

The Virginia Tech–USDA Forest Service Housing Commentary: Section I

June 2021



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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

Opening Remarks

The month-over-month housing data for June' were predominantly positive year-over-year and month-over-month. However, housing permit and housing completions (all sub-categories) and new housing sales were negative on a month-over-month basis.

The August 6th Atlanta Fed GDPNow™ model forecast was an aggregate 4.6% increase for total residential investment spending. New private permanent site expenditures were projected at 5.5%; the improvement spending forecast was -0.5%; and the manufactured/mobile expenditures projection was 8.6% (all: quarterly log change and at a seasonally adjusted annual rate).¹

“What was really striking to me was the consistency in the decline in the share of entry-level homes, irrespective of geography. The thing that struck me the most was that really, it’s all endemic. It’s all over the U.S. It doesn’t matter where. You can really draw a straight line from the 1940s down to the most recent years, which is really striking and also very concerning. We’ve got a record number of entry-level, demand buyers: the millennials coming into the market. And yet we’ve had a seven- or eight-year decline in entry-level homes, and that’s not going to change.”² – Sam Khater, Chief Economist and Head, Economic and Housing Research Division, Freddie Mac.

This month’s commentary contains applicable housing data, remodeling commentary, and United States housing market observations. Section I contains relevant data, remodeling, and housing finance commentary. Section II includes regional Federal Reserve analysis, private firm indicators, demographic, and economic information.

Sources: ¹ www.frbatlanta.org/cqer/research/gdpnow.aspx; 8/6/21;

² <https://www.wsj.com/articles/the-shortage-of-starter-homes-extends-beyond-major-cities-11626872400?mod=mhp>; 7/21/21

June 2021

Housing Scorecard

		M/M	Y/Y
Housing Starts	▲	6.3%	▲ 29.1%
Single-Family (SF) Starts	▲	6.3%	▲ 28.5%
Multi-Family (MF) Starts*	▲	6.2%	▲ 30.5%
Housing Permits	▼	5.3%	▲ 23.0%
SF Permits	▼	6.0%	▲ 25.4%
MF Permits*	▼	3.8%	▲ 18.4%
Housing Under Construction	▲	1.8%	▲ 14.5%
SF Under Construction	▲	2.9%	▲ 31.8%
Housing Completions	▼	1.4%	▲ 6.5%
SF Completions	▼	6.1%	▼ 2.7%
New SF House Sales	▼	6.6%	▼ 19.4%
Private Residential Construction Spending	▲	1.1%	▲ 29.3%
SF Construction Spending	▲	1.8%	▲ 51.9%
Existing House Sales ¹	▲	1.4%	▲ 22.9%

* All multi-family (2 to 4 + ≥ 5-units)

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

USDA Forest Service Housing Story Map

USDA FOREST SERVICE HOUSING MARKET REVIEW

Forest Products Laboratory, Economics, Statistics and Life Cycle Analysis Research

USDA

WELCOME

MONTHLY HOUSING BRIEFS AND COMMENTARIES

CONSTRUCTION DATA

HOUSING METRICS AND THE WOOD RESOURCE

RESOURCES AND REFERENCES

USDA Forest Service Housing Market Review

Housing's Importance

The total value of all homes in the U.S. in 2017 was estimated at \$31.8 trillion.¹


The value of wood building materials consumed in new residential and remodeling construction was estimated at \$37.4 billion in 2018.²

Historic as well as current housing trends show that new, single-family construction is the greatest value-added wood products consuming sector and is a leading coincident economic indicator of the U.S. economy. The forest products sector helps sustain the social, economic, and ecological benefits of forest based industry in the United States. Product revenues sustain economic benefits that include jobs and income. Ecological and social benefits can be supported by timber revenue to landowners that help keep land in forests, and by forest treatments that can help maintain ecological functions. The degree to which the forest products sector helps sustain benefits is influenced by levels of demand and consumption of forest products and how technology, markets, and demand for timber translates into harvest of different species and sizes of trees in different regions.

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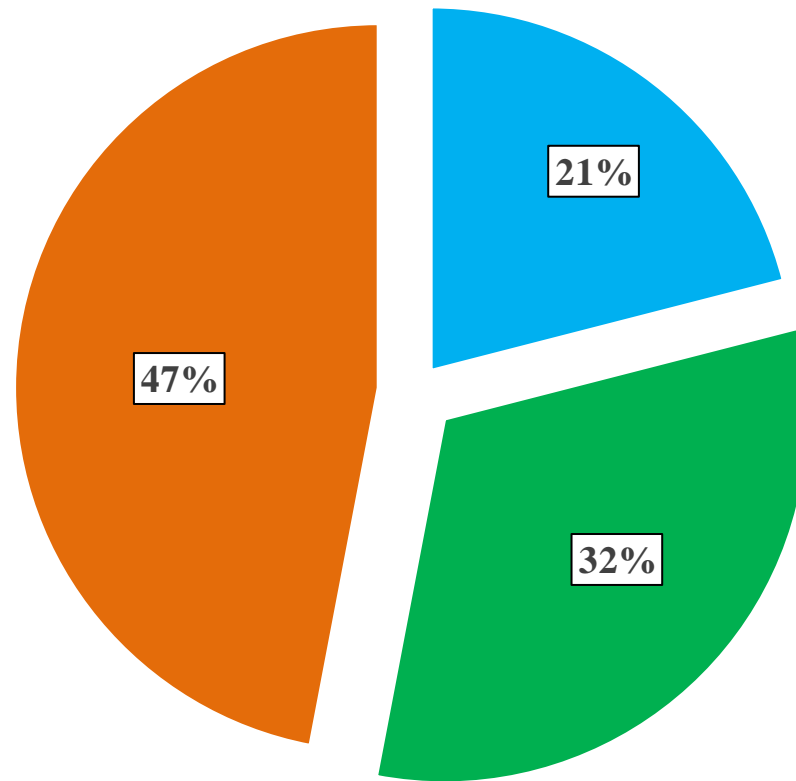
USDA Forest Service Housing Market Review

Each story map's tab contains a compilation of housing information. The 'Construction Data' tab is interactive and allows one the capability to gather and view US Census-Construction data at the national or metropolitan statistical area (MSA) level.

The story map is available at the following link:

<https://www.arcgis.com/apps/MapSeries/index.html?appid=9553db0ea36140d28076399e898dc693>

New Construction's Percentage of Wood Products Consumption

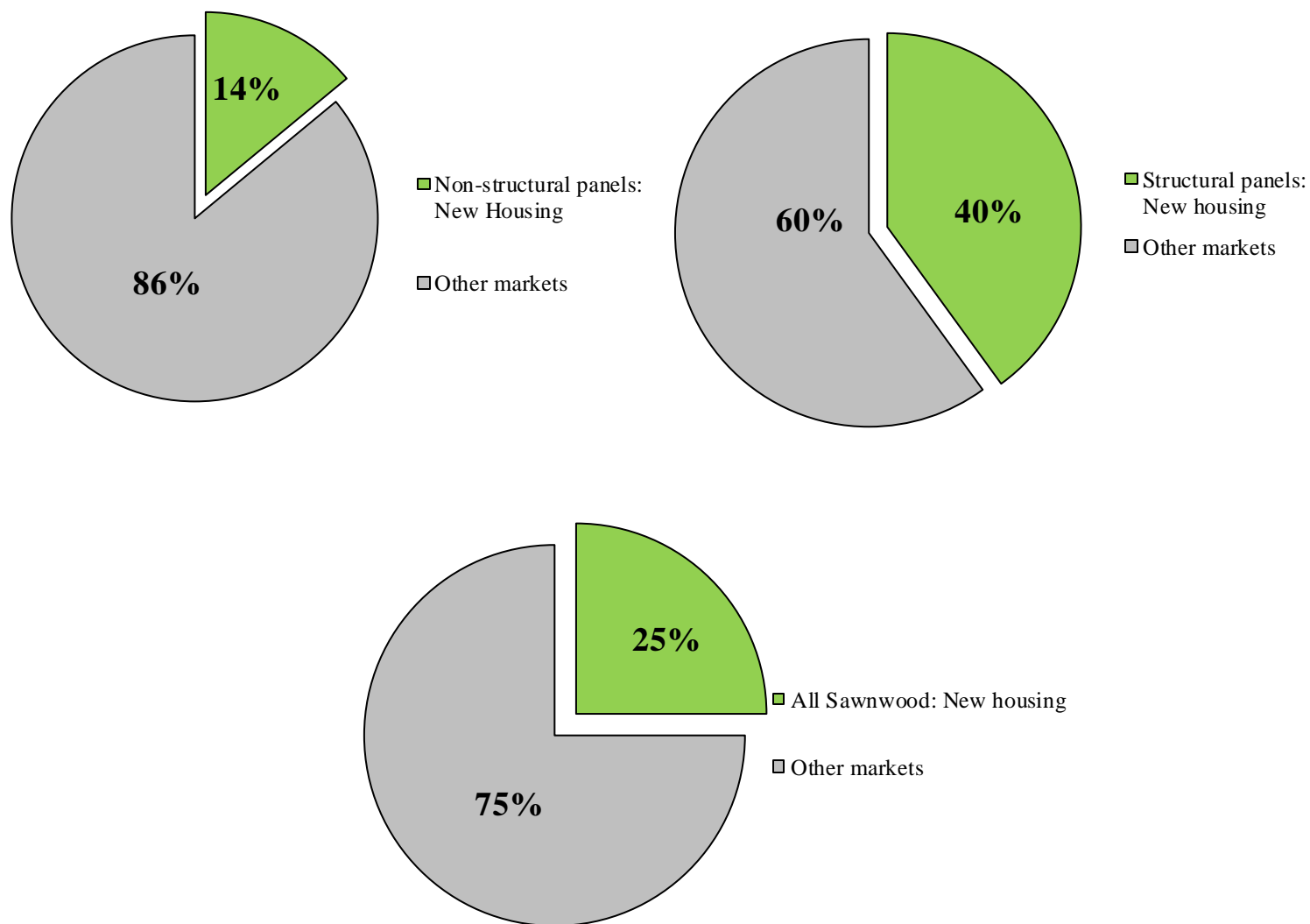


■ Non-structural panels

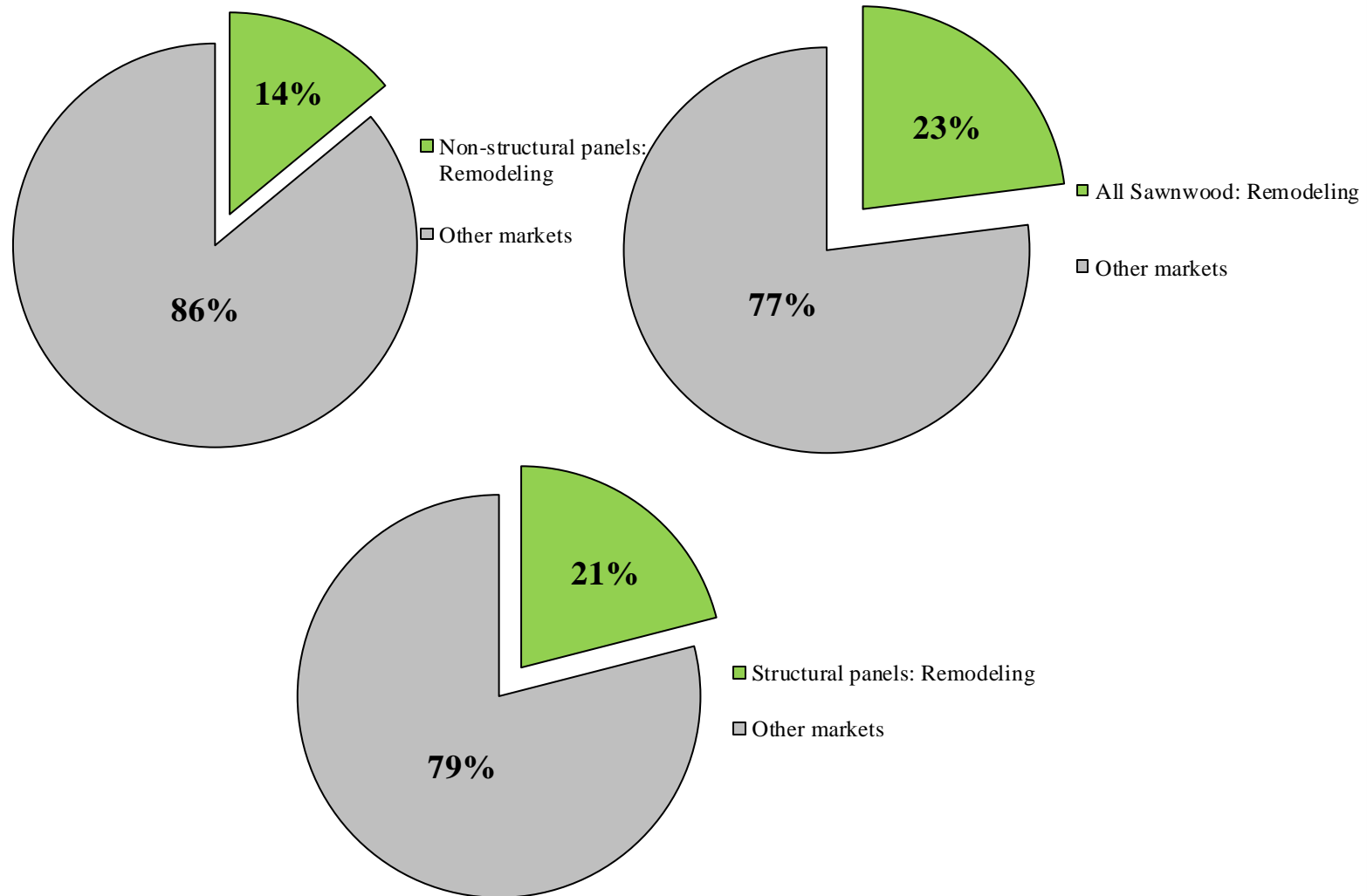
■ Total Sawnwood

■ Structural panels

New SF Construction Percentage of Wood Products Consumption



Repair and Remodeling's Percentage of Wood Products Consumption



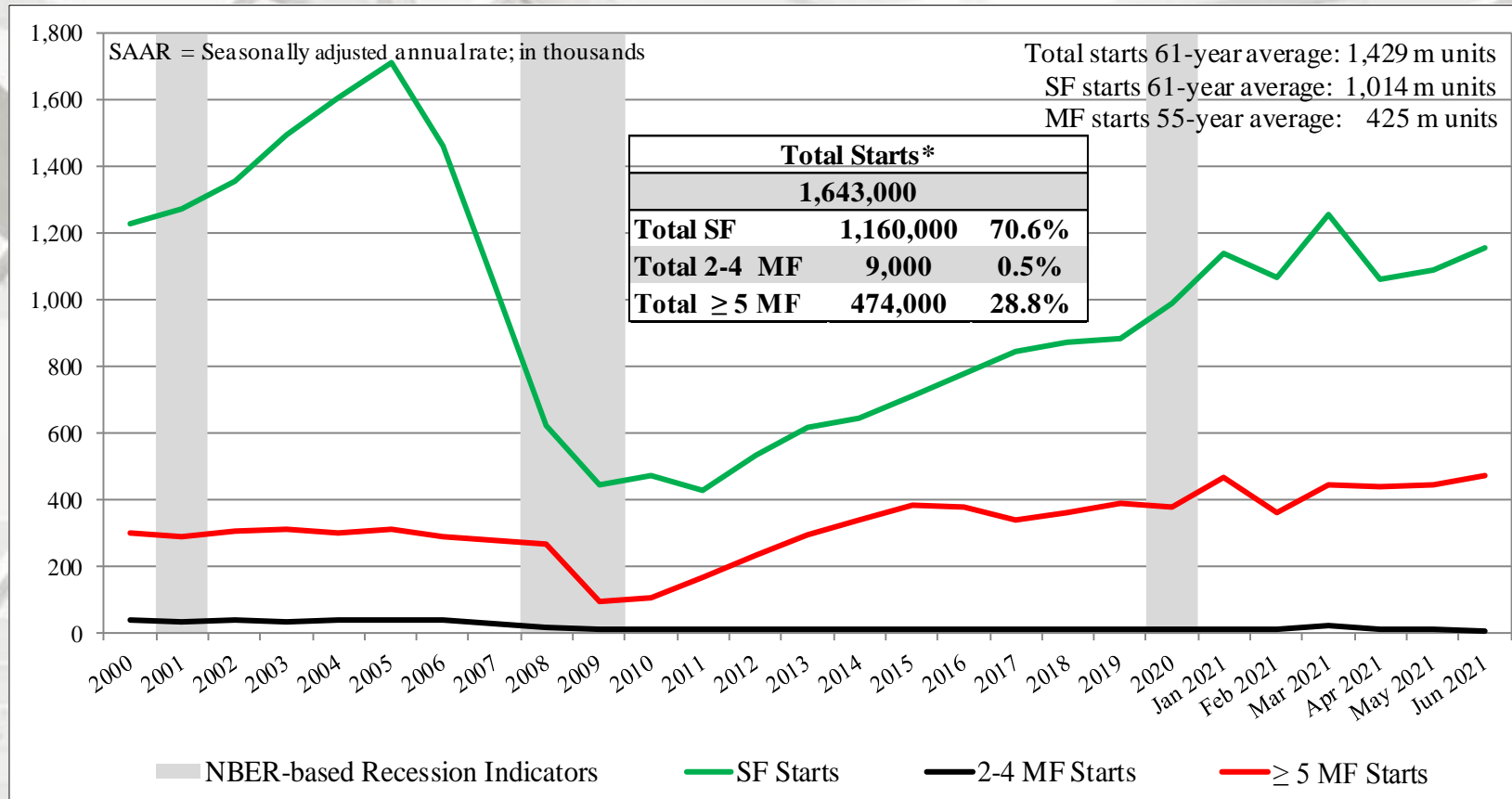
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
June	1,643,000	1,160,000	9,000	474,000
May	1,546,000	1,091,000	11,000	444,000
2020	1,273,000	903,000	7,000	363,000
M/M change	6.3%	6.3%	-18.2%	6.8%
Y/Y change	29.1%	28.5%	28.6%	30.6%

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

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

Total Housing Starts

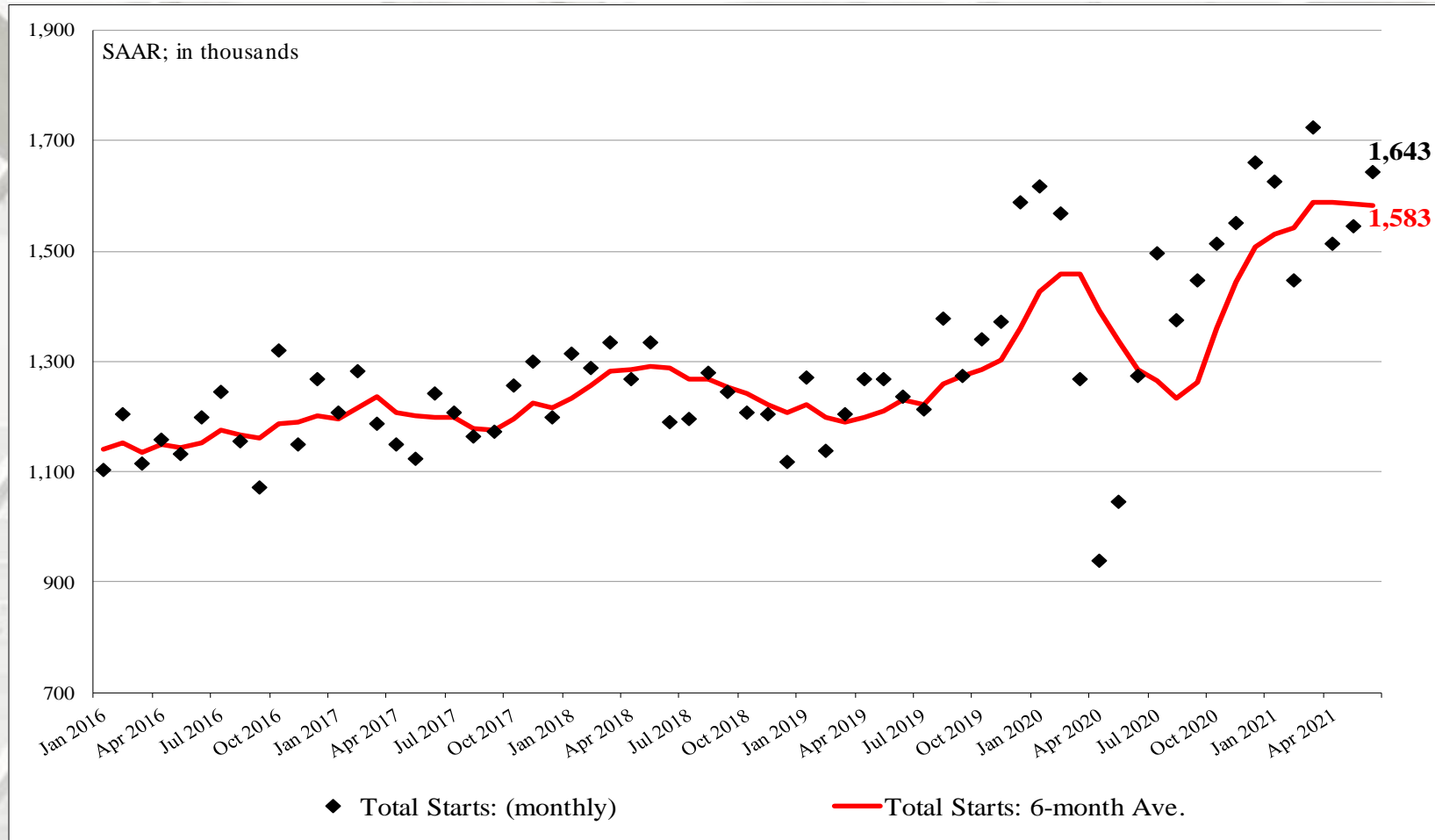


US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: $((\text{Total starts} - (\text{SF} + \geq \text{MF})))$.

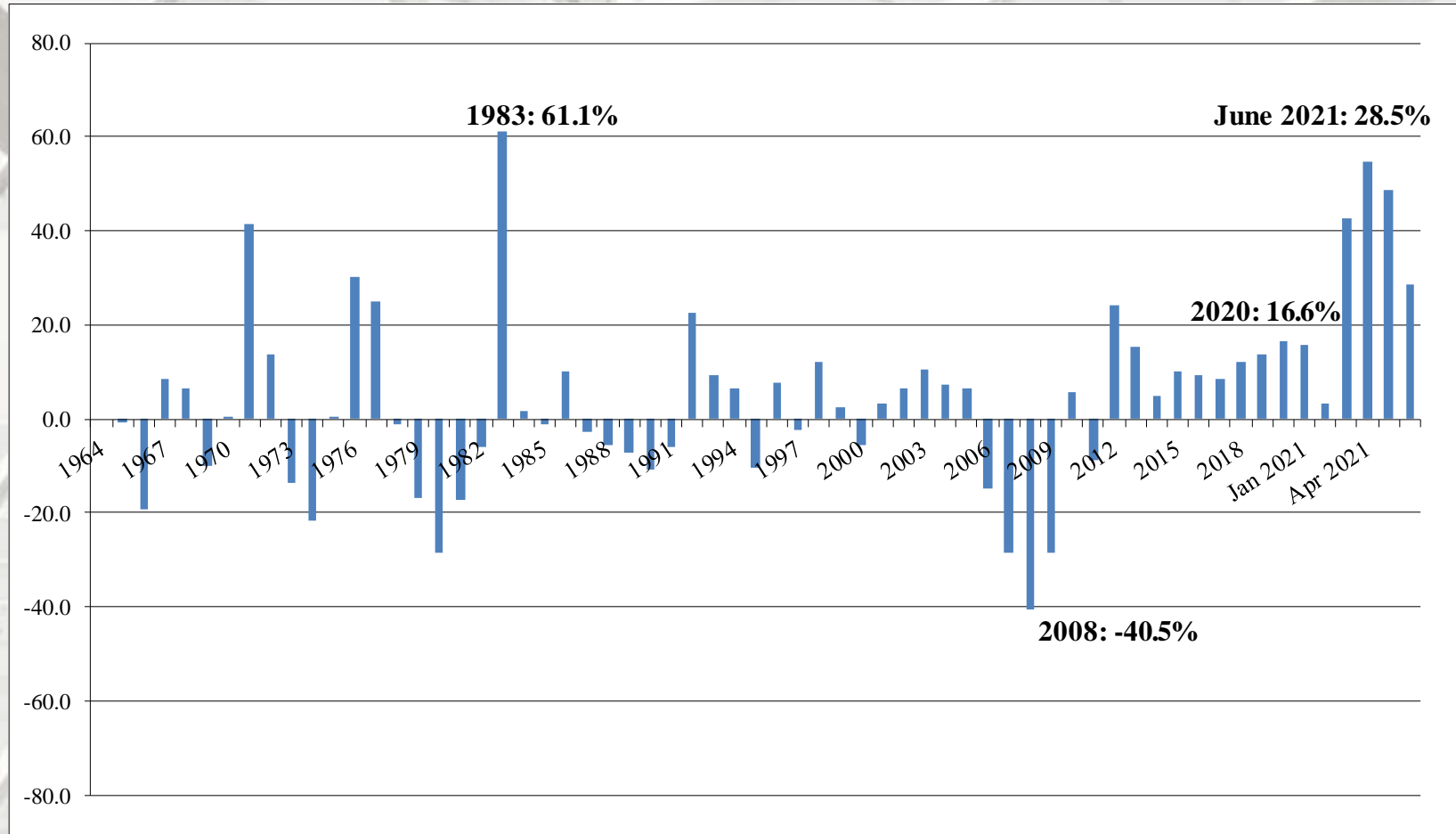
* Percentage of total starts.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

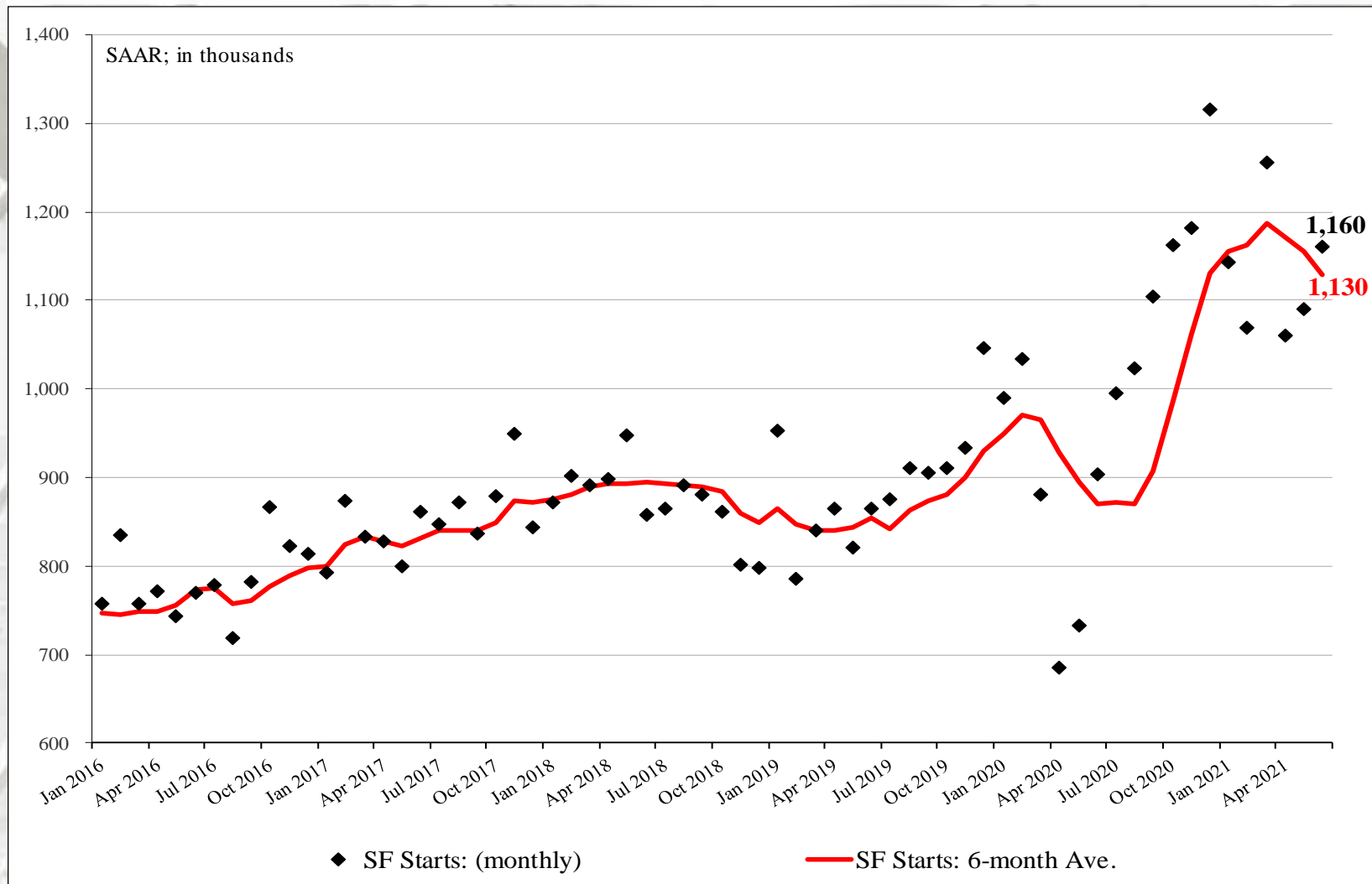
Total Housing Starts: Six-Month Average



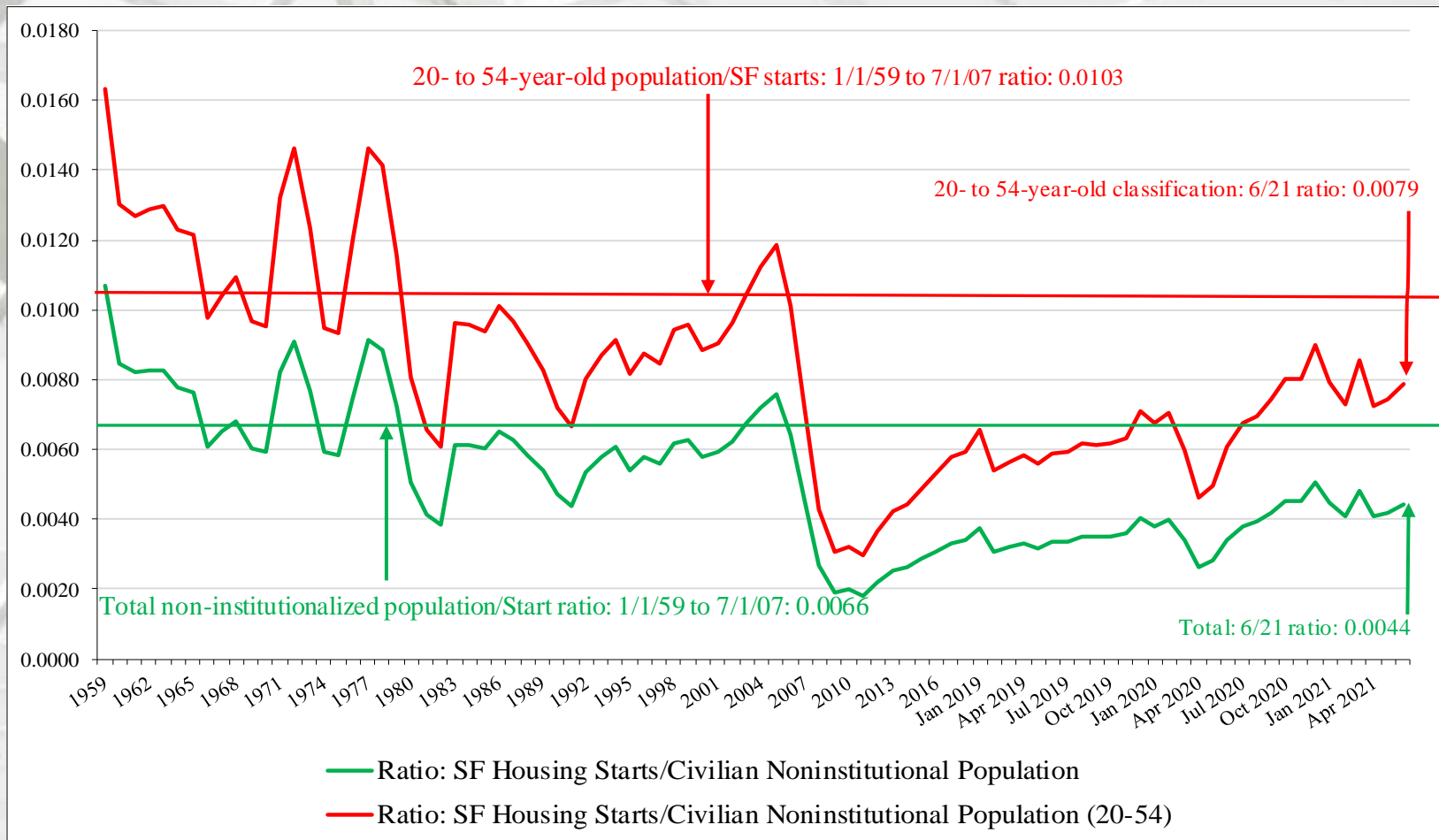
SF Housing Starts: Year-over-Year Change



SF Housing Starts: Six-Month Average



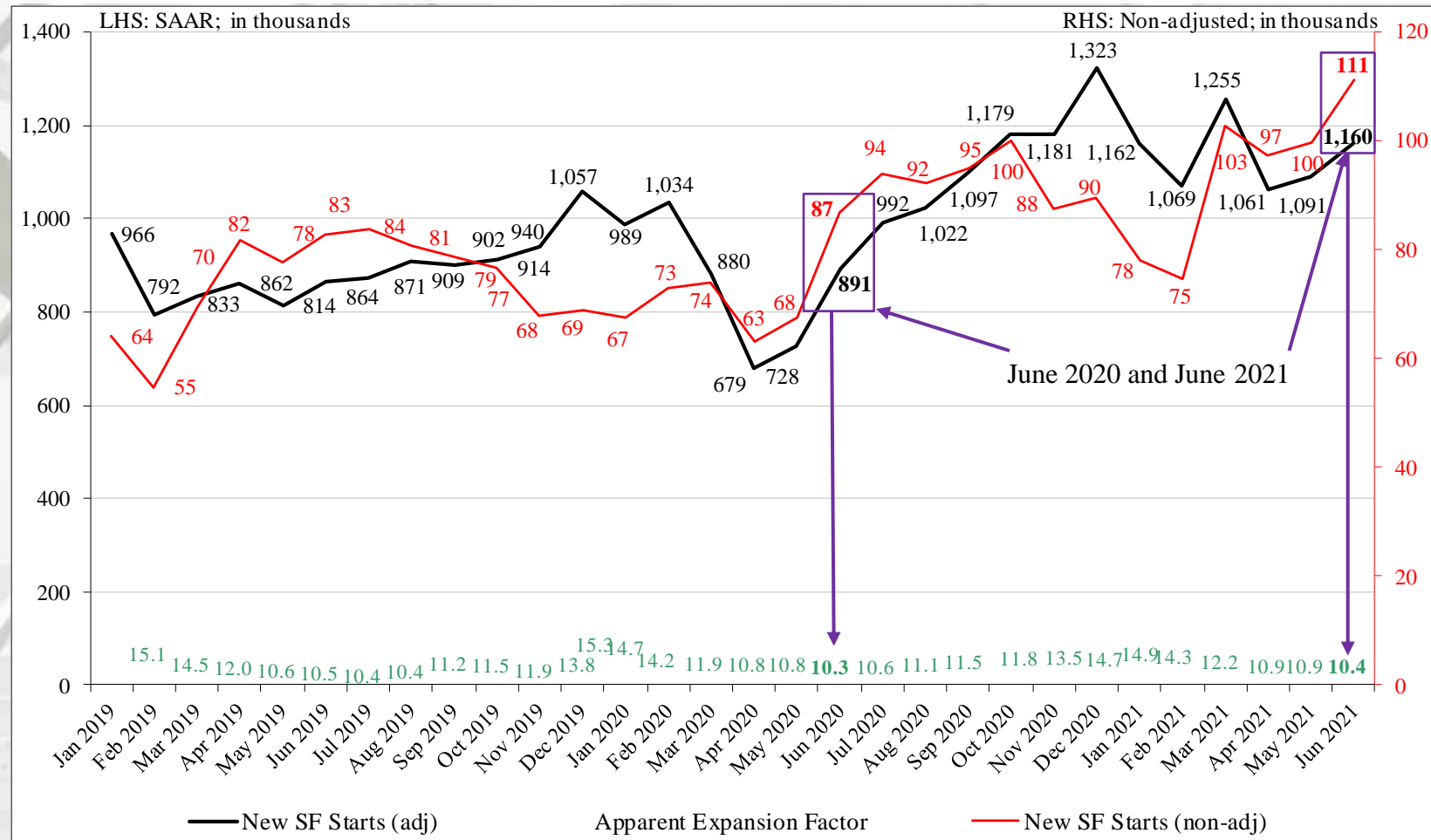
New SF Starts



New SF starts adjusted for the US population

From June 1959 to July 2007, the long-term ratio of the total US non-institutionalized population to new SF starts is 0.0066; in June 2021 it was 0.0044 – a slight increase from May. The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in June 2021 was 0.0079 – an increase from May (0.0074). From a population worldview, new SF construction is less than what is necessary for changes in population (i.e., under-building).

