

The Virginia Tech–USDA Forest Service Housing Commentary: Section I August 2023



Delton Alderman

Acting Program Manager
Forest Products Business Unit
Forest Products Laboratory
USDA Forest Service



Madison, WI
608.259.6076



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

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<http://woodproducts.sbio.vt.edu/housing-report>.

To request the commentary, please email: buehlmann@gmail.com or delton.r.alderman@usda.gov

Opening Remarks

Housing data, year-over-year and month-over-month, were mostly negative. Notable in month-over-month were single-family permit data, which was positive. Total housing completions and total private residential and single-family construction spending also indicated improvement. Year-over-year single-family starts, total housing completions, new house sales improved. The influence of increasing mortgage rates is evident, as aggregate costs have decreased affordability.

The October 10th Atlanta Fed GDPNow™ total residential investment spending forecast is a positive 5.4% for September 2023. Quarterly log change for new private permanent site expenditures were projected at 17.9%; the improvement spending forecast was -1.6%; and the manufactured/mobile home expenditures projection was 14.4% (all: quarterly log change and at a seasonally adjusted annual rate).¹

“We expect that the turnaround in single-family construction will lead to a fairly solid pace of residential investment in Q3. The recent leg up in mortgage rates will likely weigh on home sales moving forward, however. Consequently, we have lowered our forecast for residential fixed investment for the remainder of the forecast horizon. Although we continue to anticipate a gradual decline in mortgage rates over the next several years as the Fed eventually eases monetary policy, financing costs will likely remain elevated compared to recent norms, and yield a slower pace of residential activity.” – Wells Fargo Economics Group, Wells Fargo Economics

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 (of note is the Federal Reserve Bank of San Francisco’s projection for future shelter inflation), private firm indicators, and demographic/economic information.

Sources: ¹ www.frbatlanta.org/cqer/research/gdpnow.aspx; 10/17/23

² <https://wellsfargo.bluematrix.com/links2/html/7db2a502-7af2-4e45-9a32-f97d1efc9383>; 10/13/23

August 2023 Housing Scorecard

	M/M	Y/Y
Housing Starts	▼ 11.3%	▼ 14.8%
Single-Family (SF) Starts	▼ 4.3%	▲ 2.4%
Multi-Family (MF) Starts*	▼ 26.3%	▼ 41.6%
Housing Permits	▲ 6.8%	▼ 2.8%
SF Permits	▲ 1.9%	▲ 7.1%
MF Permits*	▲ 15.6%	▼ 15.4%
Housing Under Construction	▼ 0.2%	▼ 0.8%
SF Under Construction	▼ 0.1%	▼ 16.3%
Housing Completions	▲ 5.3%	▲ 3.8%
SF Completions	▼ 6.6%	▼ 5.8%
New SF House Sales	▼ 8.7%	▲ 5.8%
Private Residential Construction Spending	▲ 0.6%	▼ 3.1%
SF Construction Spending	▲ 1.7%	▼ 10.6%
Existing House Sales ¹	▼ 0.7%	▼ 15.3%

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

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

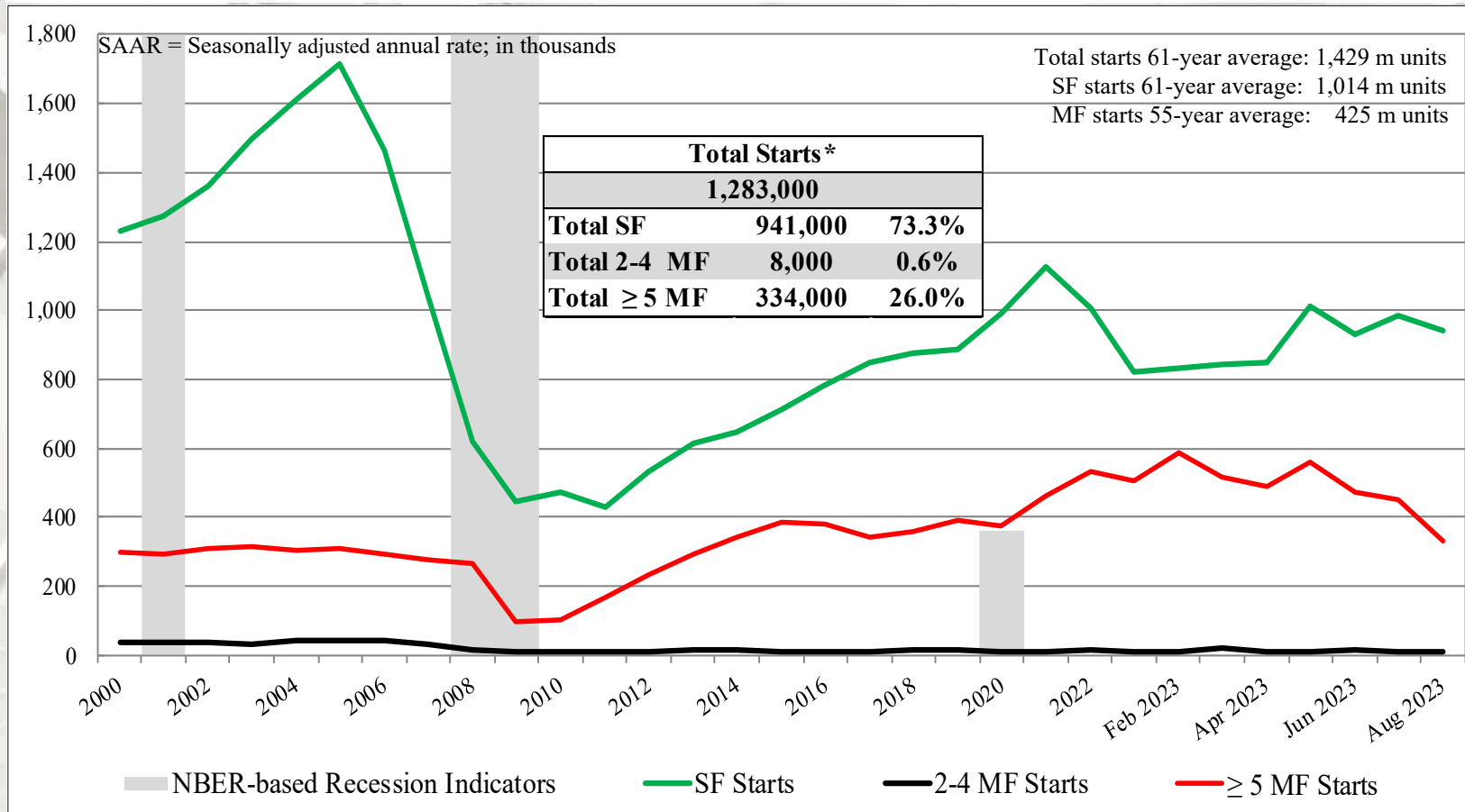
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
July	1,283,000	941,000	8,000	334,000
June	1,447,000	983,000	11,000	453,000
2022	1,505,000	919,000	20,000	566,000
M/M change	-11.3%	-4.3%	-27.3%	-26.3%
Y/Y change	-14.8%	2.4%	-60.0%	-41.0%

