

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

July 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 July were predominantly positive year-over-year and month-over-month. Total, single-family, and multi-family starts were negative month-over-month. This may not necessarily reflect decreased demand; rather completions are slowed due to the unavailability of building materials and products. Some builders may be reluctant to start new projects while waiting to complete units under construction.

The September 16th Atlanta Fed GDPNow™ model forecast was an aggregate 1.6% decrease for total residential investment spending. New private permanent site expenditures were projected at -3.6%; the improvement spending forecast was -6.9%; and the manufactured/mobile expenditures projection was 3.4% (all: quarterly log change and at a seasonally adjusted annual rate).¹

“Another so-so report on home construction was the latest piece of evidence that home builders are having a difficult time overcoming the enduring constraints posed by the global supply shortage. Limited access to key building supplies has upped prices for materials and translated to higher list prices for would-be home buyers. ... The supply backlog has also limited home builders’ ability to confidently pencil out the finances surrounding potential projects – a significant constraint for the typically risk-averse industry. Still, despite the slowing momentum in the sector, a resumption in activity is likely on the horizon and the industry remains in good shape compared to recent years, with both starts and permits above pre-pandemic levels.”² – Matthew Speakman, Economist, Zillow Research.

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, and economic information.

Sources: ¹ www.frbatlanta.org/cqer/research/gdpnow.aspx; 9/16/21;

² <https://www.zillow.com/research/july-housing-starts-2021-29990/>; 8/18/21

July 2021

Housing Scorecard

		M/M		Y/Y
Housing Starts	▼	7.0%	▲	2.5%
Single-Family (SF) Starts	▼	4.5%	▲	11.7%
Multi-Family (MF) Starts*	▼	13.1%	▼	15.7%
Housing Permits	▲	2.3%	▲	5.7%
SF Permits	▼	1.7%	▲	5.5%
MF Permits*	▲	10.2%	▲	6.0%
Housing Under Construction	▲	0.4%	▲	14.5%
SF Under Construction	▲	1.5%	▲	33.3%
Housing Completions	▲	5.6%	▲	3.8%
SF Completions	▲	3.6%	▲	0.4%
New SF House Sales	▲	1.0%	▼	27.7%
Private Residential Construction Spending	▲	0.5%	▲	27.0%
SF Construction Spending	▲	0.9%	▲	47.1%
Existing House Sales ¹	▲	2.0%	▲	1.5%

* 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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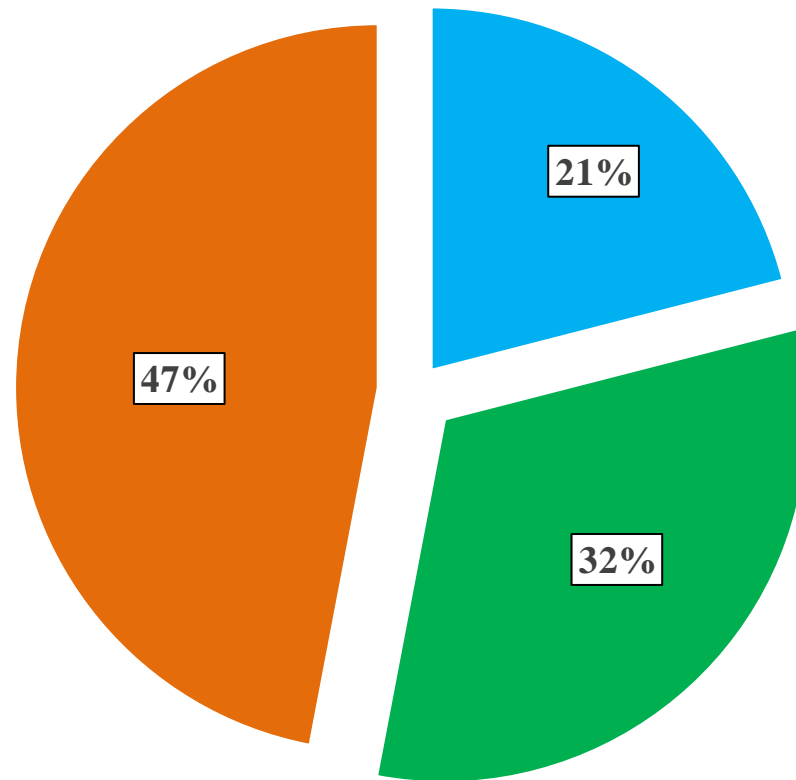
USDA Forest Service Housing Market Review

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

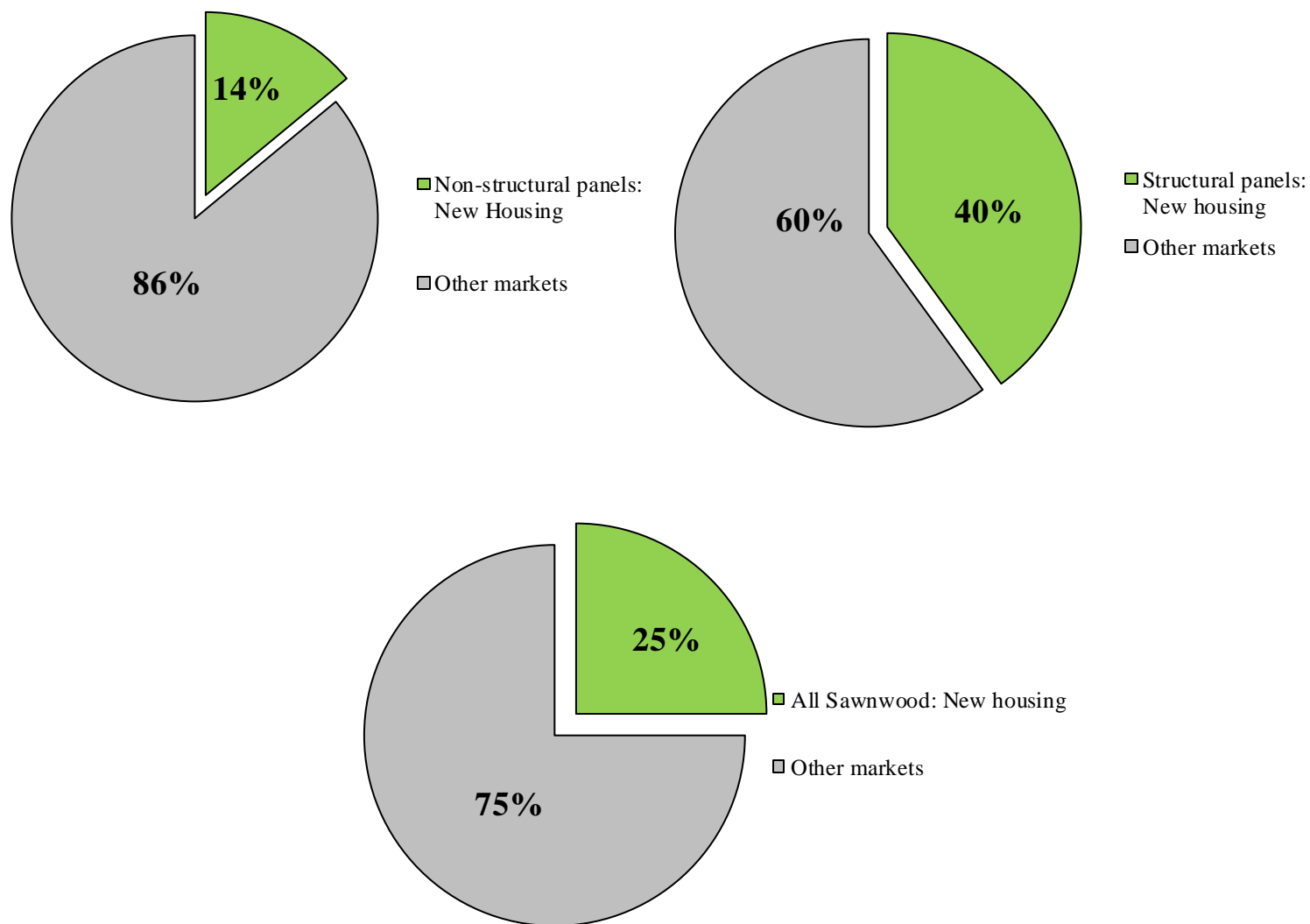


■ Non-structural panels

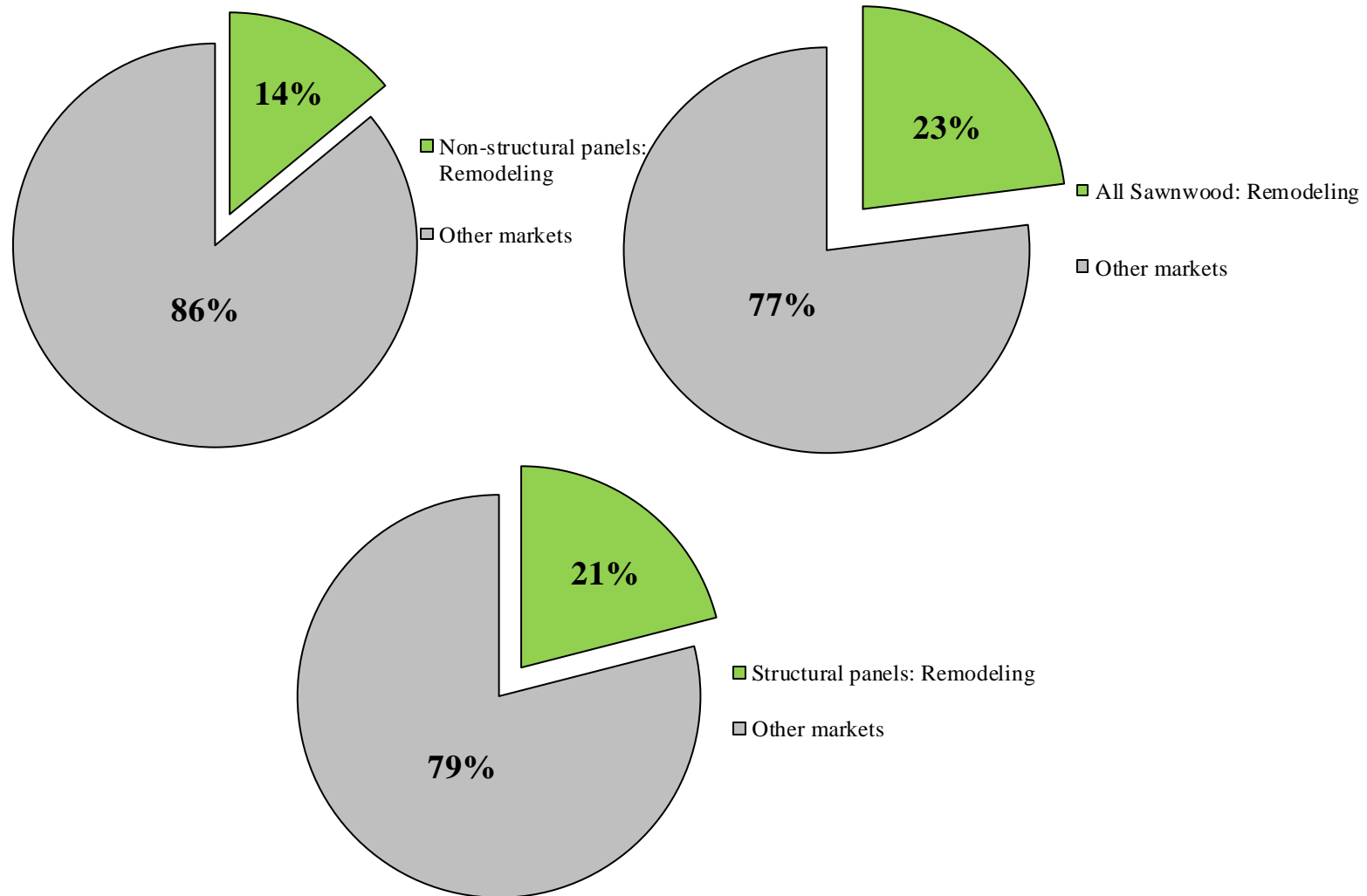
■ Total Sawnwood

■ Structural panels

New SF Construction Percentage of Wood Products Consumption



Repair and Remodeling's Percentage of Wood Products Consumption



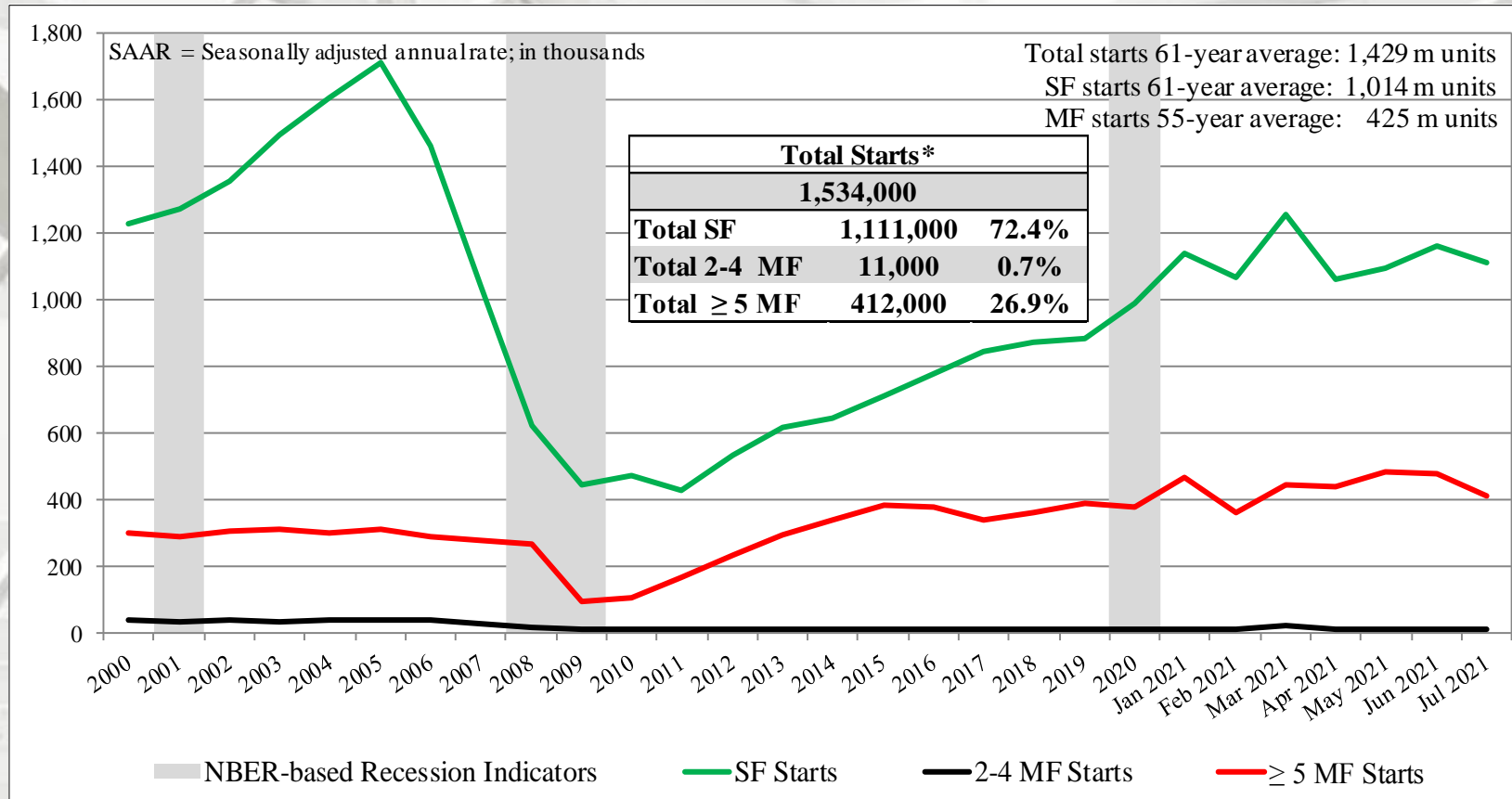
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
July	1,534,000	1,111,000	11,000	412,000
June	1,650,000	1,163,000	10,000	477,000
2020	1,497,000	995,000	10,000	492,000
M/M change	-7.0%	-4.5%	10.0%	-13.6%
Y/Y change	2.5%	11.7%	10.0%	-16.3%

* 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

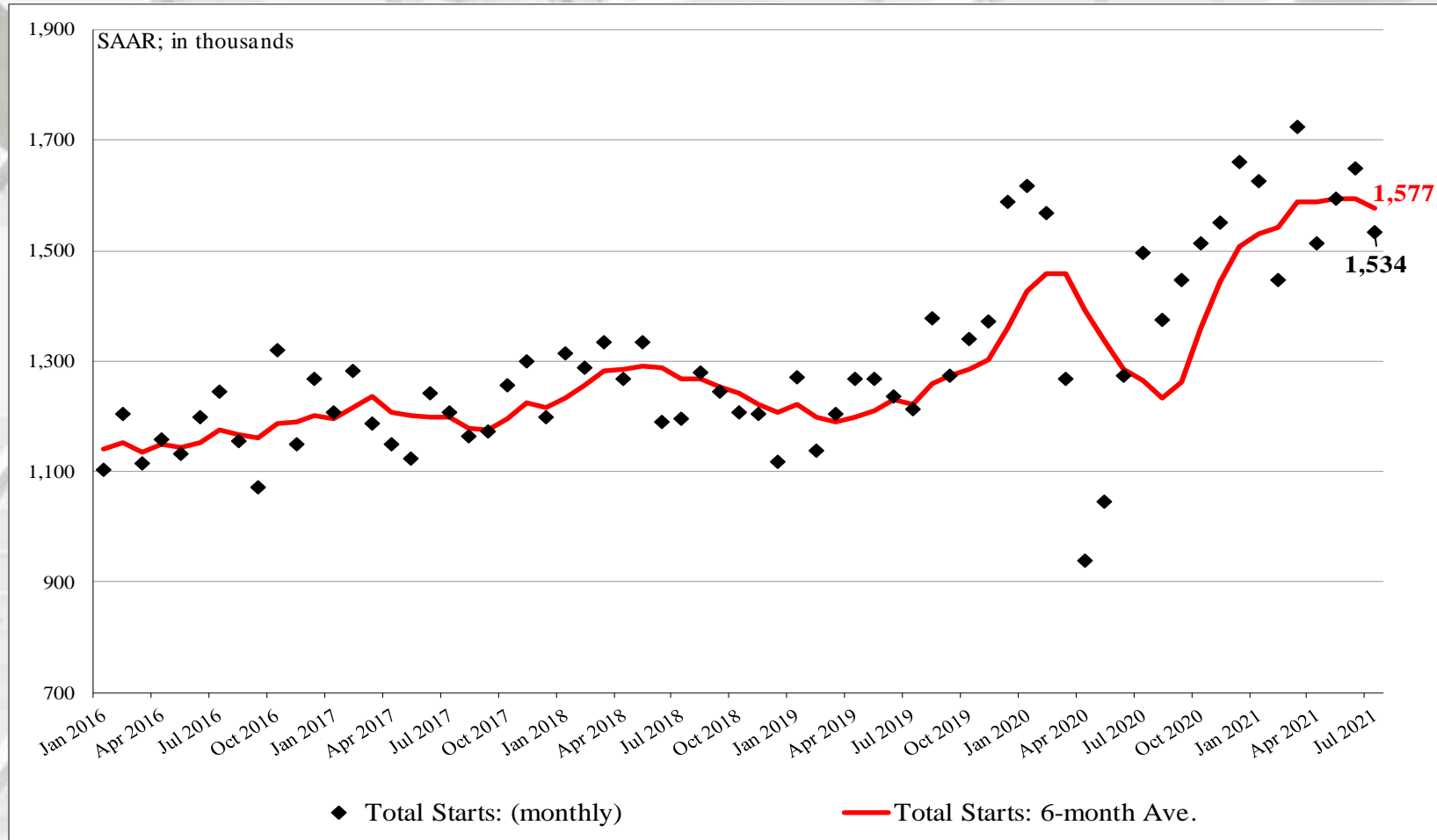


US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: $((\text{Total starts} - (\text{SF} + \geq \text{MF})))$.

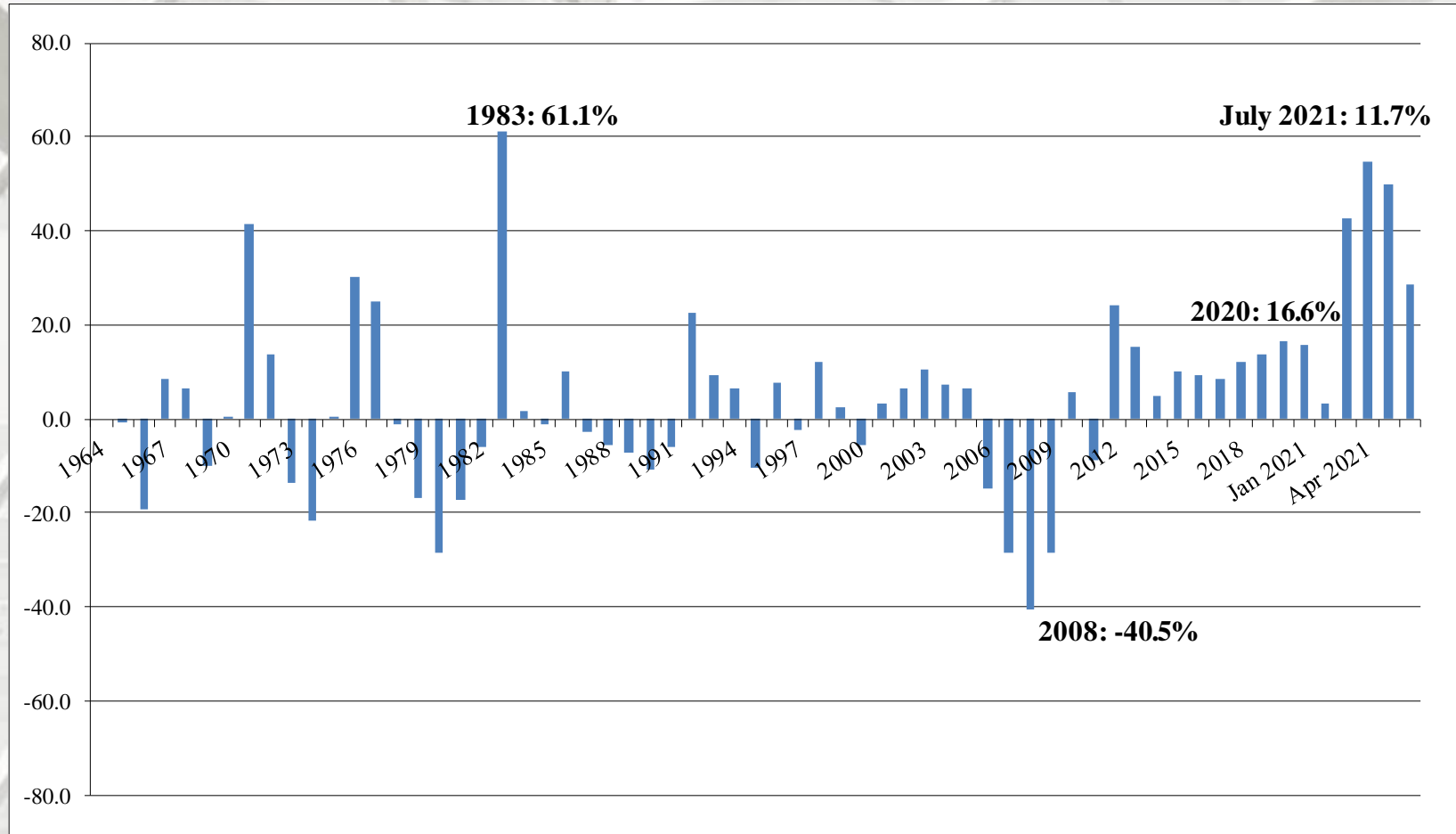
* Percentage of total starts.

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

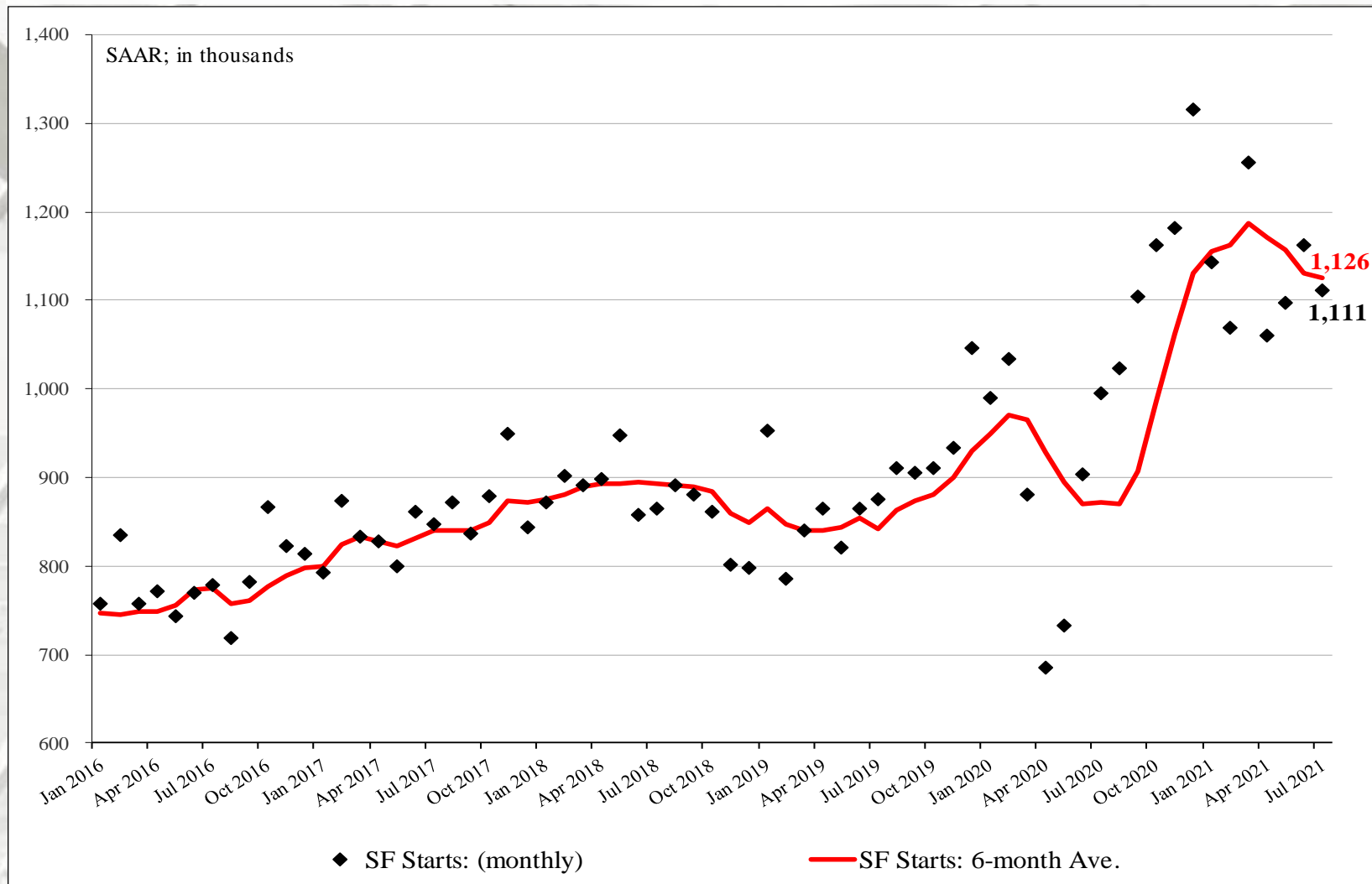
Total Housing Starts: Six-Month Average



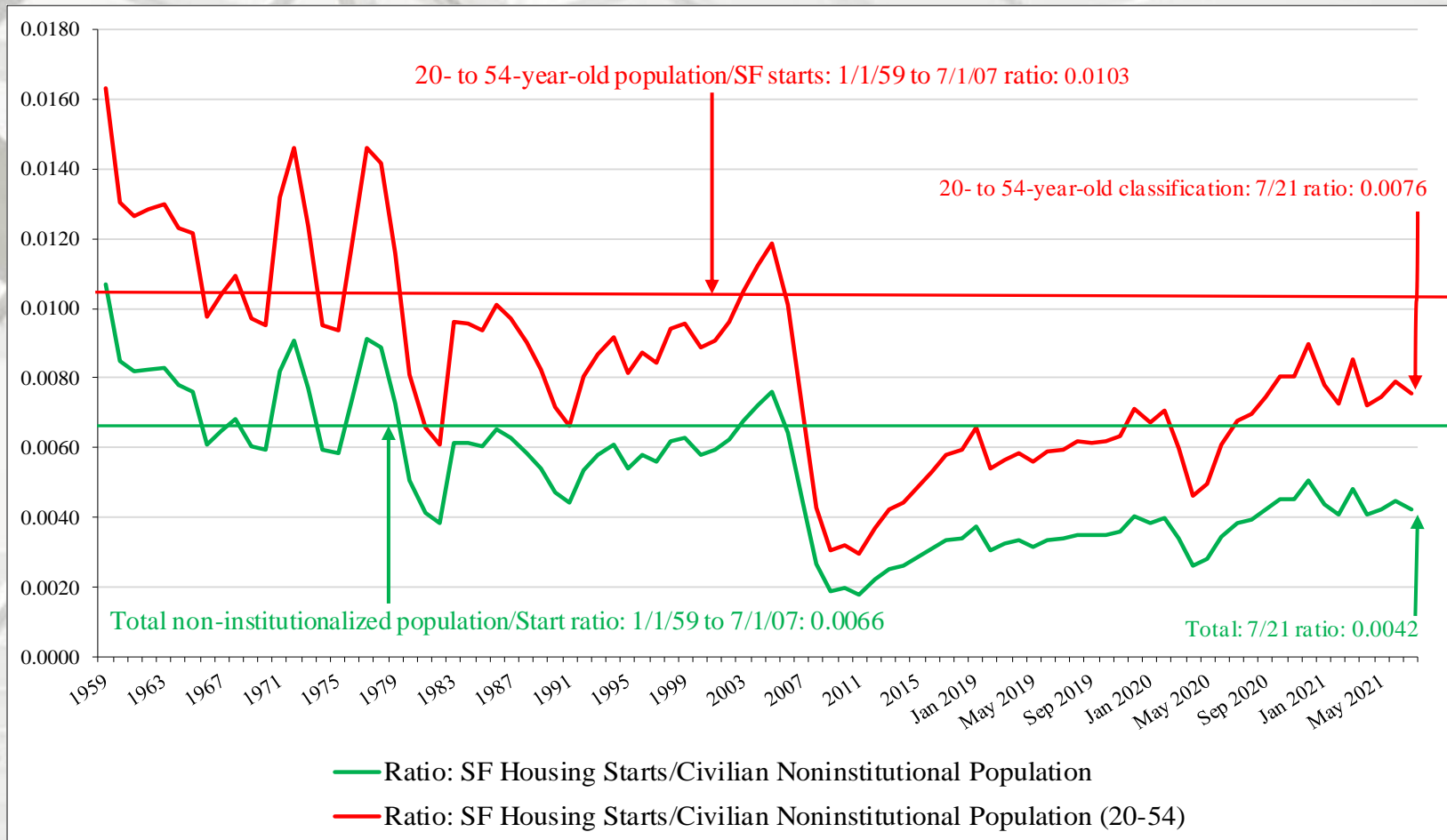
SF Housing Starts: Year-over-Year Change



SF Housing Starts: Six-Month Average



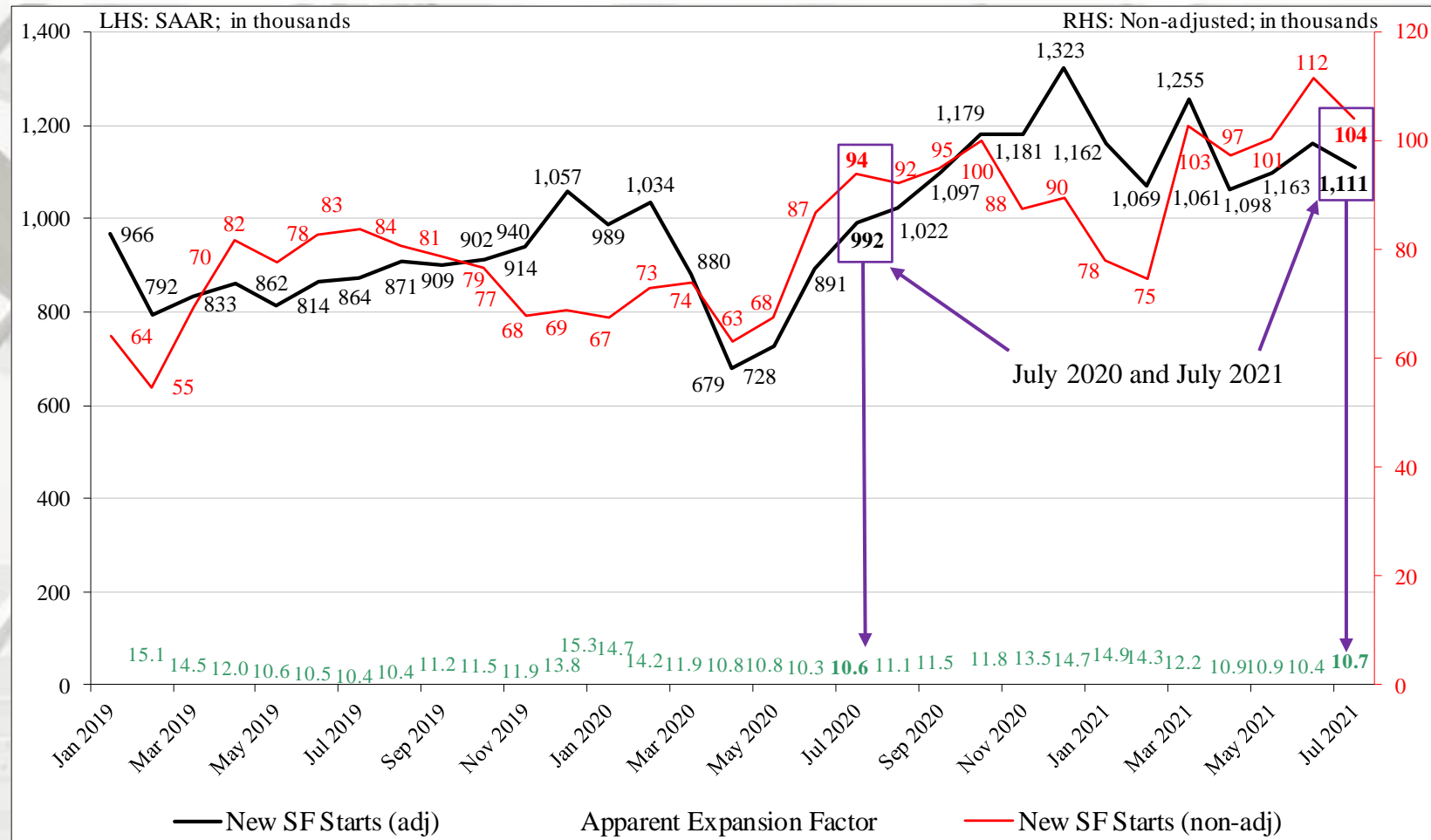
New SF Starts



New SF starts adjusted for the US population

From July 1959 to July 2007, the long-term ratio of the total US non-institutionalized population to new SF starts is 0.0066; in July 2021 it was 0.0042 – a slight decrease from June (0.0042). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in July 2021 was 0.0076 – also a decrease from June (0.0079). 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**
July	73,000	47,000	26,000
June	144,000	78,000	66,000
2020	132,000	72,000	60,000
M/M change	-49.3%	-39.7%	-60.6%
Y/Y change	-44.7%	-34.7%	-56.7%
	MW Total	MW SF	MW MF
July	188,000	144,000	44,000
June	202,000	131,000	71,000
2020	210,000	136,000	74,000
M/M change	-6.9%	9.9%	-38.0%
Y/Y change	-10.5%	5.9%	-40.5%

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).