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

New Housing Starts by Region

	NE Total	NE SF	NE MF**
June	122,000	82,000	40,000
May	134,000	61,000	73,000
2020	116,000	77,000	39,000
M/M change	-9.0%	34.4%	-45.2%
Y/Y change	5.2%	6.5%	2.6%
	MW Total	MW SF	MW MF
June	210,000	133,000	77,000
May	227,000	166,000	61,000
2020	208,000	134,000	74,000
M/M change	-7.5%	-19.9%	26.2%
Y/Y change	1.0%	-0.7%	4.1%

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

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

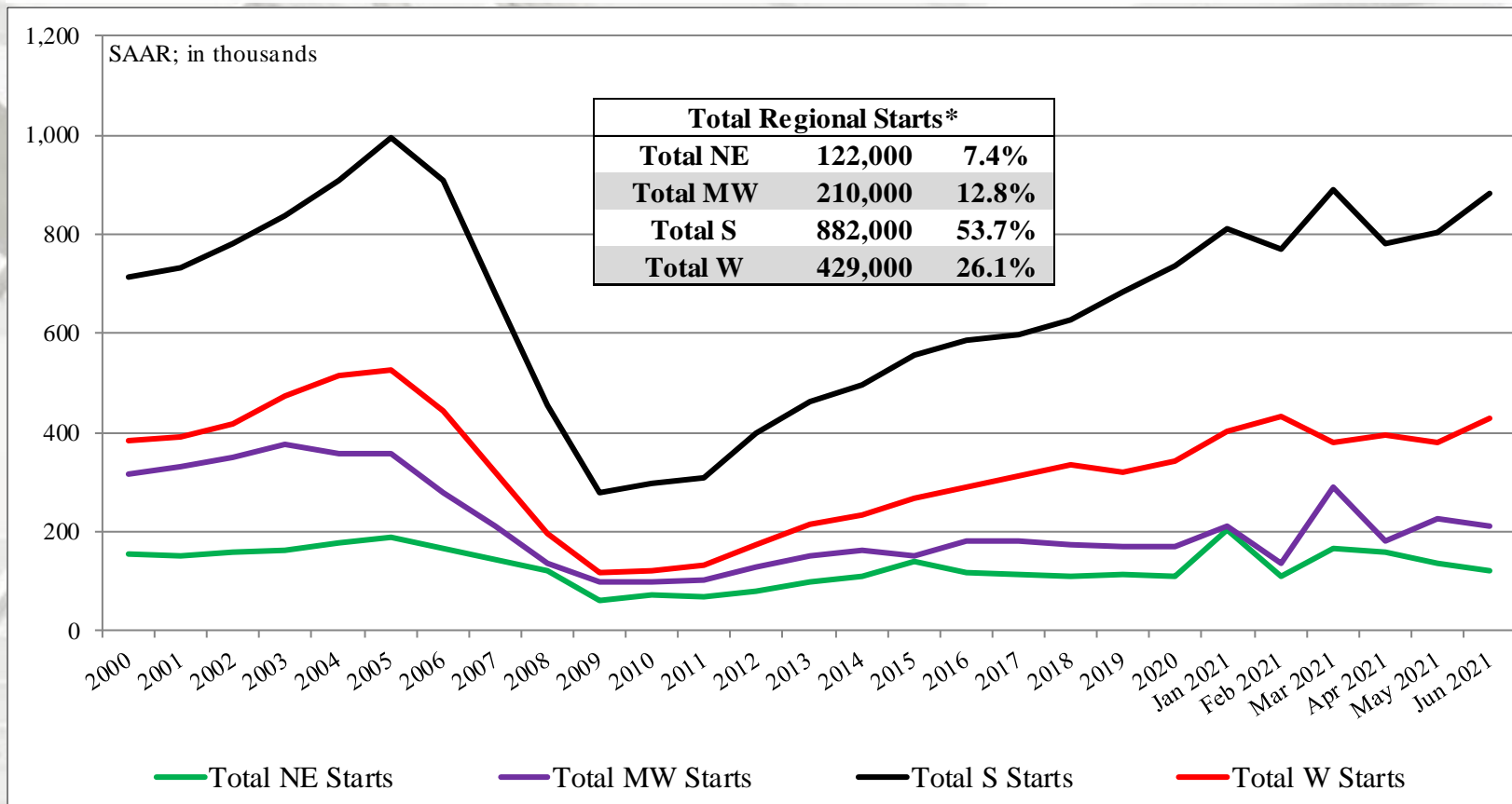
New Housing Starts by Region

	S Total	S SF	S MF**
June	882,000	672,000	210,000
May	804,000	591,000	213,000
2020	653,000	489,000	164,000
M/M change	9.7%	13.7%	-1.4%
Y/Y change	35.1%	37.4%	28.0%
	W Total	W SF	W MF
June	429,000	273,000	156,000
May	381,000	273,000	108,000
2020	296,000	203,000	93,000
M/M change	12.6%	0.0%	44.4%
Y/Y change	44.9%	34.5%	67.7%

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

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

New Housing Starts by Region

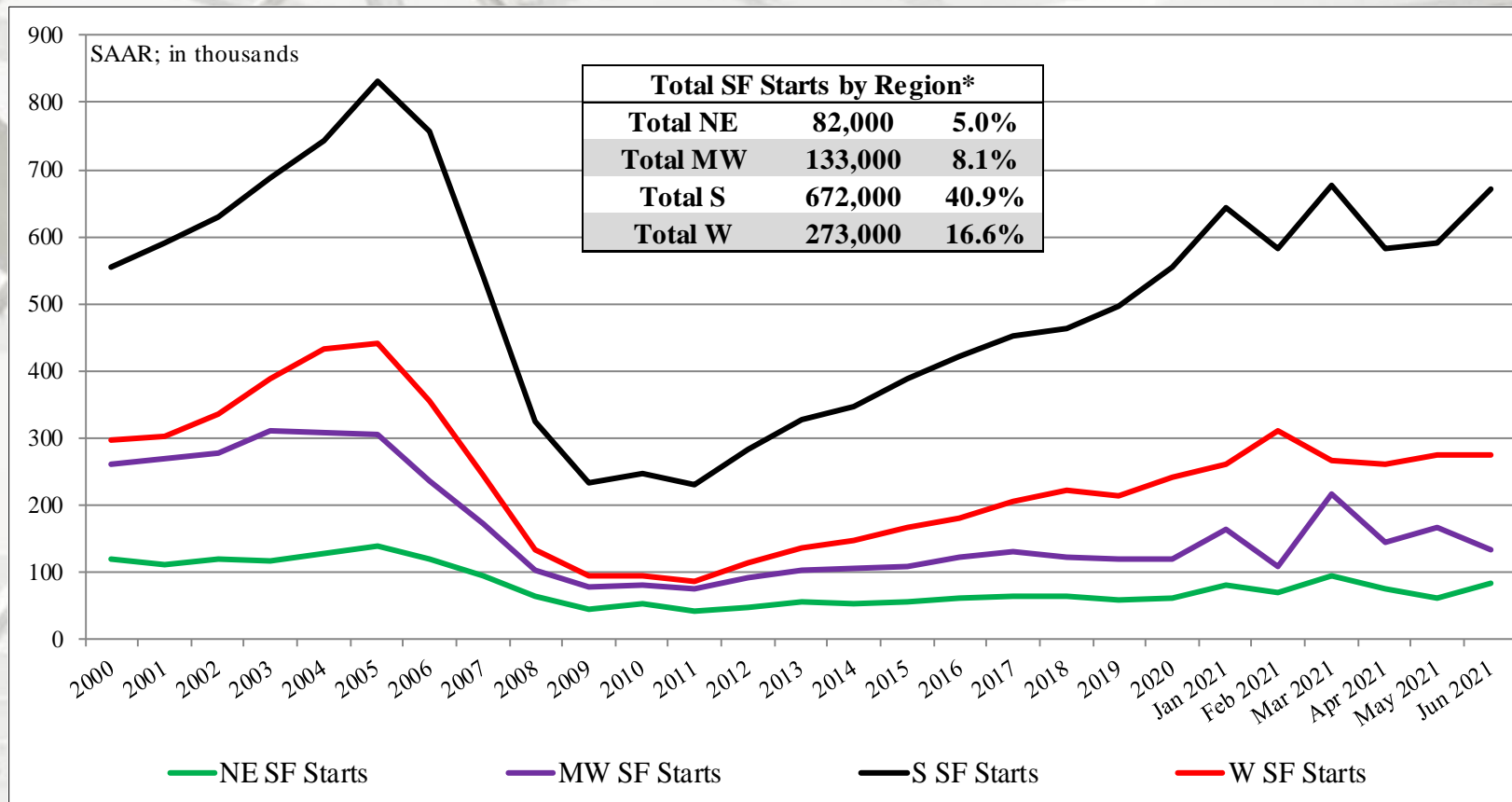


NE = Northeast, MW = Midwest, S = South, W = West

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.

Total SF Housing Starts by Region

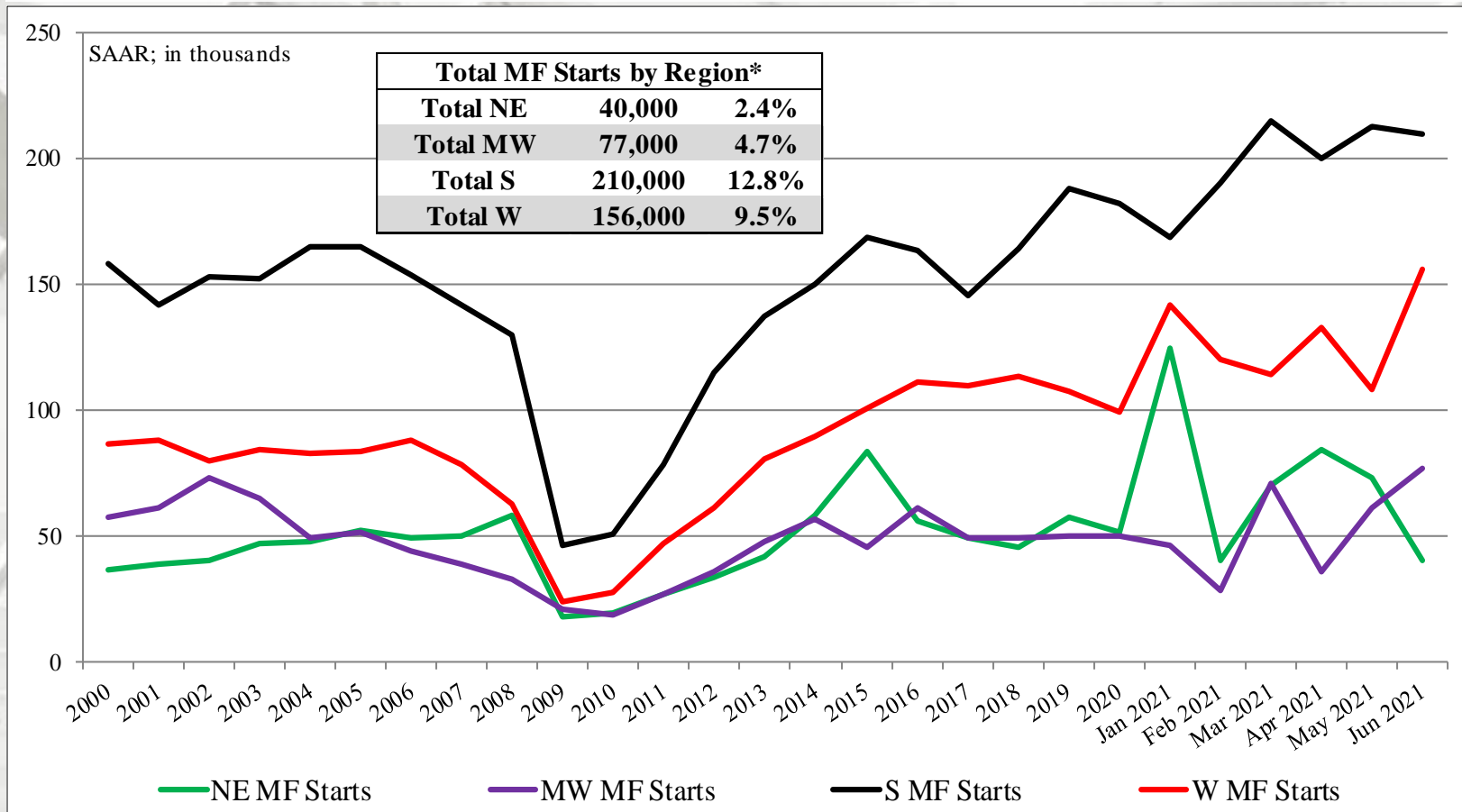


NE = Northeast, MW = Midwest, S = South, W = West

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.

MF Housing Starts by Region

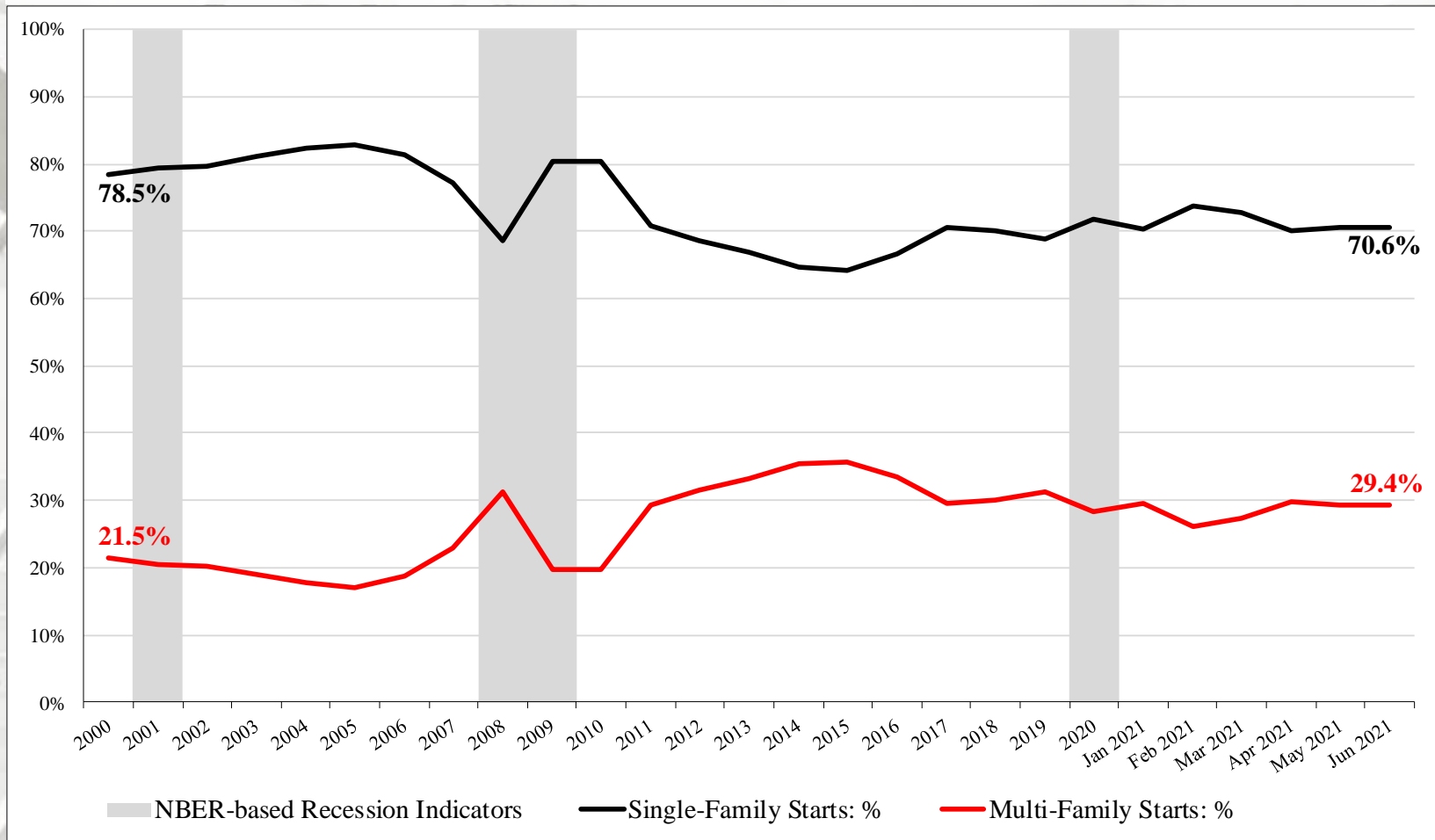


NE = Northeast, MW = Midwest, S = South, W = West

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.

SF vs. MF Housing Starts (%)



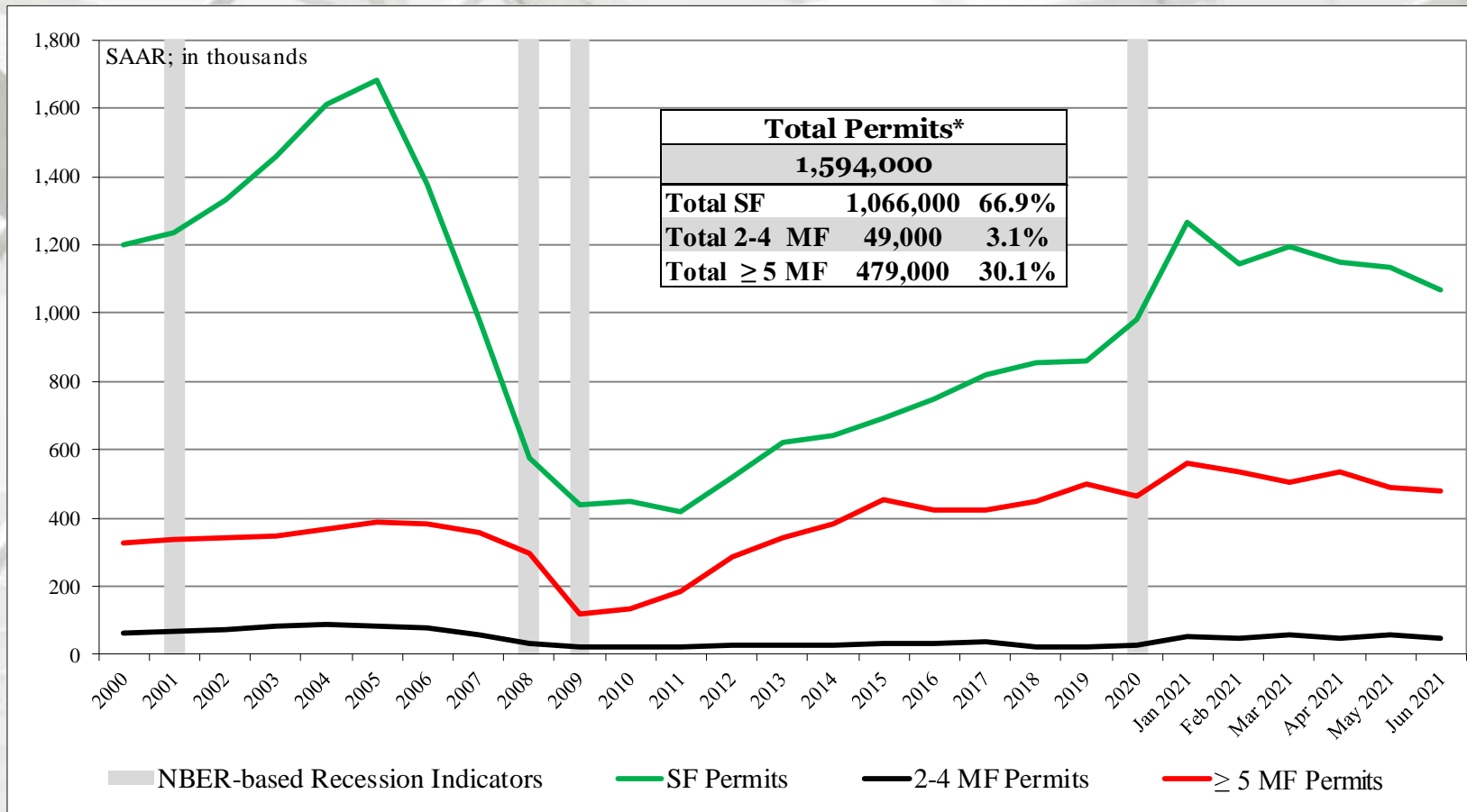
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
June	1,594,000	1,066,000	49,000	479,000
May	1,683,000	1,134,000	58,000	491,000
2020	1,296,000	850,000	41,000	405,000
M/M change	-5.3%	-6.0%	-15.5%	-2.4%
Y/Y change	23.0%	25.4%	19.5%	18.3%

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

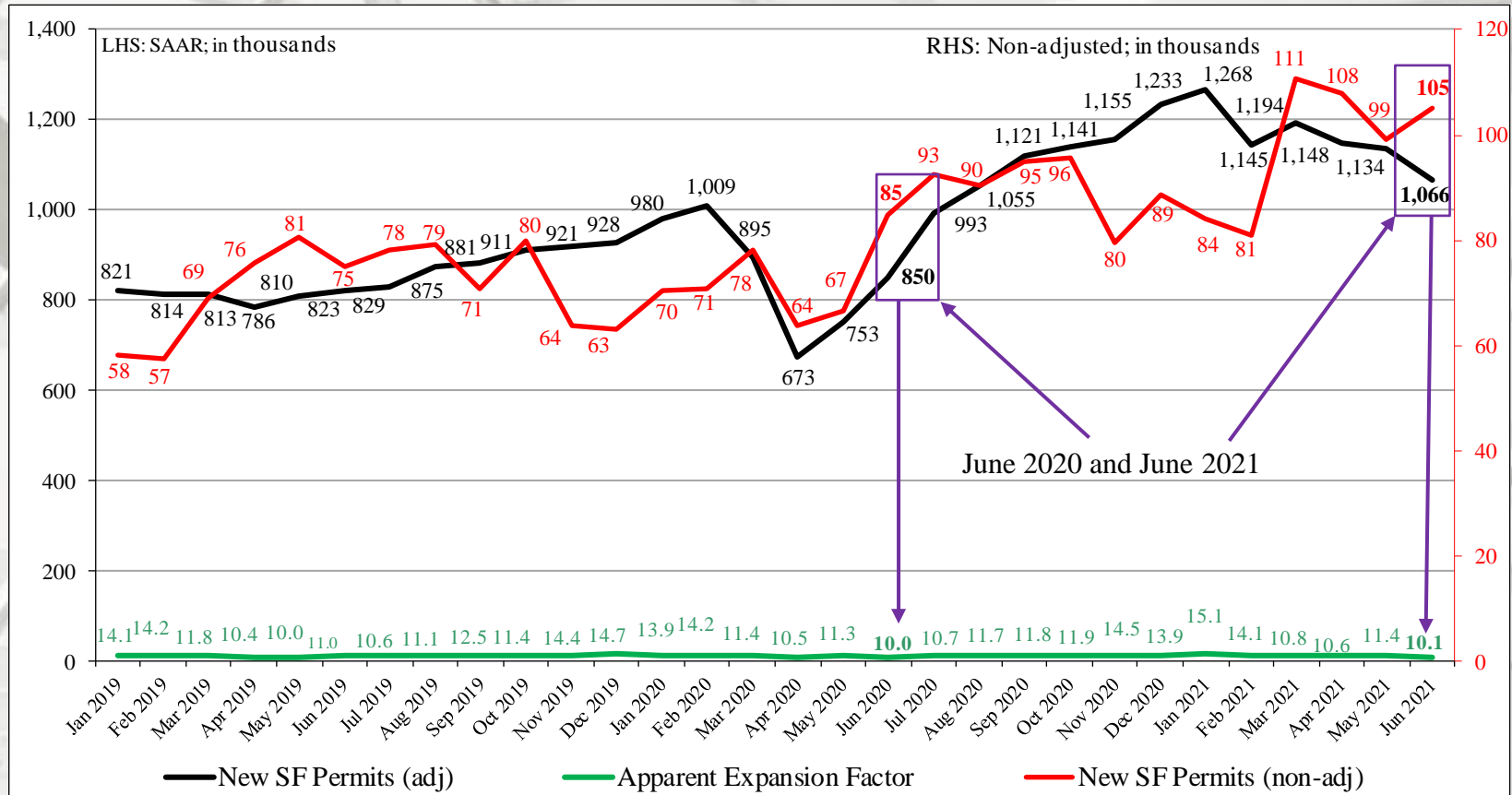
Total New Housing Permits



* Percentage of total permits.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

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**
June	135,000	64,000	71,000
May	156,000	71,000	85,000
2020	128,000	54,000	74,000
M/M change	-13.5%	-9.9%	-16.5%
Y/Y change	5.5%	18.5%	-4.1%
	MW Total*	MW SF	MW MF**
June	205,000	129,000	76,000
May	223,000	138,000	85,000
2020	186,000	119,000	67,000
M/M change	-8.1%	-6.5%	-10.6%
Y/Y change	10.2%	8.4%	13.4%

NE = Northeast; MW = Midwest

* All data are SAAR

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

New Housing Permits by Region

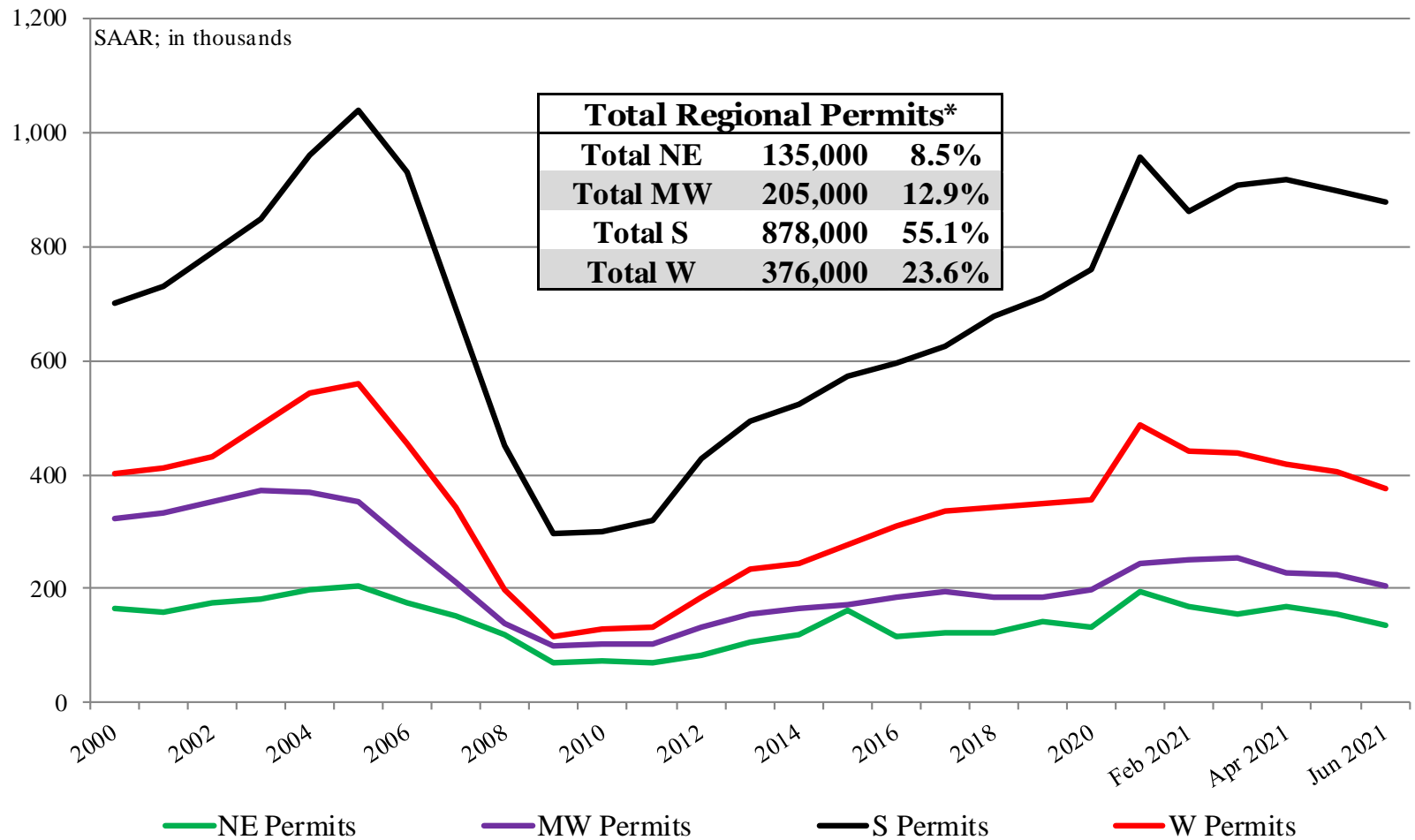
	S Total*	S SF	S MF**
June	878,000	641,000	237,000
May	898,000	678,000	220,000
2020	685,000	484,000	201,000
M/M change	-2.2%	-5.5%	7.7%
Y/Y change	28.2%	32.4%	17.9%
	W Total*	W SF	W MF**
June	376,000	232,000	144,000
May	406,000	247,000	159,000
2020	297,000	193,000	104,000
M/M change	-7.4%	-6.1%	-9.4%
Y/Y change	26.6%	20.2%	38.5%

S = South; W = West

* All data are SAAR

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

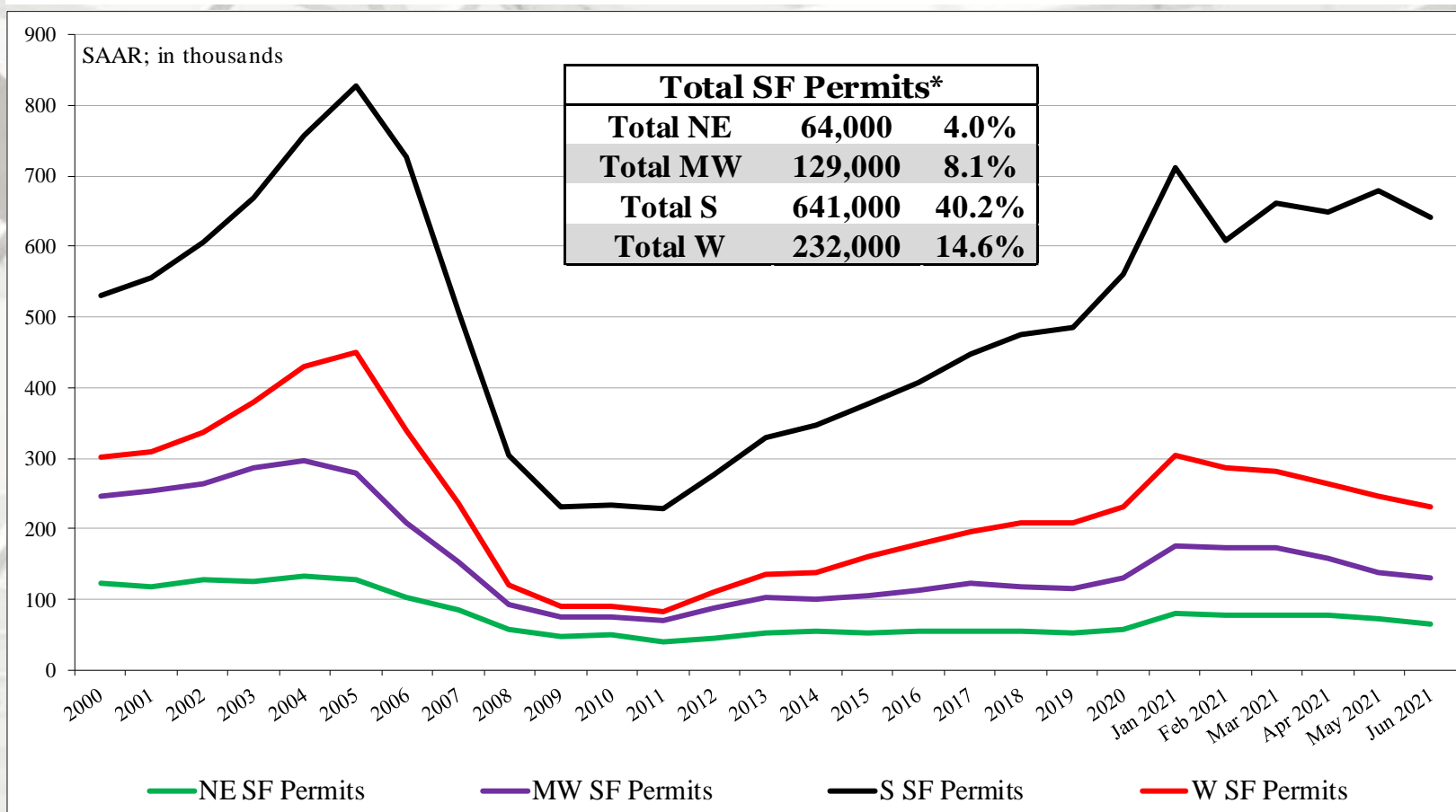
Total Housing Permits by Region



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

* Percentage of total permits.