* 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

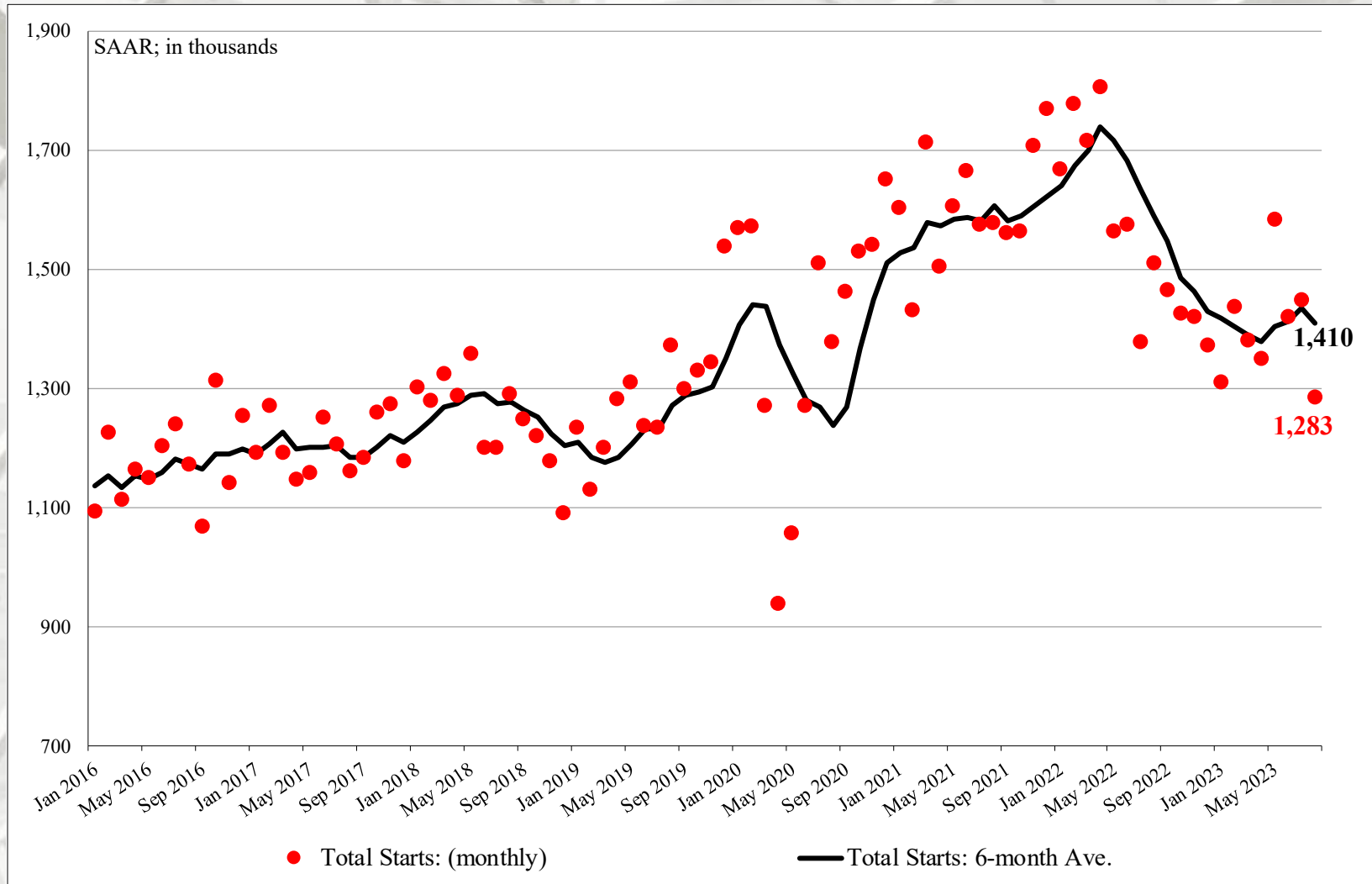


The US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: (Total starts – (SF + 5-unit MF)).

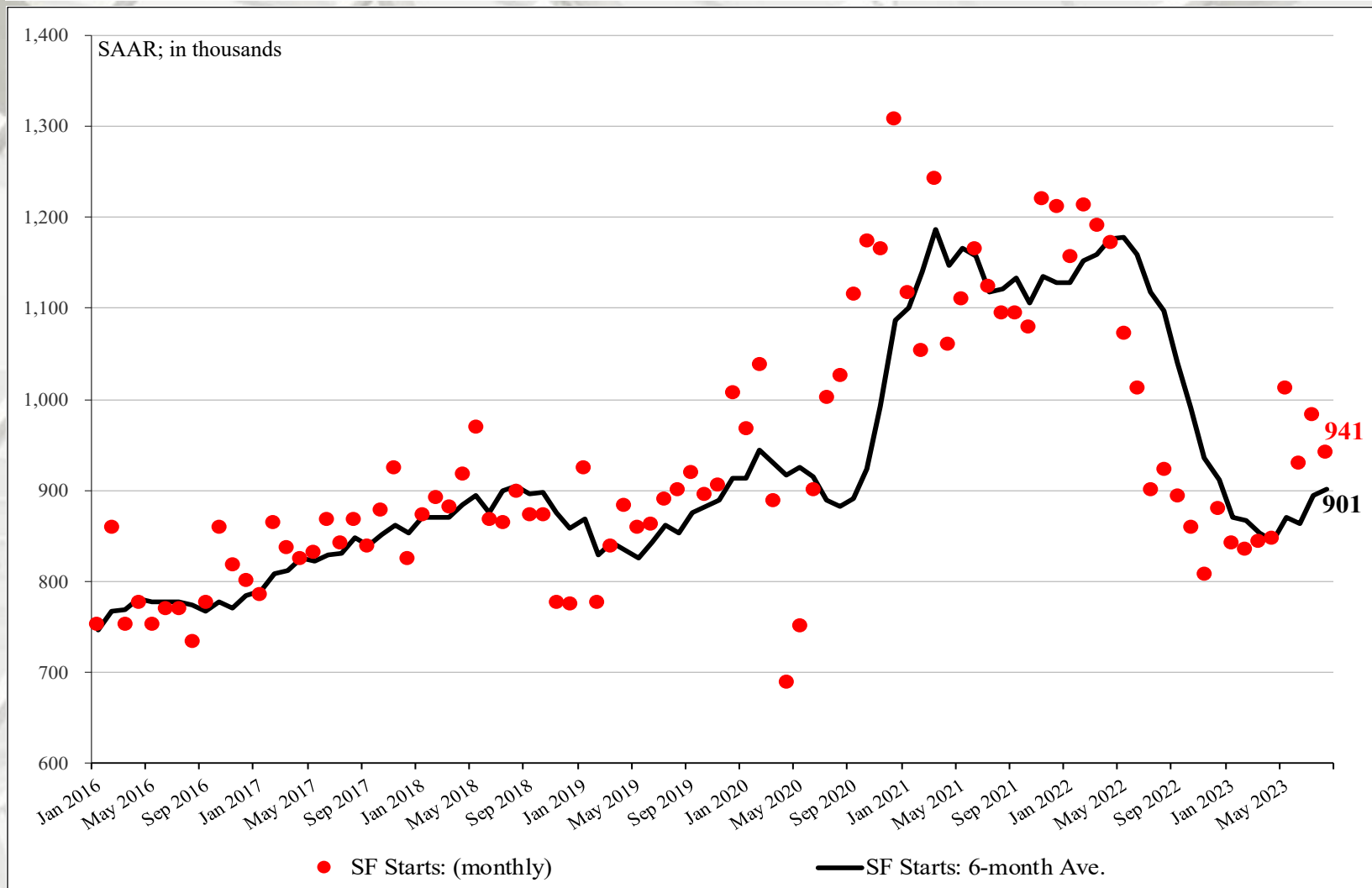
* Percentage of total starts.

