

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

April 2021



Delton Alderman

USDA Forest Service
Statistics, Life Cycle Analysis, and
Economics Research (FPL-4851)
Forest Products Laboratory



Madison, WI

304.431.2734

delton.r.alderman@usda.gov



Urs Buehlmann

Department of Sustainable
Biomaterials
College of Natural Resources &
Environment
Virginia Tech
Blacksburg, VA
540.231.9759
buehlmann@gmail.com

2021

Virginia Polytechnic Institute and State University

VCE-ANR

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Jewel E. Hairston, Administrator, 1890 Extension Program, Virginia State, Petersburg.

Table of Contents

Slide 3: [Opening Remarks](#)
Slide 4: [Housing Scorecard](#)
Slide 5: [Wood Use in Construction](#)
Slide 8: [New Housing Starts](#)
Slide 15: [Regional Housing Starts](#)
Slide 21: [New Housing Permits](#)
Slide 25: [Regional New Housing Permits](#)
Slide 29: [Housing Under Construction](#)
Slide 31: [Regional Under Construction](#)
Slide 36: [Housing Completions](#)
Slide 38: [Regional Housing Completions](#)

Slide 43: [New Single-Family House Sales](#)
Slide 46: [Region SF House Sales & Price](#)
Slide 52: [New SF Sales-Population Ratio](#)
Slide 63: [Construction Spending](#)
Slide 66: [Construction Spending Shares](#)
Slide 69: [Remodeling](#)
Slide 76: [Existing House Sales](#)
Slide 79: [U.S. Housing Prices & Market](#)
Slide 97: [Summary](#)
Slide 98: [Virginia Tech Disclaimer](#)
Slide 99: [USDA Disclaimer](#)

This report is a free monthly service of Virginia Tech. Past issues are available at:
[http://woodproducts.sbio.vt.edu/housing-report.](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 year-over-year housing data for April' were all robustly positive. However, month-over-month declines were reported for total- and single-family housing starts, total- and single-family permits, total housing completions, and new single-family and existing house sales. Total- and single-family houses under construction and total- and single-family construction spending were positive month-over-month.

The June 9th Atlanta Fed GDPNow™ model forecast was an aggregate 4.4% increase for total residential investment spending for June 2021. New private permanent site expenditures were projected at 10.5%; the improvement spending forecast was 8.8%; and the manufactured/mobile expenditures projection was 12.3% (all: quarterly log change and at a seasonally adjusted annual rate).¹

“While most indictors point toward brisk economic growth over the second quarter, the combination of a disappointing employment report and an unexpectedly strong burst of inflation has raised in the minds of many market participants the potential confluence of broad-based supply restraints, very strong house price growth, and the posture of monetary and fiscal policies. Supply constraints across multiple sectors are pointing toward ongoing price pressure, most prominently in microchips and the auto sector. This has yet to significantly affect mortgage rates, except to the extent that the rise in the 10-year Treasury since the beginning of the year contains an increased expected inflation component and has prevented mortgage rates from retreating further from their temporary recent peak. Stronger inflation and a resultant move in interest rates are risks that we believe should be monitored. As the effects of expansionary monetary policy continue to work their way through the economy, inflationary expectations may continue to rise. This could lead to prices rising further even with growth concurrently slowing in the presence of diminished labor market slack and waning fiscal policy support. If such a scenario were to play out, the question then becomes whether this necessitates a response by the Federal Reserve. While momentum in the housing market will likely continue in the near term, this is an increasingly important consideration for 2022.”² – Doug Duncan, Senior Vice President and Chief Economist, Economic and Strategic Research Group; Fannie Mae.

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; 6/9/21;

² <https://www.fanniemae.com/newsroom/fannie-mae-news/economy-expected-heat-through-summer-inflation-risks-mount>; 5/19/21

April 2021

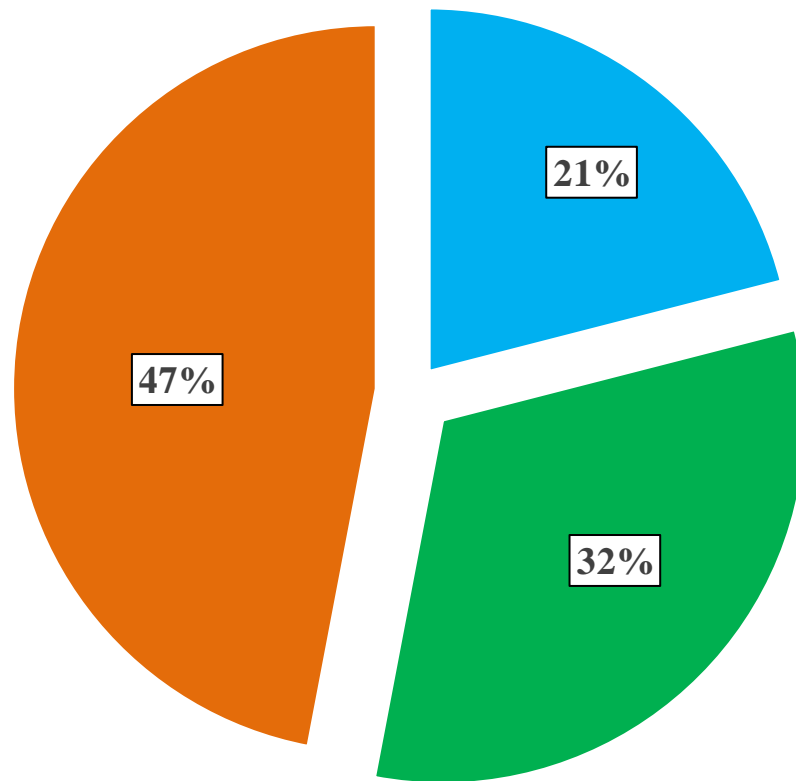
Housing Scorecard

	M/M	Y/Y
Housing Starts	▼ 9.5%	▲ 67.3%
Single-Family (SF) Starts	▼ 13.4%	▲ 58.7%
Multi-Family (MF) Starts*	▲ 0.8%	▲ 90.5%
Housing Permits	▼ 1.3%	▲ 58.4%
SF Permits	▼ 3.9%	▲ 70.6%
MF Permits*	▲ 4.3%	▲ 39.0%
Housing Under Construction	▲ 0.6%	▲ 9.9%
SF Under Construction	▲ 0.8%	▲ 24.7%
Housing Completions	▼ 4.4%	▲ 21.7%
SF Completions	▲ 0.1%	▲ 20.8%
New SF House Sales	▼ 5.9%	▲ 48.3%
Private Residential Construction Spending	▲ 1.0%	▲ 29.7%
SF Construction Spending	▲ 1.3%	▲ 39.6%
Existing House Sales ¹	▼ 2.7%	▲ 33.9%

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

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

New Construction's Percentage of Wood Products Consumption

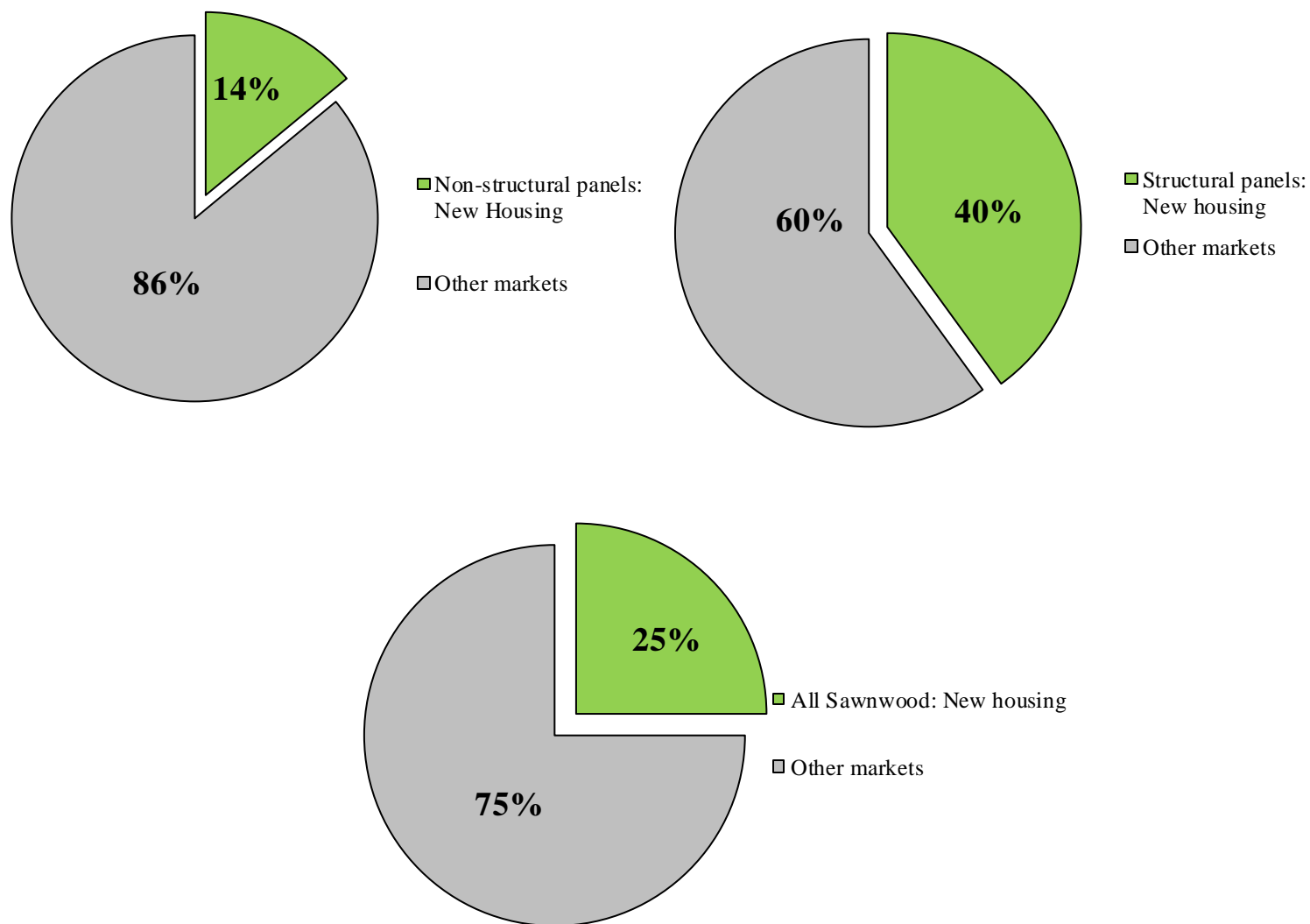


■ Non-structural panels

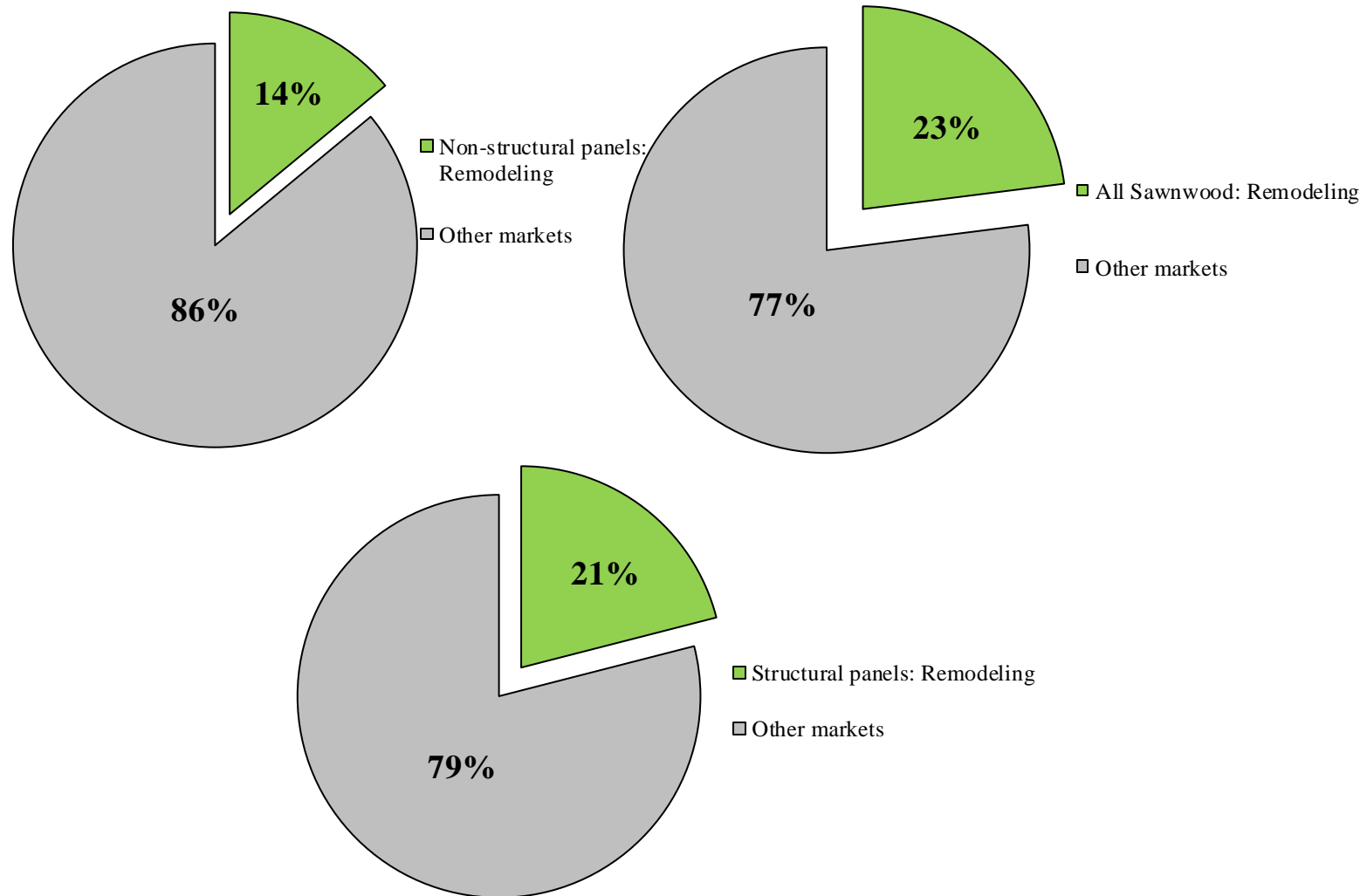
■ Total Sawnwood

■ Structural panels

New SF Construction Percentage of Wood Products Consumption



Repair and Remodeling's Percentage of Wood Products Consumption



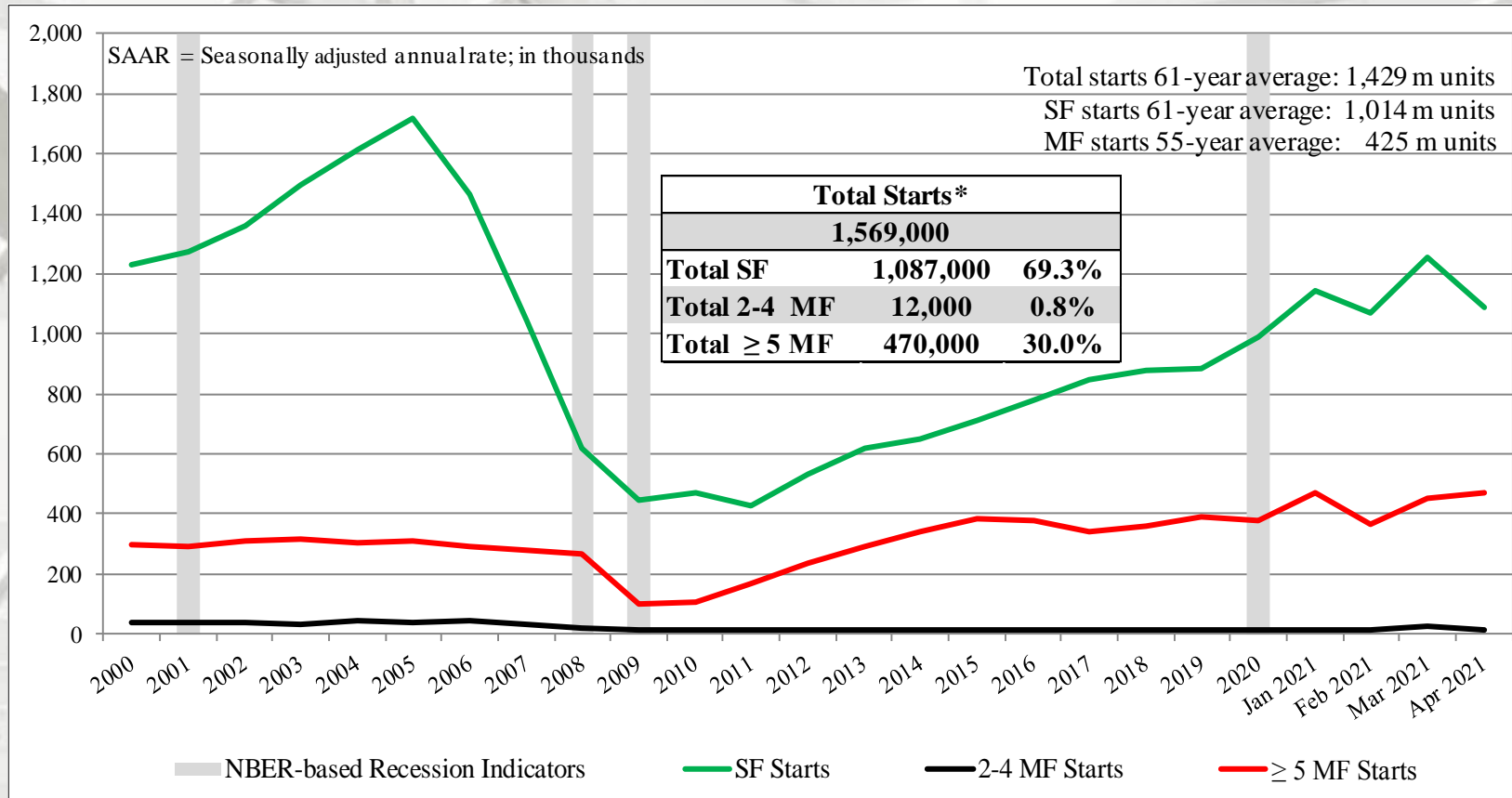
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
April	1,569,000	1,087,000	12,000	470,000
March	1,733,000	1,255,000	26,000	452,000
2020	938,000	685,000	15,000	238,000
M/M change	-9.5%	-13.4%	-53.8%	4.0%
Y/Y change	67.3%	58.7%	-20.0%	97.5%

* 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

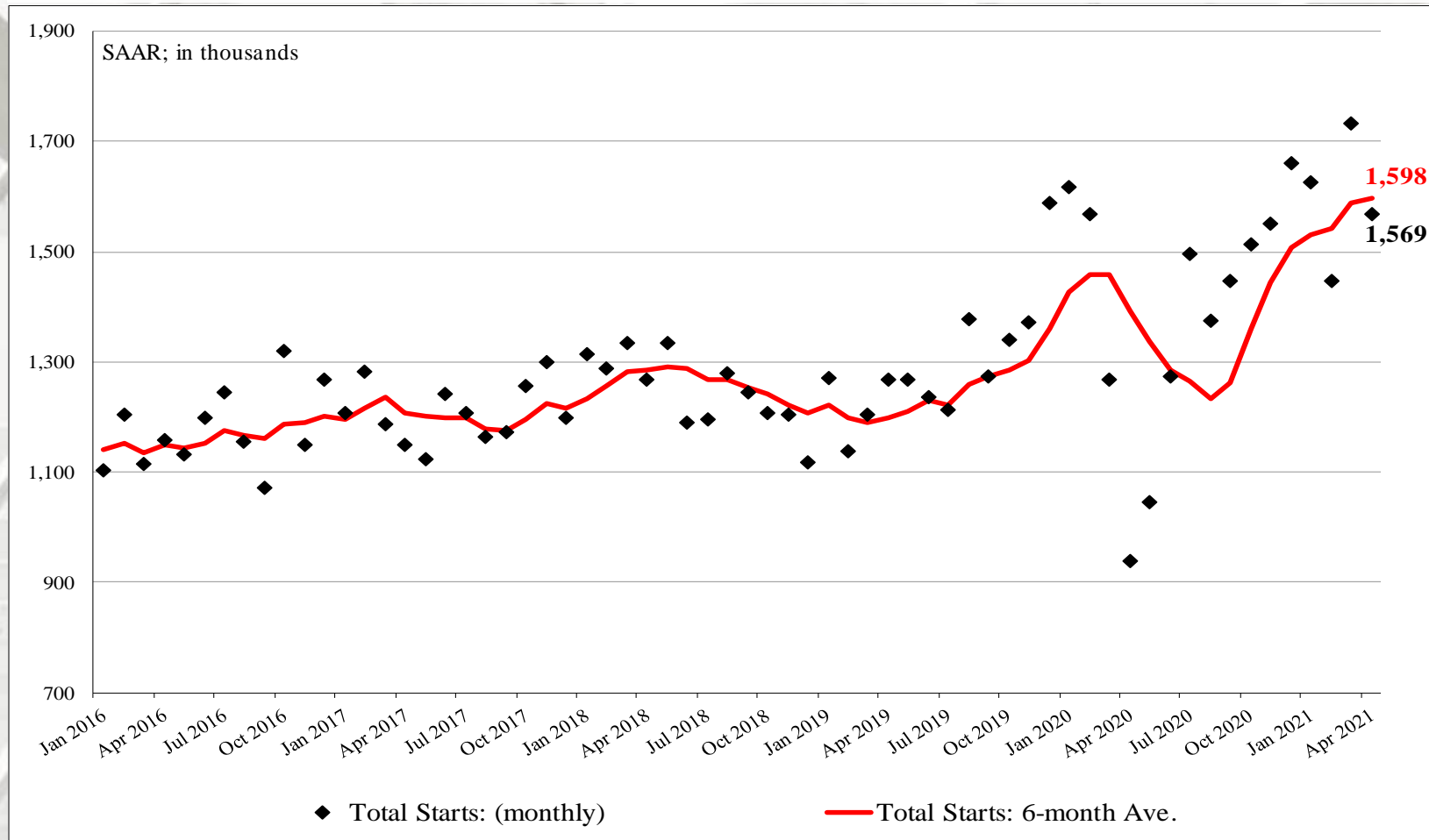


US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: $((\text{Total starts} - (\text{SF} + \geq \text{MF})))$.

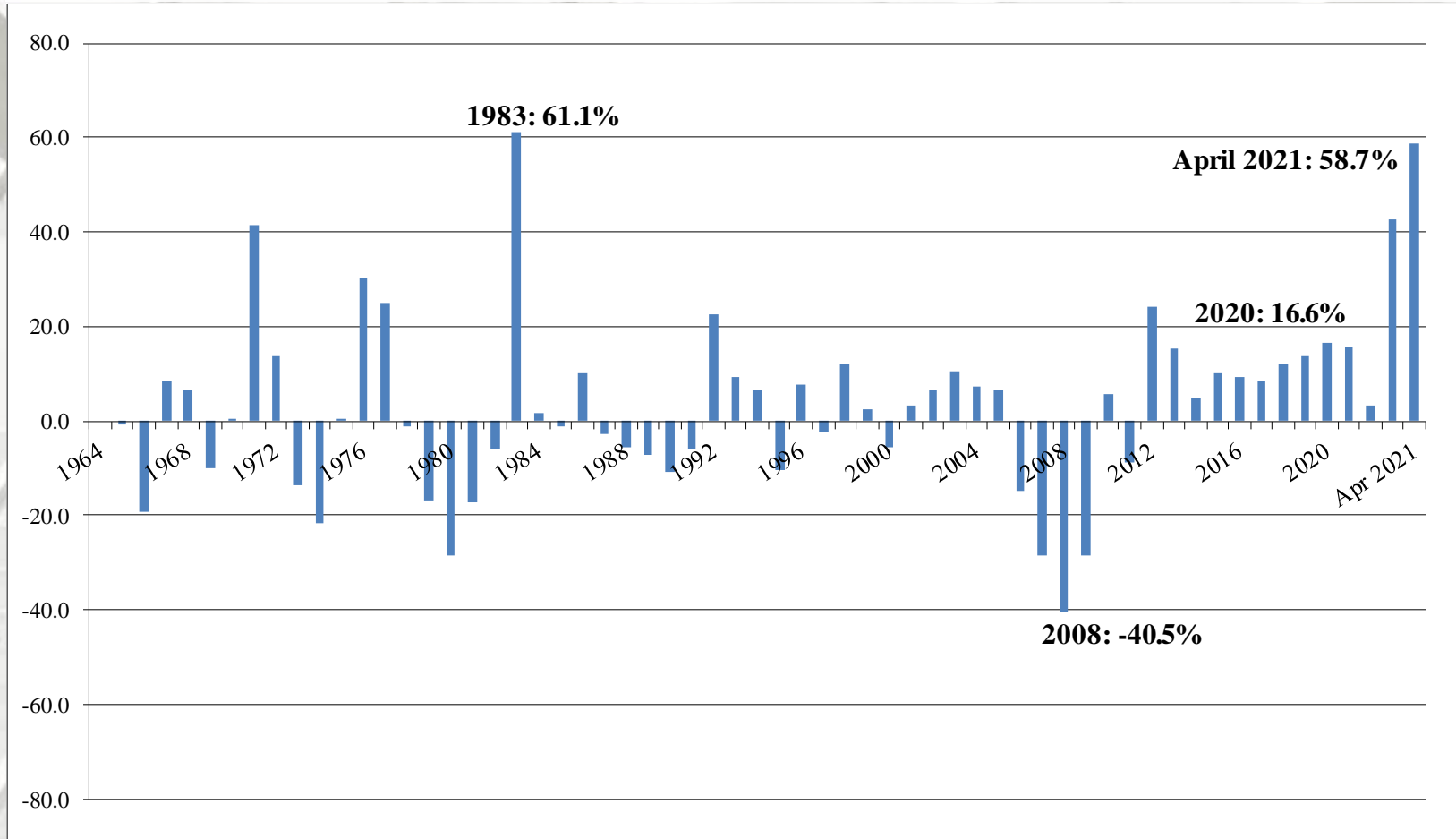
* Percentage of total starts.

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

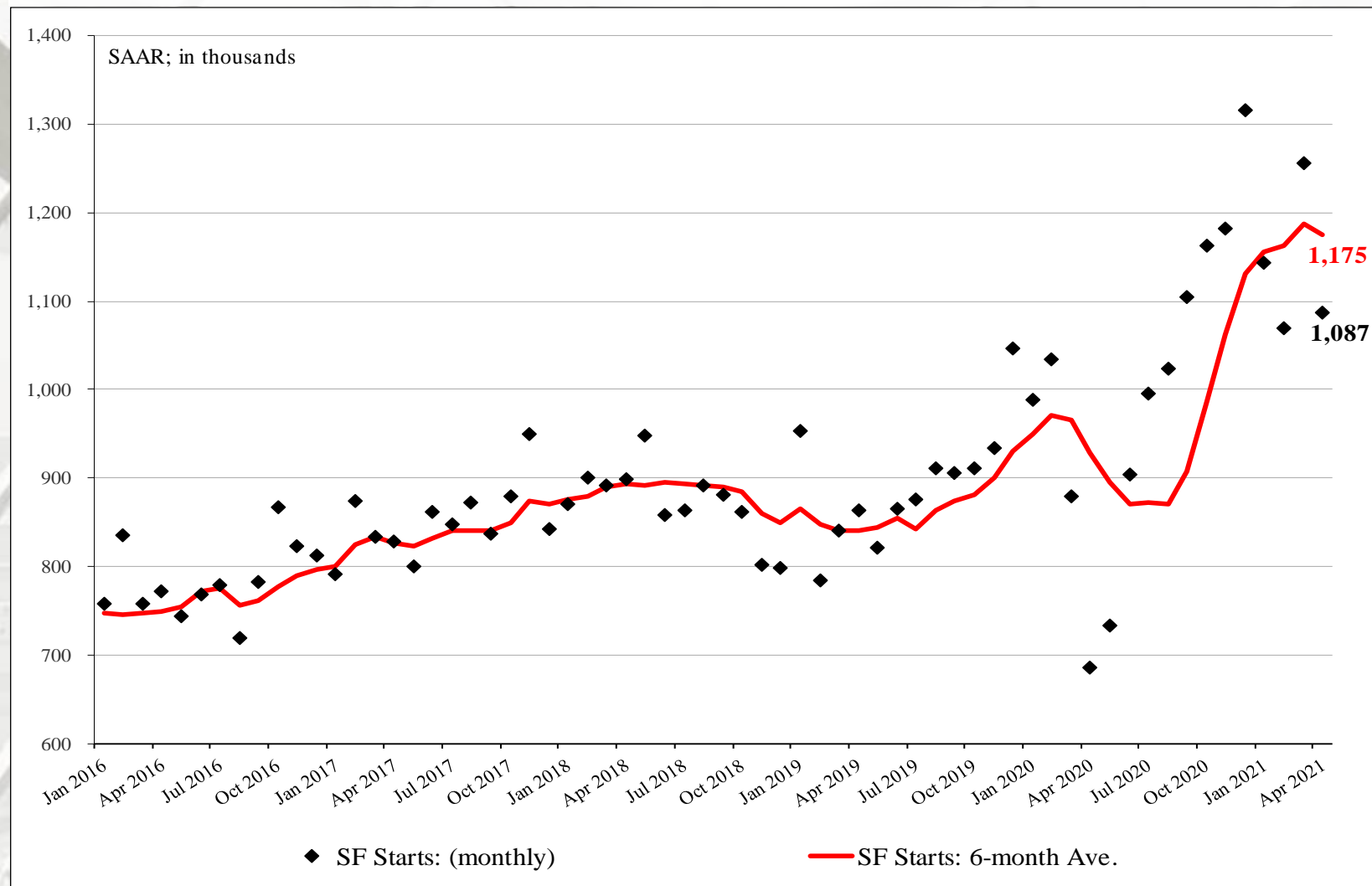
Total Housing Starts: Six-Month Average



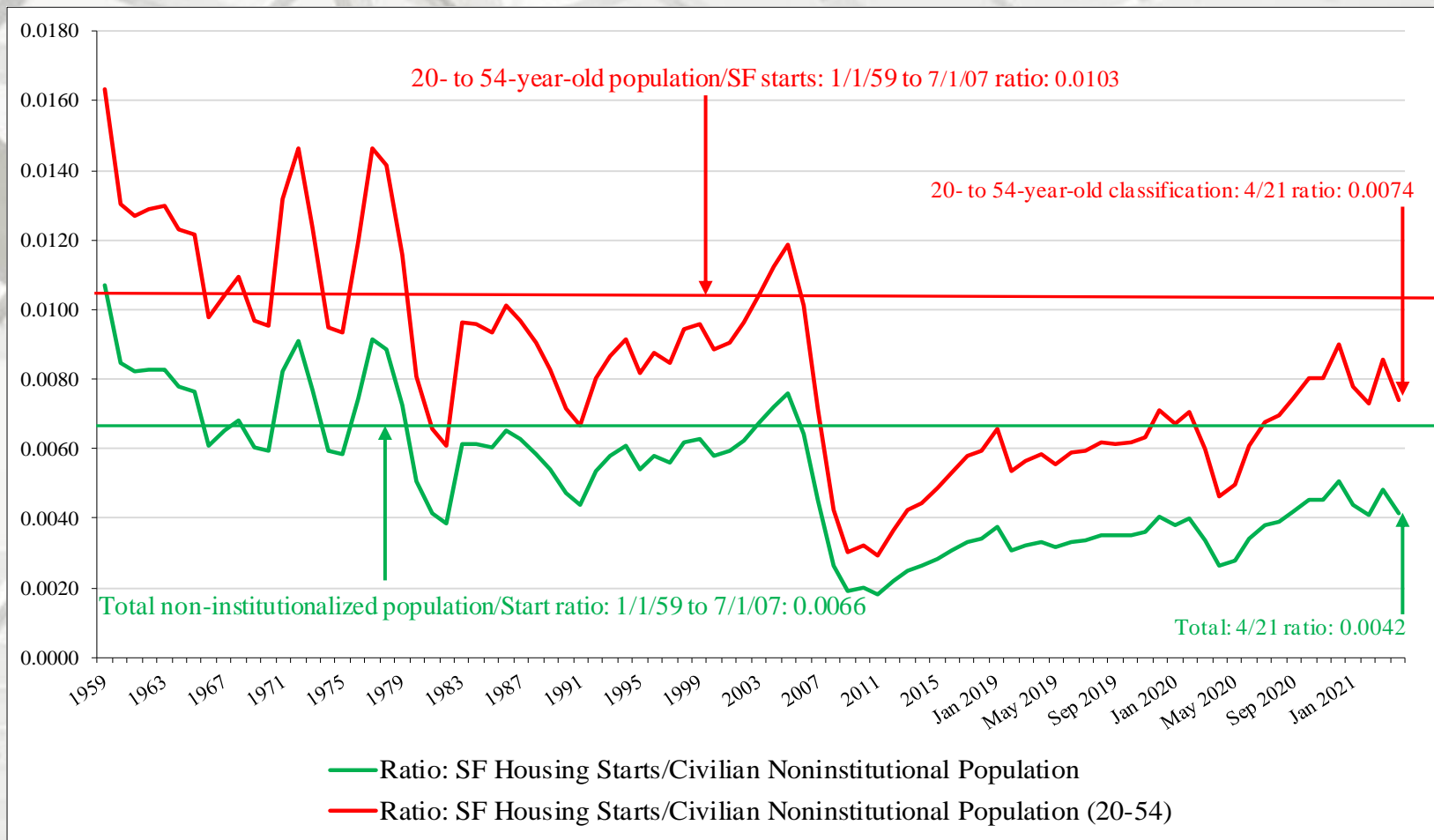
SF Housing Starts: Year-over-Year Change