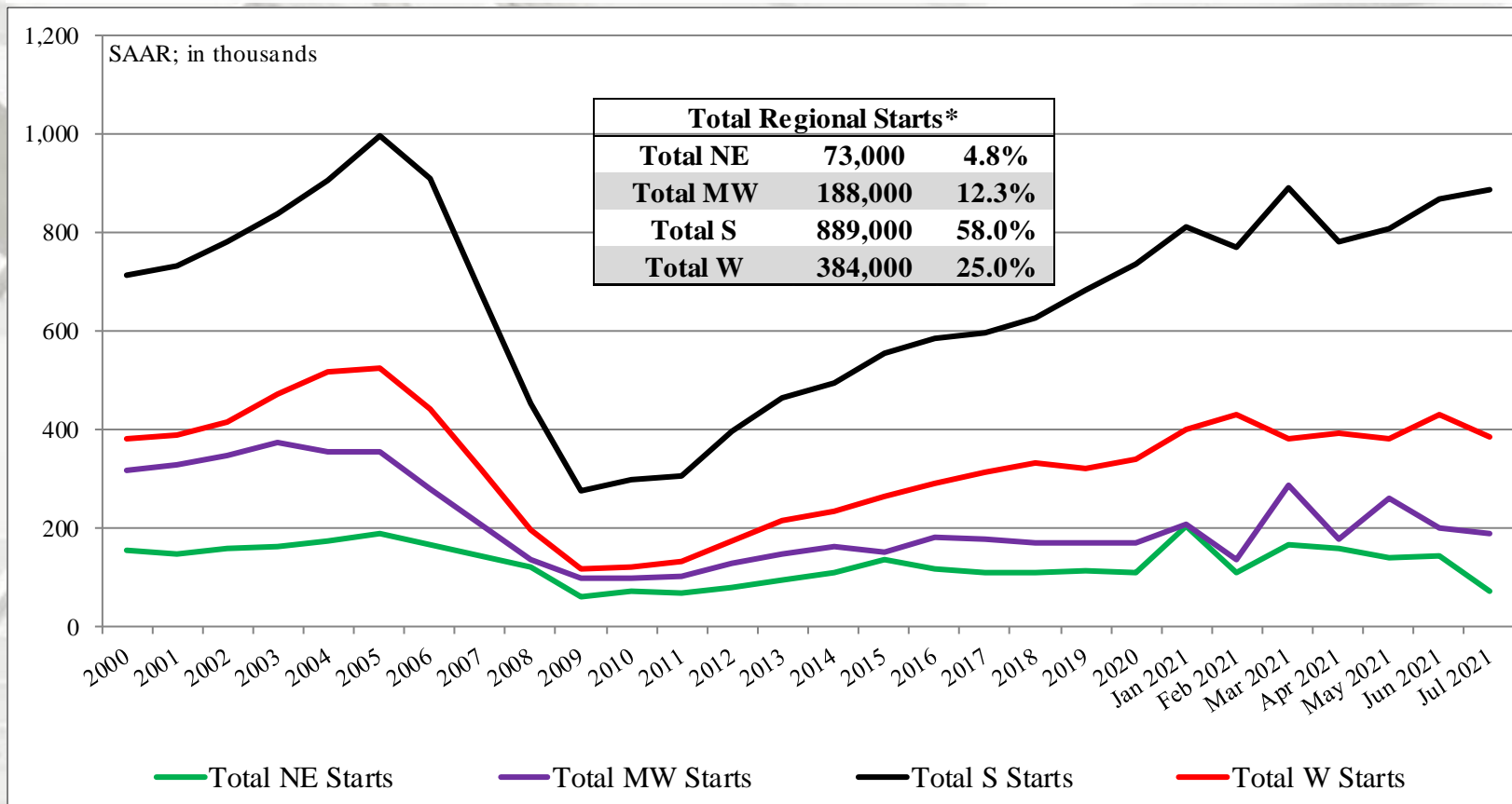
New Housing Starts by Region

	S Total	S SF	S MF**
July	889,000	664,000	225,000
June	871,000	670,000	201,000
2020	845,000	564,000	281,000
M/M change	2.1%	-0.9%	11.9%
Y/Y change	5.2%	17.7%	-19.9%
	W Total	W SF	W MF
July	384,000	256,000	128,000
June	433,000	284,000	149,000
2020	310,000	223,000	87,000
M/M change	-11.3%	-9.9%	-14.1%
Y/Y change	23.9%	14.8%	47.1%

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

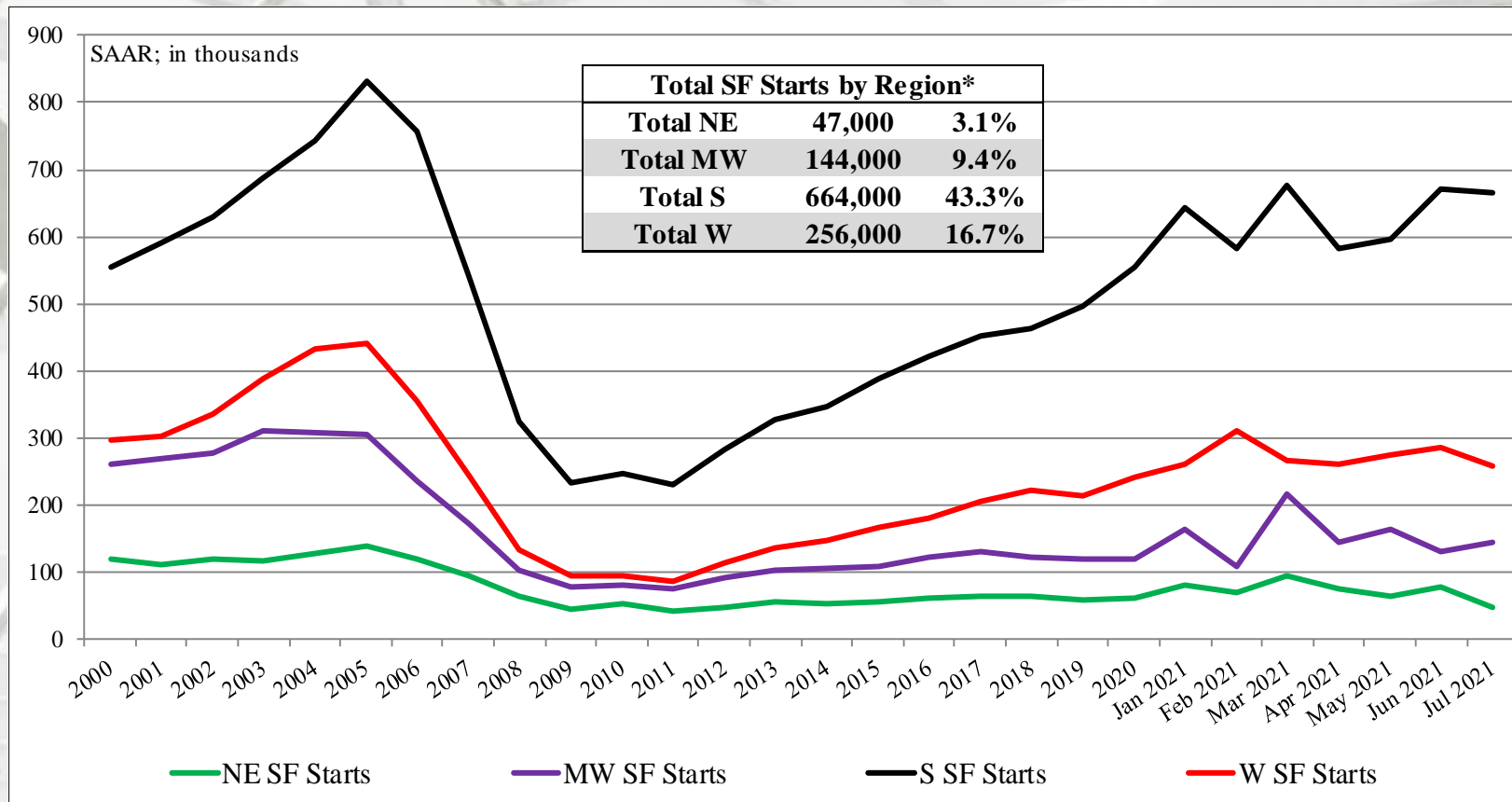


NE = Northeast, MW = Midwest, S = South, W = West

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

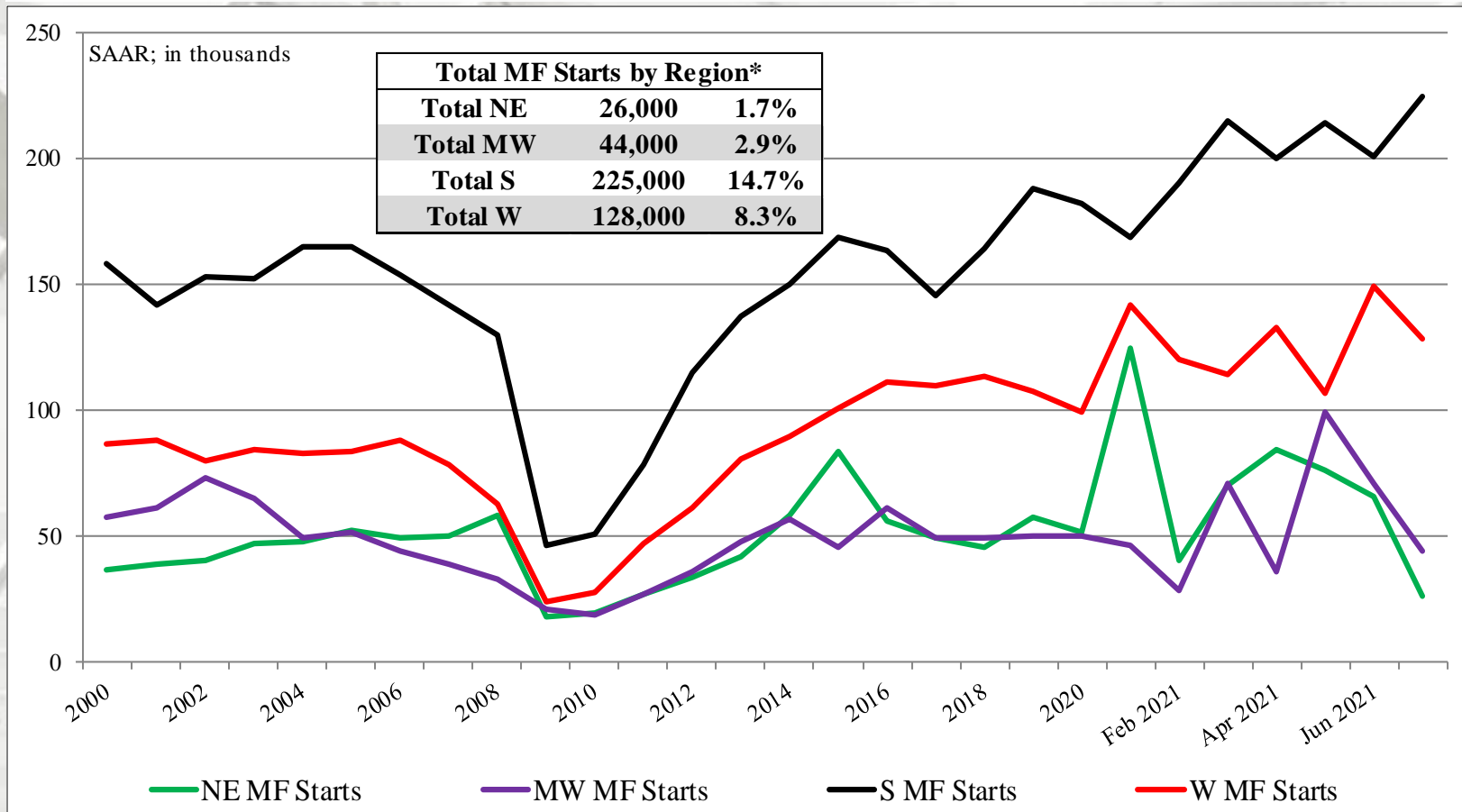


NE = Northeast, MW = Midwest, S = South, W = West

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

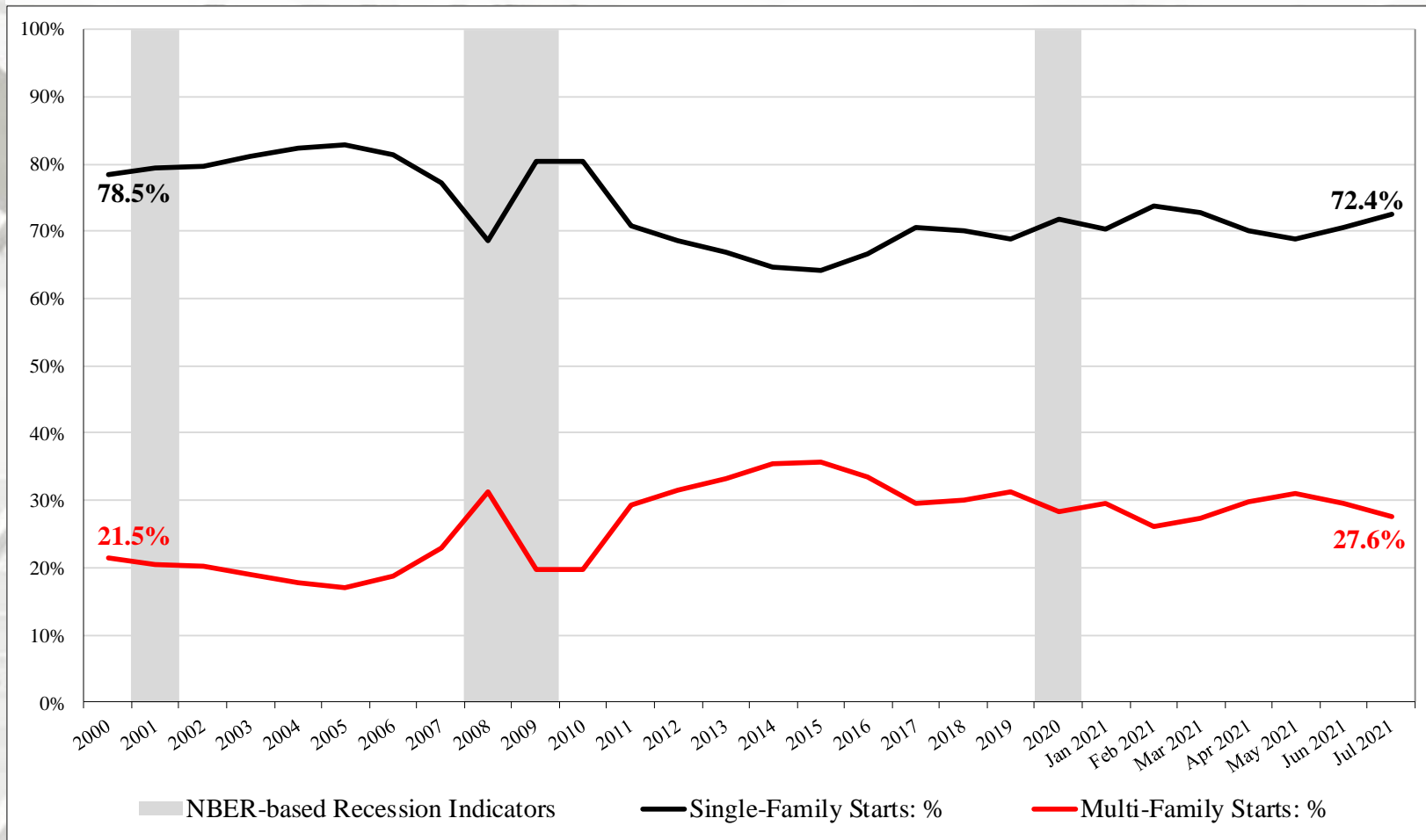


NE = Northeast, MW = Midwest, S = South, W = West

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 (%)



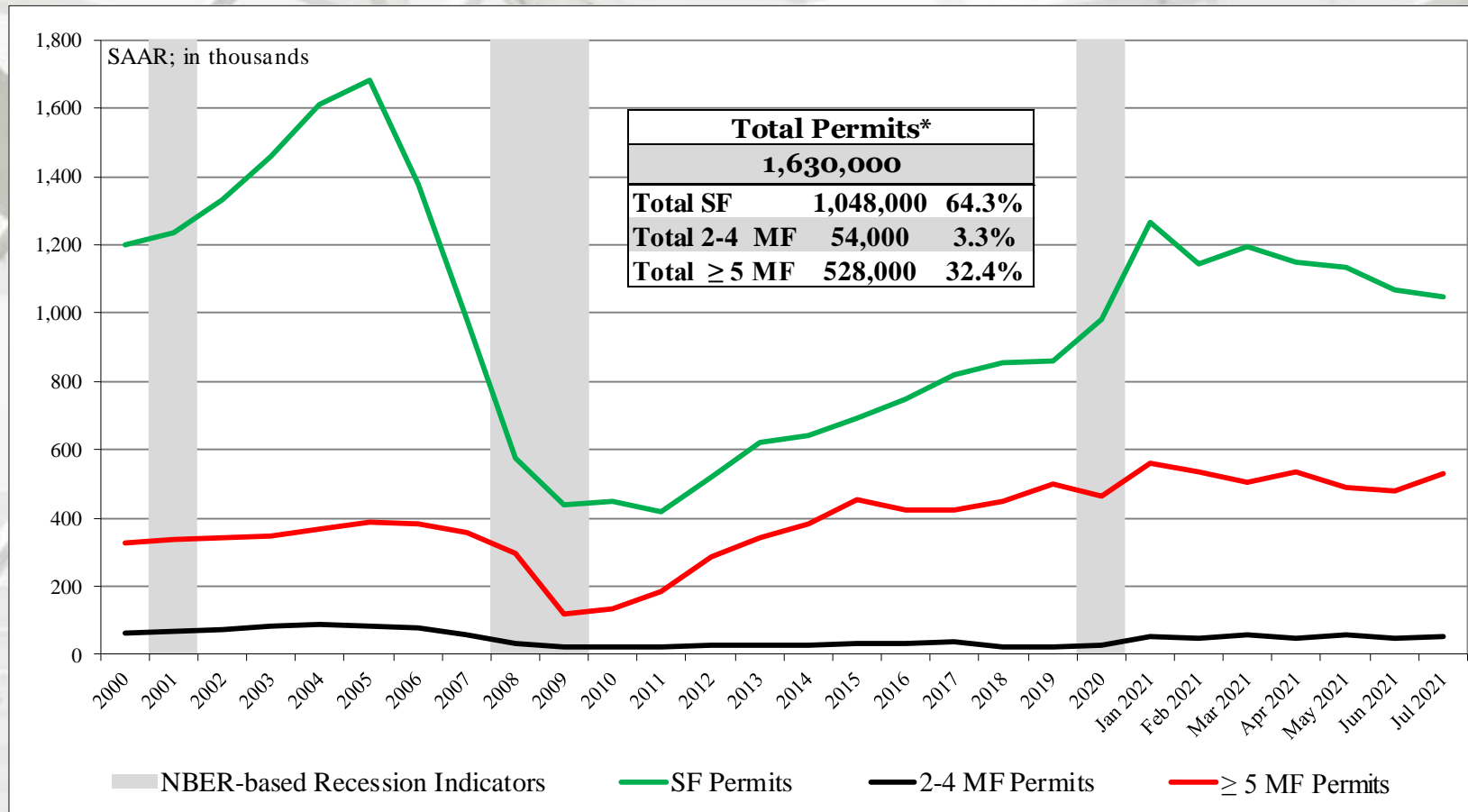
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
July	1,630,000	1,048,000	54,000	528,000
June	1,594,000	1,066,000	49,000	479,000
2020	1,542,000	993,000	49,000	500,000
M/M change	2.3%	-1.7%	10.2%	10.2%
Y/Y change	5.7%	5.5%	10.2%	5.6%

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

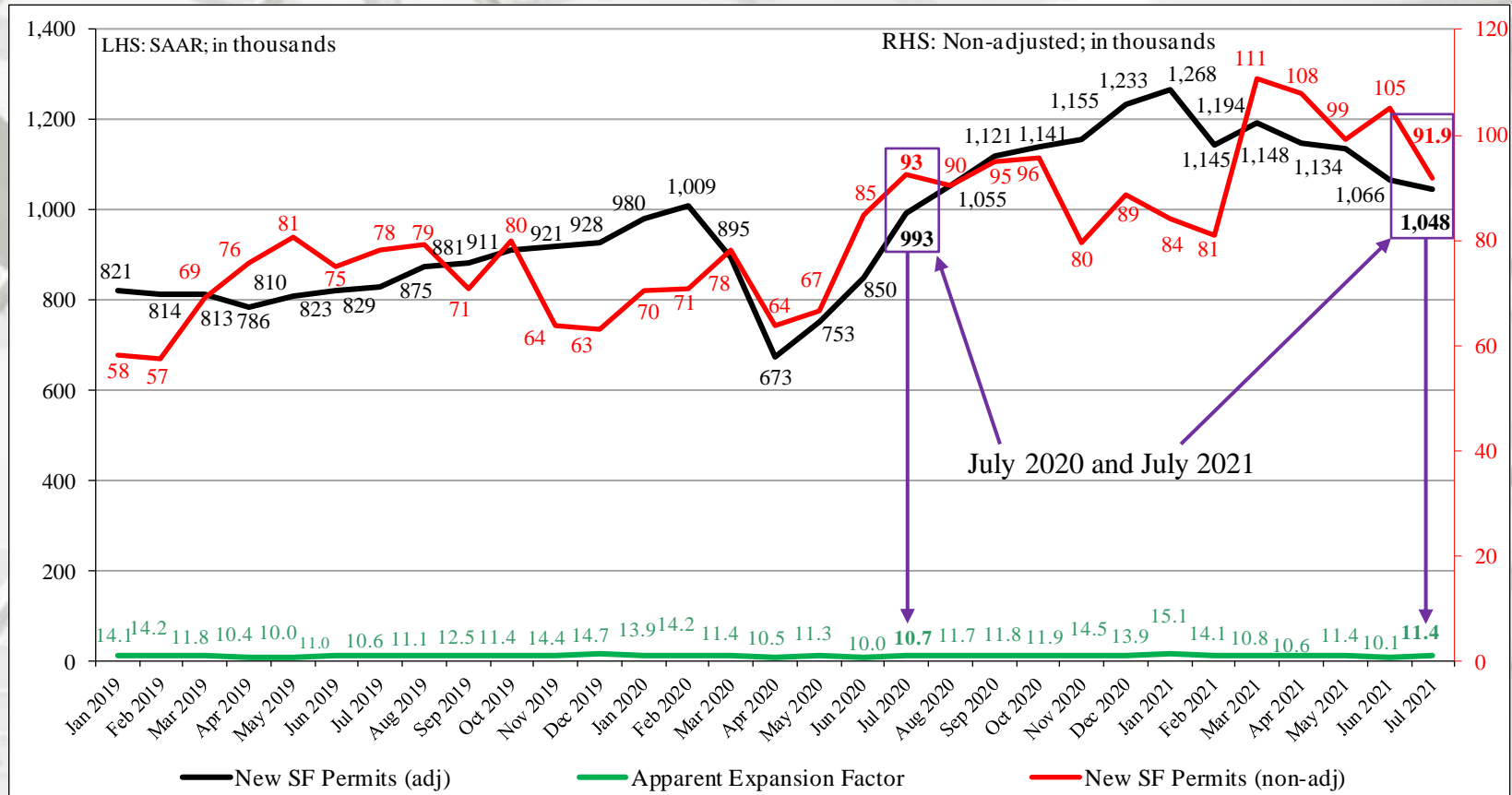
Total New Housing Permits



* 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**
July	130,000	58,000	72,000
June	135,000	64,000	71,000
2020	146,000	56,000	90,000
M/M change	-3.7%	-9.4%	1.4%
Y/Y change	-11.0%	3.6%	-20.0%
	MW Total*	MW SF	MW MF**
July	213,000	126,000	87,000
June	205,000	129,000	76,000
2020	236,000	134,000	102,000
M/M change	3.9%	-2.3%	14.5%
Y/Y change	-9.7%	-6.0%	-14.7%

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

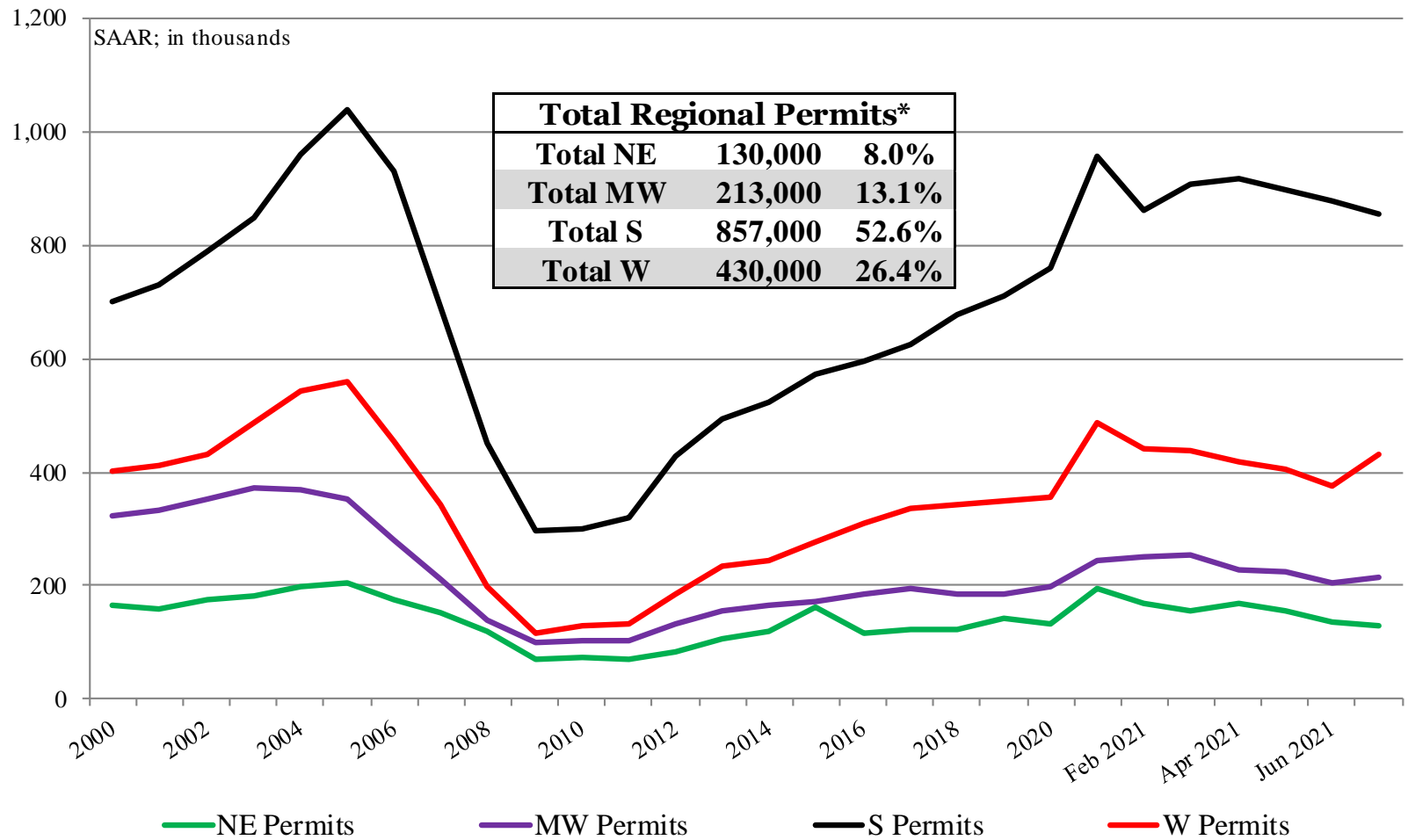
	S Total*	S SF	S MF**
July	857,000	629,000	228,000
June	878,000	641,000	237,000
2020	783,000	577,000	206,000
M/M change	-2.4%	-1.9%	-3.8%
Y/Y change	9.5%	9.0%	10.7%
	W Total*	W SF	W MF**
July	430,000	235,000	195,000
June	376,000	232,000	144,000
2020	377,000	226,000	151,000
M/M change	14.4%	1.3%	35.4%
Y/Y change	14.1%	4.0%	29.1%

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).

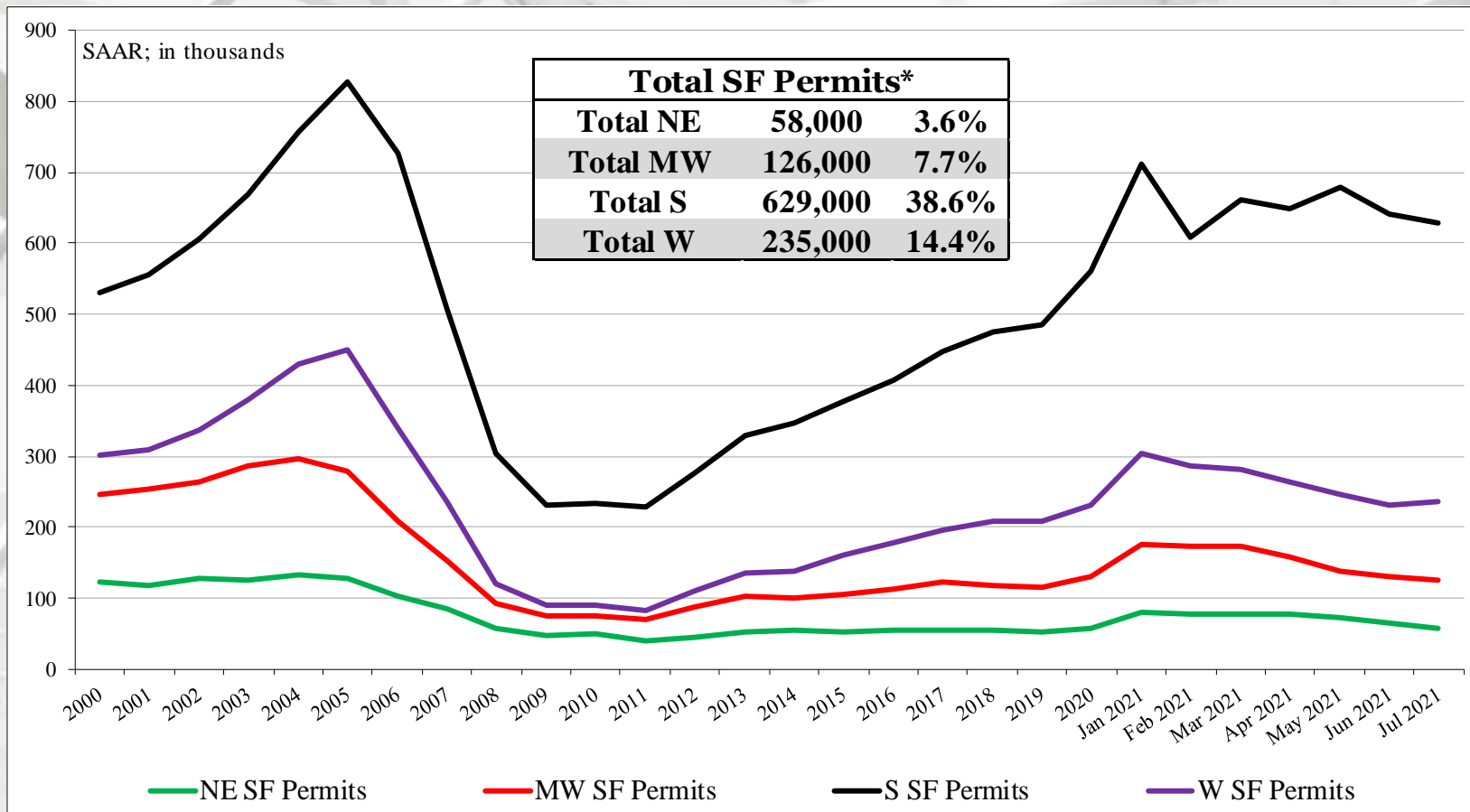
Total Housing Permits by Region



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

* Percentage of total permits.

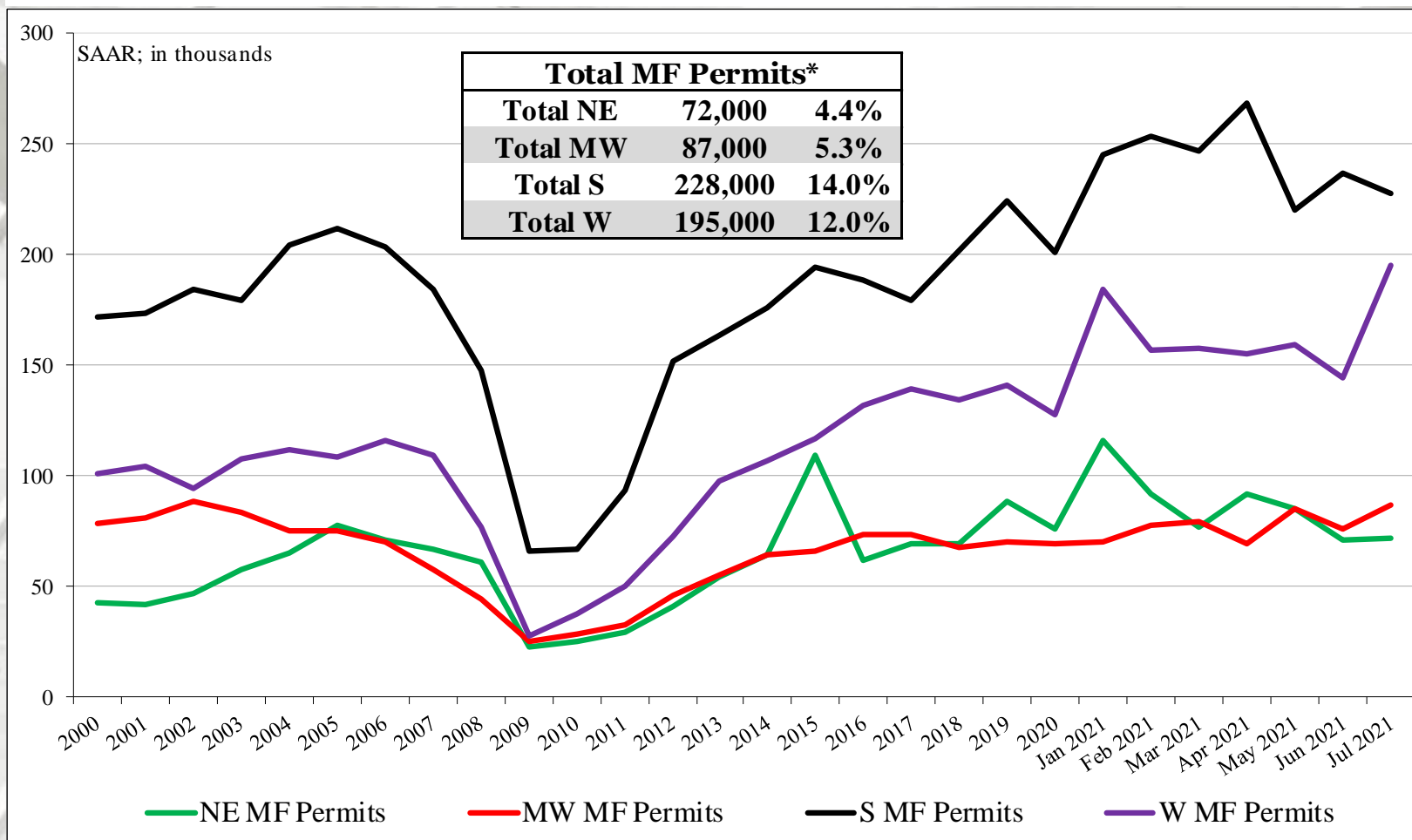
SF Housing Permits by Region



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.

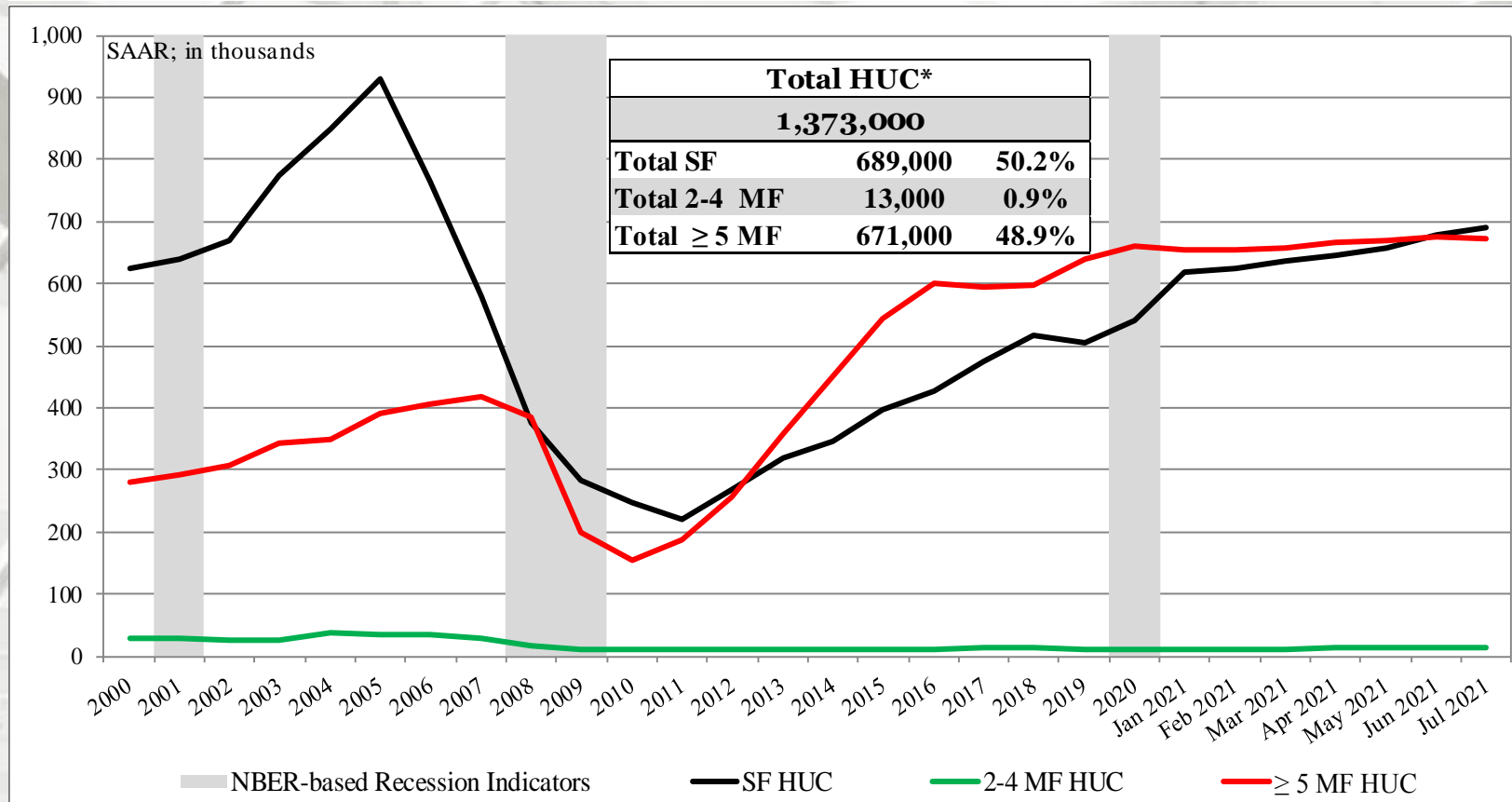
New Housing Under Construction (HUC)

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
July	1,373,000	689,000	13,000	671,000
June	1,368,000	679,000	13,000	676,000
2020	1,199,000	517,000	11,000	671,000
M/M change	0.4%	1.5%	0.0%	-0.7%
Y/Y change	14.5%	33.3%	18.2%	0.0%

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**
July	192,000	60,000	132,000
June	195,000	61,000	134,000
2020	177,000	55,000	120,000
M/M change	-1.5%	-1.6%	-1.5%
Y/Y change	8.5%	9.1%	10.0%
	MW Total	MW SF	MW MF
July	175,000	96,000	79,000
June	177,000	95,000	82,000
2020	154,000	75,000	79,000
M/M change	-1.1%	1.1%	-3.7%
Y/Y change	13.6%	28.0%	0.0%

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).