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

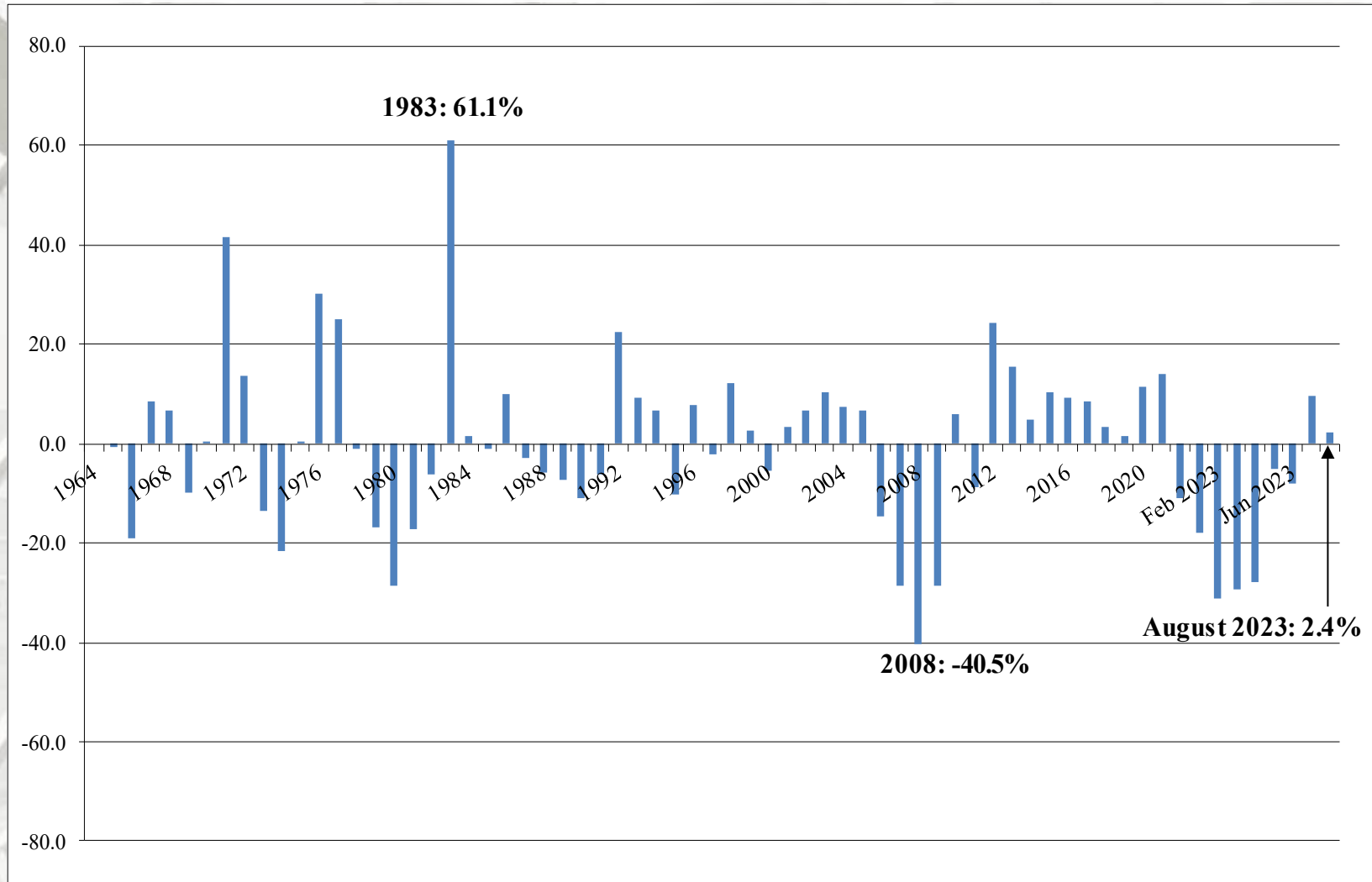
Total Housing Starts: Six-Month Moving Average



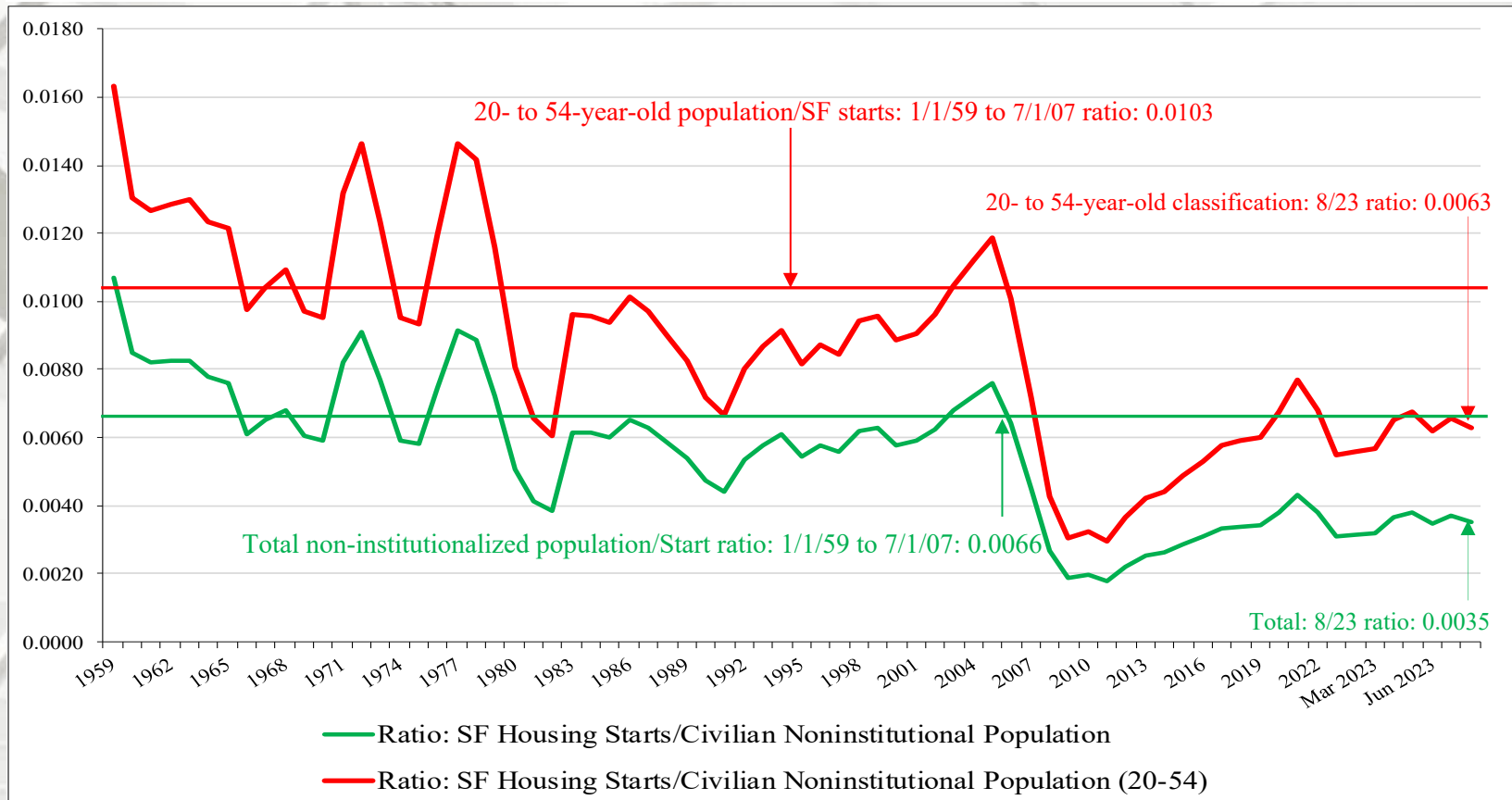
SF Housing Starts: Six-Month Moving Average



SF Housing Starts: Year-over-Year Change (%)