SF Housing Starts: Six-Month Average



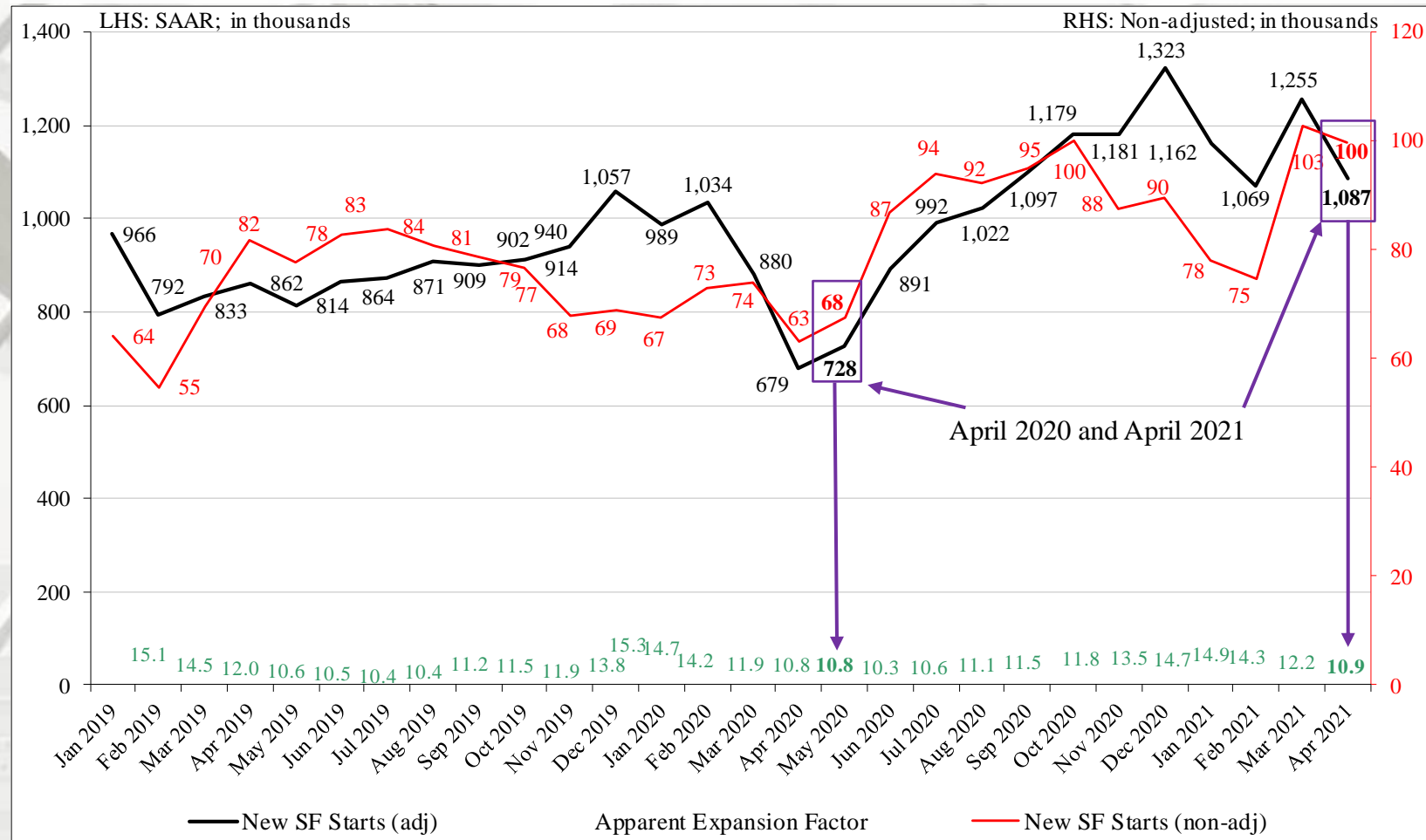
New SF Starts



New SF starts adjusted for the US population

From April 1959 to July 2007, the long-term ratio of the total US non-institutionalized population to new SF starts is 0.0066; in April 2021 it was 0.0042 – a decrease from March (0.0048). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in April 2021 was 0.0074 – also a decline from March (0.0085). 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**
April	172,000	80,000	92,000
March	162,000	92,000	70,000
2020	50,000	23,000	27,000
M/M change	6.2%	-13.0%	31.4%
Y/Y change	244.0%	247.8%	240.7%
	MW Total	MW SF	MW MF
April	193,000	149,000	44,000
March	296,000	220,000	76,000
2020	137,000	103,000	34,000
M/M change	-34.8%	-32.3%	-42.1%
Y/Y change	40.9%	44.7%	29.4%

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).

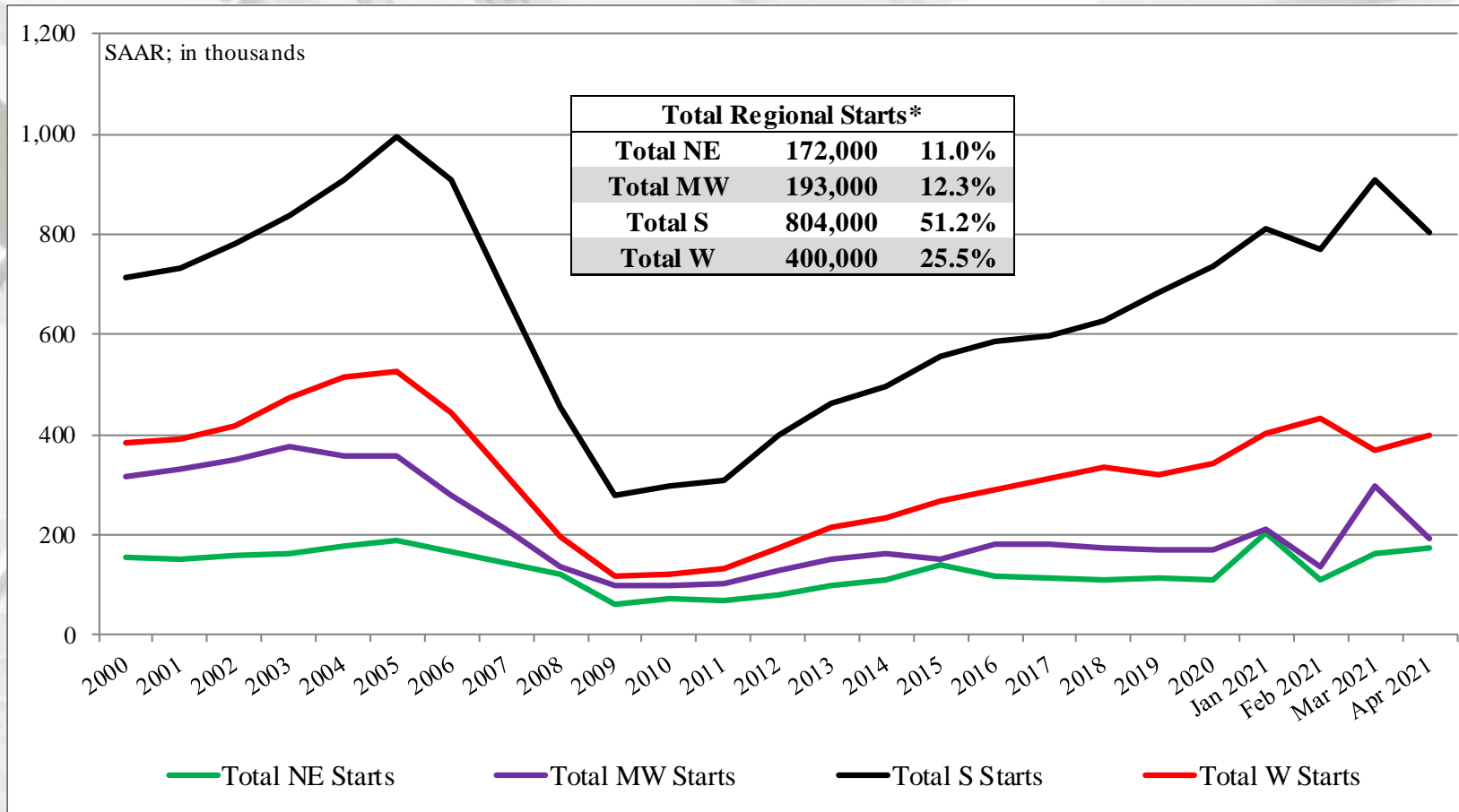
New Housing Starts by Region

	S Total	S SF	S MF**
April	804,000	593,000	211,000
March	908,000	678,000	230,000
2020	569,000	413,000	156,000
M/M change	-11.5%	-12.5%	-8.3%
Y/Y change	41.3%	43.6%	35.3%
	W Total	W SF	W MF
April	400,000	265,000	135,000
March	367,000	265,000	102,000
2020	182,000	146,000	36,000
M/M change	9.0%	0.0%	32.4%
Y/Y change	119.8%	81.5%	275.0%

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

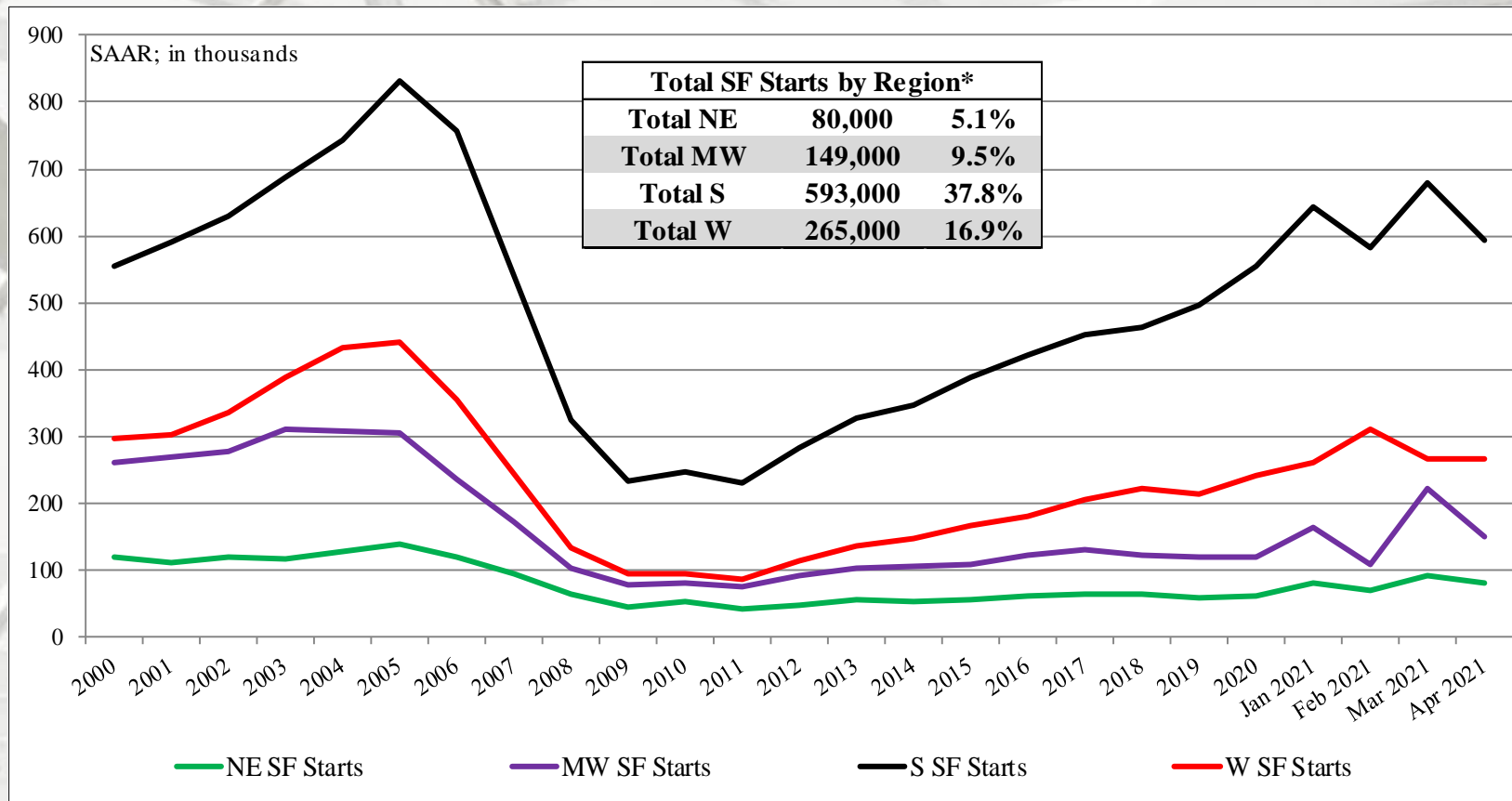


NE = Northeast, MW = Midwest, S = South, W = West

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

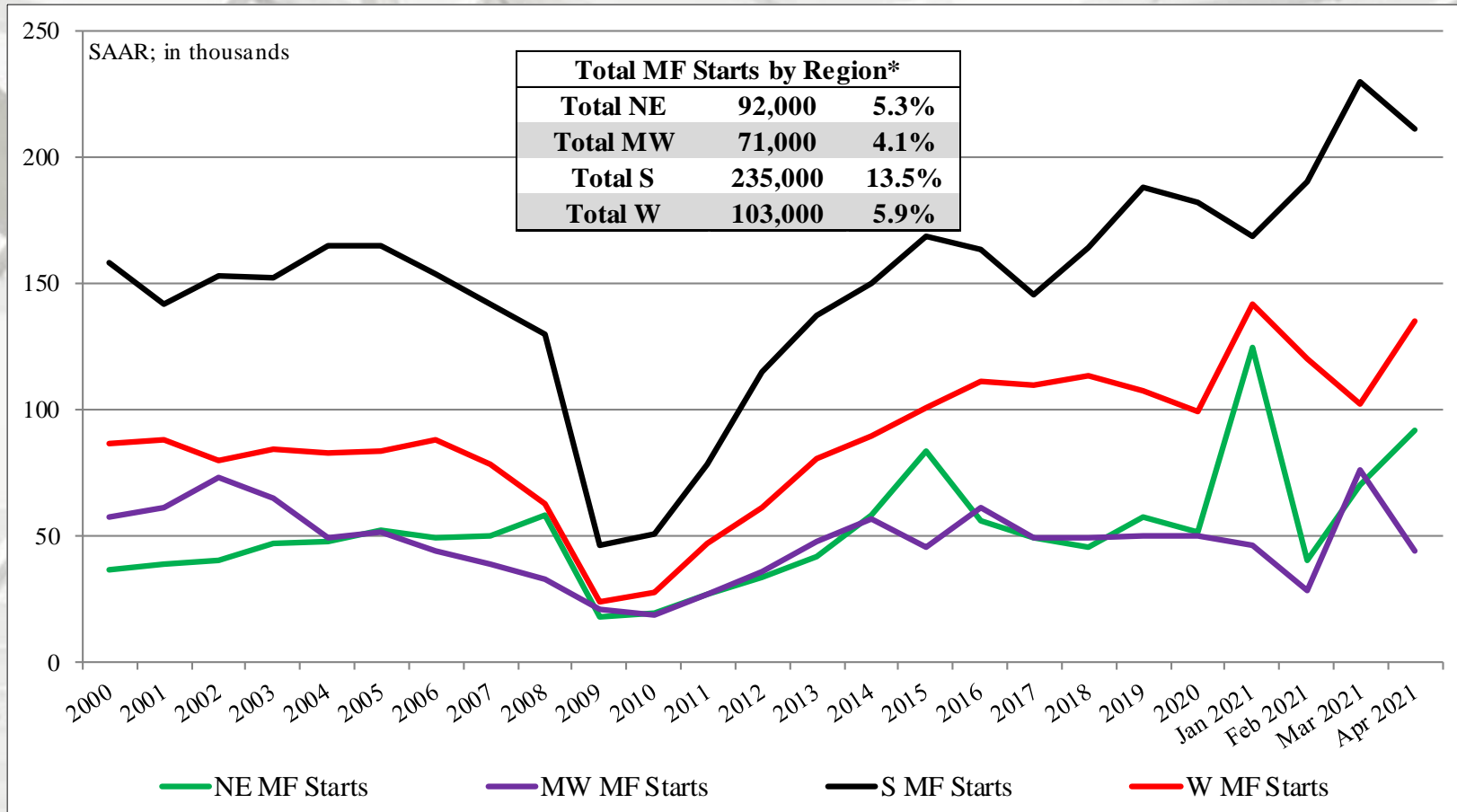


NE = Northeast, MW = Midwest, S = South, W = West

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

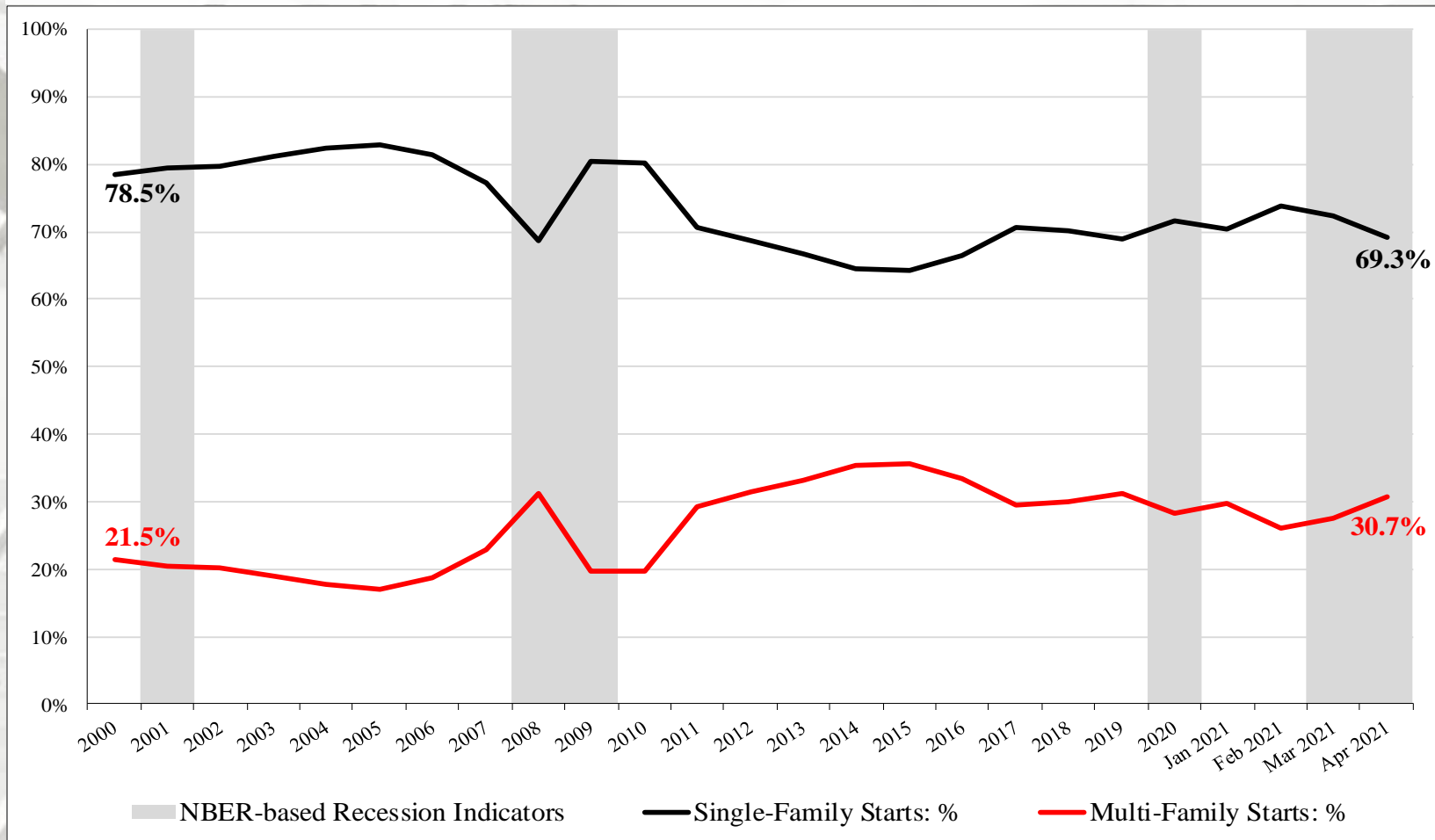


NE = Northeast, MW = Midwest, S = South, W = West

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 (%)



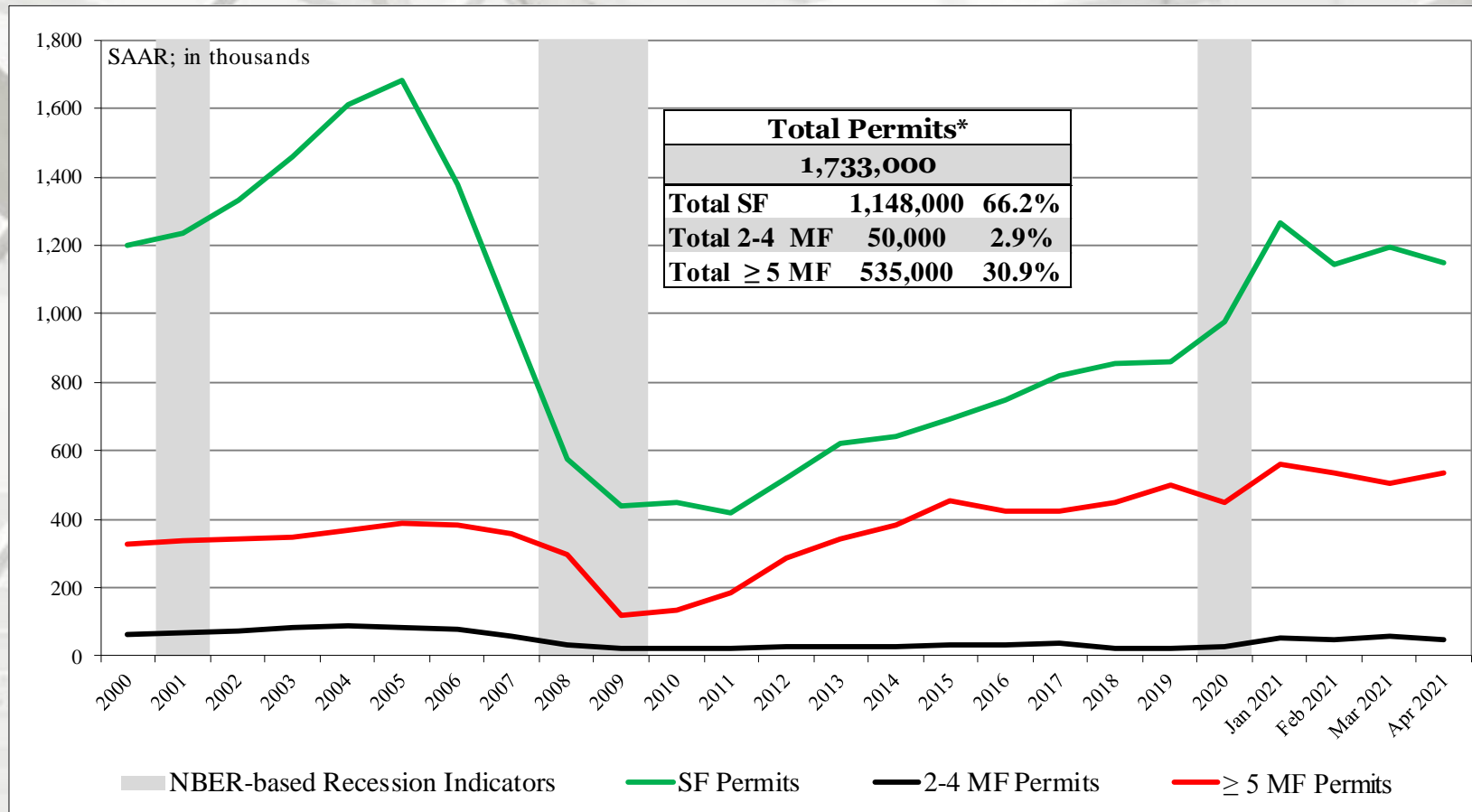
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
April	1,733,000	1,148,000	50,000	535,000
March	1,755,000	1,194,000	58,000	503,000
2020	1,094,000	673,000	34,000	387,000
M/M change	-1.3%	-3.9%	-13.8%	6.4%
Y/Y change	58.4%	70.6%	47.1%	38.2%

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

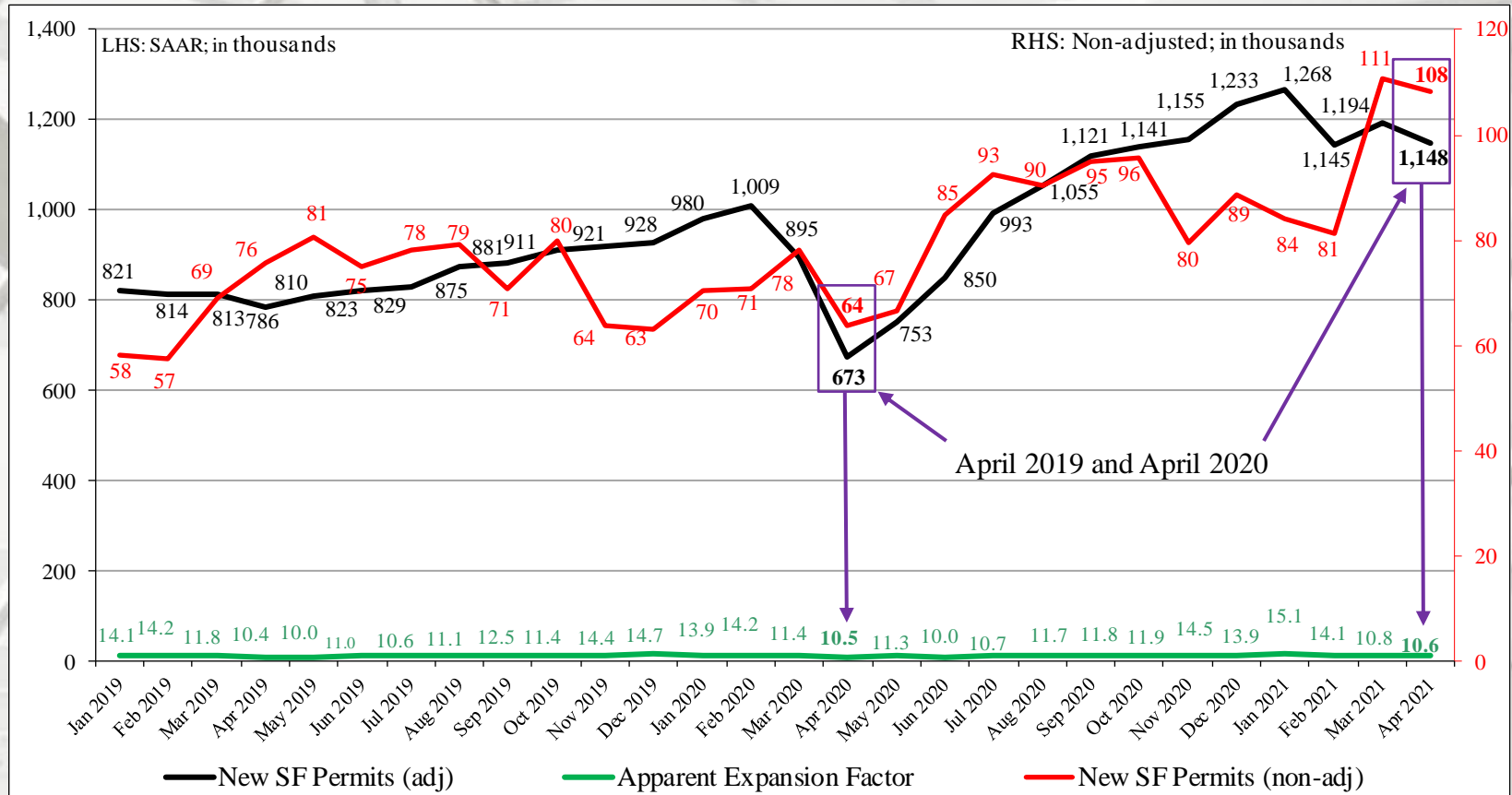
Total New Housing Permits



* 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**
April	168,000	76,000	92,000
March	155,000	78,000	77,000
2020	62,000	31,000	31,000
M/M change	8.4%	-2.6%	19.5%
Y/Y change	171.0%	145.2%	196.8%
	MW Total*	MW SF	MW MF**
April	228,000	159,000	69,000
March	253,000	174,000	79,000
2020	146,000	90,000	56,000
M/M change	-9.9%	-8.6%	-12.7%
Y/Y change	56.2%	76.7%	23.2%

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

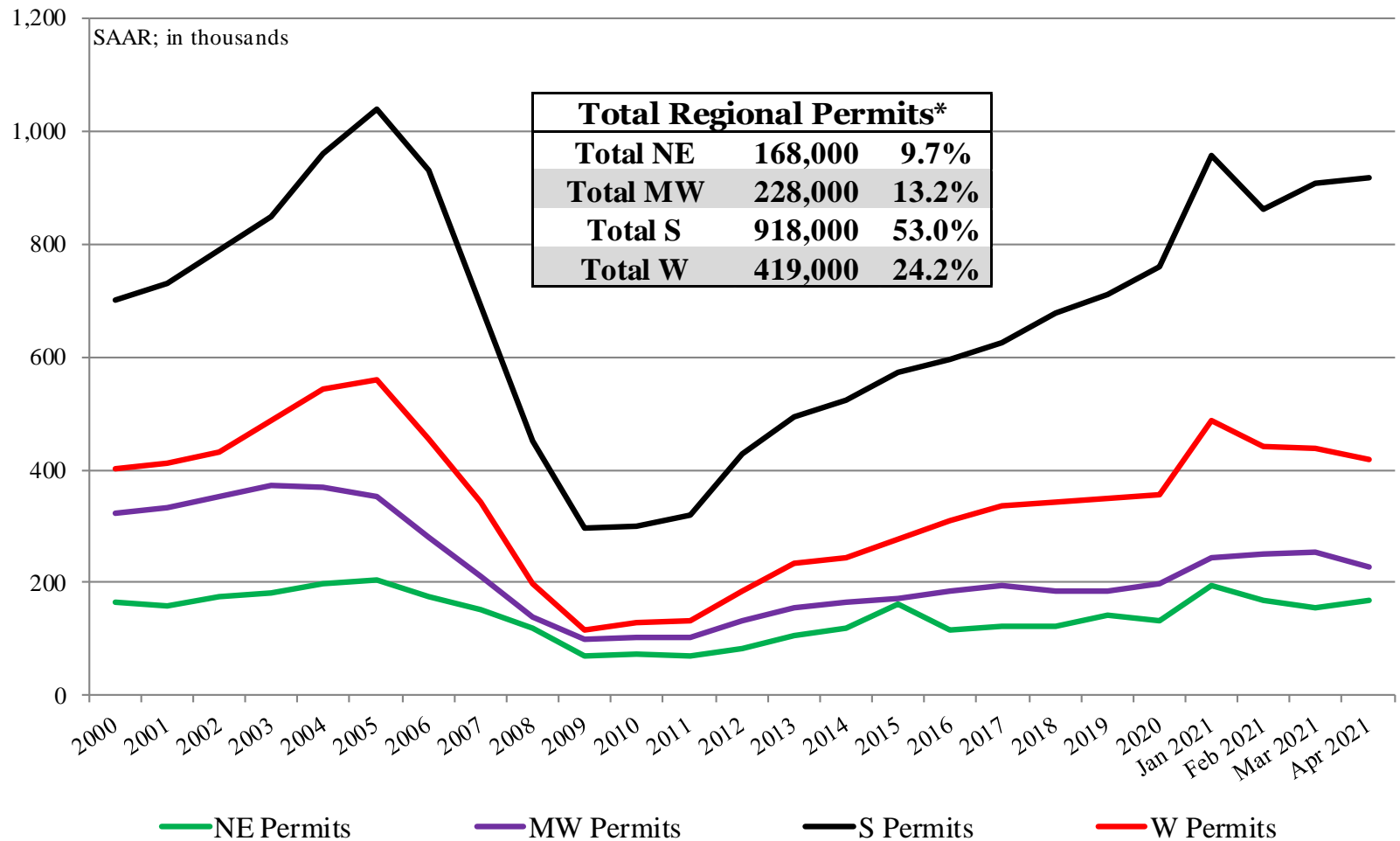
	S Total*	S SF	S MF**
April	918,000	649,000	269,000
March	908,000	661,000	247,000
2020	637,000	418,000	219,000
M/M change	1.1%	-1.8%	8.9%
Y/Y change	44.1%	55.3%	22.8%
	W Total*	W SF	W MF**
April	419,000	264,000	155,000
March	439,000	281,000	158,000
2020	249,000	134,000	115,000
M/M change	-4.6%	-6.0%	-1.9%
Y/Y change	68.3%	97.0%	34.8%

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).