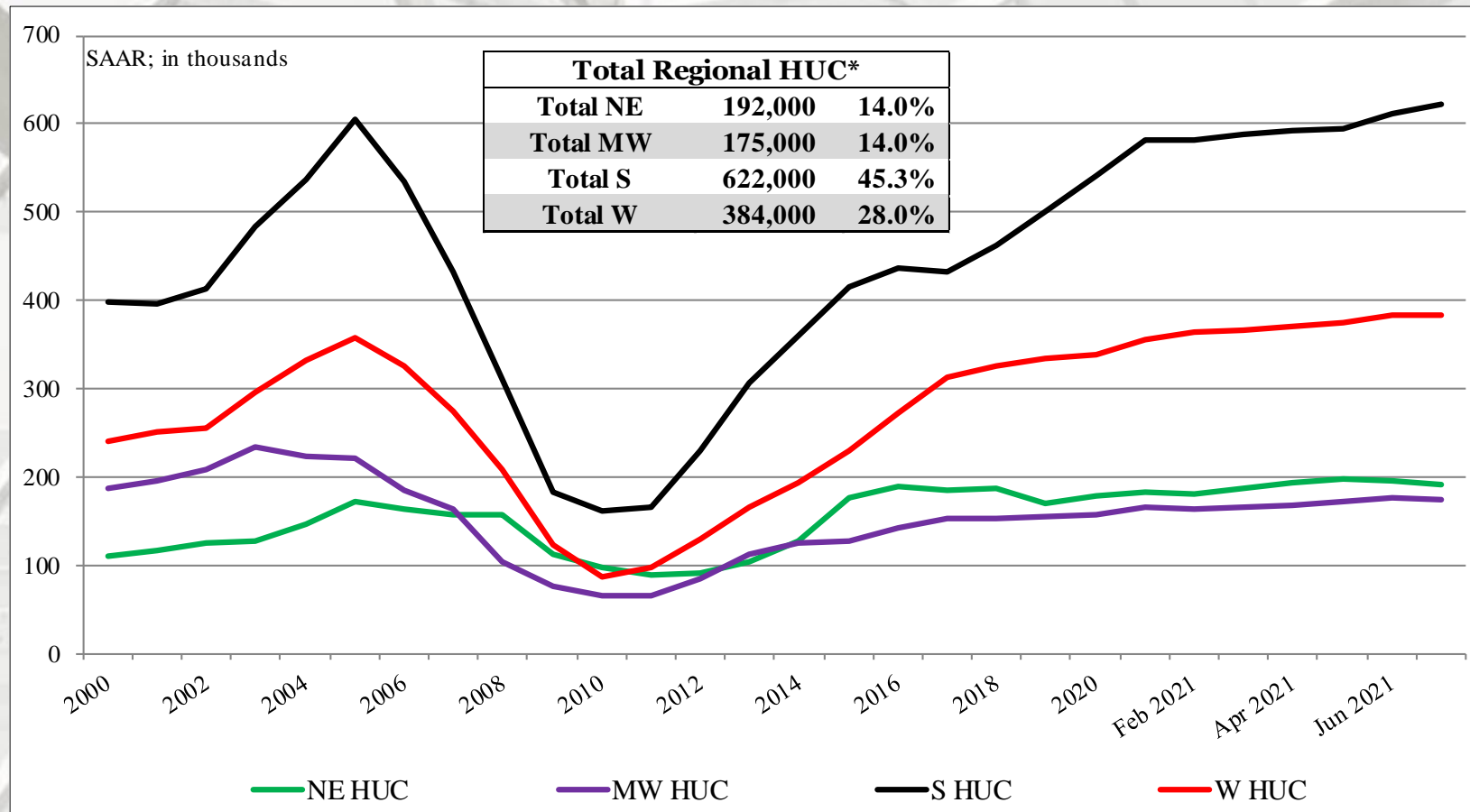
New Housing Under Construction by Region

	S Total	S SF	S MF**
July	622,000	348,000	274,000
June	612,000	339,000	273,000
2020	534,000	245,000	289,000
M/M change	1.6%	2.7%	0.4%
Y/Y change	16.5%	42.0%	-5.2%
	W Total	W SF	W MF
July	384,000	185,000	199,000
June	384,000	184,000	200,000
2020	334,000	142,000	192,000
M/M change	0.0%	0.5%	-0.5%
Y/Y change	15.0%	30.3%	3.6%

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

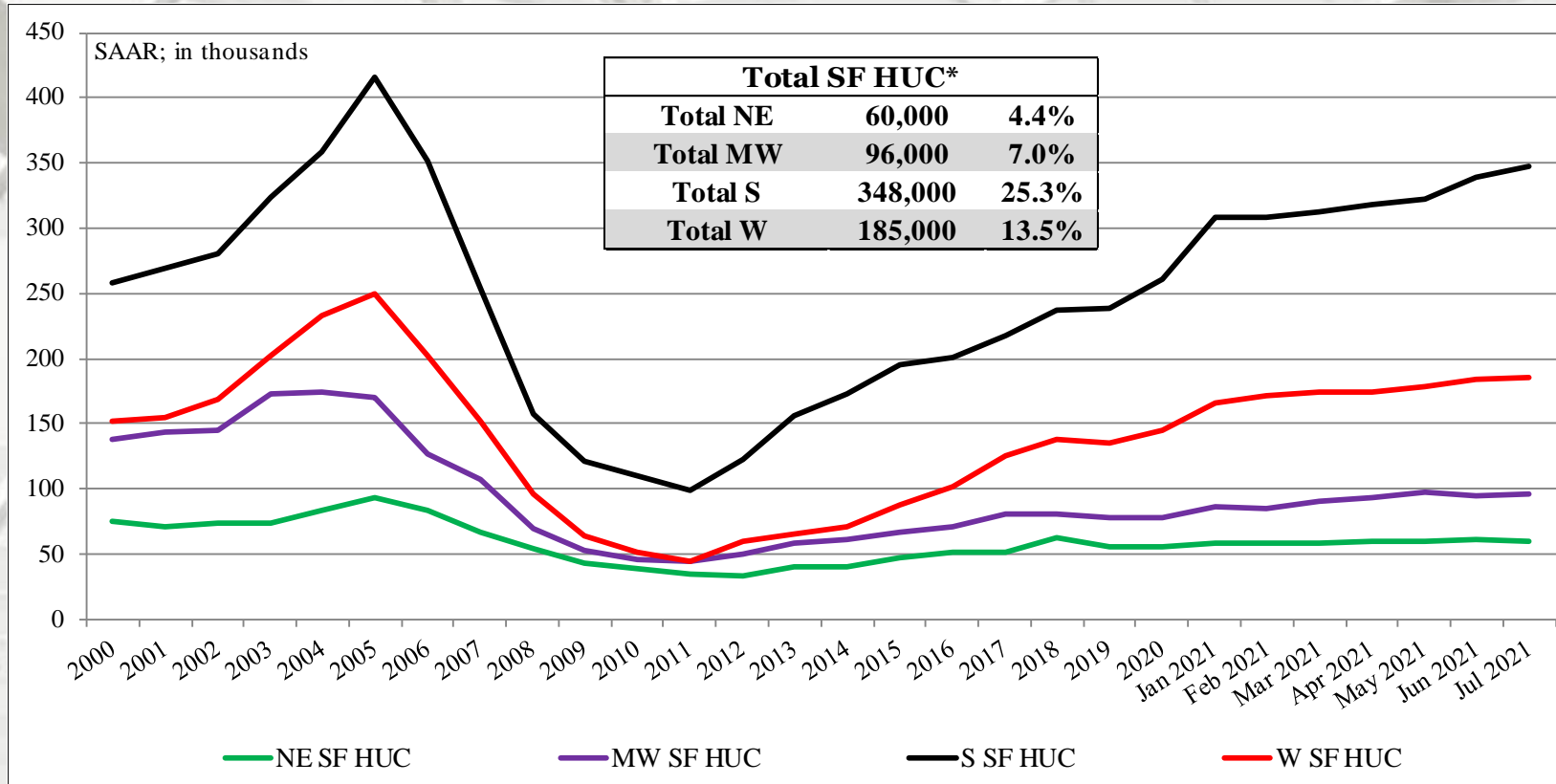


NE = Northeast, MW = Midwest, S = South, W = West

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

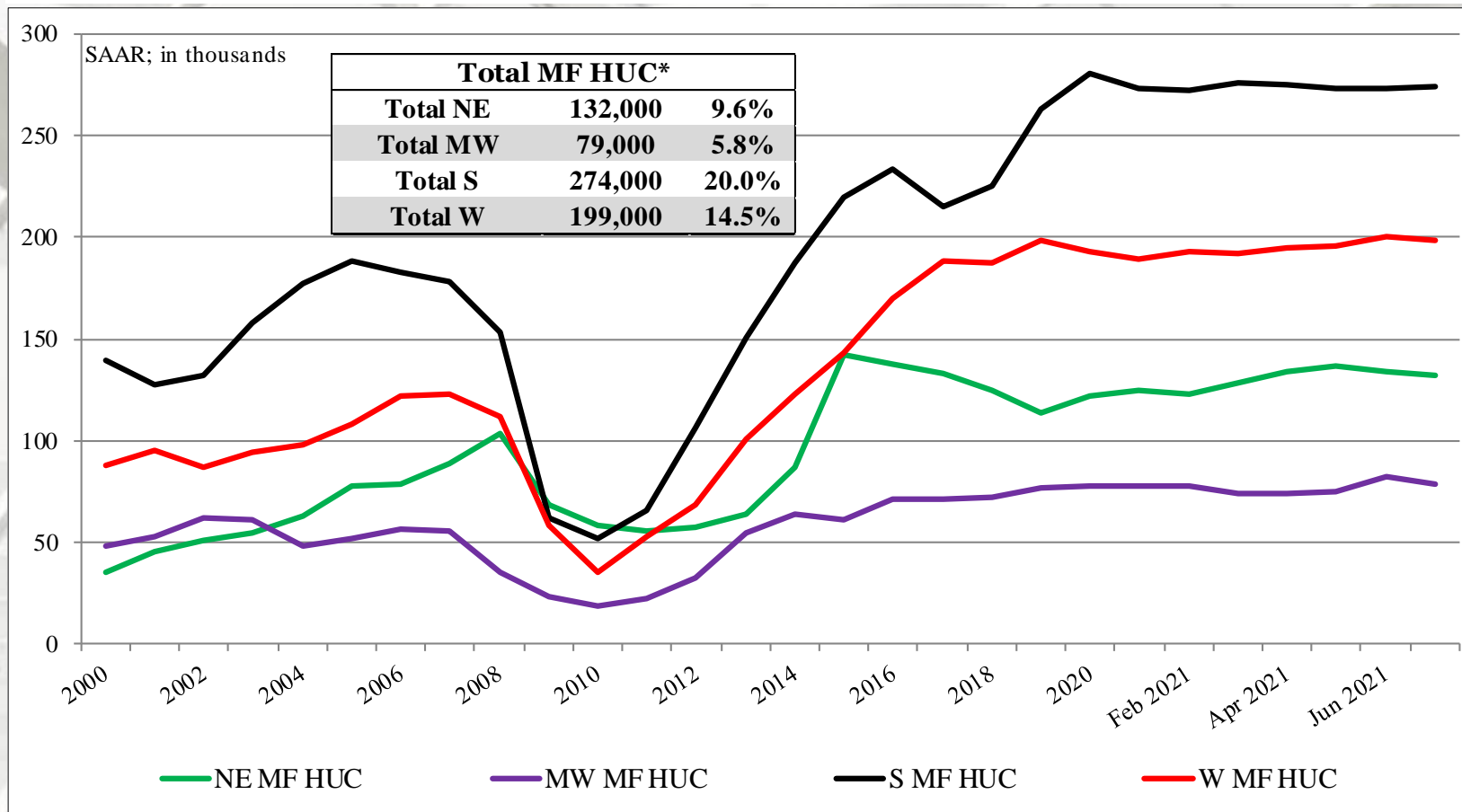


NE = Northeast, MW = Midwest, S = South, W = West.

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.

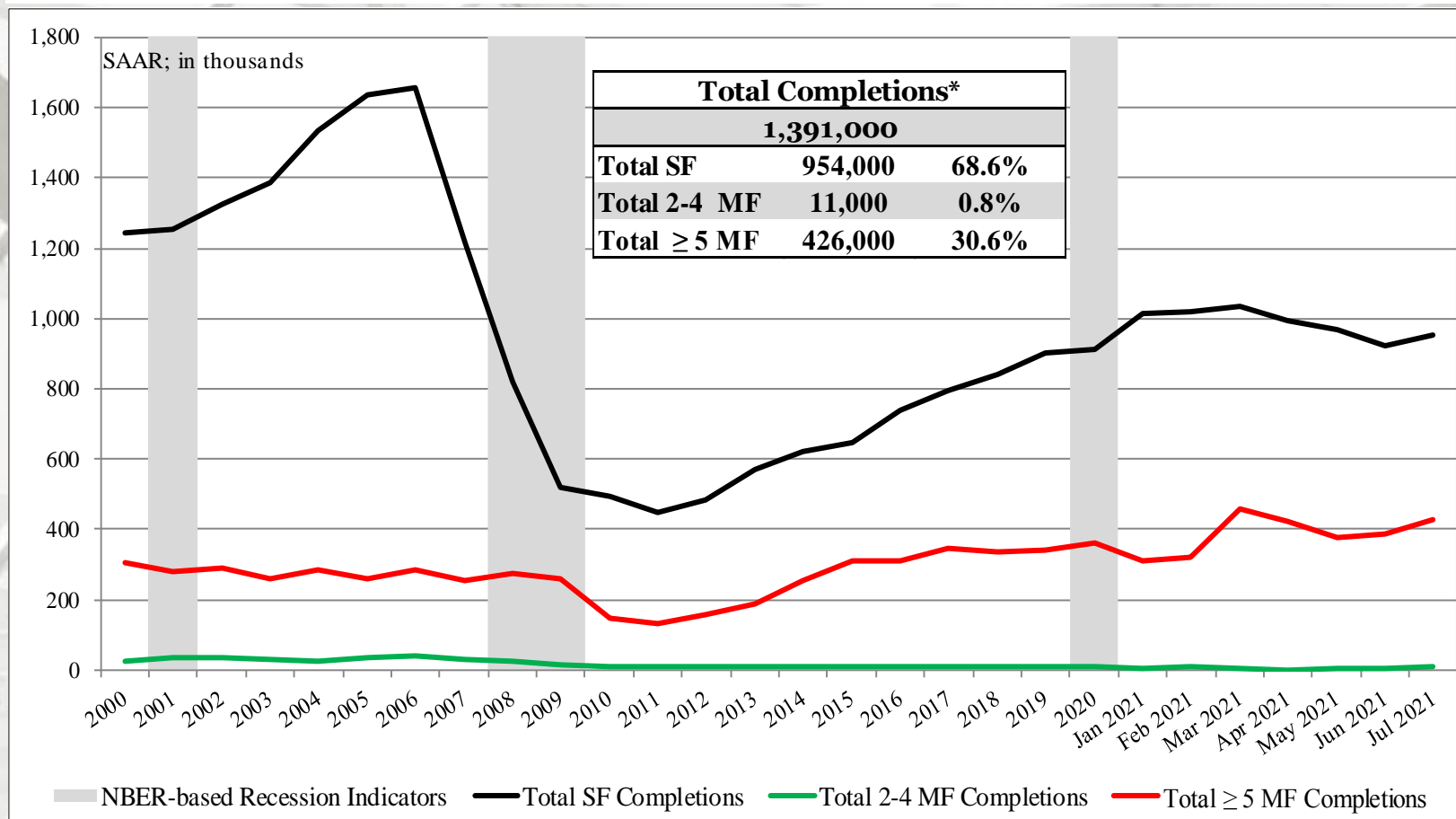
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
July	1,391,000	954,000	11,000	426,000
June	1,317,000	921,000	7,000	389,000
2020	1,340,000	950,000	10,000	380,000
M/M change	5.6%	3.6%	57.1%	9.5%
Y/Y change	3.8%	0.4%	10.0%	12.1%

* 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**
July	112,000	51,000	61,000
June	109,000	65,000	44,000
2020	104,000	73,000	31,000
M/M change	2.8%	-21.5%	38.6%
Y/Y change	7.7%	-30.1%	96.8%
	MW Total	MW SF	MW MF
July	178,000	122,000	56,000
June	172,000	135,000	37,000
2020	151,000	111,000	40,000
M/M change	3.5%	-9.6%	51.4%
Y/Y change	17.9%	9.9%	40.0%

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

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

* Percentage of total housing completions

New Housing Completions by Region

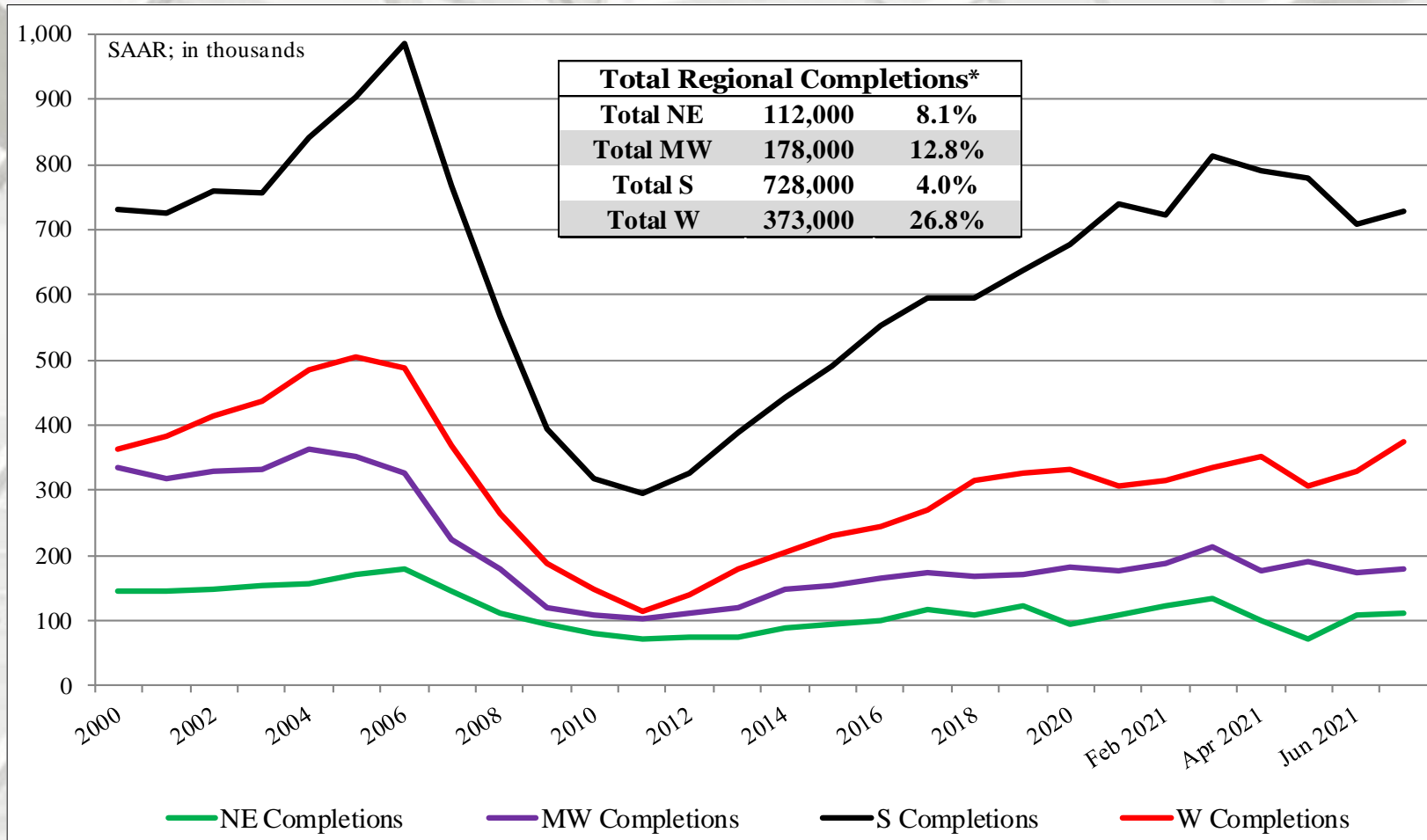
	S Total	S SF	S MF**
July	728,000	532,000	196,000
June	708,000	489,000	219,000
2020	720,000	526,000	194,000
M/M change	2.8%	8.8%	-10.5%
Y/Y change	1.1%	1.1%	1.0%
	W Total	W SF	W MF
July	373,000	249,000	124,000
June	328,000	232,000	96,000
2020	365,000	240,000	125,000
M/M change	13.7%	7.3%	29.2%
Y/Y change	2.2%	3.8%	-0.8%

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

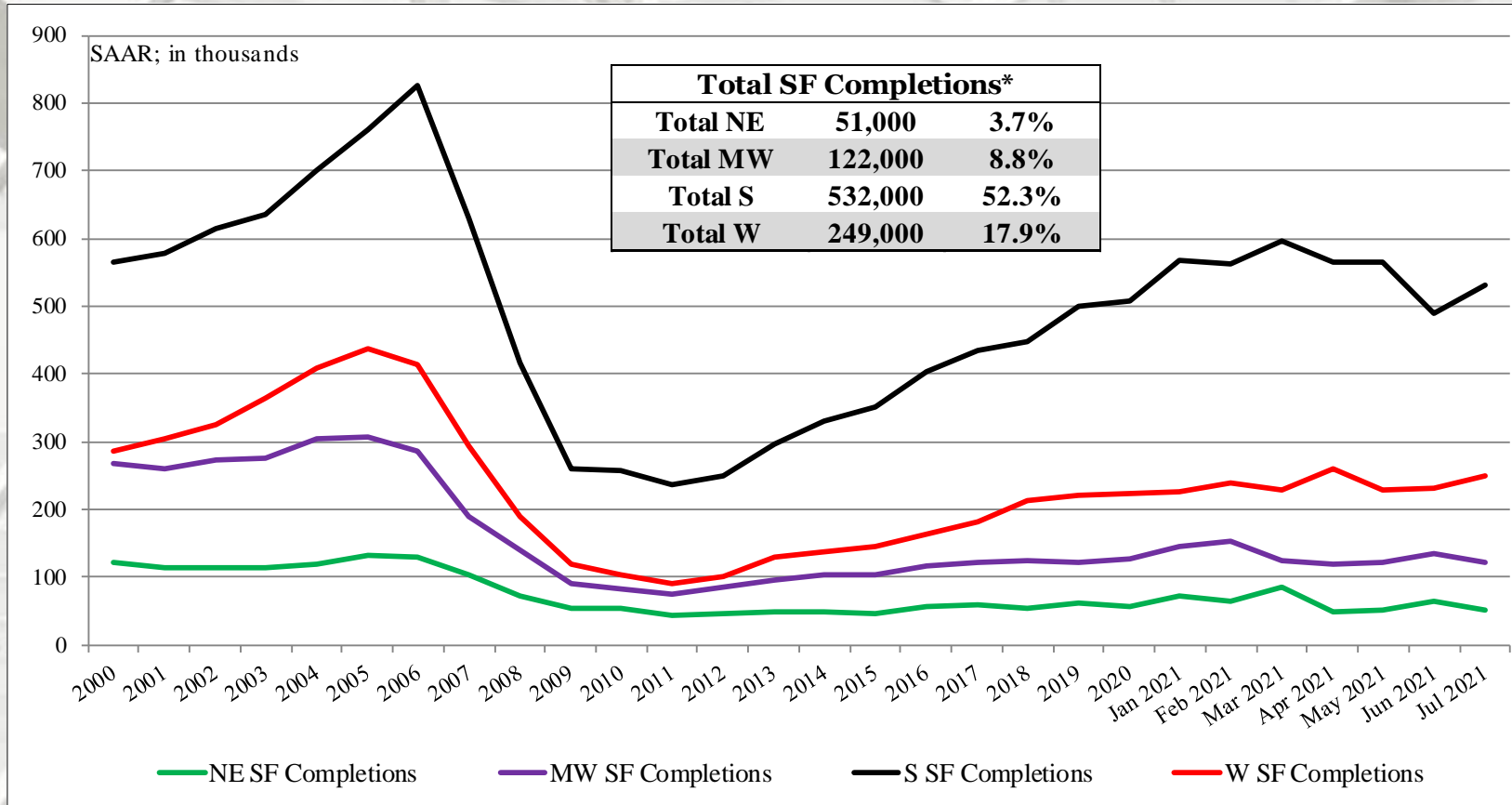
Total Housing Completions by Region



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

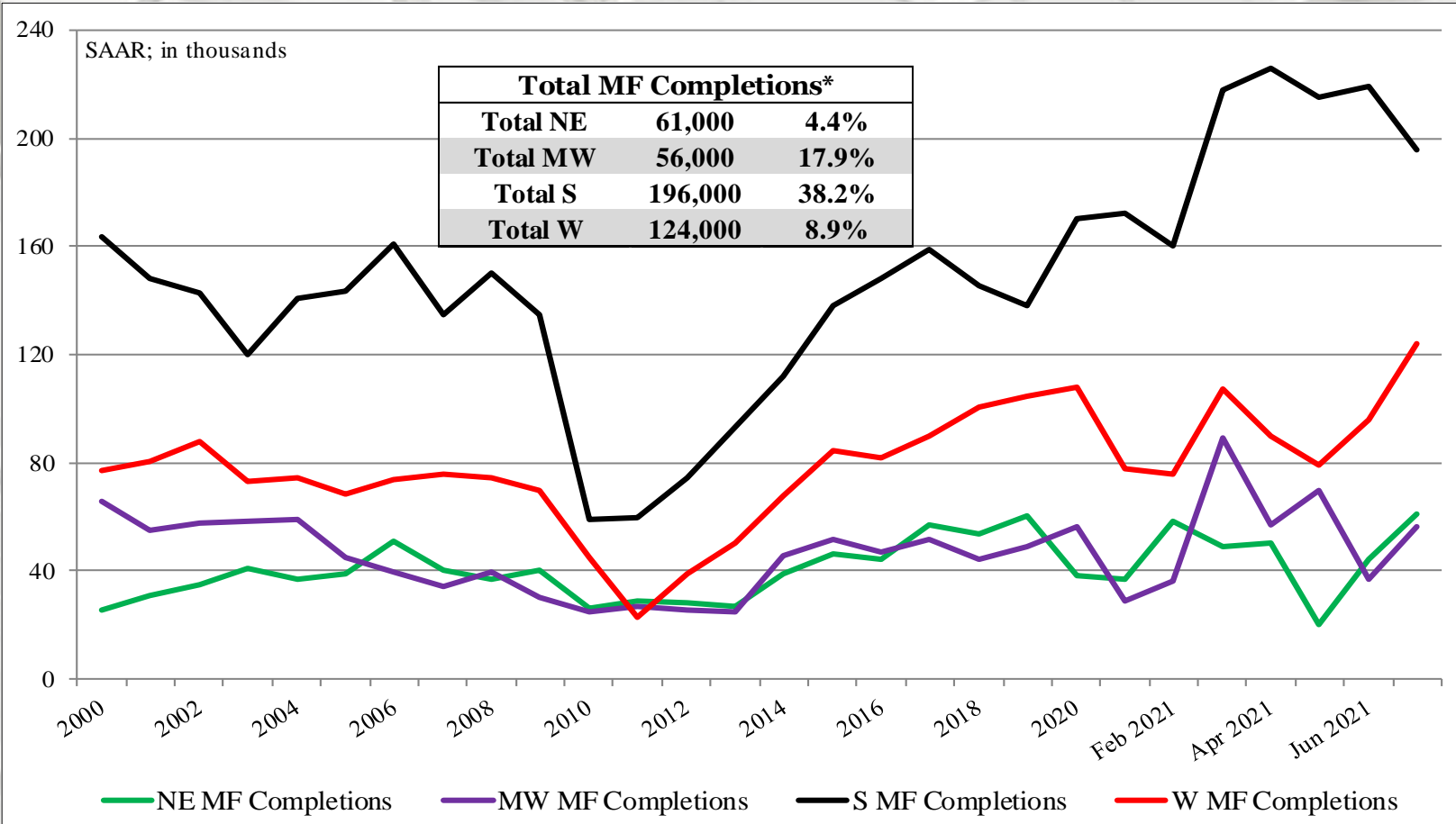


NE = Northeast, MW = Midwest, S = South, W = West

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
July	708,000	\$390,500	\$446,000	6.2
June	701,000	\$370,200	\$429,600	6.0
2020	972,000	\$329,800	\$379,100	3.6
M/M change	1.0%	5.5%	3.8%	3.3%
Y/Y change	-27.2%	18.4%	17.6%	72.2%

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

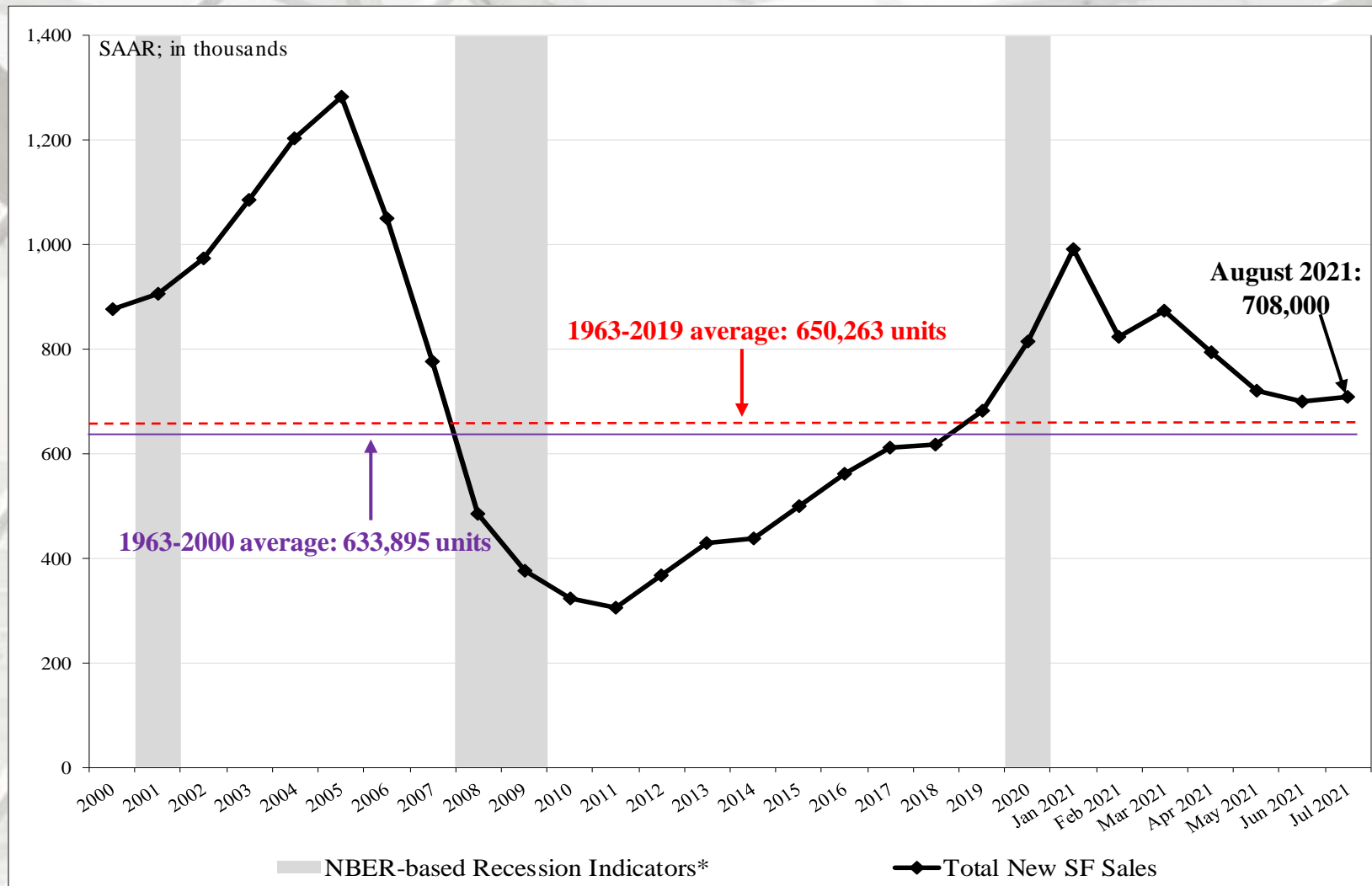
New SF sales were slightly more than the consensus forecast³ of 700 m (range: 670 m to 719 m). The past three month's new SF sales data also were revised:

April initial:	863 m, revised to 720 m.
May initial:	769 m, revised to 701 m.
June initial:	676m, revised to 724 m.

