau, Housing Vacancy Surveys and New Residential Construction data.

Figure 13



Notes: Household growth estimates are three-year trailing averages.
Source: JCHS tabulations of US Census Bureau, Housing Vacancy Surveys and New Residential Construction data.

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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Headlines From the 2019 State of the Nation's Housing Report

"4. Millennials drove new household growth, although many are still living with their parents

In total, the number of households headed by people age 25-34 has been increasing by roughly 200,000 per year since 2015, a figure that is only now reflecting the population growth at this age group that began nearly ten years earlier (Report Figure 13). But high shares of adults in their 20s and 30s are still living with parents or are doubling up, especially in the most expensive metros with the highest rents. In fact, the share of 25-34 year olds living in their parents' or grandparents' homes hit a new high of 22.8 percent in 2017, which was nearly double the 12.1 percent rate in 2000. Recent trends in young adult households therefore do not reflect a decline in living with parents and doubling up, but simply a slowing of these trends to the point where population growth in this age group is driving up the number of young adult households.

5. Demand for homeownership has returned but the black-white homeownership gap widened

With the addition of well over a million new homeowner households, homeownership was up in 2018. Since hitting bottom in 2016, the US homeownership rate has increased by a full percentage point, rising from 63.4 to 64.4 percent. Signaling an increase in first-time home buying, the sharpest rise in homeownership rate (1.7 percentage points) was among adults under age 35. However, increases were not equal across race/ethnicity. Most notably, the homeownership rate for black households rose by only 0.7 percentage points, while that for whites rose by 1.1 percentage points. As a result, **the gap between black and white homeownership rates is higher than it has been in at least three decades**." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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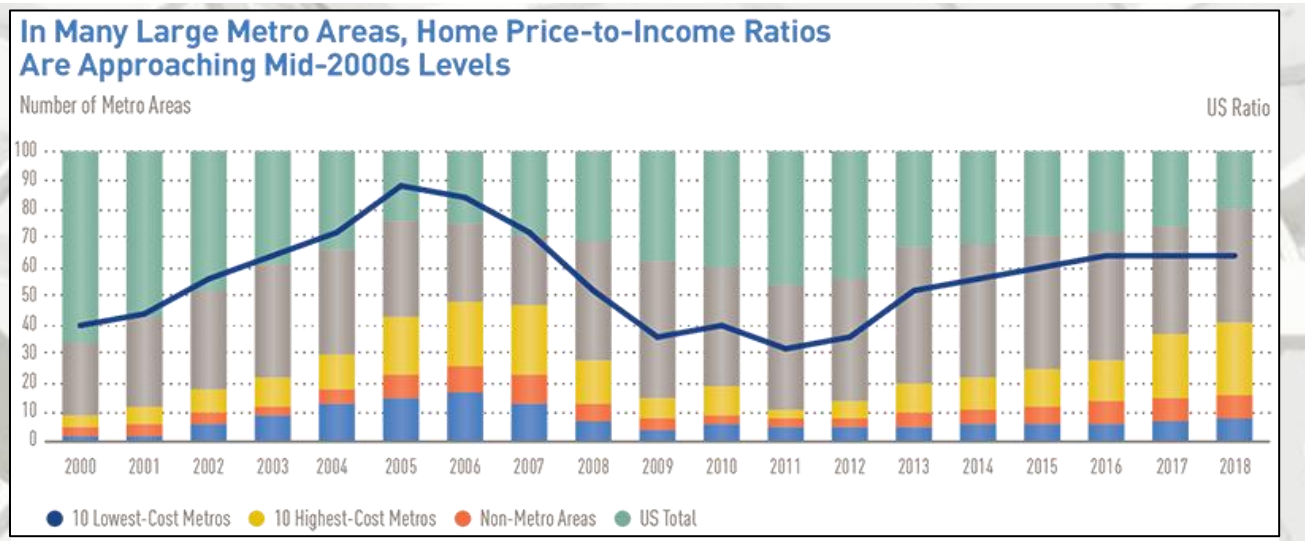
U.S. Housing Market Overview



Notes: The 10 lowest- (highest-) cost metros are in the bottom (top) decile of the 100 largest metros for median home values in 2018, based on Zillow estimates. Non-metro prices are weighted averages of all state non-metro prices, with each state's value weighted by the share of detached single-family homes.
Sources: JCHS tabulations of FHFA, All-Transactions House Price Index; Zillow median home values.

Headlines From the 2019 State of the Nation's Housing Report

"6. Home prices are rising faster than incomes

Although real median household incomes rose by 17 percent between 2011 and 2017, real median home prices rose by 42 percent in that time. As a result, price-to-income ratios across the country are back to levels from the mid-2000s (Report Figure 11). In fact, these ratios are higher than they were during the housing boom in one-third of the largest metros, including Denver, San Jose, Nashville, and Atlanta. Home prices were driven up in part by **substantial increases in residential land values**, which were up by 27 percent nationally between 2012 and 2017. While the largest increases in land prices occurred in Western states, such as Nevada (158 percent), Colorado (96 percent), and California (88 percent), the highest median land prices generally were found in Eastern states." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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Headlines From the 2019 State of the Nation's Housing Report

"7. In many metros, very few homes are affordable to the typical renter

Interest rates on the 30-year fixed rate mortgage, which began 2018 at an average of 3.95 percent, had risen to 4.94 percent by the middle of November. As a result, even though the median home price was only up 3 percent, a new owner's monthly housing costs for median priced home were up by 8 percent for the year. Combined, these rising costs have pushed the median-priced home well beyond what the median household could afford in several metros – **leaving only small shares homes affordable to the typical household**. And in 63 metros (including New York, Boston, Seattle, Denver, and Portland) the median renter household could afford less than a quarter of recently sold homes. Leading this list was Los Angeles, where less than 6 percent of recently sold homes were affordable to the median renter.