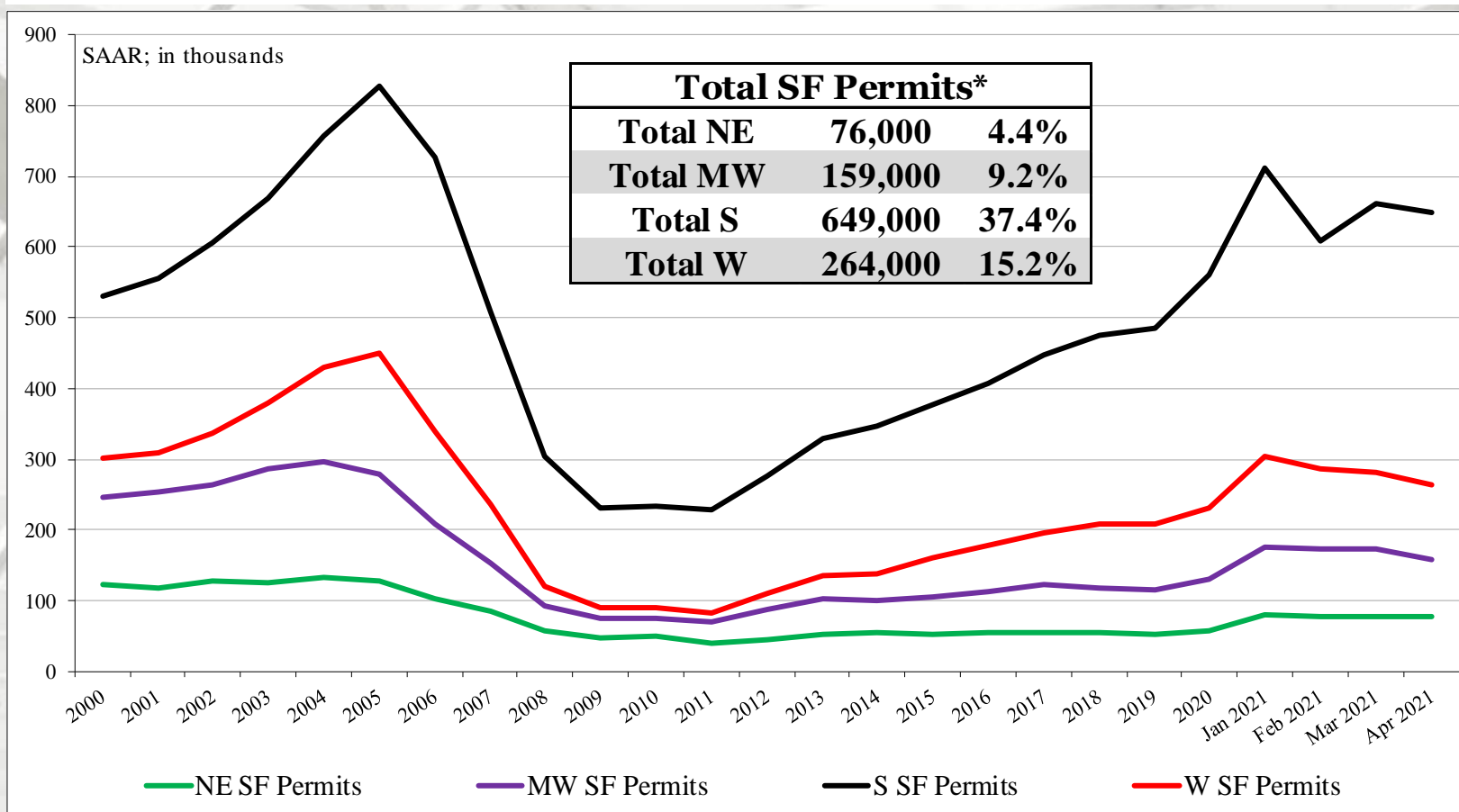
Total Housing Permits by Region



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

* Percentage of total permits.

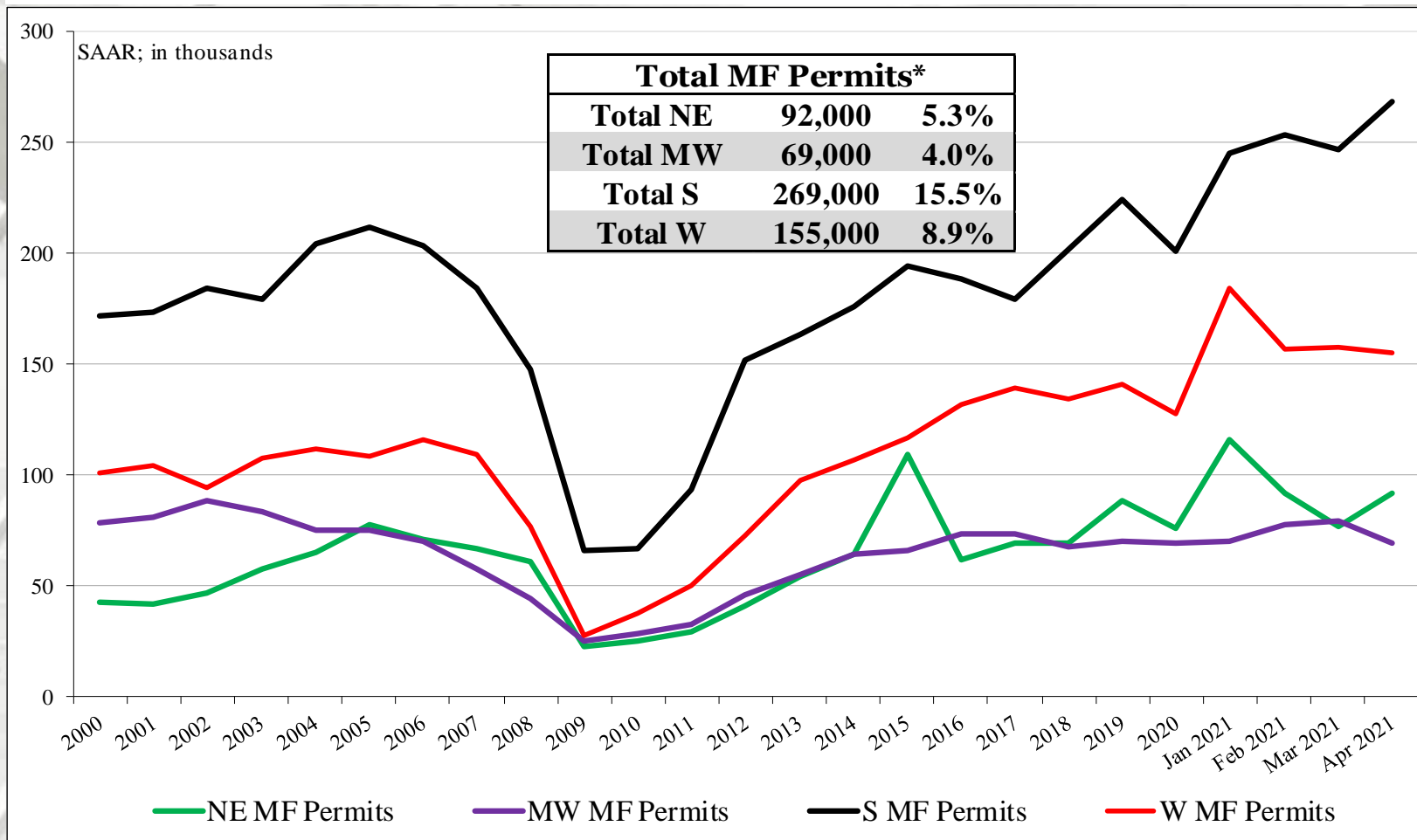
SF Housing Permits by Region



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.

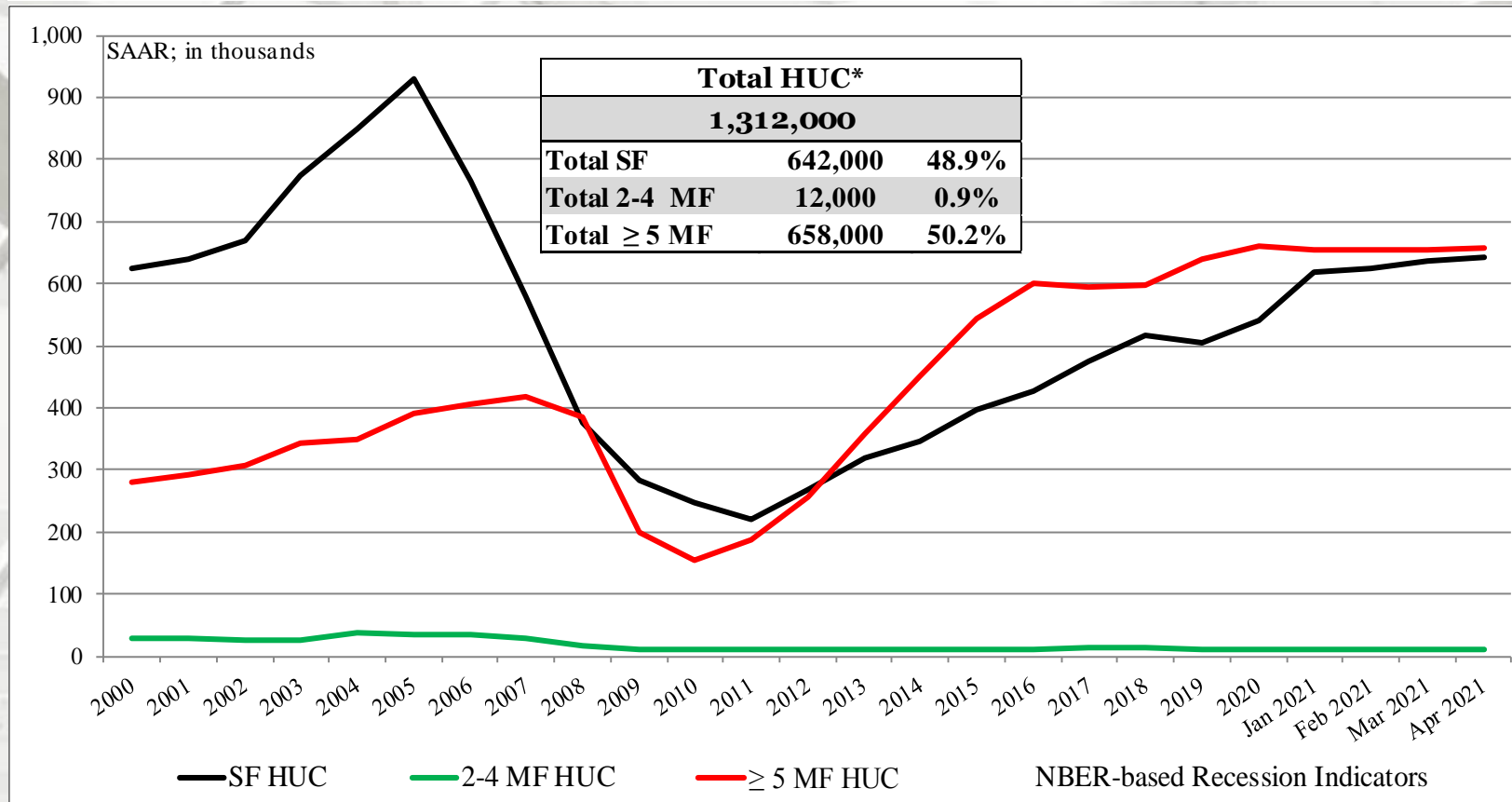
New Housing Under Construction (HUC)

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
April	1,312,000	642,000	12,000	658,000
March	1,304,000	637,000	12,000	655,000
2020	1,194,000	515,000	13,000	666,000
M/M change	0.6%	0.8%	0.0%	0.5%
Y/Y change	9.9%	24.7%	-7.7%	-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**
April	188,000	61,000	127,000
March	183,000	59,000	124,000
2020	178,000	54,000	123,000
M/M change	2.7%	3.4%	2.4%
Y/Y change	5.6%	13.0%	3.3%
	MW Total	MW SF	MW MF
April	167,000	92,000	75,000
March	167,000	90,000	77,000
2020	152,000	75,000	77,000
M/M change	0.0%	2.2%	-2.6%
Y/Y change	9.9%	22.7%	-2.6%

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).

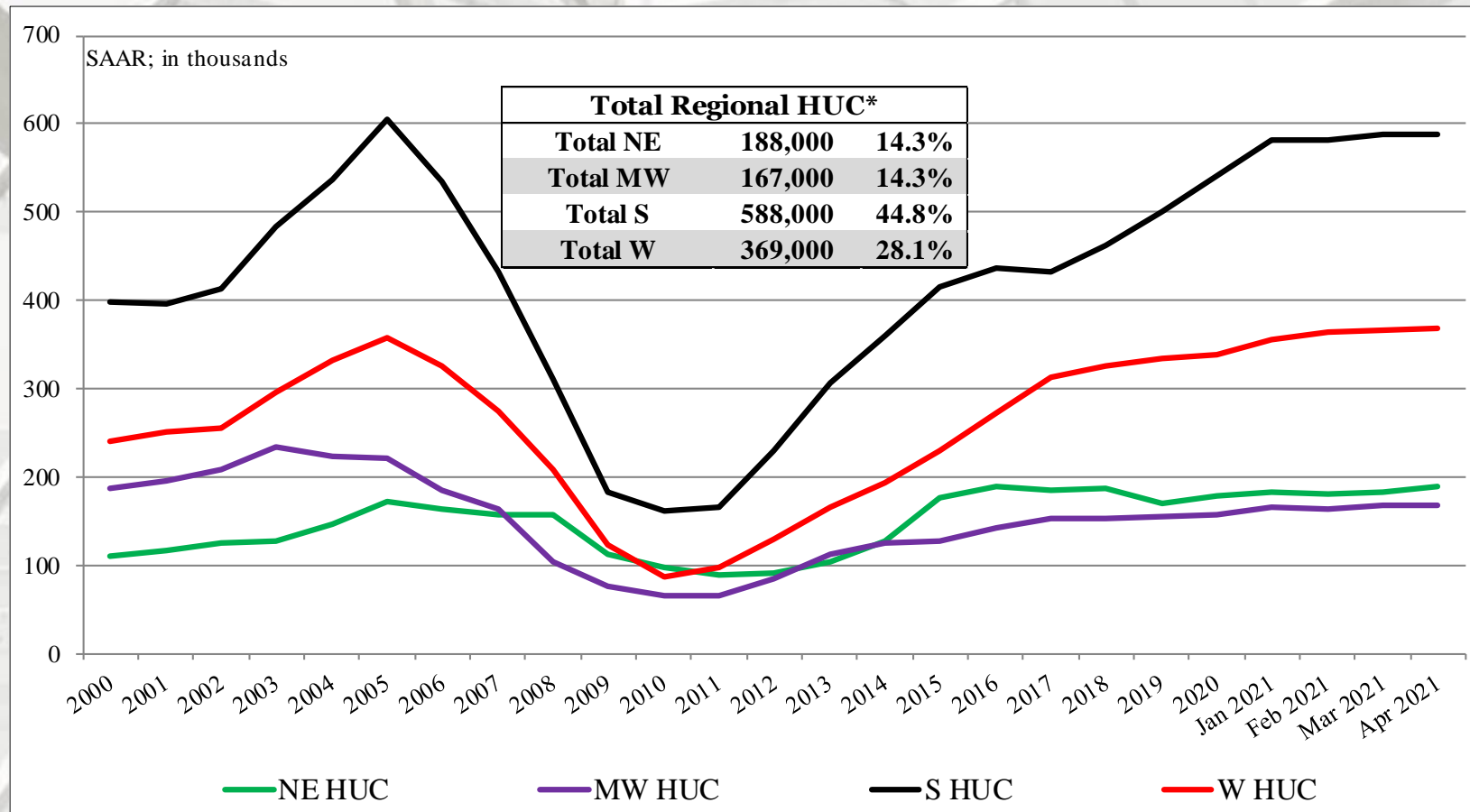
New Housing Under Construction by Region

	S Total	S SF	S MF**
April	588,000	314,000	274,000
March	588,000	314,000	274,000
2020	530,000	246,000	284,000
M/M change	0.0%	0.0%	0.0%
Y/Y change	10.9%	27.6%	-3.5%
	W Total	W SF	W MF
April	369,000	175,000	194,000
March	366,000	174,000	192,000
2020	334,000	140,000	194,000
M/M change	0.8%	0.6%	1.0%
Y/Y change	10.5%	25.0%	0.0%

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

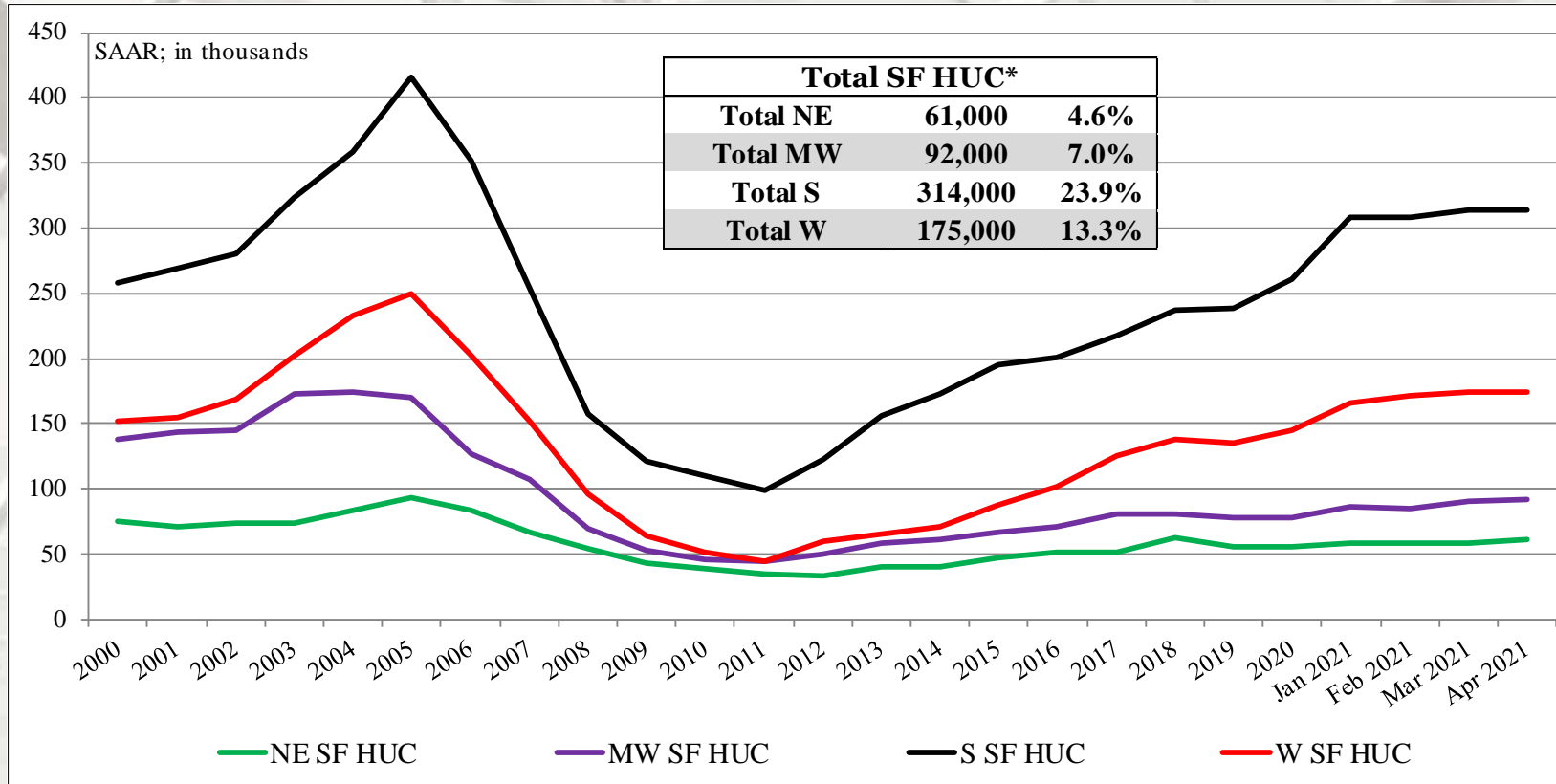


NE = Northeast, MW = Midwest, S = South, W = West

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

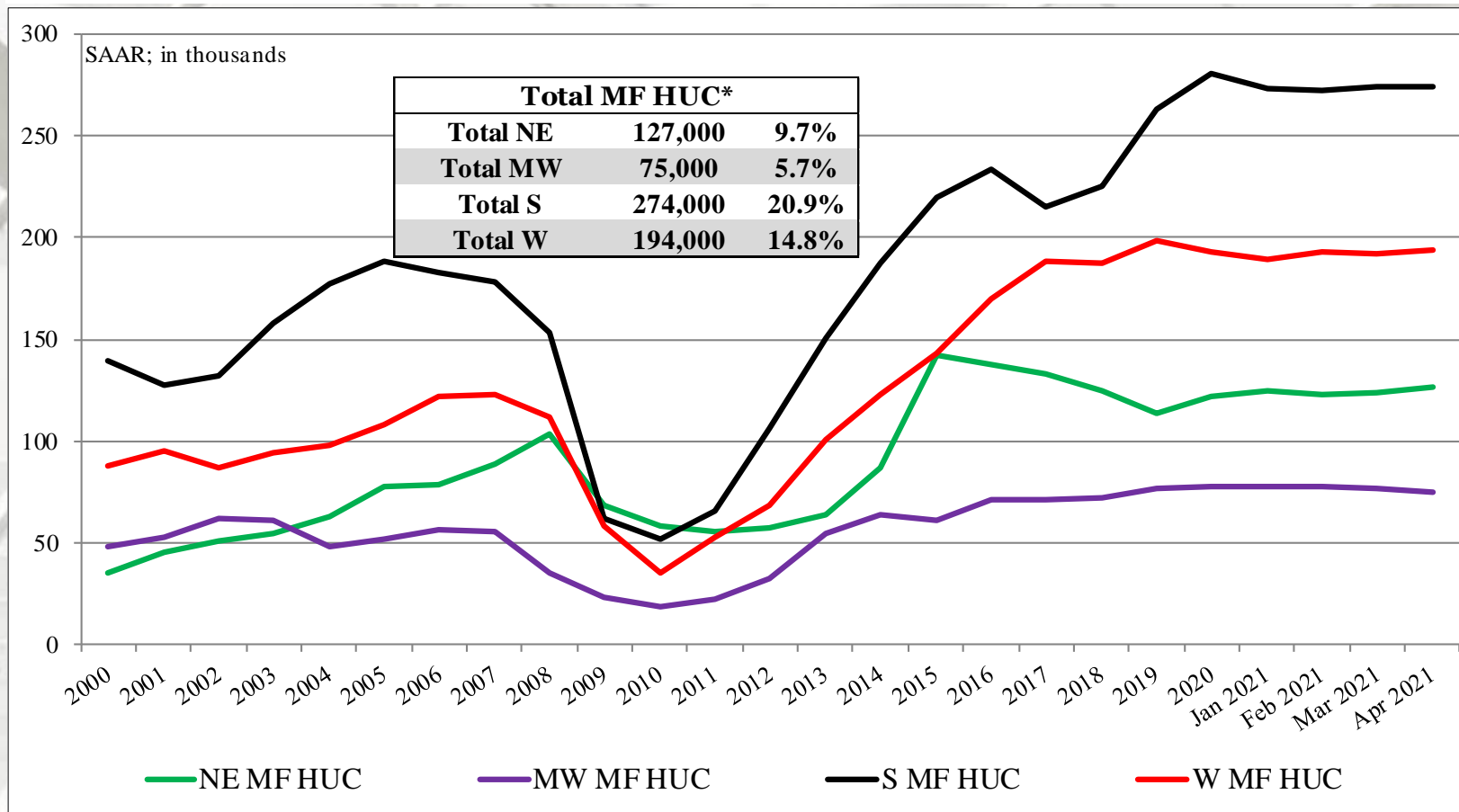


NE = Northeast, MW = Midwest, S = South, W = West.

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.

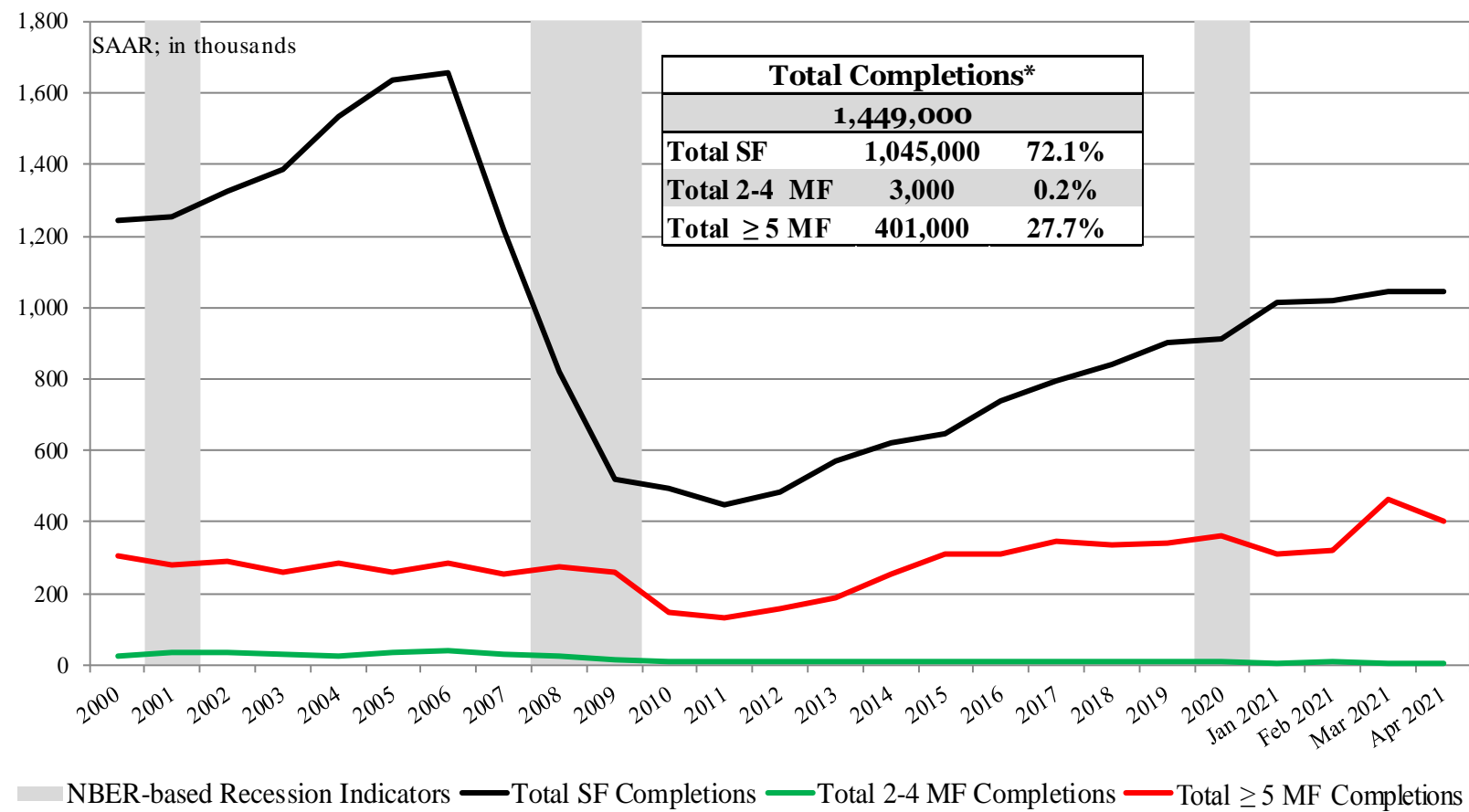
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
April	1,449,000	1,045,000	3,000	401,000
Mach	1,515,000	1,044,000	6,000	465,000
2020	1,191,000	865,000	9,000	317,000
M/M change	-4.4%	0.1%	-50.0%	-13.8%
Y/Y change	21.7%	20.8%	-66.7%	26.5%

* 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**
April	117,000	48,000	69,000
March	128,000	77,000	51,000
2020	59,000	32,000	27,000
M/M change	-8.6%	-37.7%	35.3%
Y/Y change	98.3%	50.0%	155.6%
	MW Total	MW SF	MW MF
April	182,000	119,000	63,000
March	219,000	128,000	91,000
2020	169,000	125,000	44,000
M/M change	-16.9%	-7.0%	-30.8%
Y/Y change	7.7%	-4.8%	43.2%

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

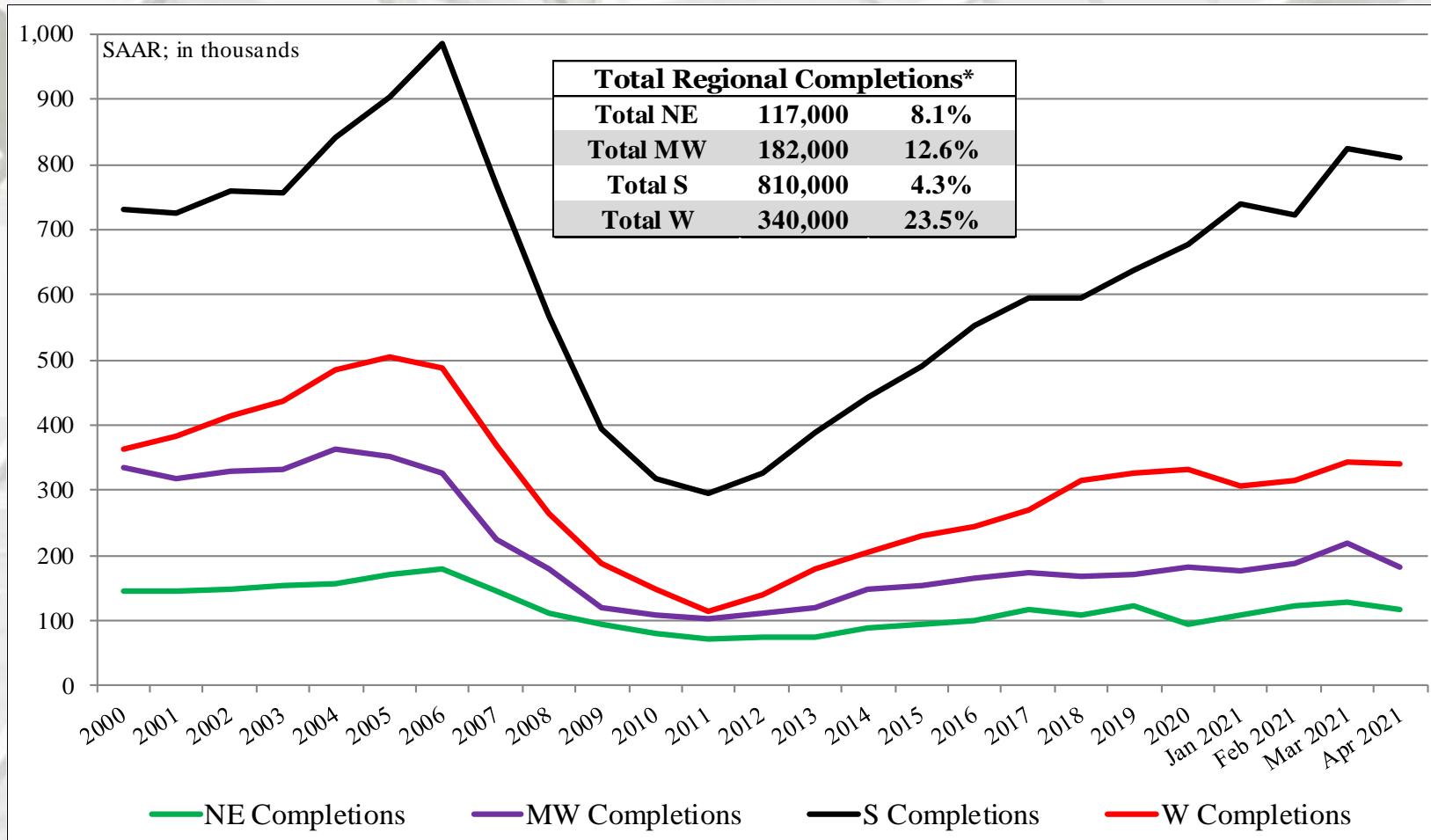
	S Total	S SF	S MF**
April	810,000	619,000	191,000
March	824,000	605,000	219,000
2020	691,000	534,000	157,000
M/M change	-1.7%	2.3%	-12.8%
Y/Y change	17.2%	15.9%	21.7%
	W Total	W SF	W MF
April	340,000	259,000	81,000
March	344,000	234,000	110,000
2020	272,000	174,000	98,000
M/M change	-1.2%	10.7%	-26.4%
Y/Y change	25.0%	48.9%	-17.3%