Sources: ¹ <https://www.census.gov/construction/nrs/index.html>; 8/22/21; ² <https://www.census.gov/construction/nrs/pdf/newressales.pdf>

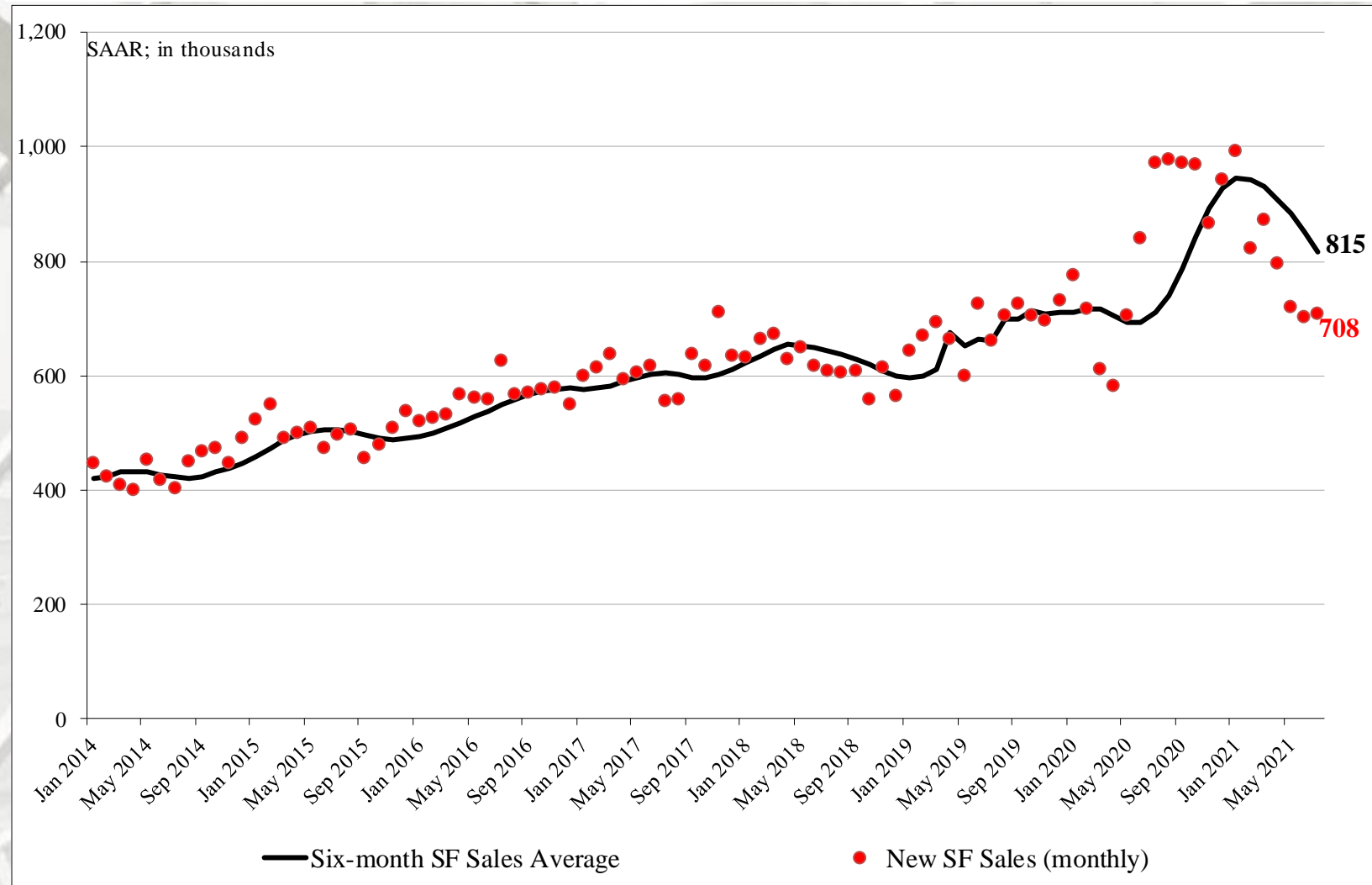
³ <http://us.econoday.com/>; 8/22/21

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			
July	22,000	71,000	400,000	215,000			
June	29,000	89,000	395,000	188,000			
2020	42,000	127,000	559,000	244,000			
M/M change	-24.1%	-20.2%	1.3%	14.4%			
Y/Y change	-47.6%	-44.1%	-28.4%	-11.9%			
	<div>\$150 - ≤ \$150m</div>	<div>\$200 - \$199.9m</div>	<div>\$300 - \$299.9m</div>	<div>\$300 - \$399.9m</div>	<div>\$400 - \$499.9m</div>	<div>\$500 - \$749.9m</div>	<div>≥ \$750m</div>
July ^{1,2,3,4}	1,000	1,000	14,000	17,000	14,000	11,000	5,000
June	1,000	1,000	16,000	17,000	11,000	14,000	4,000
2020	1,000	6,000	29,000	26,000	11,000	10,000	3,000
M/M change	0.0%	0.0%	6.7%	-10.5%	-21.4%	27.3%	-20.0%
Y/Y change	0.0%	-80.0%	-36.0%	-22.7%	-26.7%	55.6%	33.3%
New SF sales: %	1.6%	1.6%	22.2%	27.0%	22.2%	17.5%	7.9%

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 July not add to total because of rounding.

⁴ Housing prices are adjusted at irregular intervals.

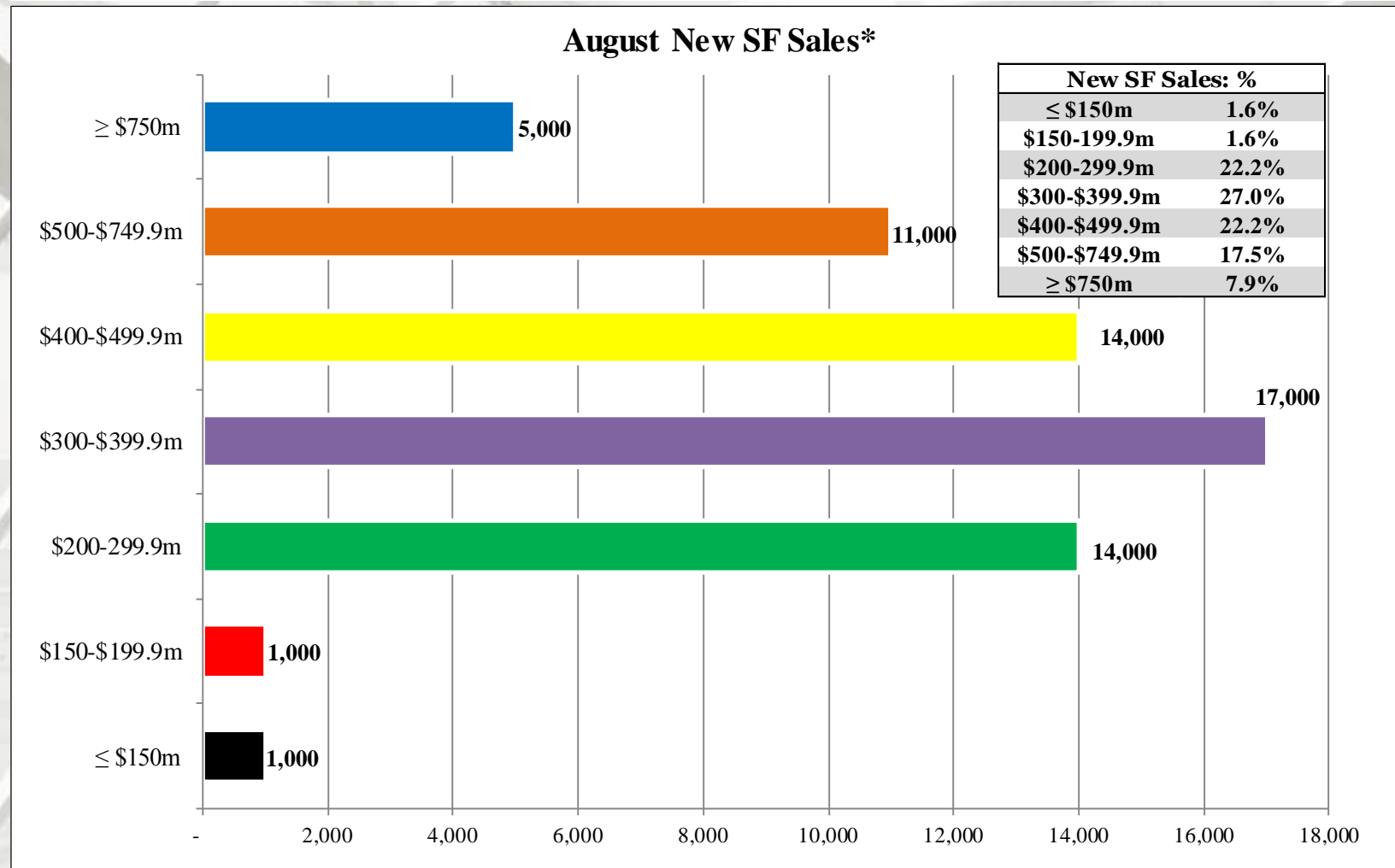
⁵ Z = Less than 500 units or less than 0.5 percent

Sources: ^{1,2,3} <https://www.census.gov/construction/nrs/index.html>; 8/22/21;

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

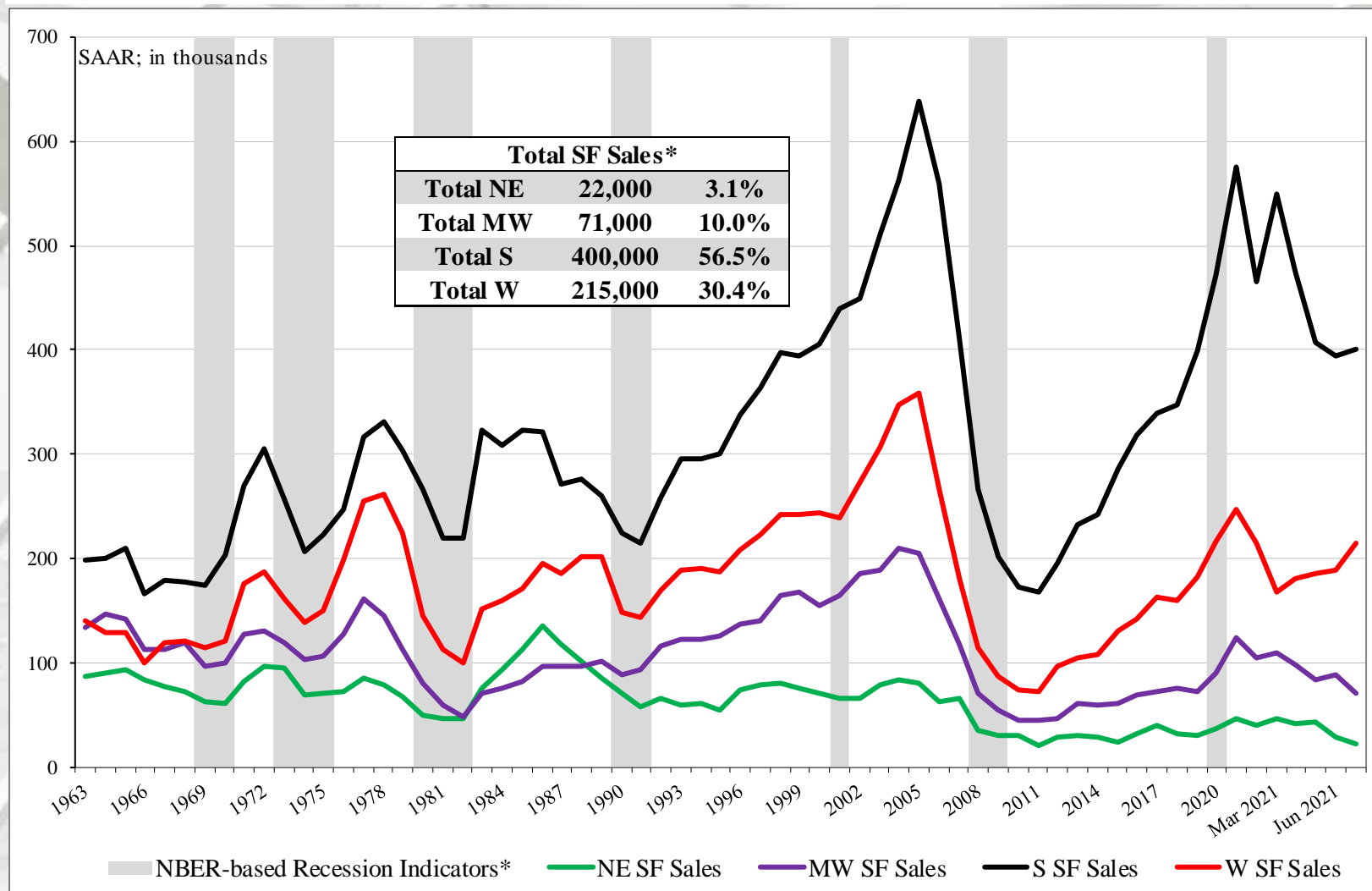
Return TOC

New SF House Sales



* Total new sales by price category and percent.

New SF House Sales by Region

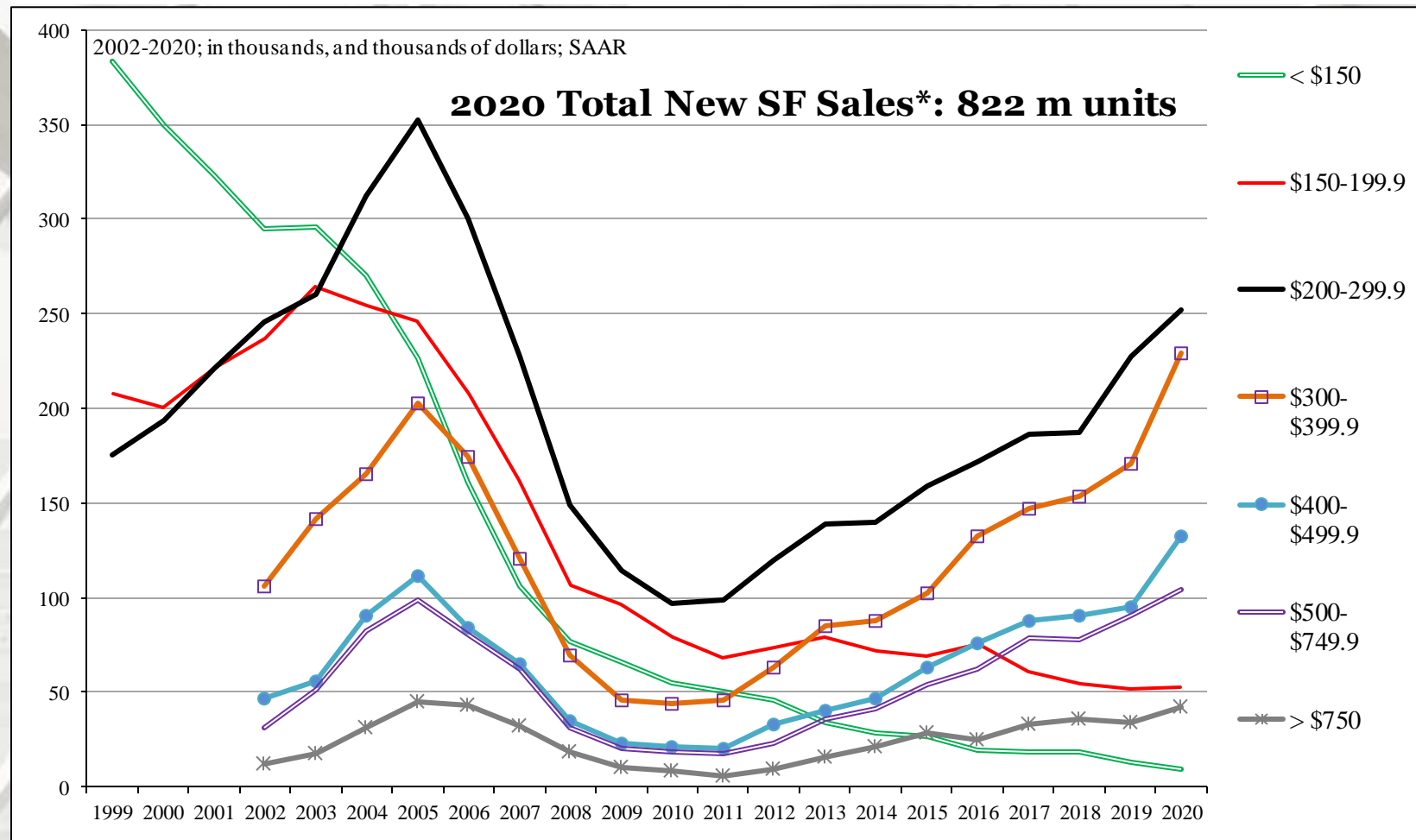


NE = Northeast; MW = Midwest; S = South; W = West

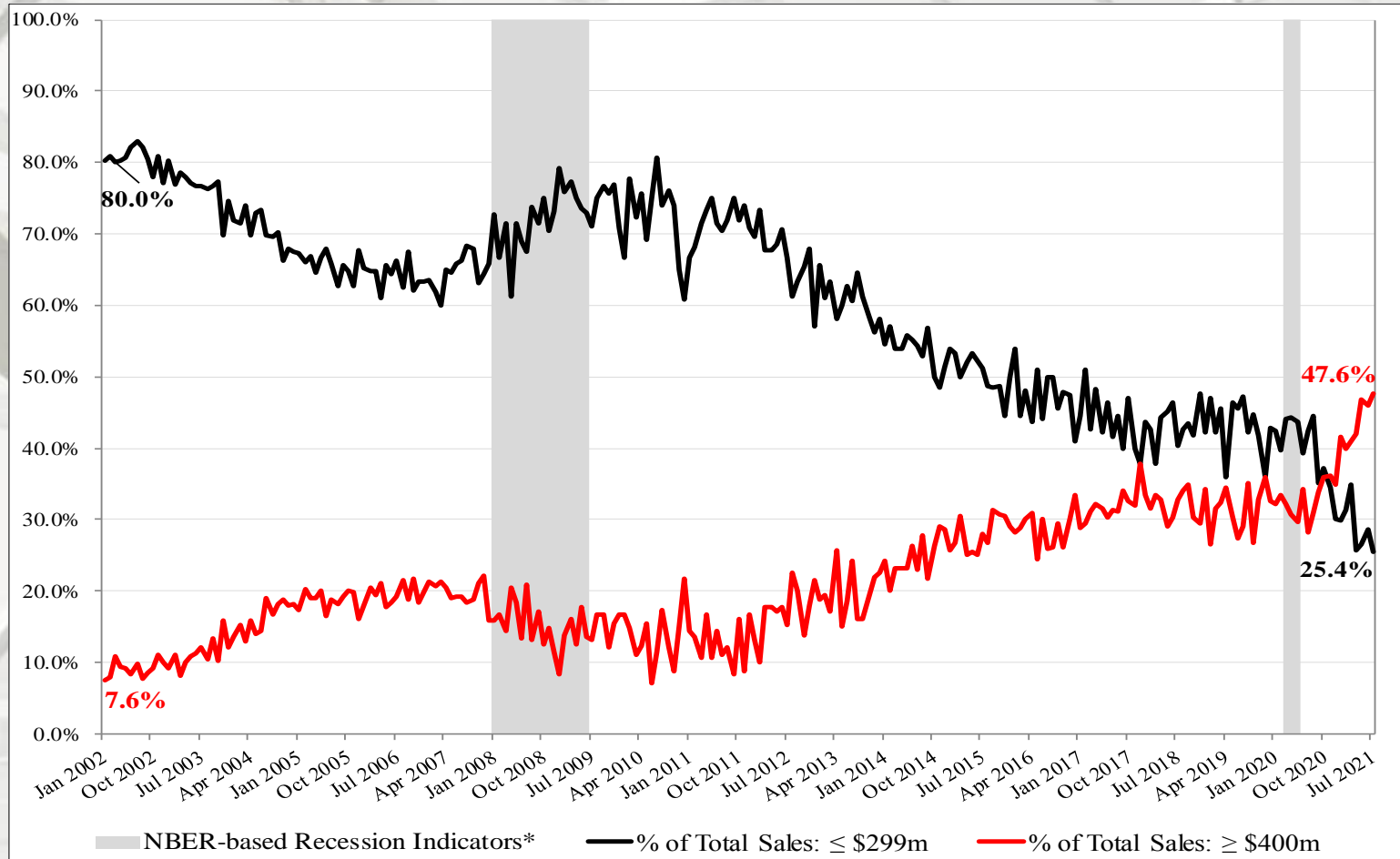
* Percentage of total new sales.

* 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



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 – July 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



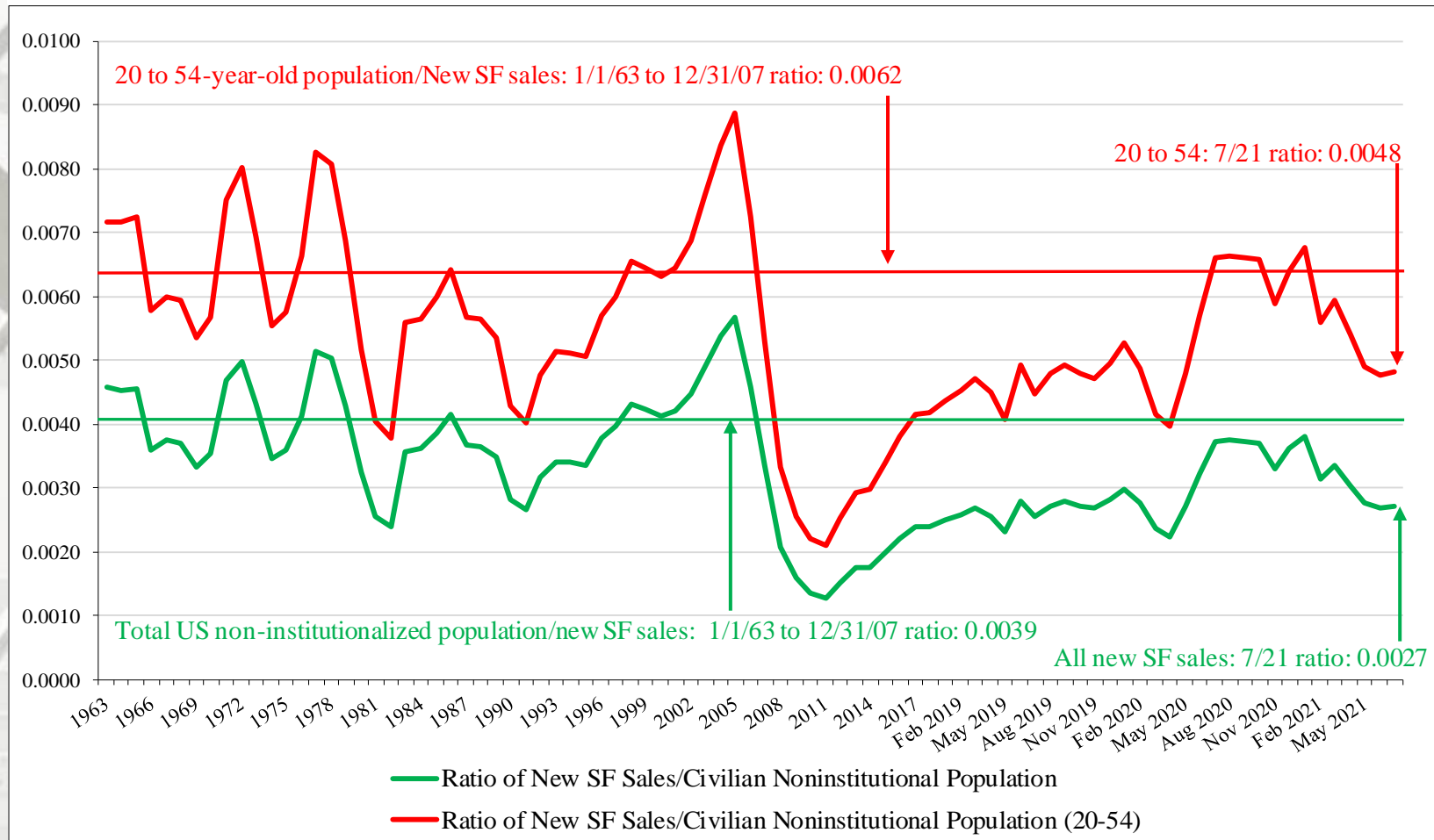
New SF Sales: $\leq \$200m$ and $\geq \$500m$: 2002 to July 2021

The number of $\leq \$200$ thousand SF houses has declined dramatically since 2002^{1,2}. Subsequently, from 2012 onward, the $\geq \$500$ thousand class has soared (on a percentage basis) in contrast to the $\leq \$200m$ 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).

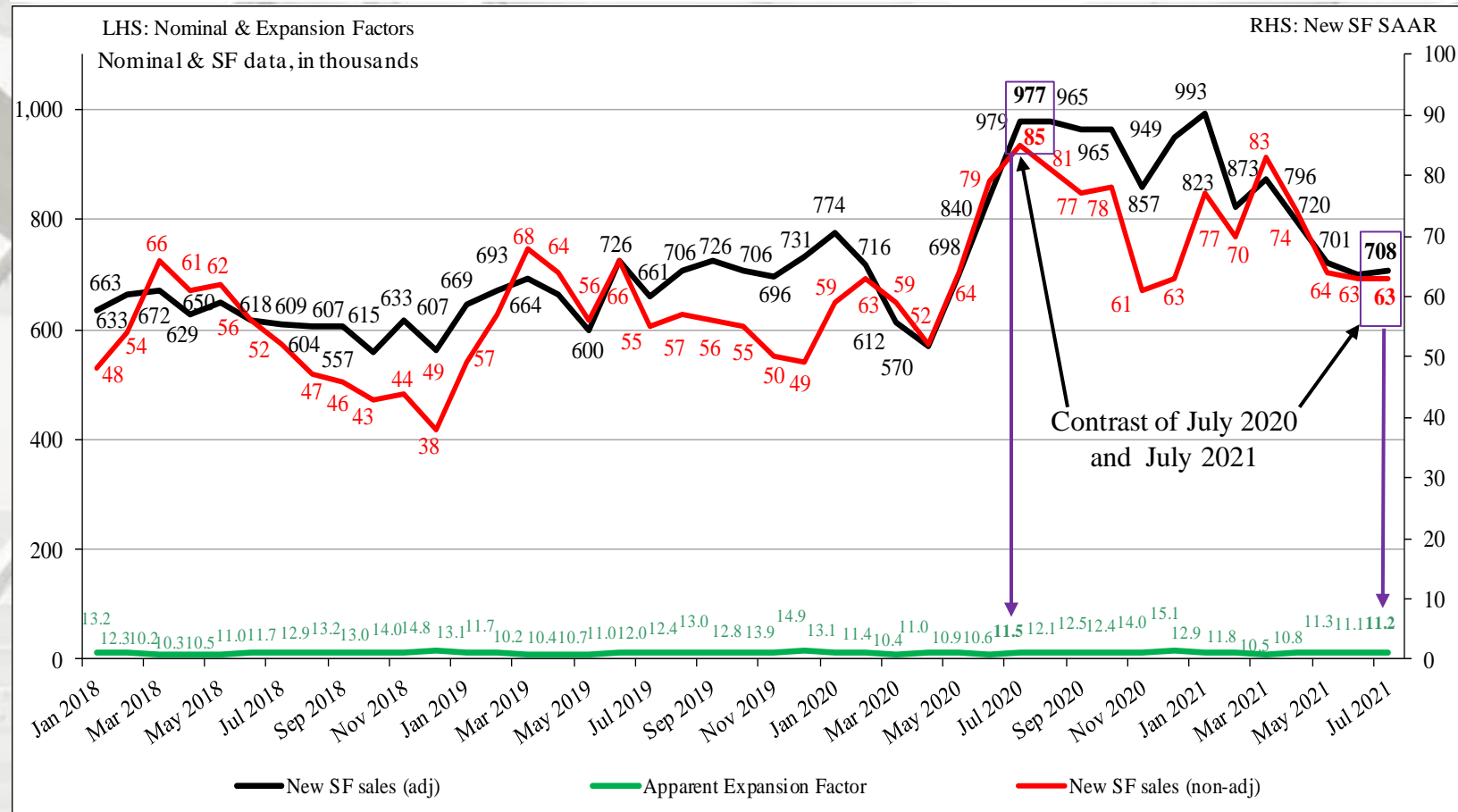
New SF House Sales



New SF sales adjusted for the US population

From July 1963 to July 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in July 2021 it was 0.0027 – no change from June (0.0027). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0048; in July 2021 it was 0.0048 – also no change from June (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

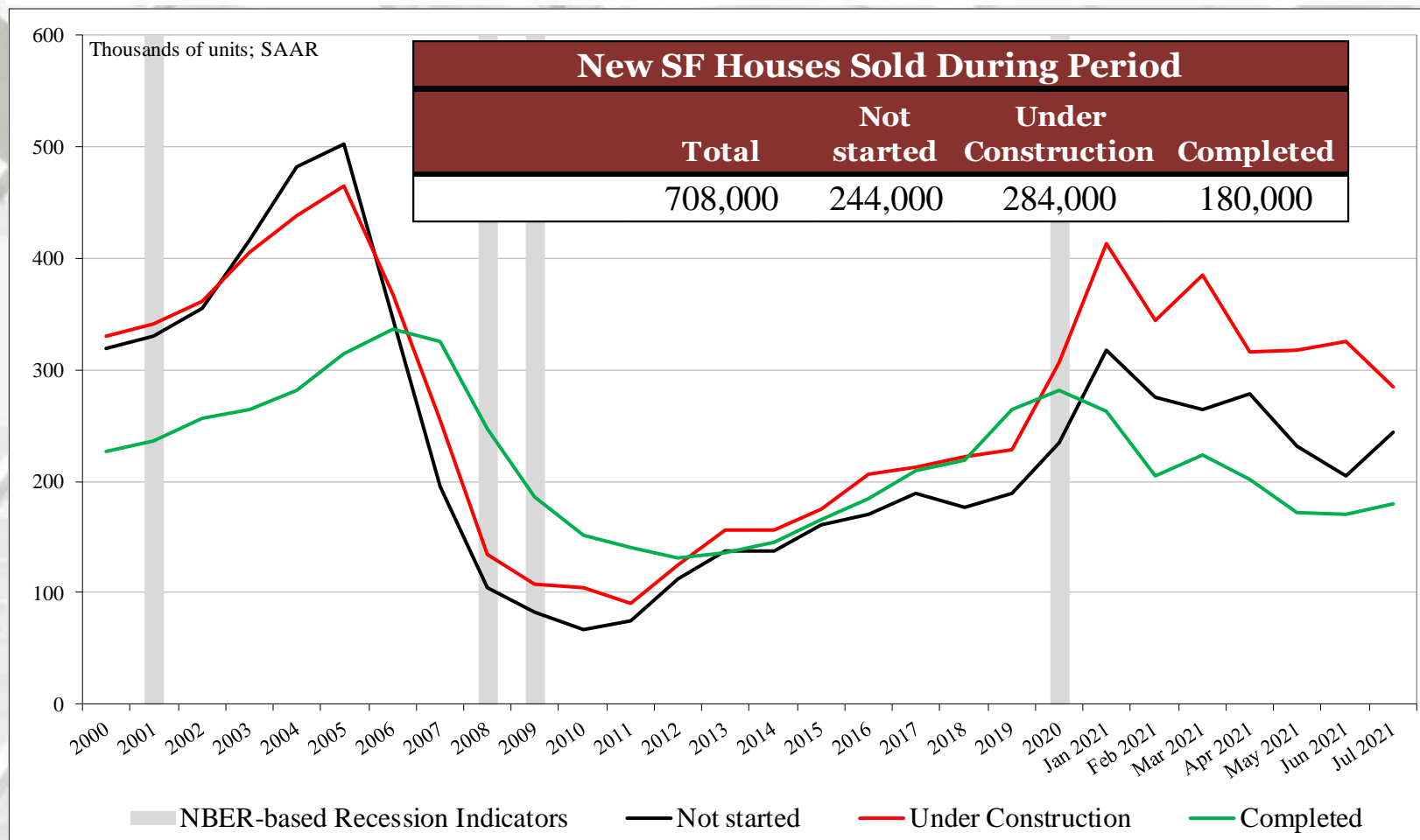
New SF House Sales

New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
July	708,000	244,000	284,000	180,000
June	701,000	205,000	325,000	171,000
2020	972,000	273,000	347,000	352,000
M/M change	1.0%	19.0%	-12.6%	5.3%
Y/Y change	-27.2%	-10.6%	-18.2%	-48.9%
Total percentage		34.5%	40.1%	25.4%

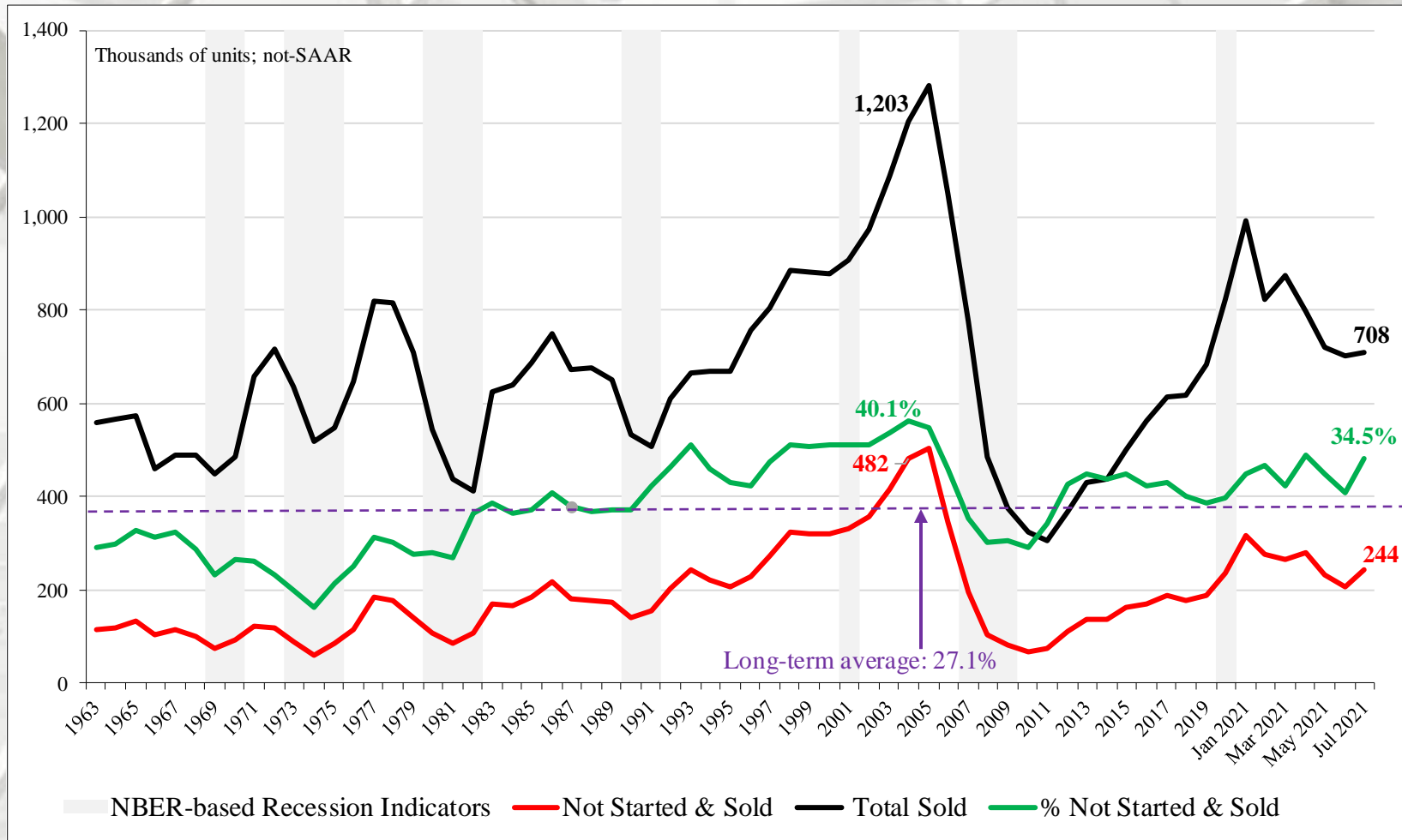
SAAR

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 July (708 m), 34.5% (244 m) 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).

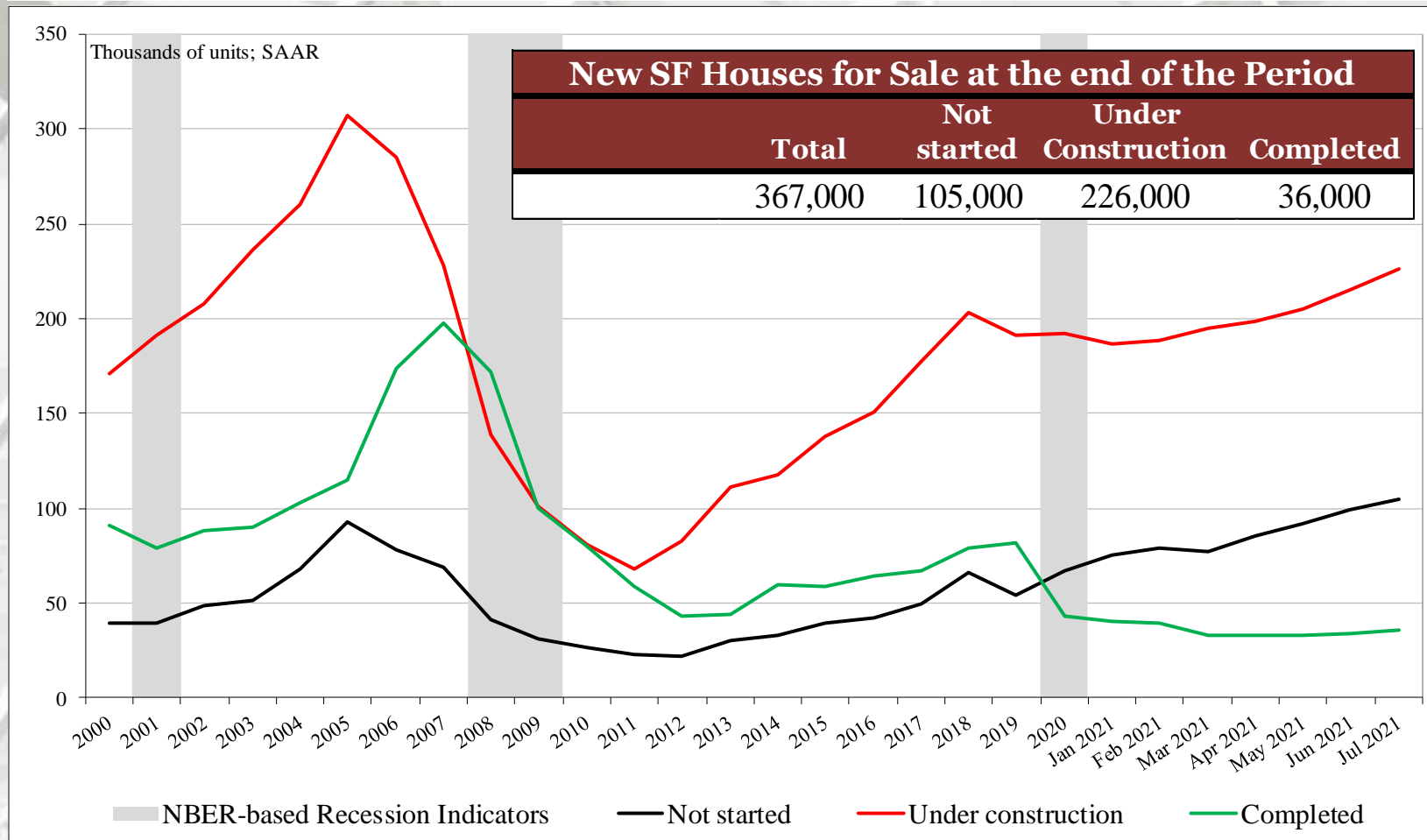
New SF Houses for Sale at End of Period

New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
July	367,000	105,000	226,000	36,000
June	348,000	99,000	215,000	33,000
2020	291,000	57,000	176,000	65,000
M/M change	5.5%	6.1%	5.1%	9.1%
Y/Y change	26.1%	84.2%	28.4%	-44.6%
Total percentage		28.6%	61.6%	9.8%

Not SAAR

Of houses listed for sale (353m) in July, 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 July 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).