8. Although overall rental demand declined, pressures at both the high and low end kept rental markets tight

As more households became homeowners, the overall number of renter households declined in 2018. However, by many indicators rental markets remained stable nationally over the past year. At the high end, it was a story of strong demand. Even though the total number of renters declined in 2018, the number of high-income renter households grew significantly, which drove up rents, drove down vacancy rates, and sustained demand for multifamily construction. In the institutionally owned apartment sector (typically higher-end units), net apartment lease-ups actually outpaced growth in apartment units. At the low end, by contrast, it was a story of diminishing supply. Indeed, **the supply of low-cost rental units has shrunk dramatically**. The number of units renting for under $800 per month dropped by 1 million nationally in 2017 alone and by 4 million in 2011-2017. These declines, which occurred in three-quarters of all US metro areas, tightened markets and exacerbated affordability problems for low-income renters across the country." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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"9. For the first time in seven years, the number of people experiencing homelessness rose

After falling for seven consecutive years, the number of people experiencing homelessness edged up by 0.3 percent in 2018. The increase was driven by a rise in the unsheltered homeless population, which rose by 2.3 percent over the past year and is now up by 12.2 percent since 2015. The increases were particularly notable in several high-cost Western states, such as California, where unsheltered homelessness rose by 25 percent between 2014 and 2018 – an increase of 18,000 people. Addressing the current rise will require a targeted strategy with consistent funding to sustain and further previous improvements that have targeted and reduced homelessness among veterans, families, and chronically homeless individuals over the past decade.

10. Highly damaging natural disasters are getting more frequent and costly

The number of highly damaging natural disasters has been growing, and the costs of these disasters is rising (Report Figure 37). According to NOAA, there were 14 natural disasters in 2018 that caused at least $1 billion in damage, following 16 such events in 2017, which combined is more storms in two years than occurred throughout the entire 1980s. In addition to causing physical and emotional harm to the population, these damages are also taking a significant financial toll on homeowners. According to our tabulations, homeowner outlays for disaster-related improvements have doubled in real terms from $7 billion per year in the late 1990s to $14 billion per year so far in the 2010s. Given the significant affordability challenges and financial constraints many households already face, finding the resources to adapt and strengthen the current housing stock, to mitigate future damage, as well as to fix the damage done by these increasingly likely storms is an urgent housing challenge for the nation." – Daniel McCue, Senior Research Associate, Joint Center for Housing Studies

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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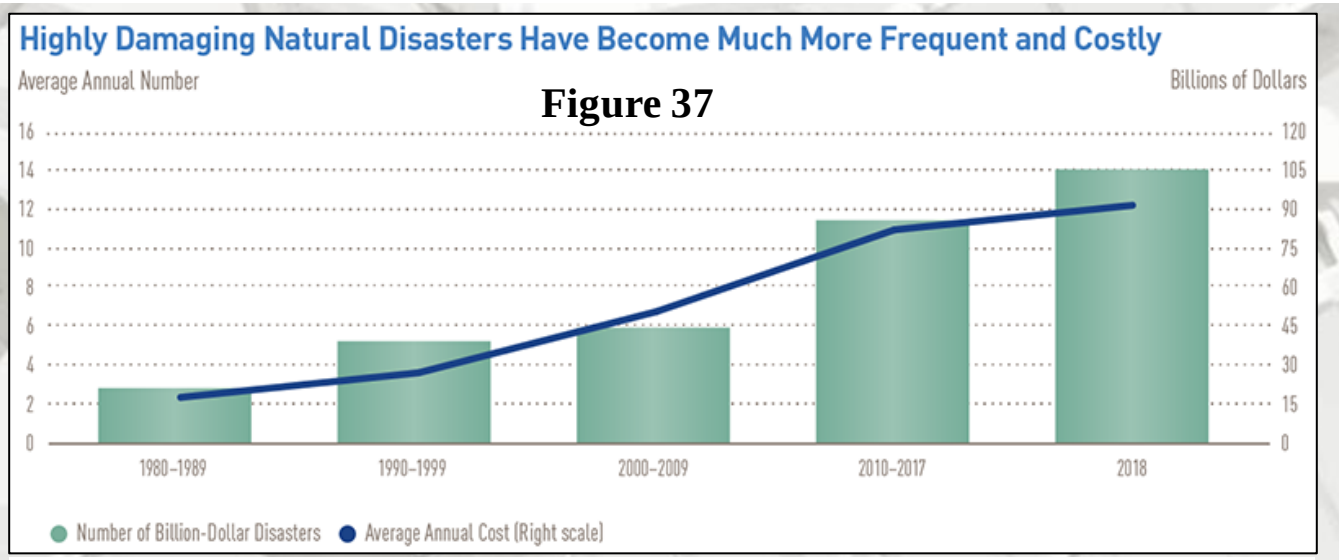

Figure 37

Note: Values are adjusted to March 2019 dollars using the CPI-U for All Items
Source: JCHS tabulations of National Oceanic and Atmospheric Administration, Billion-Dollar Weather and Climate Disasters: Time Series.

Sources: https://www.jchs.harvard.edu/blog/headlines-from-the-2019-state-of-the-nations-housing-report//; 8/7/19

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Summary

In conclusion:

June 2019 United States housing data was similar to May, with the majority of data points reported being negative. Single-family starts and permits, new single-family sales and total housing under construction were positive month-over-month, which is good for the lumber industry. The year-over-year data were similar, with only total housing starts, total and single-family under construction, single-family completions, and new single-family sales positive.

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

Pros:

1) Historically low interest rates are still in place;
2) Select builders are beginning to focus on entry-level houses.

Cons:

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

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