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

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

* Percentage of total housing completions

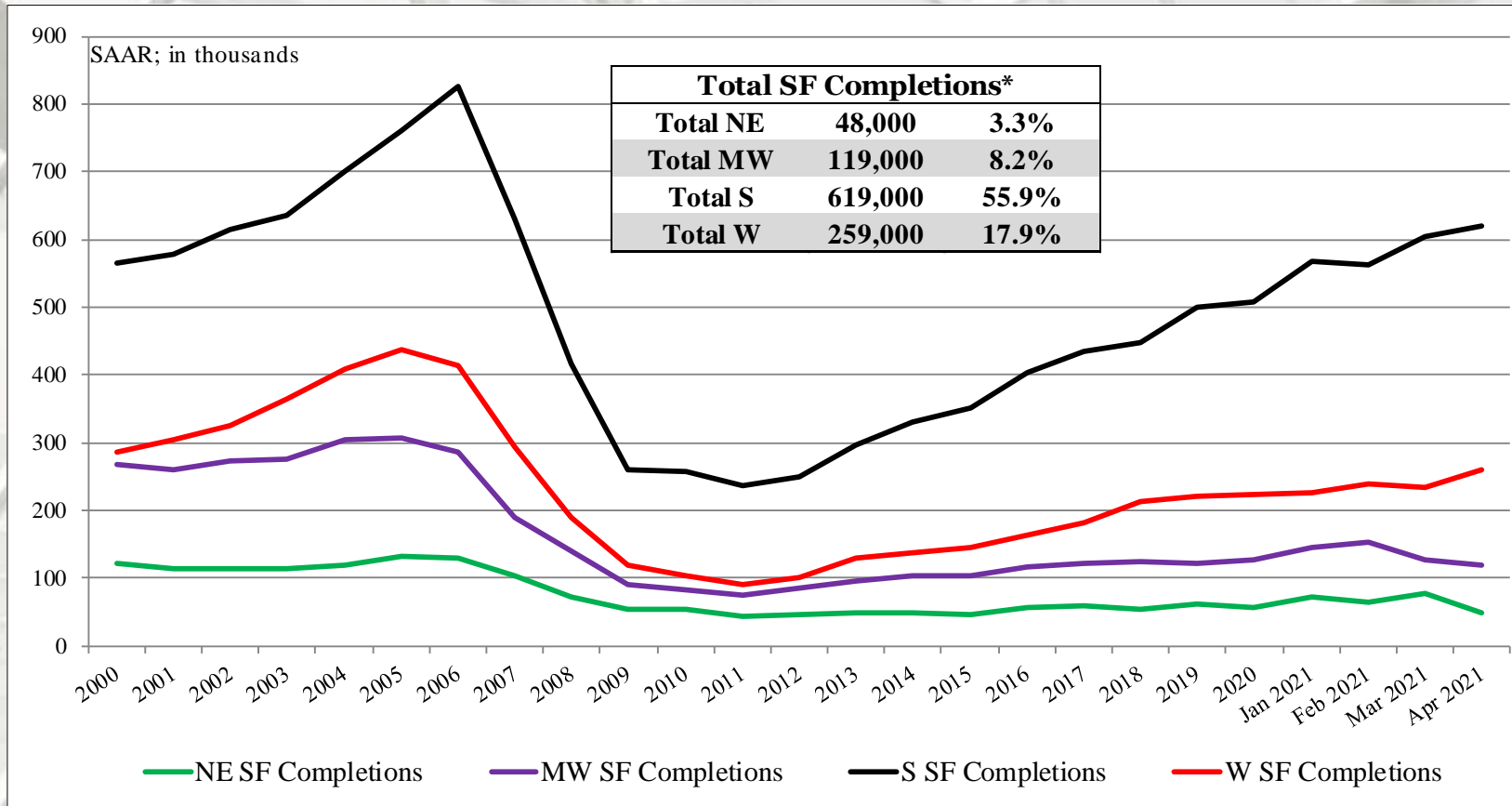
Total Housing Completions by Region



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

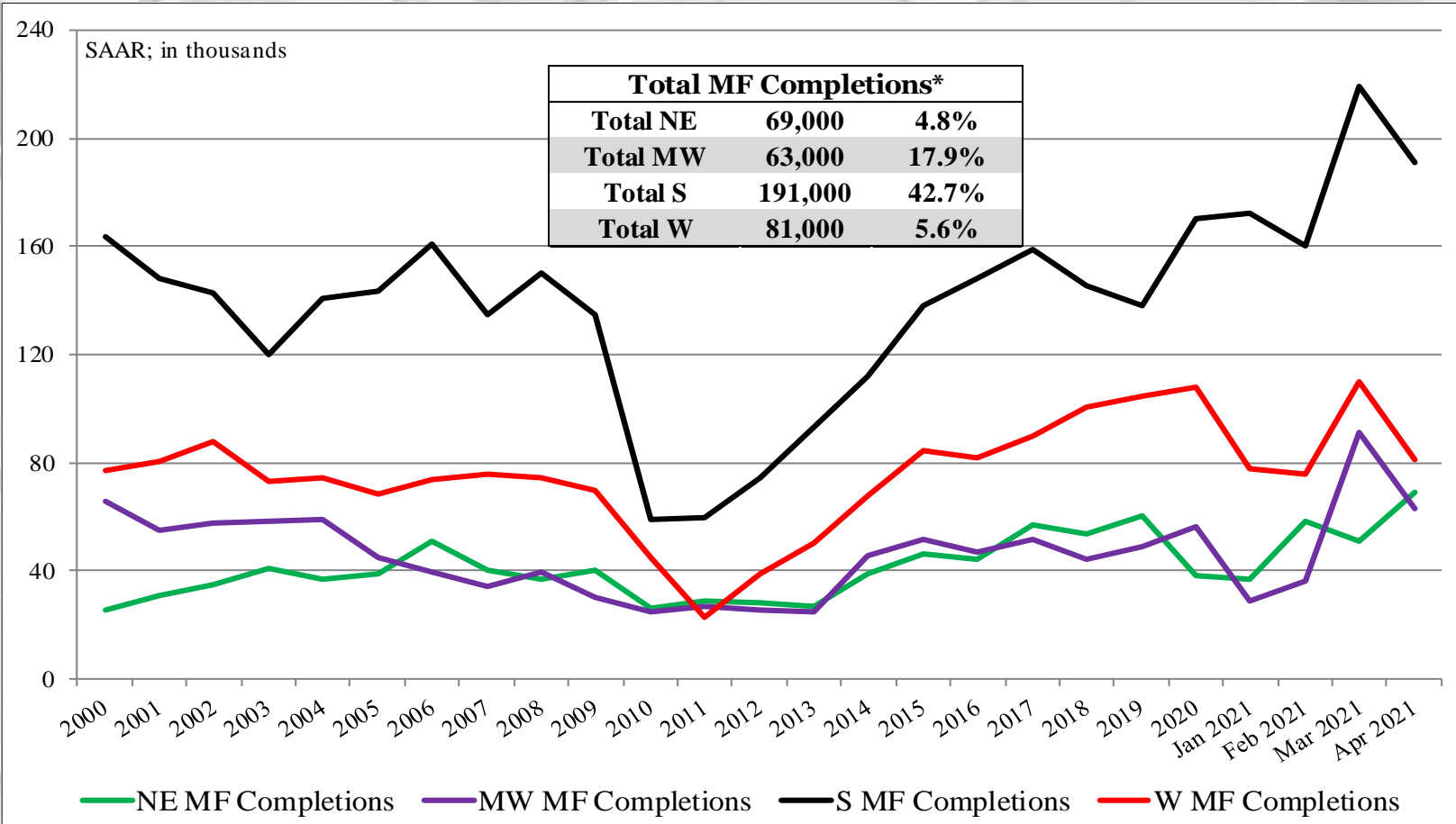


NE = Northeast, MW = Midwest, S = South, W = West

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
April	863,000	\$372,400	\$435,400	4.4
March	917,000	\$334,200	\$400,500	4.0
2020	582,000	\$310,100	\$360,300	6.6
M/M change	-5.9%	11.4%	8.7%	10.0%
Y/Y change	48.3%	20.1%	20.8%	-33.3%

* 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 955 m (range: 915 m to 1,040 m). The past three month's new SF sales data also were revised:

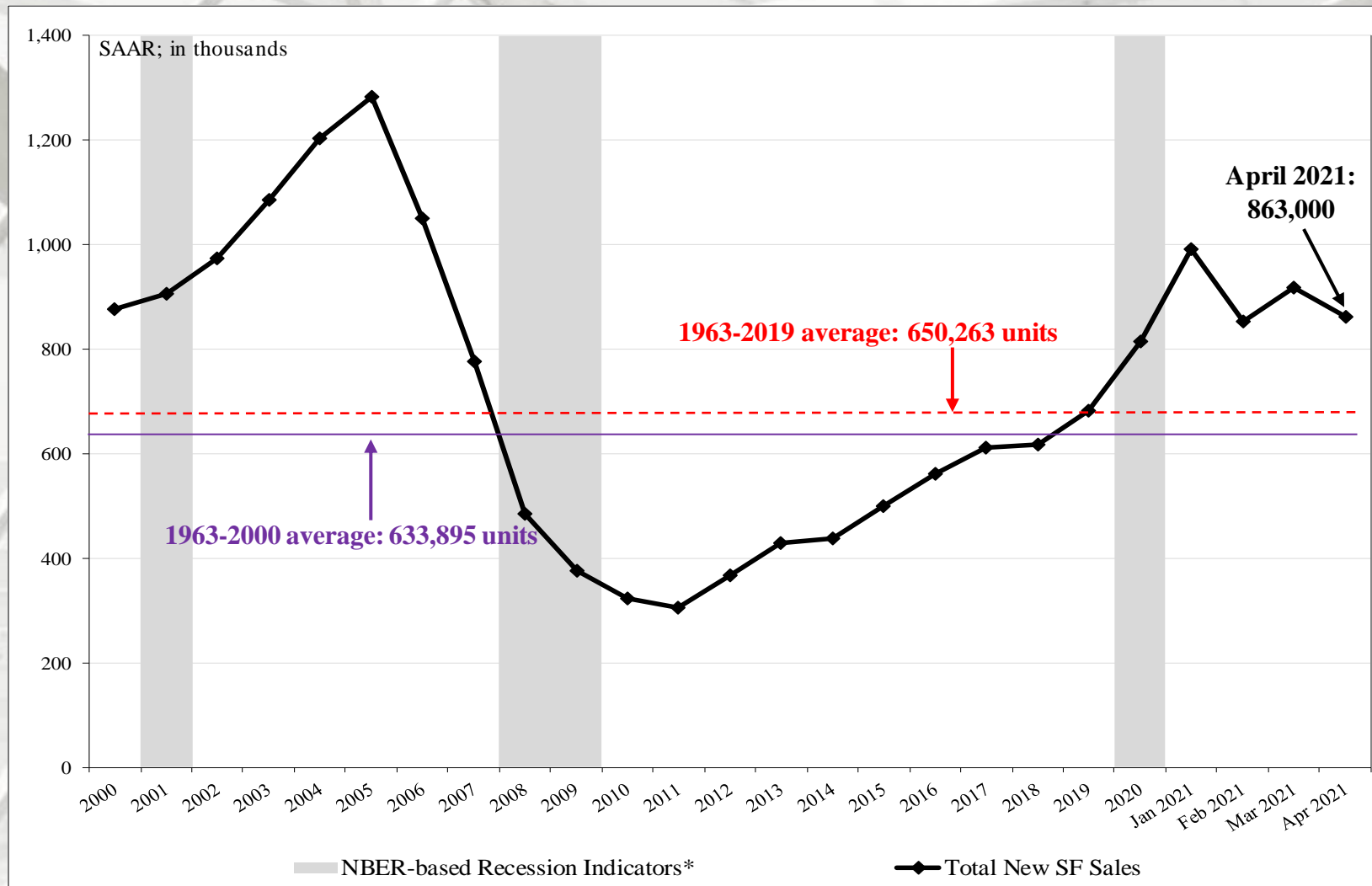
January initial:	923 m, revised to 993 m;
February initial:	775 m, revised to 854 m.
March initial:	1,021 m, revised to 917 m.

Sources: ¹ <https://www.census.gov/construction/nrs/index.html>; 5/25/21; ² <https://www.census.gov/construction/nrs/pdf/newressales.pdf>

³ <http://us.econoday.com/>; 5/25/21

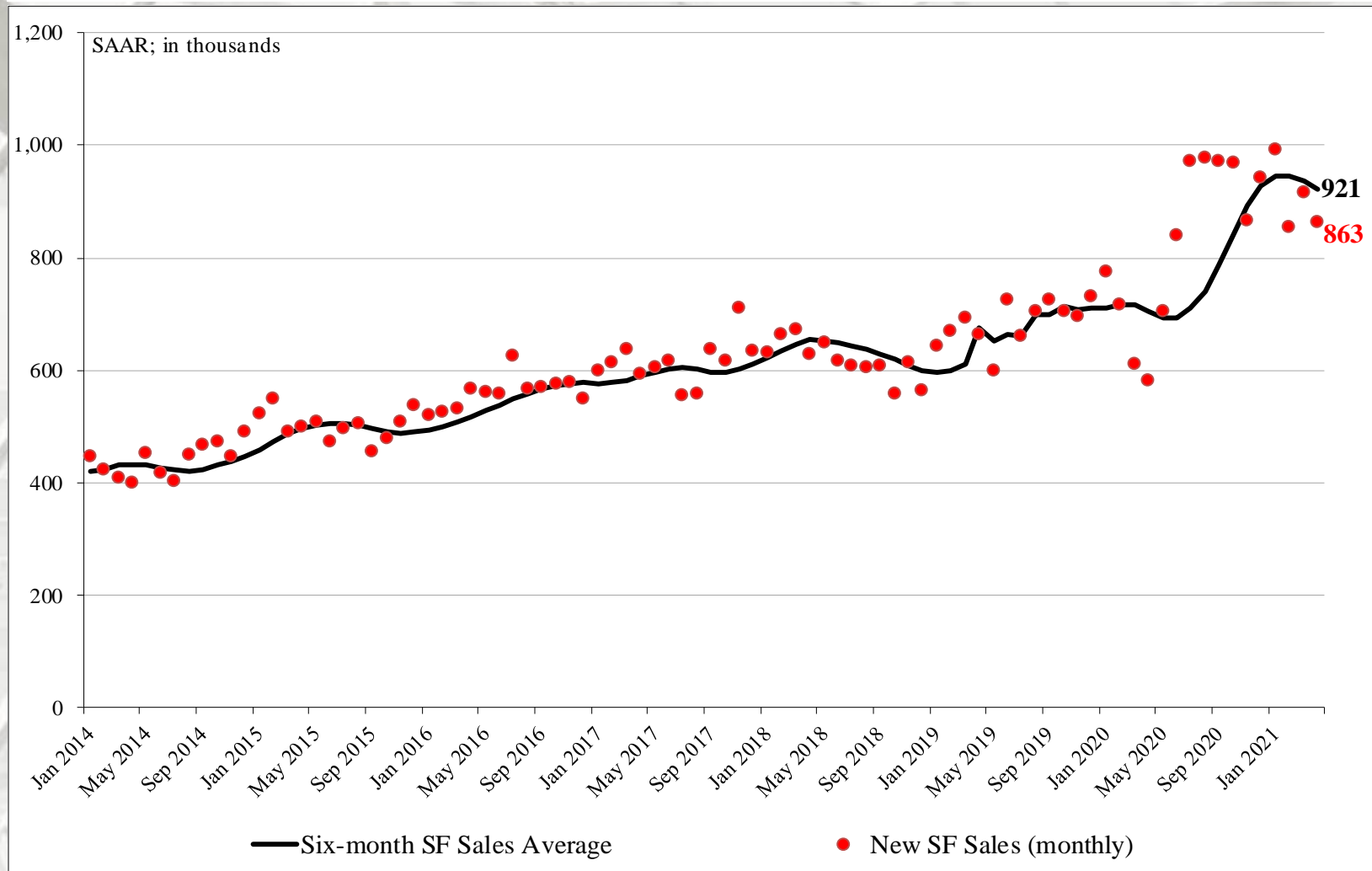
Return TOC

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
April	44,000	110,000	545,000	164,000
March	51,000	120,000	594,000	152,000
2020	22,000	75,000	338,000	147,000
M/M change	-13.7%	-8.3%	-8.2%	7.9%
Y/Y change	100.0%	46.7%	61.2%	11.6%

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 April not add to total because of rounding.

⁴ Housing prices are adjusted at irregular intervals.

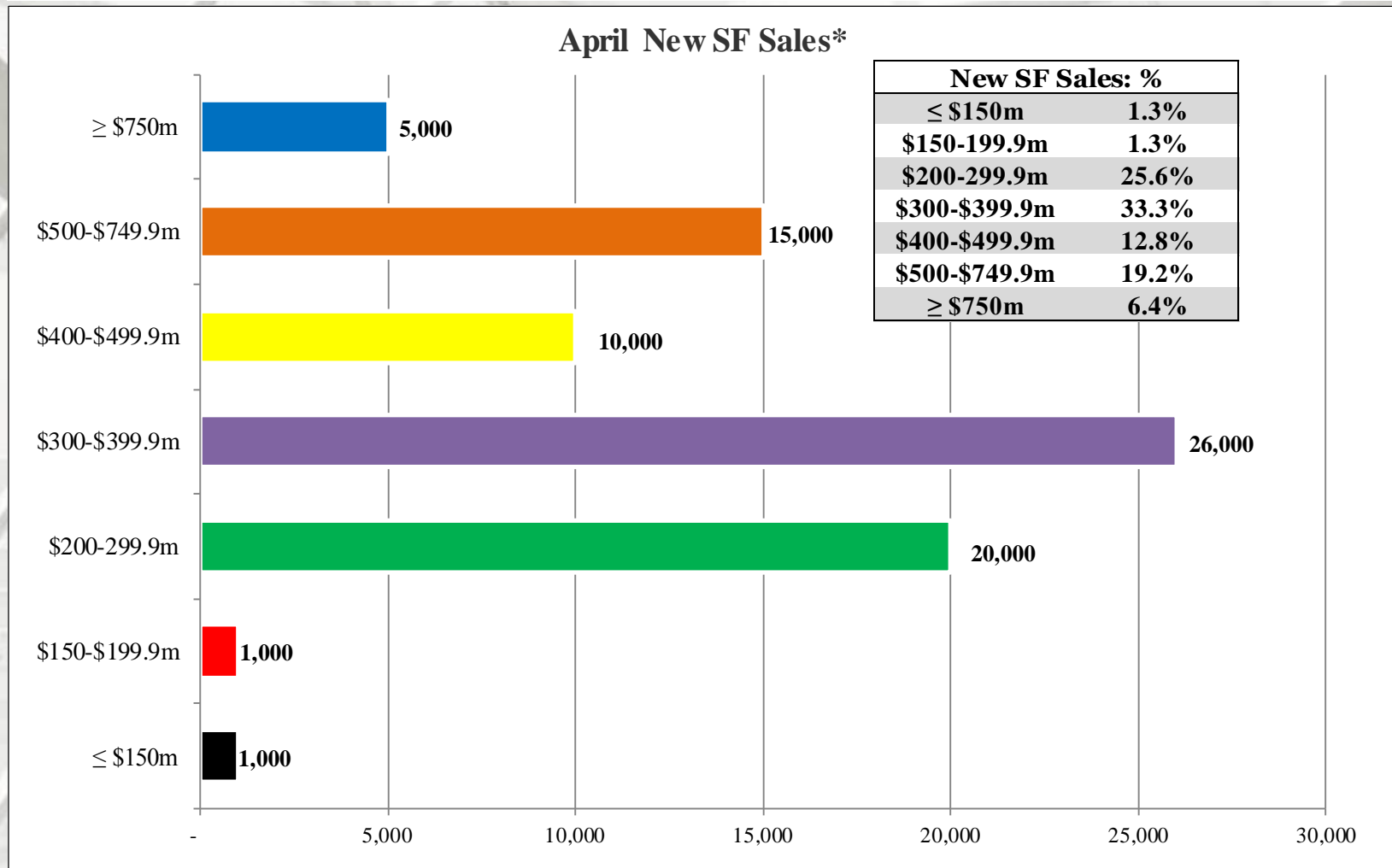
⁵ Z = Less than 500 units or less than 0.5 percent

Sources: ^{1,2,3} <https://www.census.gov/construction/nrs/index.html>; 5/25/21;

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

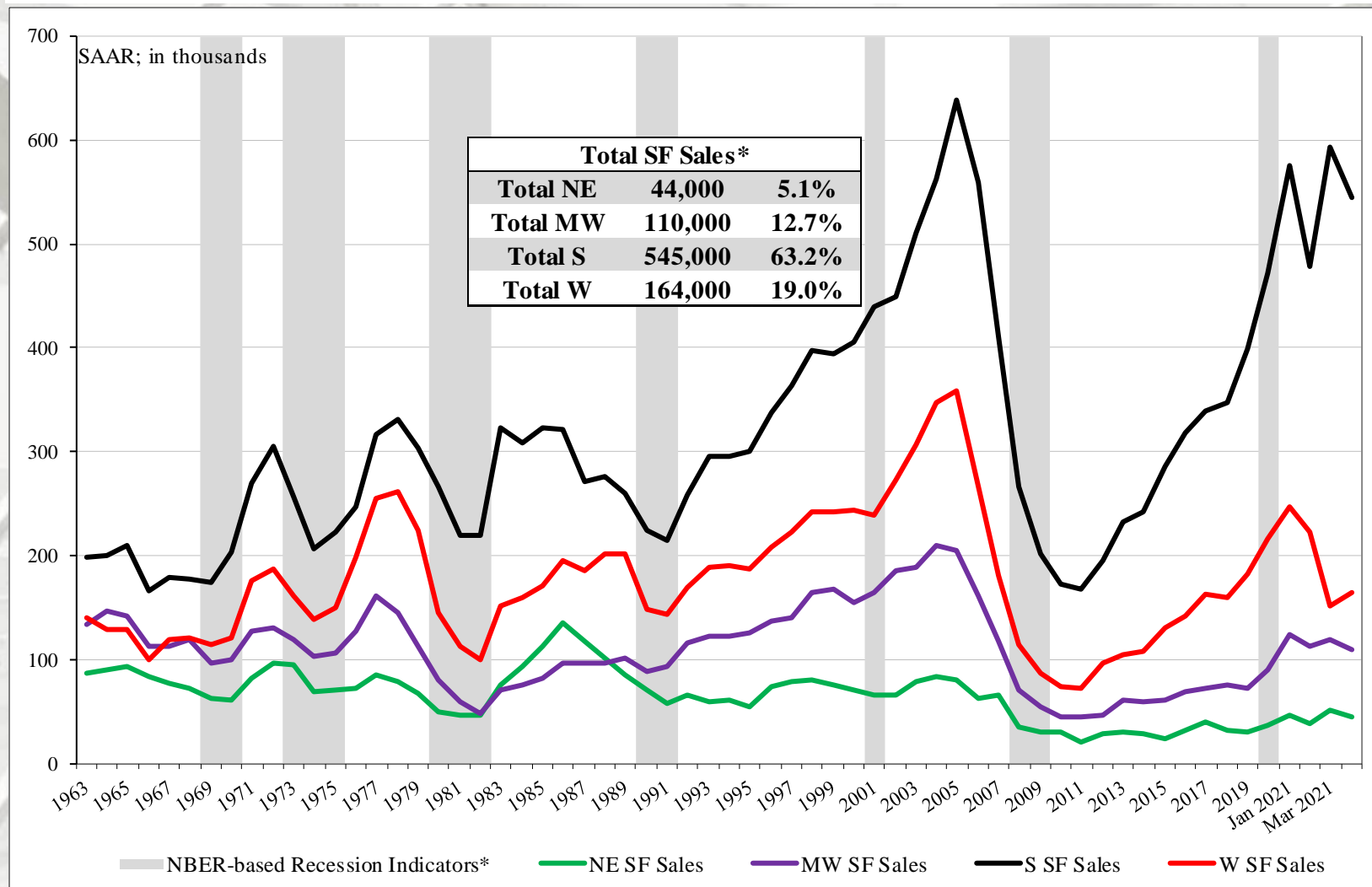
Return TOC

New SF House Sales



* Total new sales by price category and percent.

New SF House Sales by Region

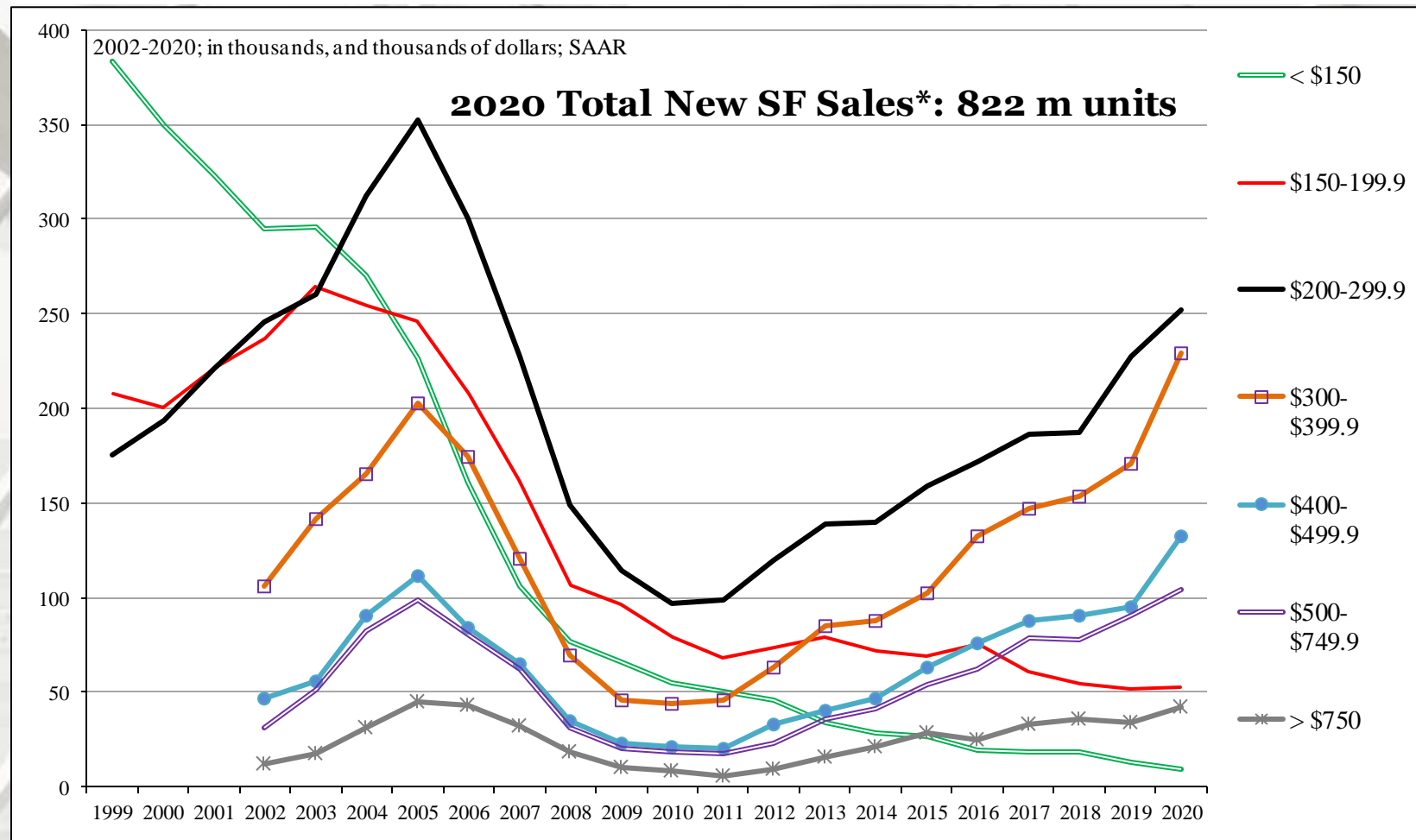


NE = Northeast; MW = Midwest; S = South; W = West

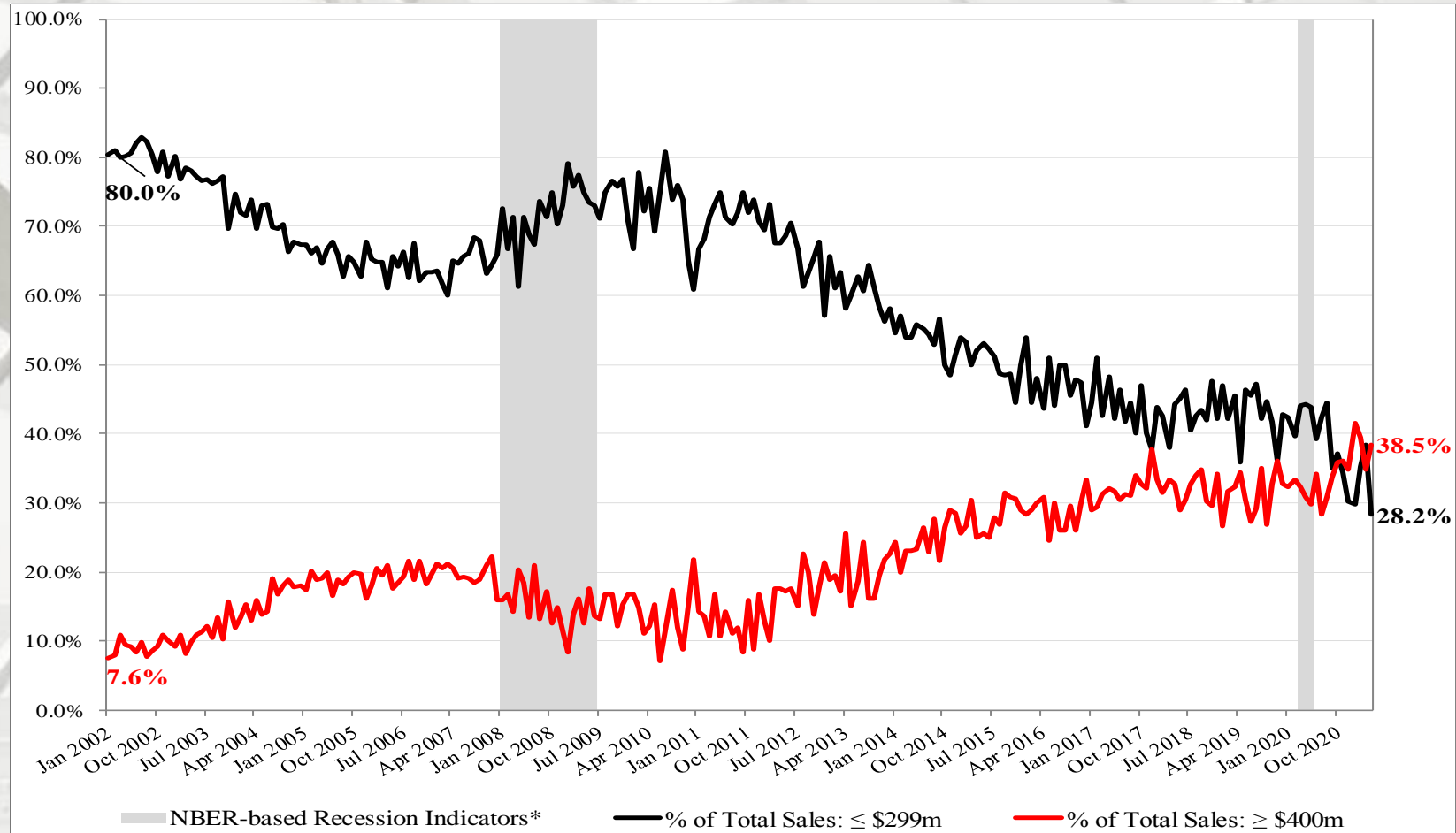
* Percentage of total new sales.