New SF Starts

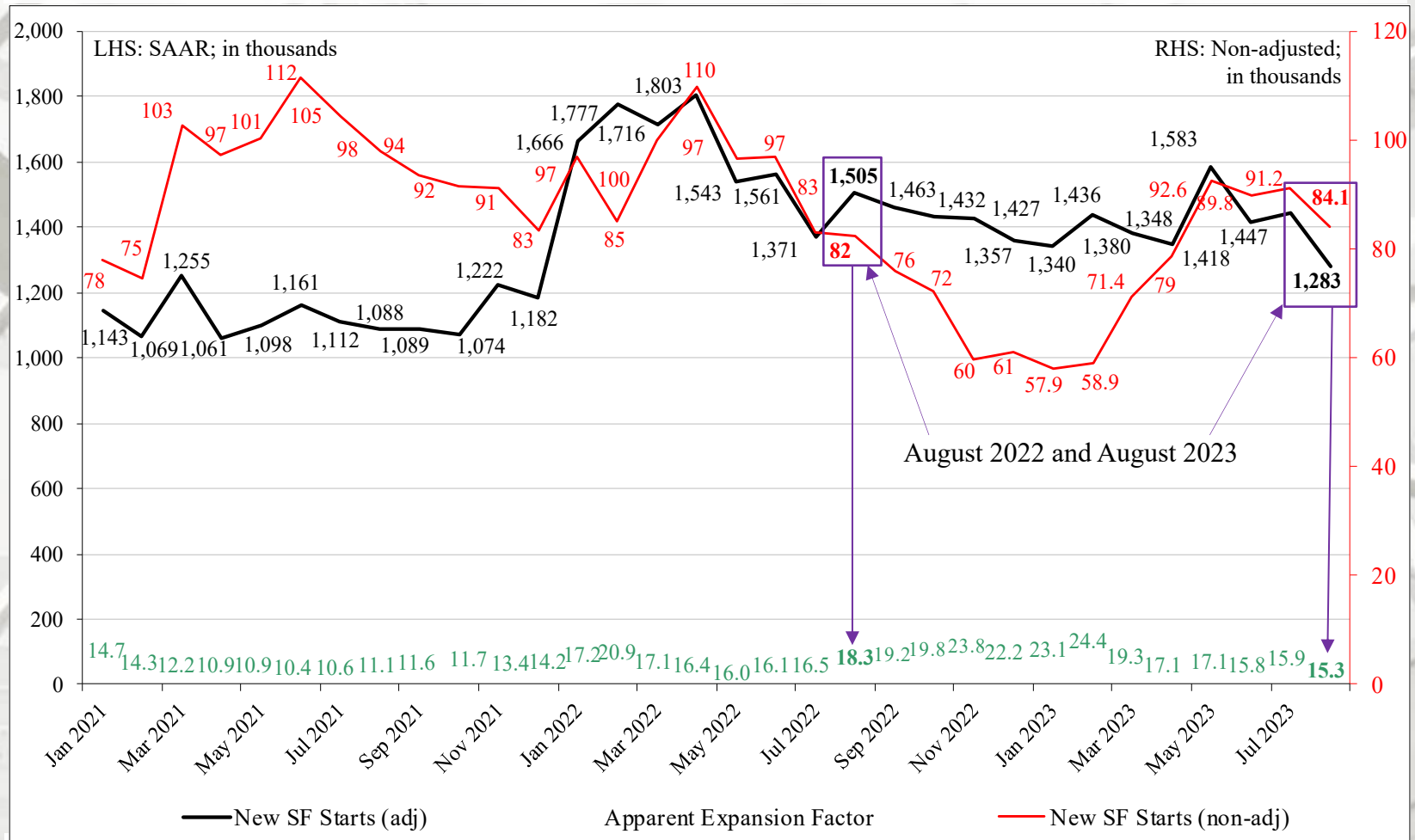


New SF starts adjusted for the US population

From January 1959 to August 2007, the long-term ratio of new SF starts to the total US non-institutionalized population is 0.0066. In August 2023 it was 0.0035 – a slight decrease from July (0.0037). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in August 2023 it was 0.0063 – also a decline from July (0.0066). New SF construction in both age categories is less than what is necessary for changes in the population (i.e., under-building).

Note some studies report normalized long-term demand at 900,000 to 1,000,000 new SF house starts per year – beginning in 2025 through 2050.

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**
August	97,000	54,000	43,000
July	96,000	55,000	41,000
2022	178,000	60,000	118,000
M/M change	1.0%	-1.8%	4.9%
Y/Y change	-45.5%	-10.0%	-63.6%
	MW Total	MW SF	MW MF
August	160,000	107,000	53,000
July	173,000	122,000	51,000
2022	182,000	126,000	56,000
M/M change	-7.5%	-12.3%	3.9%
Y/Y change	-12.1%	-15.1%	-5.4%

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).

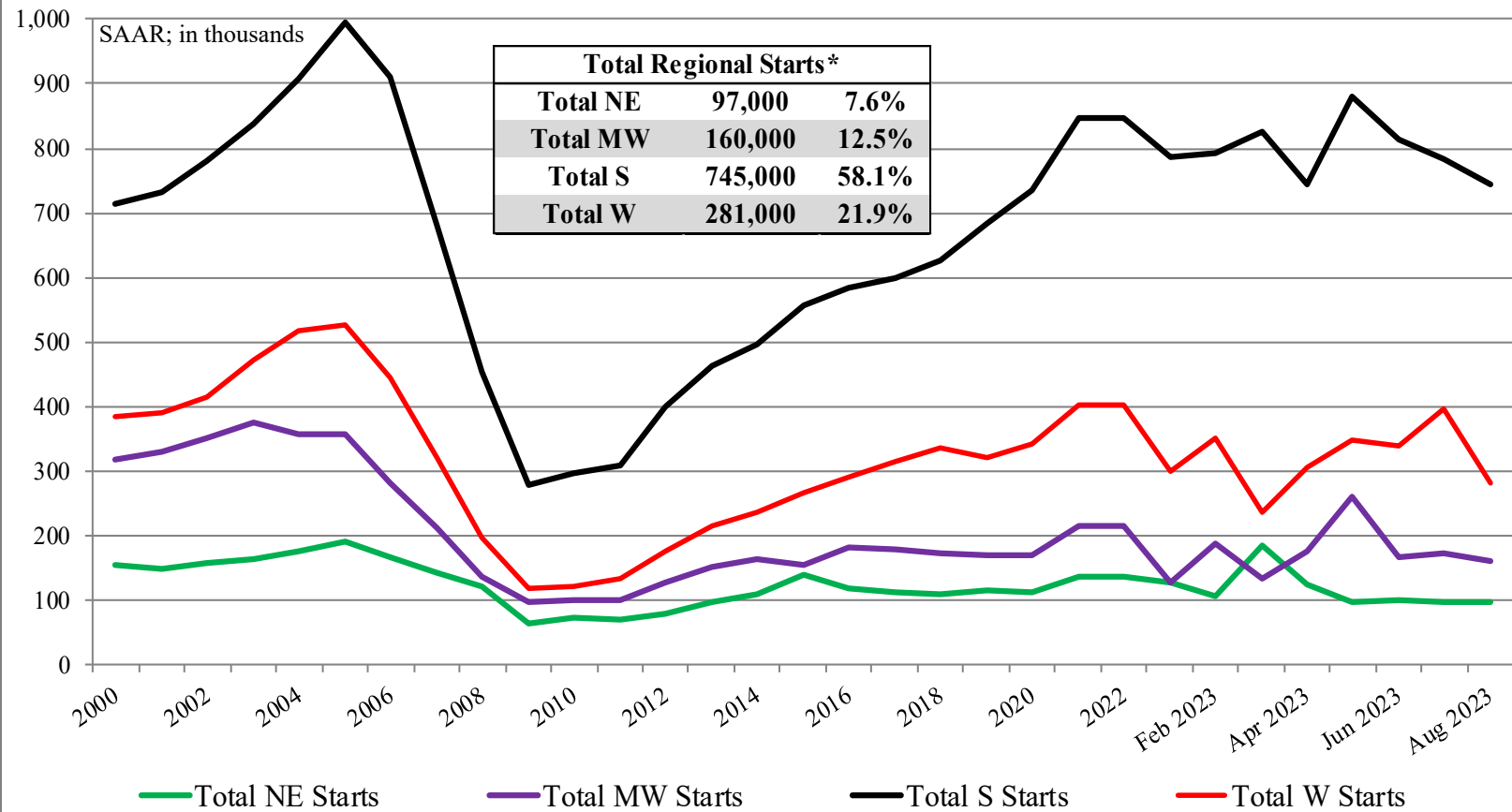
New Housing Starts by Region

	S Total	S SF	S MF**
August	745,000	590,000	155,000
July	783,000	546,000	237,000
2022	793,000	515,000	278,000
M/M change	-4.9%	8.1%	-34.6%
Y/Y change	-6.1%	14.6%	-44.2%
	W Total	W SF	W MF
August	281,000	190,000	91,000
July	395,000	260,000	135,000
2022	352,000	218,000	134,000
M/M change	-28.9%	-26.9%	-32.6%
Y/Y change	-20.2%	-12.8%	-32.1%