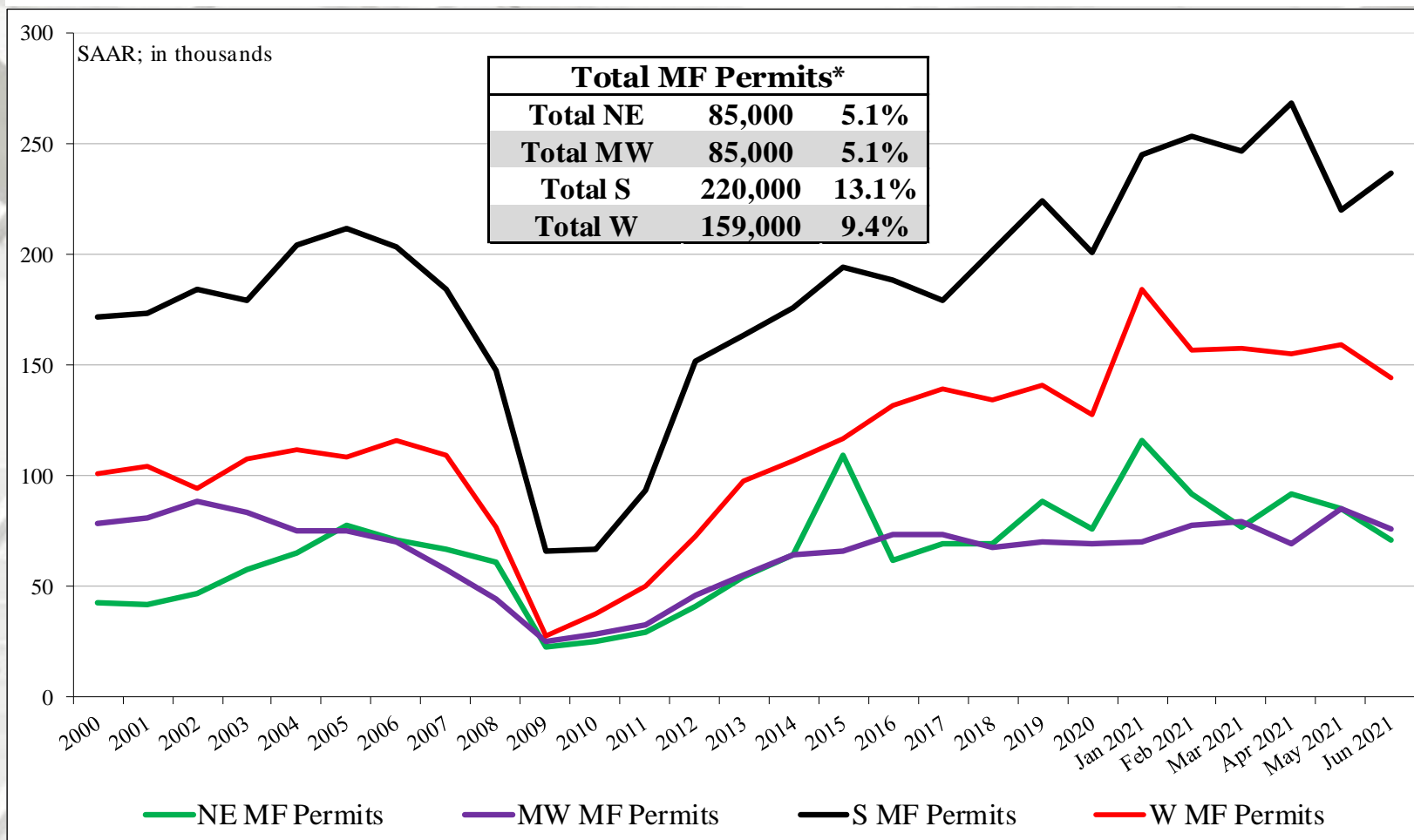
SF Housing Permits by Region



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

* Percentage of total permits.

MF Housing Permits by Region



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

* Percentage of total permits.

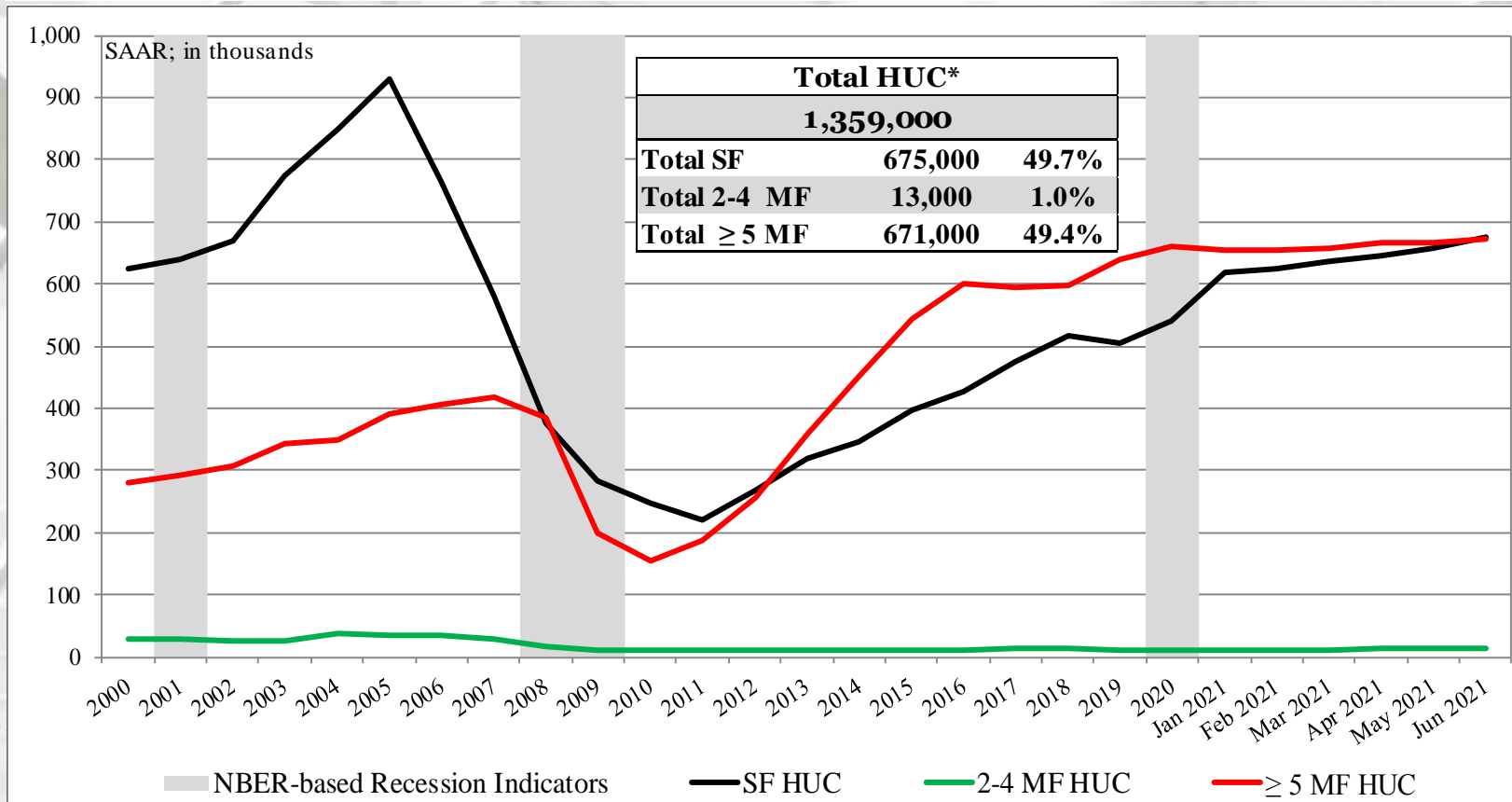
New Housing Under Construction (HUC)

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
June	1,359,000	675,000	13,000	671,000
May	1,335,000	656,000	13,000	666,000
2020	1,187,000	512,000	12,000	663,000
M/M change	1.8%	2.9%	0.0%	0.8%
Y/Y change	14.5%	31.8%	8.3%	1.2%

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

** US DOC does not report 2-4 multi-family units under construction directly; this is an estimation ((Total under construction – (SF + 5-unit MF)).

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.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
June	192,000	61,000	131,000
May	193,000	60,000	133,000
2020	175,000	55,000	124,000
M/M change	-0.5%	1.7%	-1.5%
Y/Y change	9.7%	10.9%	5.6%
	MW Total	MW SF	MW MF
June	175,000	96,000	79,000
May	172,000	96,000	76,000
2020	150,000	74,000	76,000
M/M change	1.7%	0.0%	3.9%
Y/Y change	16.7%	29.7%	3.9%

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

** US DOC does not report multi-family units under construction directly; this is an estimation
(Total under construction – SF under construction).

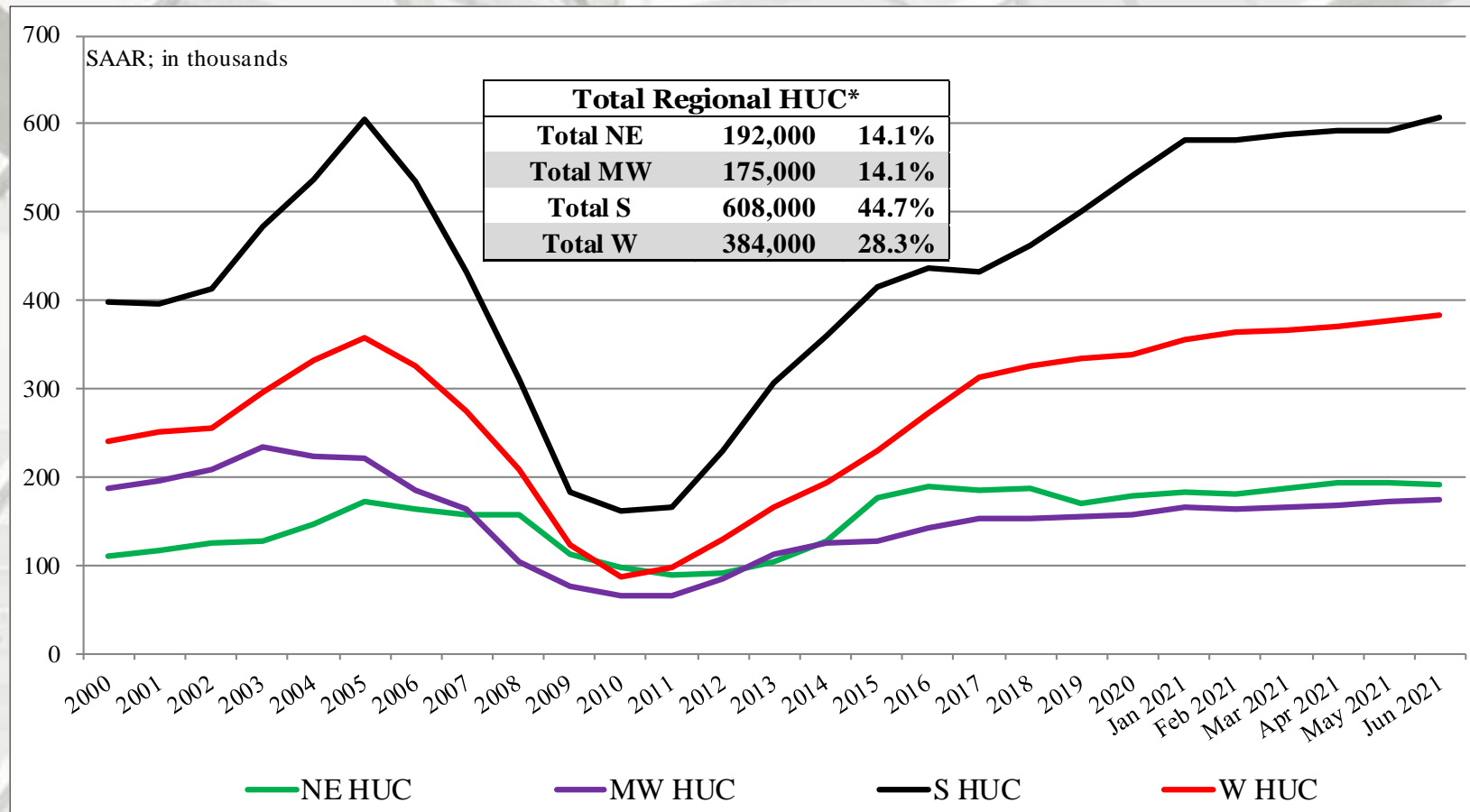
New Housing Under Construction by Region

	S Total	S SF	S MF**
June	608,000	334,000	274,000
May	593,000	320,000	273,000
2020	524,000	241,000	283,000
M/M change	2.5%	4.4%	0.4%
Y/Y change	16.0%	38.6%	-3.2%
	W Total	W SF	W MF
June	384,000	184,000	200,000
May	377,000	180,000	197,000
2020	338,000	142,000	196,000
M/M change	1.9%	2.2%	1.5%
Y/Y change	13.6%	29.6%	2.0%

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

** US DOC does not report multi-family units under construction directly; this is an estimation
(Total underconstruction – SF under construction).

Total Housing Under Construction by Region

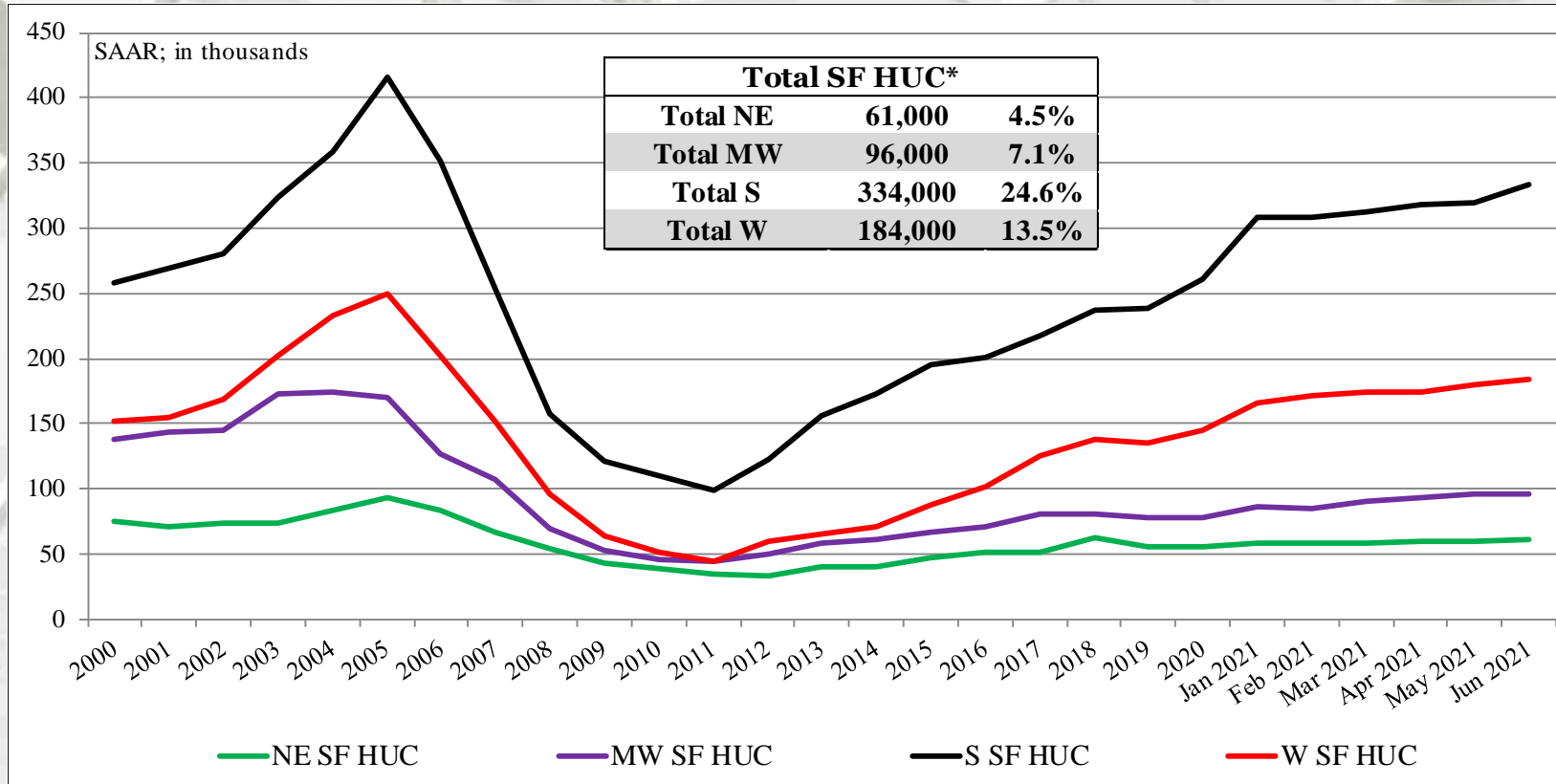


NE = Northeast, MW = Midwest, S = South, W = West

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

* Percentage of total housing under construction units.

SF Housing Under Construction by Region

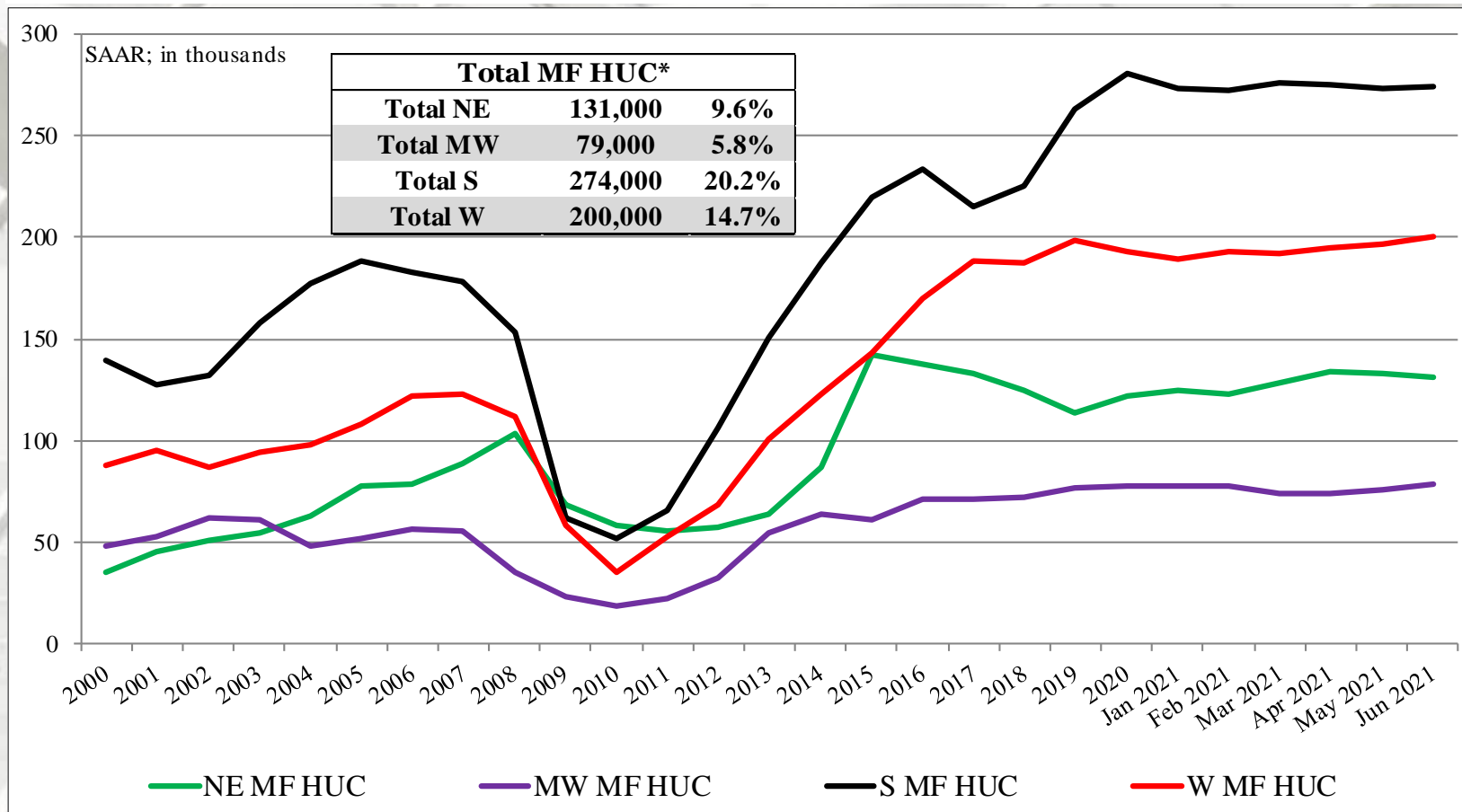


NE = Northeast, MW = Midwest, S = South, W = West.

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

* Percentage of total housing under construction units.

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

* Percentage of total housing under construction units.

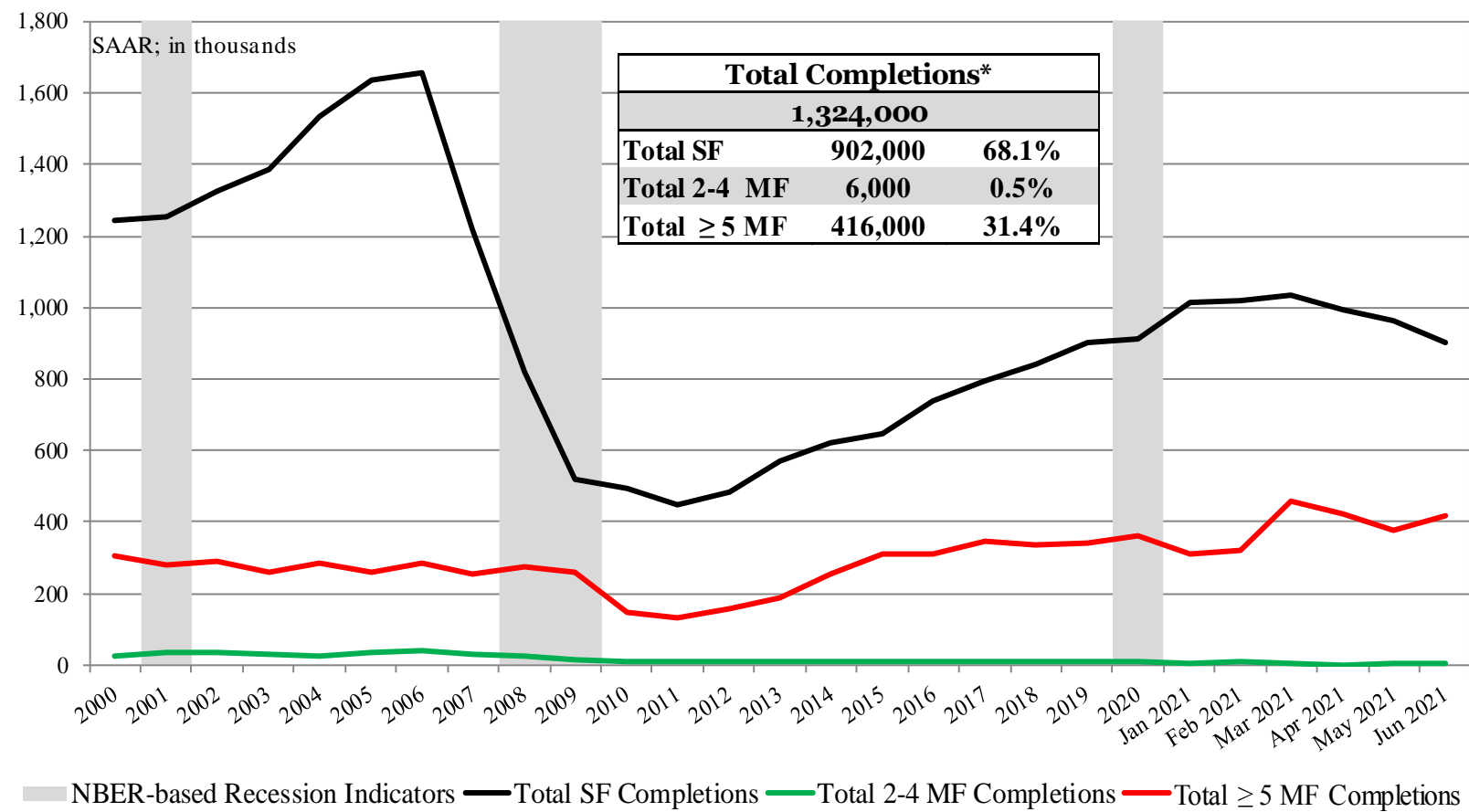
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
June	1,324,000	902,000	6,000	416,000
May	1,343,000	961,000	4,000	378,000
2020	1,243,000	927,000	5,000	311,000
M/M change	-1.4%	-6.1%	50.0%	10.1%
Y/Y change	6.5%	-2.7%	20.0%	33.8%

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

** US DOC does not report multi-family completions directly; this is an estimation ((Total completions – (SF + ≥ 5-unit MF)).

Total Housing Completions



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

* Percentage of total housing completions

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Completions by Region

	NE Total	NE SF	NE MF**
June	111,000	59,000	52,000
May	72,000	52,000	20,000
2020	71,000	57,000	14,000
M/M change	54.2%	13.5%	160.0%
Y/Y change	56.3%	3.5%	271.4%
	MW Total	MW SF	MW MF
June	160,000	129,000	31,000
May	190,000	119,000	71,000
2020	185,000	129,000	56,000
M/M change	-15.8%	8.4%	-56.3%
Y/Y change	-13.5%	0.0%	-44.6%

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

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

* Percentage of total housing completions

New Housing Completions by Region

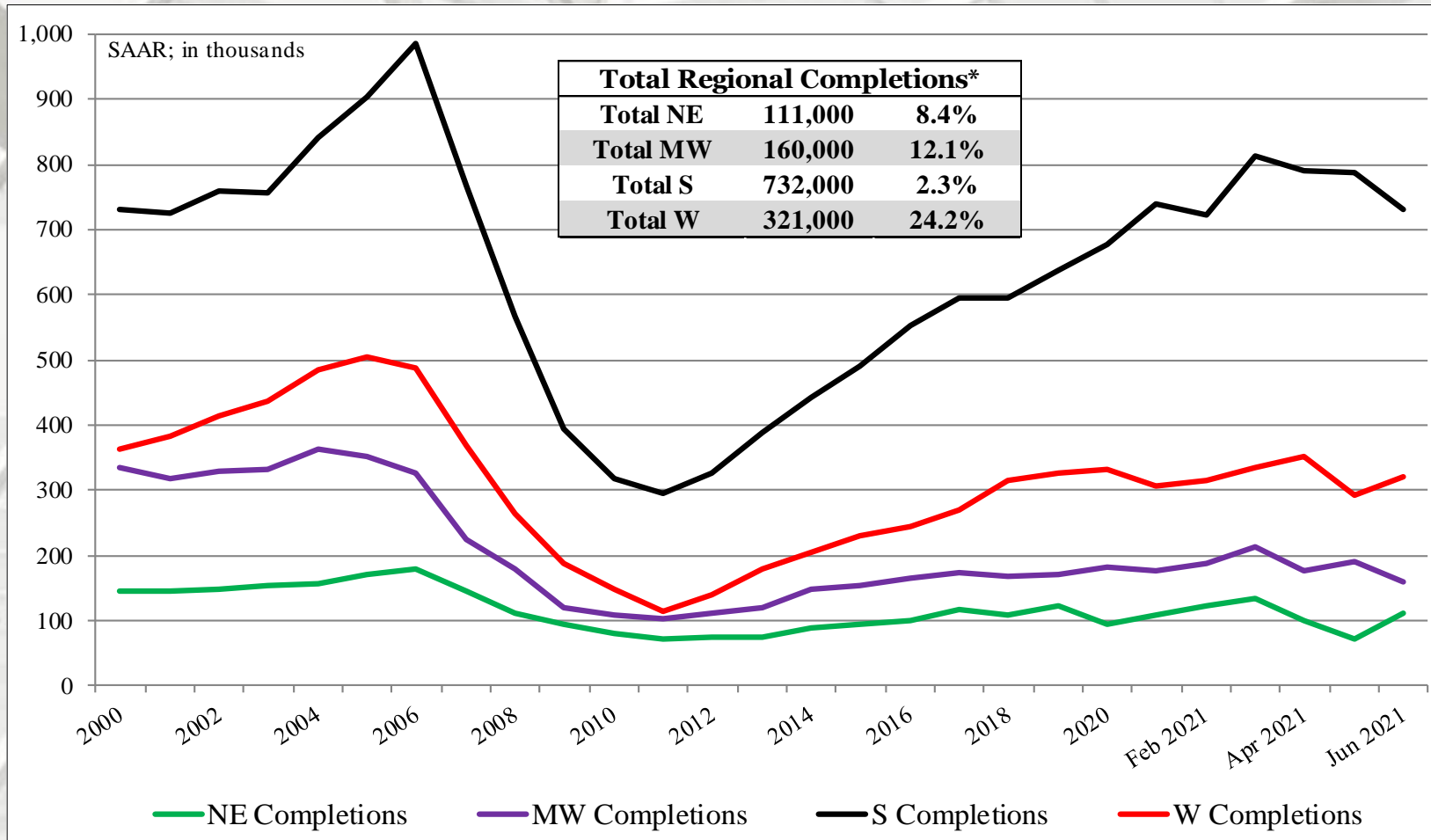
	S Total	S SF	S MF**
June	732,000	492,000	240,000
May	788,000	570,000	218,000
2020	674,000	508,000	166,000
M/M change	-7.1%	-13.7%	10.1%
Y/Y change	8.6%	-3.1%	44.6%
	W Total	W SF	W MF
June	321,000	222,000	99,000
May	293,000	220,000	73,000
2020	313,000	233,000	80,000
M/M change	9.6%	0.9%	35.6%
Y/Y change	2.6%	-4.7%	23.8%

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

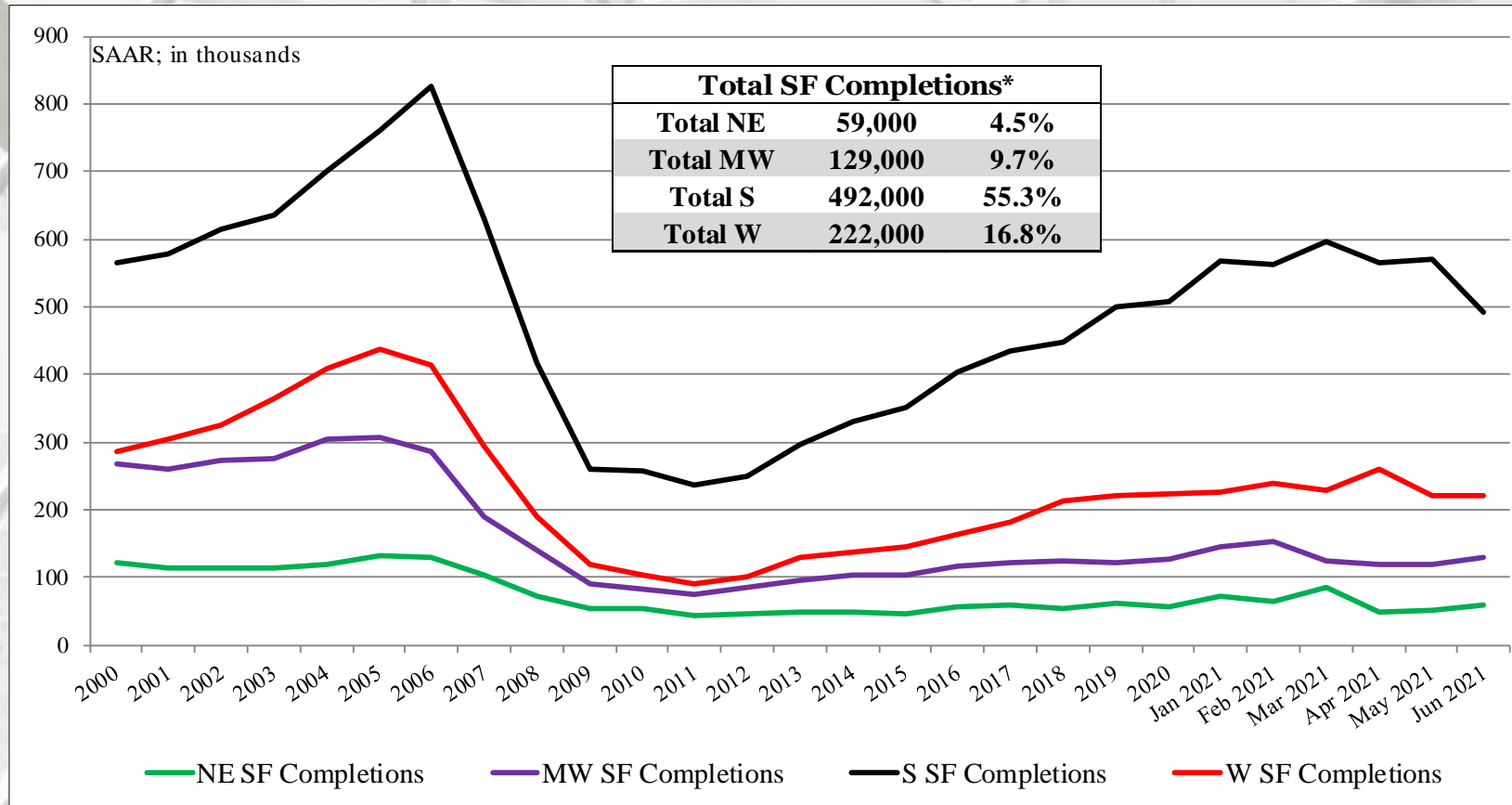
Total Housing Completions by Region



All data are SAAR; NE = Northeast and MW = Midwest; S = South, W = West

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

SF Housing Completions by Region

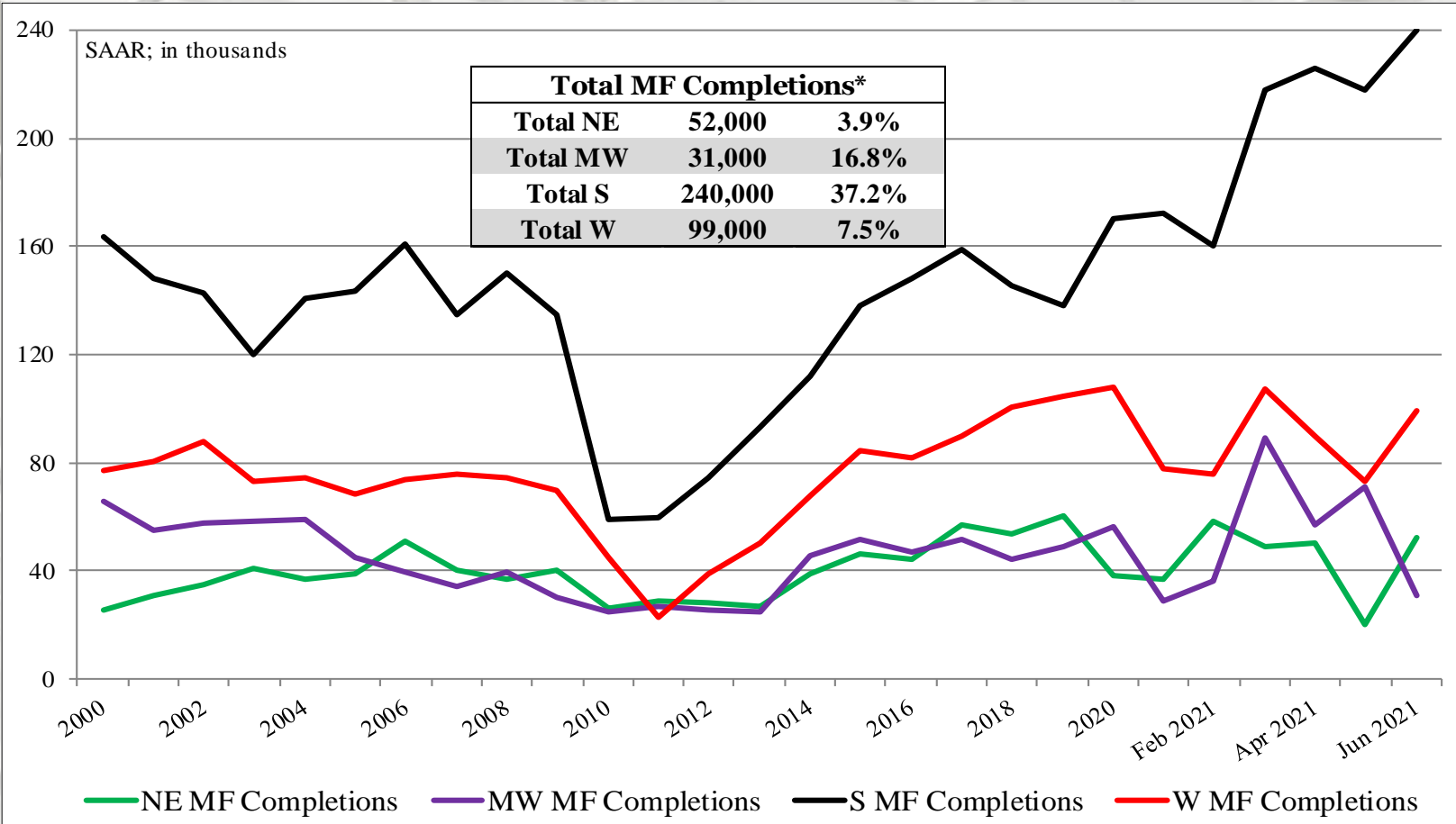


NE = Northeast, MW = Midwest, S = South, W = West

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

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

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
June	676,000	\$361,800	\$428,700	6.3
May	724,000	\$380,700	\$434,000	5.5
2020	839,000	\$341,100	\$382,200	4.3
M/M change	-6.6%	-5.0%	-1.2%	14.5%
Y/Y change	-19.4%	6.1%	12.2%	46.5%

* All new sales data are presented at a seasonally adjusted annual rate (SAAR)¹ and housing prices are adjusted at irregular intervals².