* 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

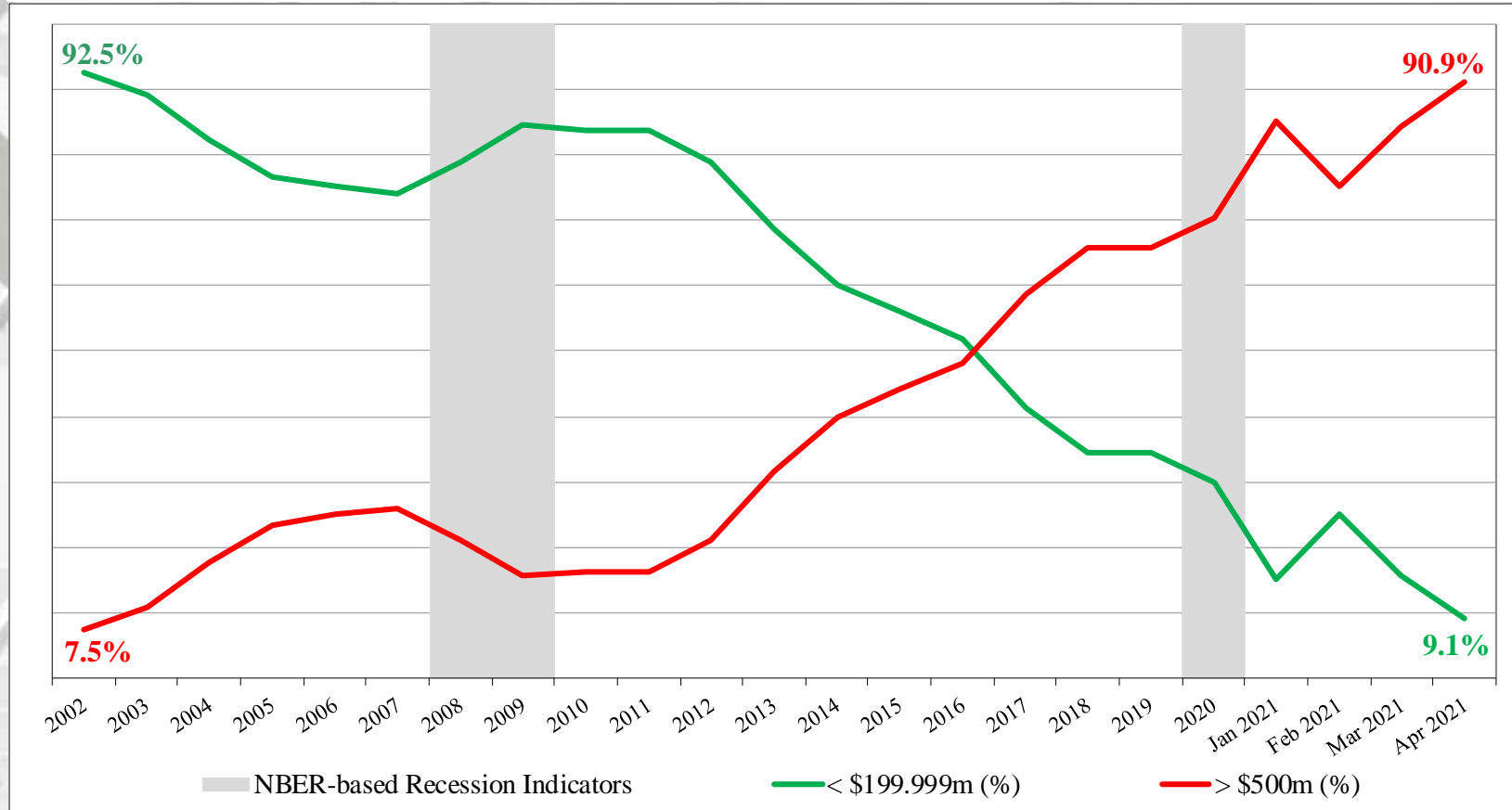


* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

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



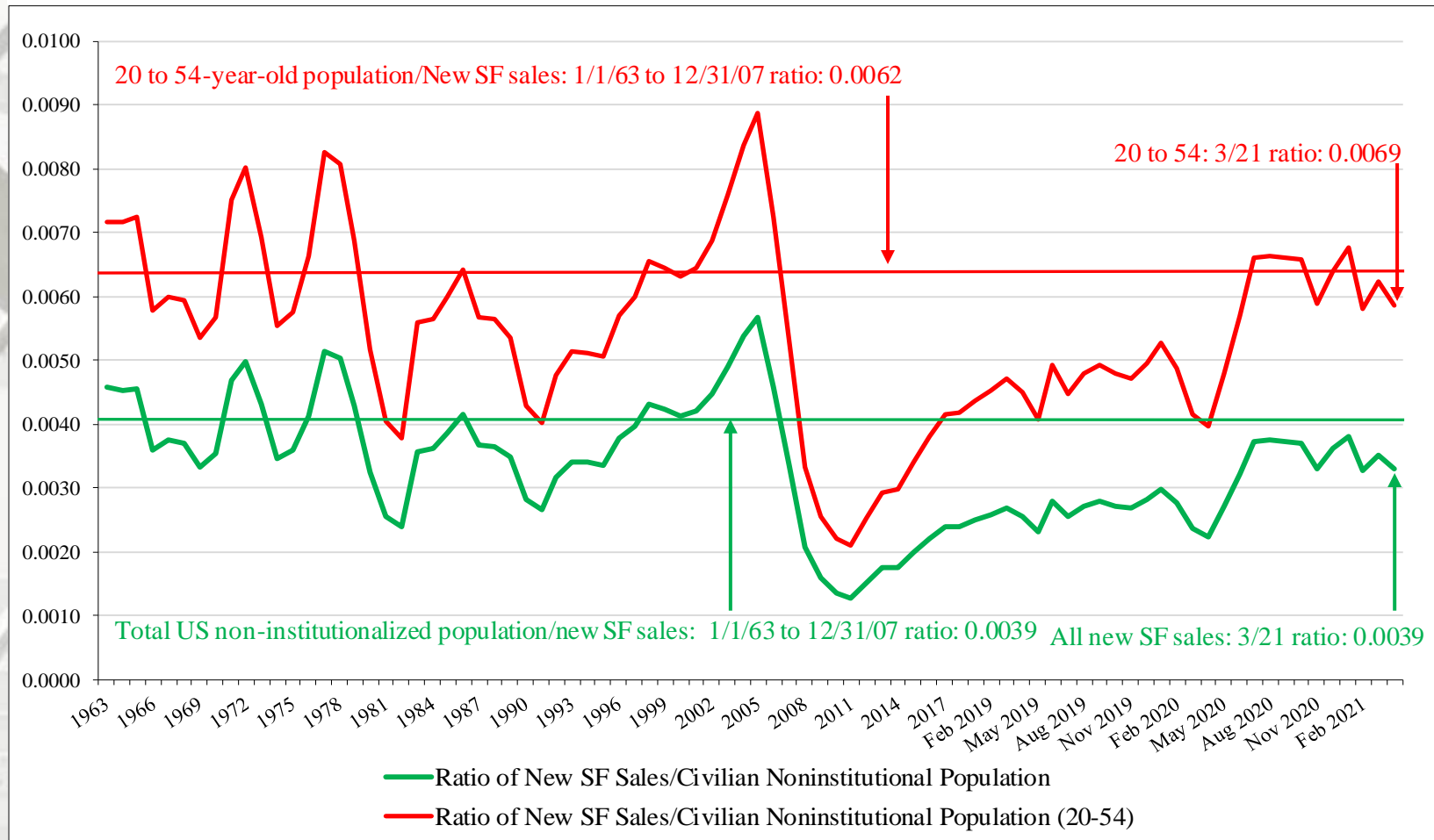
New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to April 2021

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).

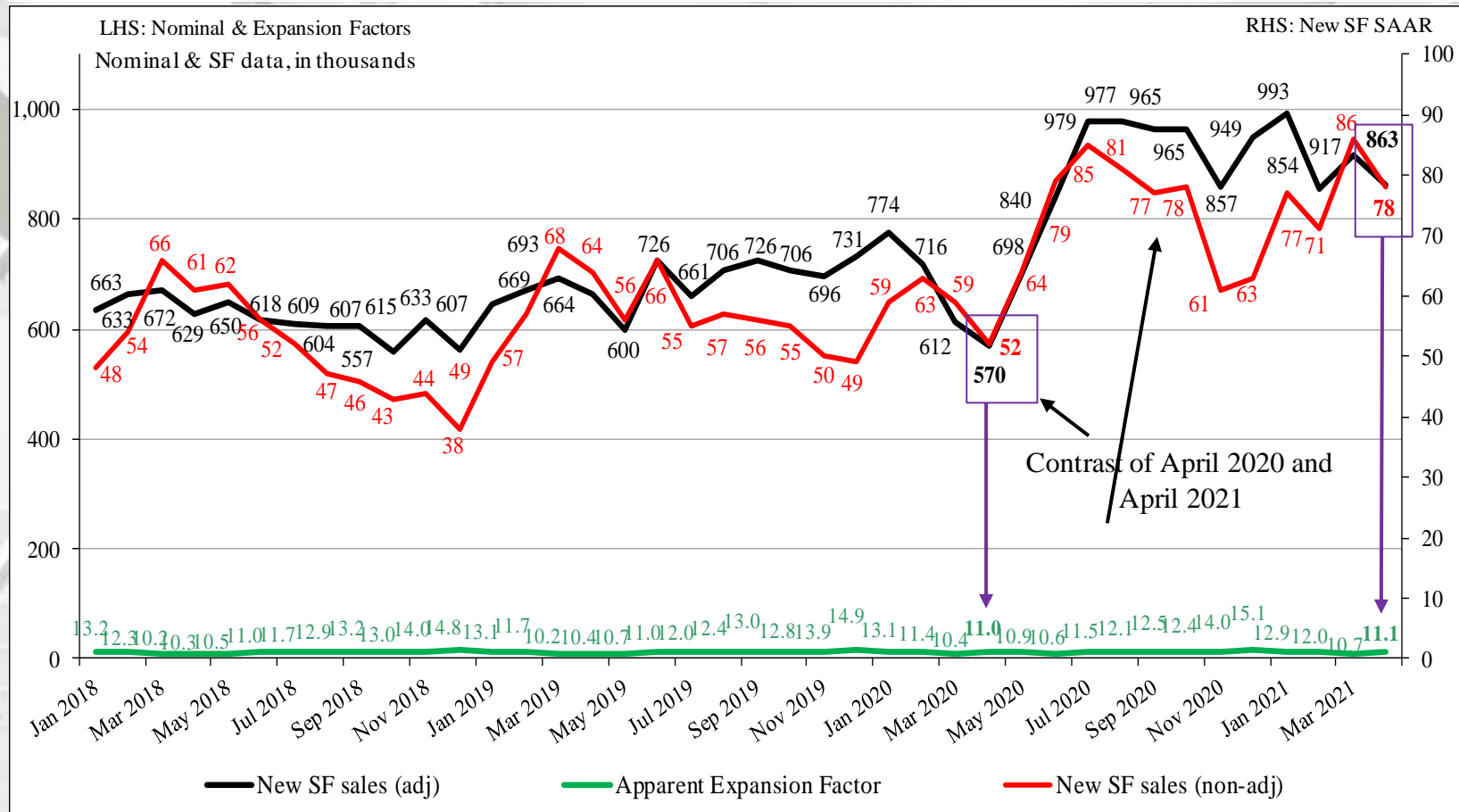
New SF House Sales



New SF sales adjusted for the US population

From April 1963 to April 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in April 2021 it was 0.0033 – a decrease from March (0.0035). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in April 2021 it was 0.0059 – also a decrease from March (0.0062). 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

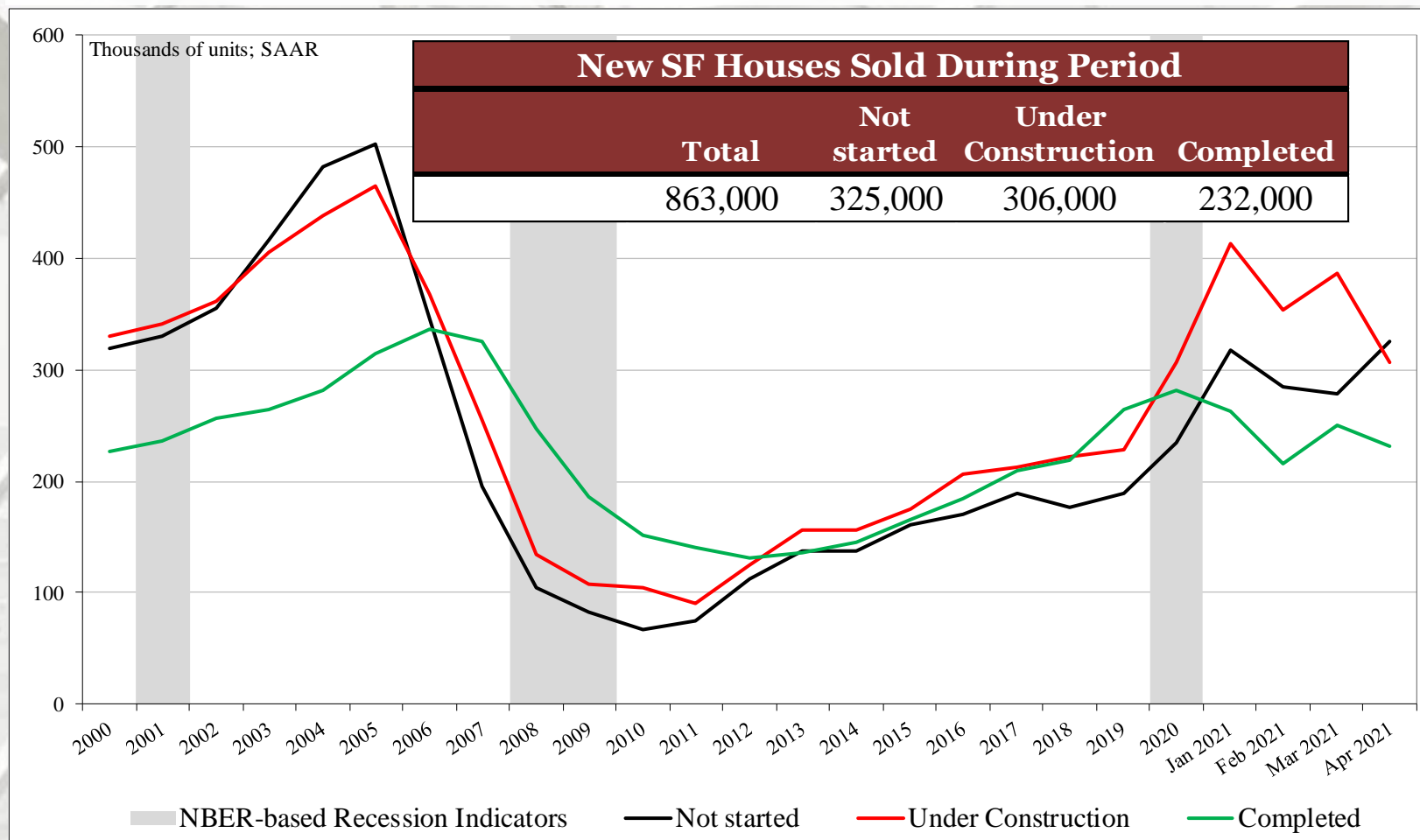
New SF House Sales

New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
April	863,000	325,000	306,000	232,000
March	917,000	279,000	387,000	251,000
2020	582,000	121,000	219,000	242,000
M/M change	-5.9%	16.5%	-20.9%	-7.6%
Y/Y change	48.3%	168.6%	39.7%	-4.1%
Total percentage		37.7%	35.5%	26.9%

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).

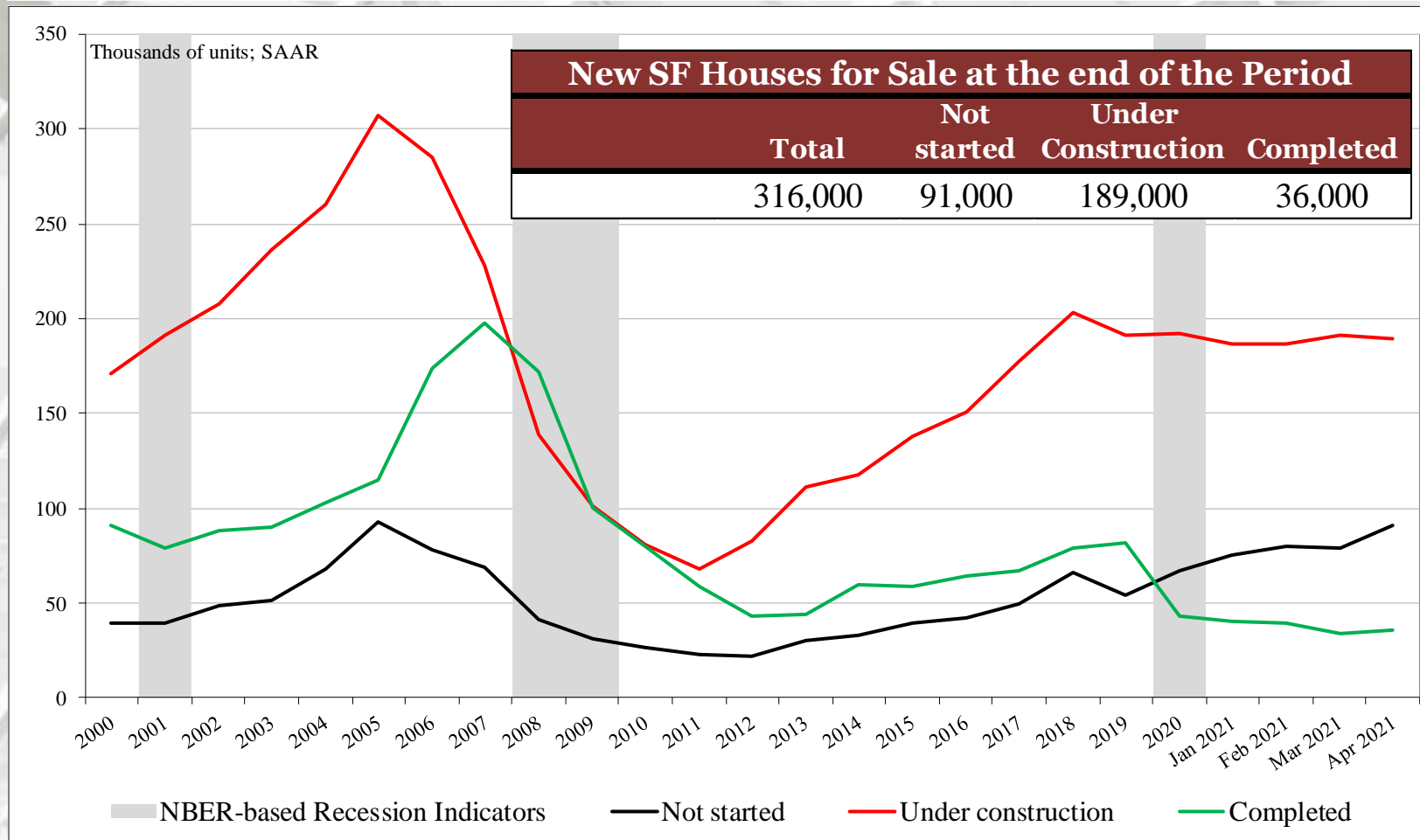
New SF Houses for Sale at End of Period

New SF Houses for Sale at the end of the Period				
	Total	Not started	Under Construction	Completed
April	316,000	91,000	189,000	36,000
March	304,000	79,000	191,000	34,000
2020	321,000	58,000	186,000	77,000
M/M change	3.9%	15.2%	-1.0%	5.9%
Y/Y change	-1.6%	56.9%	1.6%	-53.2%
Total percentage		28.8%	59.8%	11.4%

Not SAAR

Of houses listed for sale (316m) in April, 11.4% (36m) have been built. Lastly, 91m (28.8%) were offerings in which the ground has not been broken for construction.

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).

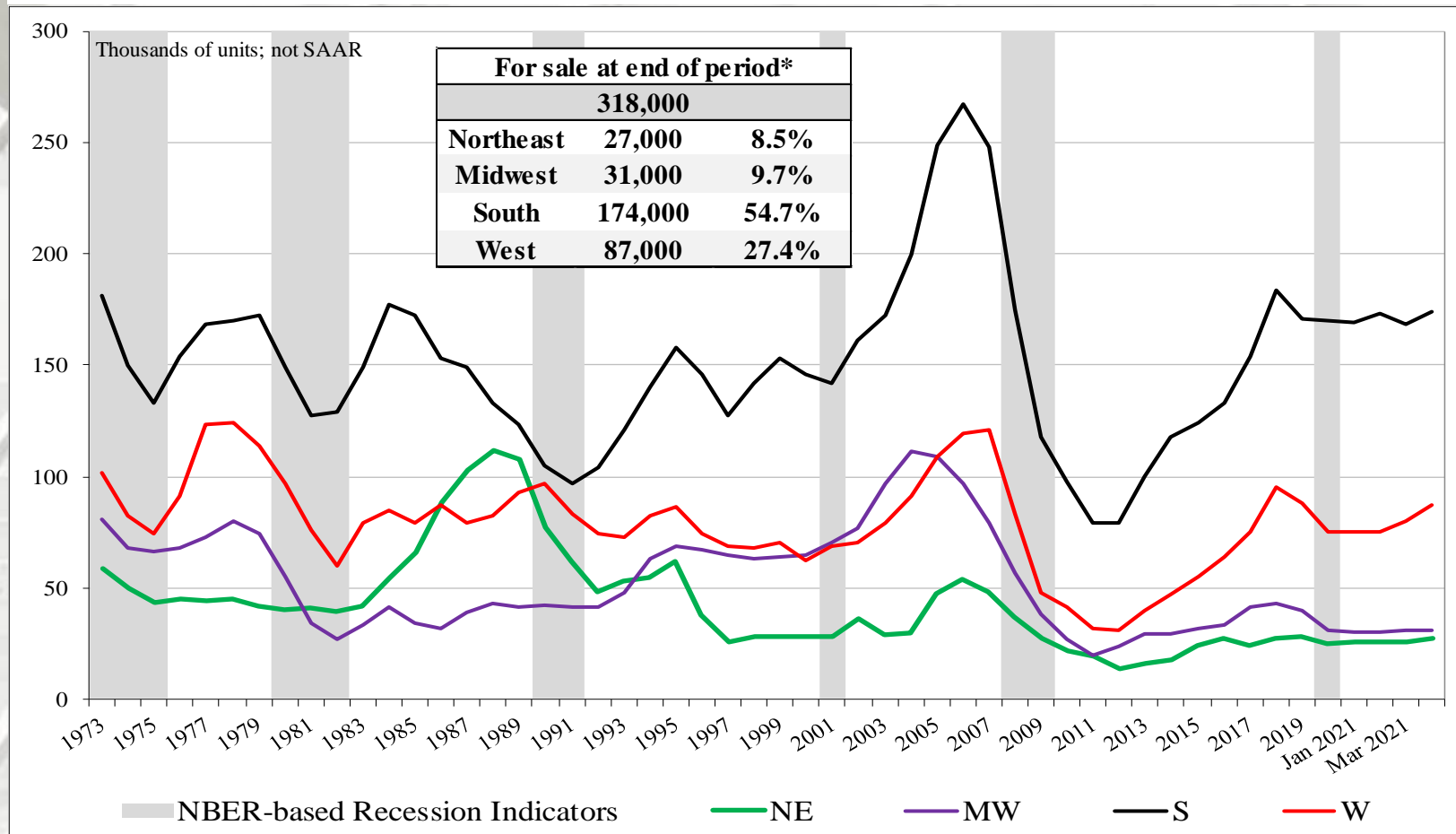
New SF House Sales

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

	Total	NE	MW	S	W
April	318,000	27,000	31,000	174,000	87,000
March	306,000	26,000	31,000	168,000	80,000
2020	321,000	26,000	33,000	179,000	82,000
M/M change	3.9%	3.8%	0.0%	3.6%	8.7%
Y/Y change	-0.9%	3.8%	-6.1%	-2.8%	6.1%

* Not SAAR

New SF Houses for Sale at End of Period by Region

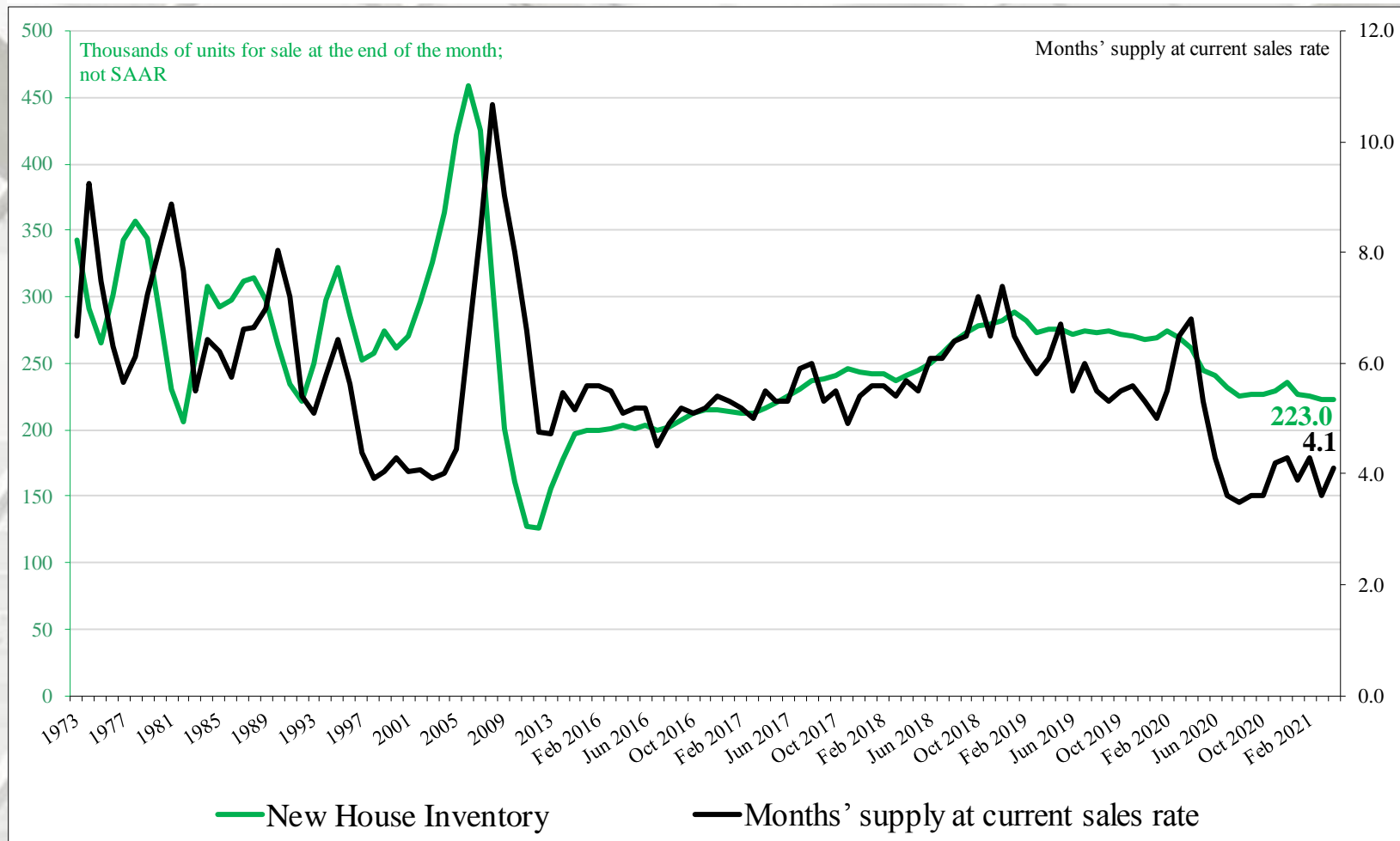


NE = Northeast; MW = Midwest; S = South; W = West

* 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).

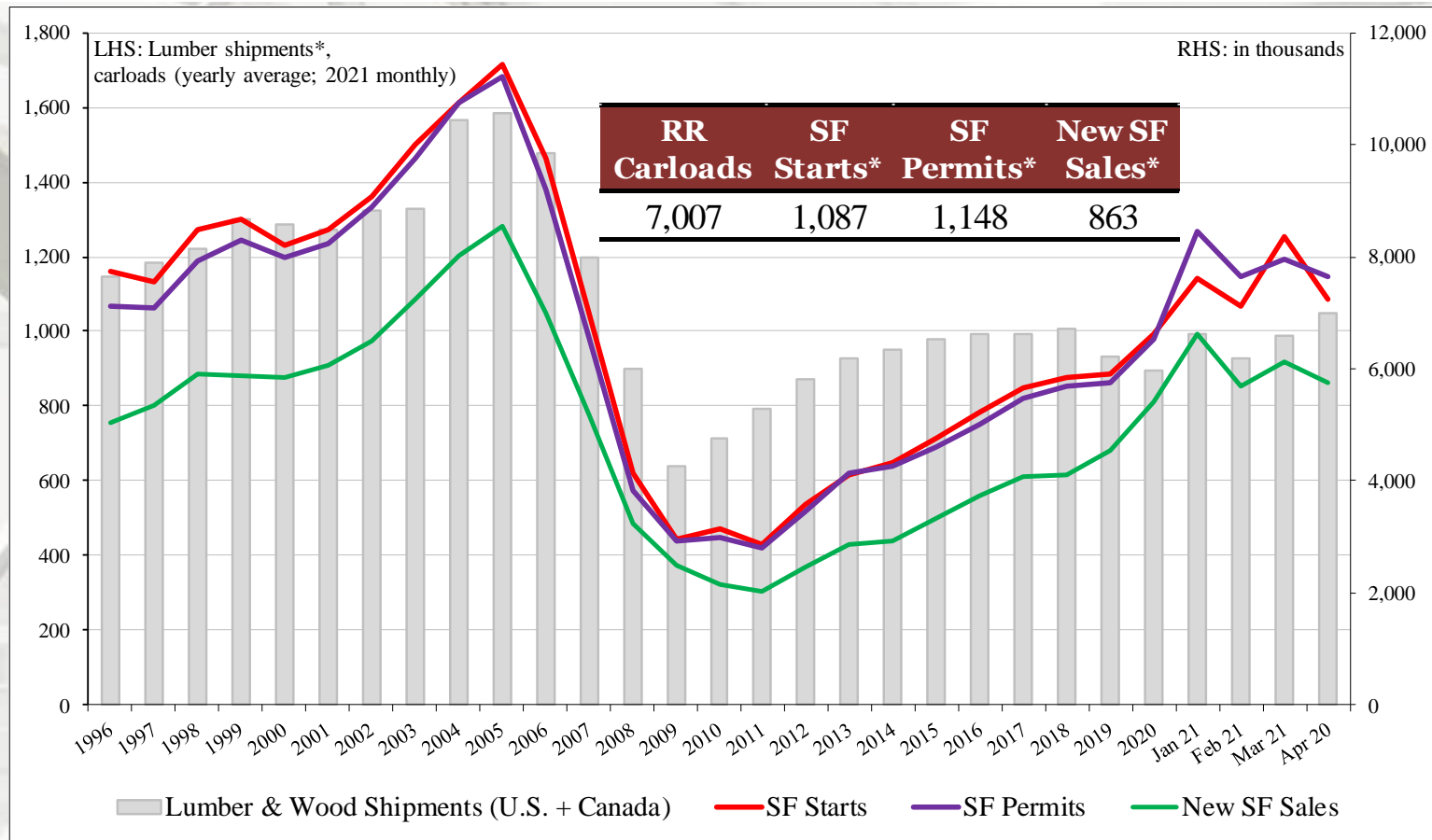
Months' Supply and New House Inventory^a



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

The months supply of new houses for sale was 4.1 months in April.

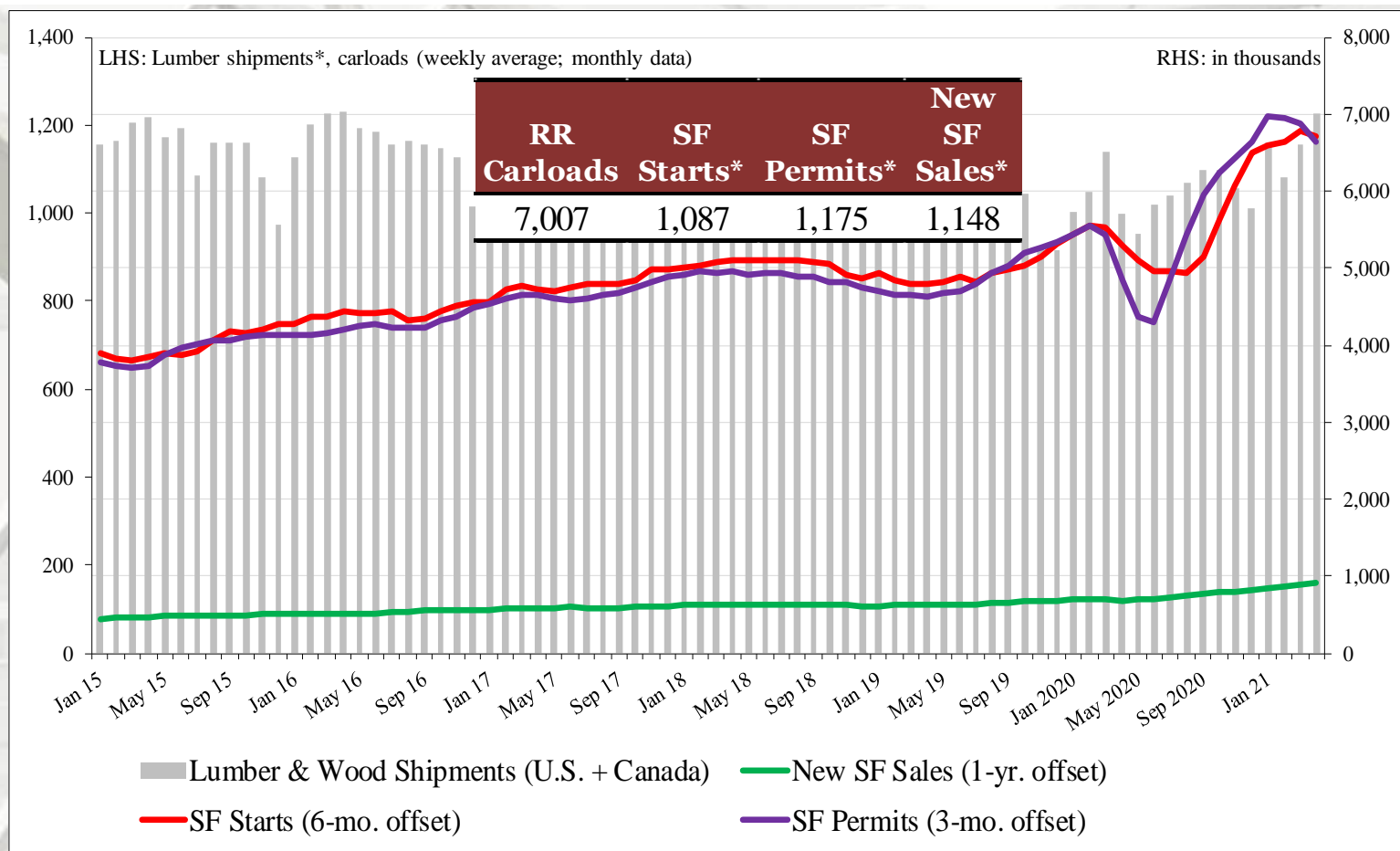
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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

April 2021

Construction Spending

	Total Private Residential*	SF	MF	Improvement**
April	\$729,238	\$396,316	\$98,460	\$234,462
March	\$721,751	\$391,214	\$96,667	\$233,870
2020	\$562,339	\$283,910	\$77,443	\$200,986
M/M change	1.0%	1.3%	1.9%	0.3%
Y/Y change	29.7%	39.6%	27.1%	16.7%

* 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.