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

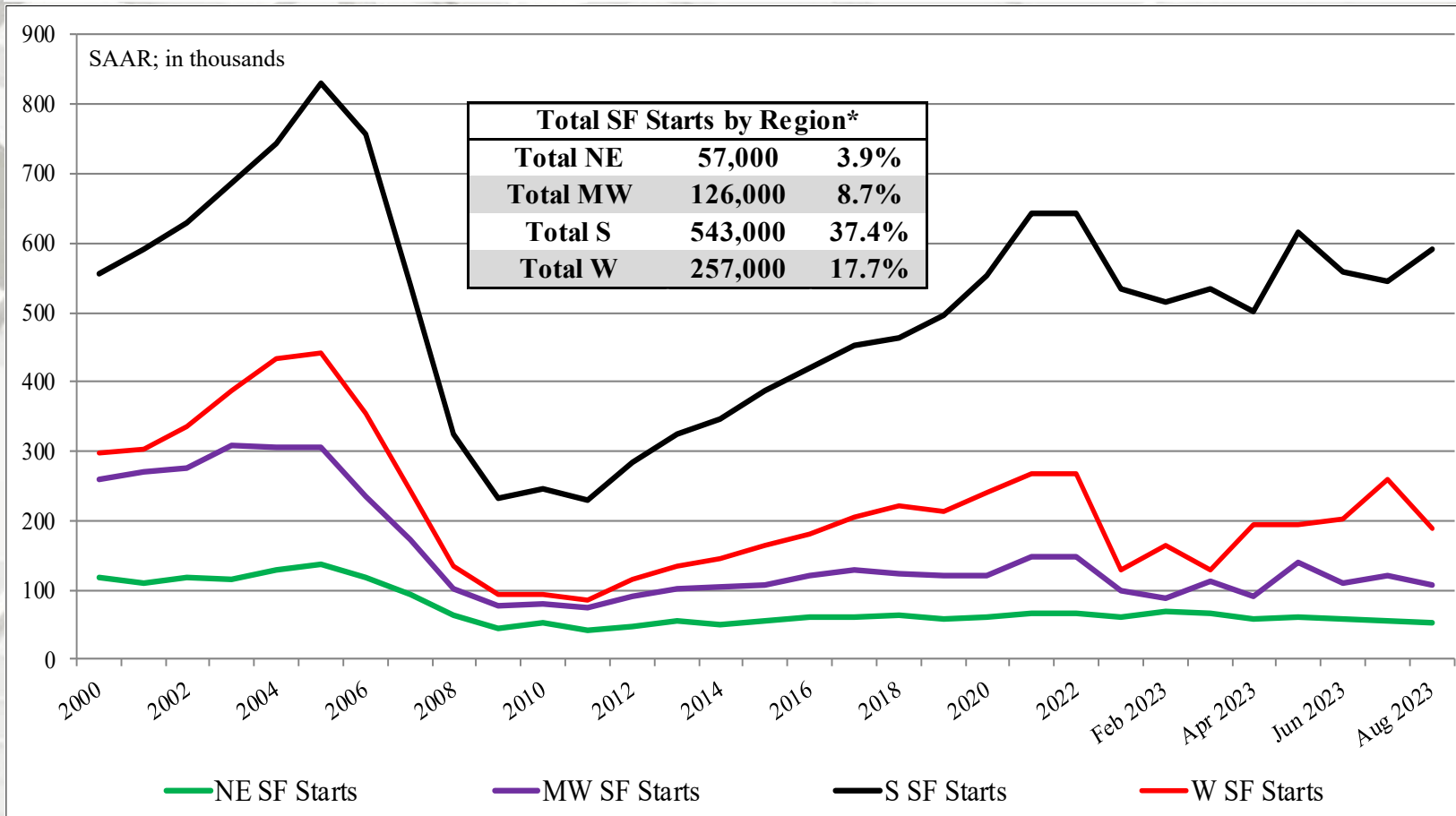


NE = Northeast, MW = Midwest, S = South, W = West

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

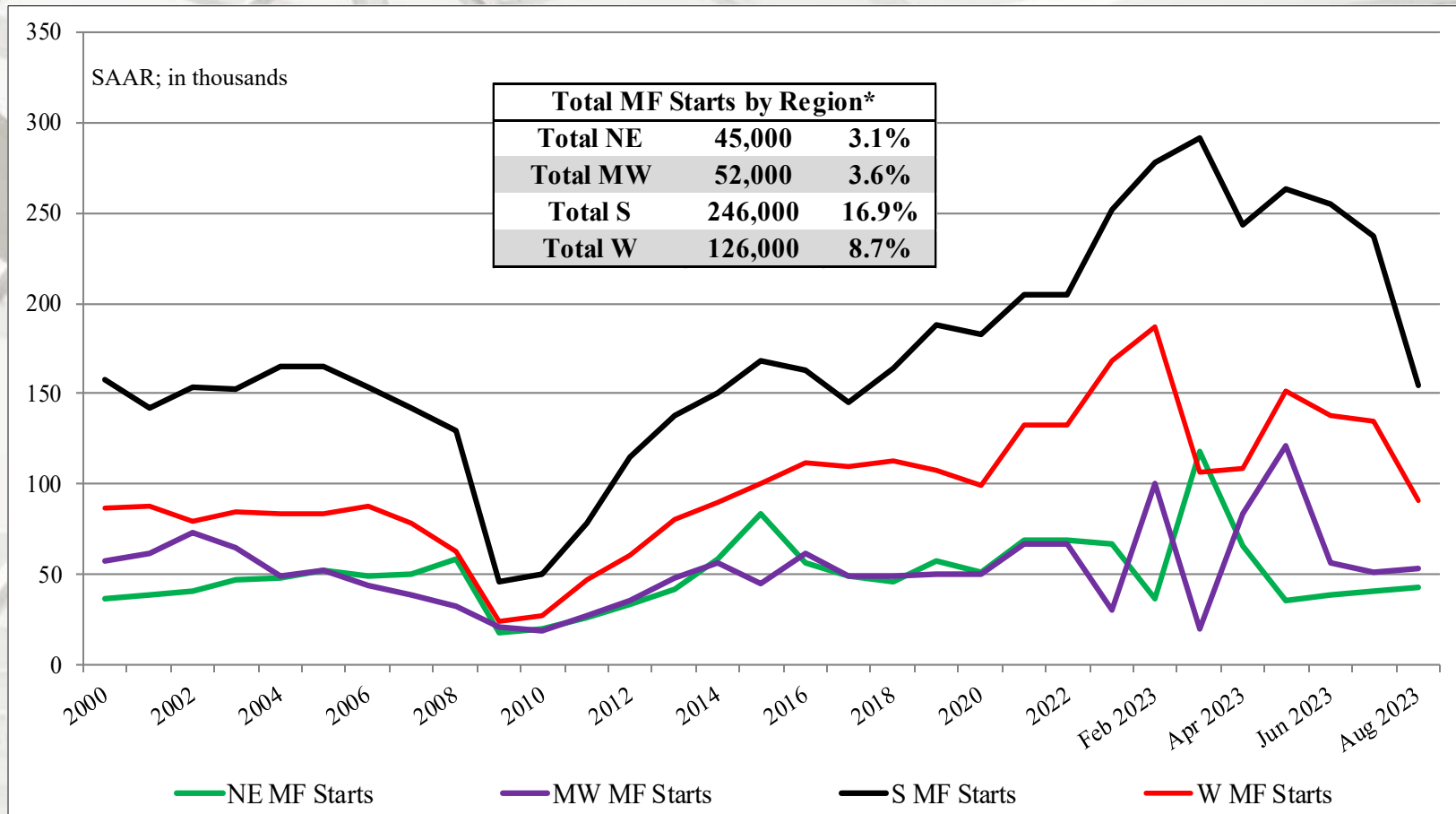


NE = Northeast, MW = Midwest, S = South, W = West

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

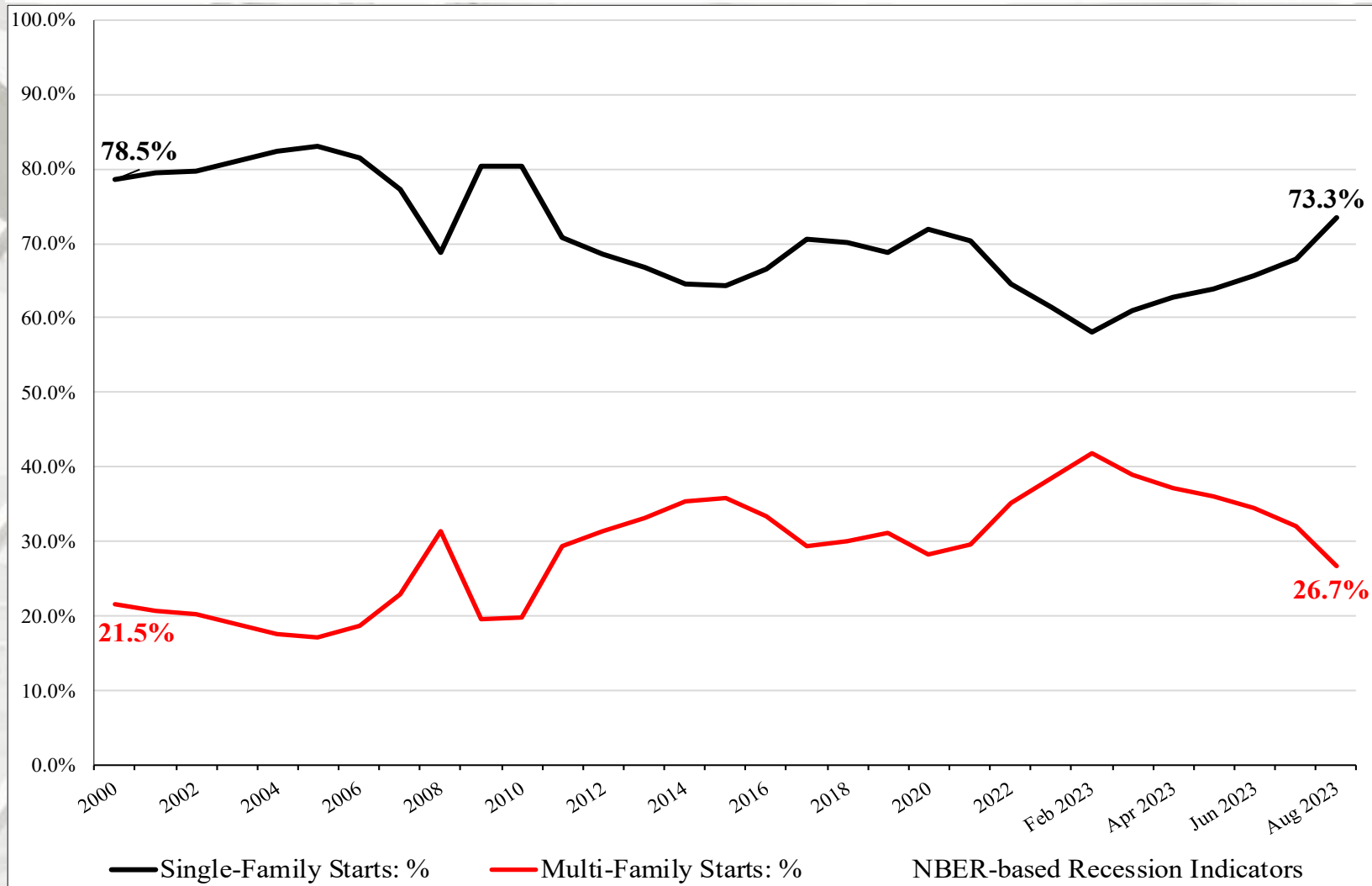


NE = Northeast, MW = Midwest, S = South, W = West