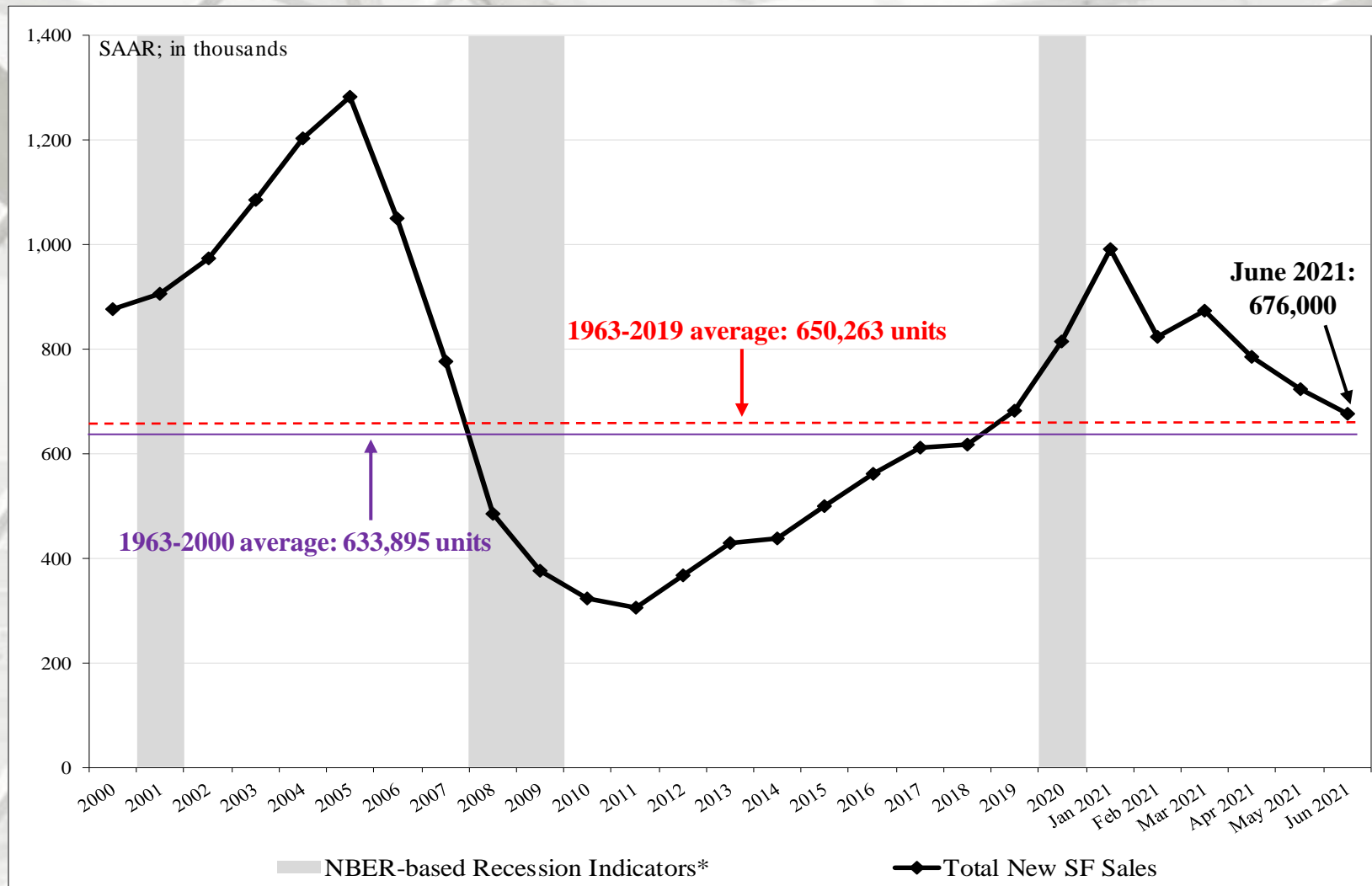
New SF sales were substantially less than the consensus forecast³ of 800 m (range: 763 m to 814 m). The past three month's new SF sales data also were revised:

March initial:	1,021 m, revised to 873 m;
April initial:	863 m, revised to 785 m.
May initial:	769 m, revised to 724 m.

Sources: ¹ <https://www.census.gov/construction/nrs/index.html>; 7/26/21; ² <https://www.census.gov/construction/nrs/pdf/newressales.pdf>

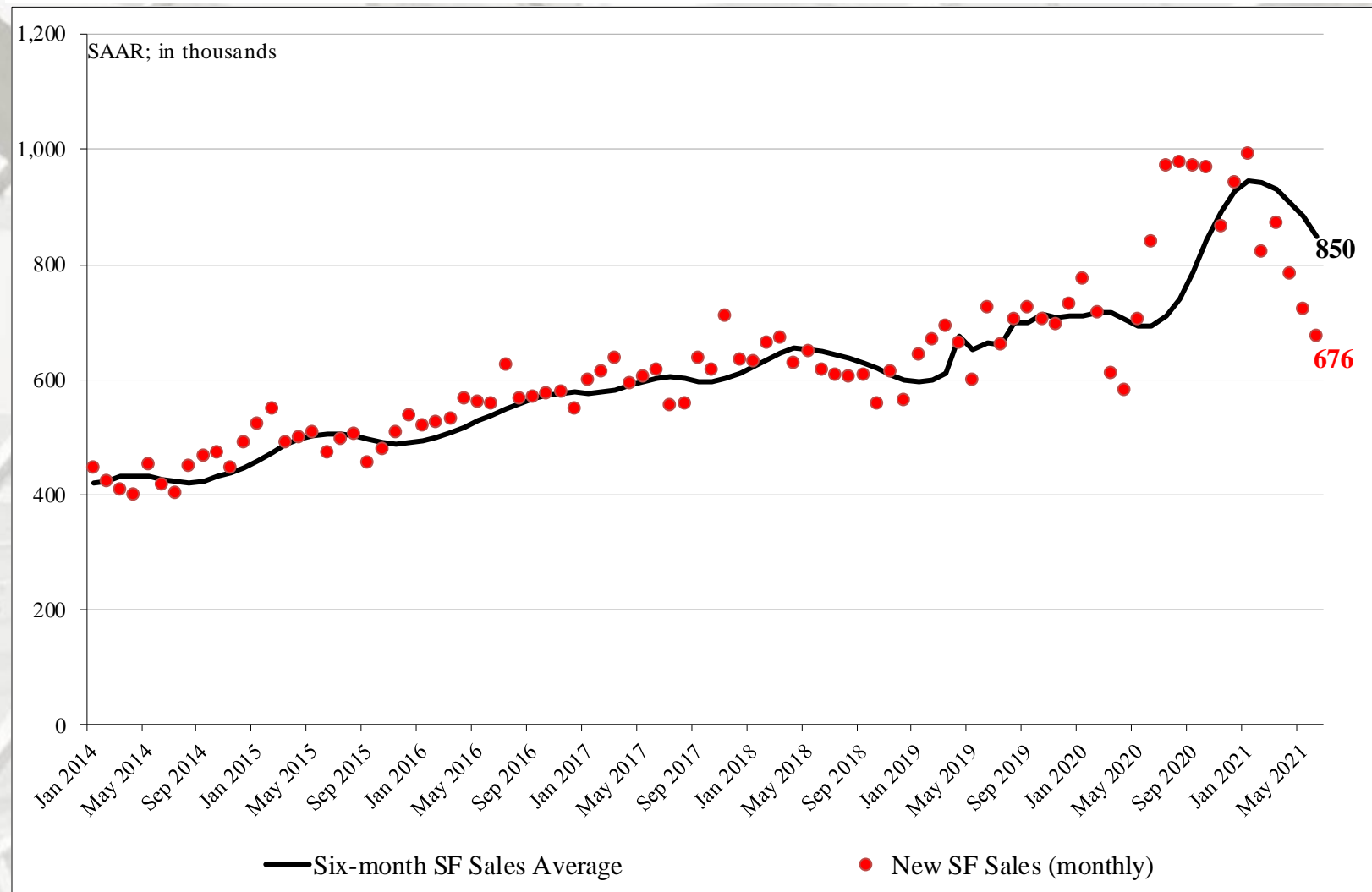
³ <http://us.econoday.com/>; 7/26/21

New SF House Sales



* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New SF Housing Sales: Six-month average & monthly



New SF House Sales by Region and Price Category

	NE	MW	S	W
June	31,000	92,000	367,000	186,000
May	43,000	87,000	398,000	196,000
2020	52,000	86,000	488,000	213,000
M/M change	-27.9%	5.7%	-7.8%	-5.1%
Y/Y change	-40.4%	7.0%	-24.8%	-12.7%

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.

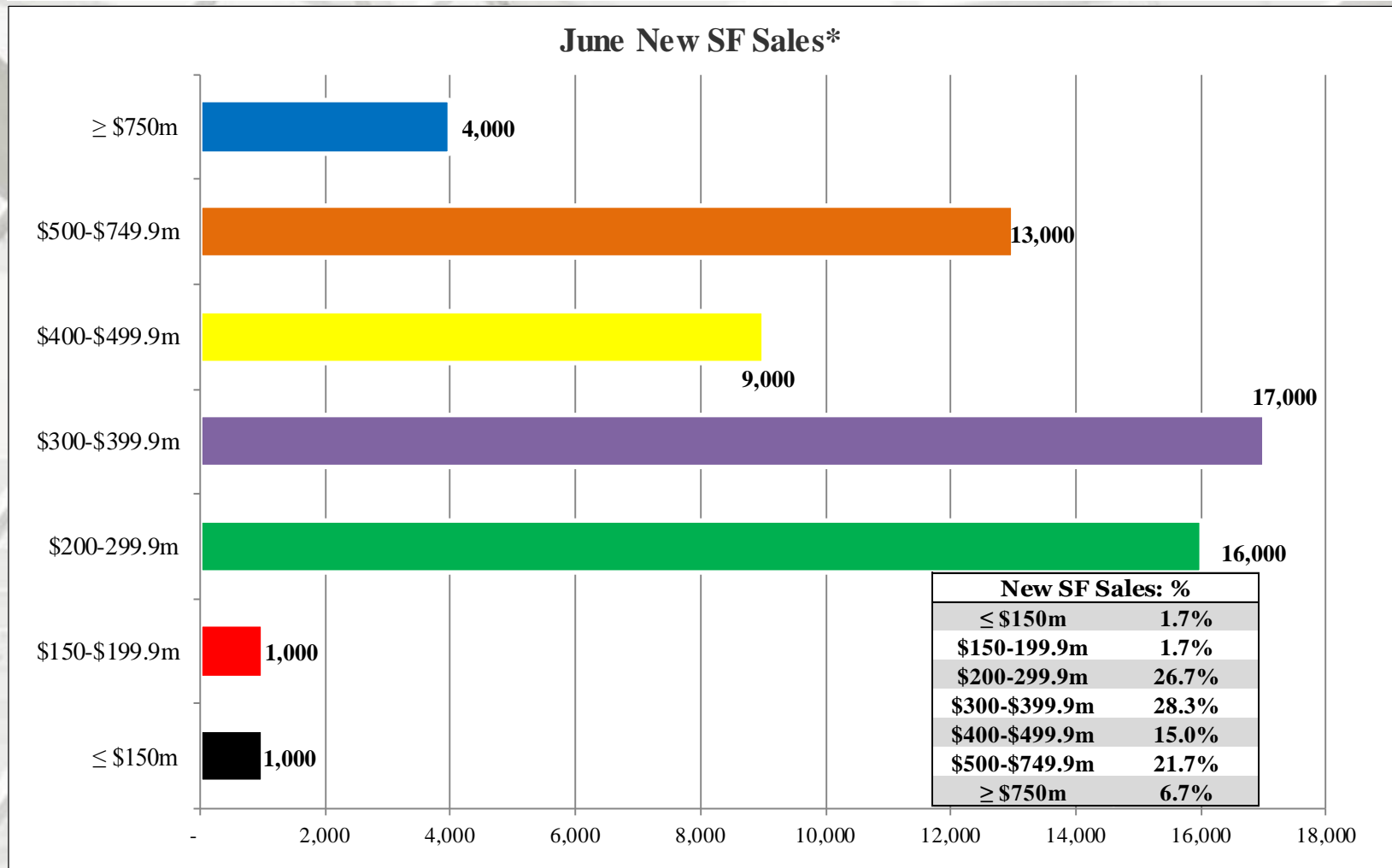
⁵ Z = Less than 500 units or less than 0.5 percent

Sources: ^{1,2,3} <https://www.census.gov/construction/nrs/index.html>; 7/26/21;

⁴ https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

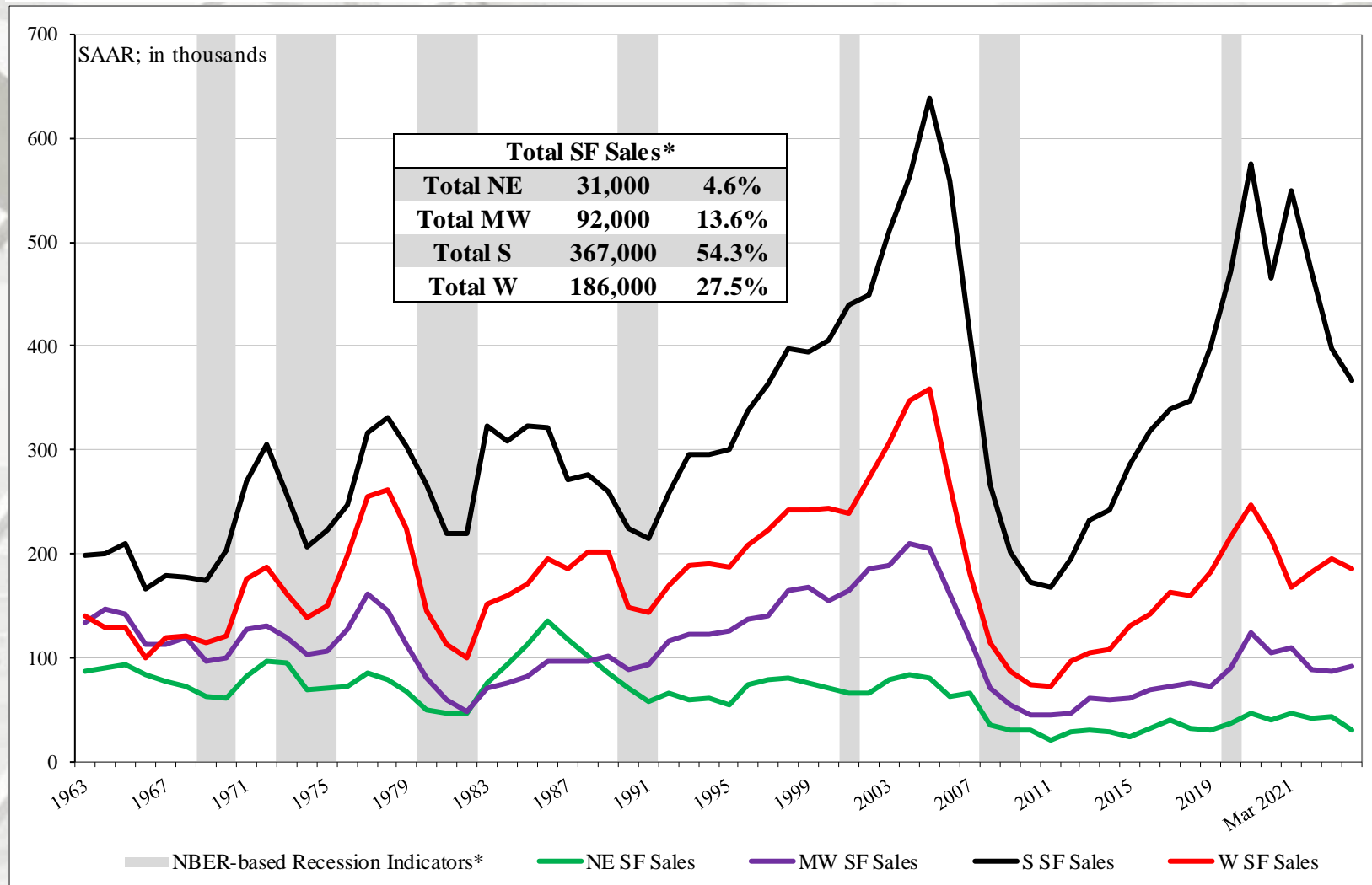
Return TOC

New SF House Sales



* Total new sales by price category and percent.

New SF House Sales by Region

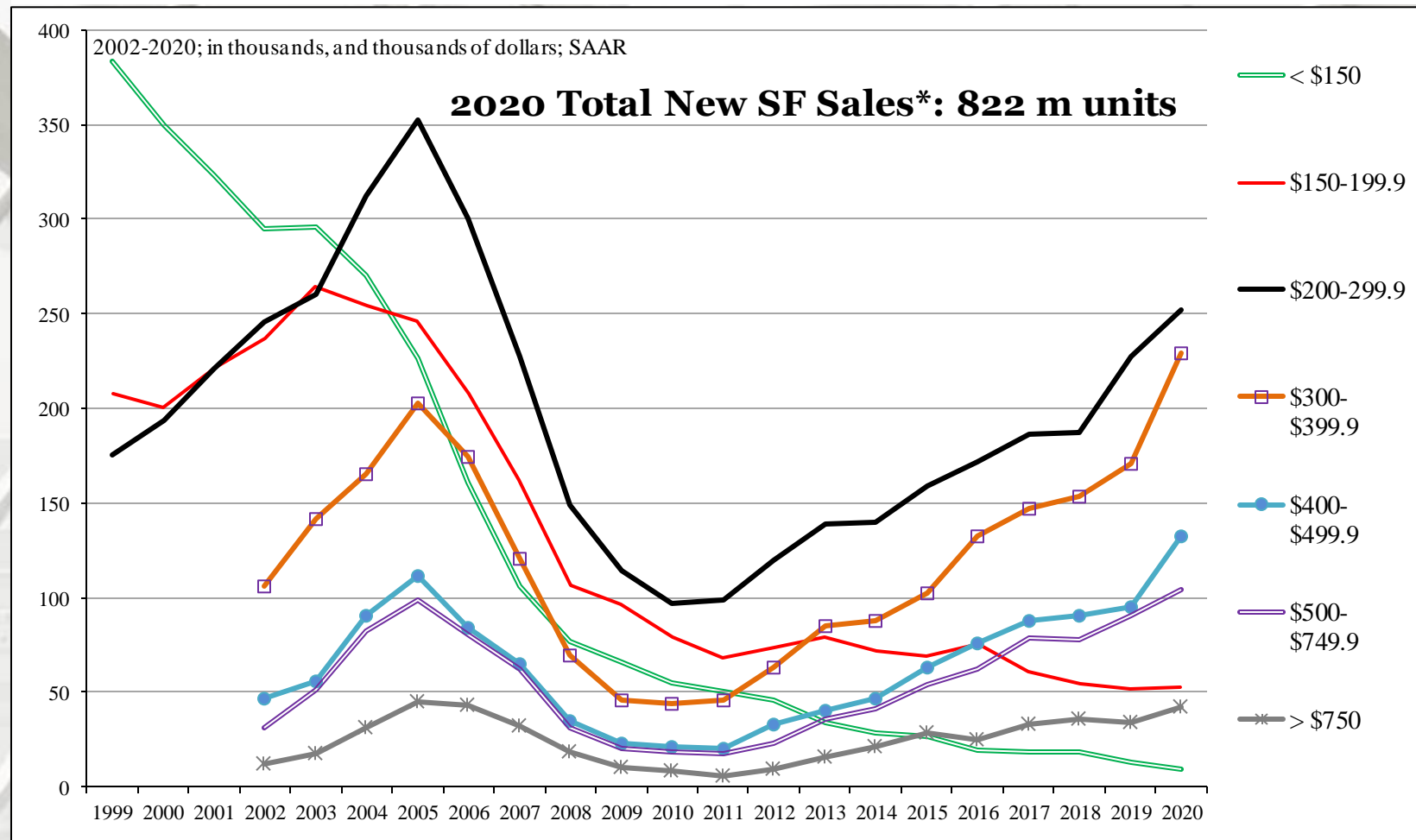


NE = Northeast; MW = Midwest; S = South; W = West

* Percentage of total new sales.

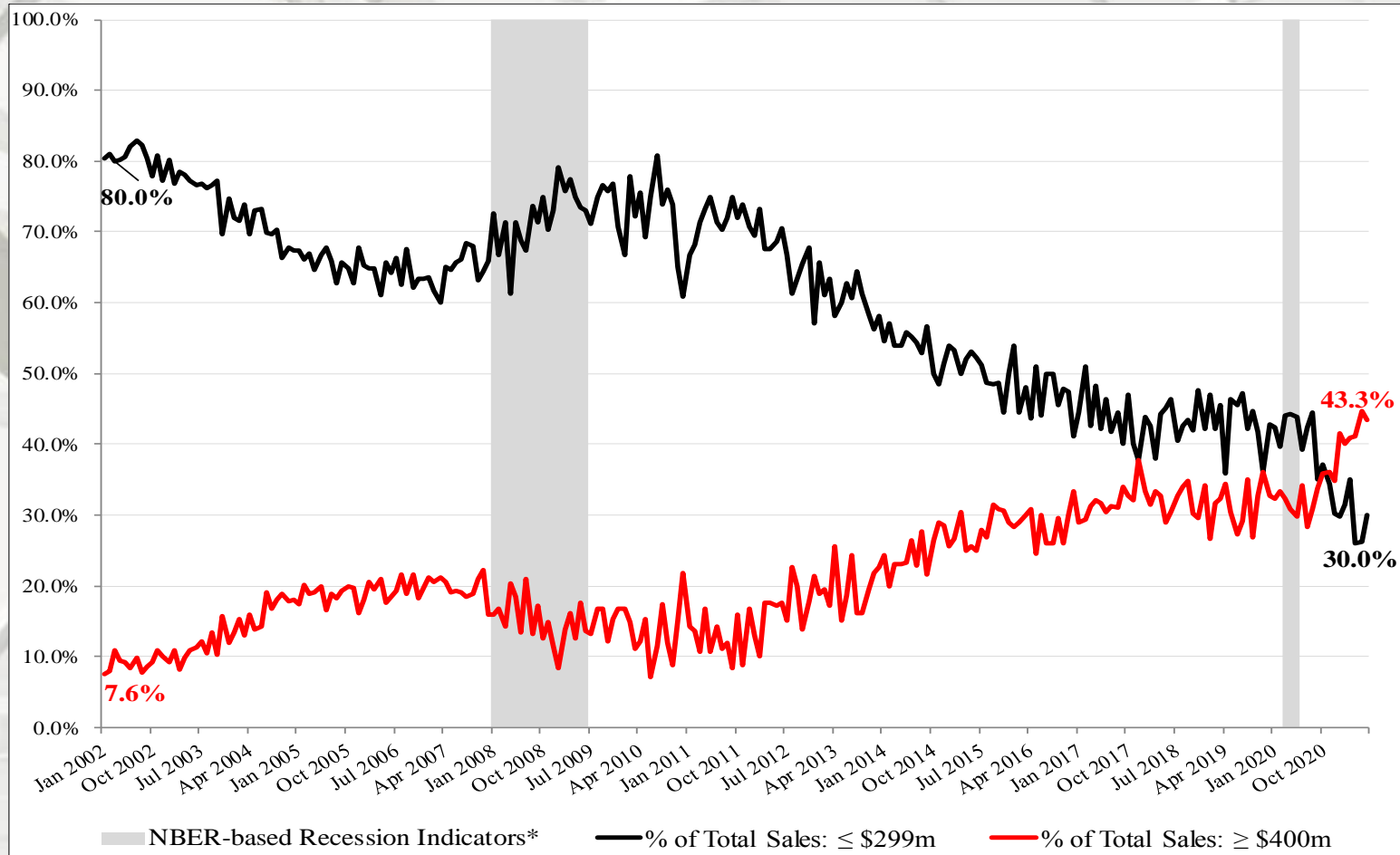
* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New SF House Sales by Price Category



* Sales tallied by price category, nominal dollars.

New SF House Sales



* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New SF Sales: ≤ \$299m and ≥ \$400m: 2002 – June 2021

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.

New SF House Sales



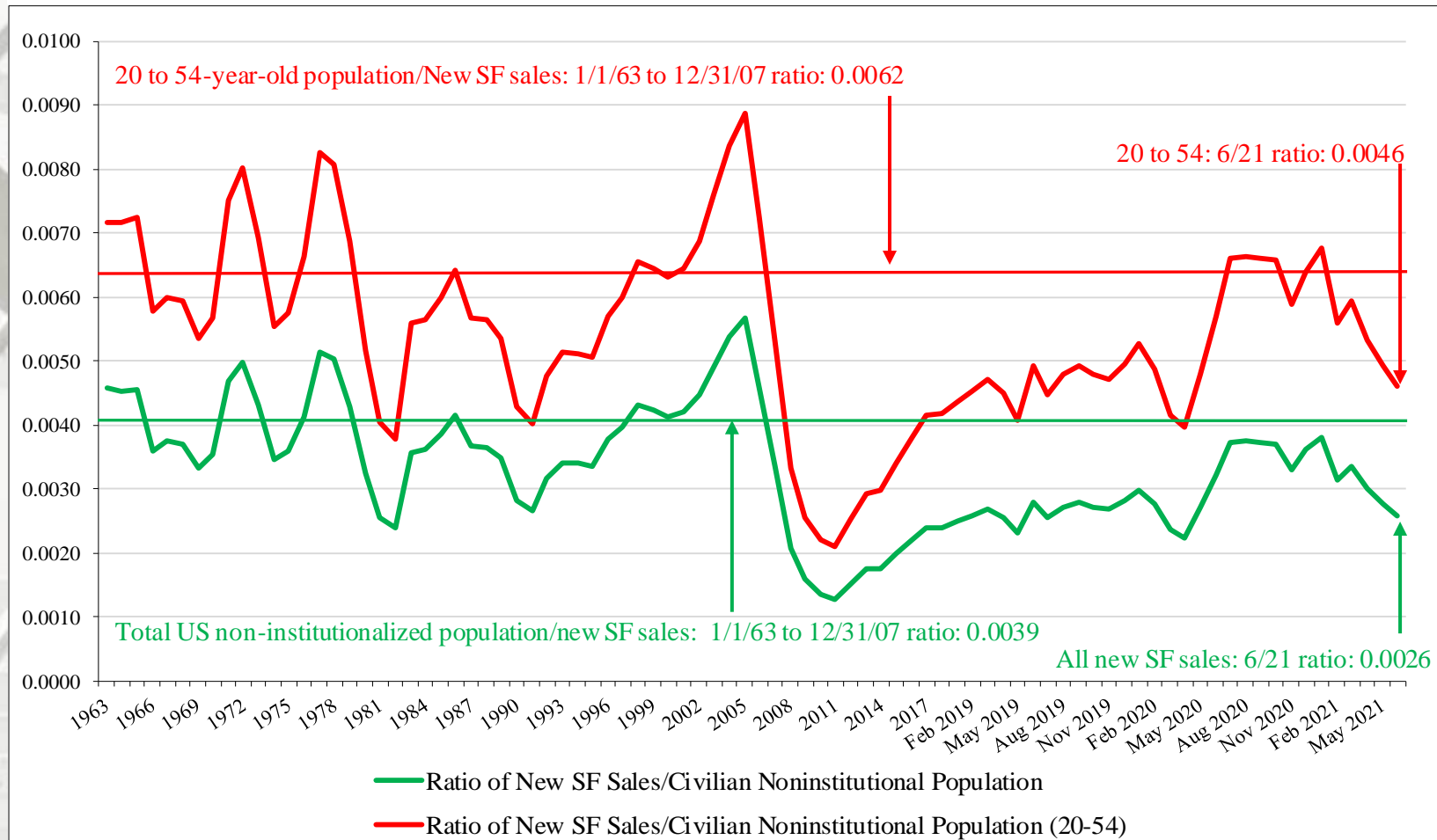
New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to June 2021

The number of ≤ \$200 thousand 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.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

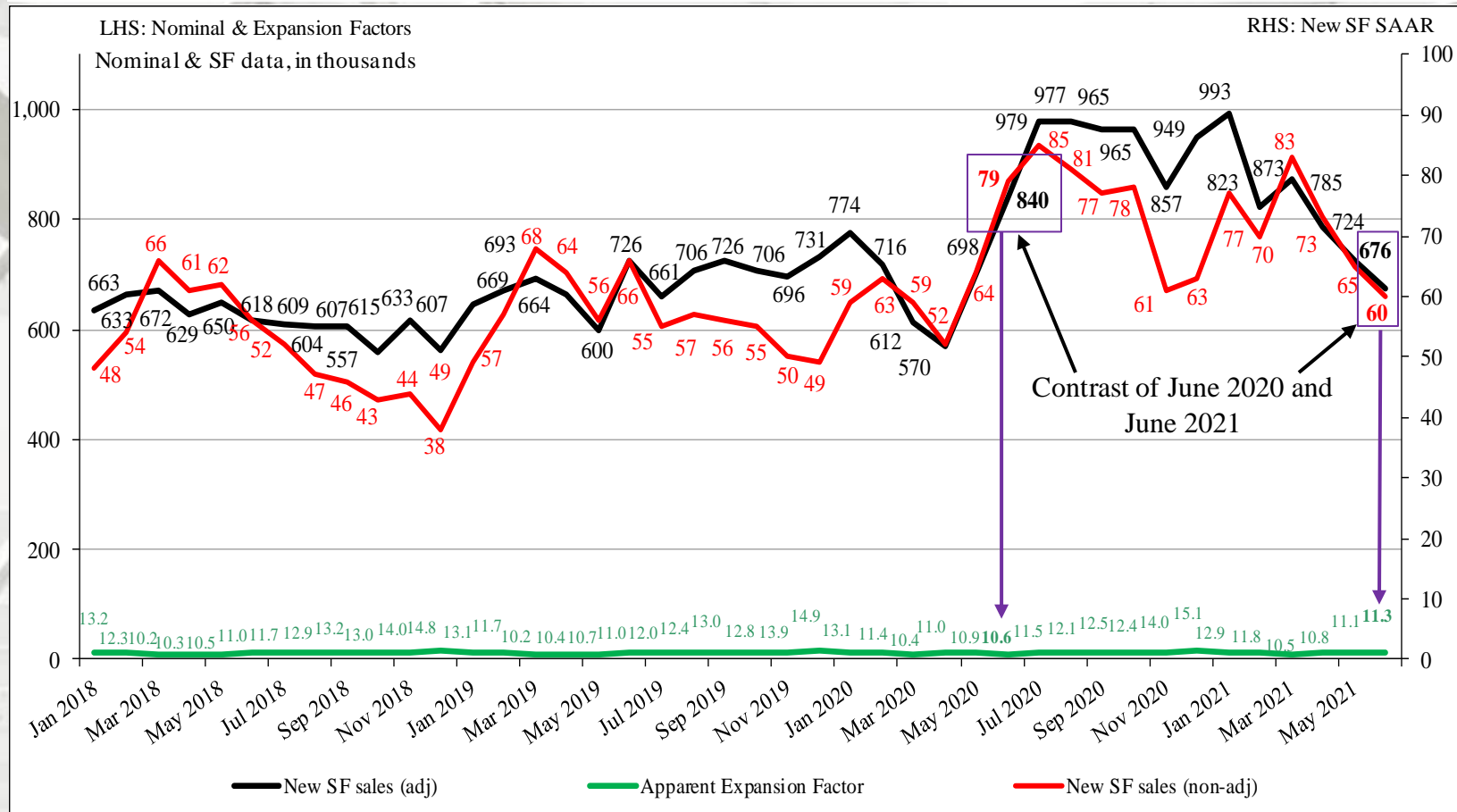
New SF House Sales



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 2021 it was 0.0026 – a decrease from May (0.0028). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0046; in June 2021 it was 0.0046 – also a decrease from May (0.0049). All are non-adjusted data. New house sales for the 20 to 54 class exceeded population growth for the second time in more than a decade. From a total population world view, new sales remain less than the long-term average.