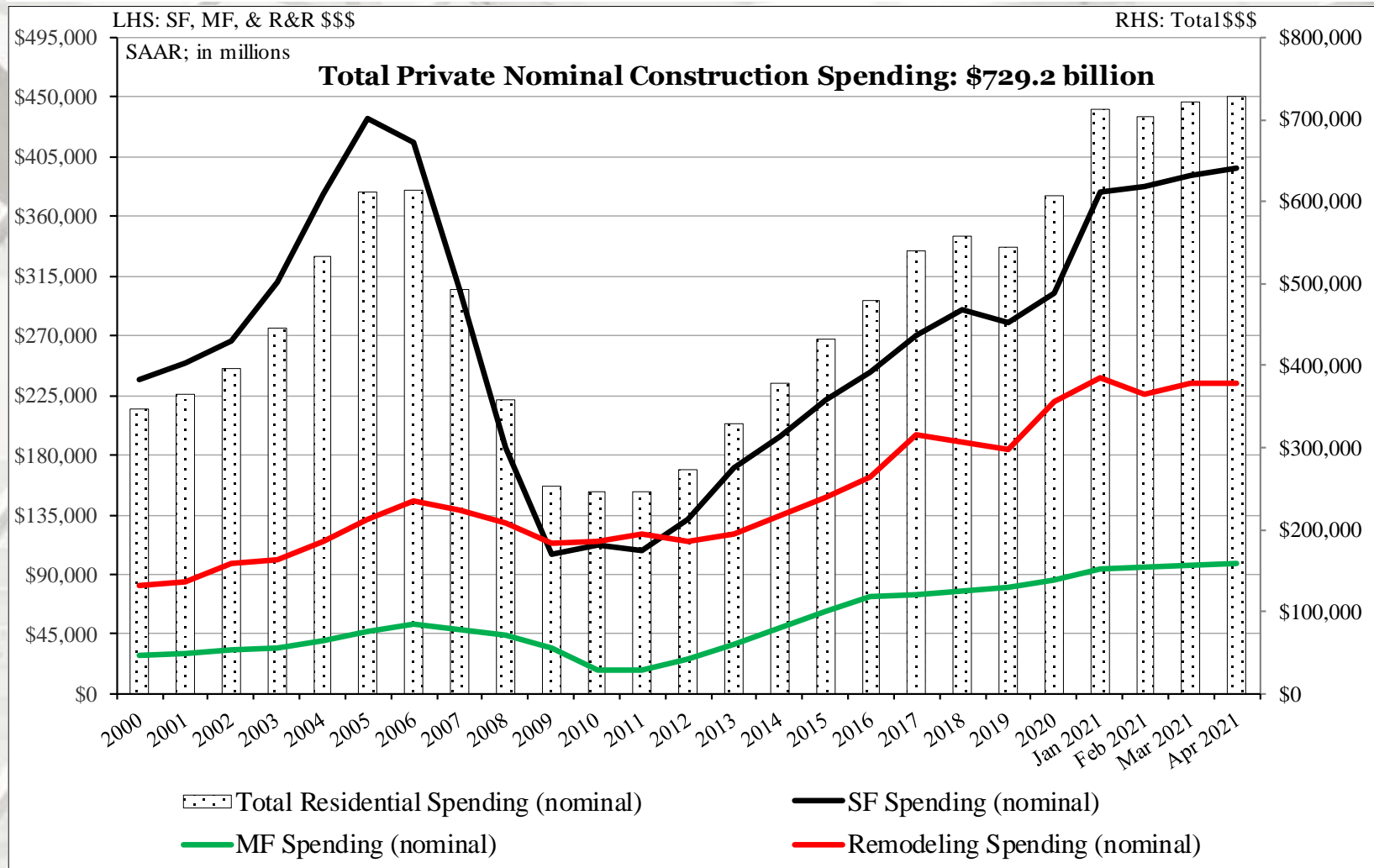
New multi-family includes new apartments and condominiums. The classification excludes residential units in buildings that are primarily nonresidential.

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.

Source: <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 6/1/21

[Return TOC](#)

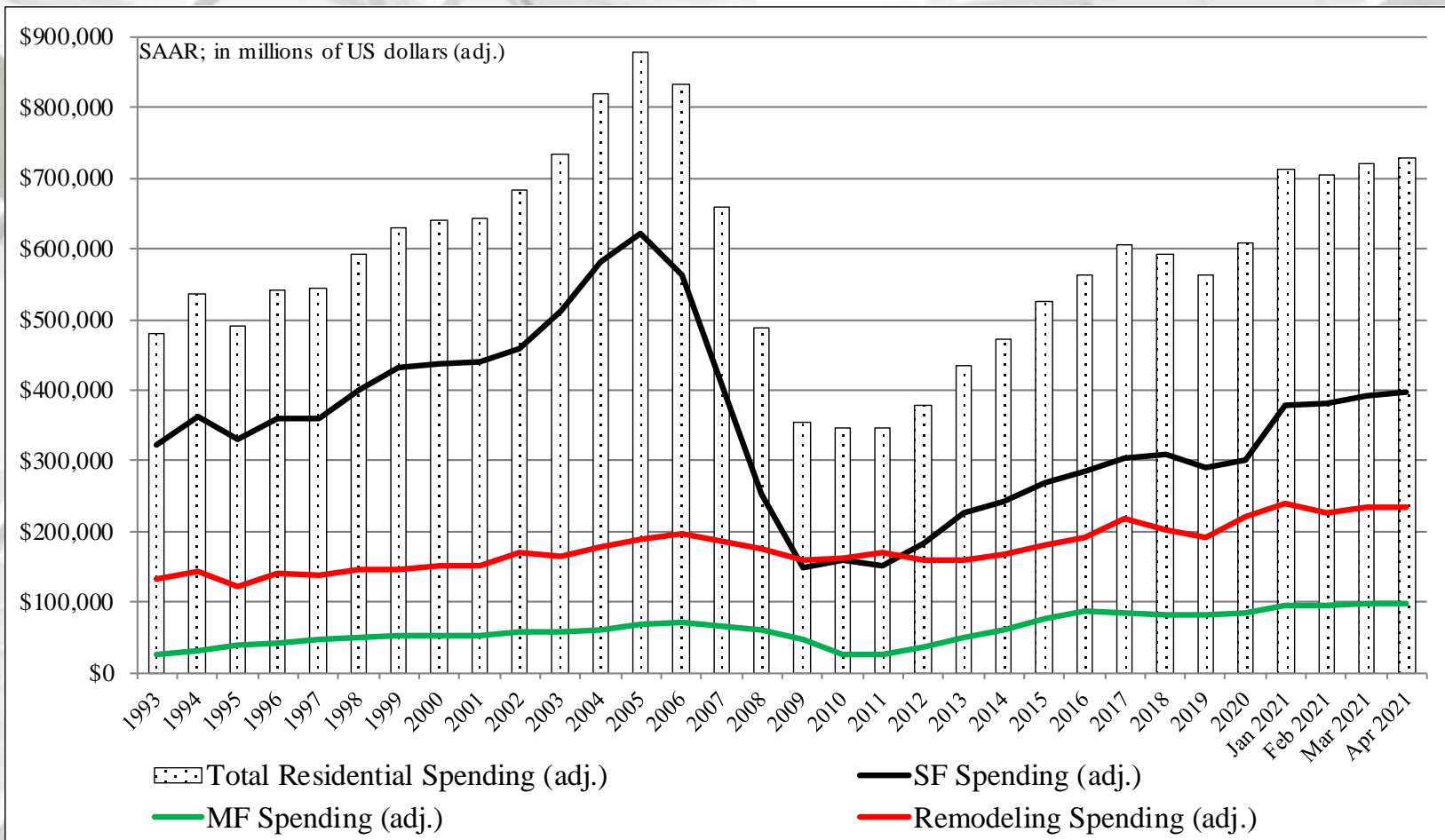
Total Construction Spending (nominal): 2000 – April 2021



Reported in nominal US\$.

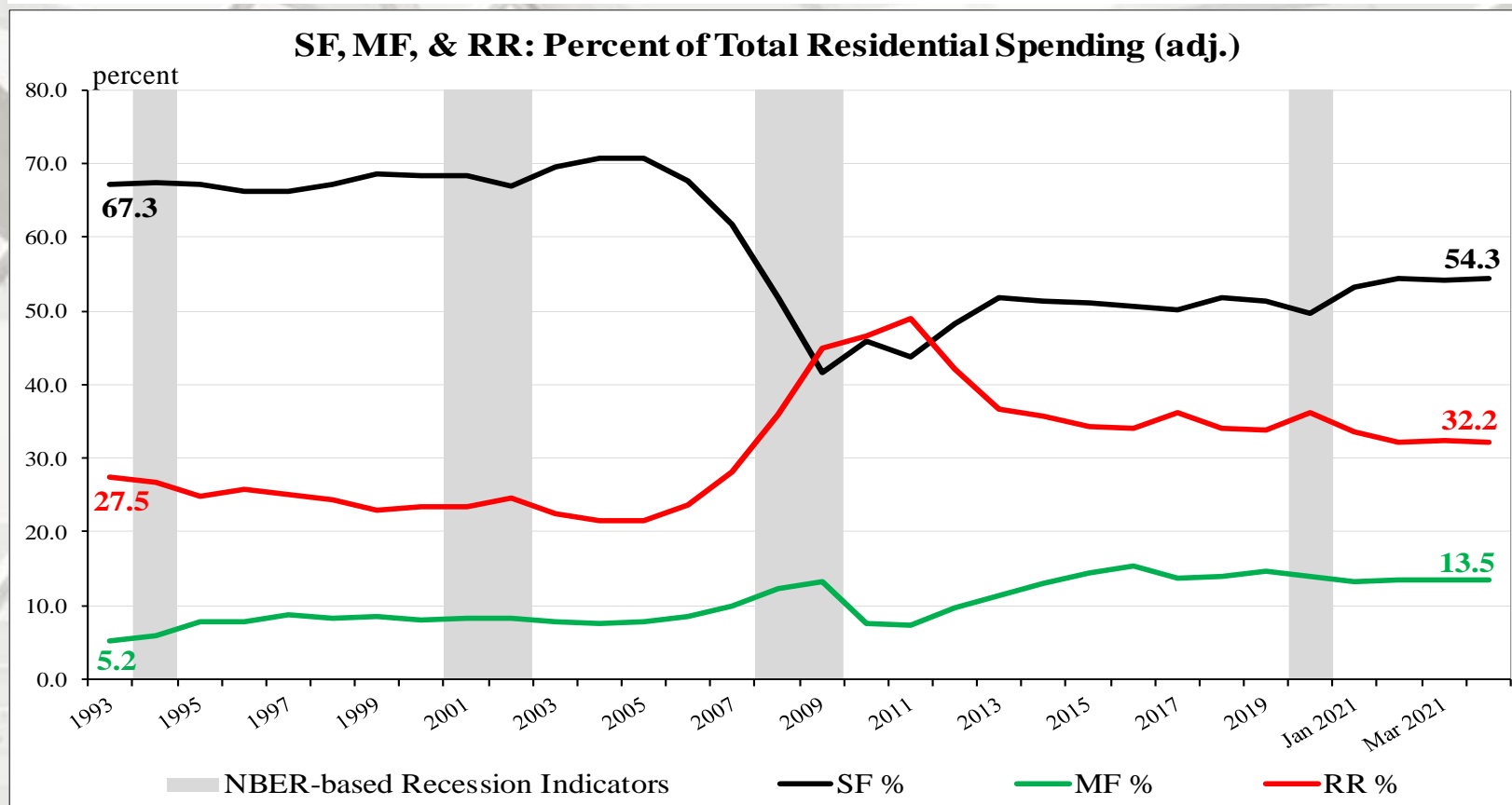
The US DOC does not report improvement spending directly, this is a monthly estimation for 2020.

Total Construction Spending (adjusted): 1993-April 2021



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

Construction Spending Shares: 1993 to April 2021



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

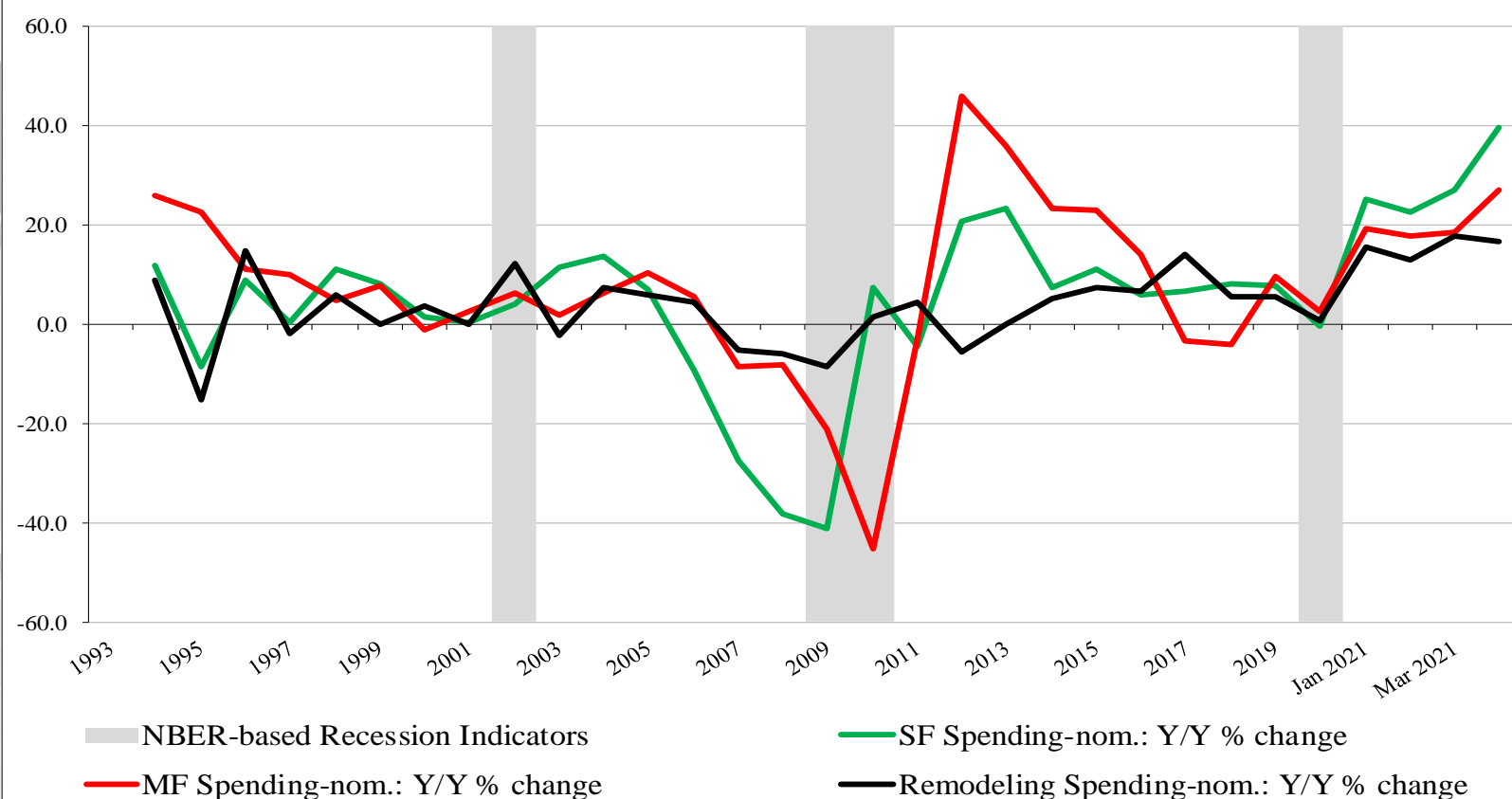
MF spending average: 7.5 %

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

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

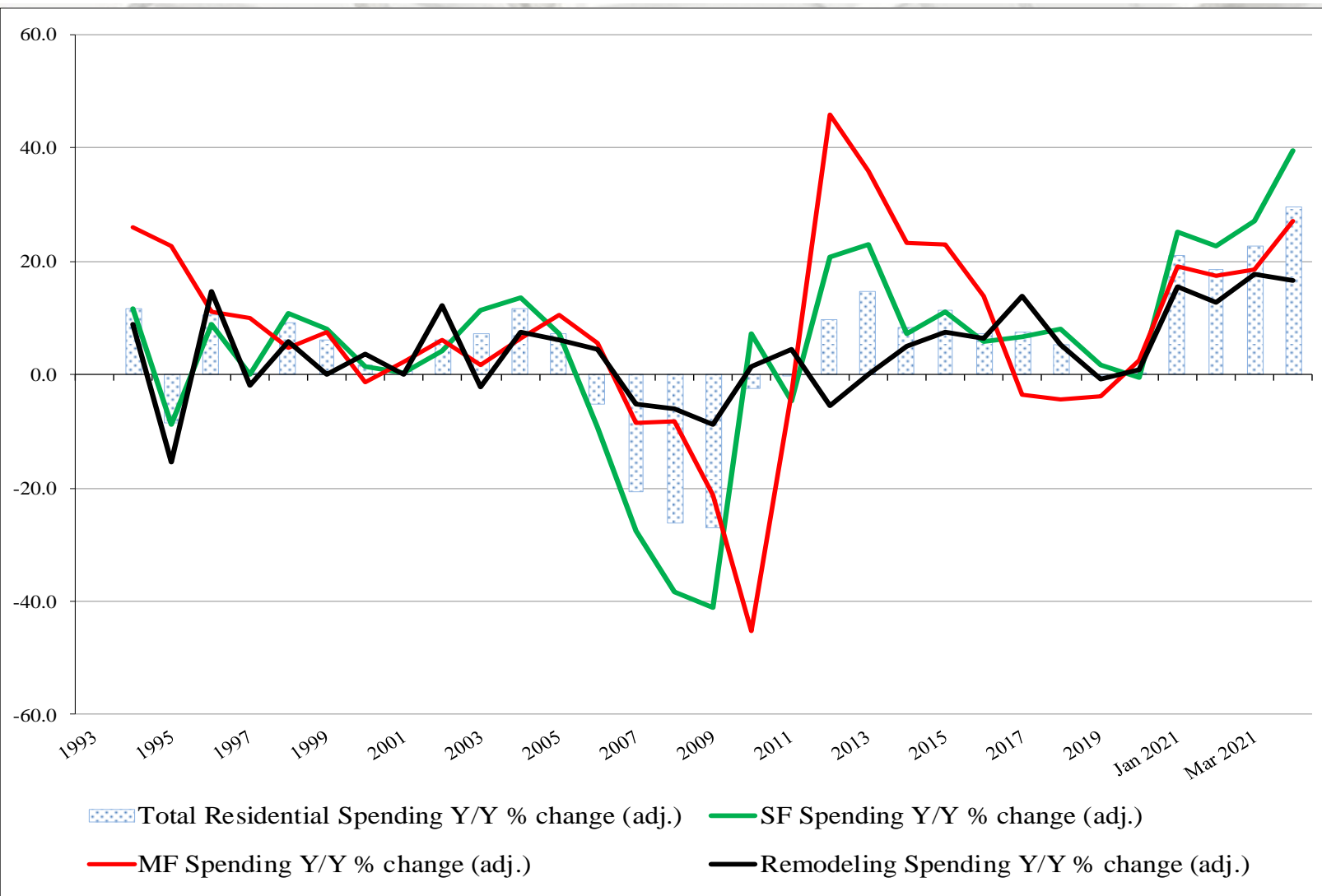


Nominal Residential Construction Spending: Y/Y percentage change, 1993 to April 2021

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 (April 2021 data reported in nominal dollars).

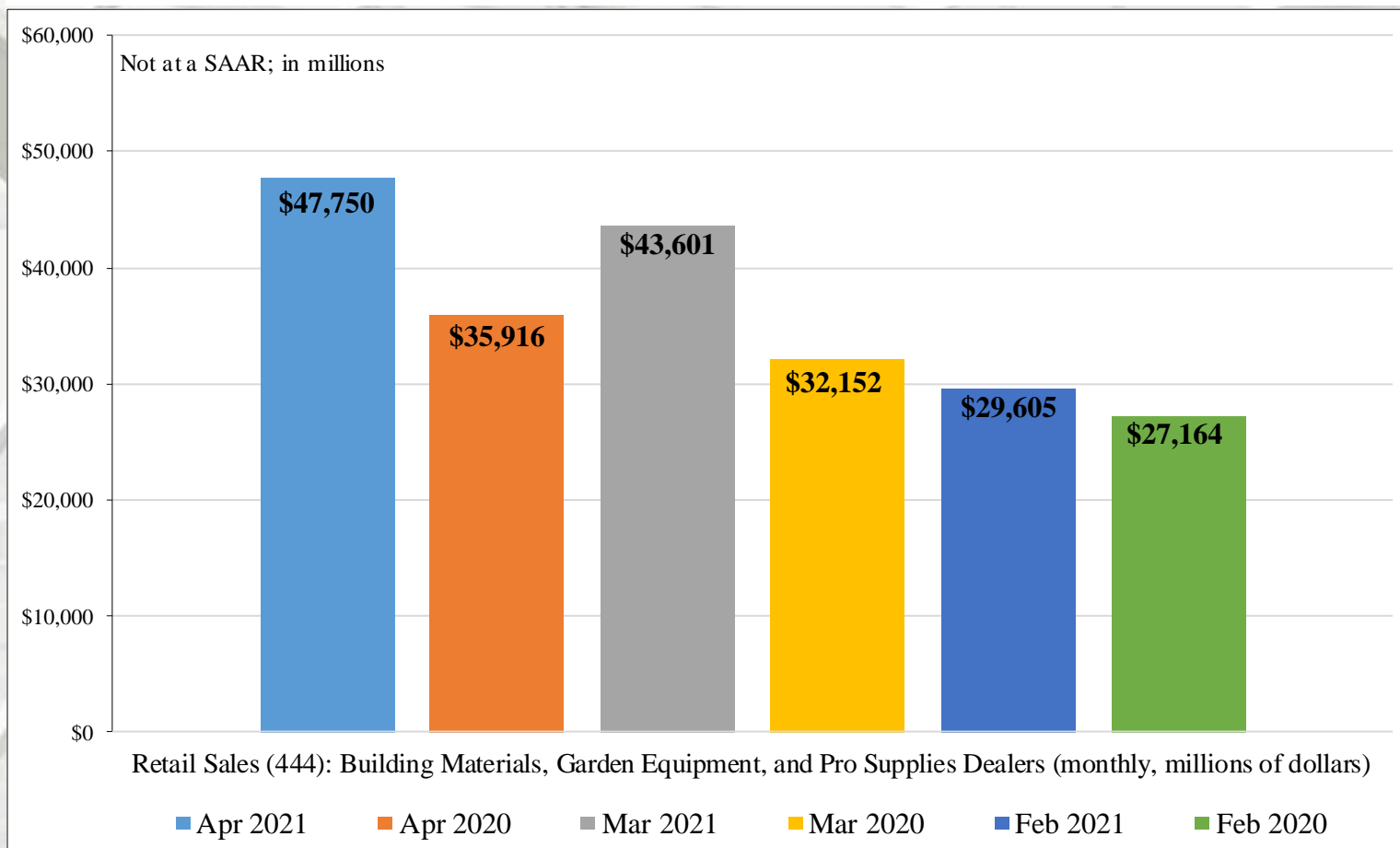
* NBER based Recession Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

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



Remodeling

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

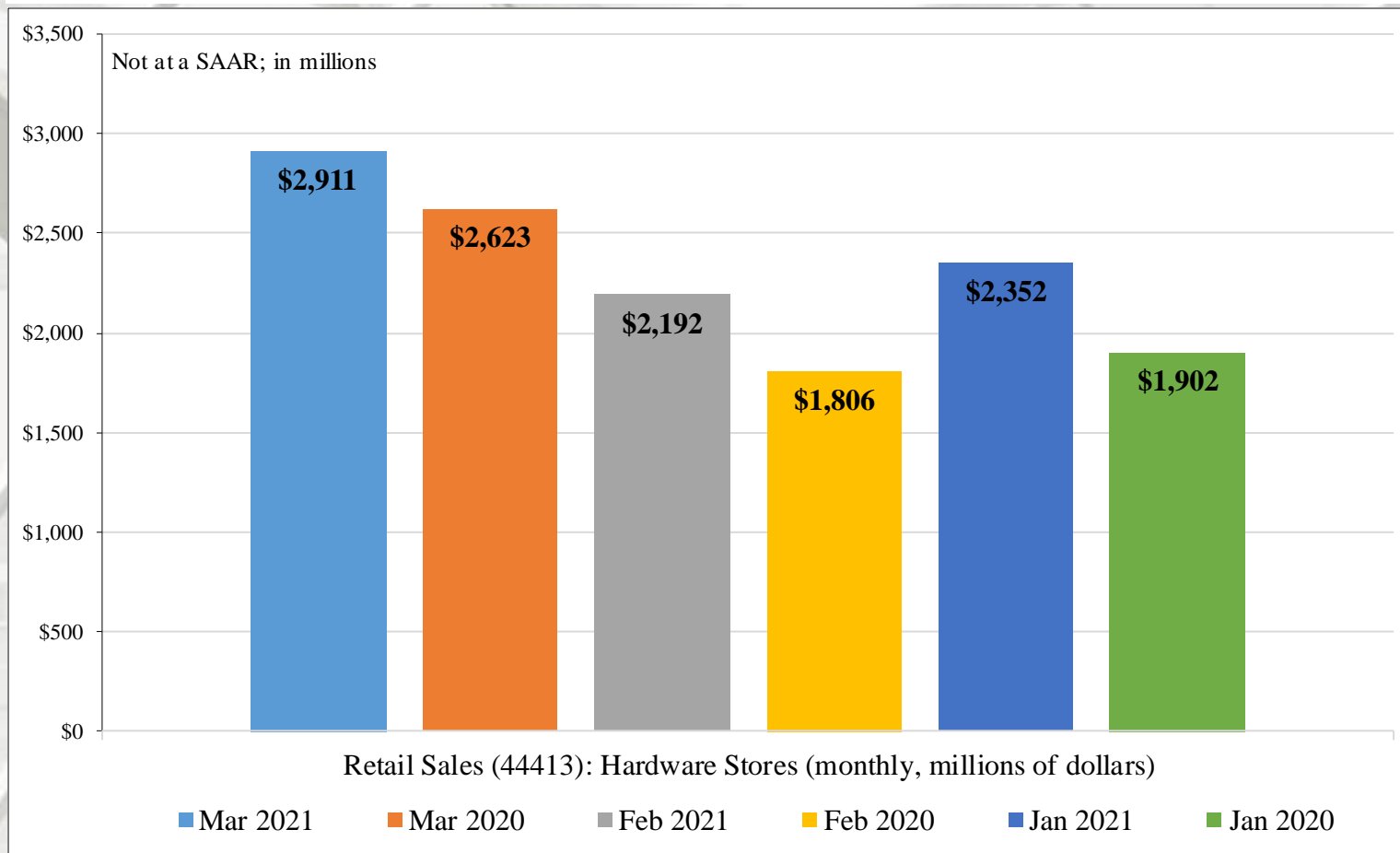


Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

NAICS 444 sales increased 9.5% from March 2021 to April 2021 and improved 32.9% from April 2020 to April 2021 (on a non-adjusted basis).

Remodeling

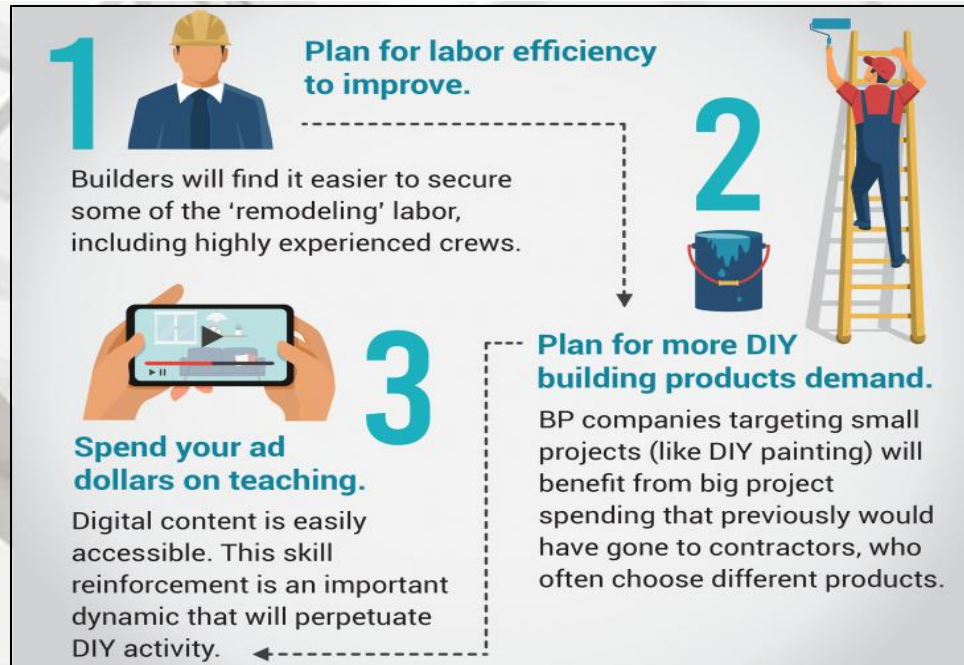
Retail Sales: Hardware Stores



Hardware Stores: NAICS 44413

NAICS 44413 retail sales increased 32.1% from February 2021 to March 2021 and improved 32.8% from February 2020 to February 2021 (on a non-adjusted basis).

Remodeling



John Burns Real Estate Consulting Putting Your DIY Skills to Work

“The 20+ year decline in DIY activity appears to have ended. Today, DIY projects per household are 46% lower than they were in the 1990s, leaving significant room for growth. We believe a rebound is underway in DIY.

COVID-19 dramatically shifted the remodeling business, as young adults couped up in their home without professional help turned to Youtube and completed their first DIY projects. Going forward, many of these newly-minted DIYers will continue to save money, DIYing the easier portions of remodeling projects that they previously would have outsourced 100% to professional installers. Already, half of homeowners combine DIY projects with professional remodels.” – Todd Tomalak, Principal and Matt Saunders, Director of Building Product Analysis; John Burns Real Estate Consulting, LLC

Remodeling

John Burns Real Estate Consulting

Putting Your DIY Skills to Work

“What it means for our industry:

- **Plan for labor efficiency to improve, benefitting both home builders and single-family rental landlords.** Builders will find it easier to secure some of the remodeling labor, including highly experienced crews. This will help contain costs per unit and reduce the time to build a home. The construction labor market will still remain tight, however.
- **Plan for more DIY building products demand.** BP companies targeting small projects (like DIY painting) will benefit from big project spending that previously would have gone to contractors, who often choose different products. More DIY activity will also free up dollars to spend on higher quality materials or an expansion of scope. The smartest BP companies will continue to spend money to remove the DIY barriers to entry (focusing on ease of installation and DIY education).
- **Spend your ad dollars on teaching.** Digital content is easily accessible and increasingly made by and geared towards women with a strong design angle, as evidenced by the increasing importance of platforms like Instagram. This skill reinforcement is an important dynamic that will perpetuate DIY activity.