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 (%)



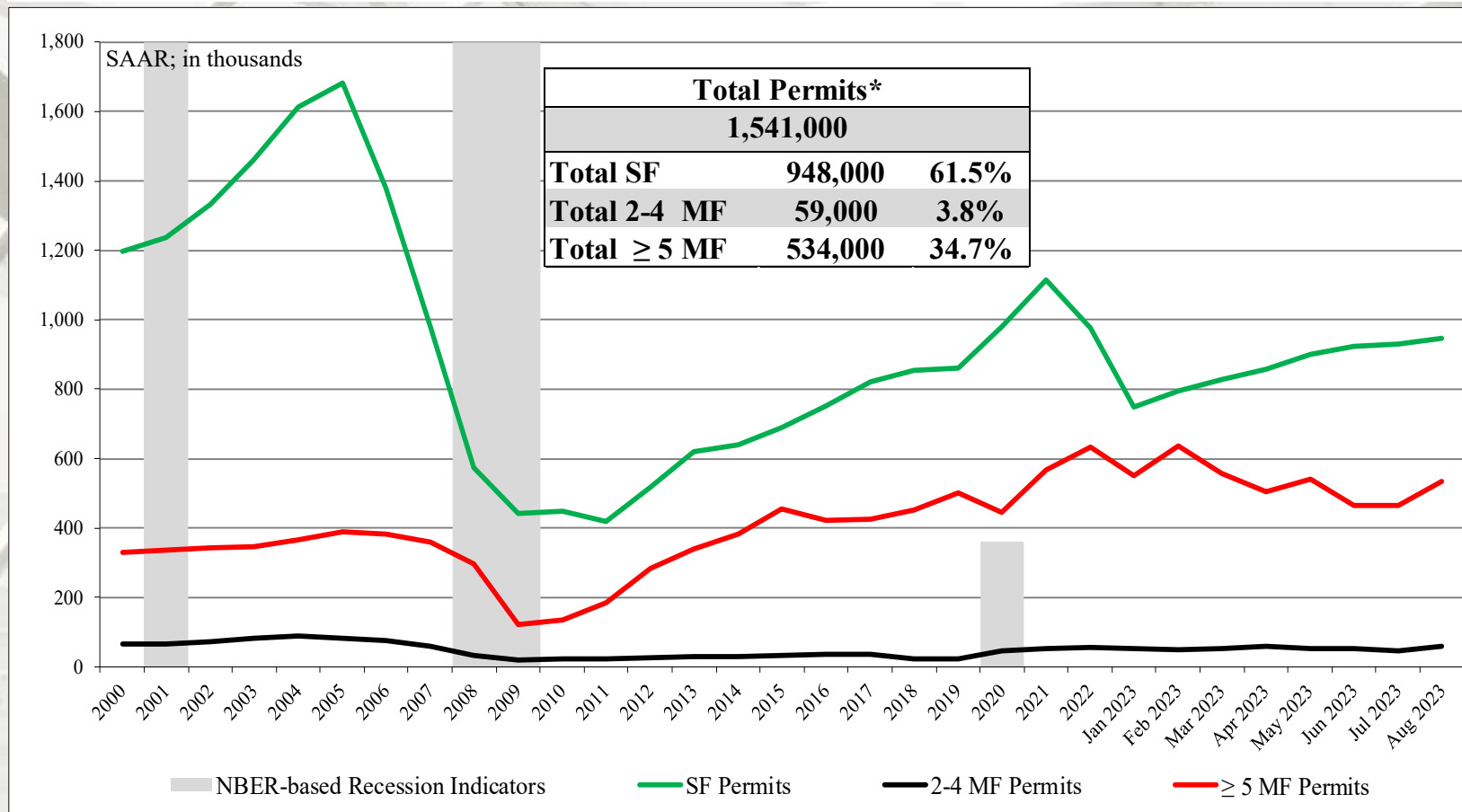
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
August	1,541,000	948,000	59,000	534,000
July	1,443,000	930,000	47,000	466,000
2022	1,586,000	885,000	51,000	650,000
M/M change	6.8%	1.9%	25.5%	14.6%
Y/Y change	-2.8%	7.1%	15.7%	-17.8%

* 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).