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

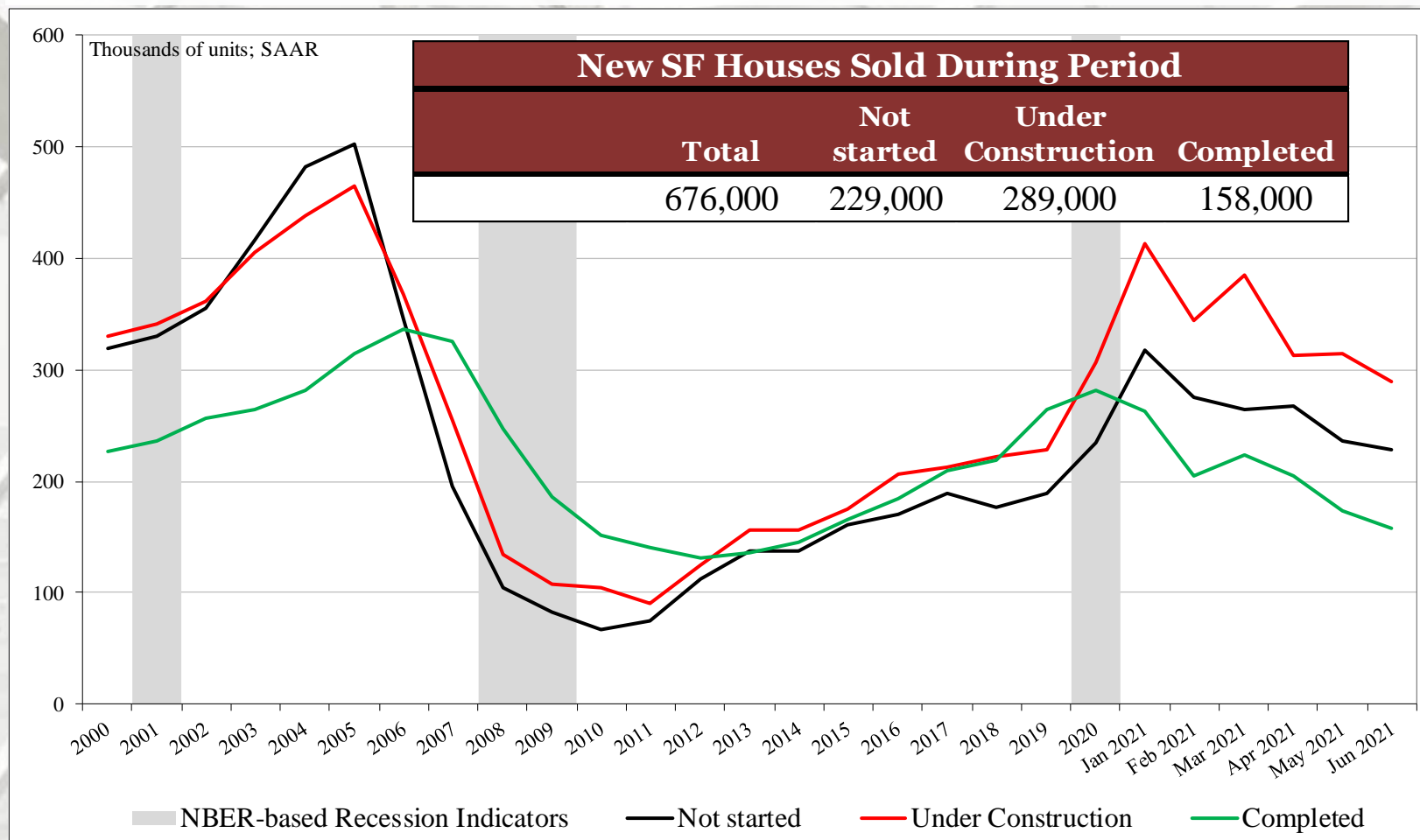
New SF House Sales

New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
June	676,000	229,000	289,000	158,000
May	724,000	236,000	315,000	173,000
2020	839,000	236,000	285,000	318,000
M/M change	-6.6%	-3.0%	-8.3%	-8.7%
Y/Y change	-19.4%	-3.0%	1.4%	-50.3%
Total percentage		33.9%	42.8%	23.4%

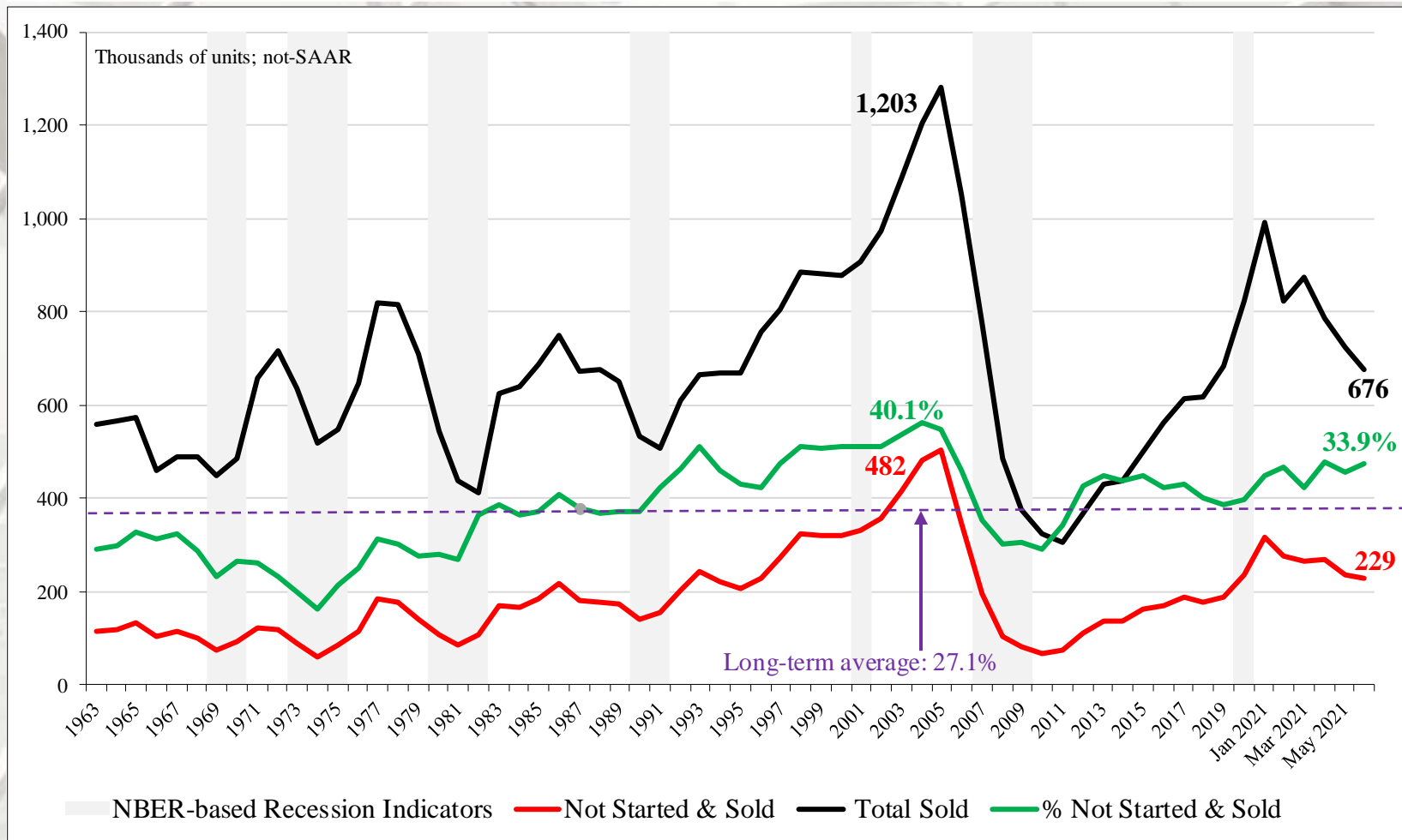
SAAR

New SF House Sales: Sold During Period



* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New SF House Sales: Percentage Not Started & Sold During Period



Of the new houses sold in June (676m), 33.9% (229m) had not been started. The long-term average is 27.1%.

* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

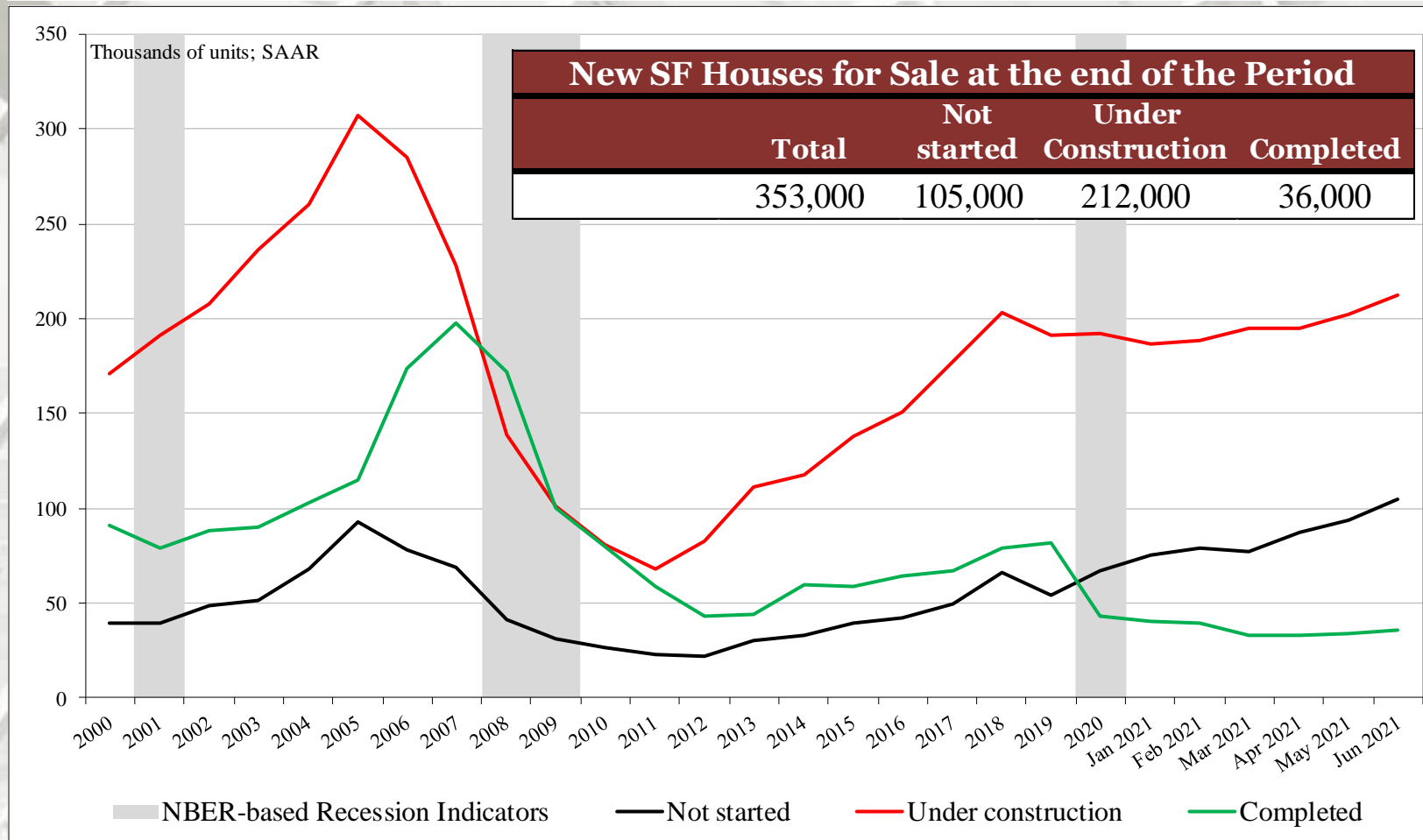
New SF Houses for Sale at End of Period

New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
June	353,000	105,000	212,000	36,000
May	330,000	94,000	202,000	34,000
2020	301,000	57,000	179,000	65,000
M/M change	7.0%	11.7%	5.0%	5.9%
Y/Y change	17.3%	84.2%	18.4%	-44.6%
Total percentage		29.7%	60.1%	10.2%

Not SAAR

Of houses listed for sale (353m) in June, 10.2% (36m) have been built. In the 'ground had not been broken for construction' or 'not started' category, 105m (29.7%) were sold. This is an 84.2% increase from June 2020.

New SF House Sales: For Sale at End of Period



NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

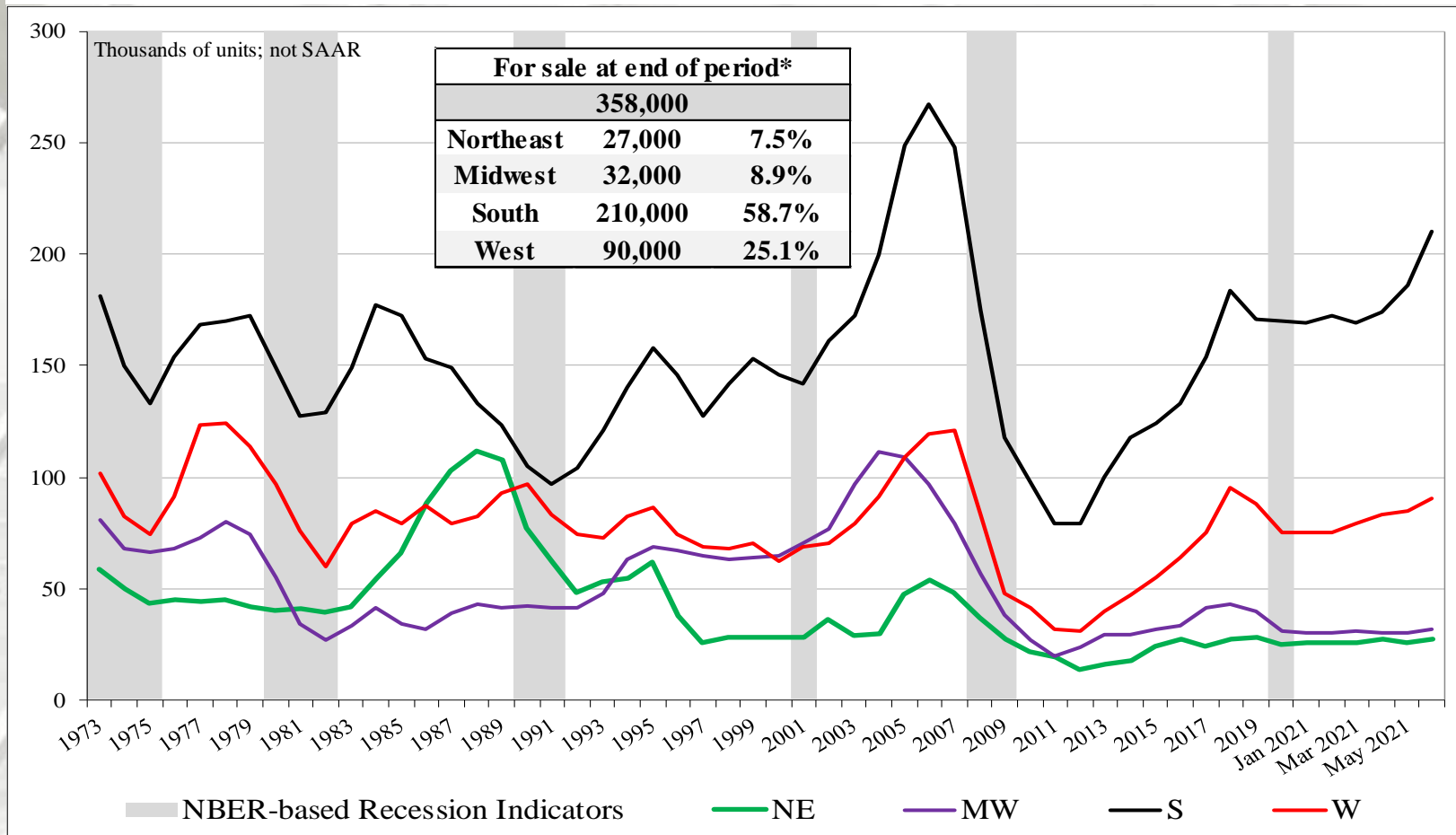
New SF House Sales

New SF Houses for Sale at the end of the Period by Region*

	Total	NE	MW	S	W
June	358,000	27,000	32,000	210,000	90,000
May	326,000	26,000	30,000	186,000	85,000
2020	299,000	24,000	31,000	168,000	75,000
M/M change	9.8%	3.8%	6.7%	12.9%	5.9%
Y/Y change	19.7%	12.5%	3.2%	25.0%	20.0%

* Not SAAR

New SF Houses for Sale at End of Period by Region

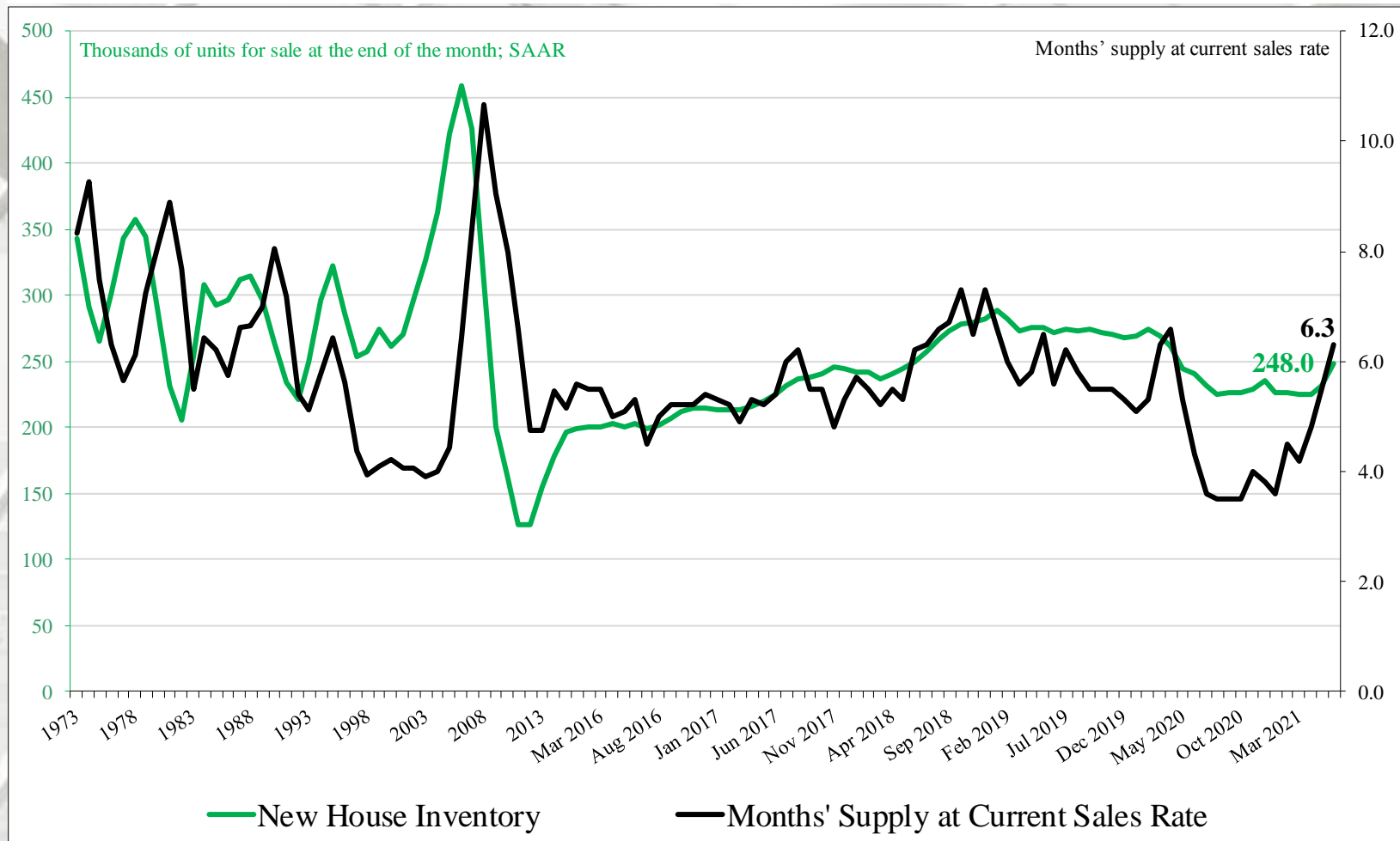


NE = Northeast; MW = Midwest; S = South; W = West

* Percentage of new SF sales.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

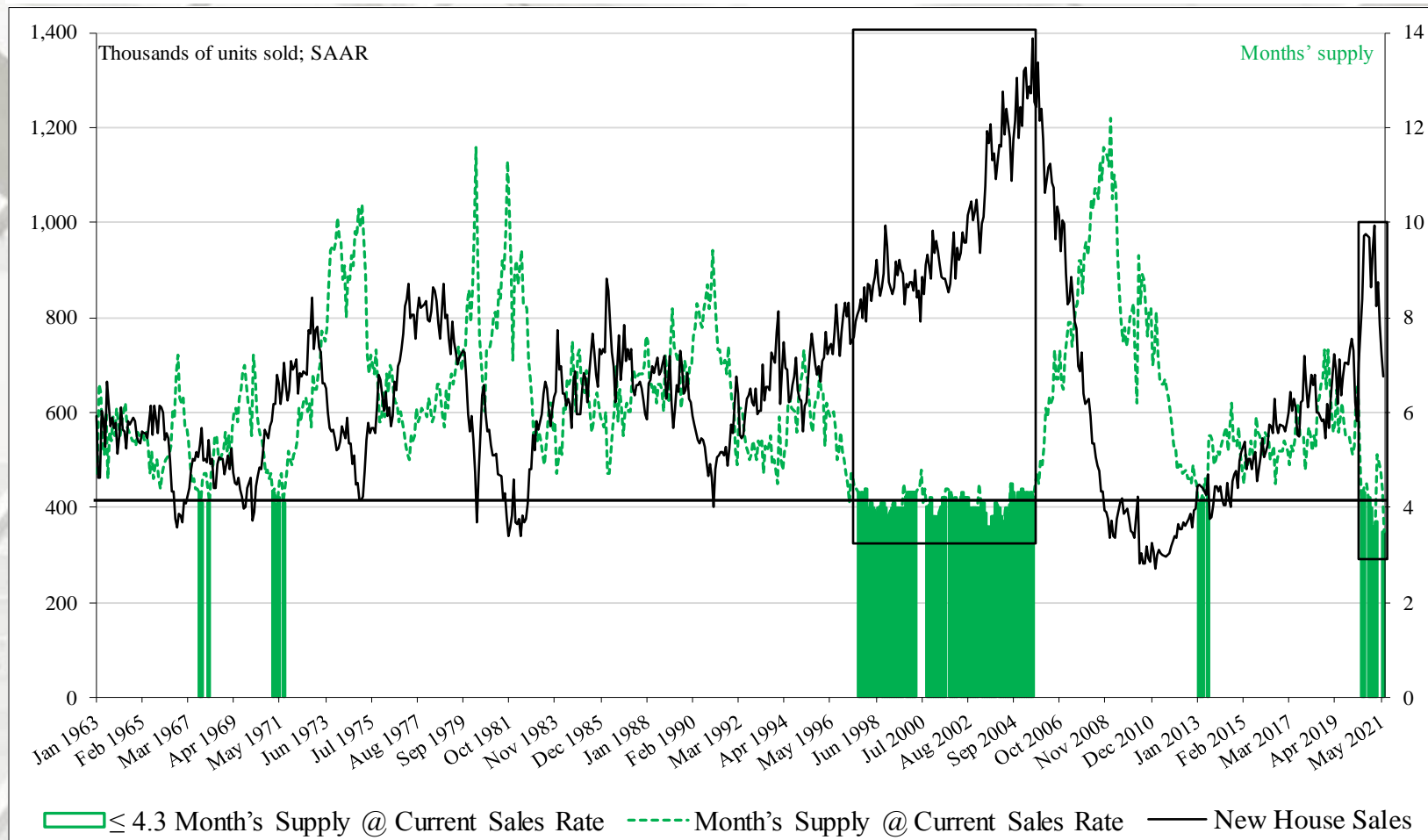
Months' Supply and New House Inventory^a



^a New HUC + New House Completions (sales data only)

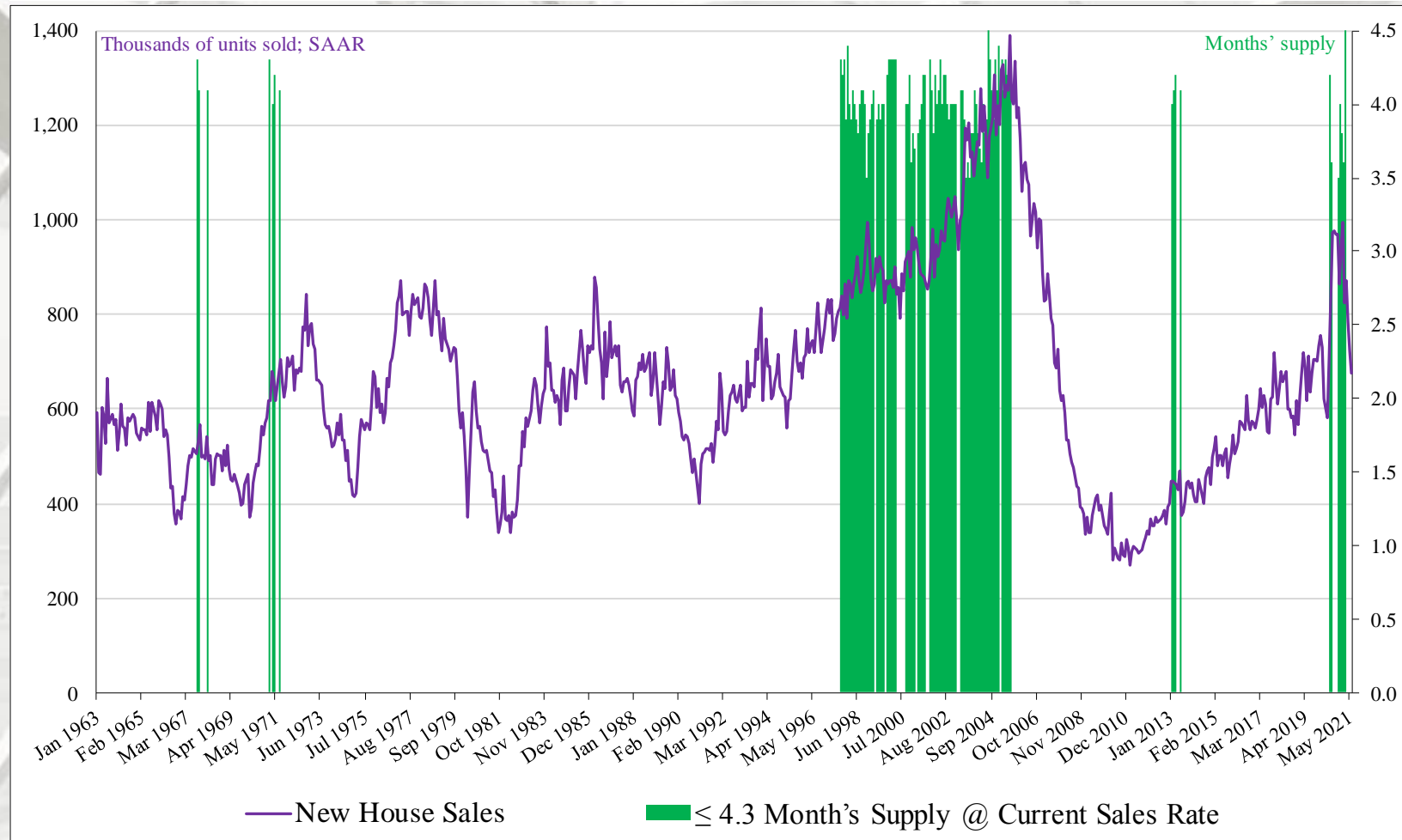
The months supply of new houses for sale was 6.3 at the end of June (SAAR).

Month's Supply of New Houses & Robustness of New House Sales



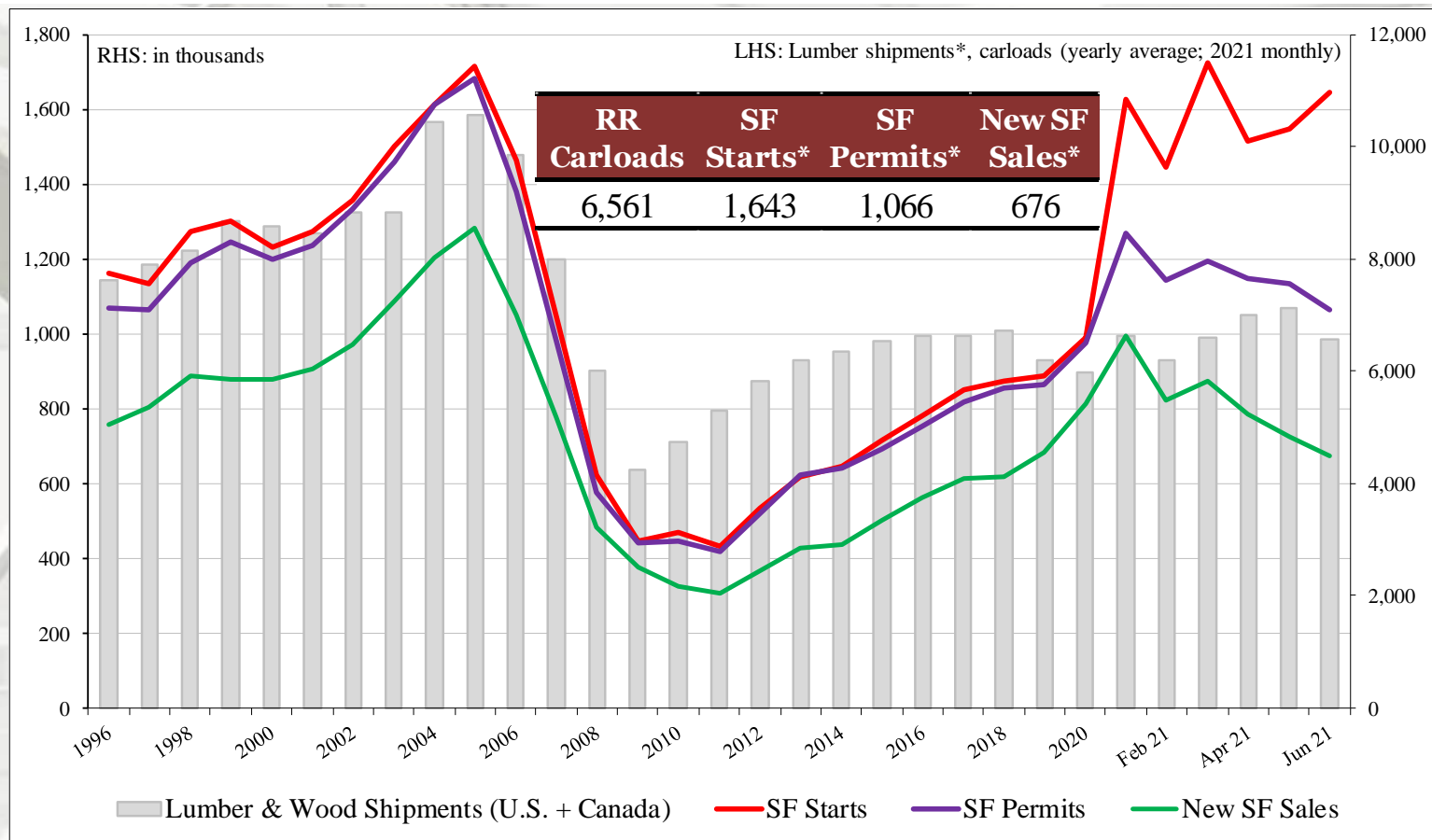
The months supply of new houses for sale (at current sales rate) was 3.5 months at the end of June. Generally, robust new house sales correspond with a 4.3 month, or less, supply of new houses for sale. The black line denotes a 4.3 month mean of month's supply.

Month's Supply of New Houses & Robustness of New House Sales



The above graph presents new house sales contrasted against months supply. The green bars represent a month's supply of 4.3 months – or less.