To reiterate: DIY is not just a COVID play. Instead, the accumulation of DIY skills over the pandemic and combination DIY/PRO remodels are tailwinds for longer-term DIY growth.” – Todd Tomalak, Principal and Matt Saunders, Director of Building Product Analysis; John Burns Real Estate Consulting, LLC

Remodeling

Qualified Remodeler

U.S. Remodeling Index Signals 'Extended Cycle of Big-Project Spending'

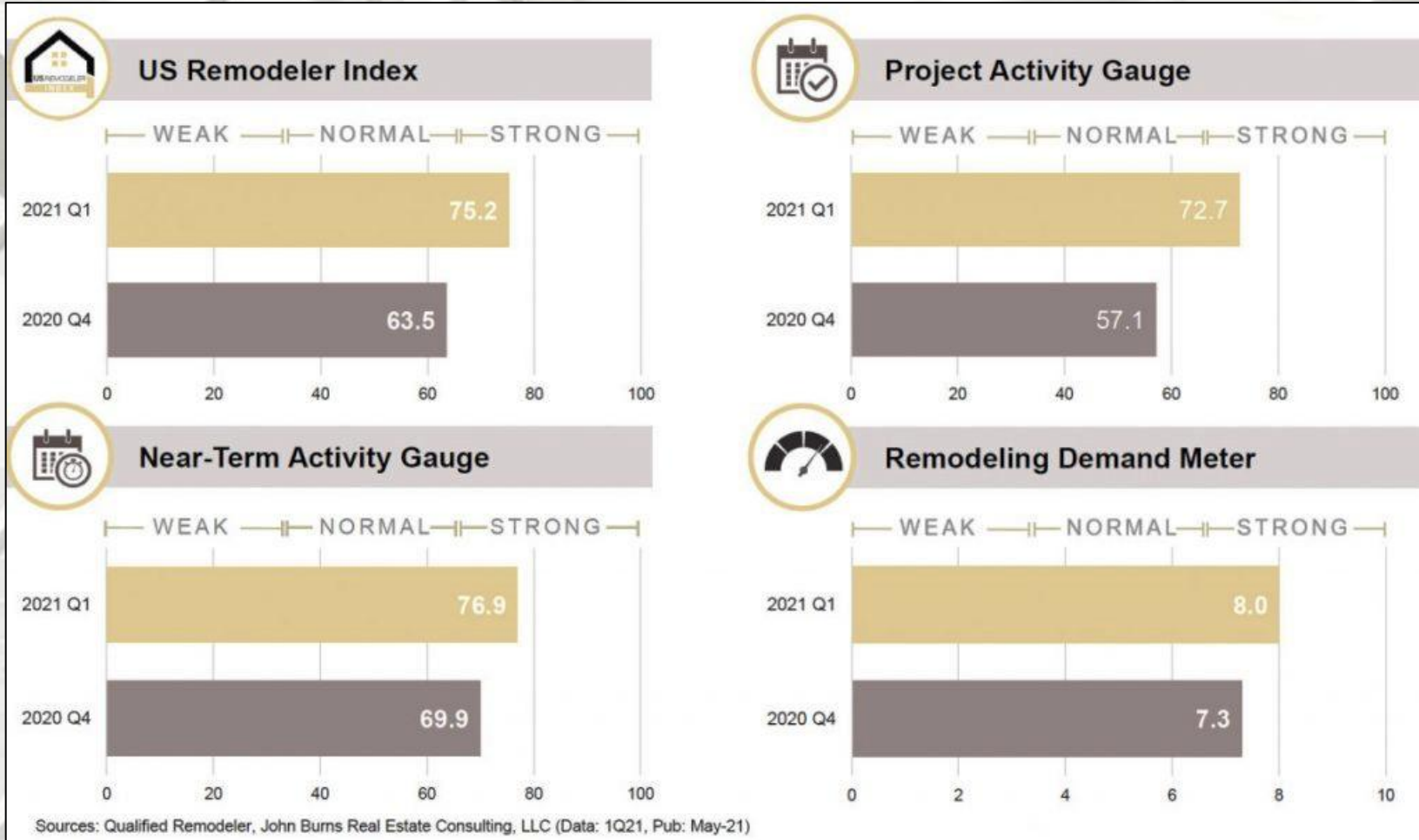
“Very strong and getting stronger – that’s the latest quarterly reading from the U.S. Remodeling Index (USRI), a new gauge of business sentiment among home improvement and remodeling professionals nationwide. The index soared to 75.2, up from 63.5 in Q4 2020. All readings above 50 are positive.

A collaboration between [John Burns Real Estate Consulting](#) and [Qualified Remodeler](#), a leading trade journal for remodelers, the USRI measures current activity, near-term activity and overall market hotness.

The Project (current) Activity Gauge surged to 72.7, up 15.6 points from 57.1 in Q4. The Near-Term (future) Activity Gauge rose to 76.9, up 7 points. These readings, along with other factors, generated a Remodeling Hotness Meter of 8 out of 10. This means that demand for remodeling services is higher today than it’s been in three years, the USRI report said.

“This data demonstrates compelling strength in remodeling and home improvement,” said Todd Tomalak, a principal with John Burns. “We believe we’re in the early stages of a long, extended cycle of big-project home improvement spending, which is reflected in the strength of professional remodeling post-COVID.”” – Patrick O’Toole, Editorial Director and Co-owner; Qualified Remodeler

Remodeling



Remodeling

Qualified Remodeler

U.S. Remodeling Index Signals 'Extended Cycle of Big-Project Spending'

Regional and Segment Gains

“Conducted at the end of Q1 2021, the latest USRI was derived from survey responses from 476 remodelers in three business segments – full-service, design-build and home improvement. USRI sentiment measured 76.2 for full-service, 71.7 for design-build and a very bullish 77.3 for home improvement – specialty contractors focused on exterior and interior replacements.

The latest USRI readings translate to an 8 percent increase in project activity nationwide. Project volume grew in all regions of the country, particularly the Sunbelt where levels were up significantly year-over-year – up 4 percent in the Northwest; up 12 percent in the West excluding California, (which was up 1 percent); up 7 percent in the Midwest; up 9 percent in the South and up 7 percent in the Northeast and Mid-Atlantic.” – Patrick O’Toole, Editorial Director and Co-owner; Qualified Remodeler

Existing House Sales

National Association of Realtors

April 2021 sales: 5.850 thousand

	Existing Sales	Median Price	Mean Price	Month's Supply
April	5,850,000	\$341,600	\$364,800	2.4
March	6,010,000	\$326,300	\$353,100	2.1
2020	4,370,000	\$286,800	\$321,100	4.0
M/M change	-2.7%	4.7%	3.3%	14.3%
Y/Y change	33.9%	19.1%	13.6%	-40.0%

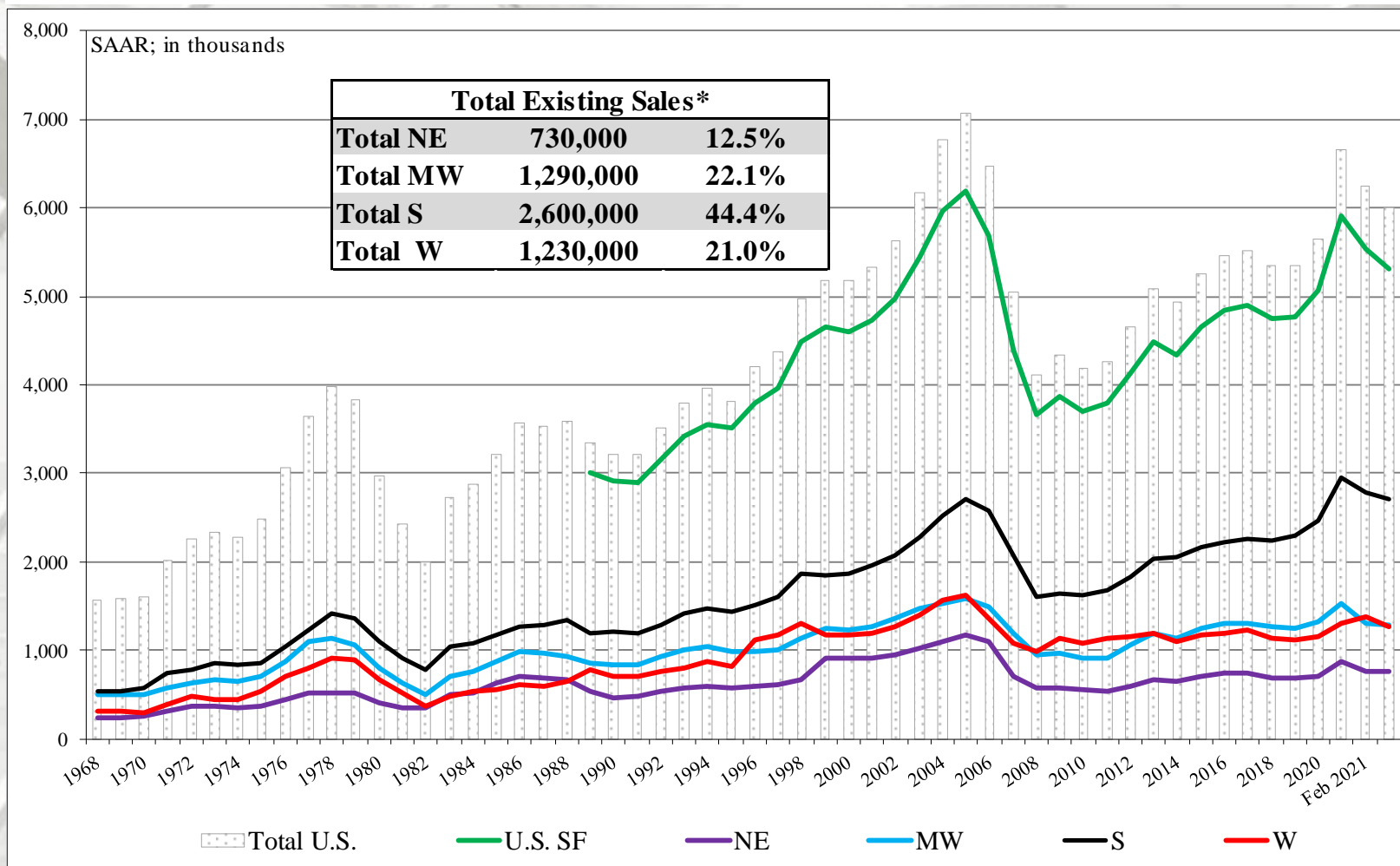
All sales data: SAAR

Existing House Sales

	Existing SF Sales	SF Median Price	SF Mean Price	
April	5,130,000	\$347,400	\$368,400	
March	5,300,000	\$331,500	\$356,500	
2020	3,980,000	\$288,700	\$322,200	
M/M change	-3.2%	4.7%	3.3%	
Y/Y change	28.9%	20.3%	14.3%	
	NE	MW	S	W
April	730,000	1,290,000	2,600,000	1,230,000
March	760,000	1,280,000	2,700,000	1,270,000
2020	560,000	1,140,000	1,870,000	800,000
M/M change	-3.9%	0.8%	-3.7%	-3.1%
Y/Y change	30.4%	13.2%	39.0%	53.8%

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

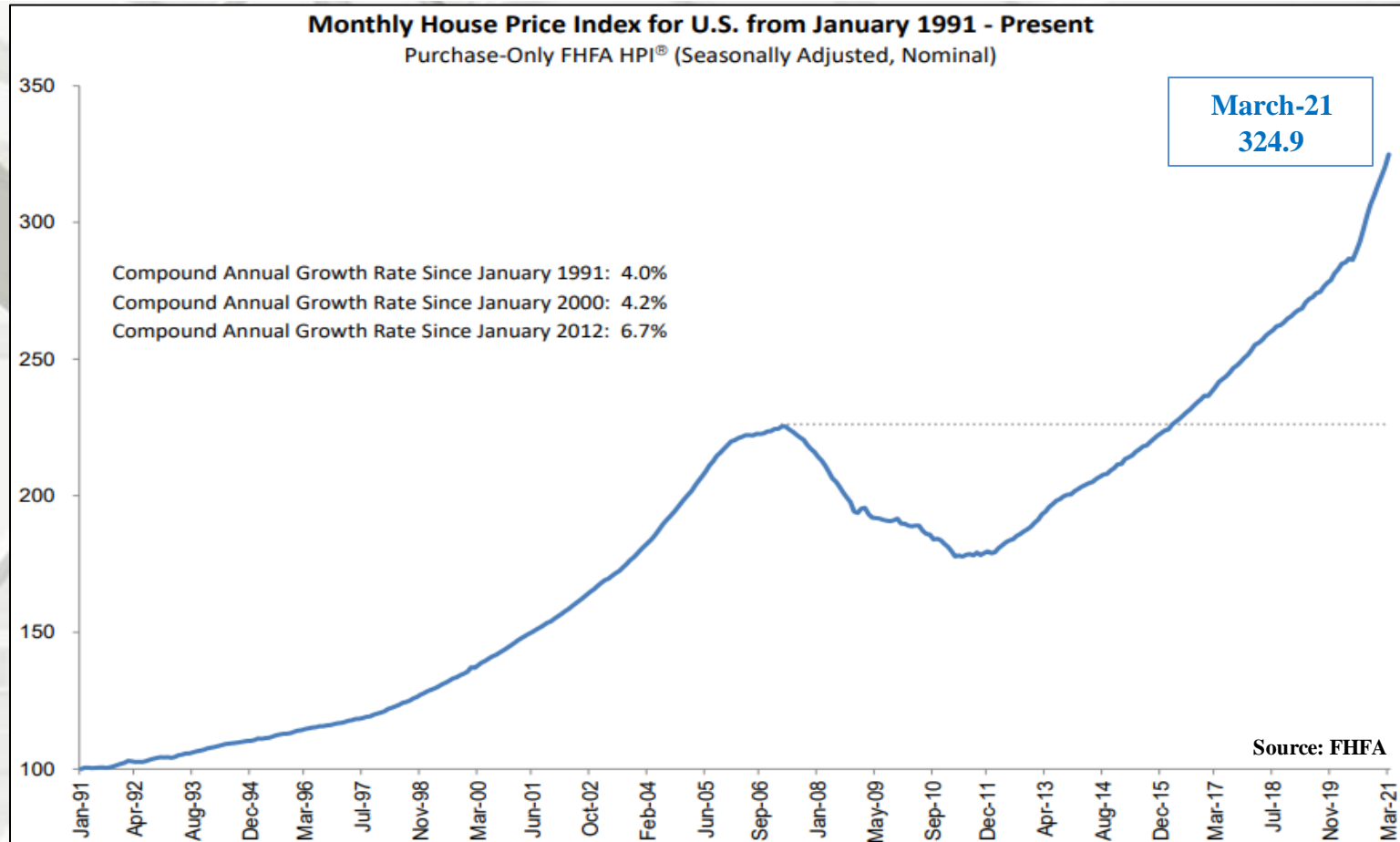
U.S. House Price Index Report – 2021 Q1

Significant Findings

“House prices rose nationwide in March, up **12.6 percent** from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices were up **3.5 percent** compared to the fourth quarter of 2020. FHFA’s seasonally adjusted monthly index for March was up **1.4 percent** from February.

- House prices have risen for 39 consecutive quarters, or since September 2011.
- House prices rose in all 50 states and the District of Columbia between the first quarters of 2020 and 2021. The top five states with the highest annual appreciation were: 1) **Idaho** 23.7 percent; 2) **Utah** 19.2 percent; 3) **Arizona** 17.4 percent; 4) **New Hampshire** 16.2 percent; and 5) **Connecticut** 15.9 percent. The states showing the lowest annual appreciation were: 1) **Hawaii** 4.7 percent; 2) **Louisiana** 6.8 percent; 3) **Wyoming** 6.9 percent; 4) **North Dakota** 7.5 percent; and 5) **Mississippi** 8.1 percent.
- House prices rose in 99 of the top 100 largest metropolitan areas in the U.S. over the last four quarters. Annual price increases were greatest in **Boise City, ID**, where prices increased by 28.2 percent. Prices were weakest in **Urban Honolulu, HI**, where they decreased by 0.7 percent.
- Of the nine census divisions, the **Mountain** division experienced the strongest four-quarter appreciation, posting a 15.7 percent gain between the first quarters of 2020 and 2021 and a 4.8 percent increase in the first quarter of 2021. The **Mountain** division has led in annual growth for 14 quarters. Annual house price appreciation was weakest in the **West South Central** division, where prices rose by 11.1 percent between the first quarters of 2020 and 2021.
- Trends in the Top 100 Metropolitan Statistical Areas are available in our interactive dashboard: <https://www.fhfa.gov/DataTools/Tools/Pages/FHFA-HPI-Top-100-Metro-Area-Rankings.aspx>. The first tab displays rankings while the second tab offers charts.” – Raffi Williams and Adam Russell, FHFA

U.S. Housing Prices



Federal Housing Finance Agency

“House price growth over the prior year clocked in at more than twice the rate of growth observed in the first quarter of 2020, just before the effects of the pandemic were felt in housing markets. In March, rates of appreciation continued to climb, exceeding 15 percent over the year in the Pacific, Mountain and New England census divisions.” – Dr. Lynn Fisher, Deputy Director of the Division of Research and Statistics, FHFA

U.S. Housing Prices

S&P CoreLogic Case-Shiller Index Reports 13.2% Annual Home Price Gain in March

“... Data for March 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 13.2% annual gain in March, up from 12.0% in the previous month. The 10-City Composite annual increase came in at 12.8%, up from 11.7% in the previous month. The 20-City Composite posted a 13.3% year-over-year gain, up from 12.0% in the previous month. Phoenix, San Diego, and Seattle reported the highest year-over-year gains among the 20 cities in March. Phoenix led the way with a 20.0% year-over-year price increase, followed by San Diego with a 19.1% increase and Seattle with a 18.3% increase. All 20 cities reported higher price increases in the year ending March 2021 versus the year ending February 2021.

Month-Over-Month

“Before seasonal adjustment, the U.S. National Index posted a 2.0% month-over-month increase, while the 10-City and 20-City Composites both posted increases of 2.0% and 2.2% respectively in March. After seasonal adjustment, the U.S. National Index posted a month-over-month increase of 1.5%, and the 10-City and 20-City Composites both posted increases of 1.4% and 1.6%, respectively. In March, 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 Analysis

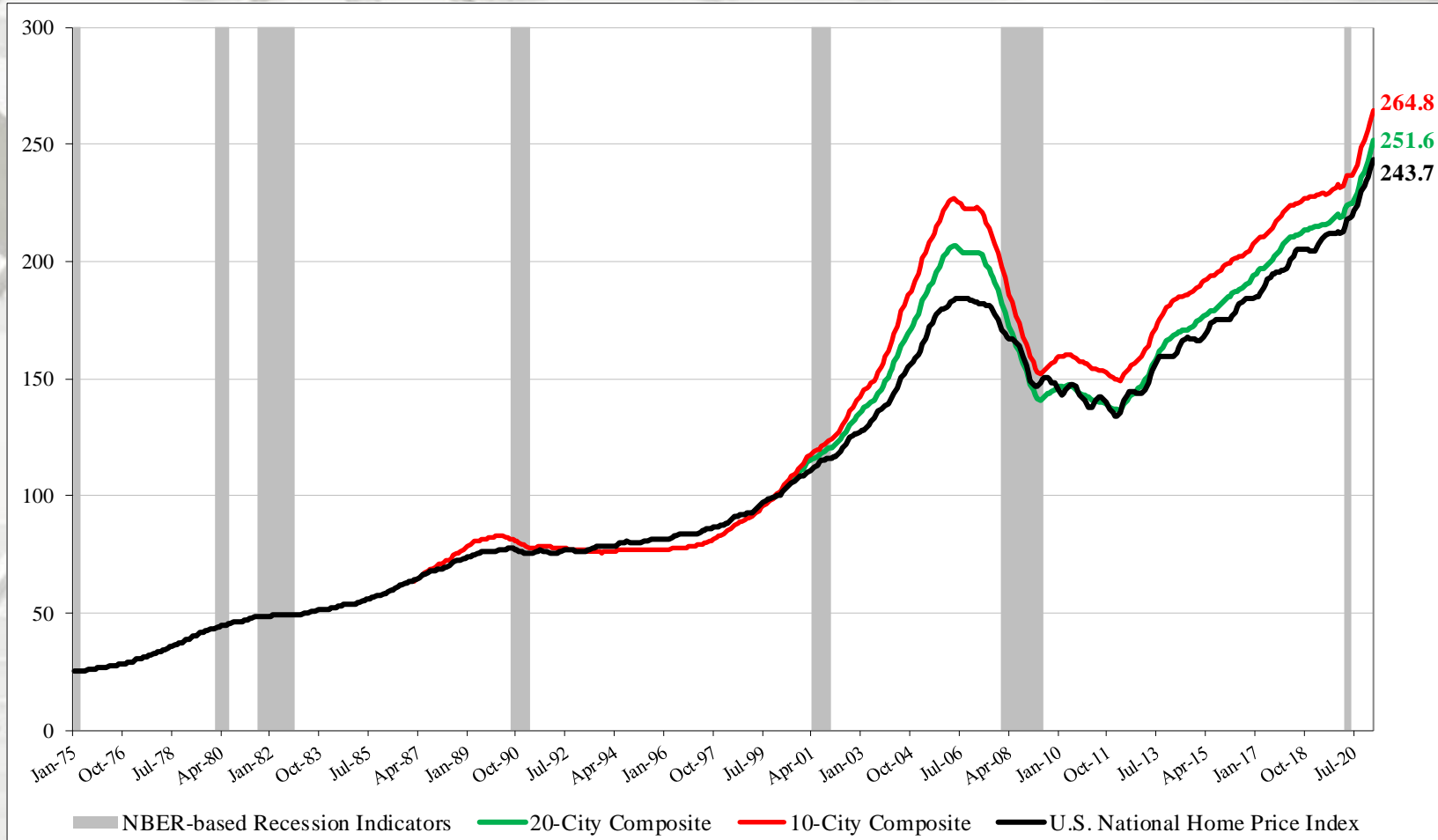
“Housing prices continued to rise robustly in March 2021. The National Composite Index marked its tenth consecutive month of accelerating prices with a 13.2% gain from year-ago levels, up from 12.0% in February. This acceleration is also reflected in the 10- and 20-City Composites (up 12.8% and 13.3%, respectively). The market’s strength is broadly-based: all 20 cities rose, and all 20 gained more in the 12 months ended in March than they had gained in the 12 months ended in February.

More than 30 years of S&P CoreLogic Case-Shiller data put these results into historical context. The National Composite’s 13.2% gain was last exceeded more than 15 years ago in December 2005, and lies very comfortably in the top decile of historical performance. The unusual strength is reflected across all 20 cities; March’s price gains in every city are above that city’s median level, and rank in the top quartile of all reports in 19 cities

These data are consistent with the hypothesis that COVID has encouraged potential buyers to move from urban apartments to suburban homes. This demand may represent buyers who accelerated purchases that would have happened anyway over the next several years. Alternatively, there may have been a secular change in preferences, leading to a permanent shift in the demand curve for housing. More time and data will be required to analyze this question.

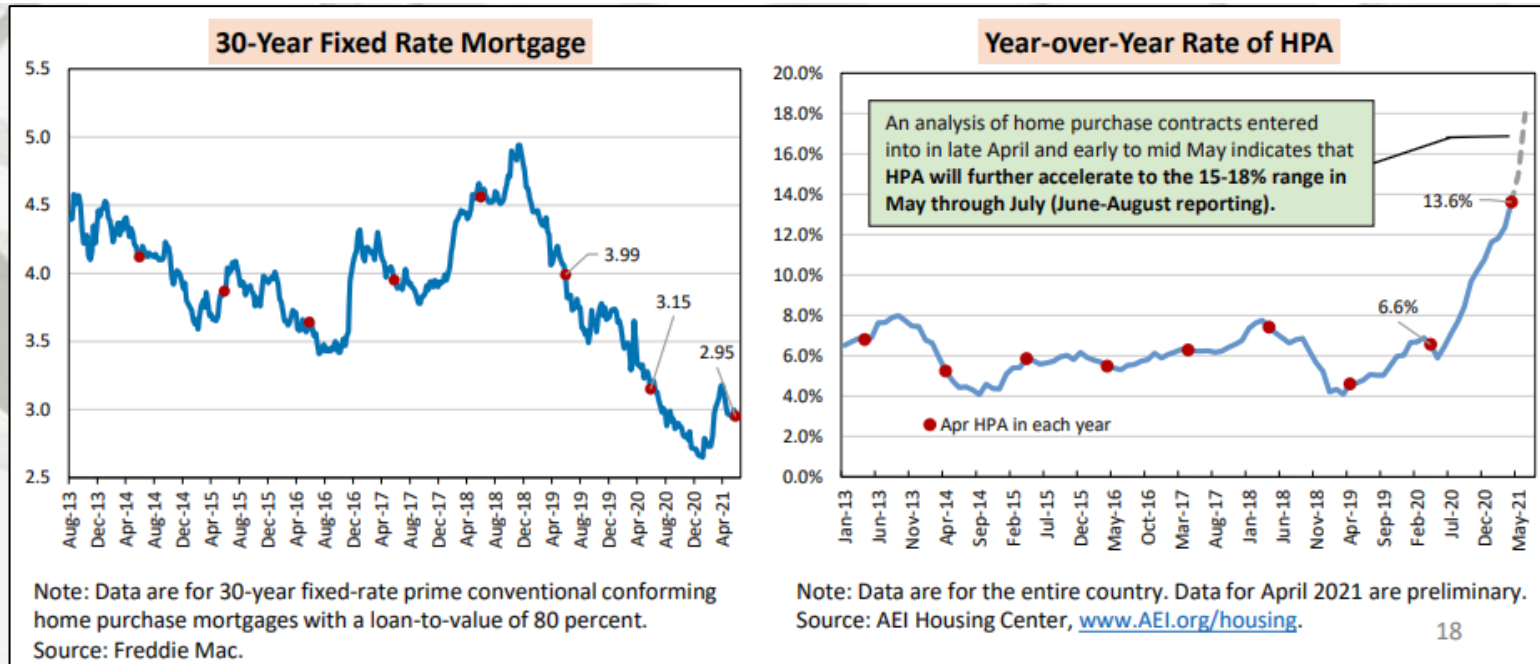
Phoenix’s 20.0% increase led all cities for the 22nd consecutive month, with San Diego (+19.1%) and Seattle (+18.3%) close behind. Although prices were strongest in the West (+15.1%) and Southwest (+14.8%), every region logged double-digit gains.” – Craig Lazzara, Managing Director and Global Head of 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).

U.S. Housing Affordability & Prices



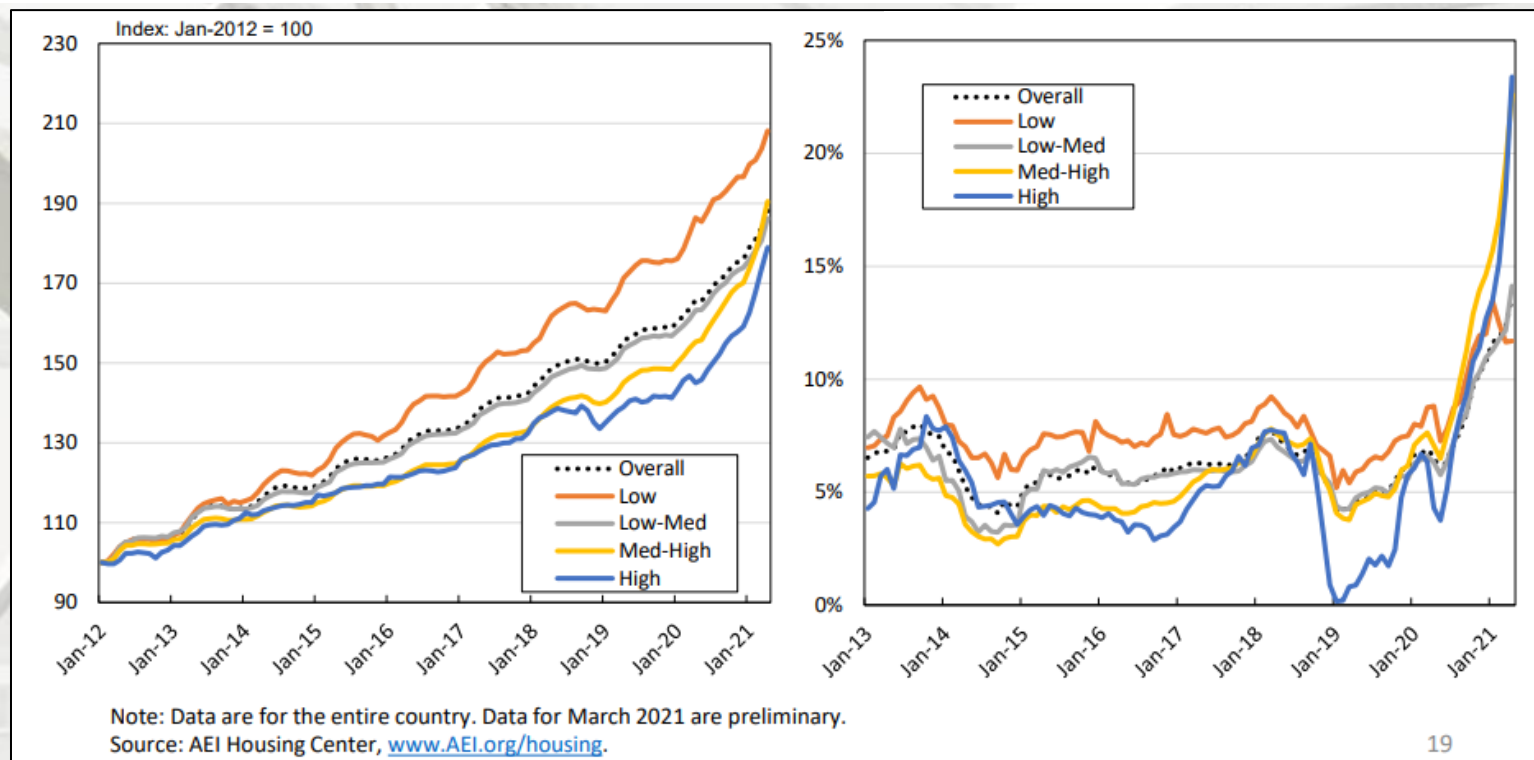
AEI Housing Center

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 April 2021 was 13.6%, up from 6.6% 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

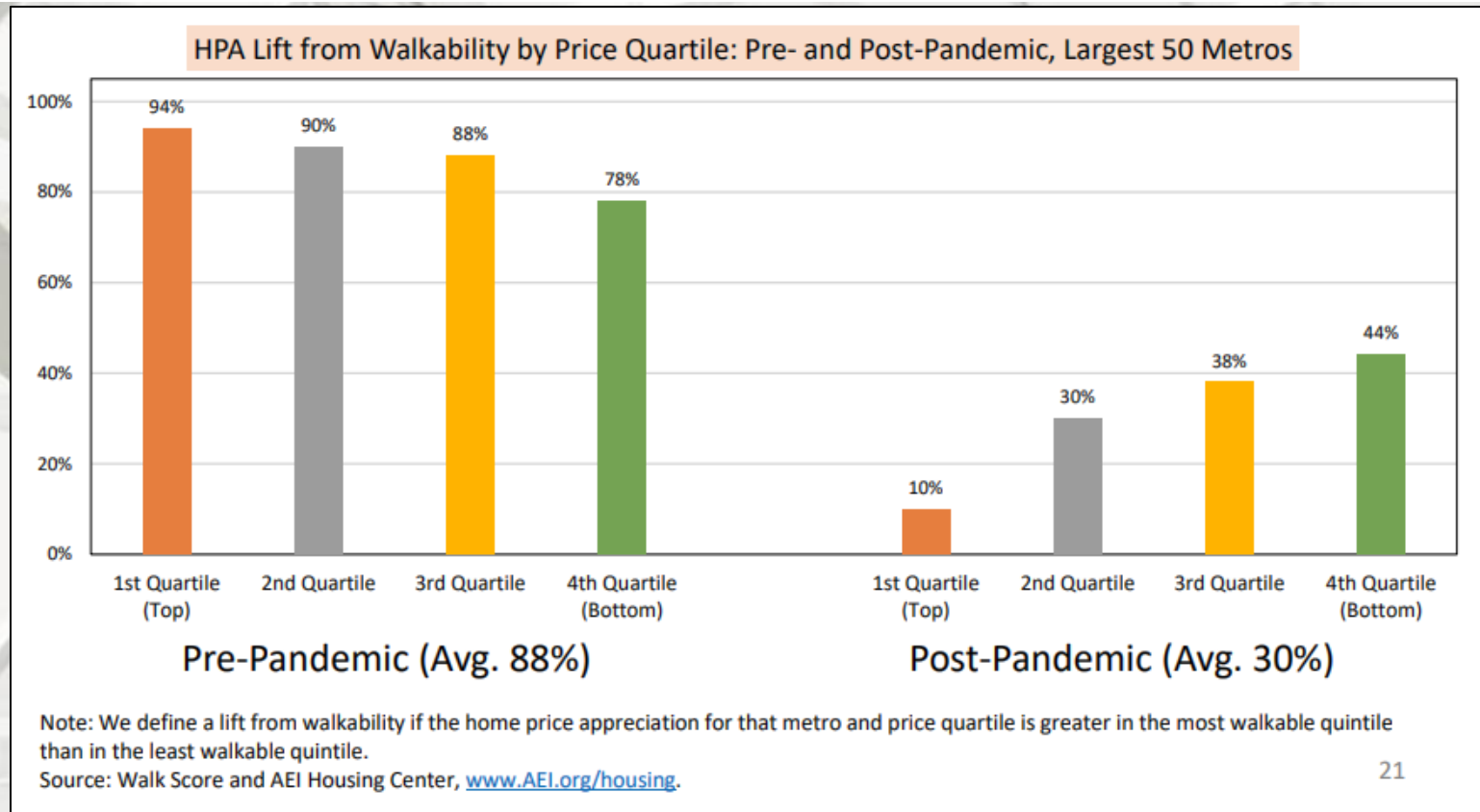
U.S. Housing Affordability & Prices



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 April 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