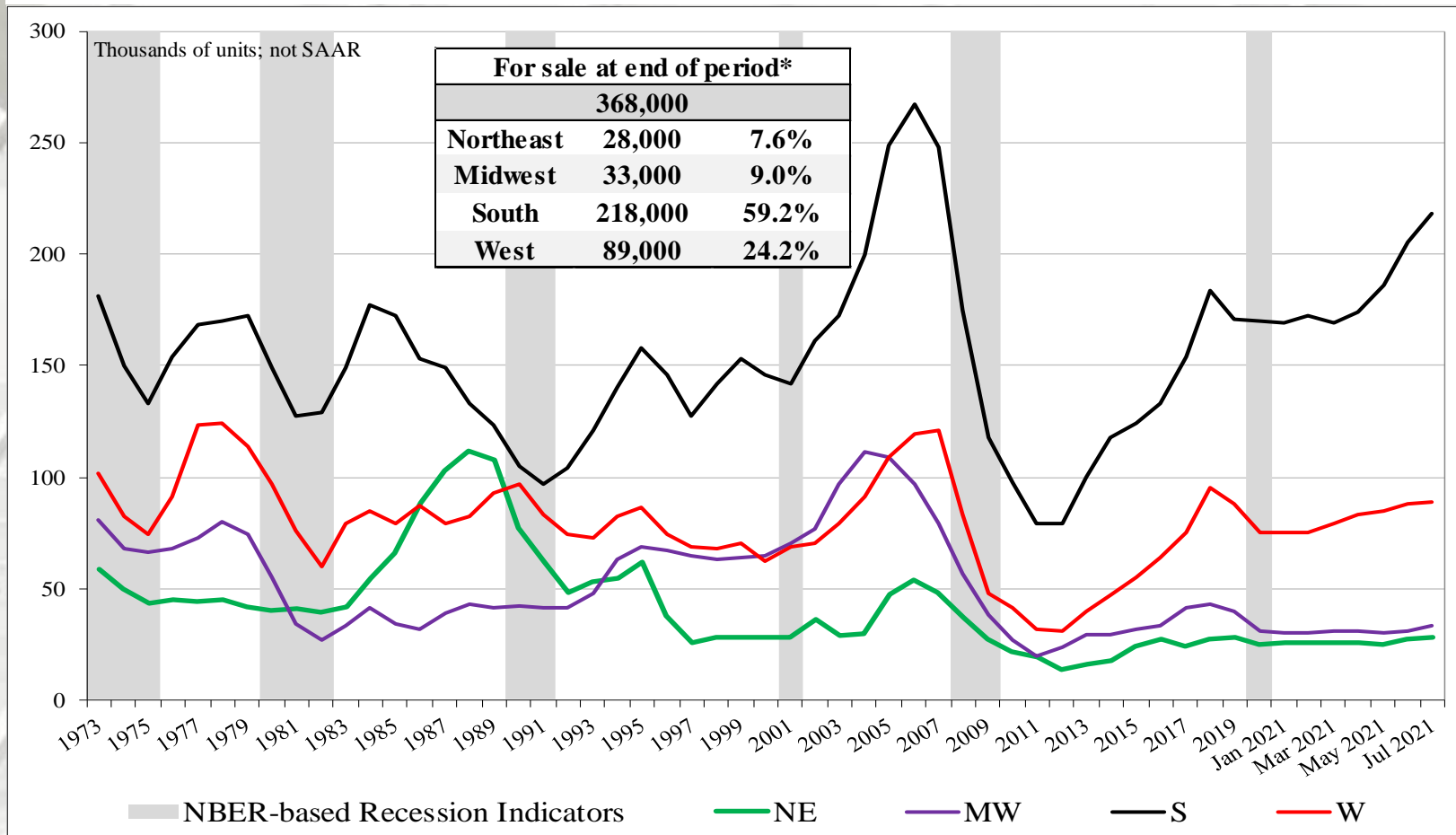
New SF House Sales

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

	Total	NE	MW	S	W
July	368,000	28,000	33,000	218,000	89,000
June	351,000	27,000	31,000	205,000	88,000
2020	290,000	23,000	29,000	164,000	74,000
M/M change	4.8%	3.7%	6.5%	6.3%	1.1%
Y/Y change	26.9%	21.7%	13.8%	32.9%	20.3%

* Not SAAR

New SF Houses for Sale at End of Period by Region

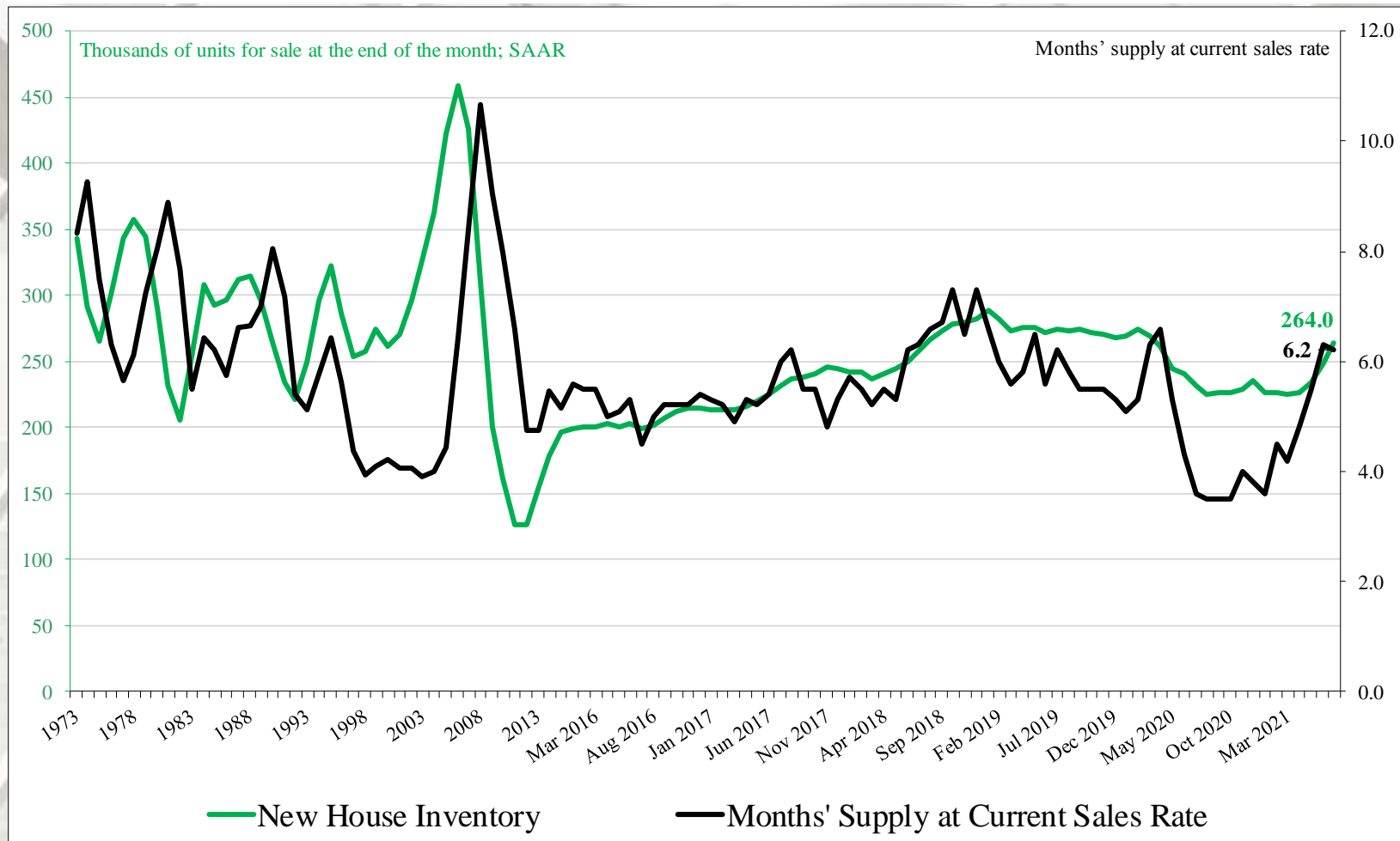


NE = Northeast; MW = Midwest; S = South; W = West

* 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).

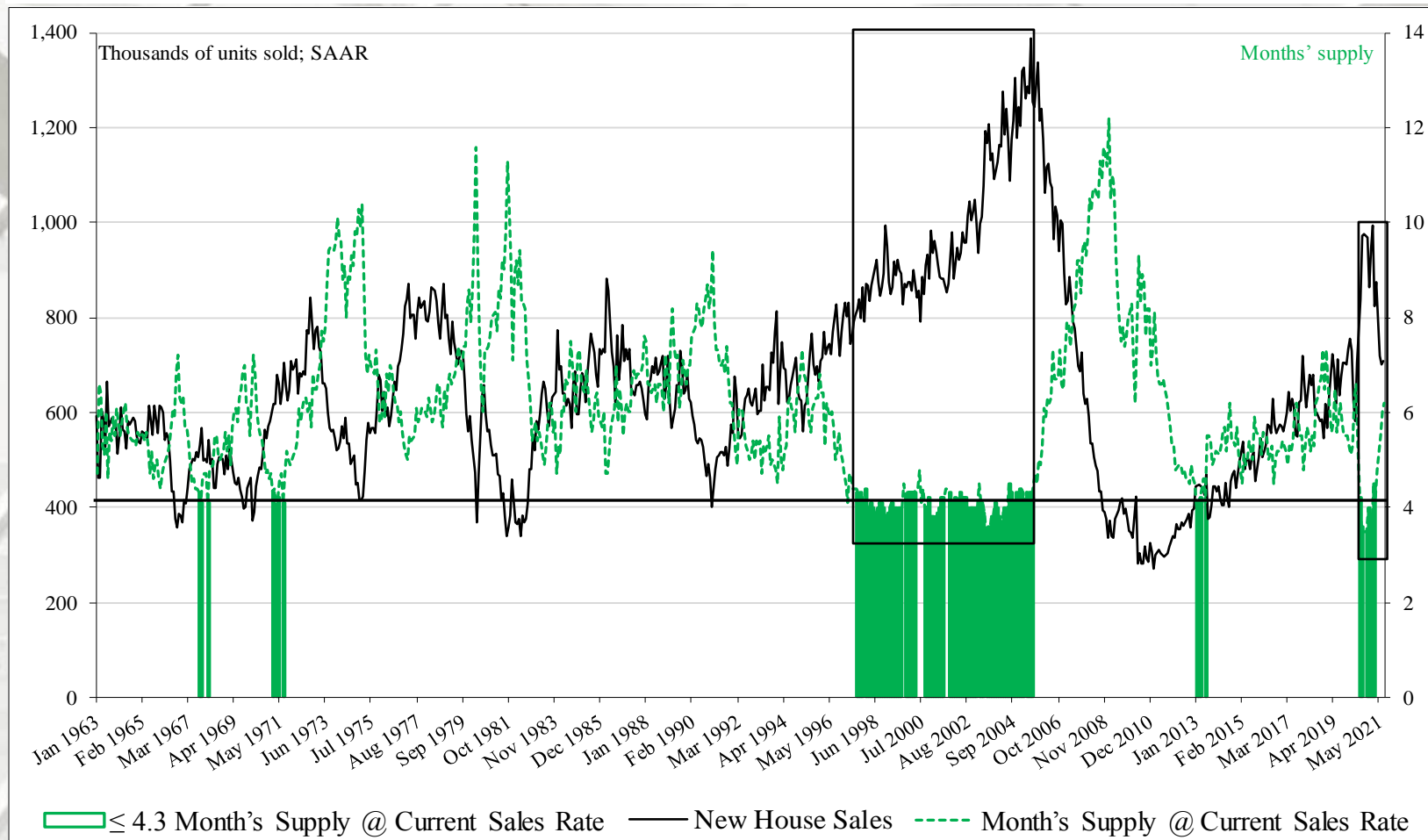
Months' Supply and New House Inventory^a



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

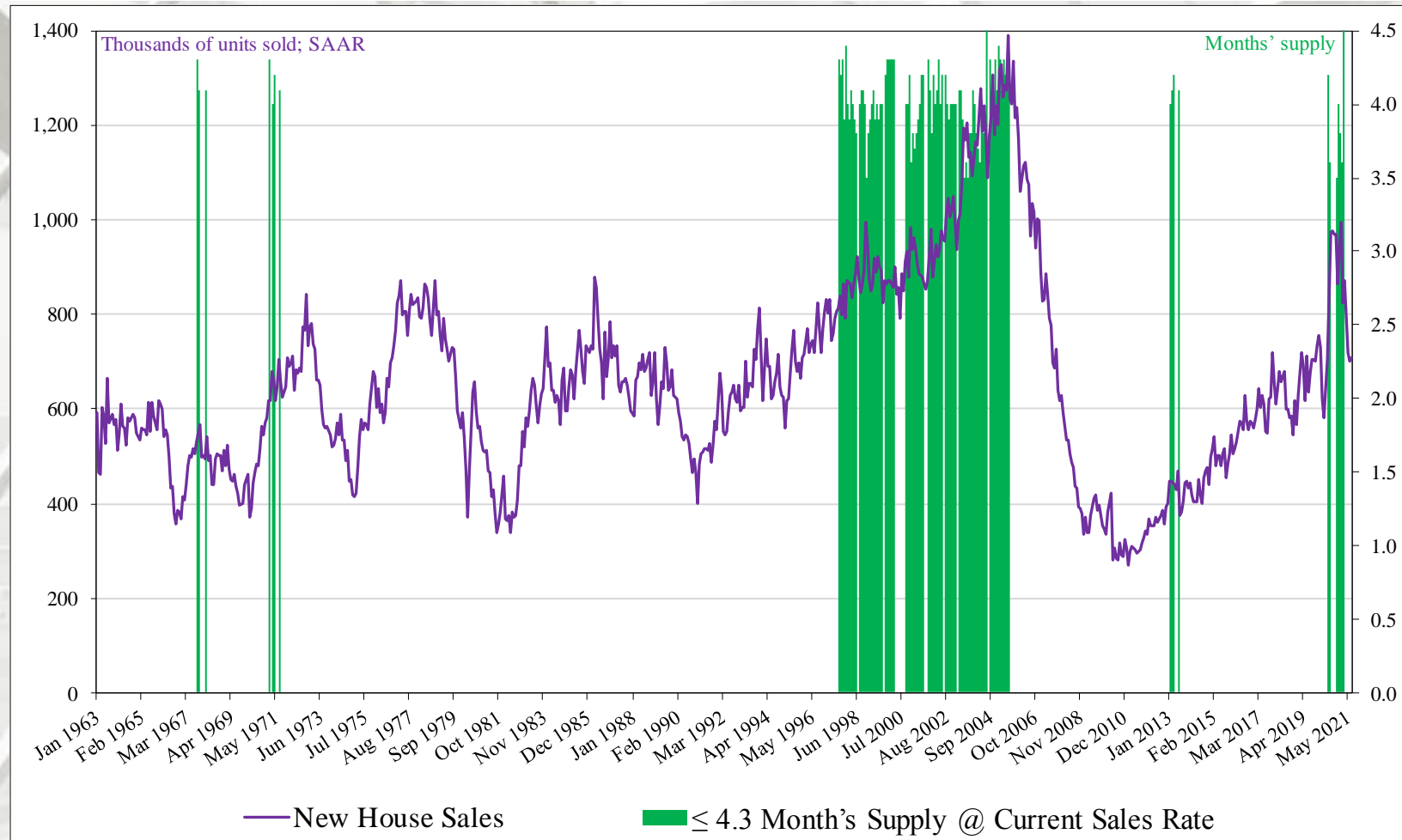
The months supply of new houses for sale was 6.2 at the end of July (SAAR).

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



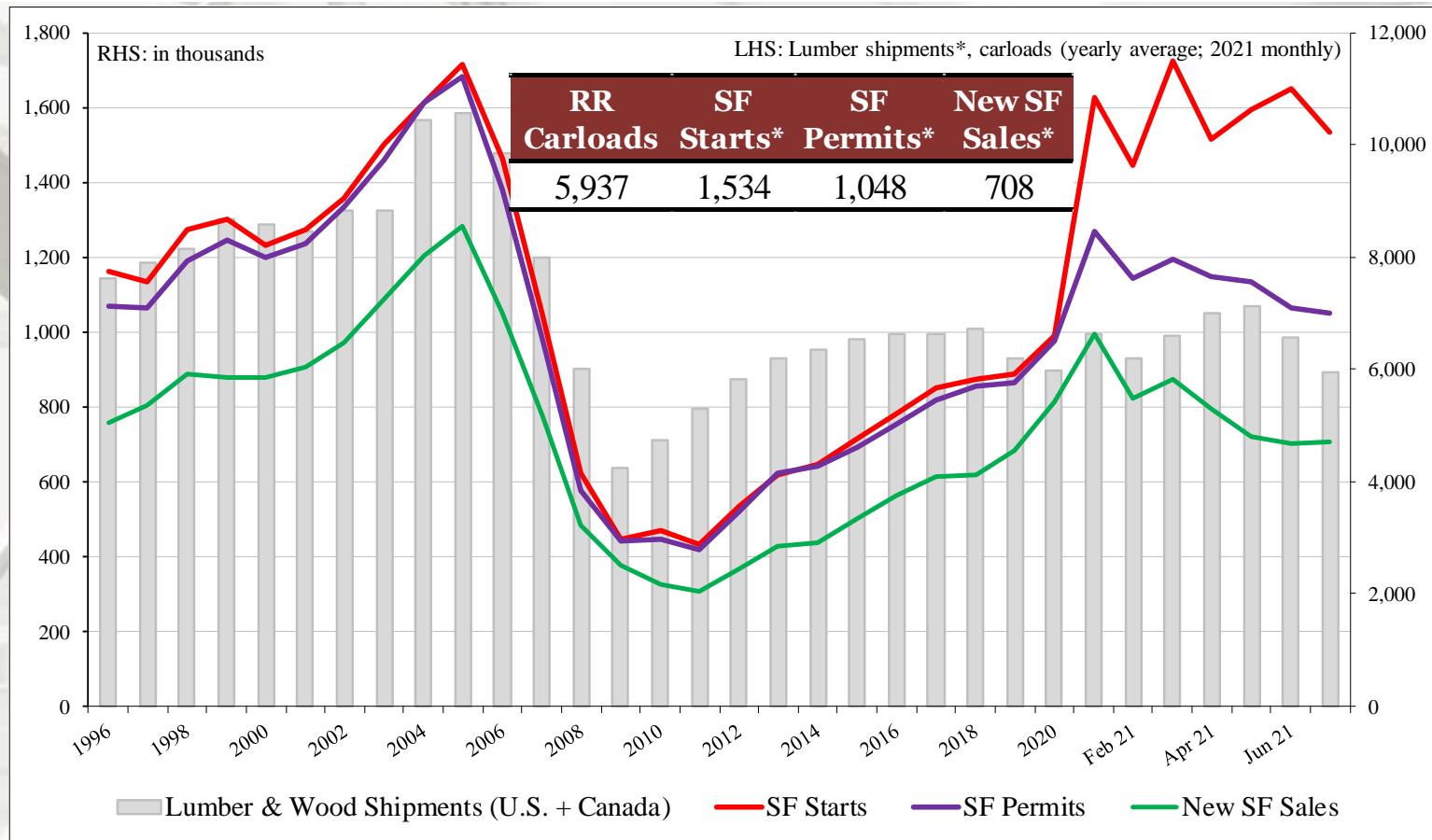
The months supply of new houses for sale (at current sales rate) was 3.5 months at the end of July. Generally, robust new house sales correspond with a 4.3 month, or less, supply of new houses for sale. The black line denotes a 4.3 month mean of month's supply.

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.

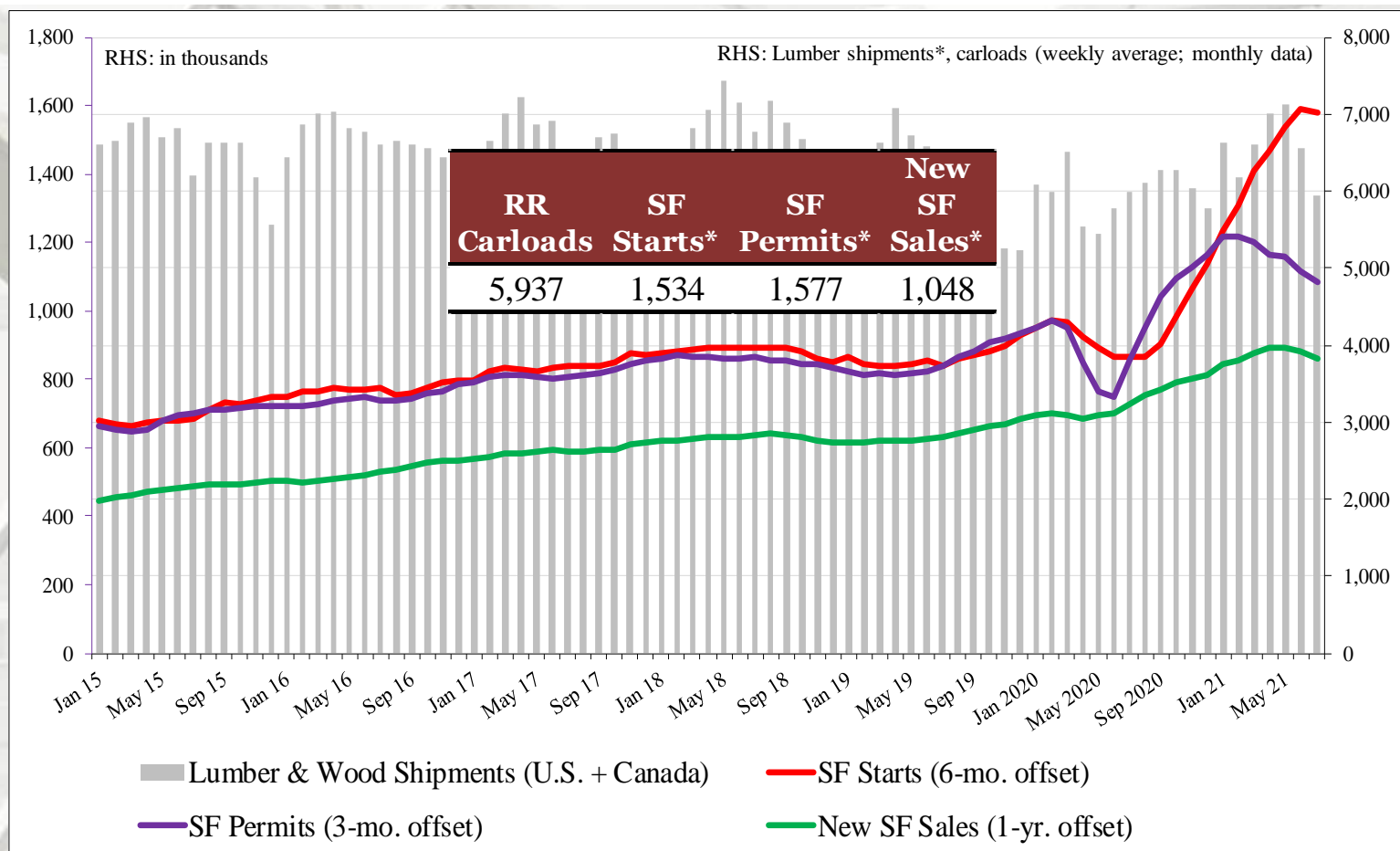
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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

July 2021

Construction Spending

	Total Private Residential*	SF	MF	Improvement**
July	\$772,963	\$416,266	\$98,777	\$257,920
June	\$768,864	\$412,737	\$98,823	\$257,304
2020	\$608,617	\$283,050	\$85,992	\$239,575
M/M change	0.5%	0.9%	0.0%	0.2%
Y/Y change	27.0%	47.1%	14.9%	7.7%

* 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\$.

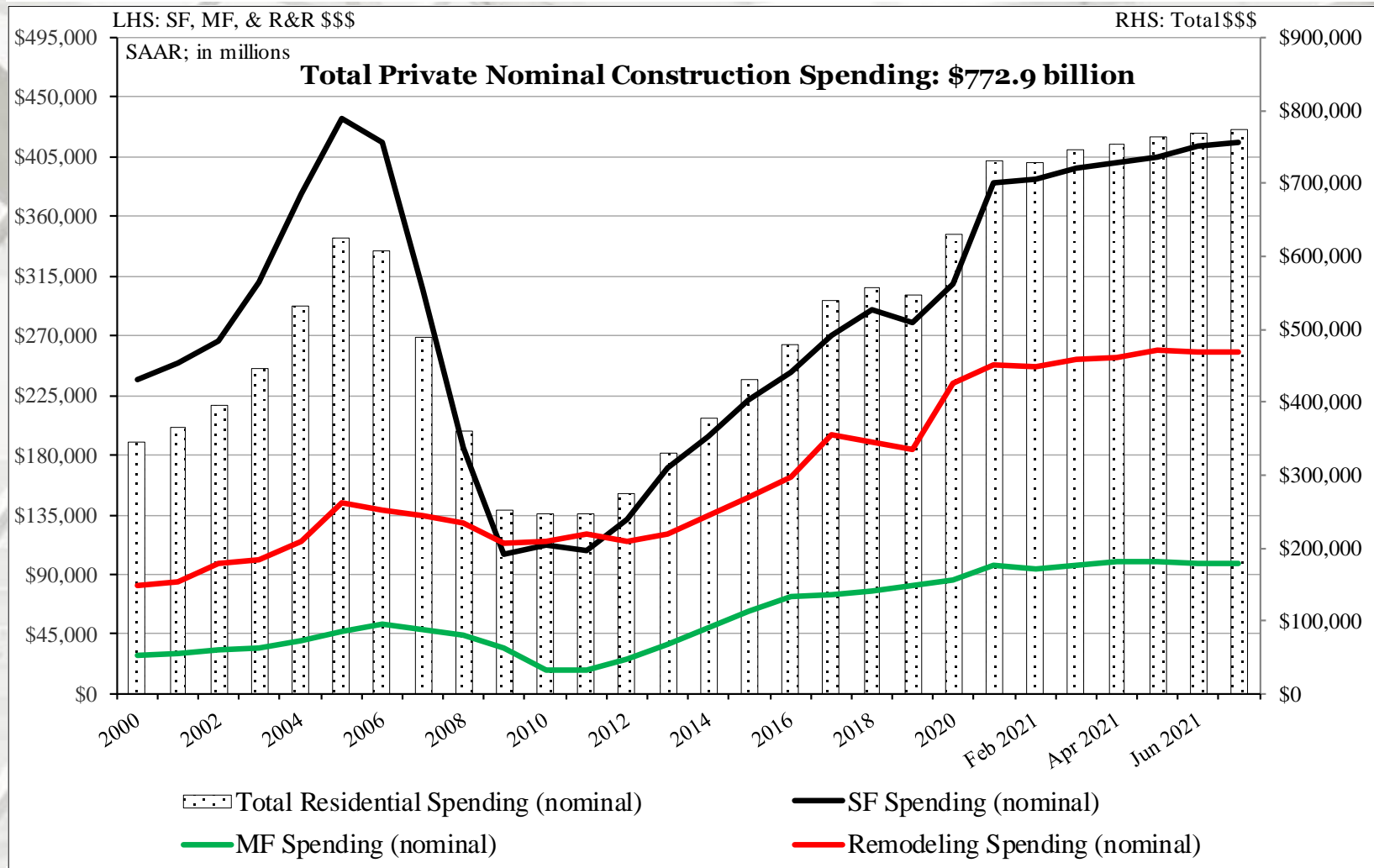
Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

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.

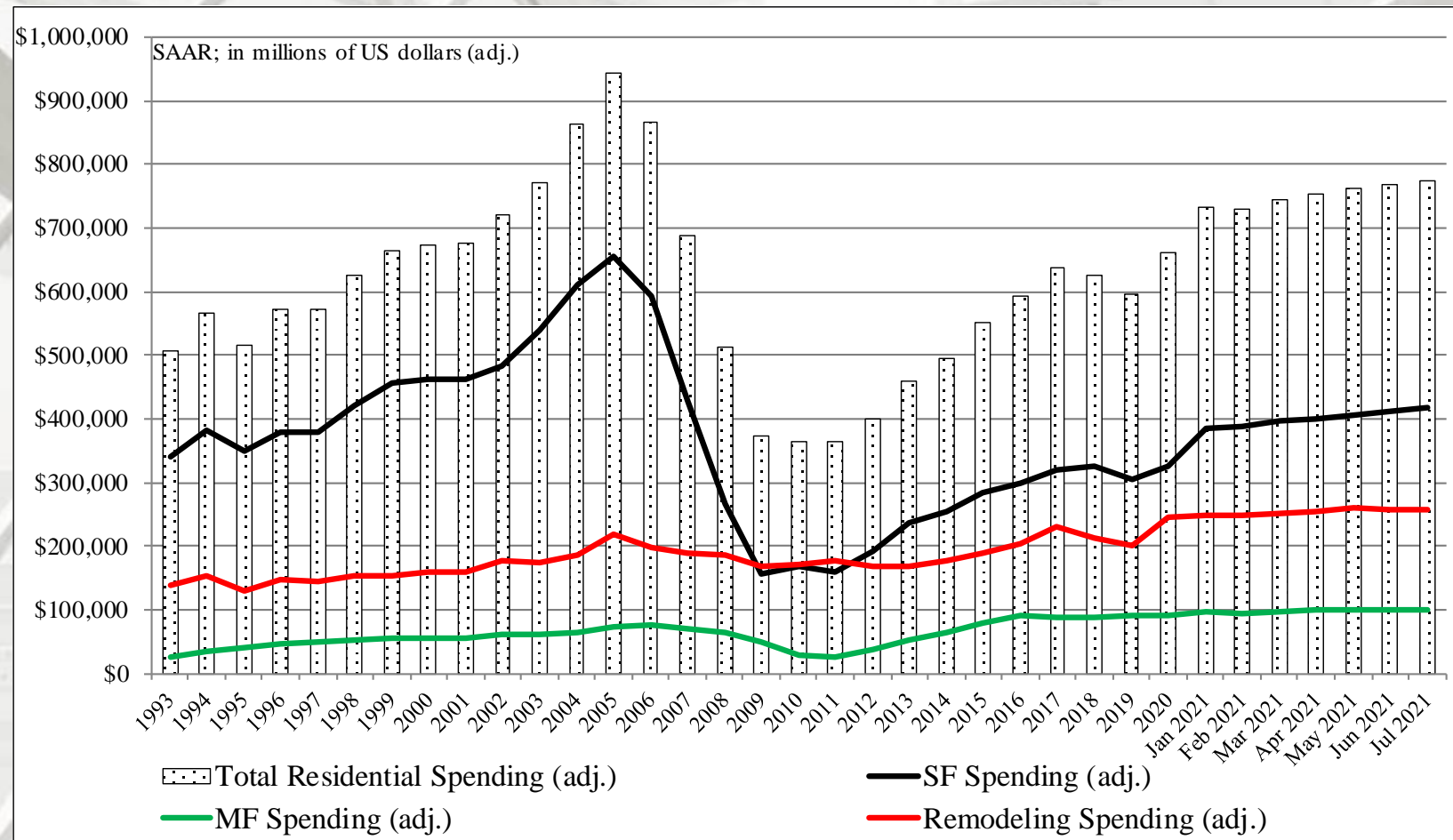
Total Construction Spending (nominal): 2000 – July 2021



Reported in nominal US\$.

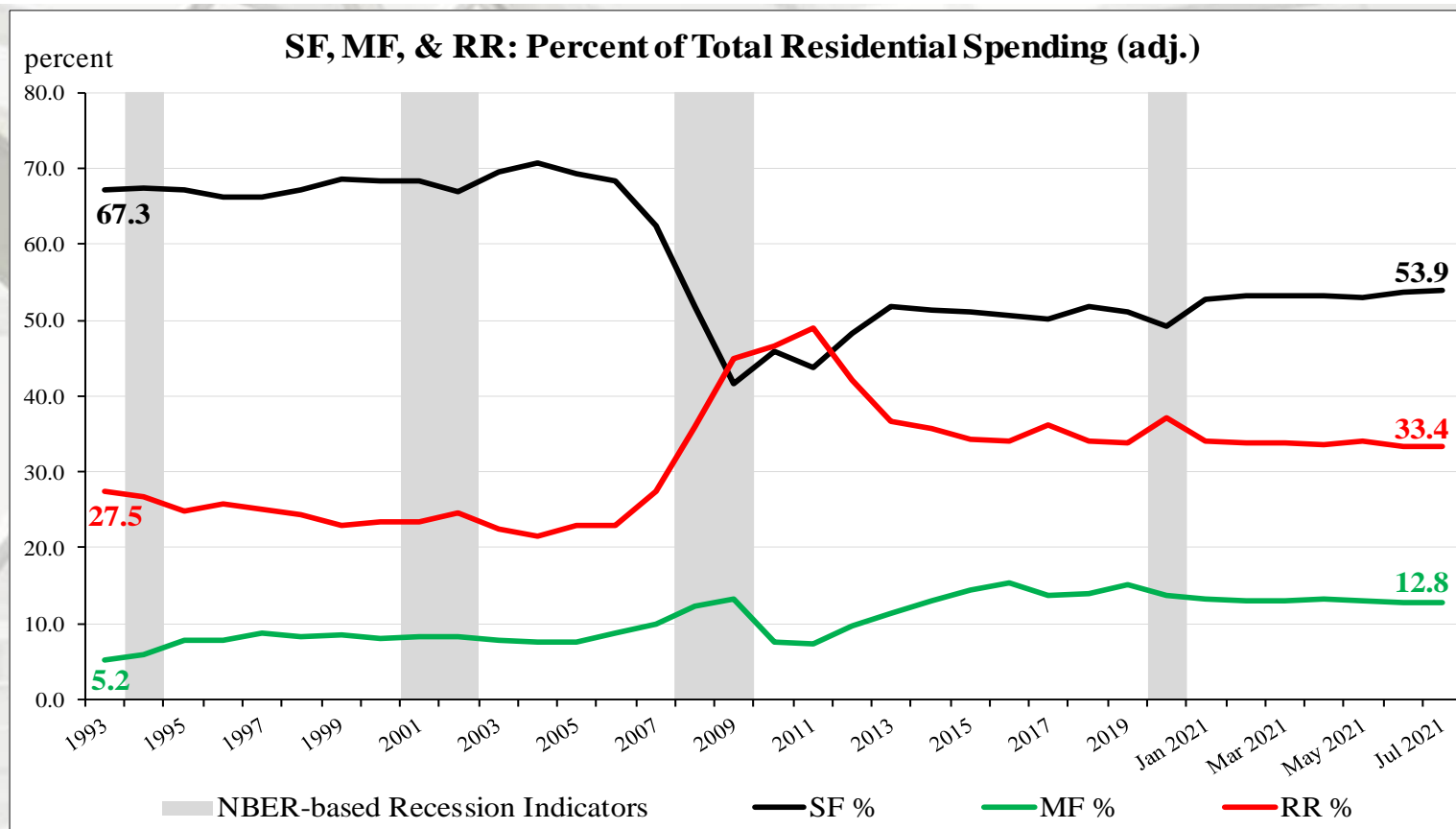
The US DOC does not report improvement spending directly, this is a monthly estimation for 2020.