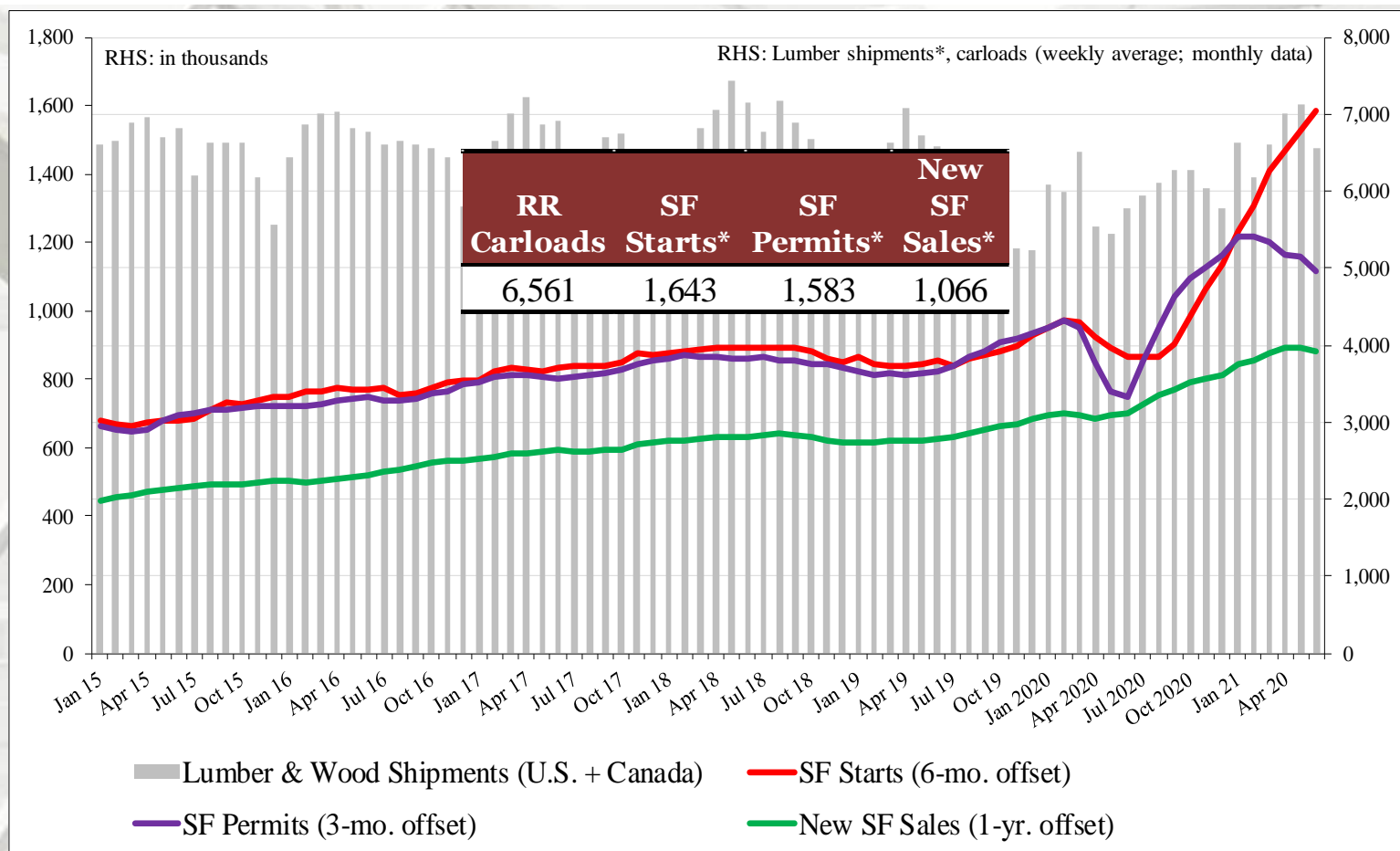
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



Carloads of Canadian + U.S. lumber and wood shipments to the U.S. are contrasted above to U.S. housing metrics. Annual SF starts, SF Permits, and New sales are compared to carload lumber and wood shipments. The intent is to learn if lumber shipments relate to future SF starts, SF permits, and new SF sales. It is realized that lumber and wood products are trucked; however, to our knowledge comprehensive and timely trucking data is not available. Note that 2021 data is on a monthly basis.

* In thousands

U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



Carloads of Canadian + U.S. lumber and wood shipments to the U.S. are contrasted above to U.S. housing metrics. SF starts are off-set 6-months (a typical time-frame from permit issuance to actual start); Permits are off-set 3-months; and New sales are off-set 1-year. The intent is to discern if lumber shipments relate to future SF starts, SF permits, and New sales. It is realized that lumber and wood products are trucked; however, to our knowledge comprehensive and timely trucking data is not available.

* In thousands

June 2021

Construction Spending

	Total Private Residential*	SF	MF	Improvement**
June	\$763,403	\$411,798	\$99,091	\$252,514
May	\$755,366	\$404,586	\$99,228	\$251,552
2020	\$590,445	\$271,187	\$82,778	\$236,480
M/M change	1.1%	1.8%	-0.1%	0.4%
Y/Y change	29.3%	51.9%	19.7%	6.8%

* billions.

** 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\$.

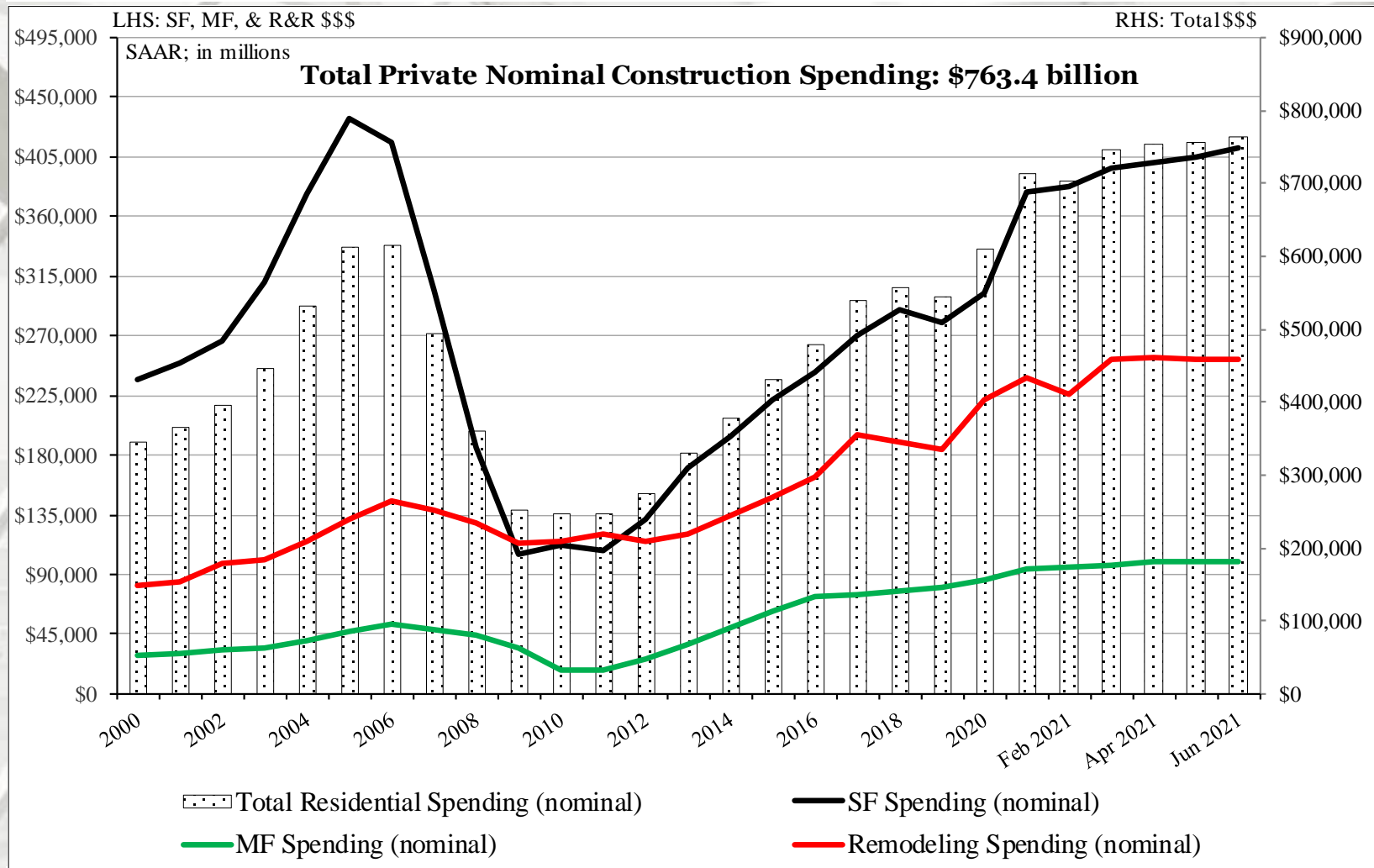
Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

New single-family: new houses and town houses built to be sold or rented and units built by the owner or for the owner on contract. The classification excludes residential units in buildings that are primarily nonresidential. It also excludes manufactured housing and houseboats.

New multi-family includes new apartments and condominiums. The classification excludes residential units in buildings that are primarily nonresidential.

Improvements: Includes remodeling, additions, and major replacements to owner occupied properties subsequent to completion of original building. It includes construction of additional housing units in existing residential structures, finishing of basements and attics, modernization of kitchens, bathrooms, etc. Also included are improvements outside of residential structures, such as the addition of swimming pools and garages, and replacement of major equipment items such as water heaters, furnaces and central air-conditioners. Maintenance and repair work is not included.

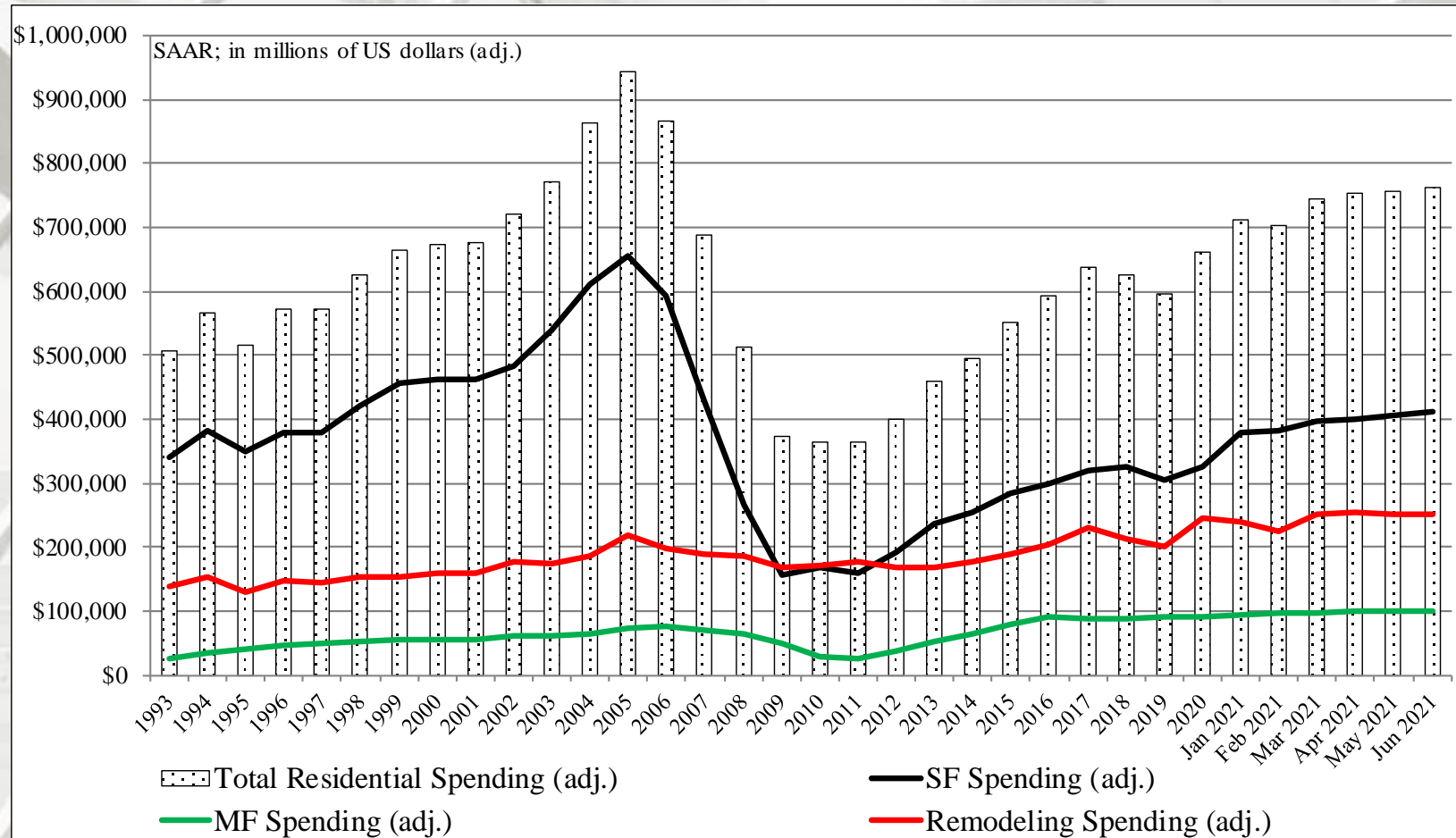
Total Construction Spending (nominal): 2000 – June 2021



Reported in nominal US\$.

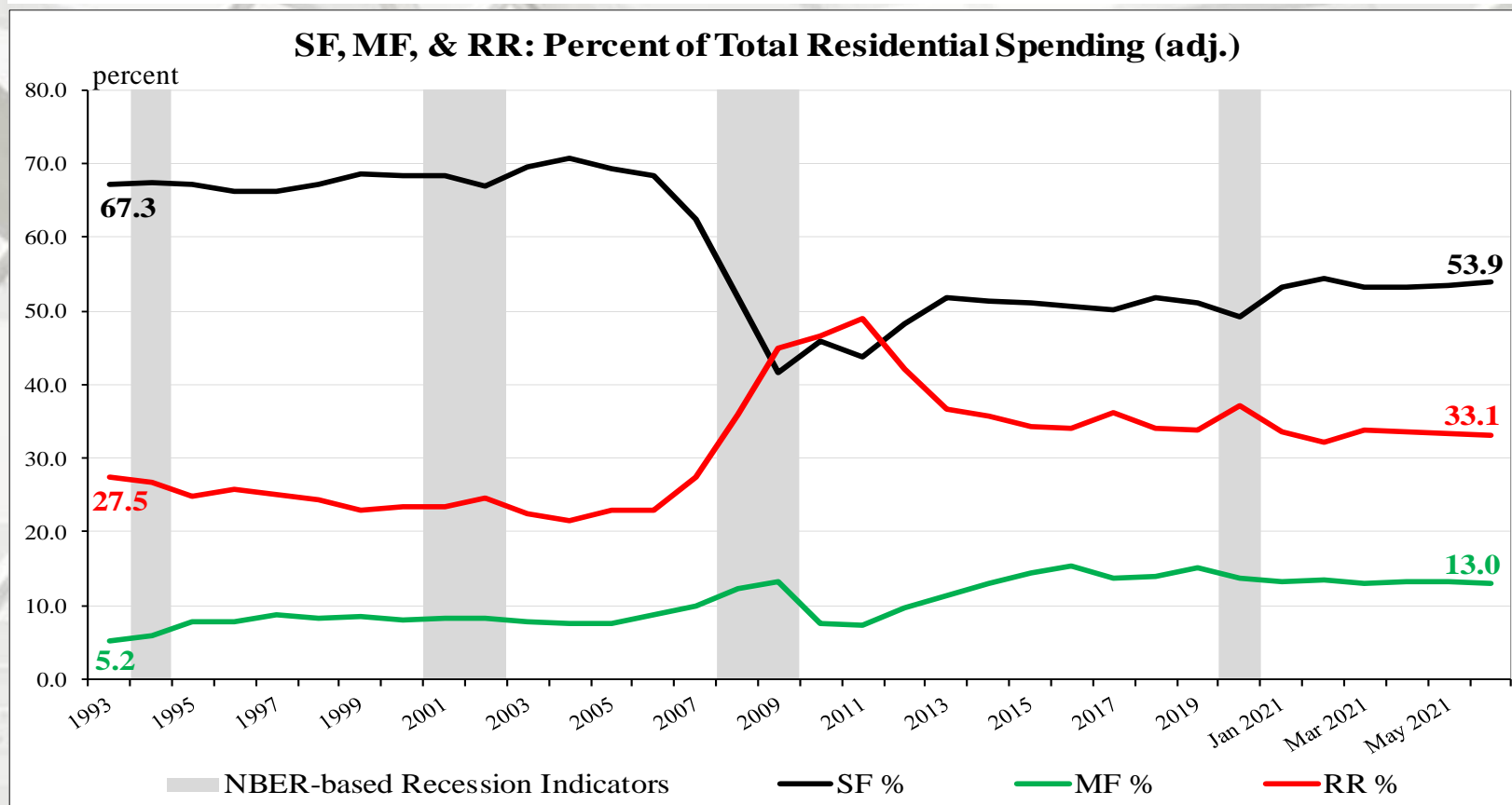
The US DOC does not report improvement spending directly, this is a monthly estimation for 2020.

Total Construction Spending (adjusted): 1993-June 2021



Reported in adjusted US\$: 1993 – 2020 (adjusted for inflation, BEA Table 1.1.9); June 2021 reported in nominal US\$.

Construction Spending Shares: 1993 to June 2021



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

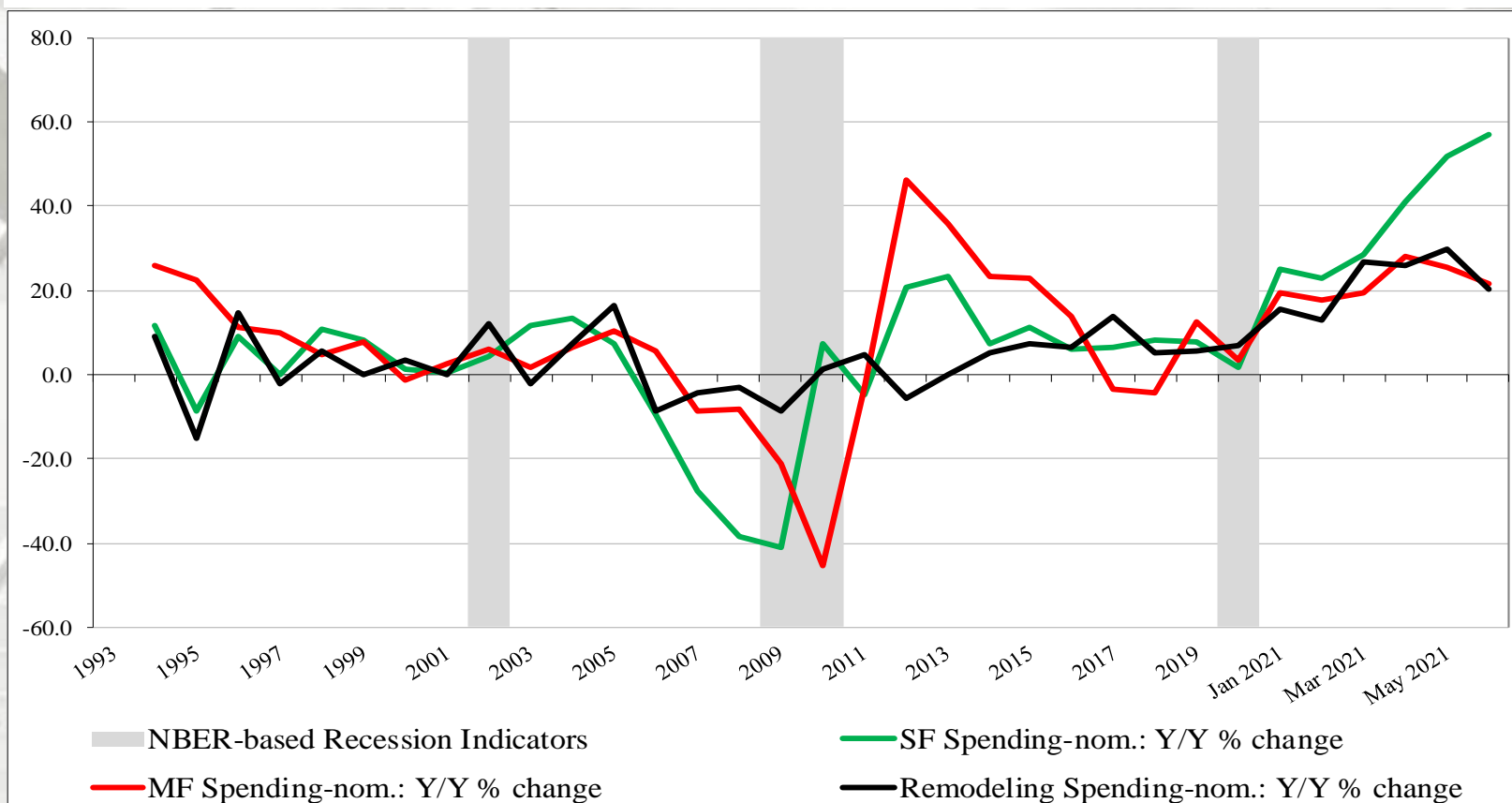
MF spending average: 7.5 %

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

Note: 1993 to 2020 (adjusted for inflation, BEA Table 1.1.9); June 2021 reported in nominal US\$.

* NBER based Recession Indicator Bar s for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Adjusted Construction Spending: Y/Y Percentage Change, 1993 to June 2021



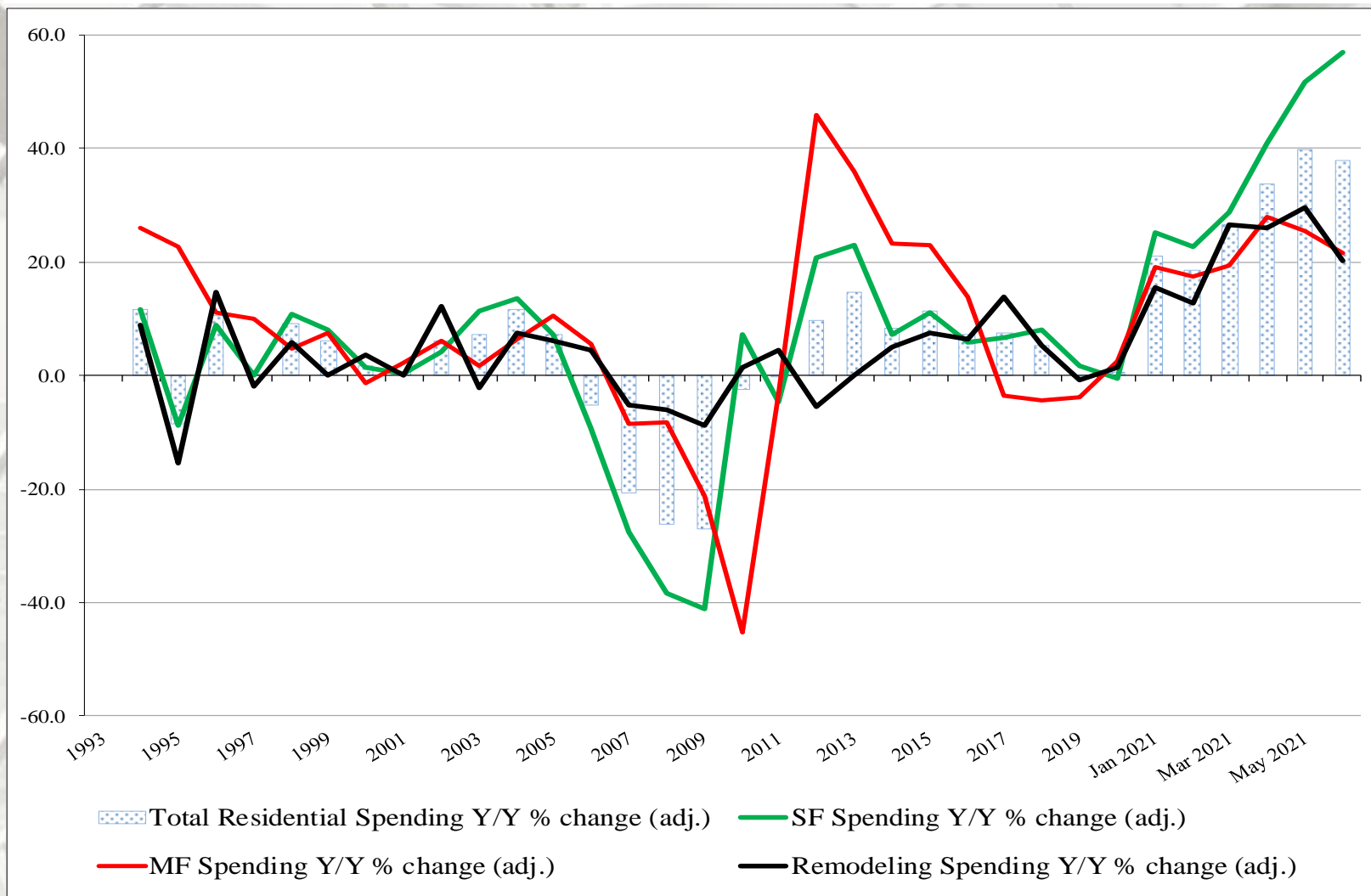
Nominal Residential Construction Spending: Y/Y percentage change, 1993 to June 2021

Presented above is the percentage change of inflation adjusted Y/Y construction spending. SF, MF, and RR expenditures were positive on a percentage basis, year-over-year and month-over-month (June 2021 data reported in nominal dollars).

* NBER based Recession Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

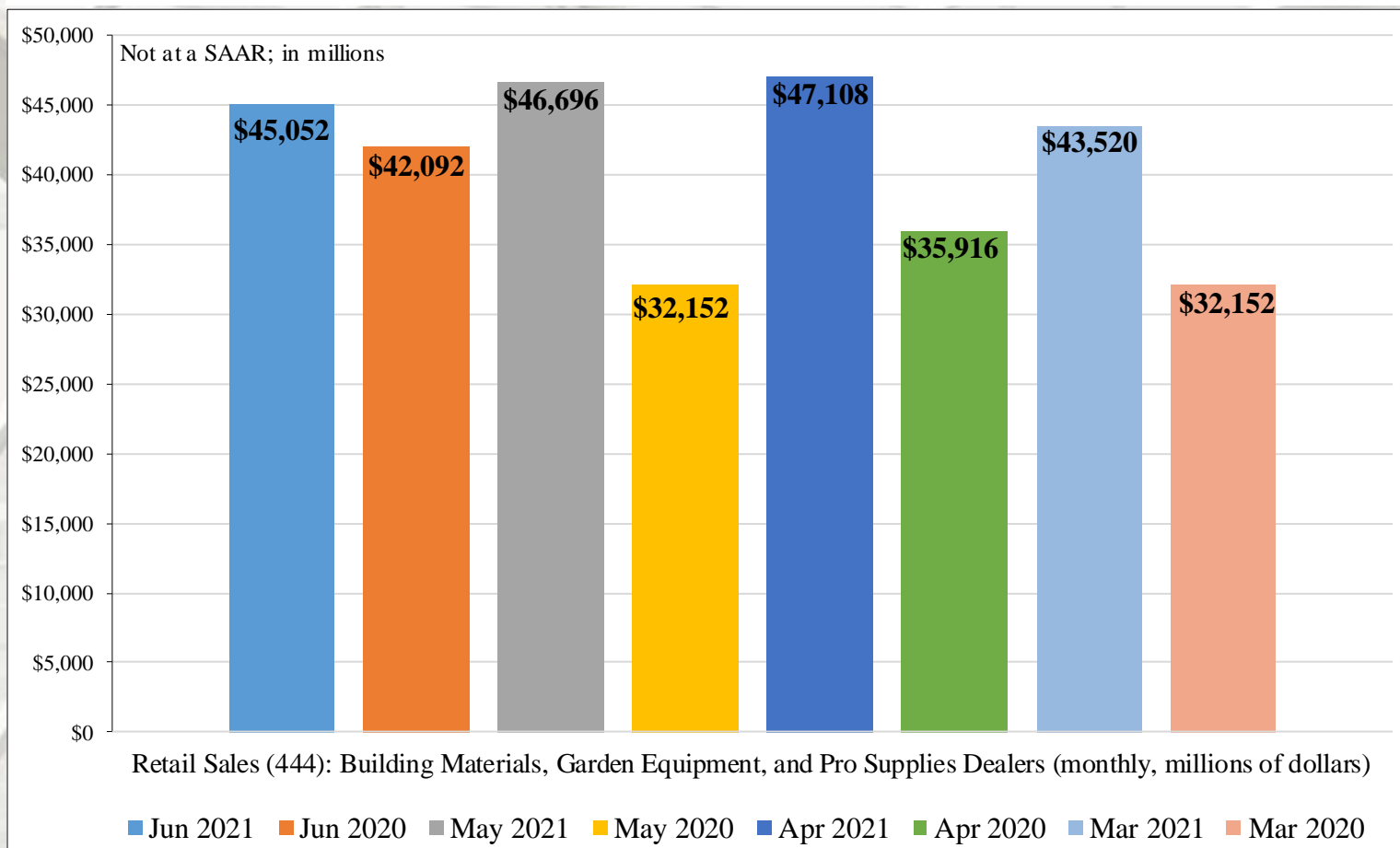
Sources: * <https://fred.stlouisfed.org/series/USREC>, 8/2/21; <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 8/2/21 and <http://www.bea.gov/iTable/iTable.cfm>; 6/24/21

Adjusted Construction Spending: Y/Y Percentage Change, 1993 to June 2021



Remodeling

Retail Sales: Building materials, Garden Equipment, & PRO Supply Dealers

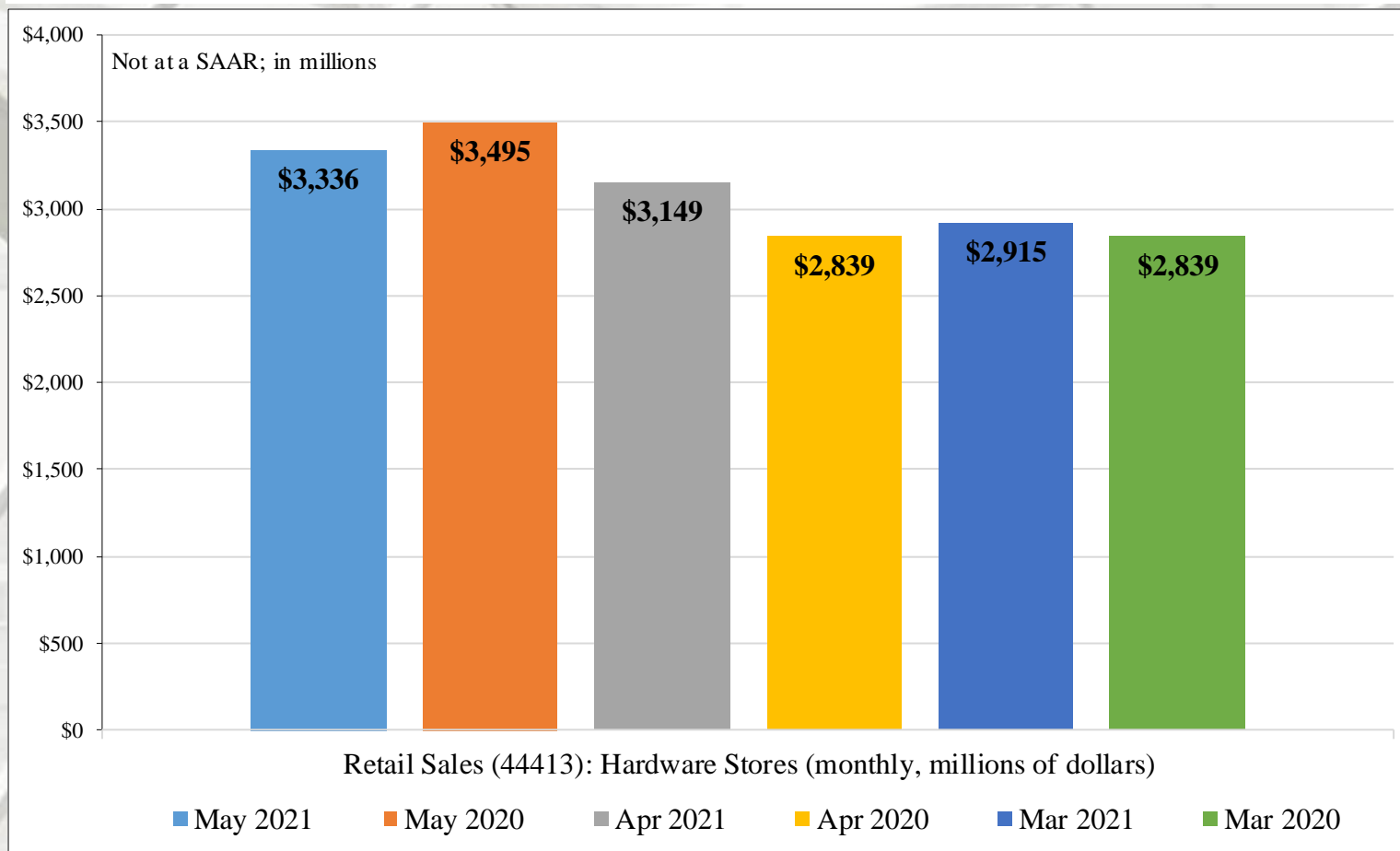


Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

NAICS 444 sales decreased 3.5% in June 2021 from May 2021 and improved 7.0% in June 2021 from June 2020 (on a non-adjusted basis).

Remodeling

Retail Sales: Hardware Stores



Hardware Stores: NAICS 44413

NAICS 44413 retail sales increased 5.9% in May 2021 from April 2021 and declined 4.5% in May 2021 from May 2020 (on a non-adjusted basis).

Remodeling

	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
Lumber and Building Materials						
Structural Lumber	-4%	9%	4%	60%	79%	95%
Decking	25%	13%	8%	25%	38%	25%
Insulation	-1%	2%	-1%	8%	1%	25%
Roofing	0%	-5%	-6%	8%	33%	34%
Siding	5%	8%	-2%	11%	19%	23%
Windows and Doors	1%	9%	-5%	10%	15%	17%
Wallboard	-4%	-2%	3%	2%	8%	11%
HVAC	7%	6%	-2%	12%	9%	21%
Interior Finishes						
Plumbing	6%	4%	-6%	14%	15%	30%
Cabinets	1%	4%	-12%	9%	10%	14%
Countertops and Surfaces	7%	6%	-35%	-20%	-17%	18%
Flooring	-4%	-8%	-17%	-3%	6%	11%
Paint	5%	6%	0%	7%	10%	12%
Water Heaters	0%	-2%	-10%	6%	7%	2%
Appliances	-1%	-6%	-16%	0%	8%	16%
Distribution						
New Construction	7%	10%	3%	20%	37%	51%
Home Centers	4%	9%	26%	25%	26%	29%
Specialty Retailers	14%	11%	-14%	26%	30%	32%
Installation Services						
	6%	9%	2%	4%	8%	12%
Weighted Average of Segments						
	3%	5%	16%	19%	25%	30%

Revenue Growth

> 10%

5%–10%

0%–4%

< 0%

Growth figures reflect relevant reporting segments of publicly traded building product companies. For detailed list of companies analyzed, please see methodology section at the end of the report.