U.S. Housing Affordability & Prices



AEI Housing Center

Home Price Appreciation (HPA) by Walk Score Quintile: Largest 50 Metros

“The shift in home price appreciation and walkability is even more profound in some of the nation’s largest metros, such as New York City, Boston, Washington, or San Francisco. This shift is also widespread across all price points. Pre-pandemic, high walkability provided an HPA lift around 88% of the time across four price quartiles in the largest 50 metros. Since 2021:Q1, in 70% of the cases low walkability provided such lift.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Source: <https://www.aei.org/housing/housing-market-indicators/>; 6/7/21

U.S. Housing Affordability & Prices

AEI Housing Center

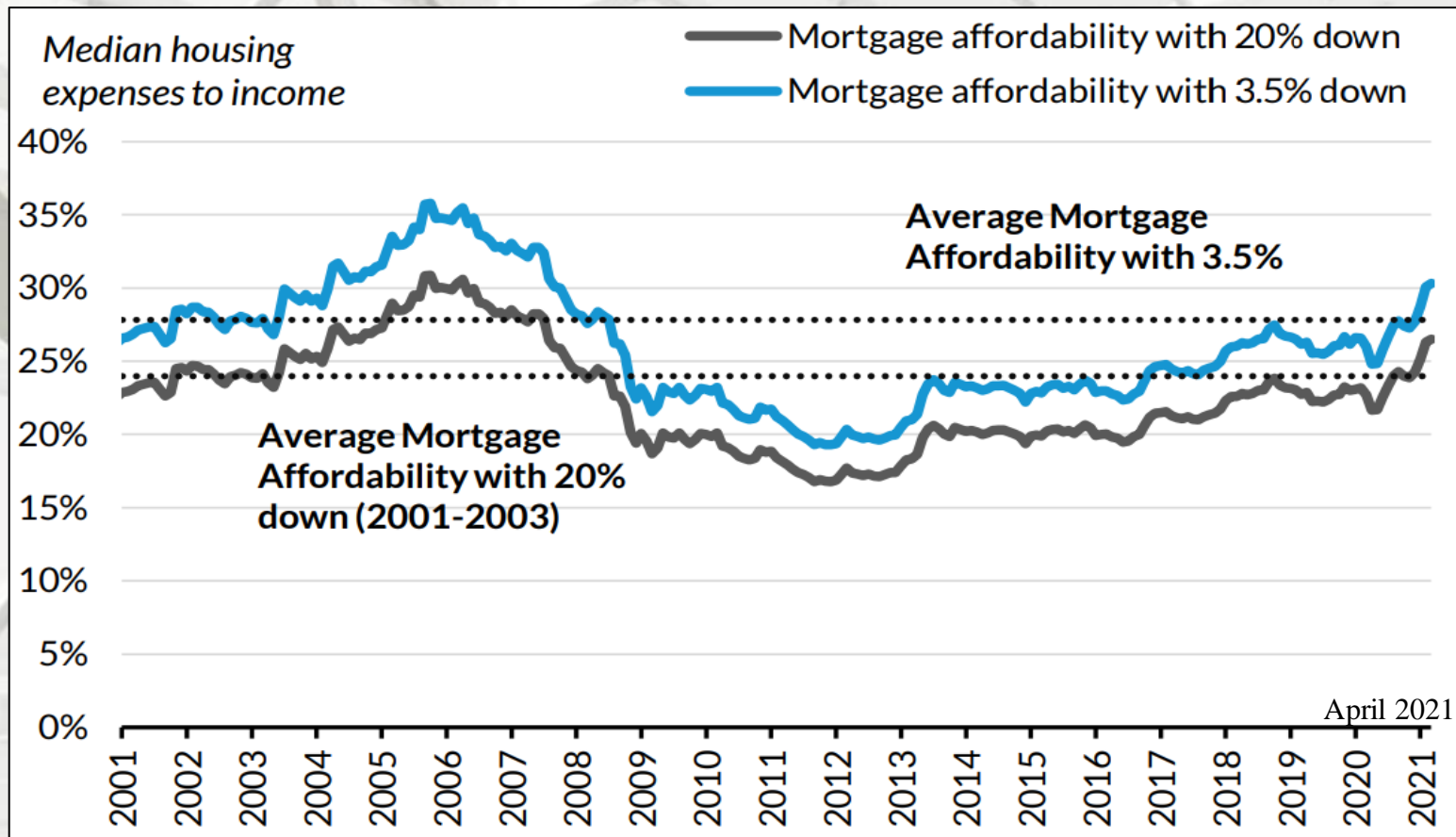
Is This Trend Reversal Cyclical or Structural?

“There may be evidence that this trend reversal is structural.

1. Just like online shopping, Work from Home (WFH) is likely here to stay and expand. Recent studies have estimated that perhaps 20-25% of the workforce will continue to WFH after the pandemic. That translates to an additional 20-25 million workers with the option to move.
2. Higher income workers, who have greater opportunities to WFH, are able to profit from arbitrage opportunities offered by vastly different home prices across metros and regions.
 - a) Nearly $\frac{1}{4}$ of US households live in metros with an average median home price/median household income ratio of 6.9, while the rest of the country has a ratio of 3.3. And WFH buyer incomes are high.
 - b) Example: in April 2021, the median sales price of a San Jose home was \$1,300,000 (10x the median household income of \$131,000) compared to \$360,000 in Phoenix (~5x the median income of \$68,000). ...
3. As noted, home buyers value a home based upon its utility or nearness to amenities.
 - a) Up until the pandemic, walkability was a utility that buyers would pay up for.
 - b) WFH has caused new utilities to be more valued than walkability: greater living area and office space, room for children, larger lots, a new home, nearness to family, and access to open spaces. See next slide.
 - c) Working just 2 days a week at home is enough to change the utility equation.

For the moment, it looks as if the pandemic and WFH have caused a shift in preference from walkability to nearby amenities to amenities provided within one's home. While it remains to be seen whether the shift becomes a more permanent feature, policy makers should at least be open to the real possibility of a “New Normal” and be prepared for it.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Housing Affordability

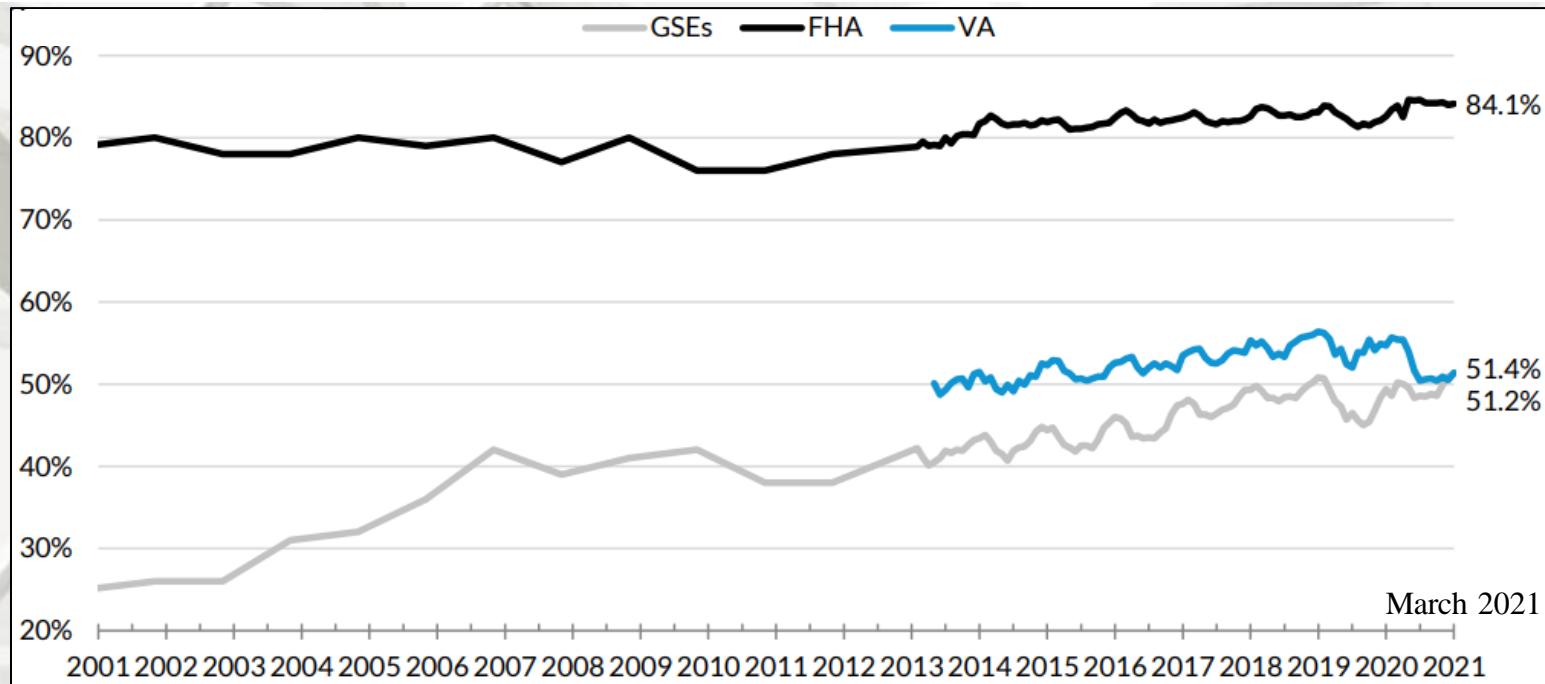


Urban Institute

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 April 2021, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 26.5 percent; with 3.5 percent down it is 30.3 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



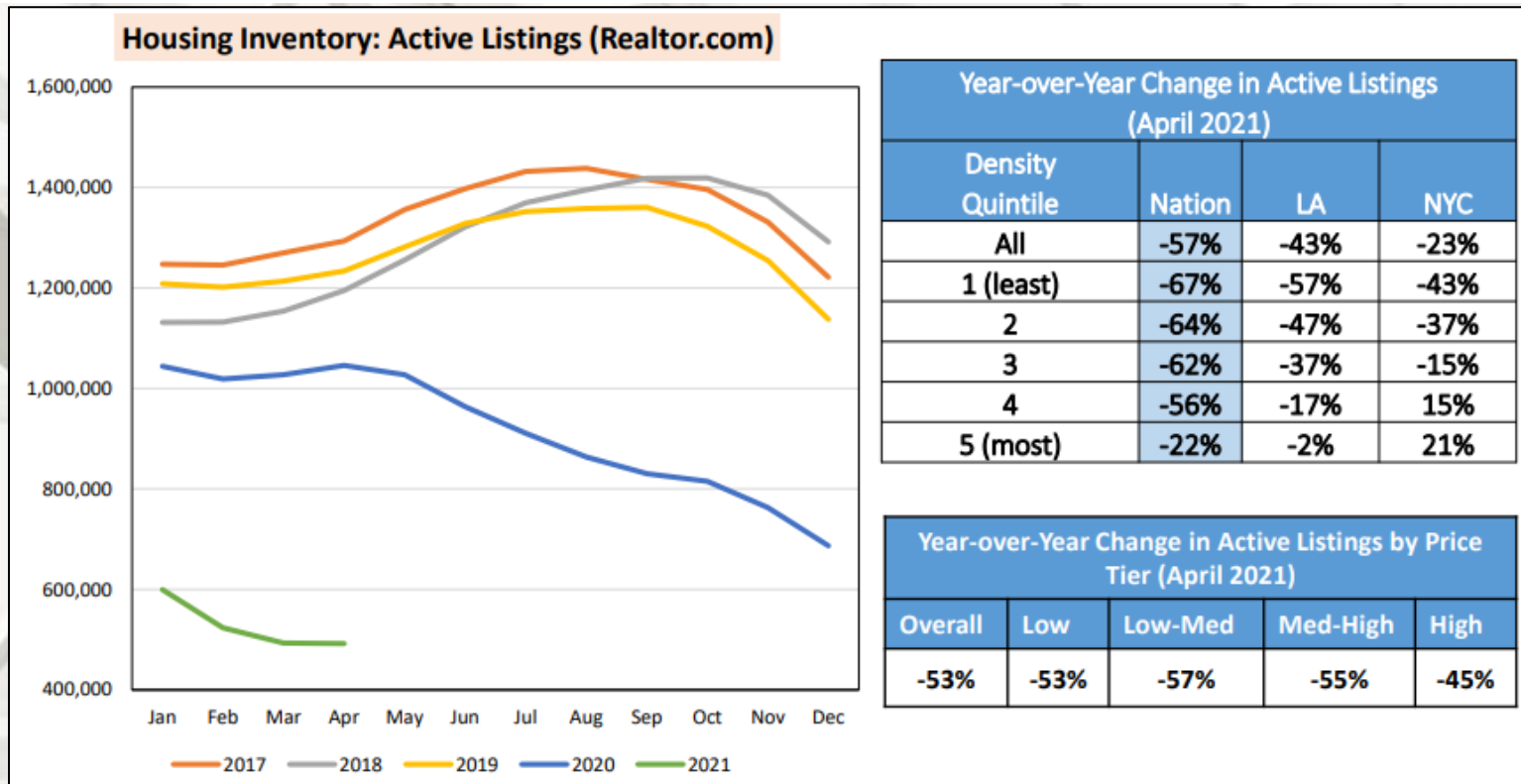
Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute.

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

Urban Institute First-Time Home Buyer Share

“In March 2021, the FTHB share for FHA, which has always been more focused on first time home buyers, was 84.1 percent. The FTHB share of VA lending in February was 51.4 percent. The GSE FTHB share increased in March relative to February, to 51.2 percent. The bottom table shows that based on mortgages originated in March 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 Supply



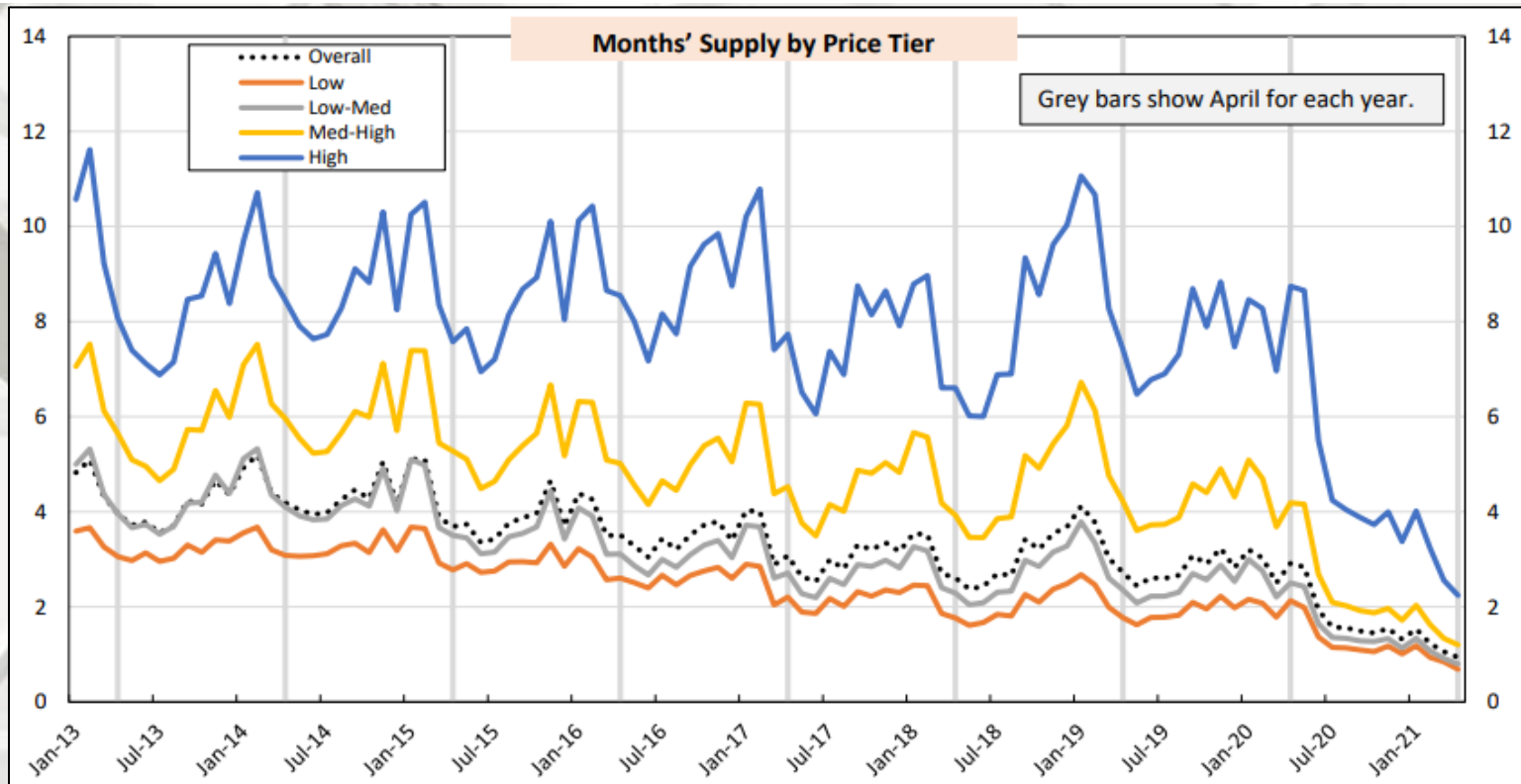
Sources: Realtor.com, Census Bureau, and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Supply Is Being Depleted

“Supply is at an all time low in 2021 and is 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, & (iv) new construction supply has fallen from 6.6 months in April 2020 to 4.4 months (SA) in April 2021.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Source: <https://www.aei.org/housing/housing-market-indicators/>; 6/7/21

Housing Supply

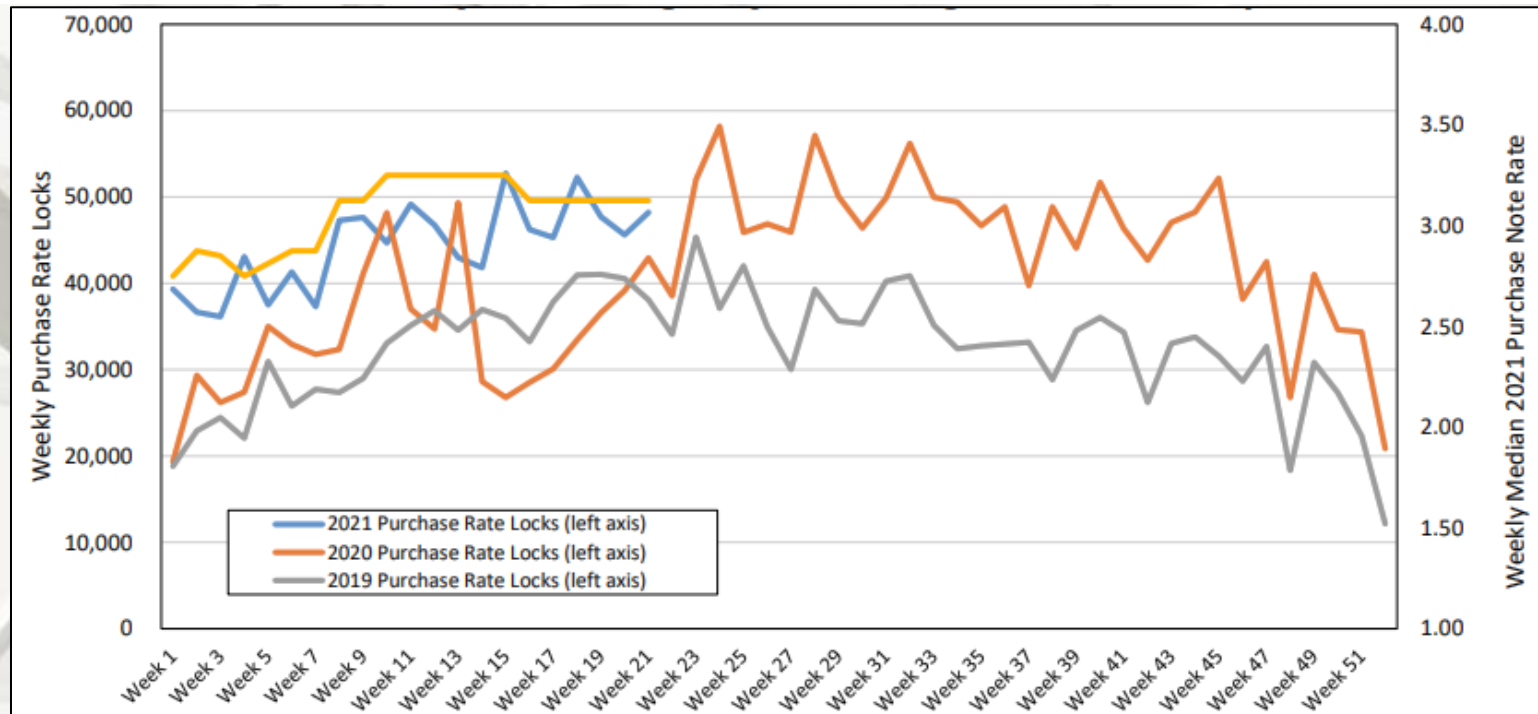


Note: Months' supply measures how long it would take for the existing level of inventory to be sold off at the current sale's pace. While the listings data come from the MLS, the sales numbers come from the public records
Sources: Realtor.com, Zillow, and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Months' Supply by Price Tiers

“Starting with June 2020, months' supply started to drop precipitously across all price tiers. In April 2021, overall months' supply stood at 0.9 months. While supply remains lowest in the low (0.7 months) and low-med tiers (0.8 months), the drop in the med-high and high price tiers are especially noteworthy. The high tier has fallen from 8.7 months in April 2020 to 2.2 months in April 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 Rising Rates

“Despite somewhat higher mortgage rates, purchase activity continued strongly in the beginning of 2021. At today’s median rate level of 3.13%, purchase volume continues to be strong, with week 21 running 27% above the same week in 2019. Note that week 21 refers to May 22-28. We expect the seasonal decline in rate locks after the peak of the spring buying season to start soon. Such a decline however needs to be compared to earlier years. Due to the disruptions of the pandemic, 2019 is likely the best comparison point, which was already the strongest year during the 2012-2019 period.” – 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 May

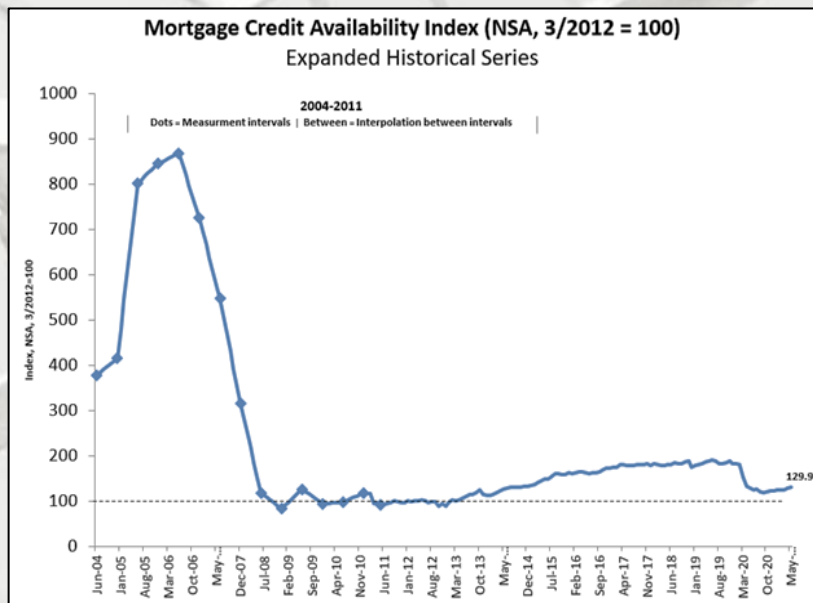
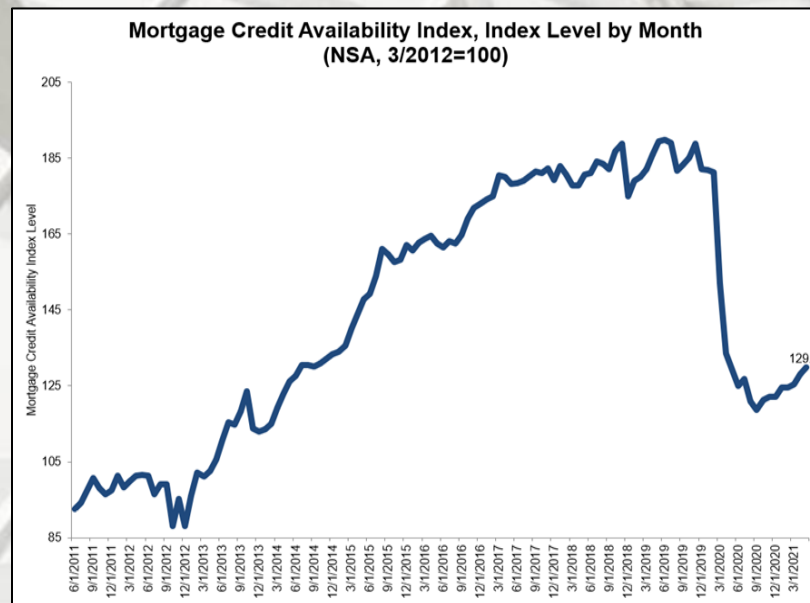
“Mortgage credit availability increased in May according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from Ellie Mae's AllRegs® Market Clarity® business information tool.

The MCAI rose by 1.4 percent to 129.9 in May. A decline in the MCAI indicates that lending standards are tightening, while increases in the index are indicative of loosening credit. The index was benchmarked to 100 in March 2012. The Conventional MCAI increased 3.5 percent, while the Government MCAI decreased by 0.3 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 5.1 percent, and the Conforming MCAI rose by 1.6 percent.

Mortgage credit availability in May increased to its highest level since near the start of the pandemic, but still remained at 2014 levels. The increase was driven by a 3 percent gain in the conventional segment of the market, with a rise in the supply of ARMs and cash-out refinances. This is consistent with the uptick in mortgage rates and a slowing refinance market, as well as MBA's Weekly Applications Survey data showing increased interest in ARMs. The jumbo index jumped 5 percent last month, but even with increases over the past two months, the index is still around half of where it was in February 2020. A rapidly improving economy and job market has freed up jumbo credit, as banks have deposits to utilize. However, there is still plenty of restraint, as many sectors have not fully returned to pre-pandemic capacity, and there are around 2 million borrowers still in forbearance.” – 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

May 19, 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)	1,484	1,079	1,432	1,584	1,613	1,554	1,554	1,562	1,572	1,619	1,666	1,697	1,395	1,571	1,639	1,718
Single-Family	968	766	1,037	1,227	1,155	1,154	1,184	1,202	1,242	1,284	1,346	1,382	1,000	1,174	1,314	1,413
Two or More	517	313	395	357	458	400	370	360	330	335	320	315	396	397	325	305
Home Sales (SAAR, Thous)																
Total Existing Homes	5,483	4,313	6,137	6,777	6,303	6,019	6,102	6,162	6,272	6,430	6,590	6,618	5,678	6,147	6,478	6,624
New Homes	701	703	973	873	959	875	902	928	952	973	1,038	1,063	813	916	1,007	1,094
FHFA US House Price Index (YOY % Change)	6.2	5.7	8.0	10.9	12.1	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	309.7	315.3	310.4	311.5	312.3	312.6	313.3	313.5	295.4	304.7	311.5	311.8
Median Price of New Homes (Thous \$)	329.6	322.8	331.9	335.6	350.3	349.7	344.6	347.8	349.0	350.7	352.1	353.9	330.0	335.1	341.9	345.0
Interest Rates																
30-Year Fixed Rate Mortgage (%)	3.5	3.2	3.0	2.8	2.9	3.1	3.3	3.5	3.7	4.0	4.1	4.2	2.8	3.5	4.2	4.9
10-Year Treasury Yield (%)	1.4	0.7	0.6	0.9	1.3	1.7	1.9	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	678	578	512	610	605	586	3,828	3,400	2,313	2,295
Purchase	257	348	418	410	320	460	443	433	362	469	463	446	1,433	1,656	1,740	1,775
Refinance	306	580	658	851	774	590	235	145	150	141	142	140	2,395	1,744	573	520
Refinance Share (%)	54	63	61	67	71	56	35	25	29	23	23	24	63	51	25	23
FHA Originations (Bil \$)													350	266	178	159
Total 1- to 4-Family (000s loans)	1,869	3,052	3,497	3,578	3,231	3,116	1,982	1,634	1,422	1,698	1,638	1,530	11,996	9,963	6,288	5,850
Purchase	891	1,203	1,427	1,343	1,000	1,428	1,331	1,248	1,029	1,329	1,277	1,187	4,864	5,008	4,822	4,606
Refinance	978	1,848	2,070	2,235	2,230	1,688	651	385	393	368	361	343	7,132	4,955	1,466	1,244
Refinance Share (%)	52	61	59	62	69	54	33	24	28	22	22	22	59	50	23	21
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.

Copyright 2020 Mortgage Bankers Association. All rights reserved.

THE HISTORICAL DATA AND PROJECTIONS ARE PROVIDED "AS IS" WITH NO WARRANTIES OF ANY KIND.



MBA Economic Forecast

MBA Economic Forecast

May 19, 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	8.8	7.4	5.3	3.8	2.4	1.8	2.0	-2.4	7.0	2.5	1.7
Personal Consumption Expenditures	-6.9	-33.2	41.0	2.3	10.7	9.0	6.6	3.2	3.8	2.7	1.9	2.0	-2.7	7.3	2.6	1.4
Business Fixed Investment	-6.7	-27.2	22.9	13.1	9.9	5.6	6.6	4.3	5.2	4.7	3.7	4.5	-1.4	6.6	4.5	3.3
Residential Investment	19.0	-35.6	63.0	36.6	10.8	0.1	3.5	0.8	1.3	2.1	3.9	4.8	14.3	3.7	3.0	1.9
Govt. Consumption & Investment	1.3	2.5	-4.8	-0.8	6.3	9.8	-0.3	1.0	0.0	0.0	-1.2	-0.6	-0.5	4.1	-0.5	0.0
Net Exports (Bil. Chain 2012\$)	-650.7	-649.0	-859.6	-948.3	-995.5	-1058.6	-1052.2	-1067.5	-1051.9	-1034.8	-1013.7	-993.1	-776.9	-1043.4	-1023.4	-943.0
Inventory Investment (Bil. Chain 2012\$)	-68.8	-244.0	-3.2	52.8	-72.7	-12.7	62.0	176.7	185.6	164.2	146.7	124.1	-65.8	38.3	155.1	98.9
Consumer Prices (YOY)	2.1	0.4	1.3	1.2	1.9	3.5	3.0	2.9	2.5	2.2	2.0	1.9	1.2	2.9	1.9	2.1
Percent																
Unemployment Rate	3.8	13.0	8.8	6.7	6.2	5.7	5.0	4.5	4.5	4.4	4.4	4.2	8.1	5.4	4.4	4.3
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	1.7	1.9	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

Copyright 2021 Mortgage Bankers Association. All rights reserved.

THE HISTORICAL DATA AND PROJECTIONS ARE PROVIDED "AS IS" WITH NO WARRANTIES OF ANY KIND.



Summary

In conclusion:

The year-over-year housing data for April' were all robustly positive. However, month-over-month declines were reported for total- and single-family housing starts, total- and single-family permits, total housing completions, and new single-family and existing house sales. Total- and single-family houses under construction and total- and single-family construction spending were positive month-over-month.

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;
- 3) Housing affordability indicates improvement;

Cons:

- 1) COVID19;
- 2) Construction material constraints;
- 3) Lot availability and building regulations (according to several sources);
- 4) Laborer shortages;
- 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.

Virginia Tech Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by Virginia Tech. The views and opinions of authors expressed herein do not necessarily state or reflect those of Virginia Tech, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents sent out or made available from this server, neither Virginia Tech nor any of its employees, makes any warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by Virginia Tech of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Virginia Tech does not exercise any editorial control over the information you April find at these locations. All links are provided with the intent of meeting the mission of Virginia Tech's web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

Virginia Tech prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact the author. Virginia Tech is an equal opportunity provider and employer.

U.S. Department of Agriculture Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents available from this server, neither the United States Government nor any of its employees, makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by the U.S. Department of Agriculture of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, the Department does not exercise any editorial control over the information you find at these locations. All links are provided with the intent of meeting the mission of the Department and the Forest Service web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202.720.2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call 800.795.3272 (voice) or 202.720.6382 (TDD). The USDA is an equal opportunity provider and employer.