Total Construction Spending (adjusted): 1993-July 2021



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

Construction Spending Shares: 1993 to July 2021



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

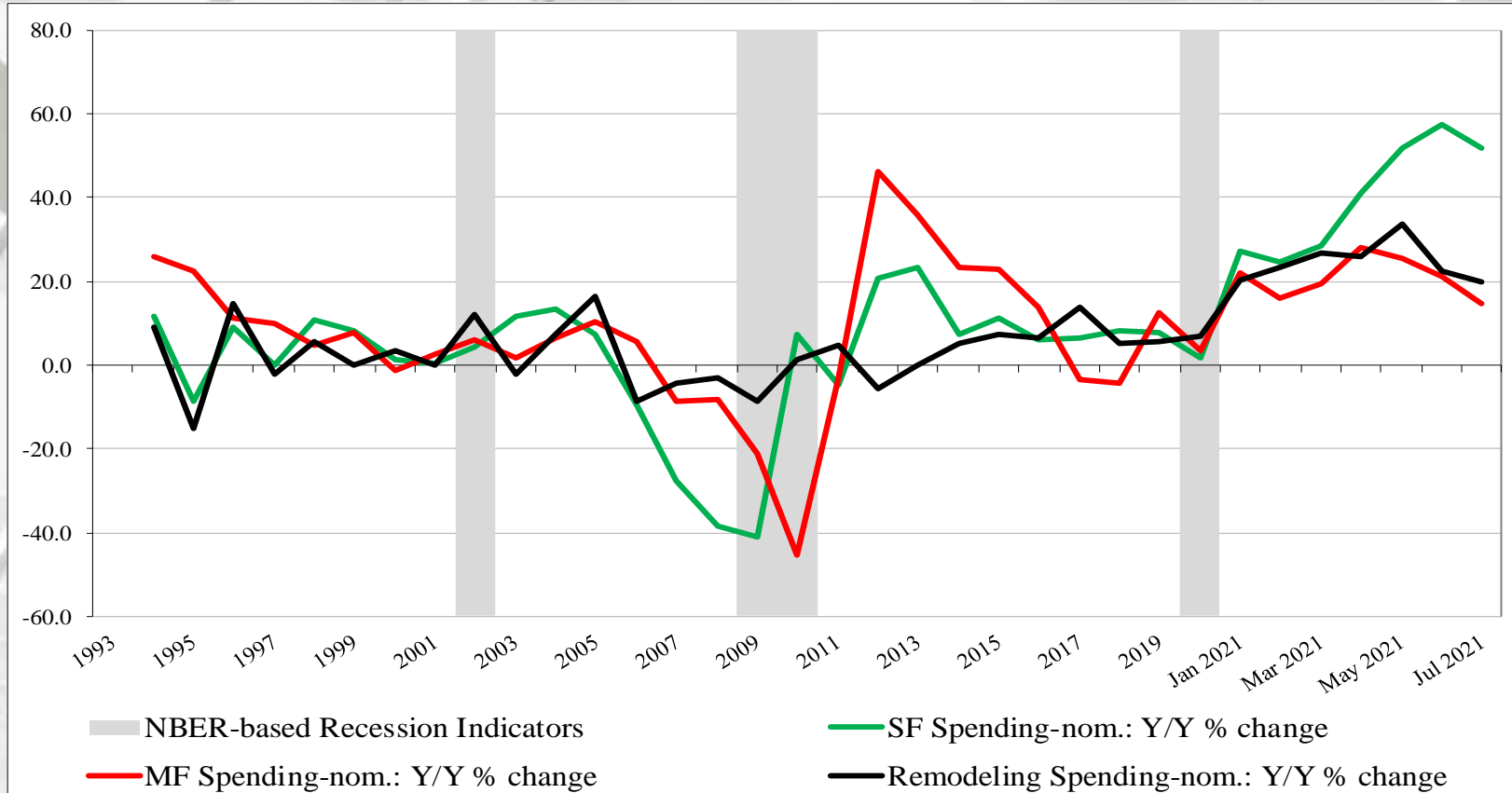
MF spending average: 7.5 %

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

Note: 1993 to 2020 (adjusted for inflation, BEA Table 1.1.9); July 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 July 2021



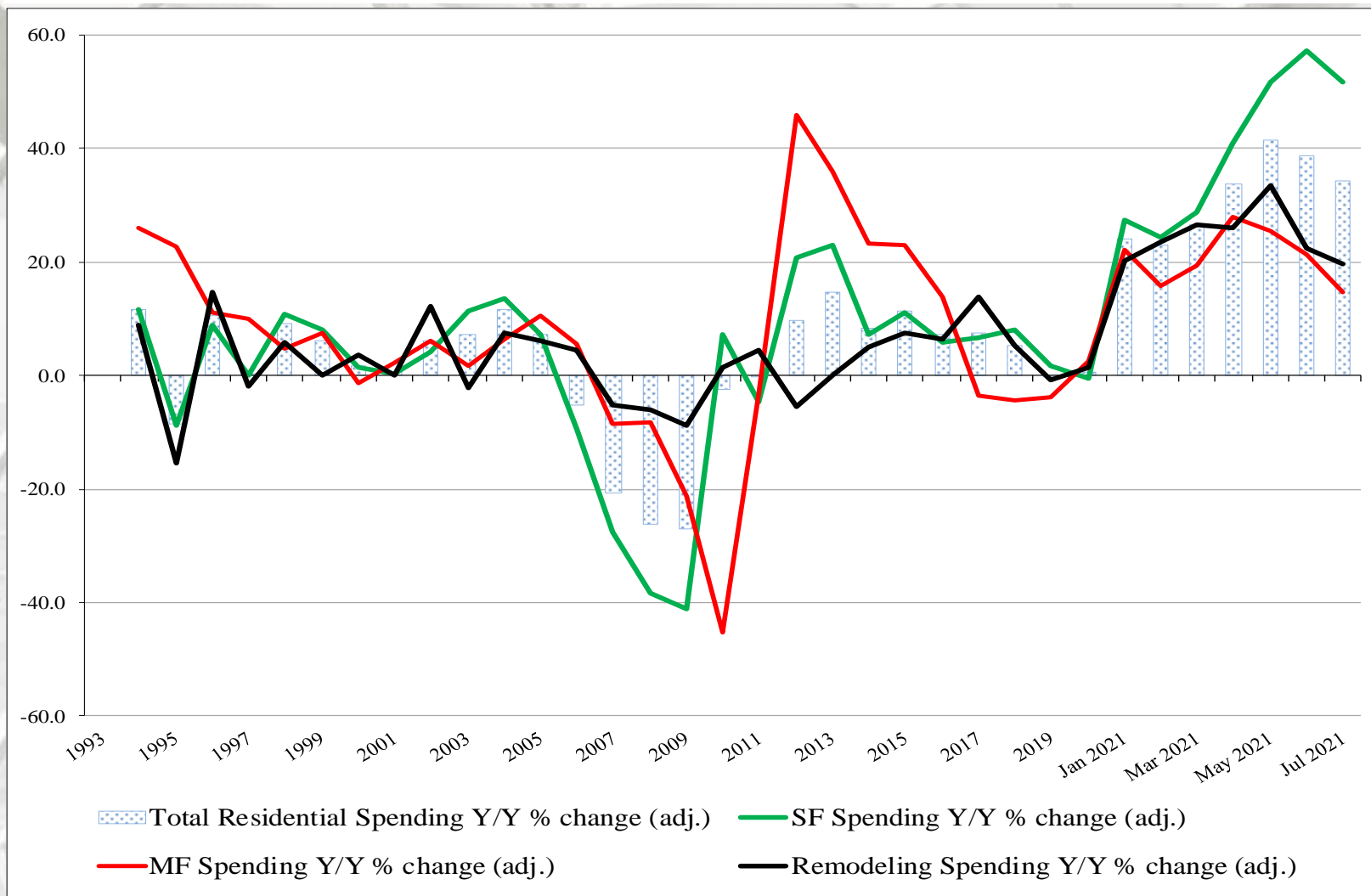
Nominal Residential Construction Spending: Y/Y percentage change, 1993 to July 2021

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 (July 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).

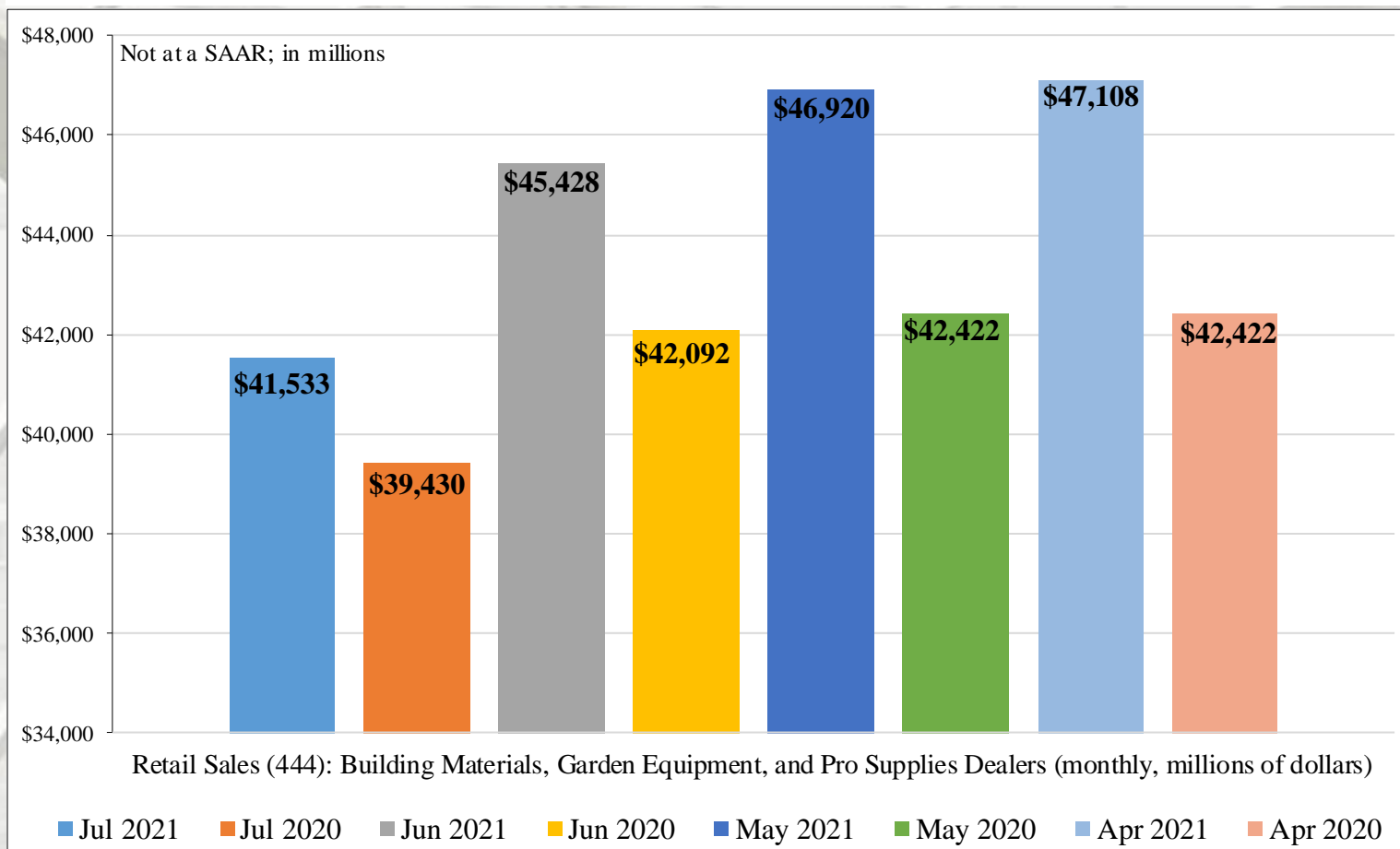
Sources: * <https://fred.stlouisfed.org/series/USREC>, 9/1/21; <http://www.census.gov/construction/c30/pdf/privsa.pdf>, 9/1/21 and <http://www.bea.gov/iTable/iTable.cfm>; 6/24/21

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



Remodeling

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

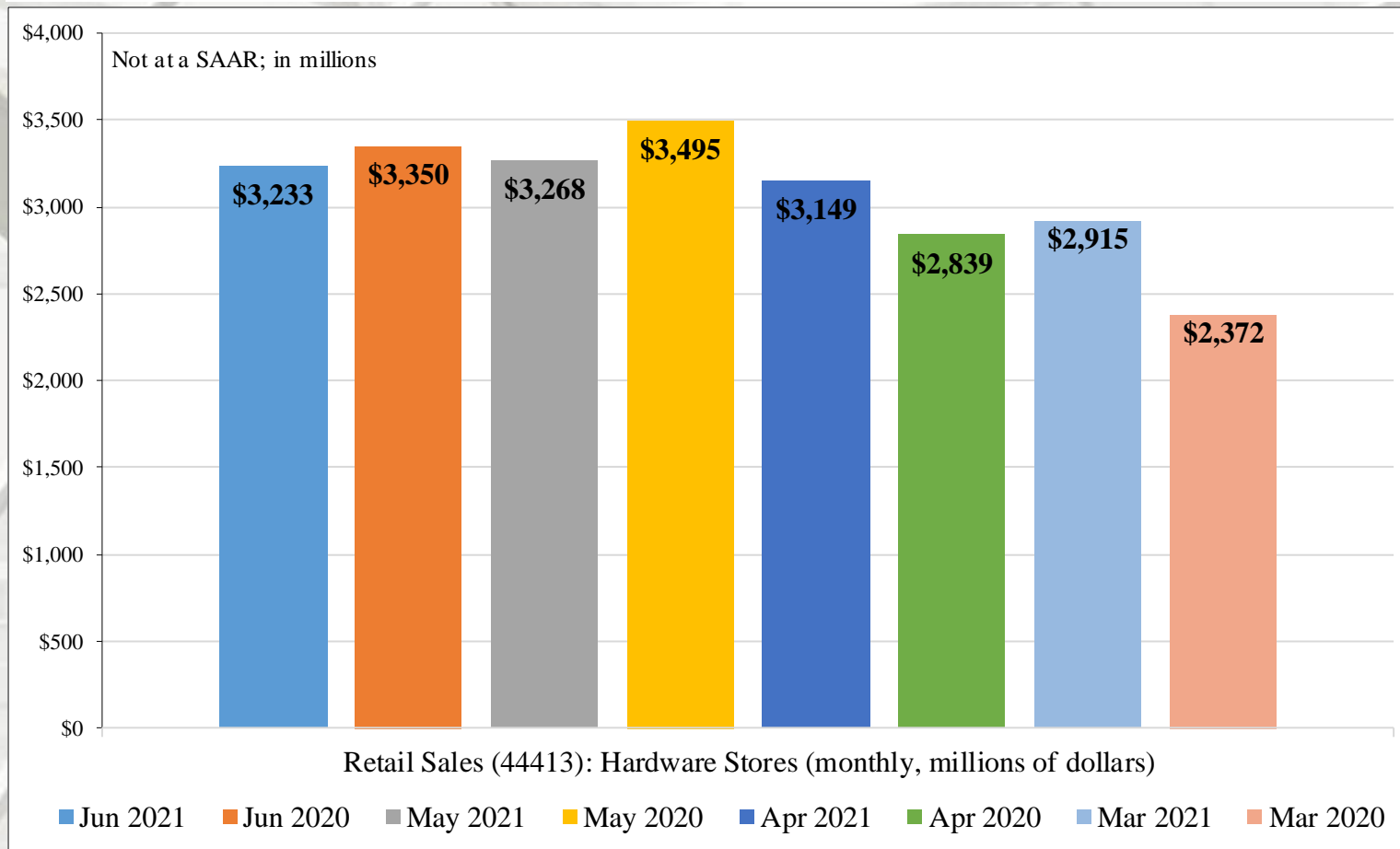


Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

NAICS 444 sales decreased 8.6% in July 2021 from June 2021 and improved 5.3% in July 2021 from July 2020 (on a non-adjusted basis).

Remodeling

Retail Sales: Hardware Stores



Hardware Stores: NAICS 44413

NAICS 44413 retail sales increased 3.8% in June 2021 from May 2021 and declined 6.5% in June 2021 from June 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.

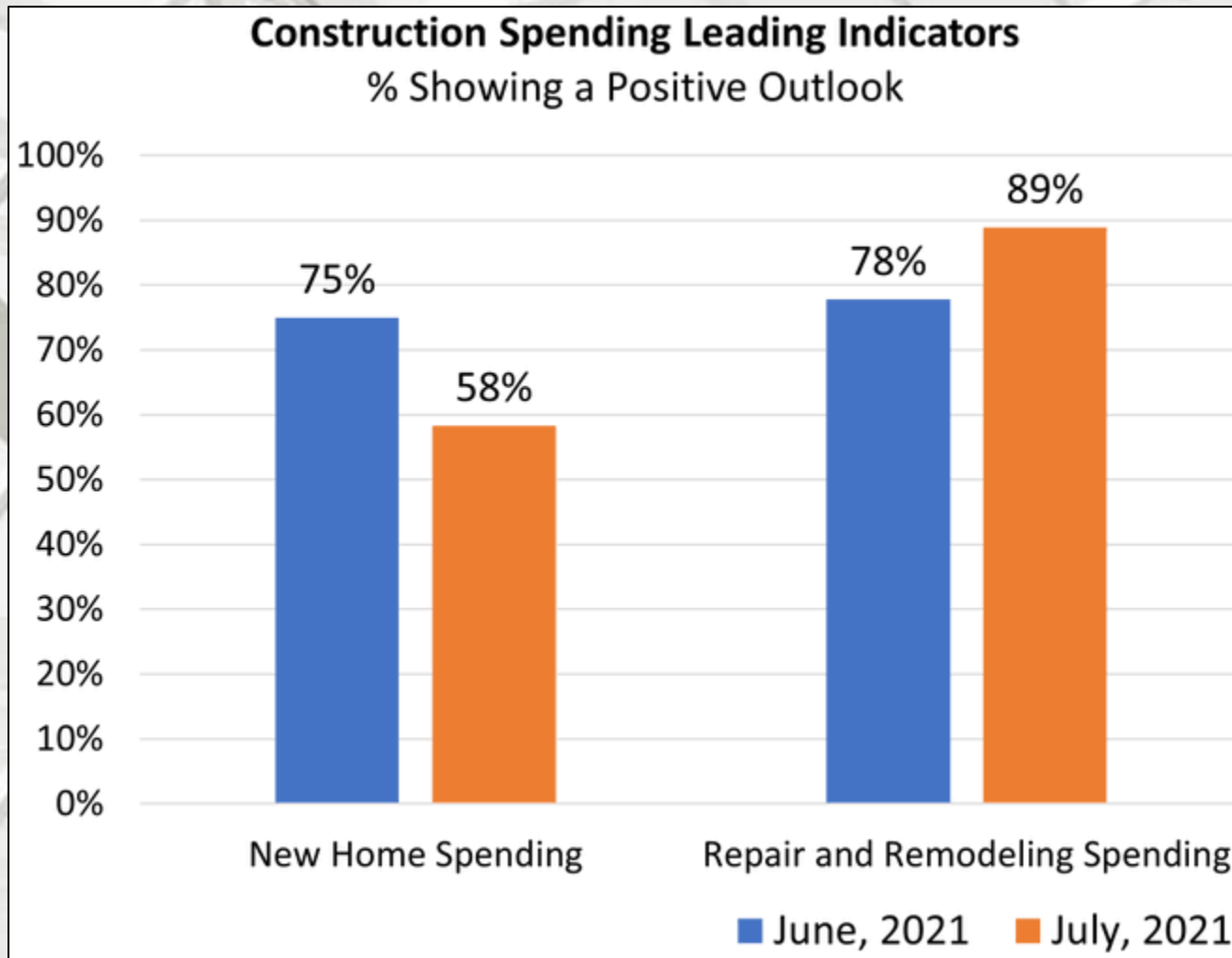
Source: John Burns Real Estate Consulting, LLC, public earnings transcripts (Data: 1Q21, Pub: Jun-21)

John Burns Real Estate Consulting

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

- 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

Remodeling

John Burns Real Estate Consulting & *Qualified Remodeler* U.S. Remodeler Index Pushes Higher Double-Digit Revenue Growth of 11 Percent Expected for FY 2021.

“Sentiment among remodeling professionals pushed to even higher levels in the second quarter of 2021, according to the third release of the U.S. Remodeler Index. The index, which surveys remodelers in three vertical markets in all 50 states, registered a confidence level of 75.3, up from a very strong 72.7 in the prior quarter.

The survey, which is a collaboration between *Qualified Remodeler* and John Burns Real Estate Consulting, is the basis of a diffusion index, where any reading over 50 is a positive reading. Last fall in the launch of the index the first reading was 57.1. It has soared since that time.

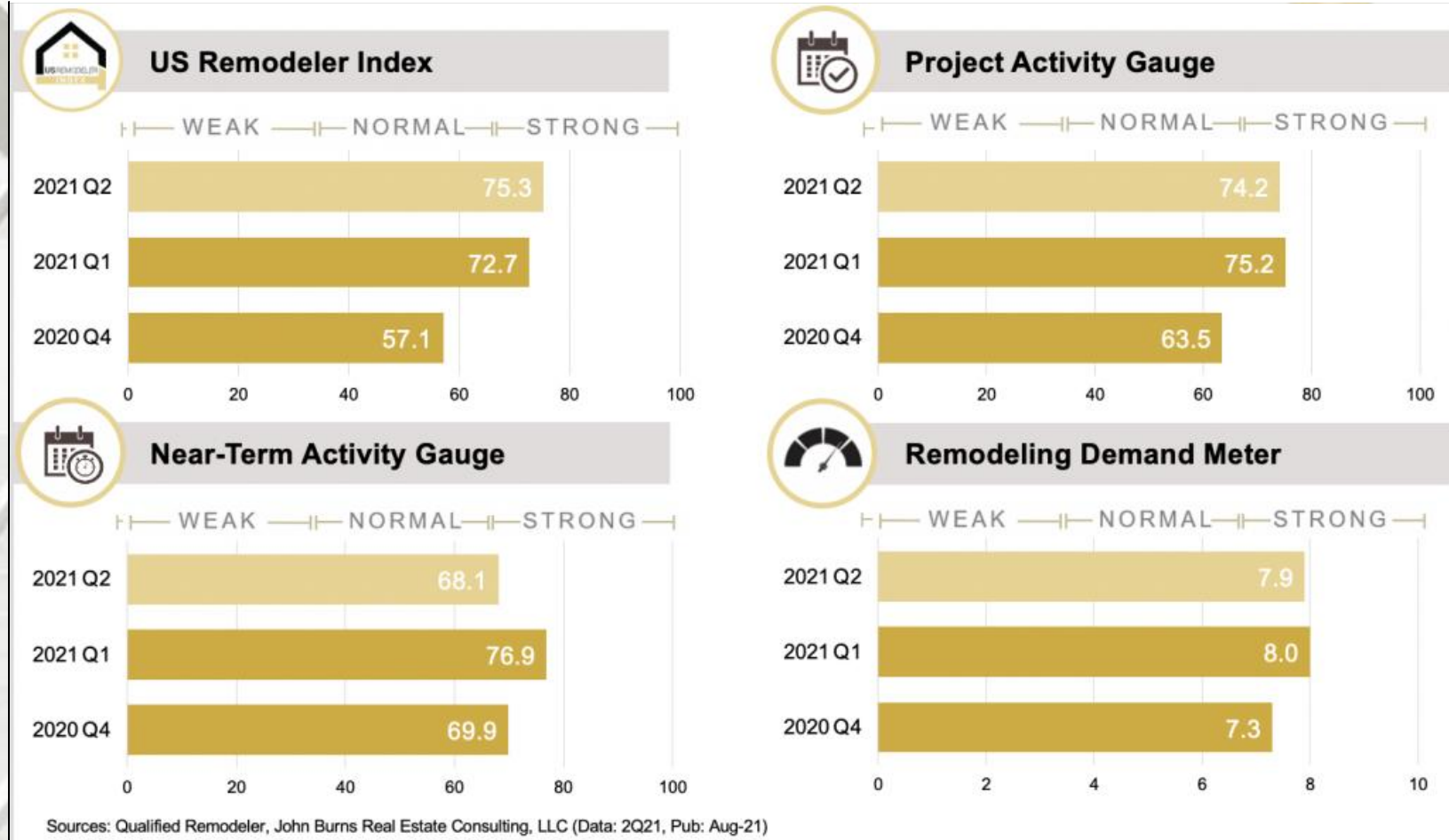
“The Q2 USRI demonstrates the compelling shift that we are seeing in remodeling spending after COVID, namely growth in deferred ‘big project remodels’,” said John Burns analyst Todd Tomalak. “We continue to worry about labor availability, but the favorable mix-shift in project size is encouraging. We are watching this segment closely in the second half of 2021 as we lap a decidedly tougher comparison in the second half of 2020. Overall we expect big-project remodel spending to continue to grow while DIY and small project slows.

“Steve Basten, also a vice president with John Burns, emphasized the number of varying forces at play in the remodeling market, forces that require close monitoring.

“We’re in one of the most unique periods of remodeling activity in history,” said Basten. “Over the past year consumers have been dreaming up and saving for a dream-home project and all this pent-up demand is finally starting to play out. I expect we’ll continue to see strong demand for whole-home remodels through the end of 2021, despite labor shortages and elongated project timelines. Home owners have ‘waited this long’ and most aren’t going to abandon their plans now. We will continue to monitor the voice of the remodeler closely and be the first to report on any industry slowdown.”” – QR Staff; *Qualified Remodeler*

Remodeling

An overview of the U.S. Remodeler Index for the second quarter of 2021.



Remodeling

John Burns Real Estate Consulting & *Qualified Remodeler* **U.S. Remodeler Index Pushes Higher**

“According to the John Burns team, there are four clear takeaways from the second quarter reading.

- Larger-scale remodels are becoming the norm. 62 percent of remodelers say their average project size continues to increase as more consumers are opting for multi-room remodels. In addition to larger projects, 71 percent of remodelers who reported a shift in average price-point say their clients are spending more, noting that consumers are increasingly understanding the long-term value of high-quality products and materials.
- Pipelines are bursting at the seams. Remodelers say they’re booked through 2021. Over 50 percent of remodelers across all industry segments report larger pipelines in 2Q21 vs. the same prior year period. With manufacturing lead times extending into Spring 2022 and labor shortages at an all-time high, remodelers are purposefully extending their project timelines in an effort to ‘meter’ work and catch up on growing backlogs.
- Some consumers are considering “hitting pause” on their projects. 53 percent of remodelers report client project cancellations or postponements in Q2 2021. Remodelers note that cancellations and postponements have been minimal but escalating prices and labor and product delays have made some consumers decide to hold off on remodels for the time being.
- Double-Digit Revenue Growth of 11 Percent Expected for FY 2021. Demand is bullish, fueling remodeler confidence in full-year 2021 revenue expectations. Remodelers urge manufacturers to minimize product lines and focus on reducing lead times for ‘hot ticket’ items like high-end cabinetry and appliances. On average, remodelers expect revenues to grow +11 percent in 2021, which is slightly lower than last quarter’s read of 12 percent.” – QR Staff;
Qualified Remodeler

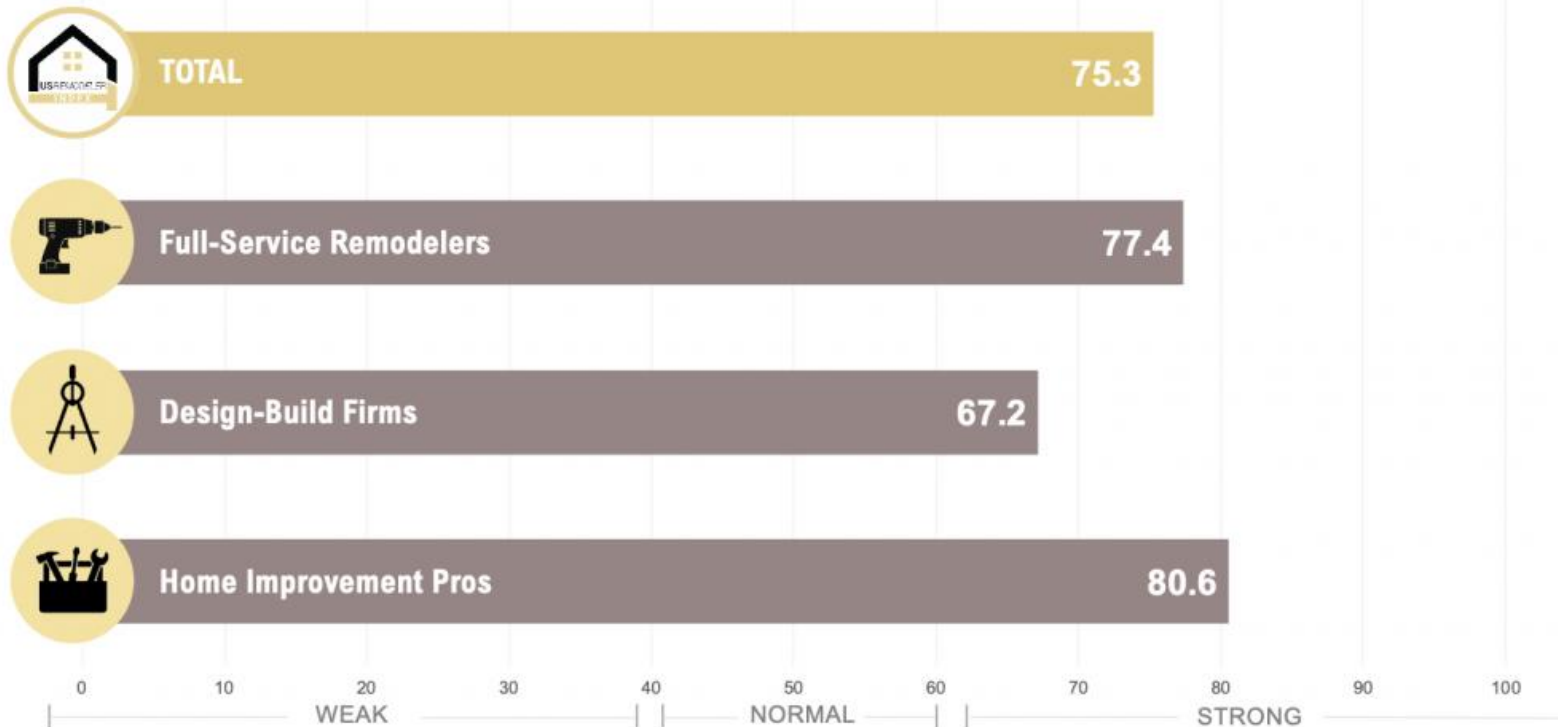
Remodeling

Home Improvement Pros registered the strongest sentiment for current activity.

Project Activity Gauge



The current project activity gauge rated a **75.3 out of 100**, indicating **very strong growth in remodeling activity** for Q2 2021 vs. the same prior-year period. Permanent work-from-home lifestyles has emphasized consumer focus on their residence, driving demand for multi-room remodels.



Sources: Qualified Remodeler, John Burns Real Estate Consulting, LLC (Data: 2Q21, Pub: Aug-21)

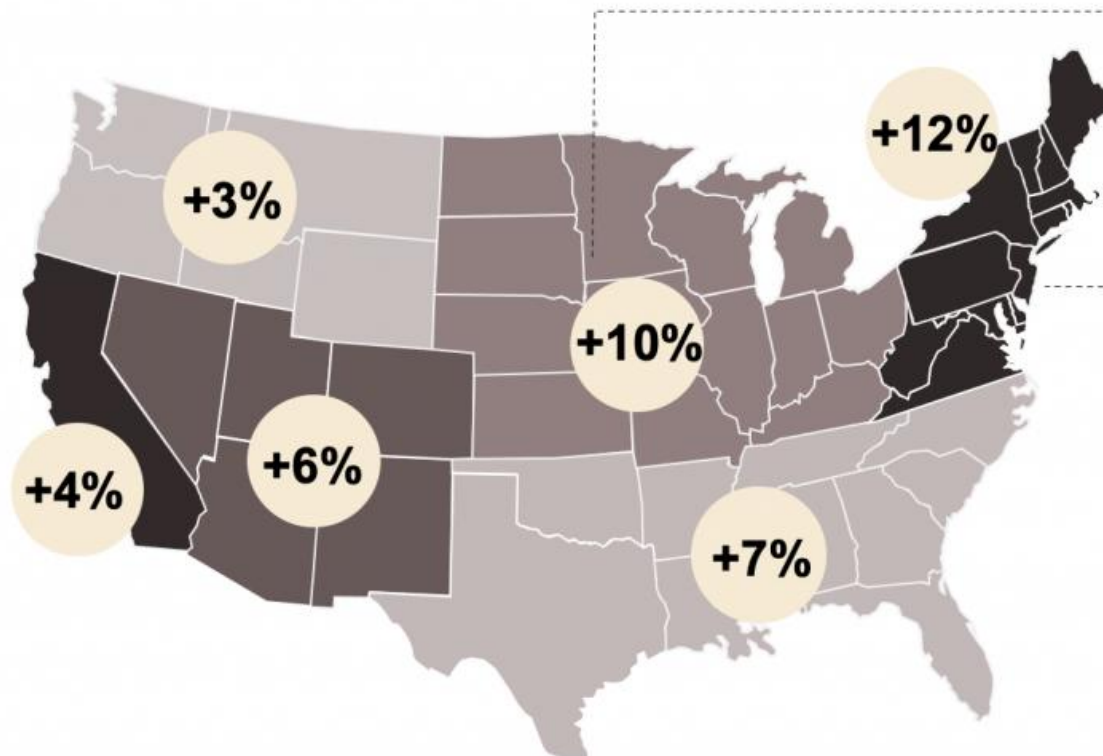
Remodeling

The Midwest and Northeast showed the biggest gain in project volumes.

The Midwest and Northeast Hit Double-Digits, Reporting the Largest YOY Project Volume Growth in Q2

Project Volume Growth by Region

average YOY growth in number of completed projects across all remodelers



"My customers are bundling projects. If they are going to wait, they want to get everything done at once."

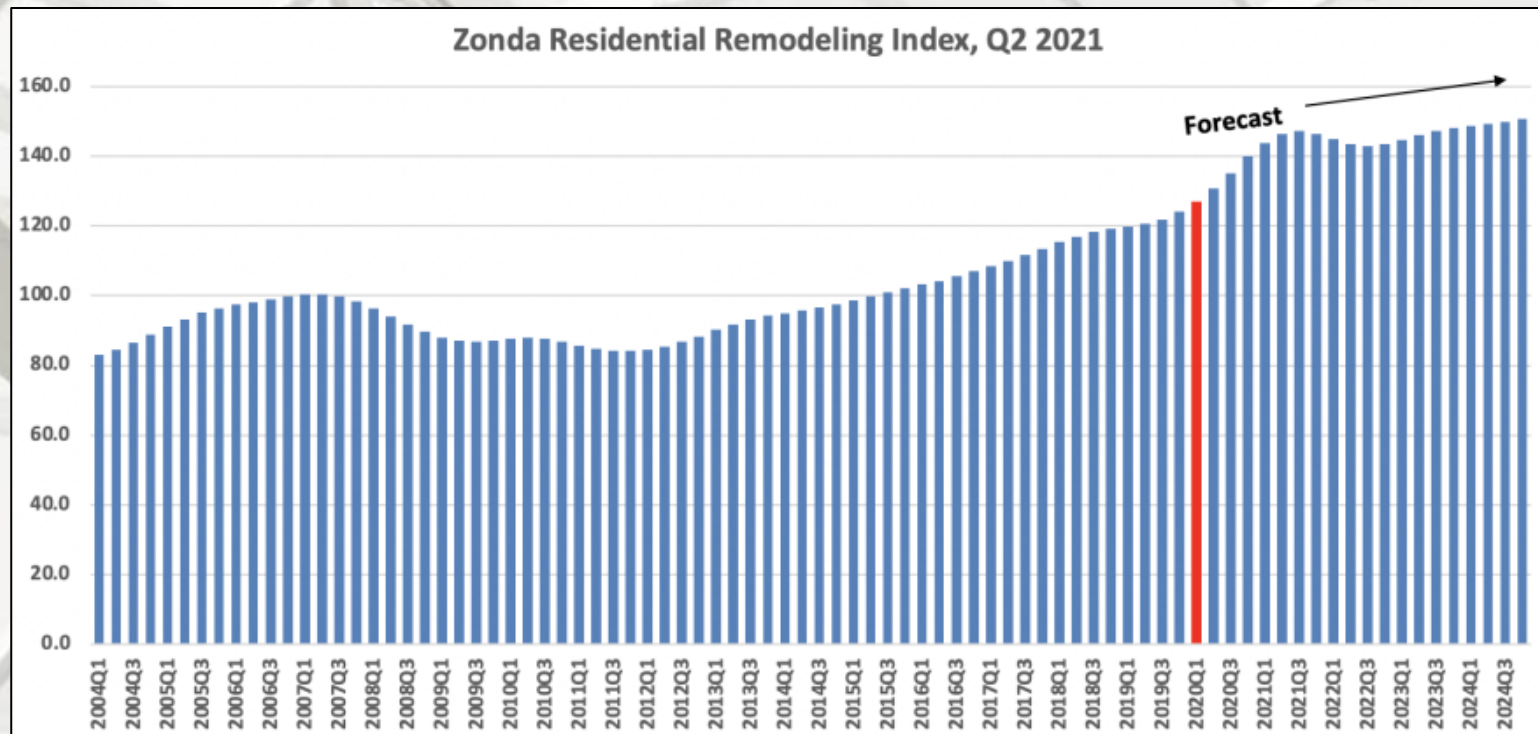
- Home Improvement Pro in the Midwest

"Rather than pay a premium to 'move up,' my customers are deciding to add on to their existing homes."

- Full-Service Remodeler in the Northeast

Sources: Qualified Remodeler, John Burns Real Estate Consulting, LLC (Data: 2Q21, Pub: Aug-21)

Remodeling



Remodeling

Remodeling Market Continues to Surge Despite Potential Headwinds
Despite 12.1% YOY growth, Zonda forecasts remodeling activity will decrease in 2022 due to a softened existing housing market.