New Housing Permits by Region

	NE Total*	NE SF	NE MF**
August	120,000	54,000	66,000
July	108,000	51,000	57,000
2022	138,000	57,000	81,000
M/M change	11.1%	5.9%	15.8%
Y/Y change	-13.0%	-5.3%	-18.5%
	MW Total*	MW SF	MW MF**
August	208,000	118,000	90,000
July	182,000	115,000	67,000
2022	209,000	113,000	96,000
M/M change	14.3%	2.6%	34.3%
Y/Y change	-0.5%	4.4%	-6.3%

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

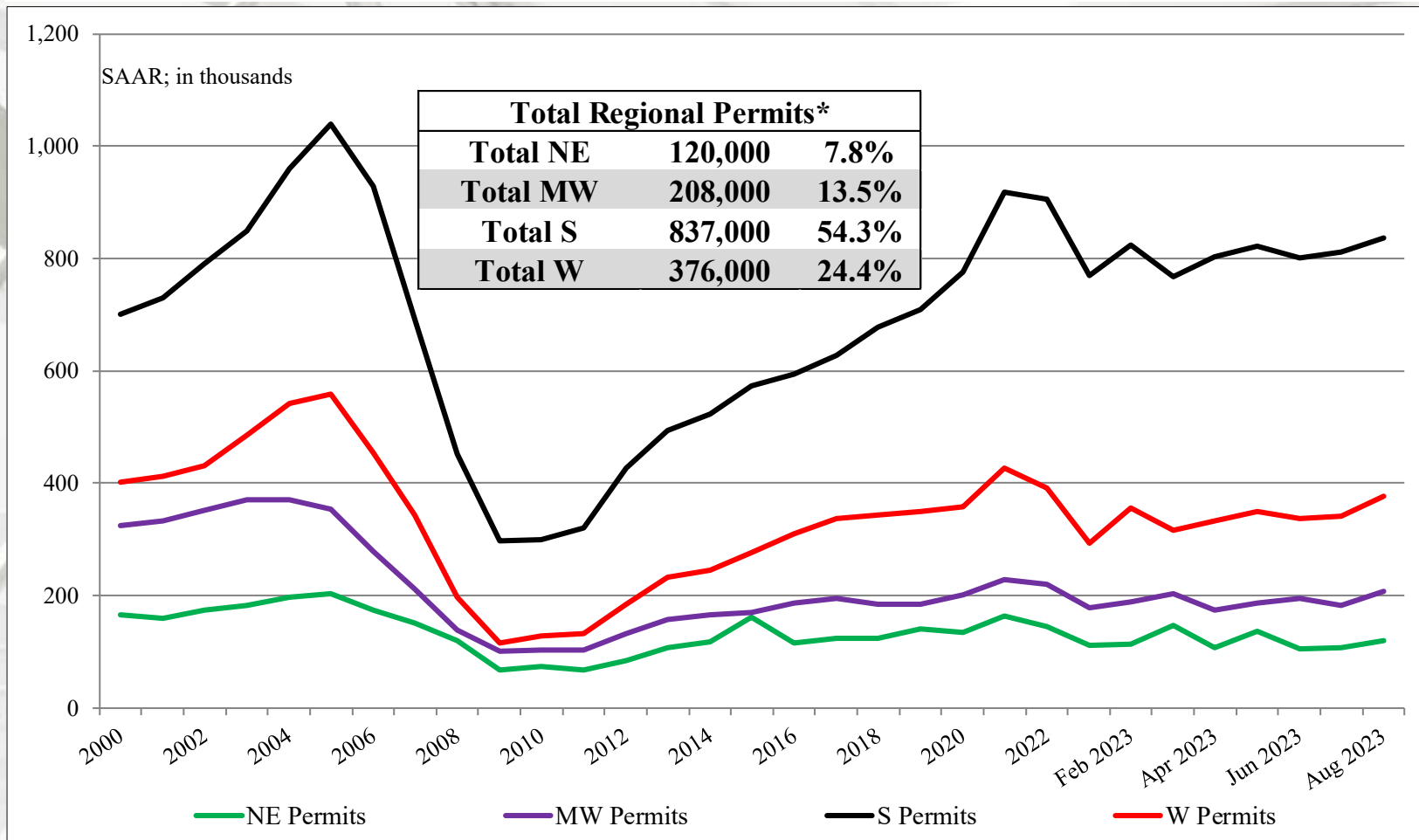
	S Total*	S SF	S MF**
August	837,000	574,000	263,000
July	811,000	566,000	245,000
2022	857,000	522,000	335,000
M/M change	3.2%	1.4%	7.3%
Y/Y change	-2.3%	10.0%	-21.5%
	W Total*	W SF	W MF**
August	376,000	202,000	174,000
July	342,000	198,000	144,000
2022	382,000	193,000	189,000
M/M change	9.9%	2.0%	20.8%
Y/Y change	-1.6%	4.7%	-7.9%

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).

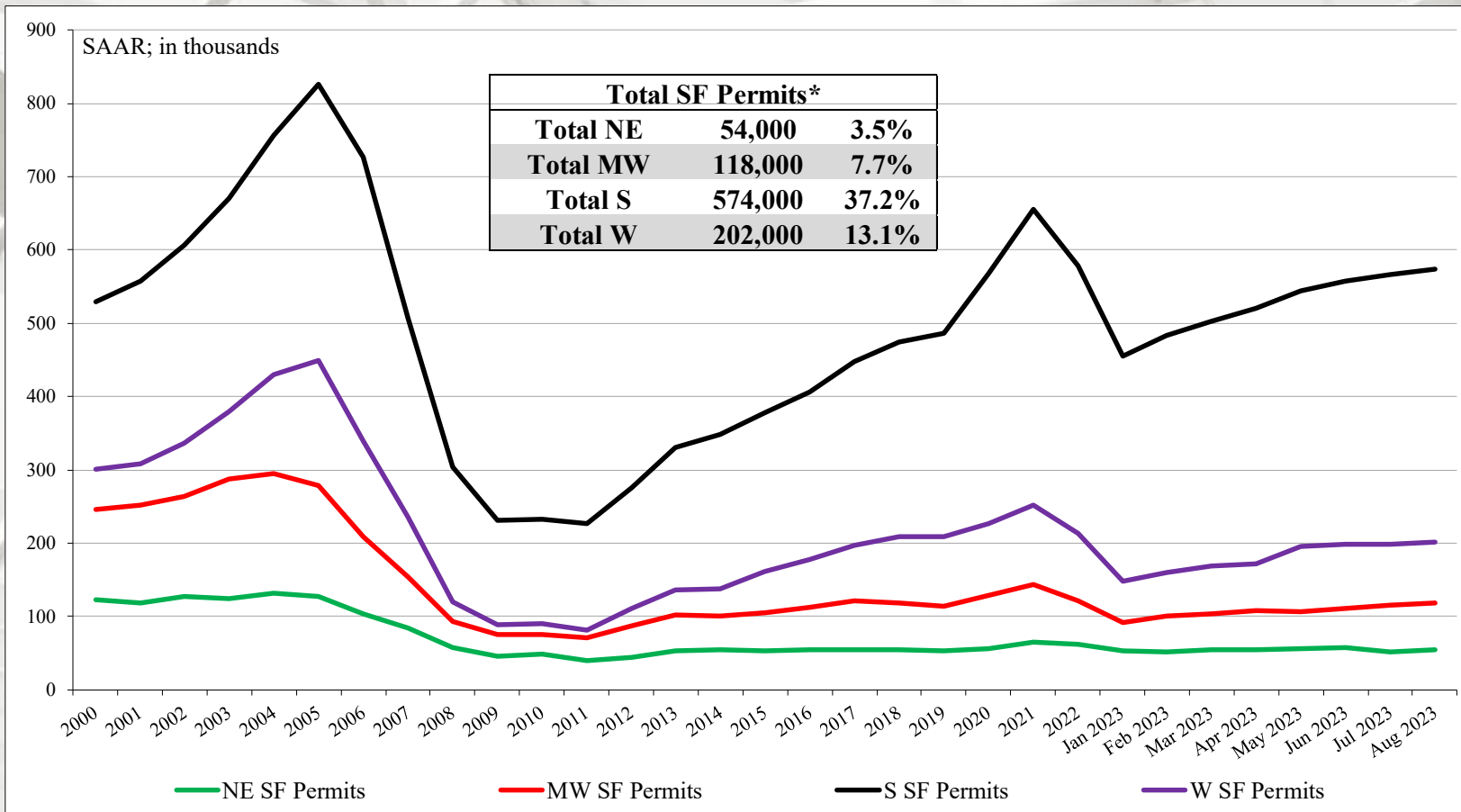
Total Housing Permits by Region



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

* Percentage of total permits.