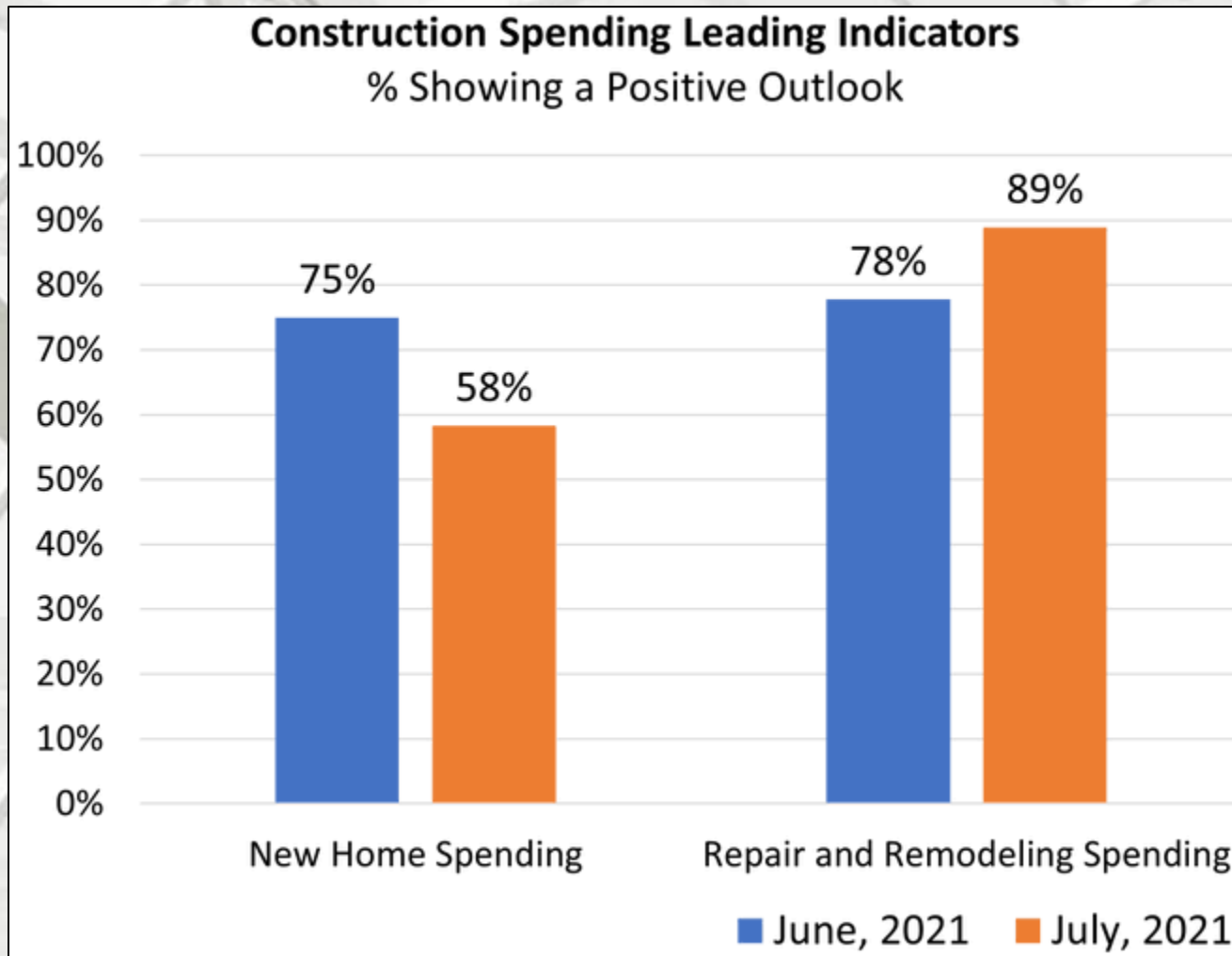
Source: John Burns Real Estate Consulting, LLC, public earnings transcripts (Data: 1Q21, Pub: Jun-21)

John Burns Real Estate Consulting

“This chart has so many interesting takeaways from the remodeling boom last year. Here are 3:

- 1) Installation services didn't grow much, but it still grew.
- 2) Countertops were absolutely essential, so replacements only began growing this year.
- 3) Roofing boom.” – John Burns, CEO; John Burns Real Estate Consulting, LLC

Remodeling



John Burns Real Estate Consulting

“Construction spending pivoted significantly last month from new home spending to remodeling. Source: [@JBREC](#) back tested analysis of 30 indicators [#jbrecdailyinsight](#).” – John Burns, CEO; John Burns Real Estate Consulting, LLC

Existing House Sales

National Association of Realtors

June 2021 sales: 5.860 thousand

	Existing Sales	Median Price	Mean Price	Month's Supply
June	5,860,000	\$363,300	\$381,800	2.6
May	5,780,000	\$350,400	\$371,700	2.5
2020	4,770,000	\$294,400	\$328,900	3.9
M/M change	1.4%	3.7%	2.7%	4.0%
Y/Y change	22.9%	23.4%	16.1%	-33.3%

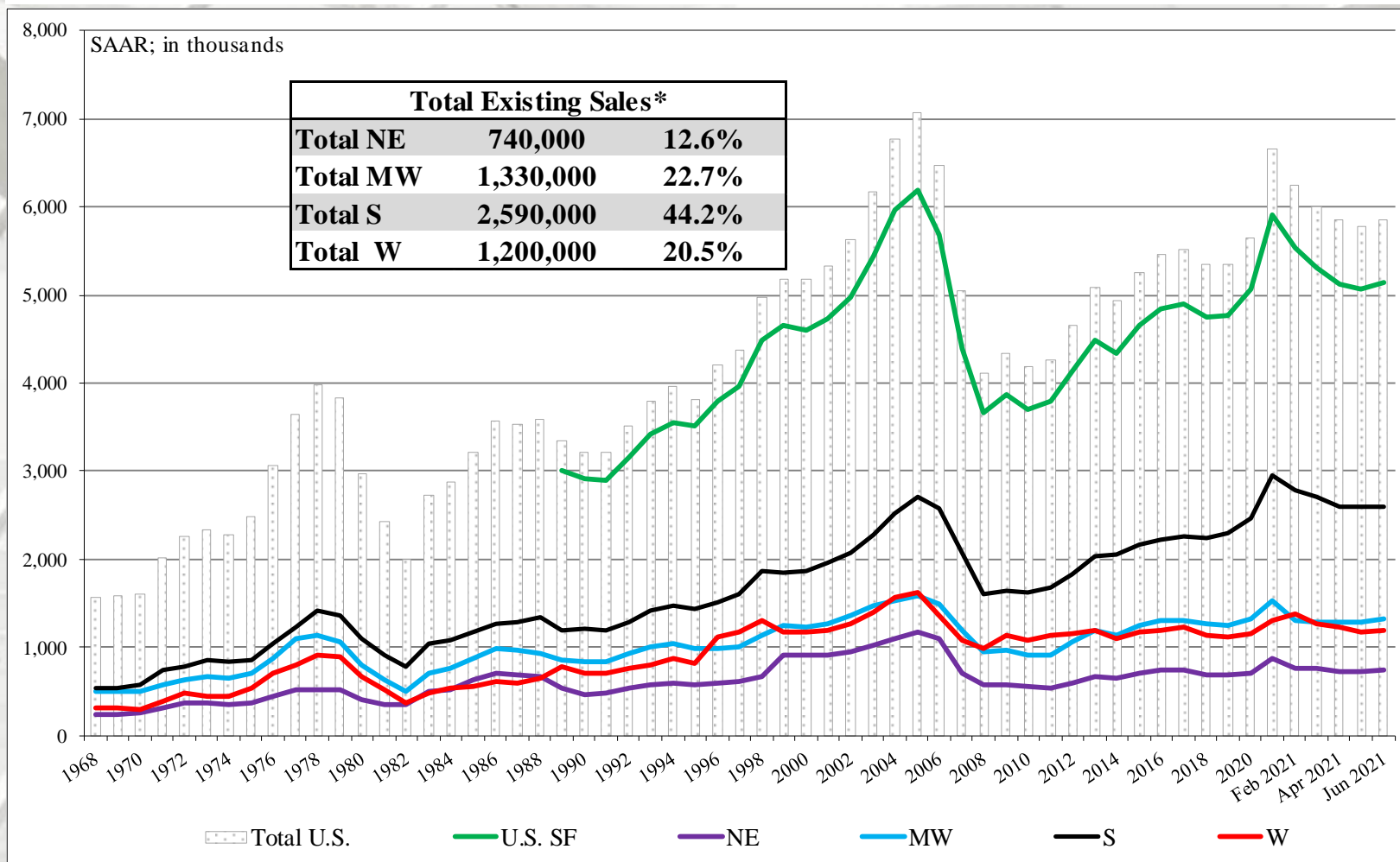
All sales data: SAAR

Existing House Sales

	Existing SF Sales	SF Median Price	SF Mean Price	
June	5,140,000	\$370,600	\$386,600	
May	5,070,000	\$356,800	\$375,900	
2020	4,310,000	\$297,900	\$331,400	
M/M change	1.4%	3.7%	2.8%	
Y/Y change	19.3%	24.4%	16.7%	
	NE	MW	S	W
June	740,000	1,330,000	2,590,000	1,200,000
May	720,000	1,290,000	2,590,000	1,180,000
2020	510,000	1,120,000	2,170,000	970,000
M/M change	2.8%	3.1%	0.0%	1.7%
Y/Y change	45.1%	18.8%	19.4%	23.7%

All sales data: SAAR.

Existing House Sales



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

* Percentage of total existing sales.

U.S. Housing Prices

Federal Housing Finance Agency

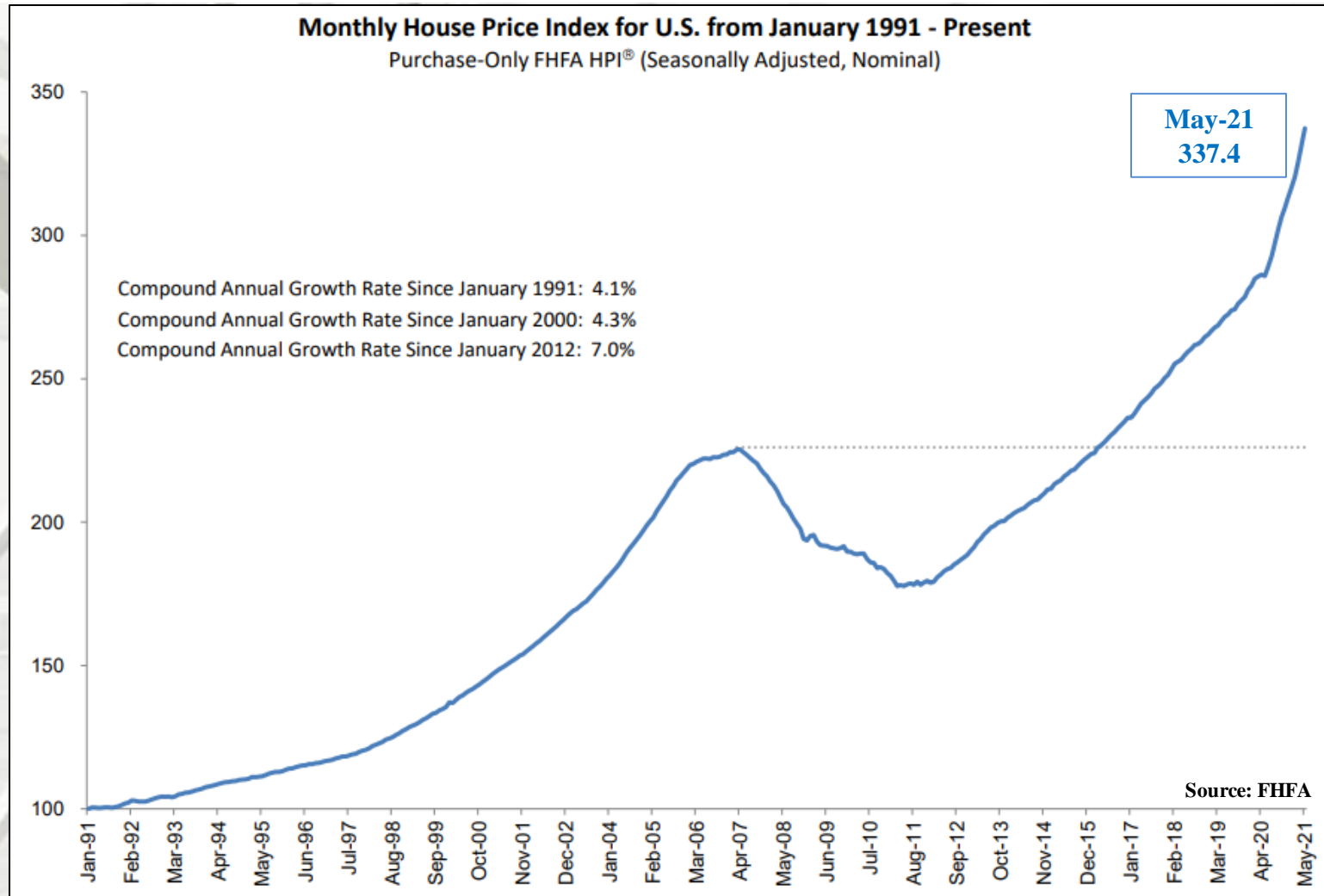
U.S. House Price Index Report – July 2021

Significant Findings

“House prices rose nationwide in May, up **1.7 percent** from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices rose **18.0 percent** from May 2020 to May 2021. The previously reported 1.8 percent price change for April 2021 was unrevised. For the nine census divisions, seasonally adjusted monthly house price changes from April 2021 to May 2021 ranged from **+1.0 percent** in the Middle Atlantic division to **+2.4 percent** in the Pacific division. The 12-month changes ranged from **+15.4 percent** in the West South Central division to **+23.2 percent** in the Mountain division.” – Raffi Williams and Adam Russell, FHFA

“House prices continued their record-setting growth into May. This trend will likely continue around the country as busy summer homebuying months maintain the pressure being felt in already tight housing markets.” – Dr. Lynn Fisher, Deputy Director of the Division of Research and Statistics, FHFA

U.S. Housing Prices



U.S. Housing Prices

S&P CoreLogic Case-Shiller Index Reports Record High Annual Home Price Gain of 16.6% in May

“... Data for May 2021 show that home prices continue to increase across the U.S. More than 27 years of history are available for these data series, and can be accessed in full by going to www.spdji.com.

Year-Over-Year

The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported a 16.6% annual gain in May, up from 14.8% in the previous month. The 10-City Composite annual increase came in at 16.4%, up from 14.5% in the previous month. The 20-City Composite posted a 17.0% year-over-year gain, up from 15.0% in the previous month.

Phoenix, San Diego, and Seattle reported the highest year-over-year gains among the 20 cities in May. Phoenix led the way with a 25.9% year-over-year price increase, followed by San Diego with a 24.7% increase and Seattle with a 23.4% increase. All 20 cities reported higher price increases in the year ending May 2021 versus the year ending April 2021. ...

Month-Over-Month

“Before seasonal adjustment, the U.S. National Index posted a 2.1% month-over-month increase in May, while the 10-City and 20-City Composites both posted increases of 1.9% and 2.1%, respectively.

After seasonal adjustment, the U.S. National Index posted a month-over-month increase of 1.7%, and the 10-City and 20-City Composites both posted increases of 1.7% and 1.8%, respectively. In May, all 20 cities reported increases before and after seasonal adjustments.” – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

U.S. Housing Prices

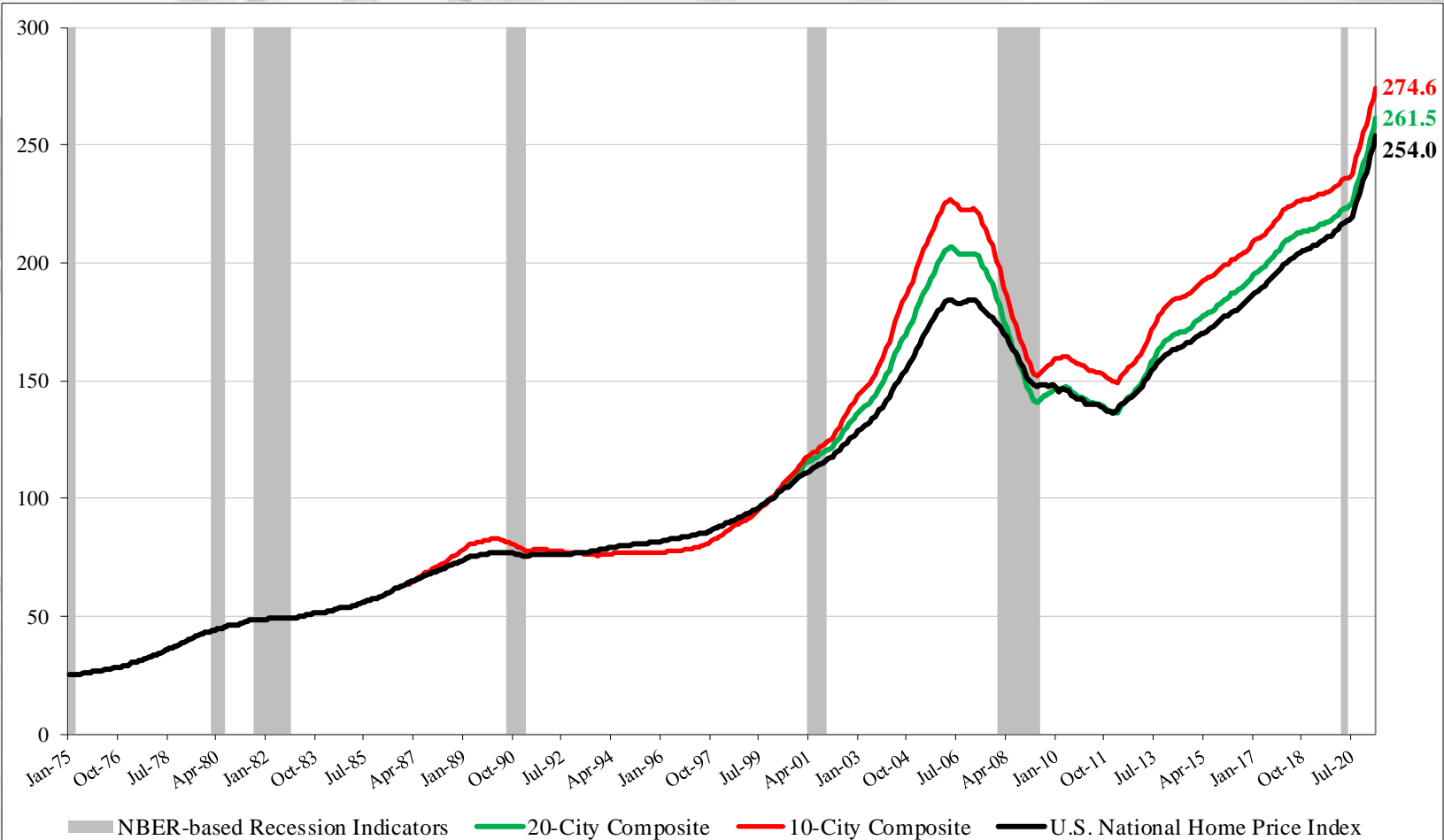
S&P CoreLogic Case-Shiller Index Reports Record High Annual Home Price Gain of 16.6% in May Analysis

“Housing price growth set a record for the second consecutive month in May 2021. The National Composite Index marked its twelfth consecutive month of accelerating prices with a 16.6% gain from year-ago levels, up from 14.8% in April. This acceleration is also reflected in the 10- and 20-City Composites (up 16.4% and 17.0%, respectively). The market’s strength continues to be broadly-based: all 20 cities rose, and all 20 gained more in the 12 months ended in May than they had gained in the 12 months ended in April. Prices in 18 of our 20 cities now stand at all-time highs, as do the National Composite and both the 10- and 20-City indices.

A month ago, I described April’s performance as “truly extraordinary,” and this month I find myself running out of superlatives. The 16.6% gain is the highest reading in more than 30 years of S&P CoreLogic Case-Shiller data. As was the case last month, five cities – Charlotte, Cleveland, Dallas, Denver, and Seattle – joined the National Composite in recording their all-time highest 12-month gains. Price gains in all 20 cities were in the top quartile of historical performance; in 17 cities, price gains were in top decile.

We have previously suggested that the strength in the U.S. housing market is being driven in part by reaction to the COVID pandemic, as potential buyers move from urban apartments to suburban homes. May’s data continue to be consistent with this hypothesis. This demand surge may simply represent an acceleration of purchases that would have occurred anyway over the next several years. Alternatively, there may have been a secular change in locational preferences, leading to a permanent shift in the demand curve for housing. More time and data will be required to analyze this question.” – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

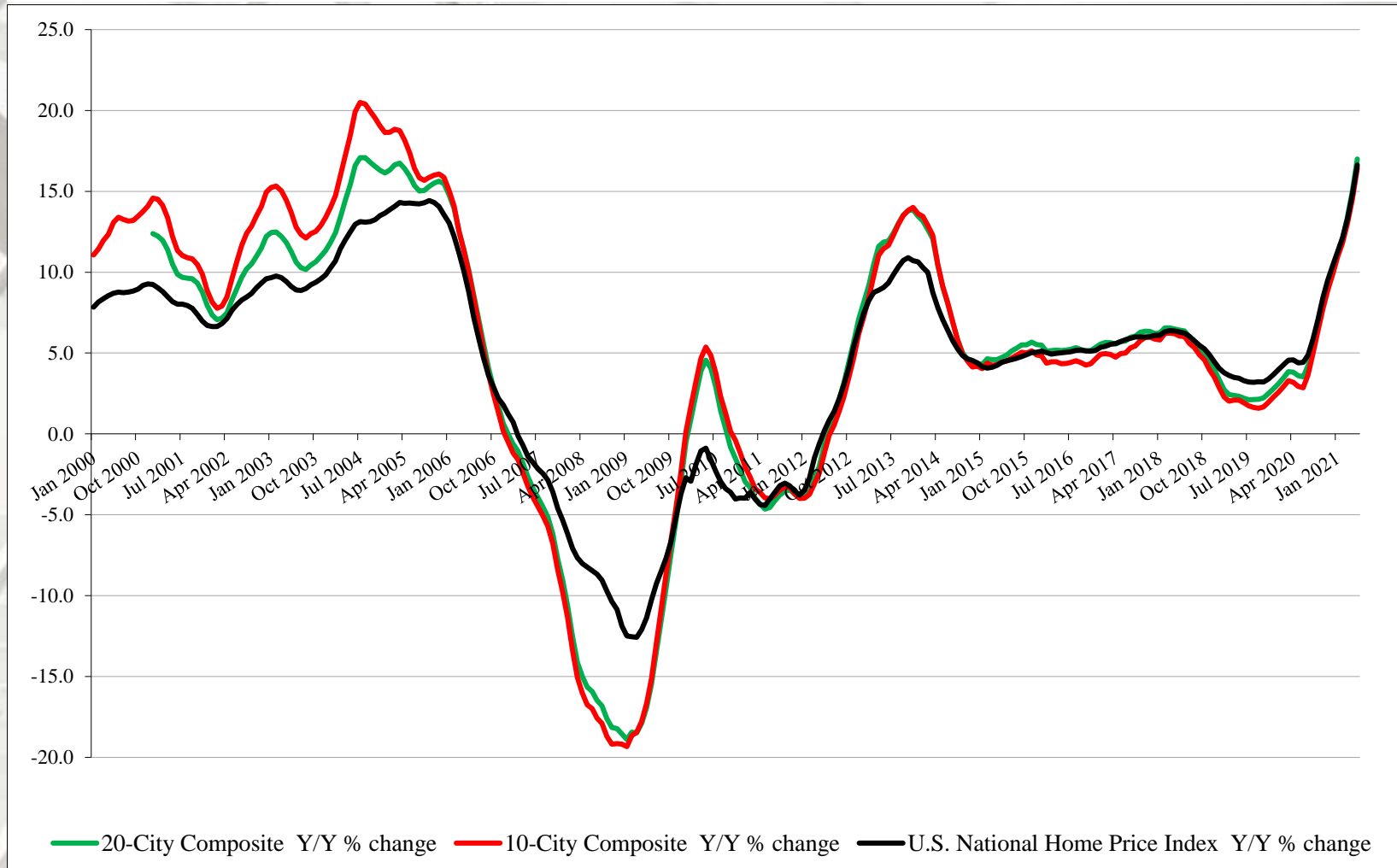
S&P/Case-Shiller Home Price Indices



* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

“Phoenix’s 25.9% increase led all cities for the 24th consecutive month, with San Diego (+24.7%) and Seattle (+23.4%) close behind. As was the case last month, prices were strongest in the West (+19.9%) and Southwest (+19.8%), but every region logged double-digit gains.” – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

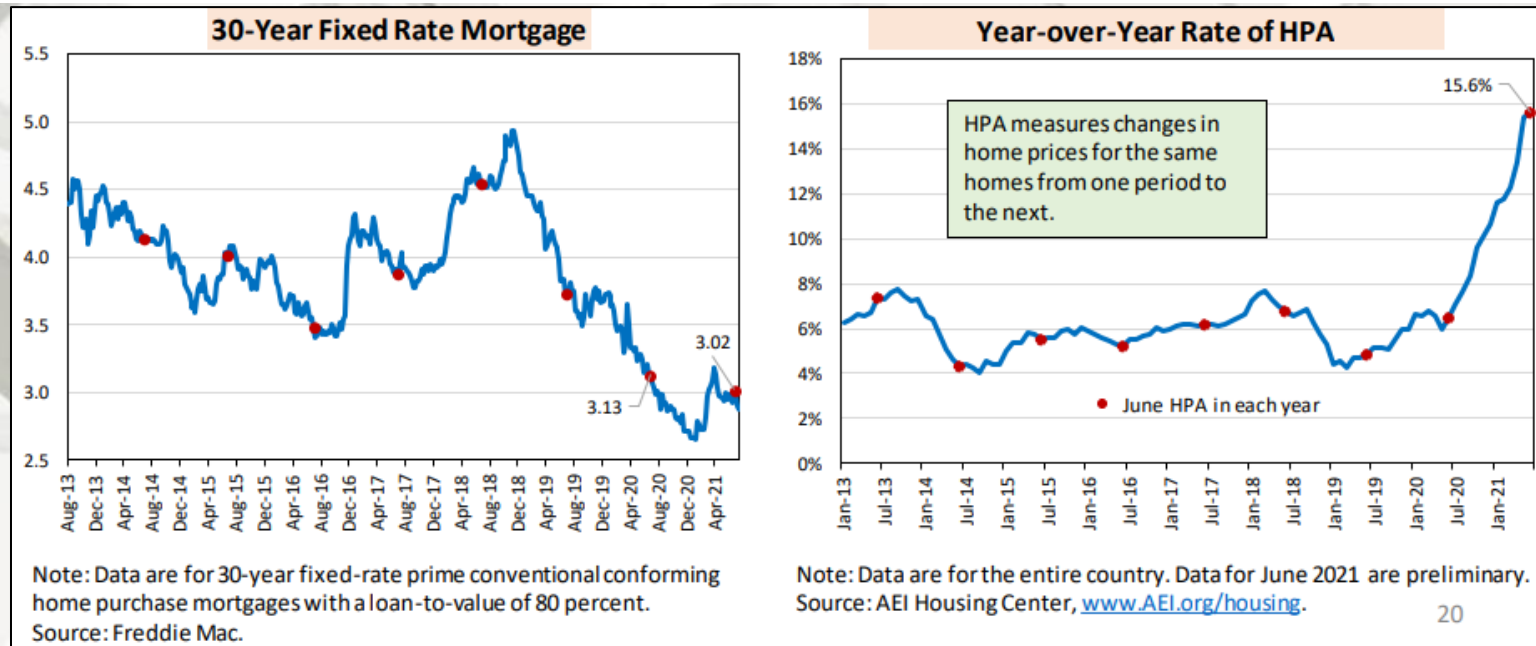
S&P/Case-Shiller Home Price Indices



Y/Y Price Change

From May 2020 to May 2021, the National Index increased 16.6%; the Ten-City by 16.4%, and the Twenty-City by 17.0%.

U.S. Housing Affordability & Prices

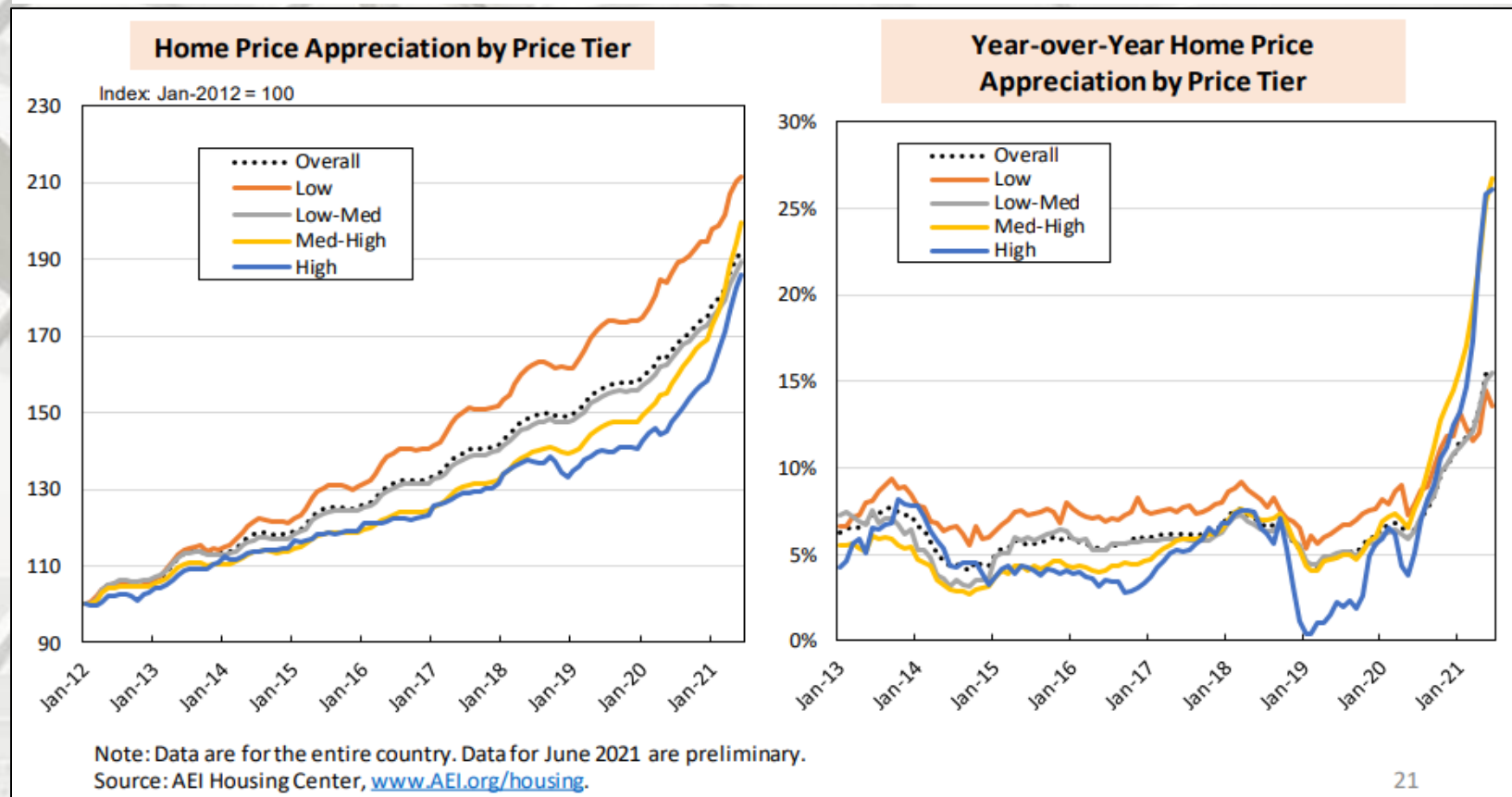


AEI Housing Center

For the 2nd time in 20 years the Fed's Monetary Punchbowl is Fueling Rampant Home Price Appreciation, Resulting in a Disparate Impact

“Mortgage rates dropping from 10% in 1990 to 6% in 2007, along with policy-induced credit easing, led to a massive home price boom and bust, with millions of foreclosures for low income families. Since 2012 rates have dropped from 4.5% to under 3%. Combined with policy induced credit loosening, a lack of supply, and WFH, the result has been a second massive home price boom. Preliminary national HPA rate for June 2021 was 15.6%, up from 6.5% a year ago. With prices increasing much faster than incomes, the Fed's policy will have a disparate impact. Higher income households will be able to take advantage of WFH to improve their housing situation, while low income ones will be increasingly crowded out of home buying. This disparate impact will likely be long lasting as today's high HPA will become incorporated into future price levels, which will slow gains in racial integration and further increase socio-economic stratification.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Affordability & Prices