“Zonda’s Residential Remodeling Index ([RRI](#)) posted an all-time high reading of 146.5 in the second quarter of 2021, marking a historically strong gain of 12.1% from the second quarter of 2020. According to the RRI, big-ticket residential remodeling spending in the second quarter increased 1.8% from the first quarter of 2021.” – Vincent Salandro, Associate Editor, Remodeling

Remodeling

Remodeling

Remodeling Market Continues to Surge Despite Potential Headwinds

“The reading of 146.5 indicates economic conditions known to impact remodeling are 46.5% higher than the old peak in 2007. The second quarter reading marks the 37th consecutive quarter of annual and quarter-over-quarter growth since national remodeling activity bottomed in 2011. Zonda said the RRI has averaged annual gains of 12.3% over the last four quarters. The last time the RRI average YOY increases of 10% or more was in 2005.

The second quarter RRI reading was stronger than initially forecast and Zonda said expectations for the remainder of 2021 have firmed as well. Annual growth in 2021 is now expected to beat 2020’s growth by 0.2% and the RRI model now predicts remodeling and replacement activity will decrease slightly in 2022 before growing thereafter. [The first quarter 2021 RRI](#) projected remodeling growth would only flatten in 2022 before growing in 2023.

The updated forecast reflects expectations that the housing market will cool off in 2022 as mortgage rates rise. The RRI is projected to average annual growth of 9.7% in 2021 before a decrease of 1.6% in 2022. In 2023 and 2024, the RRI forecasts stable growth rates of 2% for the remodeling market will be observed.

The remodeling and replacement market has experienced historically strong rates of growth in the middle of 2021, coinciding with red-hot activity in the existing home market, according to Zonda. Existing home sales reached their highest levels since 2006 in 2020 and despite the emergence of some buyer hesitancy due to soaring prices, sales are expected to grow by 6% in 2021. Zonda forecasts that as mortgage rates tick higher in 2022, sales and price appreciation will moderate, leading to a cooling of the housing market. Subsequently, year-over-year comparisons for remodeling activity are also expected to taper in 2022.” – Vincent Salandro, Associate Editor, Remodeling

Remodeling

Remodeling

Remodeling Market Continues to Surge Despite Potential Headwinds

“Zonda said continued GDP growth and employment will help buoy remodeling activity when the housing market cools. However, the emergence of the COVID-19 delta variance and non-transitory inflation represent risk factors for the market’s future recovery.

Zonda estimates the number of pro-worthy remodeling projects worth \$1,000 or more completed in 2020 was 14.4 million. For 2021, Zonda forecasts the number will increase to 15.7 million. While demand remains strong for remodelers and homeowners are increasingly willing to spend on larger discretionary projects once again, shortages in qualified labor and building products are limiting some project potential and creating backlogs, according to Zonda.

As part of the RRI estimation, Zonda predicts 382 of 384 observed metropolitan statistical areas will see growth in annual remodeling project volume in 2021. Among those markets, the average growth rate is expected to be 8.2%.

The [RRI](#) is based on a statistical model that takes into account data such as household level remodeling permits and consumer-reported remodeling and replacement projects. It uses a model to predict the number and dollar volume of home improvement and replacement projects nationwide worth at least \$1,000 in 381 metropolitan statistical areas and nationwide.” – Vincent Salandro, Associate Editor, Remodeling

Existing House Sales

National Association of Realtors

July 2021 sales: 5.990 thousand

	Existing Sales	Median Price	Mean Price	Month's Supply
July	5,990,000	\$359,900	\$378,700	2.6
June	5,870,000	\$362,800	\$381,200	2.5
2020	5,900,000	\$305,600	\$338,000	3.1
M/M change	2.0%	-0.8%	-0.7%	4.0%
Y/Y change	1.5%	17.8%	12.0%	-16.1%

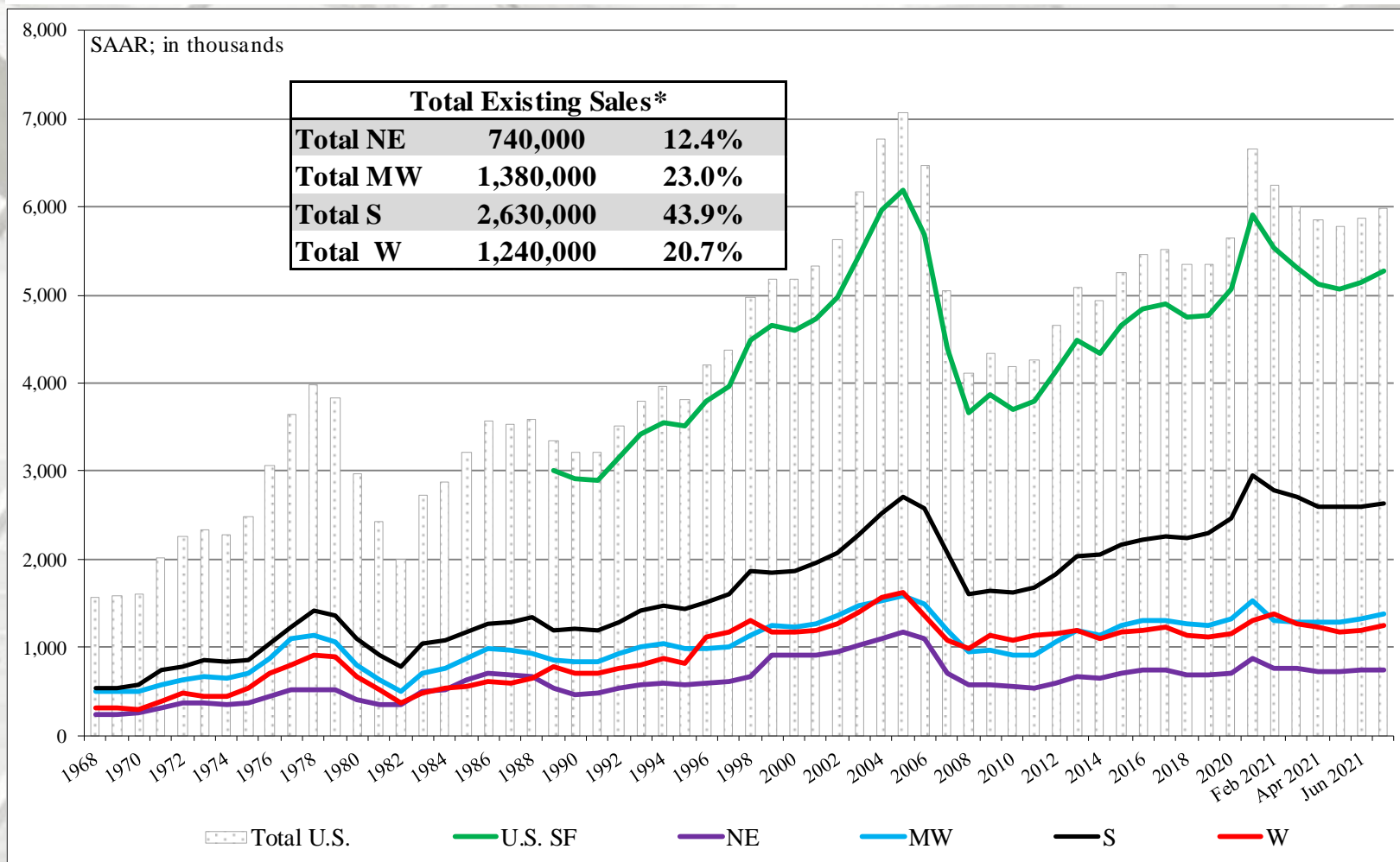
All sales data: SAAR

Existing House Sales

	Existing SF Sales	SF Median Price	SF Mean Price	
July	5,280,000	\$367,000	\$383,600	
June	5,140,000	\$370,100	\$386,100	
2020	5,320,000	\$309,500	\$340,900	
M/M change	2.7%	-0.8%	-0.6%	
Y/Y change	-0.8%	18.6%	12.5%	
	NE	MW	S	W
July	740,000	1,380,000	2,630,000	1,240,000
June	740,000	1,330,000	2,600,000	1,200,000
2020	660,000	1,400,000	2,600,000	1,240,000
M/M change	0.0%	3.8%	1.2%	3.3%
Y/Y change	12.1%	-1.4%	1.2%	0.0%

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 2021 Q2

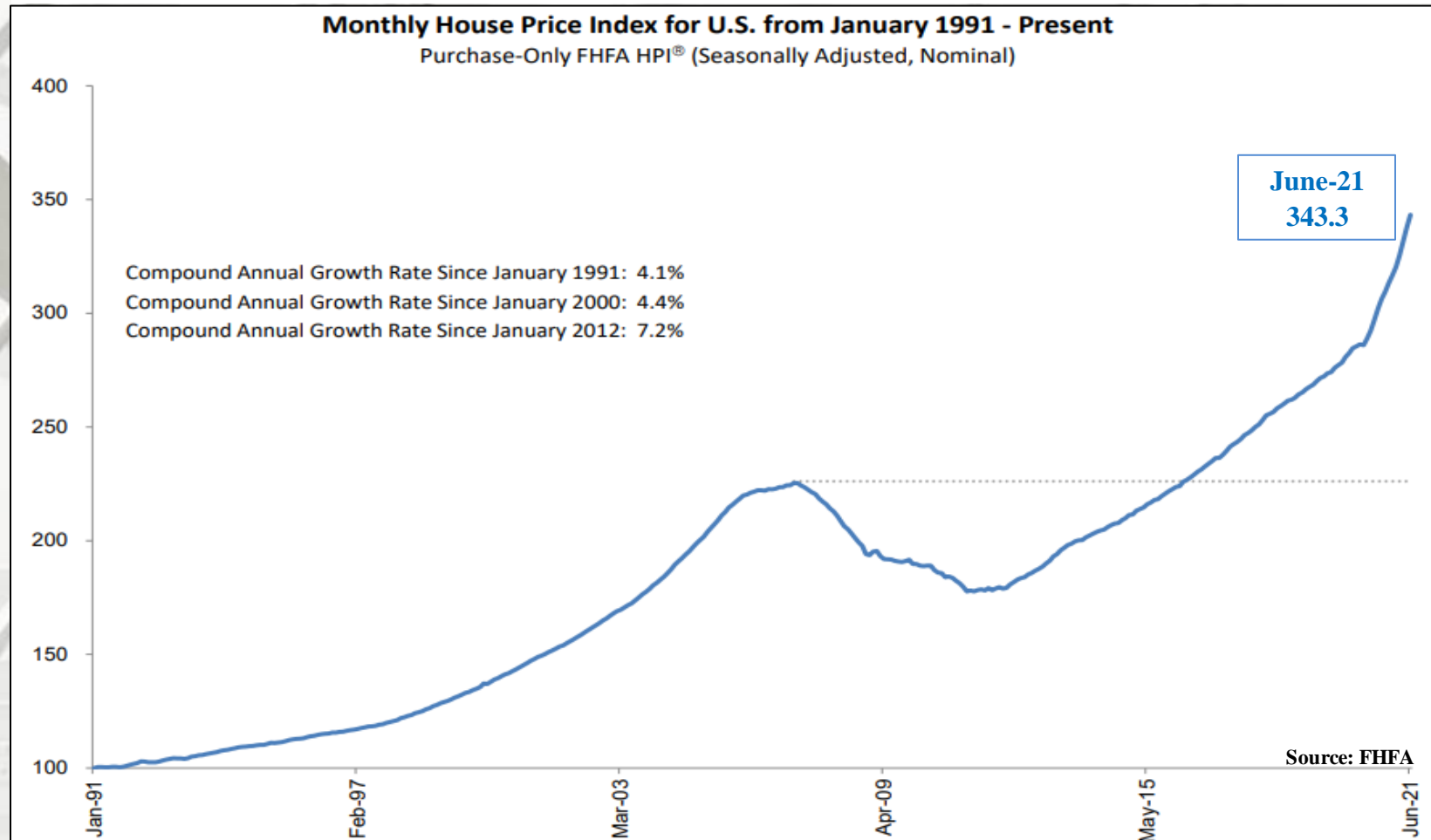
U.S. House Prices Rise 17.4 Percent over the Last Year; Up 4.9 Percent from the First Quarter

Significant Findings

“U.S. house prices rose **17.4 percent** from the second quarter of 2020 to the second quarter of 2021 according to the Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices were up **4.9 percent** compared to the first quarter of 2021. FHFA’s seasonally adjusted monthly index for June was up **1.6 percent** from May.

- House prices have risen for 40 consecutive quarters, or since September 2011.
- House prices rose in all 50 states and the District of Columbia between the second quarters of 2020 and 2021. The five states with the highest annual appreciation were: 1) **Idaho** 37.1 percent; 2) Utah 28.3 percent; 3) Arizona 23.9 percent; 4) Montana 23.7 percent; and 5) **Rhode Island** 23.7 percent. The states showing the lowest annual appreciation were: 1) **Alaska** 8.2 percent; 2) **North Dakota** 8.7 percent; 3) **Louisiana** 9.6 percent; 4) **Mississippi** 11.4 percent; and 5) **Iowa** 11.5 percent.
- House prices rose in all of the top 100 largest metropolitan areas over the last four quarters. Annual price increases were greatest in **Boise City, ID**, where prices increased by 41.1 percent. Prices were weakest in **San Francisco-San Mateo-Redwood City, CA**, where they increased by 4.5 percent.
- Of the nine census divisions, the **Mountain** division experienced the strongest four-quarter appreciation, posting a 22.9 percent gain between the second quarters of 2020 and 2021 and a 6.8 percent increase in the second quarter of 2021. The Mountain division has led in annual growth for 15 quarters. Annual house price appreciation was weakest in the **West North Central** division, where prices rose by 14.9 percent between the second quarters of 2020 and 2021.” – Raffi Williams and Adam Russell, FHFA

U.S. Housing Prices



Federal Housing Finance Agency U.S. House Price Index Report 2021 Q2

“During the second quarter, house prices peaked in June with an 18.8 percent growth rate compared to a year ago. For the quarter, annual gains surpassed 20 percent in the Mountain, New England, and Pacific census divisions and in all of the top 20 metro areas.” – Dr. Lynn Fisher, Deputy Director of the Division of Research and Statistics, FHFA

U.S. Housing Prices

S&P CoreLogic Case-Shiller Index Shows Annual Home Price Gain Topped 18.6% in June

“... Data for June 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 18.6% annual gain in June, up from 16.8% in the previous month. The 10-City Composite annual increase came in at 18.5%, up from 16.6% in the previous month. The 20-City Composite posted a 19.1% year-over-year gain, up from 17.1% in the previous month. Phoenix, San Diego, and Seattle reported the highest year-over-year gains among the 20 cities in June. Phoenix led the way with a 29.3% year-over-year price increase, followed by San Diego with a 27.1% increase and Seattle with a 25.0% increase. All 20 cities reported higher price increases in the year ending June 2021 versus the year ending May 2021.

Month-Over-Month

“Before seasonal adjustment, the U.S. National Index posted a 2.2% month-over-month increase in June, while the 10-City and 20-City Composites both posted increases of 1.8% and 2.0%, respectively.

After seasonal adjustment, the U.S. National Index posted a month-over-month increase of 1.8%, and the 10-City and 20-City Composites both posted increases of 1.6% and 1.8%, respectively. In June, 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

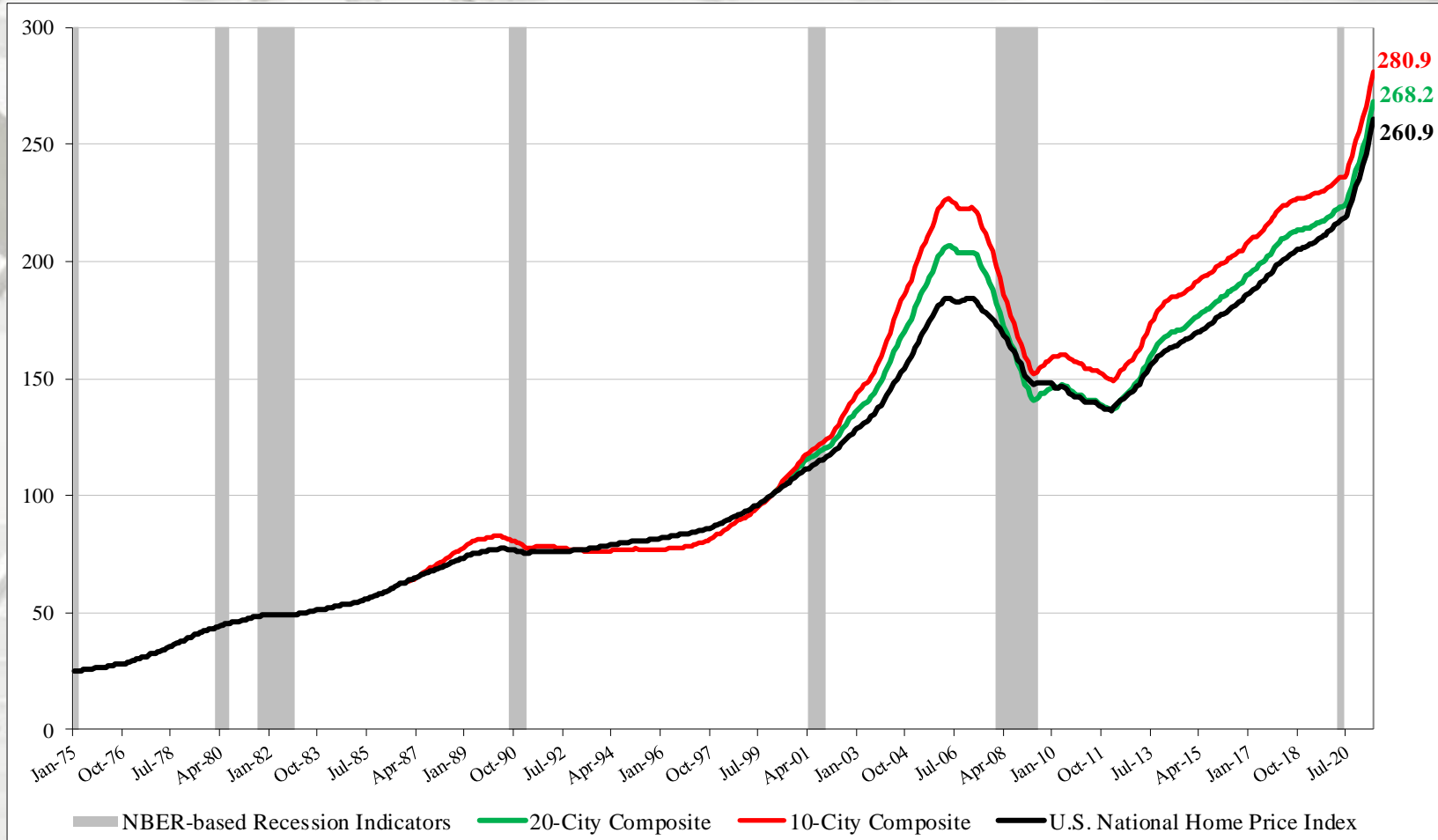
S&P CoreLogic Case-Shiller Index Shows Annual Home Price Gain Topped 18.6% in June Analysis

“June 2021 is the third consecutive month in which the growth rate of housing prices set a record. The National Composite Index marked its thirteenth consecutive month of accelerating prices with an 18.6% gain from year-ago levels, up from 16.8% in May and 14.8% in April. This acceleration is also reflected in the 10- and 20-City Composites (up 18.5% and 19.1%, respectively). The last several months have been extraordinary not only in the level of price gains, but in the consistency of gains across the country. In June, all 20 cities rose, and all 20 gained more in the 12 months ended in June than they had gained in the 12 months ended in May. Home prices in 19 of our 20 cities (all but Chicago) now stand at all-time highs, as do the National Composite and both the 10- and 20-City indices.

June’s 18.6% price gain for the National Composite is the highest reading in more than 30 years of S&P CoreLogic Case-Shiller data. This month, Boston joined Charlotte, Cleveland, Dallas, Denver, and Seattle in recording their all-time highest 12-month gains. Price gains in all 20 cities were in the top quartile of historical performance; in 19 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. June’s data are 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

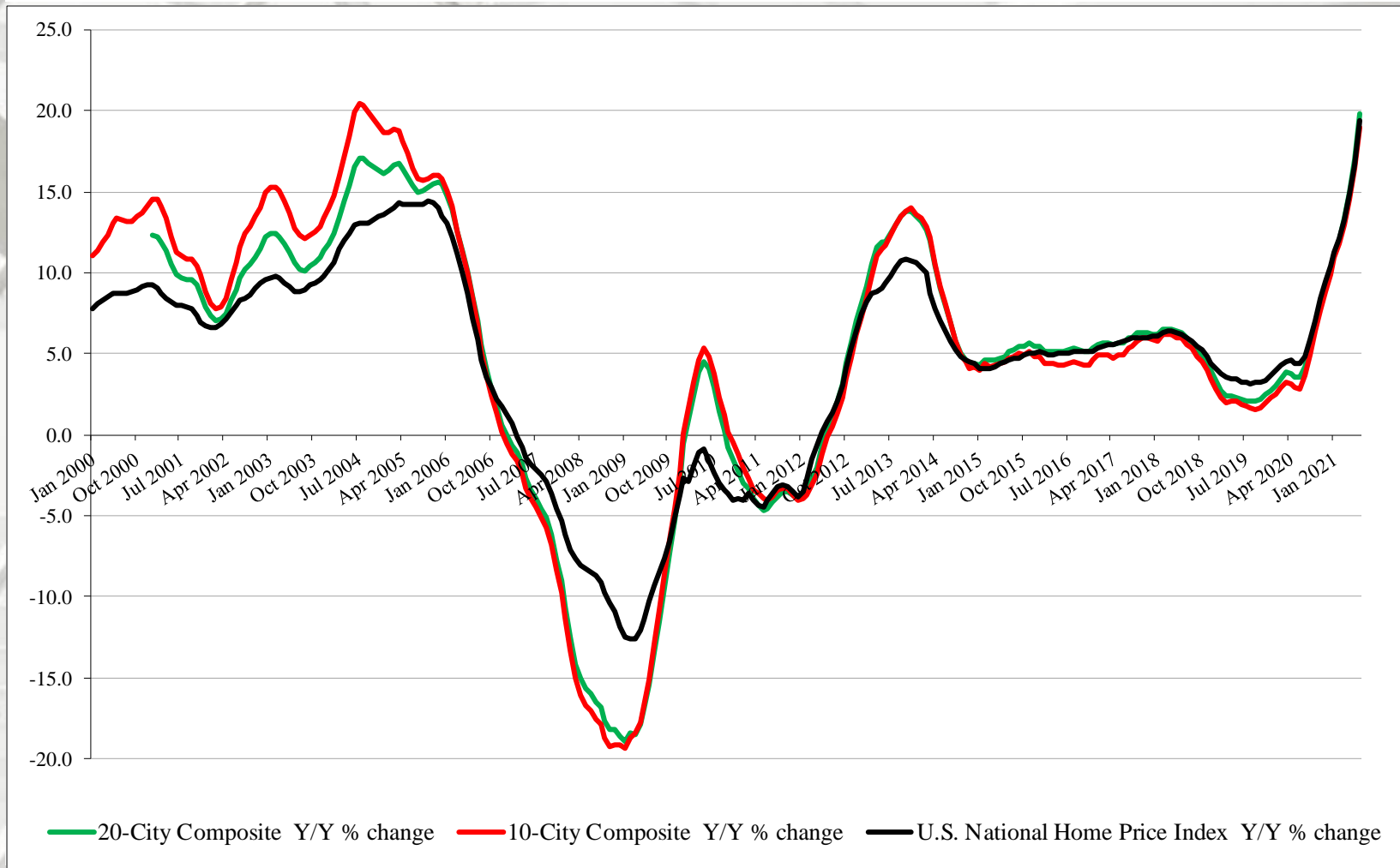
S&P/Case-Shiller Home Price Indices



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

“Phoenix’s 29.3% increase led all cities for the 25th consecutive month, with San Diego (+27.1%) and Seattle (+25.0%) close behind. As has been the case for the last several months, prices were strongest in the Southwest (+22.7%) and West (+22.6%), but every region logged top-decile, double-digit gains.” – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

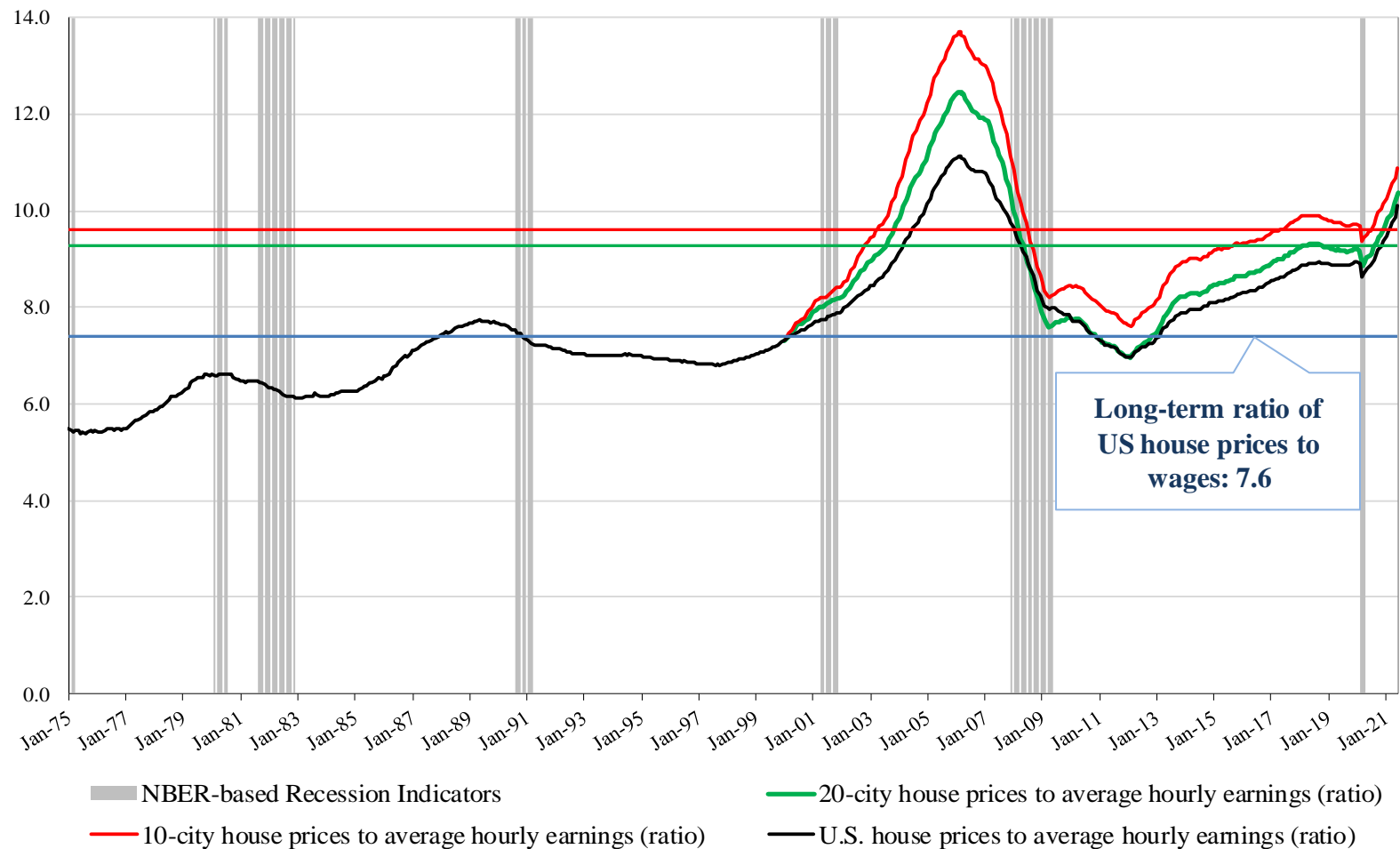
S&P/Case-Shiller Home Price Indices



Y/Y Price Change

From June 2020 to June 2021, the National Index increased 19.4%; the Ten-City by 19.0%, and the Twenty-City by 19.8%.

Ratio of Average Hourly Earnings to 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).

Ratio of US House Prices to Average Hourly Earnings

Currently the ratios of mean hourly earning to the Case-Shiller exceed their long-term averages indicating housing prices may be hinderance to the housing market in the future.

U.S. Market Notes

Zonda

New Home LSI: New home lot inventory dropped to cycle lows

“The New Home Lot Supply Index (LSI) hit a new low in 2Q21. The LSI dropped 34.8% year-over-year as builders scooped up finished vacant lots to bring more homes to the market.

“The universal strength in housing has led to a universal lot shortage across the country. The steep drop in the LSI tells us that builders have been buying finished lots quicker than replacements are being brought to the market resulting in an extremely competitive land market.” – Ali Wolf, Chief Economist, Zonda Economics

Lot constraints are the determining factor of how many homes are built

- Lot inventory in all the top markets remain “significantly undersupplied” but lots going through development suggest vacant developed lots should rise over the next 12 months.
- The markets where land supply tightened the most on a year-over-year basis in 2Q21 were Los Angeles, Riverside/San Bernardino and Philadelphia. Builders in these markets have been looking further out in the metro to meet demand and, as a result, areas that formerly were flush with more affordable supply are now extremely competitive for developed lots.
- Los Angeles, San Diego and Baltimore are the tightest for lot supply among major markets.” – Valerie Sheets, Press Contact, Zonda Economics

U.S. Market Notes

2Q2021

New Home Lot Supply Index

NATIONAL
INDEX

42.0

SFD Lot Supply

Year-over-year

-34.8%

Quarter-over-quarter

-14.0%



The drop in vacant developed lots is a direct result of builders buying up finished dirt as quickly as they can so they can build more homes. The limited supply of vacant developed lots is encouraging more land development. Total upcoming lots in the 2nd quarter grew 14% YOY.



Ali Wolf -
Chief Economist

Most impacted markets

Supply in 30 of 30 select markets tightened year-over-year, led by Los Angeles/OC, Riverside/San Bernardino, and Philadelphia

Los Angeles, CA

YOY

-68.4%

Riverside, CA

YOY

-54.4%

Philadelphia, PA

YOY

-52.1%

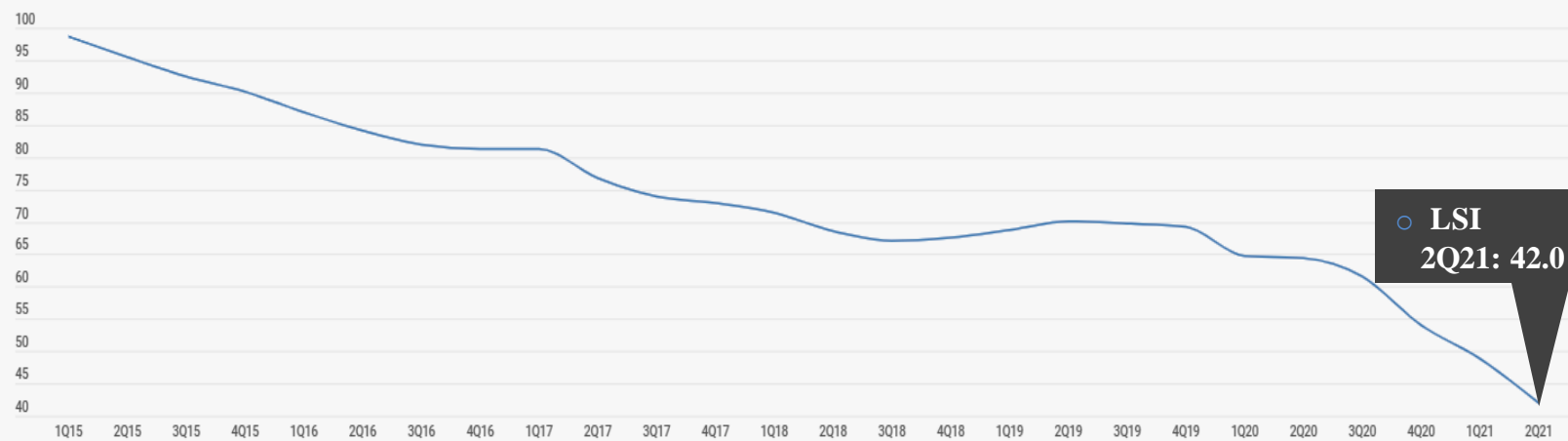


An index value represents the percent change above or below relative equilibrium.

U.S. Market Notes

Zonda: New Home Lot Supply Index (LSI)

New Home Lot Supply Index



Source: Zonda; Data as of 2Q21

 Zonda.

U.S. Market Notes

The Working Forest

Will The Delta Variant Disrupt US Lumber Supply Again?

‘Rising Covid-19 pandemic cases are directly linked to sawmill production hardships.

**A viewpoint from Dustin Jalbert, Senior Economist,
Fastmarkets Forest Products**

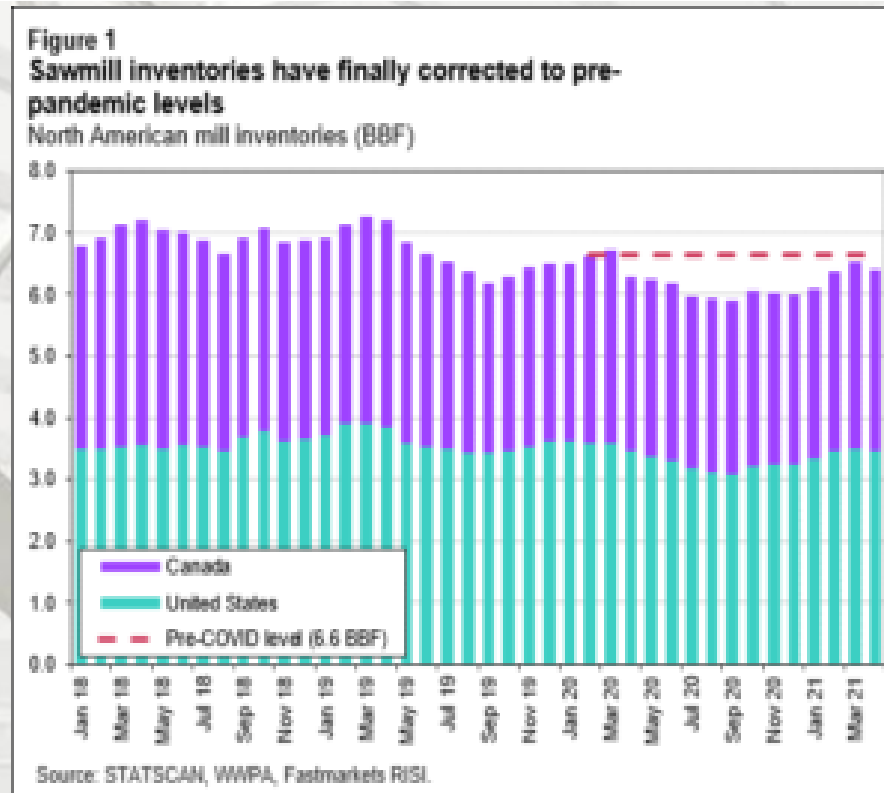
“Pandemic-related labor shortages had a substantial impact on sawmill output and productivity and ultimately contributed to record wood products price hikes. Production and shipping capacity were heavily hampered by the Covid-19 quarantine guidelines and rising positive virus cases at business operations. Unable to remedy with added shifts and overtime, mills struggled to ramp up production in response to the surprising and sudden housing demand for much of 2020 and early 2021.

**Understaffed sawmills initially struggled to respond to the
DIY boom and housing market demand**

Although, similar scenarios played out across the broader manufacturing sector, lumber production turned out to be one of the more extreme cases of product shortages because of the pandemic-driven housing demand and the labor supply crunch at sawmills.

Industry leaders assumed soaring unemployment and economic shutdown would decrease housing demand and production. Instead of crumbling, demand grew quickly through the summer of 2020. DIY spending at home centers (like Lowe's and Home Depot) fueled rising lumber prices in the US and prices eventually hit an all-time high in May 2021. Prices topped \$1,500 per thousand board feet (MBF) based on the Fastmarkets Random Lengths Composite Price. Rapid recovery in single-family home construction also added further momentum because homebuyers were scrambling in a low inventory market for more space.” – The Working Forest Staff

U.S. Market Notes

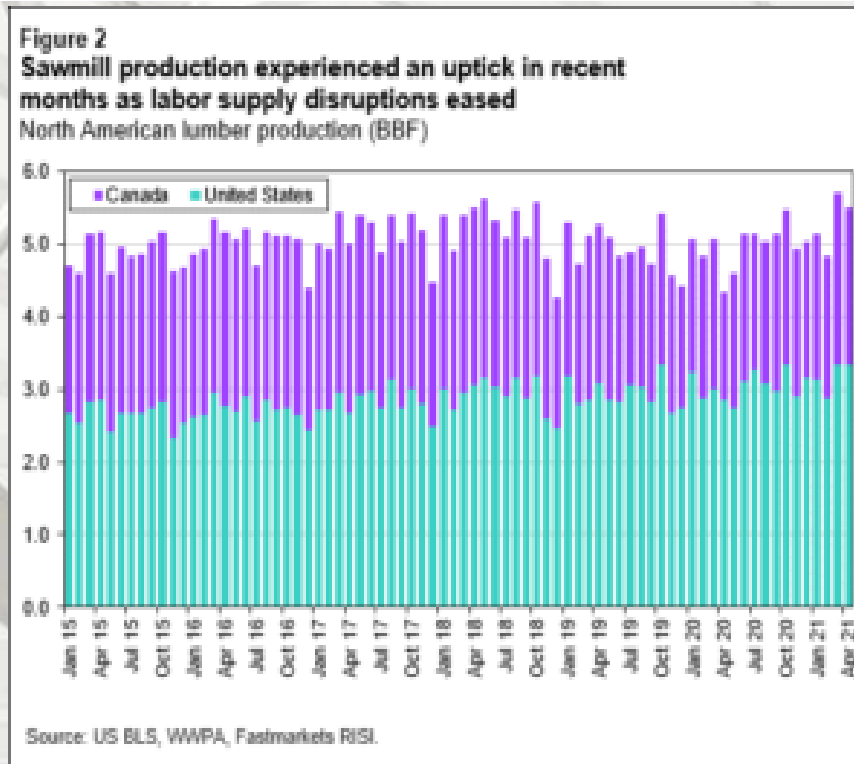


The Working Forest

Will The Delta Variant Disrupt US Lumber Supply Again?

“US and Canadian sawmill production improved in the late 2020 and early 2021. Mill bargaining power deteriorated when inventory finally started to accumulate. Heavy discounting began in earnest heading into the 2021 Memorial Day weekend as renovation demand started to show major cracks, marking the beginning of the end for the record-breaking run on lumber prices.” – The Working Forest Staff

U.S. Market Notes

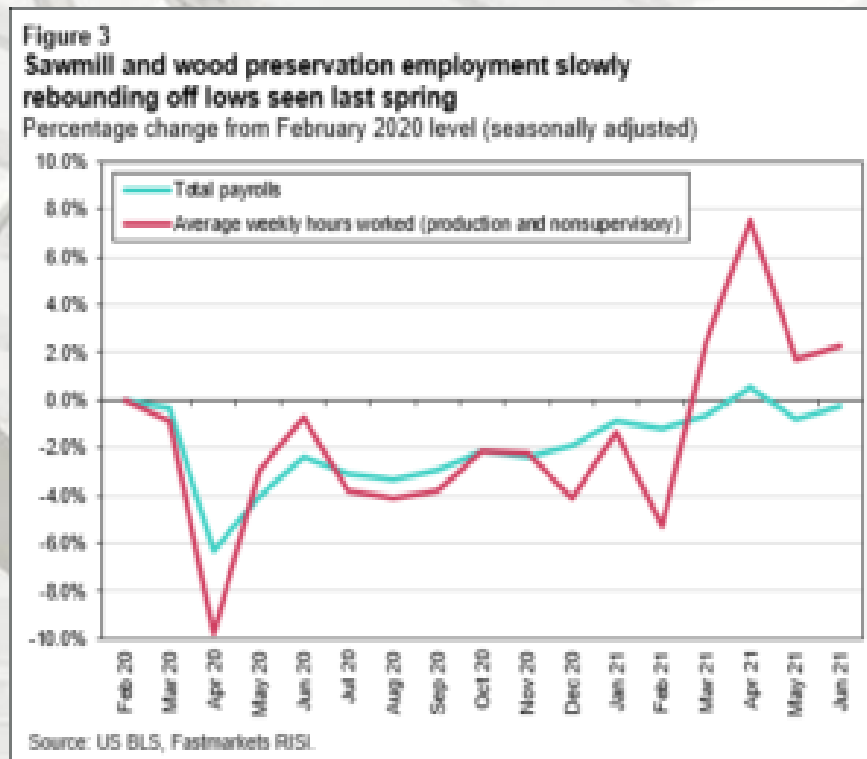


The Working Forest

Pandemic case levels have a direct impact on sawmill output

“On the surface, production in North America seemed to fare well after recovering quickly from the initial pandemic wave in April and May 2020. However, we estimate actual demand on mills totaled 61.6 BBF for the year (2-3% growth), 2 BBF higher than reported production. That disconnect between demand and supply contributed to a huge inventory drop in distribution that drove the unprecedented market volatility. Supply could not sufficiently respond to demand, which is unusual for an industry that has had a reputation of always quickly overproducing in a bull market.” – The Working Forest Staff

U.S. Market Notes



The Working Forest

Pandemic case levels have a direct impact on sawmill output

“However, the supply dynamics began to change in 2021 after nearly a year of persistent supply-chain disruptions. Paired with ample logs from salvage harvesting in the Pacific Northwest after last year’s devastating wildfire season and a relatively uneventful spring breakup, mills were better able to ramp up production as the labor situation quickly improved between January and March. This coincided with Covid-19 case rates plummeting as nation-wide vaccinations rolled out.” – The Working Forest Staff

U.S. Market Notes

The Working Forest

Will The Delta Variant Disrupt US Lumber Supply Again?

Pandemic case levels have a direct impact on sawmill output

“The clearest sign of pandemic-related disruptions comes from the Bureau of Labor Statistics. For sawmill and wood preservation employment, it’s evident that not only has the total number of employees on payroll dropped below pre-Covid-19 levels for many months, average weekly hours worked at the mills has consistently trended 2-5% below pre-Covid-19 levels until very recently. Even as sawmills slowly saw the employee headcount rebound, hours worked by production and non-supervisory employees struggled to recover at a similar pace during the winter months when Covid-19 cases surged to their worst levels. Mills could not add overtime, let alone operate at normal hourly levels, as more employees quarantined at home with the pandemic raging out of control. More people on payroll did not translate to more hours worked (and thus more finished product output).

The pandemic rates and rate of sawmill production are directly linked. As cases fell from their peak in January, there was a substantial surge in hours worked at sawmills. Average weekly hours worked for production and non-supervisory employees have rallied since March 2020 and peaked at 8% in April and remained above those levels as of June even as the ramp-up in overtime seems to have subsided as lumber prices crashed. The industry data for lumber production and shipments seems to square with the ramp-up in hours worked. This was the surge capacity that the market desperately needed to finally rebalance the market.” – The Working Forest Staff

U.S. Market Notes

The Working Forest

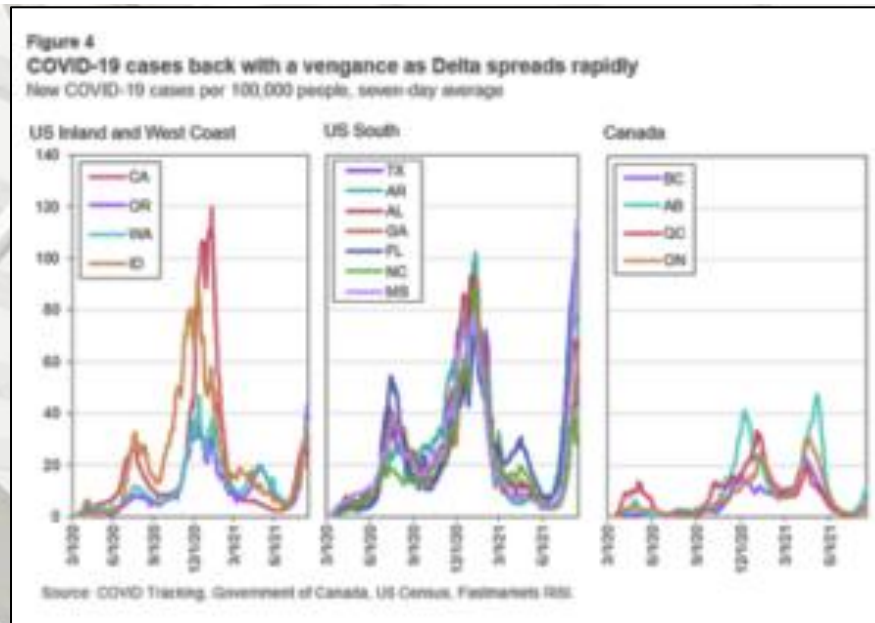
Will The Delta Variant Disrupt US Lumber Supply Again?

The Delta variant could disrupt US South sawmills the most, Washington and Oregon rates may be important to watch too

“So if Covid-19 cases falling meant supply disruptions eased, does the rise of the Delta variant mean further wood products supply disruptions? Virus case rates are rising rapidly again in some states, especially in the US South (Figure 4). Rates per capita are poised to break the peaks seen over the 2021 winter for the region. While we are all relieved to see hospitalization and death rates not rising nearly as rapidly in most states hard hit by Delta, the key metric to gauge manufacturing and distribution disruptions remains actual case levels because employers are obligated to send Covid-positive employees home to quarantine. This significant wave of Delta in the South, which accounts for about 25 BBF of North American capacity, could tighten conditions for southern yellow pine, which has been oversupplied due to a major slowdown in the treated market.

While it appears the US South will experience production disruptions, the situation in the rest of North America appears more manageable than this past winter’s record virus case surges. Much of this can be attributed to higher vaccination rates in the Pacific North West and Canada than in the US South. Washington and Oregon are seeing cases surpass prior highs making for notable exceptions but the prevalence remains fairly low per capita despite the Delta variant being more potent.” – The Working Forest Staff

U.S. Market Notes



The Working Forest

Will The Delta Variant Disrupt US Lumber Supply Again?

The Delta variant could disrupt US South sawmills the most, Washington and Oregon rates may be important to watch too

“Thus far, the vaccines appear to effectively combat community spread of the virus despite increasing reports of breakthrough cases in the vaccinated population. So even as Delta contributes to a resurgence in cases, the rest of North America outside the US South – or about two-thirds of total regional capacity – will likely see case rates per capita far below their prior peaks in the fall and winter of last year, leaving the lumber supply base more resilient compared to the last major wave of cases.” – The Working Forest Staff

U.S. Market Notes

The Working Forest

Will The Delta Variant Disrupt US Lumber Supply Again?

The Delta variant could disrupt US South sawmills the most, Washington and Oregon rates may be important to watch too

“Delta poses a threat to lumber supply and could set off another wave of shortages and price hikes again but the worst of the supply disruptions from the pandemic should be behind us. The US South will probably face some challenges that could help tighten currently sluggish market conditions, but the rest of the North American market will not see the same degree of labor supply disturbances stemming from the pandemic with vaccination rates high, employment levels mostly normalized and other potential disrupting influences like supplemental unemployment insurance now expired. Hard hit states like Alabama and Mississippi are already starting to turn over because the virus is burning out more quickly due to vaccinations.

Uncertainty and volatility will remain high in the market as the pandemic continues to evolve, but the supply side now appears more adequately prepared to meet the strong demand conditions that will continue to persist for lumber in the coming months.” – The Working Forest Staff

U.S. Market Notes

Freight Waves

Lumber prices keep tight grip on shippers and importers

‘The current situation is truly unprecedented’

“For lumber suppliers, the tight supply and mile-high price of lumber that impacted construction projects nationwide this spring continue to cause frustration. But builders and home owners remain optimistic as prices have since fallen to \$479 per thousand board feet, down 68% since peaking in May at an all-time high of \$1,515. [Fortune](#) reported that prices have dropped for the ninth consecutive week.

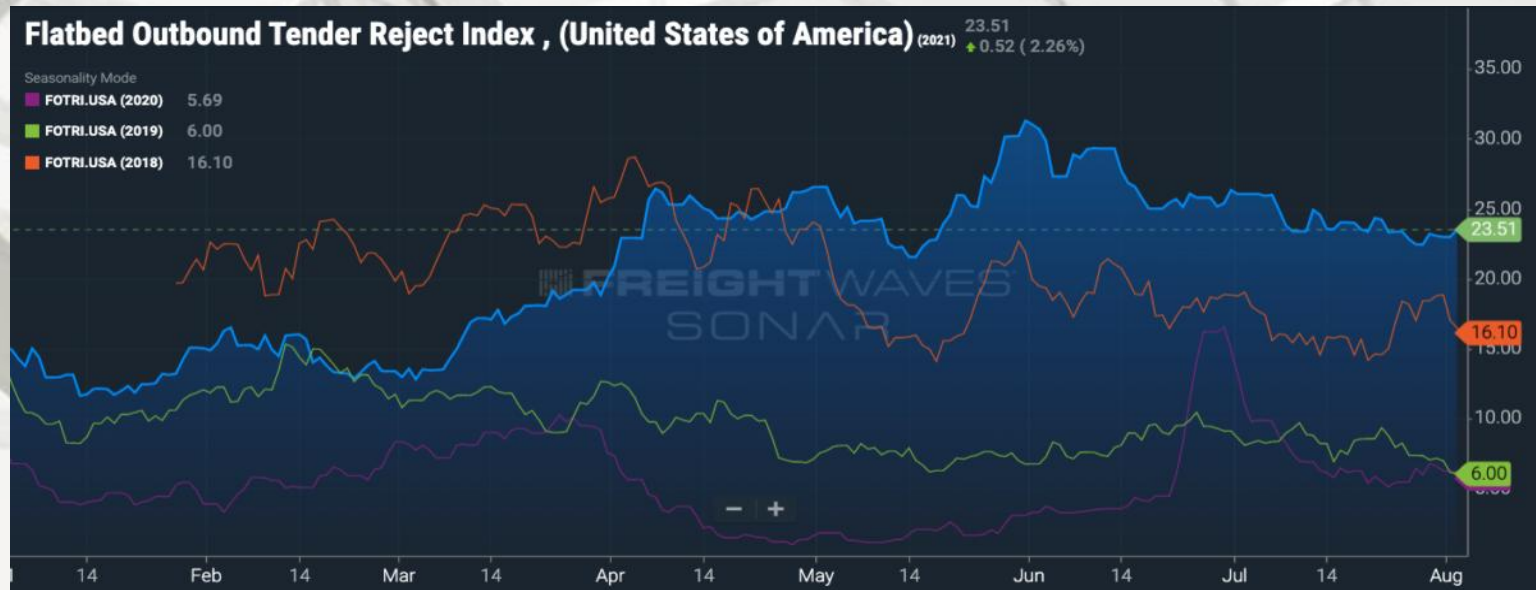
It’s unlikely that lumber prices will return to pre-pandemic levels, but whether they will continue their descent is up for debate. In fact, some are predicting an upswing in prices as we enter the back end of 2021.

Andy Hafertepe, division vice president at [Echo Global Logistics](#), predicts lumber prices will fluctuate until mid-2022. He expects demand to keep lumber prices elevated, alluding to the increase in home renovation and construction projects spurred by cabin fever among activity-starved consumers. “At the current phase of the pandemic, some people may want to spend money on a variety of things if they are in the financial position to do so, including travel, experiences and of course house upgrades,” Hafertepe said.

Joshua Mahony, senior market analyst at trading platform [IG](#), points to the \$1 trillion infrastructure deal moving through Congress and ever-increasing housing prices as reasons to expect prices to rebound.

Seasonality may also give credence to price hike expectations. Mahony added that the fourth quarter is commonly a “buoyant” period for lumber prices. Regardless, it’s clear that the roller-coaster ride won’t be over anytime soon.” – Jack Glenn, Sponsored Content Writer, Freight Waves

U.S. Market Notes



Freight Waves

“While SONAR’s U.S. Flatbed Outbound Tender Reject Index shows that rates are on the decline, carriers are still rejecting loads at a far greater rate than seen over the past three summers.

Flatbed haulers have fared well this season as many have been able to [insulate](#) themselves from shortages by hauling a variety of construction materials. When plywood is unavailable, they’ve been able to turn to bricks, generators, tile, and roofing materials, as well as steel and other metals.

As for lumber shippers, because capacity is tight in the flatbed and dry van markets, moving lumber freight has been challenging.

“While capacity is tight in both the flatbed and van markets, I have never seen this tight of capacity in flatbed in my 22-year career,” Hafertepe said.

Hafertepe added that intermodal rail is an option too, but that its carrying capacity (43,000 pounds) is less than ideal for shipping 8-foot plywood sheets compared to a flatbed trailer (46,000 pounds) or a dry van trailer (45,000 pounds).” – Jack Glenn, Sponsored Content Writer, Freight Waves

U.S. Market Notes

Freight Waves

“Importers, too, find themselves in a pressing situation. Recent tariffs and hardwood bans from China have forced many to import from Vietnam and Indonesia, countries that haven’t been able to match China’s production volumes of wood products.

“Rising container costs and availability are also a problem in addition to port congestion across the U.S.,” Hafertepe said. “While importers are used to having three months of inventory ‘on the ground’ in warehouses around the country, orders are now being written up to ship out as soon as warehouses strip the containers. The current situation is truly unprecedented.”

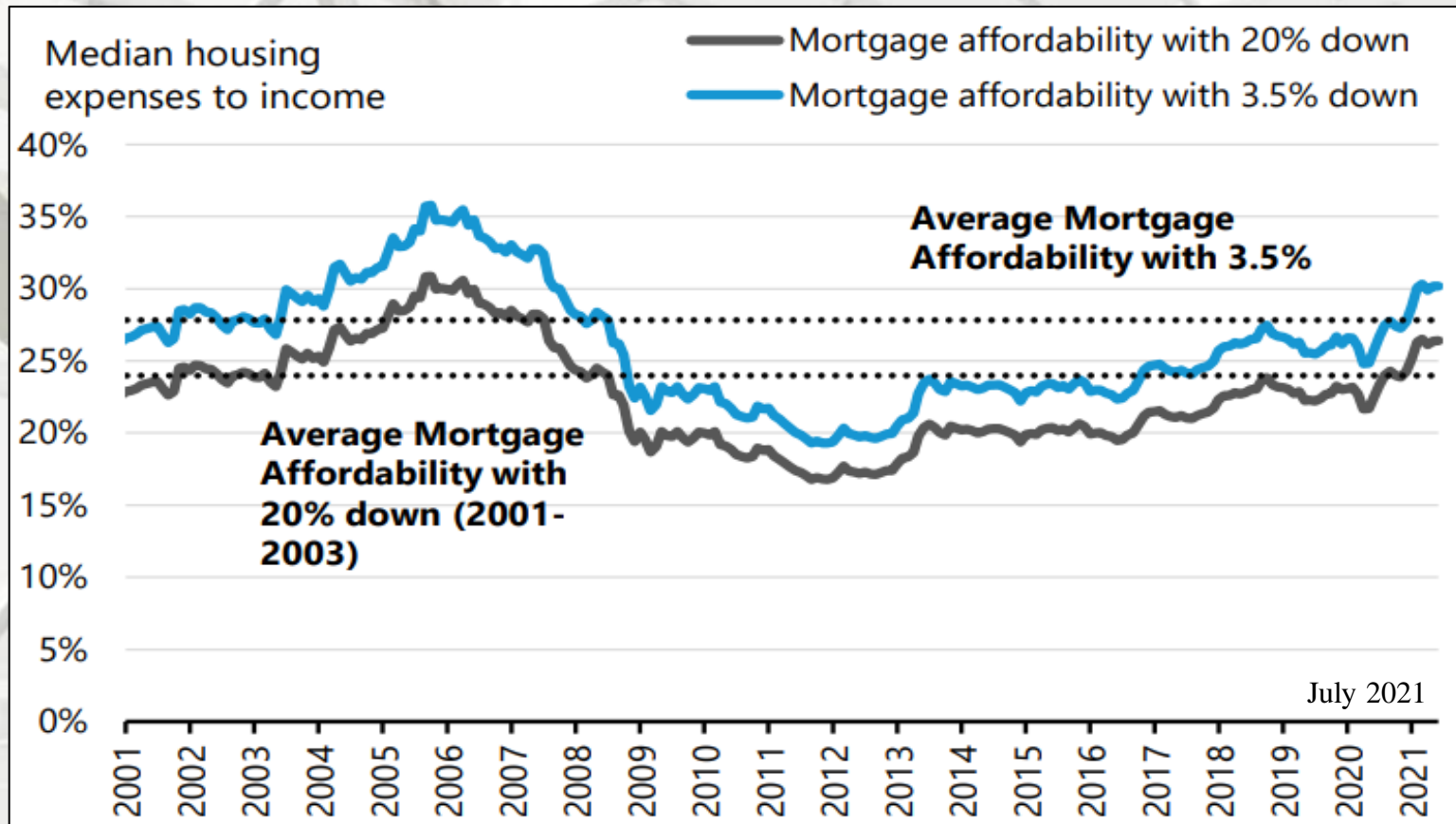
One of Echo’s clients is [Taraca Pacific](#), a U.S. importer of high-grade custom plywood. The company’s marketing director, David Wozniak, said the recent issues within the lumber industry have had the same effect on plywood as other wood-based products in that raw material components have become more expensive and less available.

“I believe that all inventories throughout the industry have decreased as replacement flow has been restricted by reduced shipping capacity while demand has remained very high,” Wozniak said, adding that he expects wood sector inventories to remain low as lightweight goods sold online monopolize available shipping container space.

“As long as COVID-19 continues to impact countries where our goods come from, the supply chain will be challenged, and materials will remain in short supply,” Wozniak said.

Describing Taraca Pacific’s operations this year as “stressed” across the board, Wozniak said that if there’s a silver lining, it’s that these disruptions have exposed weak points for companies to properly address. ...” – Jack Glenn, Sponsored Content Writer, Freight Waves

Housing Affordability

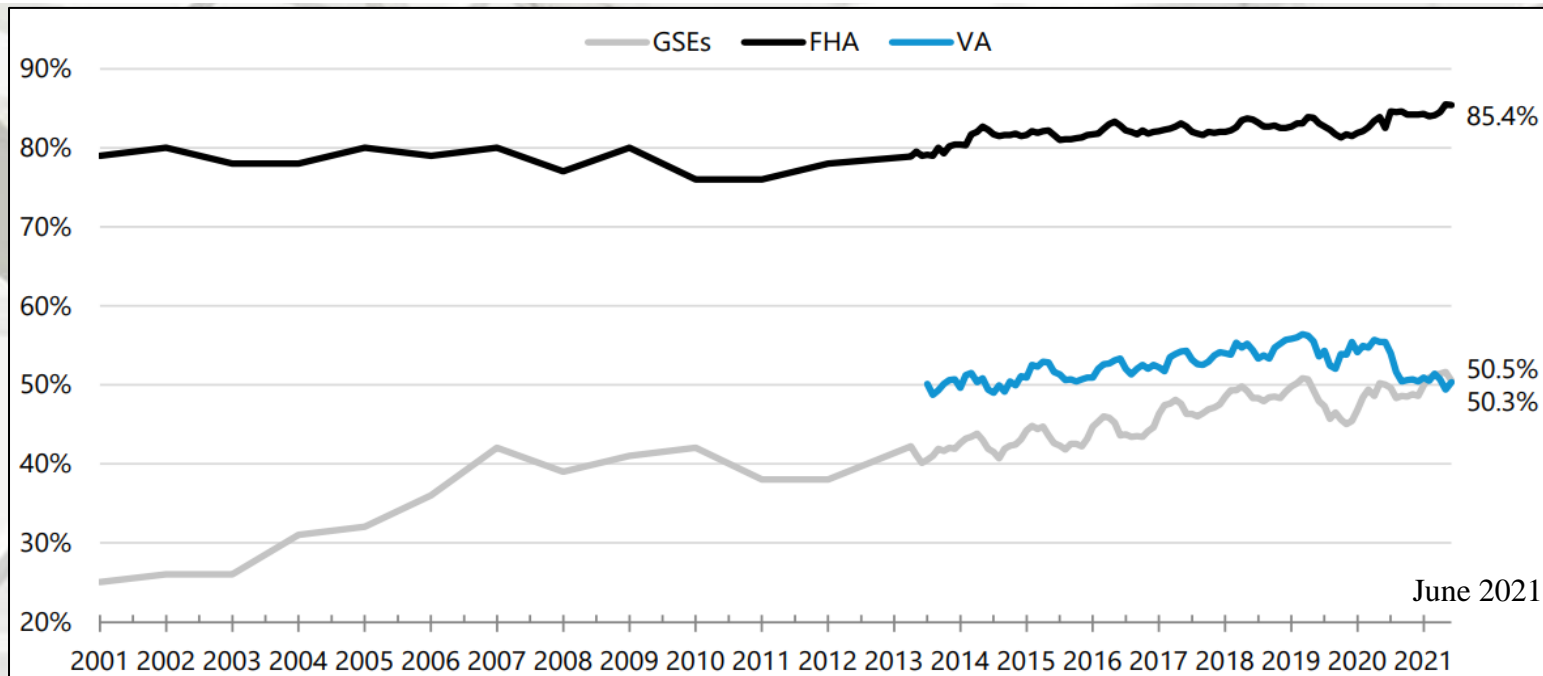


Urban Institute

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 July 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



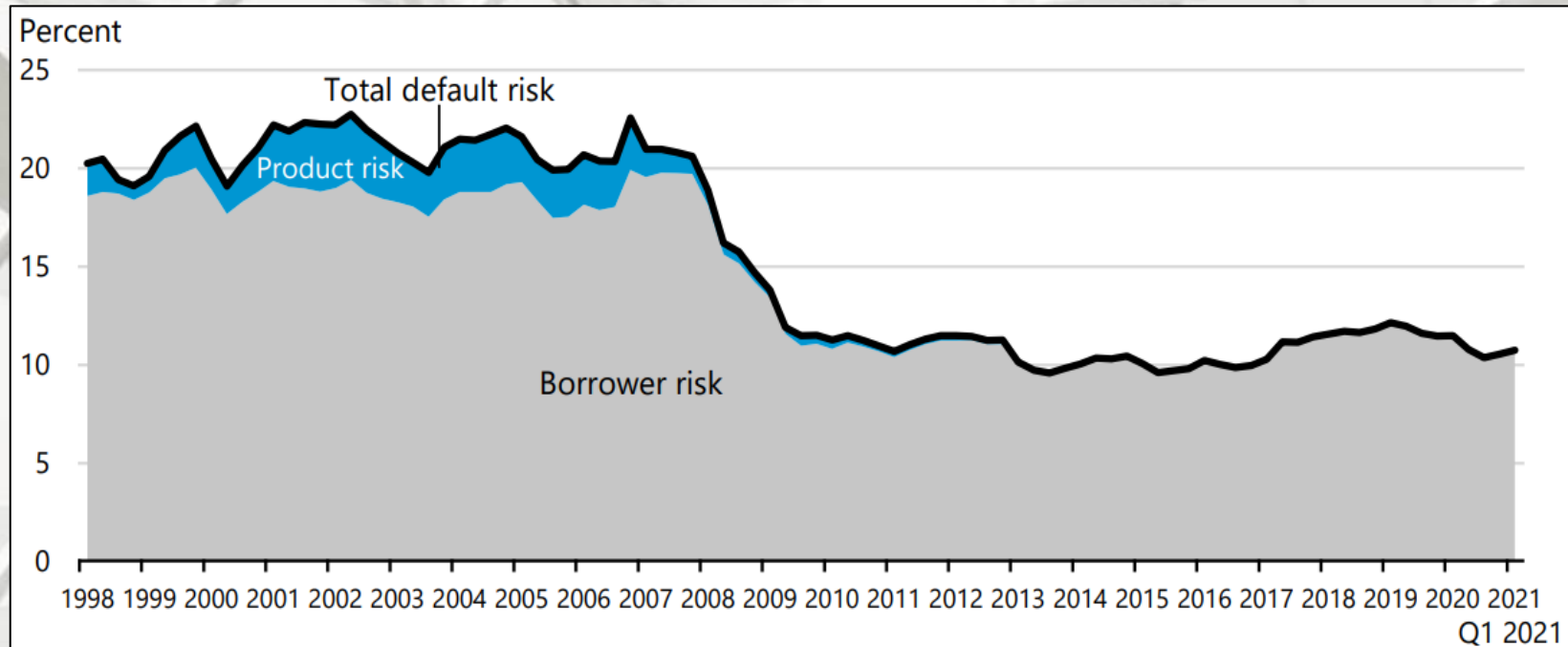
Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute.

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

Urban Institute First-Time Home Buyer Share

“In June 2021, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 85.4 percent. The FTHB share of VA lending in June was 50.3 percent. The GSE FTHB share decreased in June relative to May, to 50.5 percent. The bottom table shows that based on mortgages originated in June 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 total default risk the government loan channel is willing to take bottomed out at 9.6 percent in Q3 2013. It fluctuated in a narrow range above that number for three years. In the eleven quarters from Q4 2016 to Q1 2019, the risk in the government channel increased significantly from 9.9 to 12.1 percent but has since receded. After declining to 10.4 percent in Q3 2020 due to the pandemic, the government channel marginally increased risk to 10.8 percent in Q1 2021; still far below the pre-bubble level of 19 – 23 percent. ...” – Gideon Berger, Senior Policy Program Manager, Urban Institute

U.S. Housing Finance

Mortgage Bankers Association (MBA)

Mortgage Credit Availability Increased in August

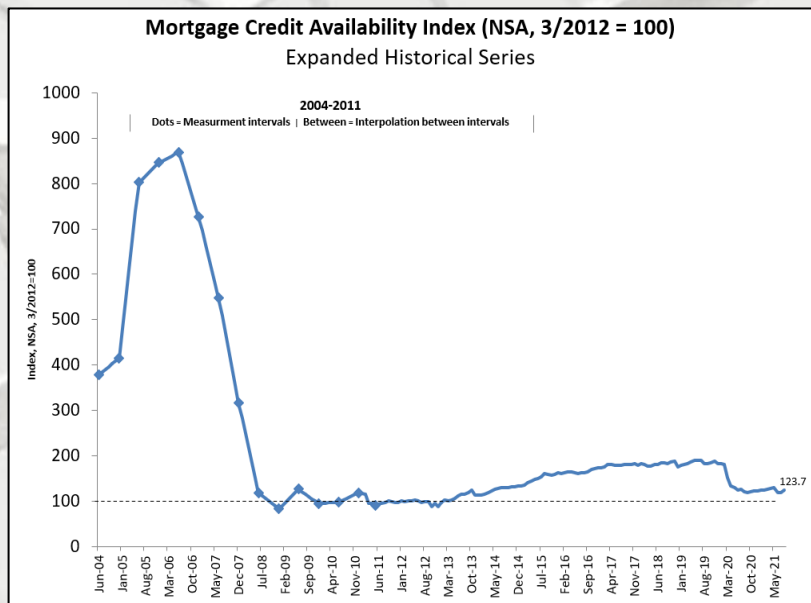
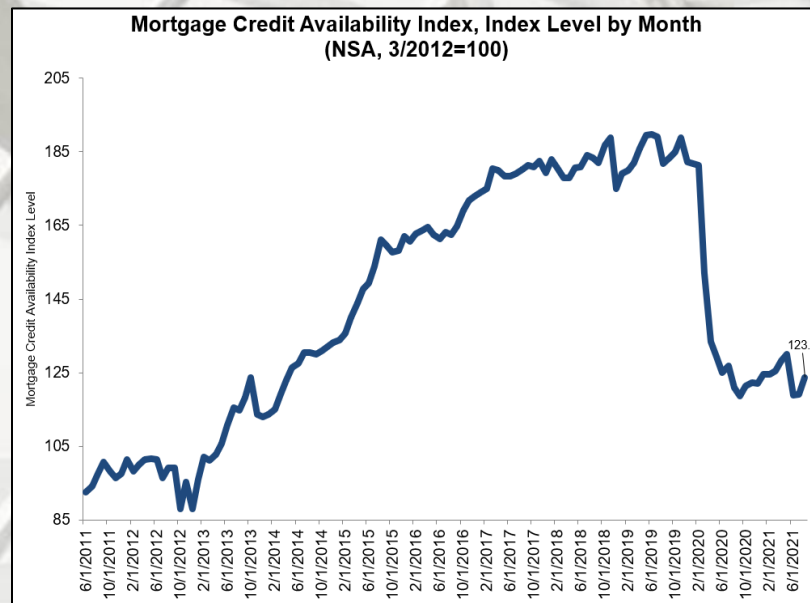
“Mortgage credit availability increased in August according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from Ellie Mae’s AllRegs® Market Clarity® business information tool.

The MCAI rose by 3.9 percent to 123.7 in August. 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 7.6 percent, while the Government MCAI increased by 1.1 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 9.4 percent, and the Conforming MCAI rose by 5.1 percent.

Credit availability increased in August, driven by significant activity across all indexes. This expansion was heavily driven by the addition of refinance loan programs at a time when the 30-year fixed rate has been above 3% for the past month, and refinance activity has trended lower. Of note, jumbo credit availability increased 9% to its highest level since March 2020, as more non-QM jumbo and agency-eligible high-balance loan programs were offered. In the conforming space, more lenders offered GSE refinance programs catered to lower-income borrowers to help reduce their rates and payments. There was also a slight expansion in government credit, as more investors offered streamline refinance options for FHA and VA loans.” – 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

August 18, 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	1,610	1,600	1,594	1,638	1,670	1,703	1,397	1,594	1,651	1,765
Single-Family	981	774	1,041	1,220	1,156	1,104	1,158	1,192	1,229	1,294	1,355	1,397	1,004	1,152	1,319	1,475
Two or More	504	312	399	356	443	464	452	408	365	344	315	306	393	442	333	290
Home Sales (SAAR, Thous)																
Total Existing Homes	5,483	4,313	6,137	6,777	6,303	5,830	6,073	6,326	6,358	6,537	6,577	6,576	5,678	6,133	6,512	6,784
New Homes	703	708	973	926	896	728	784	867	919	991	1,037	1,079	828	819	1,007	1,135
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	288	309	312	314	351	359	345	341	327	323	320	295.4	342.1	327.8	319.4
Median Price of New Homes (Thous \$)	330	323	333	354	365	374	373	368	365	362	360	357	335.0	369.9	360.9	356.2
Interest Rates																
30-Year Fixed Rate Mortgage (%)	3.5	3.2	3.0	2.8	2.9	3.0	2.9	3.3	3.5	3.7	4.0	4.2	2.8	3.3	4.2	4.8
10-Year Treasury Yield (%)	1.4	0.7	0.6	0.9	1.3	1.6	1.4	1.8	2.0	2.1	2.3	2.5	0.9	1.8	2.5	3.0
Mortgage Originations																
Total 1- to 4-Family (Bil \$)	563	928	1,076	1,261	1,094	1,050	862	605	516	623	620	602	3,828	3,611	2,361	2,378
Purchase	257	348	418	410	320	460	417	433	362	469	463	446	1,433	1,630	1,740	1,775
Refinance	306	580	658	851	774	590	445	172	154	154	157	156	2,395	1,981	621	603
Refinance Share (%)	54	63	61	67	71	56	52	28	30	25	25	26	63	55	26	25
FHA Originations (Bil \$)													350	276	179	162
Total 1- to 4-Family (000s loans)	1,869	3,052	3,497	3,578	3,146	3,116	2,486	1,706	1,395	1,732	1,676	1,569	11,996	10,454	6,372	6,013
Purchase	891	1,203	1,427	1,343	974	1,428	1,253	1,248	1,002	1,329	1,277	1,187	4,864	4,903	4,795	4,579
Refinance	978	1,848	2,070	2,235	2,172	1,688	1,233	457	393	402	399	383	7,132	5,550	1,577	1,434
Refinance Share (%)	52	61	59	62	69	54	50	27	28	23	24	24	59	53	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

August 18, 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	-5.1	-31.2	33.8	4.5	6.3	6.5	6.2	6.0	4.6	2.7	2.5	2.2	-2.3	6.2	3.0	1.7
Personal Consumption Expenditures	-6.9	-33.4	41.4	3.4	11.4	11.8	1.8	4.0	2.2	2.5	2.3	2.2	-2.4	7.2	2.3	1.6
Business Fixed Investment	-8.1	-30.3	18.7	12.5	12.9	8.0	7.3	9.2	7.0	4.6	3.8	3.6	-3.8	9.3	4.8	2.6
Residential Investment	20.4	-30.7	59.9	34.4	13.3	-9.8	-0.9	-0.7	0.9	2.9	5.2	3.8	15.7	0.2	3.2	3.6
Govt. Consumption & Investment	3.7	3.9	-2.1	-0.5	4.2	-1.5	2.1	3.1	0.9	0.1	1.2	0.8	1.2	2.0	0.7	0.5
Net Exports (Bil. Chain 2012\$)	-692.0	-642.8	-854.9	-950.8	-1033.0	-1061.3	-1076.7	-1047.8	-1046.9	-1042.6	-1038.2	-1031.9	-785.1	-1054.7	-1039.9	-1007.0
Inventory Investment (Bil. Chain 2012\$)	-25.8	-214.9	21.5	75.5	-75.1	-141.0	23.2	62.3	143.1	146.9	138.1	127.5	-35.9	-32.6	138.9	101.4
Consumer Prices (YOY)	2.1	0.4	1.3	1.2	1.9	4.8	5.1	4.9	4.2	2.8	2.2	2.4	1.2	4.9	2.4	2.1
Percent																
Unemployment Rate	3.8	13.0	8.8	6.7	6.2	5.9	5.1	4.5	4.4	4.2	3.9	3.8	8.1	5.5	4.1	3.9
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	1.4	1.8	2.0	2.1	2.3	2.5	0.9	1.8	2.5	3.0

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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Summary

In conclusion:

The month-over-month housing data for July were predominantly positive year-over-year and month-over-month. Total, single-family, and multi-family starts were negative month-over-month. This may not necessarily reflect decreased demand; rather completions are slowed due to the unavailability of building materials and products. Some builders may be reluctant to start new projects while waiting to complete units under construction.

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) Logistics/Supply chains;
- 4) Lot availability and building regulations (according to several sources);
- 5) Laborer shortages in many sectors;
- 6) Household formations still lag historical averages;
- 7) Job creation is improving and consistent, but some economists question the quantity and types of jobs being created;
- 8) Debt: Corporate, personal, government – United States and globally;
- 9) Other global uncertainties.

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