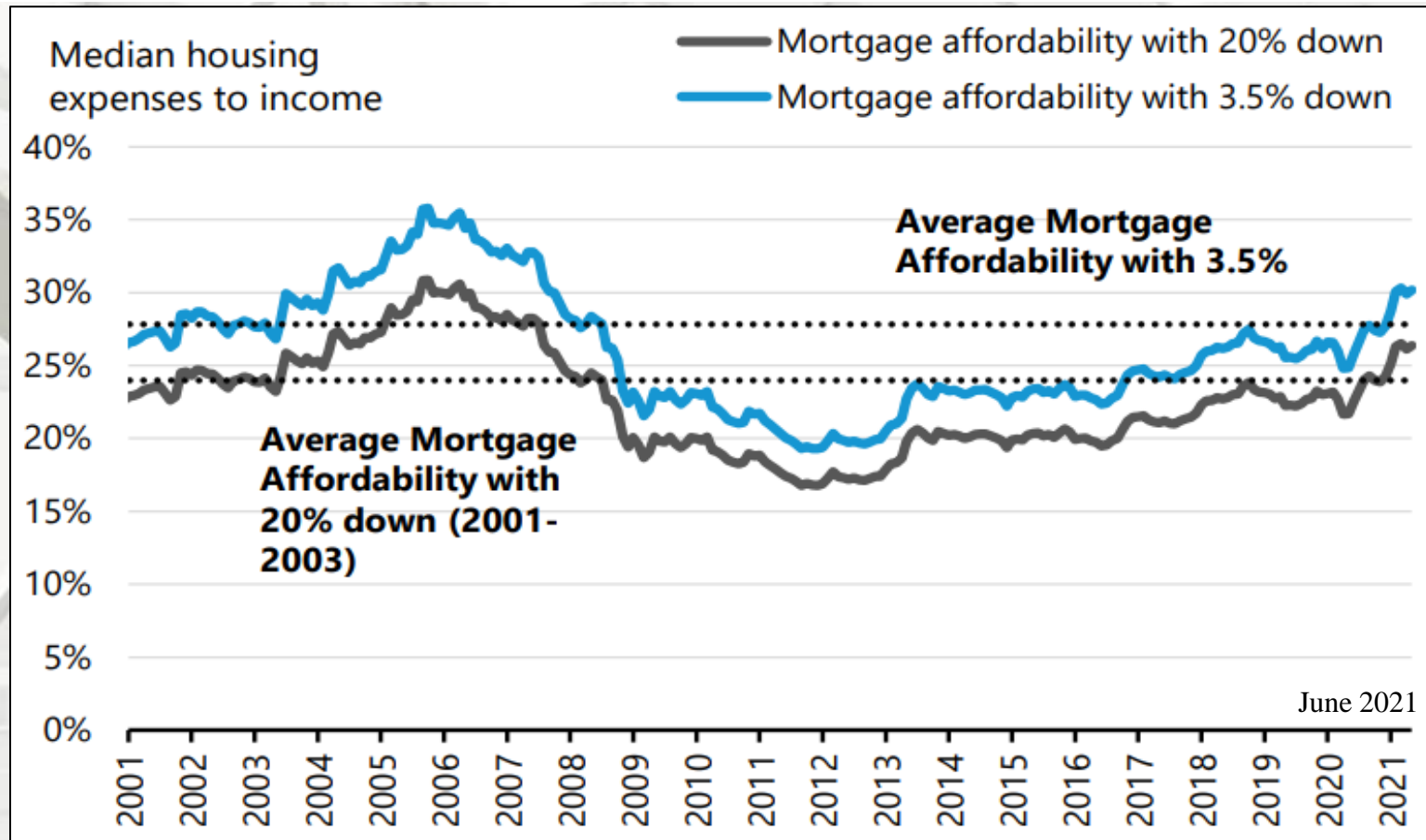


AEI Housing Center

Home Price Appreciation by Price Tier

“Since 2012 a large gap in HPA has developed between the lower and upper end of the market (left panel). Preliminary numbers for June 2021 indicate that the low price tier continued to have strong HPA, although the med-high and high price tiers, which are more dependent on the monetary punch bowl, are showing the strongest rates of appreciation. This is a trend reversal, since historically the low price tier has shown the fastest y-o-y HPA.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Housing Affordability

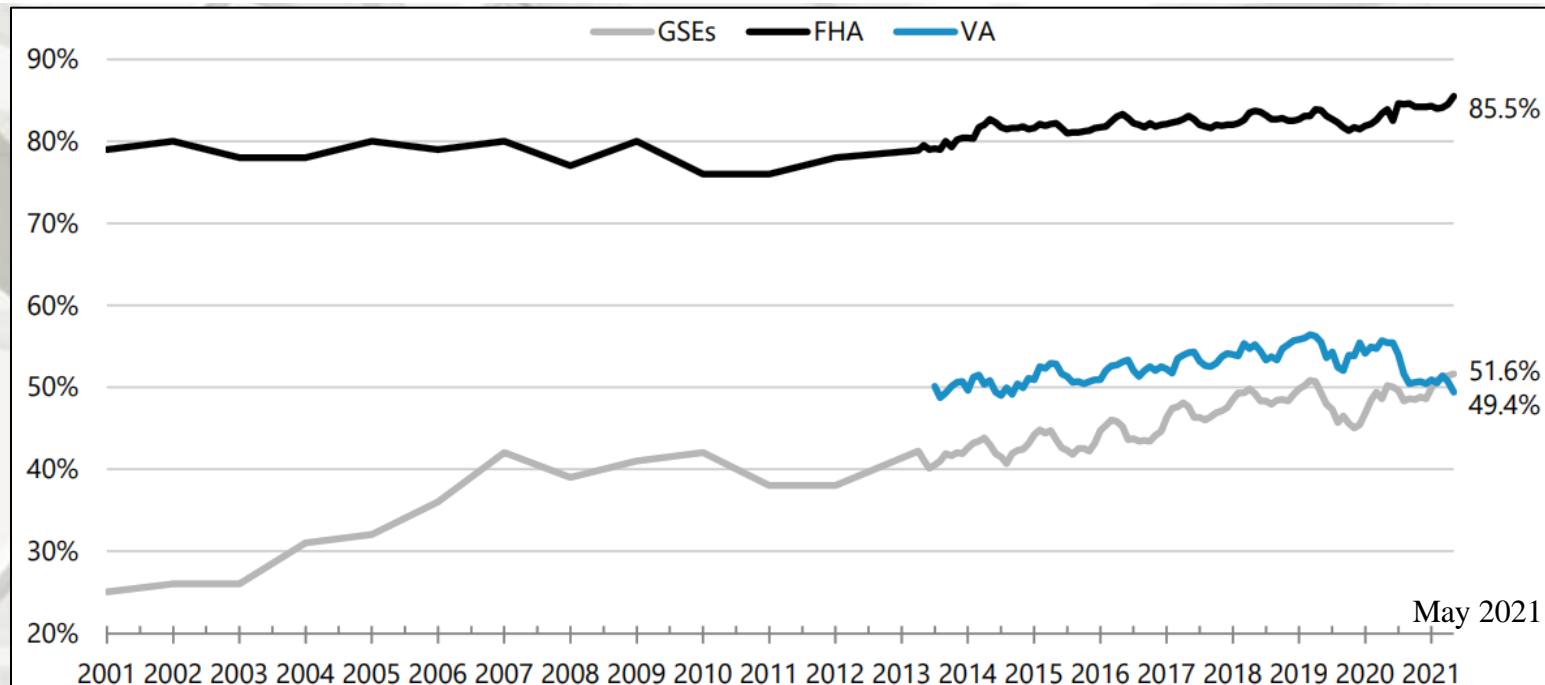


Urban Institute

National Mortgage Affordability Over Time

“Despite historic low interest rates, increases in home prices have pushed affordability to the worst levels since 2008. As of June 2021, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 26.4 percent; with 3.5 percent down it is 30.2 percent. These numbers are well above the 2001-2003 median, and represent a sharp worsening in affordability over the past year. ...” – Laurie Goodman, Vice President, Urban Institute

First-Time House Buyers



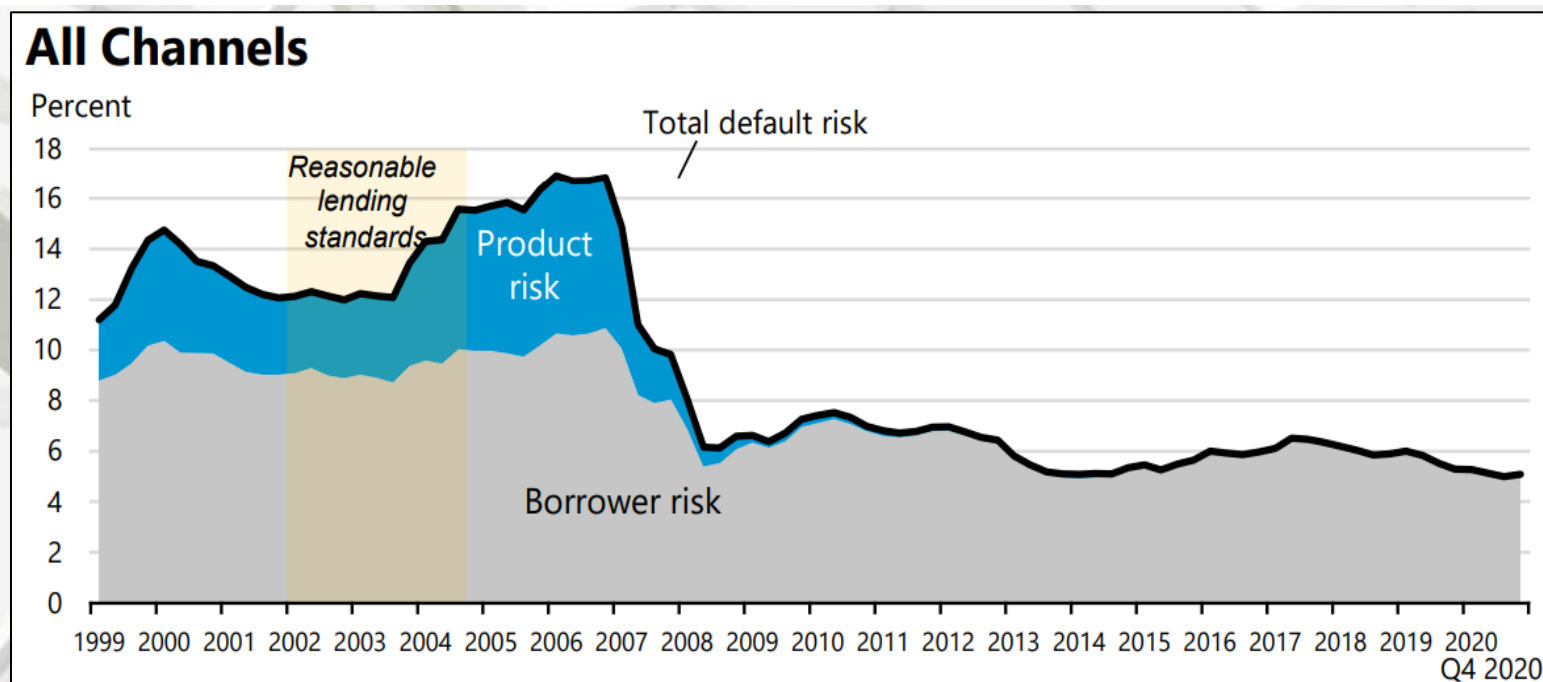
Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute.

Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

Urban Institute First-Time Home Buyer Share

“In May 2021, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 85.5 percent. The FTHB share of VA lending in May was 49.4 percent. The GSE FTHB share increased in May relative to April, to 51.6 percent. The bottom table shows that based on mortgages originated in May 2021, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and have a higher LTV, thus paying a higher interest rate.” – Bing Lai, Research Associate, Housing Finance Policy Center

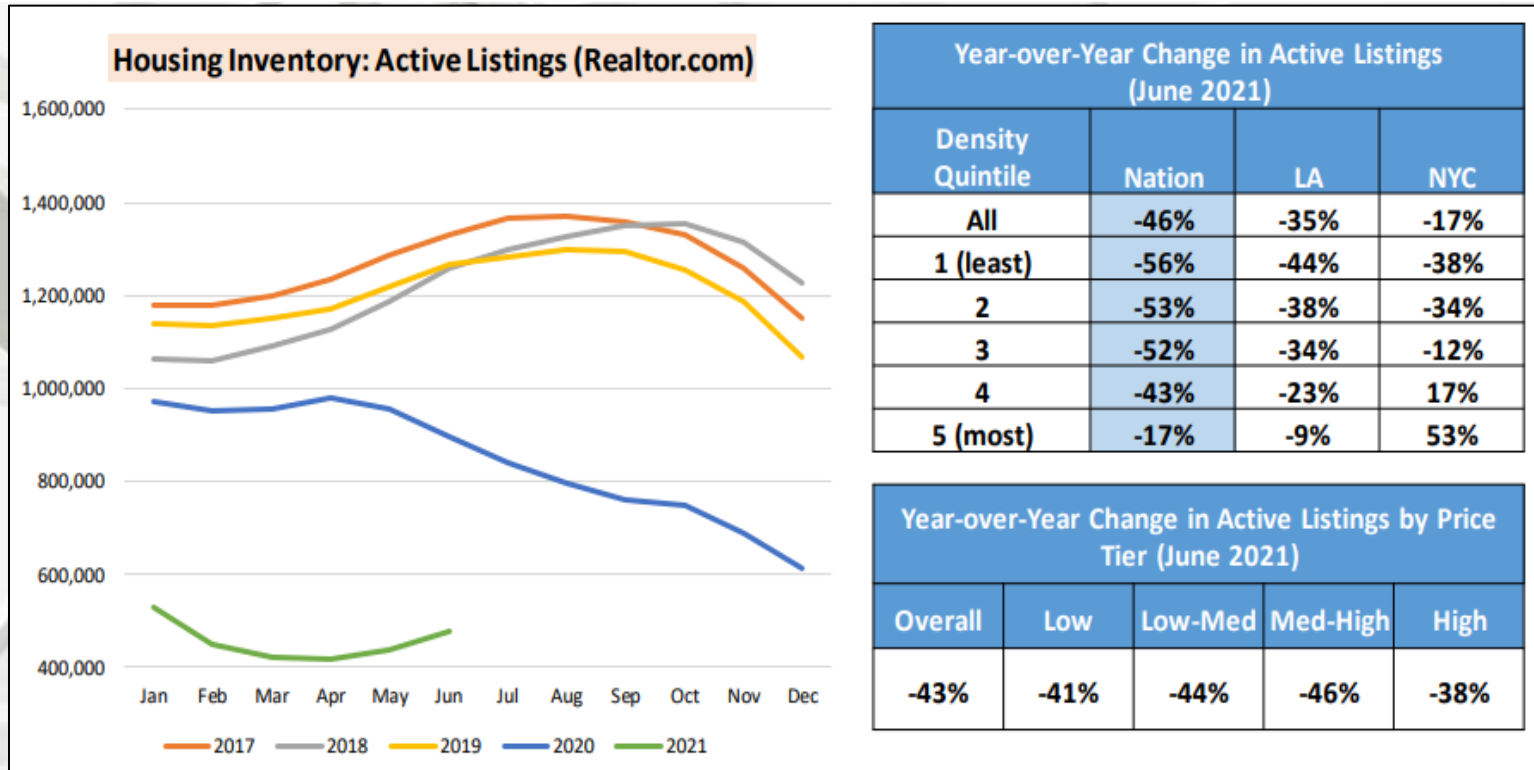
U.S. Housing Finance



Urban Institute Housing Credit Availability Index

“The Urban Institute’s Housing Credit Availability Index (HCAI) assesses lenders’ tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The HCAI stood at 5.1 percent in Q4 2020, up slightly from a historic low in Q3 of just below 5.0 percent. Note that we updated the methodology as of Q2 2020, see new methodology (www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-july-2021/view/full_report). Credit loosening from Q3 to Q4 2020 was led by increased borrower default risk among government channel originations, as well as a shift in market composition, with the GSE channel making up a smaller portion of total purchase originations. More information about the HCAI is available here (www.urban.org/policy-centers/housing-finance-policy-center/projects/housing-credit-availability-index). ...” – Gideon Berger, Senior Policy Program Manager, Urban Institute

U.S. Housing Supply

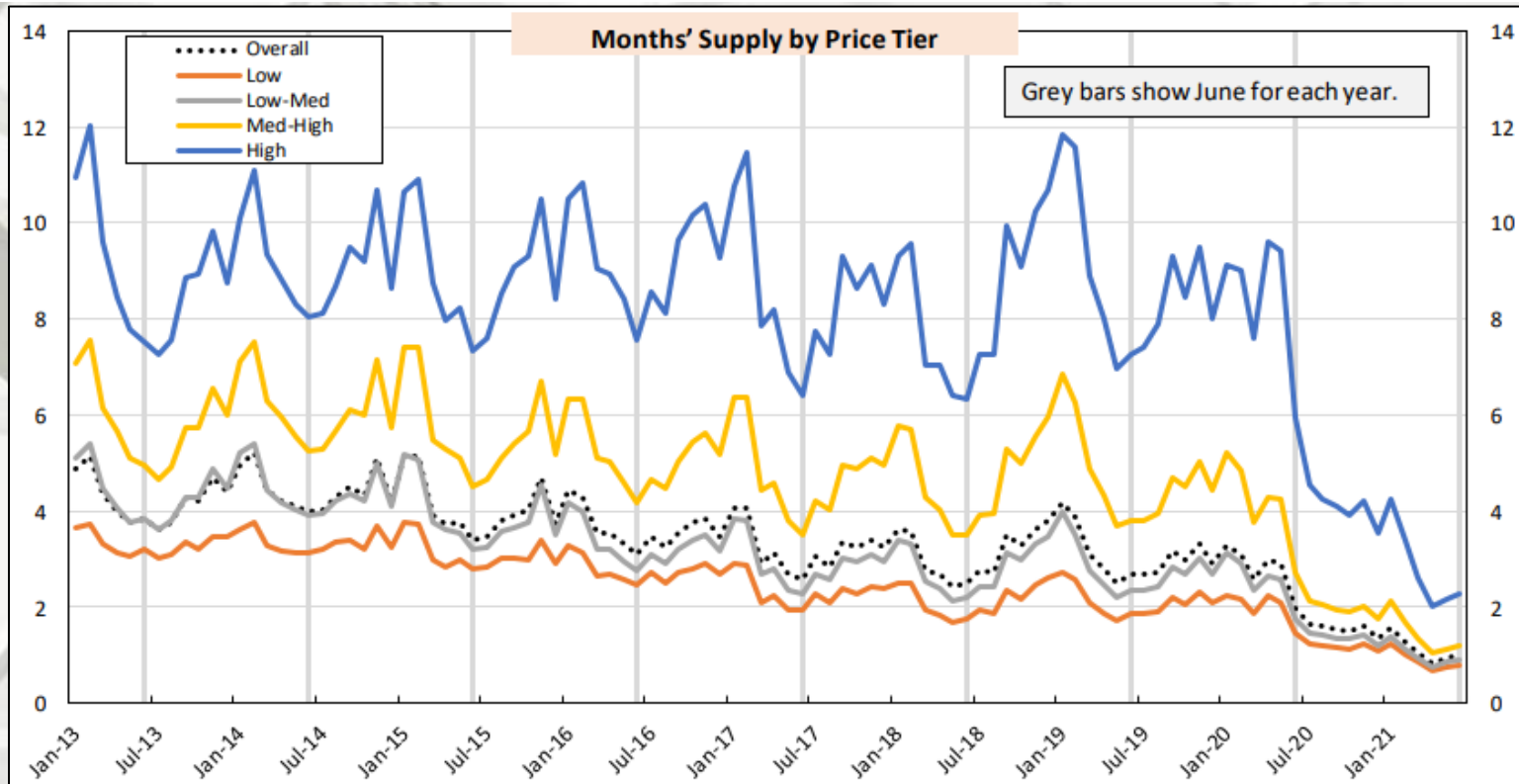


Sources: Realtor.com, Census Bureau, and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Supply Remains Depleted

“Supply remained near its all time low. The recent slight uptick over the last 2 months follows the general seasonal uptick that is common over this period. Supply has been most depleted in less dense areas. For the foreseeable future, it will be difficult to replenish or increase supply: (i) baby boomers are tending to stay put more, (ii) it takes time to acquire land, entitle, and build even in places like North Carolina and Texas, (iii) adding supply will face the usual difficulties in the Northeast and much of the West.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Housing Supply

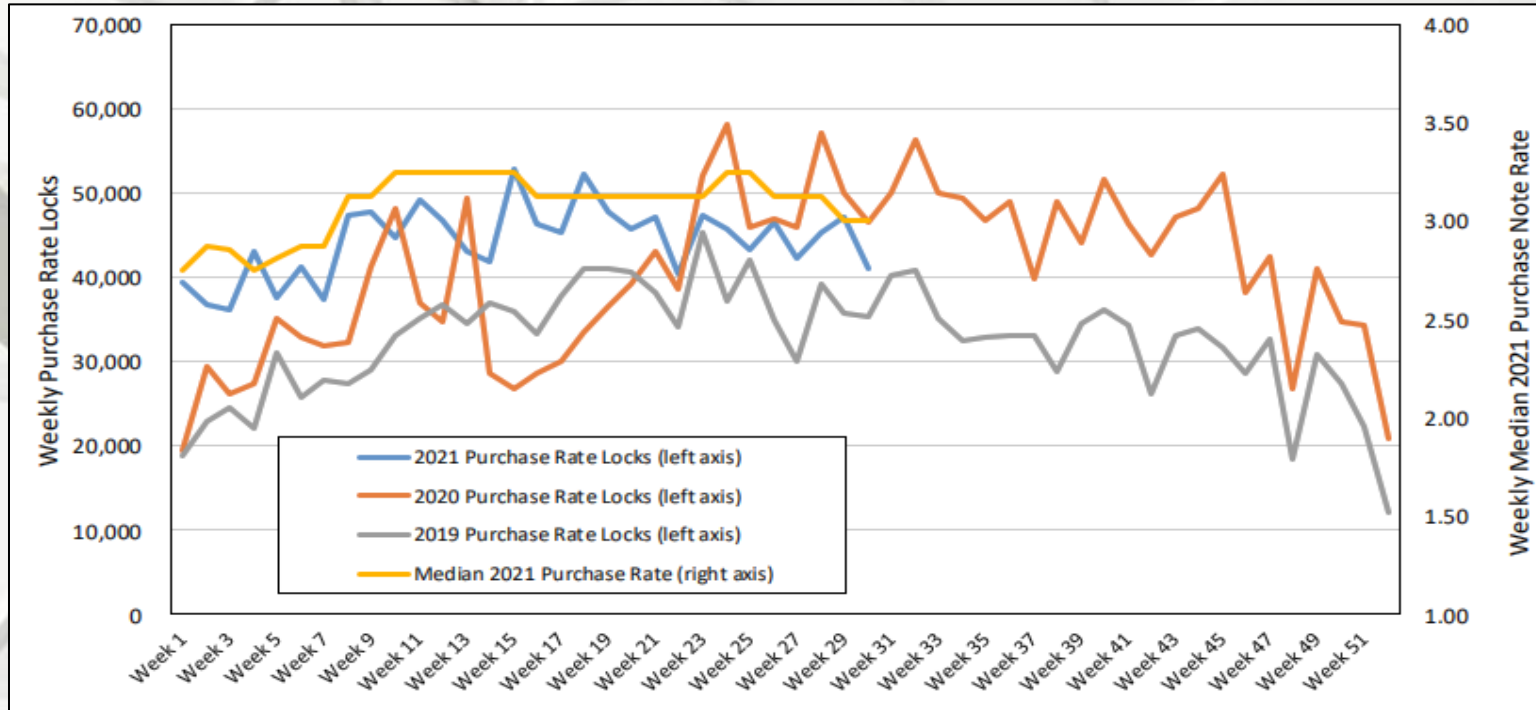


Note: Months' supply measures how long it would take for the existing level of inventory to be sold off at the current sale's pace. While the listings data come from the MLS, the sales numbers come from the public records
 Sources: Realtor.com, Zillow, and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Months' Supply by Price Tiers

“Starting with June 2020, months' supply started to drop precipitously across all price tiers. In June 2021, overall months' supply stood at 1.0 months. While supply remains lowest in the low (0.8 months) and low-med tiers (0.9 months), the drop in the med-high and high price tiers are especially noteworthy. The high tier has fallen from 9.4 months in May 2020 to 2.3 months in June 2021 and med-high tier has fallen from 4.2 to 1.2.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Finance



Note: Rate locks are limited to lenders who joined Optimal Blue Dec. 2018 or earlier.
Source: Optimal Blue and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Purchase Activity Outlook with Higher Rates

“Purchase activity has continued to run high in the first half of 2021 compared to 2019. At today’s median rate level of 3.00%, purchase volume continues to be strong, with week 30 running 16% above the same week in 2019. 2019 was the strongest origination year during the 2012-2019 period. We compare to 2019 to avoid the base effect associated with 2020. We expect the seasonal decline in rate locks after the peak of the spring buying season to continue. Note that week 30 refers to July 24-30.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Finance

Mortgage Bankers Association (MBA)

Mortgage Credit Availability Increased in July

“Mortgage credit availability increased in July according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from Ellie Mae's AllRegs® Market Clarity® business information tool.

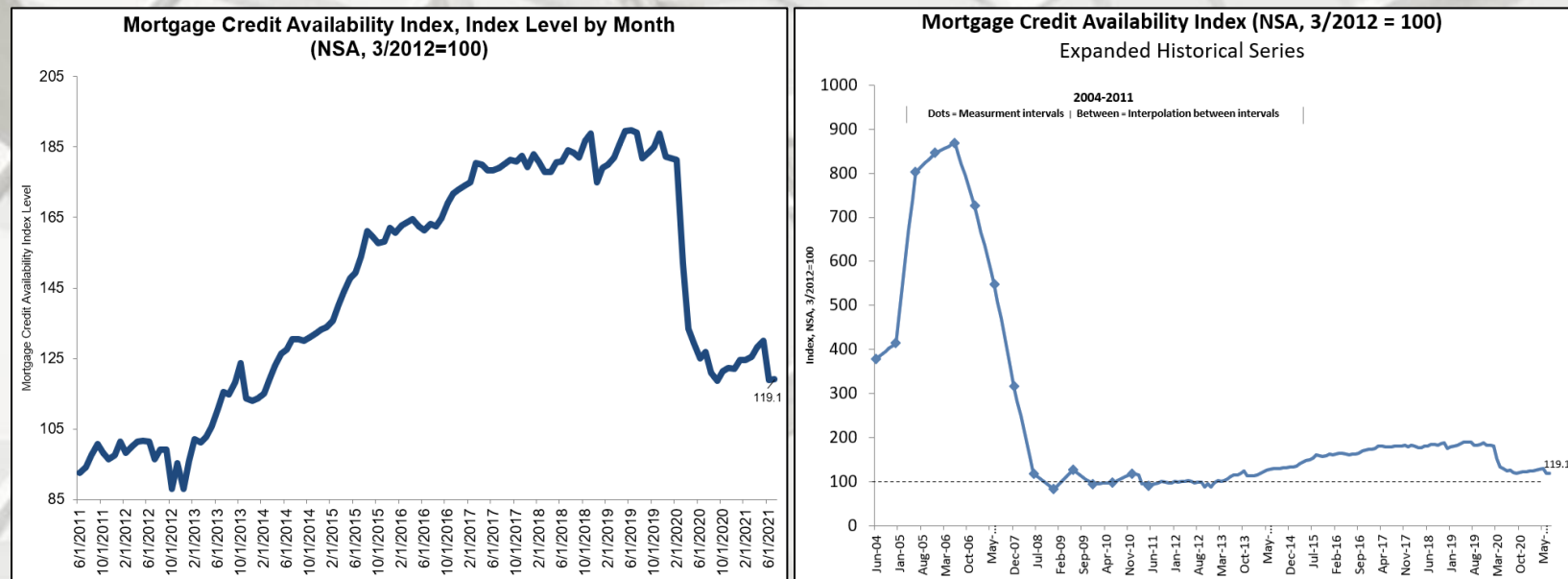
The MCAI rose by 0.3 percent to 119.1 in July. A decline in the MCAI indicates that lending standards are tightening, while increases in the index are indicative of loosening credit. The index was benchmarked to 100 in March 2012. The Conventional MCAI increased 0.8 percent, while the Government MCAI was unchanged. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 3.8 percent, and the Conforming MCAI fell by 3.2 percent.

Credit availability slightly increased in July, driven by an increase in jumbo loan programs. The overall gain was despite another month of pullbacks in high-LTV refinance programs due to GSE policy changes. The elimination of more high-LTV refinance loans drove most of the 3 percent drop in the conforming index, but that was somewhat offset by lenders adding new refinance loan programs to help qualified, lower-income GSE borrowers. The bounce back in jumbo credit availability followed a sharp drop in June, as some investors renewed their interest in jumbo ARM loans for cash-out refinances and investment homes.

Even as the economic recovery is underway, overall credit supply has remained close to its lowest levels since 2014. Some borrowers are still in pandemic-related forbearance status, and servicers continue to work through possible resolutions for these borrowers.” – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

U.S. Housing Finance

Mortgage Credit Availability (MBA)



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

MBA Mortgage Finance Forecast

MBA Mortgage Finance Forecast

July 21, 2021

	2020				2021				2022				2020	2021	2022	2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Housing Measures																
Housing Starts (SAAR, Thous)	1,485	1,086	1,440	1,575	1,599	1,568	1,548	1,563	1,601	1,623	1,669	1,702	1,397	1,570	1,649	1,740
Single-Family	981	774	1,041	1,220	1,156	1,104	1,144	1,181	1,236	1,289	1,354	1,402	1,004	1,146	1,320	1,450
Two or More	504	312	399	356	443	464	404	382	365	334	315	300	393	423	329	290
Home Sales (SAAR, Thous)																
Total Existing Homes	5,483	4,313	6,137	6,777	6,303	5,813	6,087	6,297	6,286	6,348	6,429	6,466	5,678	6,125	6,383	6,579
New Homes	701	703	973	873	959	799	870	915	944	988	1,040	1,085	813	886	1,014	1,121
FHFA US House Price Index (YOY % Change)	6.2	5.7	8.0	10.9	12.7	10.2	10.4	10.3	10.0	9.5	9.0	8.4	10.9	10.3	8.4	6.0
Median Price of Total Existing Homes (Thous \$)	272.4	288.3	309.2	311.7	313.5	345.6	340.9	330.4	326.0	326.3	317.9	314.5	295.4	332.6	321.2	313.7
Median Price of New Homes (Thous \$)	329.6	322.8	333.2	354.3	353.4	361.2	361.3	356.4	357.9	360.0	356.7	353.5	335.0	358.1	357.0	353.9
Interest Rates																
30-Year Fixed Rate Mortgage (%)	3.5	3.2	3.0	2.8	2.9	3.0	3.2	3.4	3.8	4.0	4.2	4.3	2.8	3.4	4.3	4.9
10-Year Treasury Yield (%)	1.4	0.7	0.6	0.9	1.3	1.6	1.8	2.0	2.1	2.3	2.4	2.5	0.9	2.0	2.5	3.1
Mortgage Originations																
Total 1- to 4-Family (Bil \$)	563	928	1,076	1,261	1,094	1,050	825	605	516	623	620	602	3,828	3,574	2,361	2,378
Purchase	257	348	418	410	320	460	423	433	362	469	463	446	1,433	1,636	1,740	1,775
Refinance	306	580	658	851	774	590	402	172	154	154	157	156	2,395	1,938	621	603
Refinance Share (%)	54	63	61	67	71	56	49	28	30	25	25	26	63	54	26	25
FHA Originations (Bil \$)													350	274	179	162
Total 1- to 4-Family (000s loans)	1,869	3,052	3,497	3,578	3,146	3,116	2,385	1,706	1,395	1,732	1,676	1,569	11,996	10,352	6,372	6,013
Purchase	891	1,203	1,427	1,343	974	1,428	1,271	1,248	1,002	1,329	1,277	1,187	4,864	4,921	4,795	4,579
Refinance	978	1,848	2,070	2,235	2,172	1,688	1,114	457	393	402	399	383	7,132	5,431	1,577	1,434
Refinance Share (%)	52	61	59	62	69	54	47	27	28	23	24	24	59	52	25	24
Mortgage Debt Outstanding																
1- to 4-Family (Bil \$)	10,775	10,875	10,984	11,135	11,297	11,442	11,596	11,755	11,916	12,081	12,254	12,424	11,135	11,755	12,424	13,100

Notes:

Housing starts and home sales are seasonally adjusted at annual rate.

Total existing home sales include condos and co-ops.

Mortgage rate forecast is based on Freddie Mac's 30-Yr fixed rate which is based on predominantly home purchase transactions.

The 10-Year Treasury Yield and 30-Yr mortgage rate are the average for the quarter, but annual columns show Q4 values.

Total 1-to-4-family originations and refinance share are MBA estimates. These exclude second mortgages and home equity loans.

The FHFA US House Price Index is the forecasted year over year percent change of the FHFA Purchase-Only House Price Index.

The mortgage debt outstanding forecast is for 1-4 unit mortgage debt and excludes home equity loans. Annual MDO numbers reflect EOP values.

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MBA

MORTGAGE BANKERS ASSOCIATION

MBA Economic Forecast

MBA Economic Forecast

July 21, 2021

	2020				2021				2022				2020	2021	2022	2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Percent Change, SAAR																
Real Gross Domestic Product	-5.0	-31.4	33.4	4.3	6.4	8.6	7.7	6.7	3.6	3.0	2.3	2.1	-2.4	7.3	2.8	1.6
Personal Consumption Expenditures	-6.9	-33.2	41.0	2.3	11.4	11.0	2.8	3.1	3.3	3.4	3.0	2.8	-2.7	7.0	3.1	1.7
Business Fixed Investment	-6.7	-27.2	22.9	13.1	11.7	5.5	9.6	6.5	5.1	5.2	4.4	4.4	-1.4	8.3	4.8	3.4
Residential Investment	19.0	-35.6	63.0	36.6	13.1	-4.2	2.5	0.2	1.6	0.8	3.2	3.0	14.3	2.7	2.1	2.1
Govt. Consumption & Investment	1.3	2.5	-4.8	-0.8	5.7	3.8	3.9	1.7	0.9	-0.2	-1.1	-0.5	-0.5	3.8	-0.2	0.0
Net Exports (Bil. Chain 2012\$)	-650.7	-649.0	-859.6	-948.3	-1028.0	-1026.8	-1052.1	-1002.6	-975.7	-970.1	-968.1	-967.5	-776.9	-1027.4	-970.4	-954.9
Inventory Investment (Bil. Chain 2012\$)	-68.8	-244.0	-3.2	52.8	-74.0	-81.5	98.5	201.1	194.8	186.1	172.7	153.1	-65.8	36.0	176.7	110.5
Consumer Prices (YOY)	2.1	0.4	1.3	1.2	1.9	4.9	4.5	4.4	3.8	2.4	2.3	2.4	1.2	4.4	2.4	2.0
Percent																
Unemployment Rate	3.8	13.0	8.8	6.7	6.2	5.9	5.3	4.5	4.4	4.3	4.2	4.1	8.1	5.5	4.2	4.0
Federal Funds Rate	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.625
10-Year Treasury Yield	1.4	0.7	0.6	0.9	1.3	1.6	1.8	2.0	2.1	2.3	2.4	2.5	0.9	2.0	2.5	3.1

Notes:

The Fed Funds Rate forecast is shown as the mid point of the Fed Funds range at the end of the period.

All data except interest rates are seasonally adjusted.

The 10-Year Treasury Yield is the average for the quarter, while the annual value is the Q4 value.

Forecast produced with the assistance of the Macroeconomic Advisers' model.

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MBA

MORTGAGE BANKERS ASSOCIATION

Summary

In conclusion:

The month-over-month housing data for June' were predominantly positive year-over-year and month-over-month. However, housing permit and housing completions (all sub-categories) and new housing sales were negative on a month-over-month basis.

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 remain in place;
- 2) Select builders are beginning to focus on entry-level houses;

Cons:

- 1) COVID-19;
- 2) Construction material and appliance constraints;
- 3) Lot availability and building regulations (according to several sources);
- 4) Laborer shortages in many sectors;
- 5) Household formations still lag historical averages;
- 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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