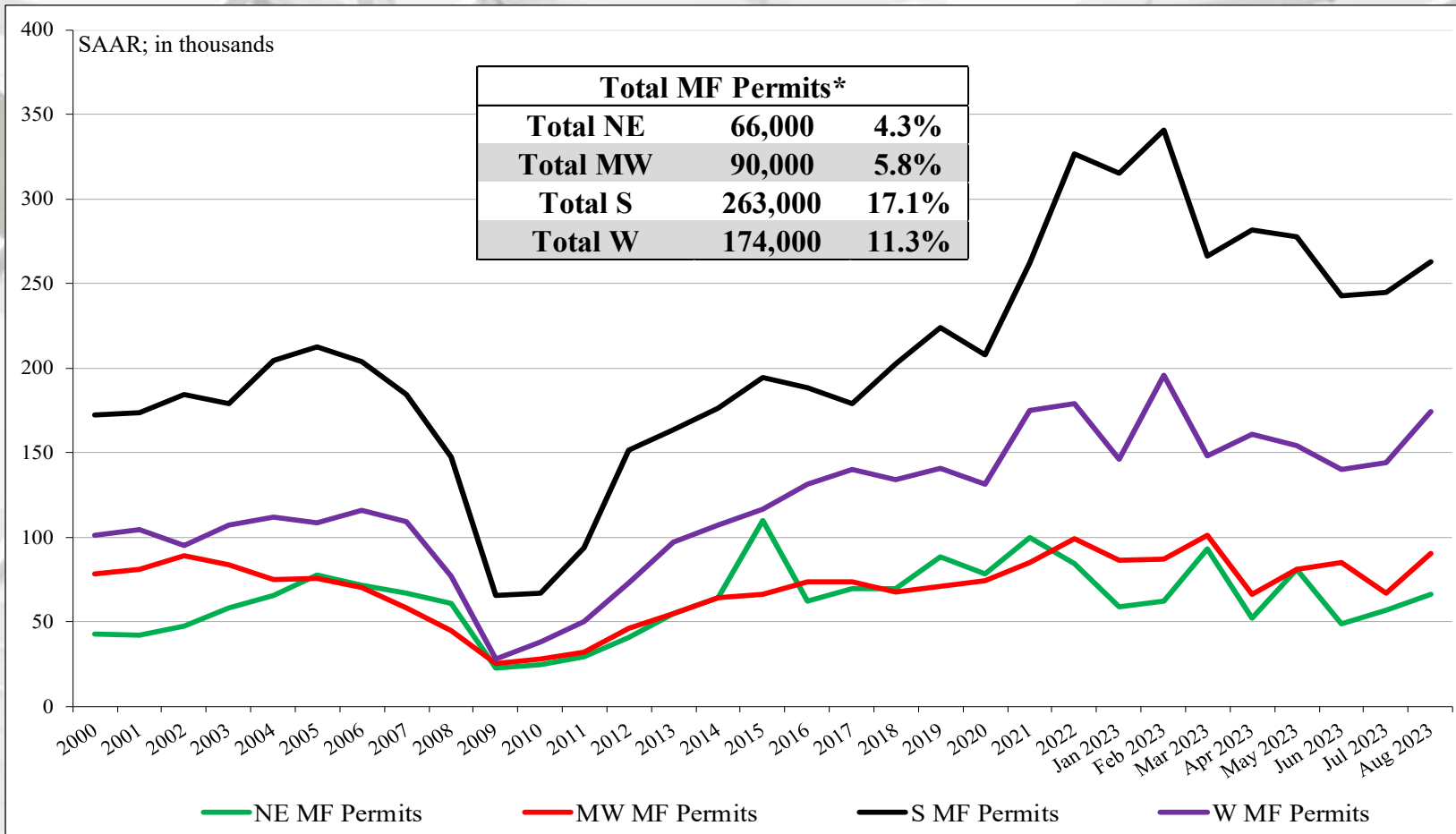
SF Housing Permits by Region



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.

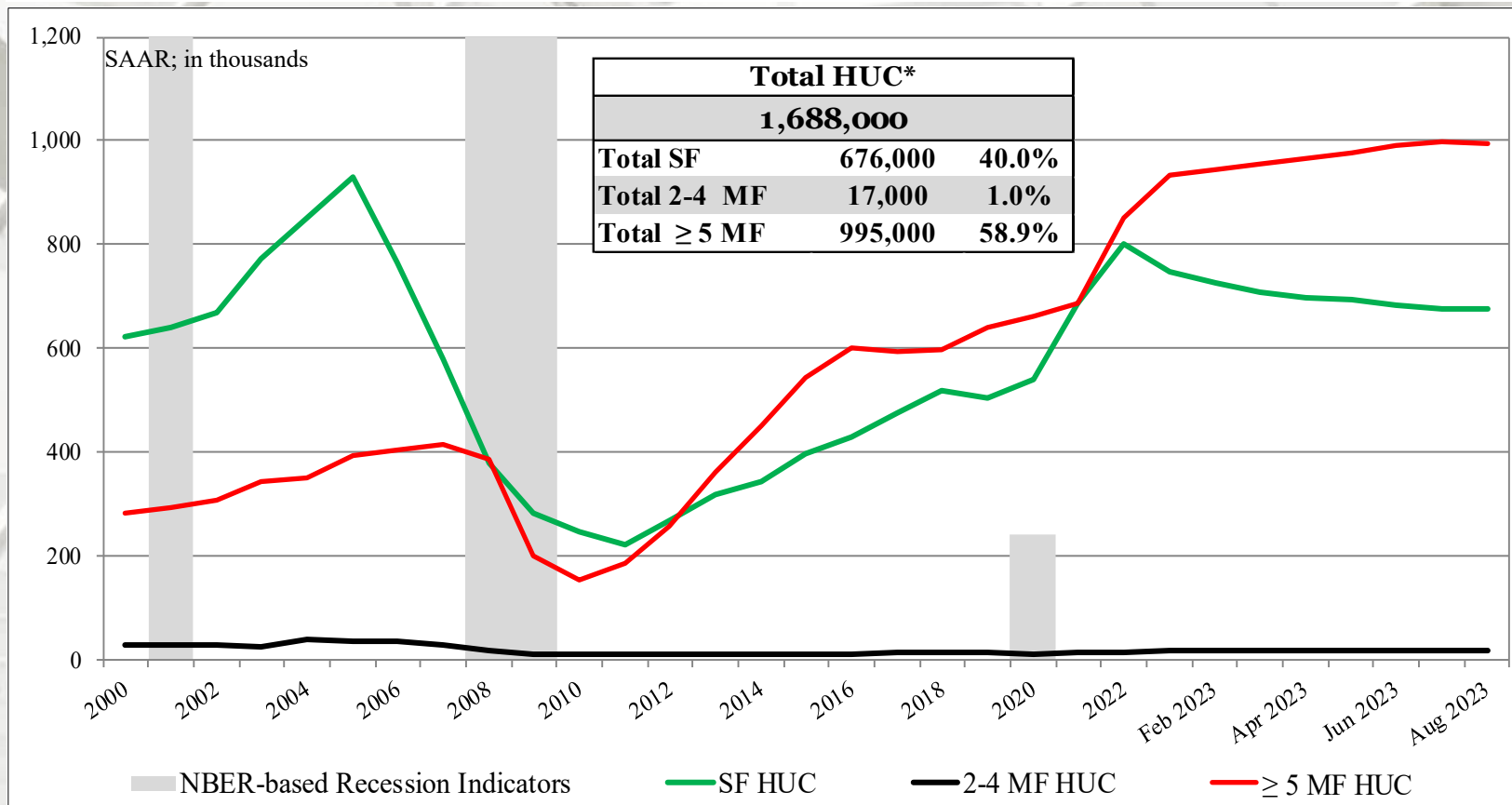
New Housing Under Construction (HUC)

	Total HUC*	SF HUC	MF 2-4 unit** HUC	MF ≥ 5 unit HUC
August	1,688,000	676,000	17,000	995,000
July	1,691,000	677,000	17,000	997,000
2022	1,702,000	808,000	17,000	877,000
M/M change	-0.2%	-0.1%	0.0%	-0.2%
Y/Y change	-0.8%	-16.3%	0.0%	13.5%

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-unit MF HUC)).

* 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**
August	213,000	66,000	147,000
July	217,000	65,000	152,000
2022	226,000	61,000	165,000
M/M change	-1.8%	1.5%	-3.3%
Y/Y change	-5.8%	8.2%	-10.9%
	MW Total	MW SF	MW MF
August	208,000	87,000	121,000
July	206,000	89,000	117,000
2022	213,000	108,000	105,000
M/M change	1.0%	-2.2%	3.4%
Y/Y change	-2.3%	-19.4%	15.2%

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).

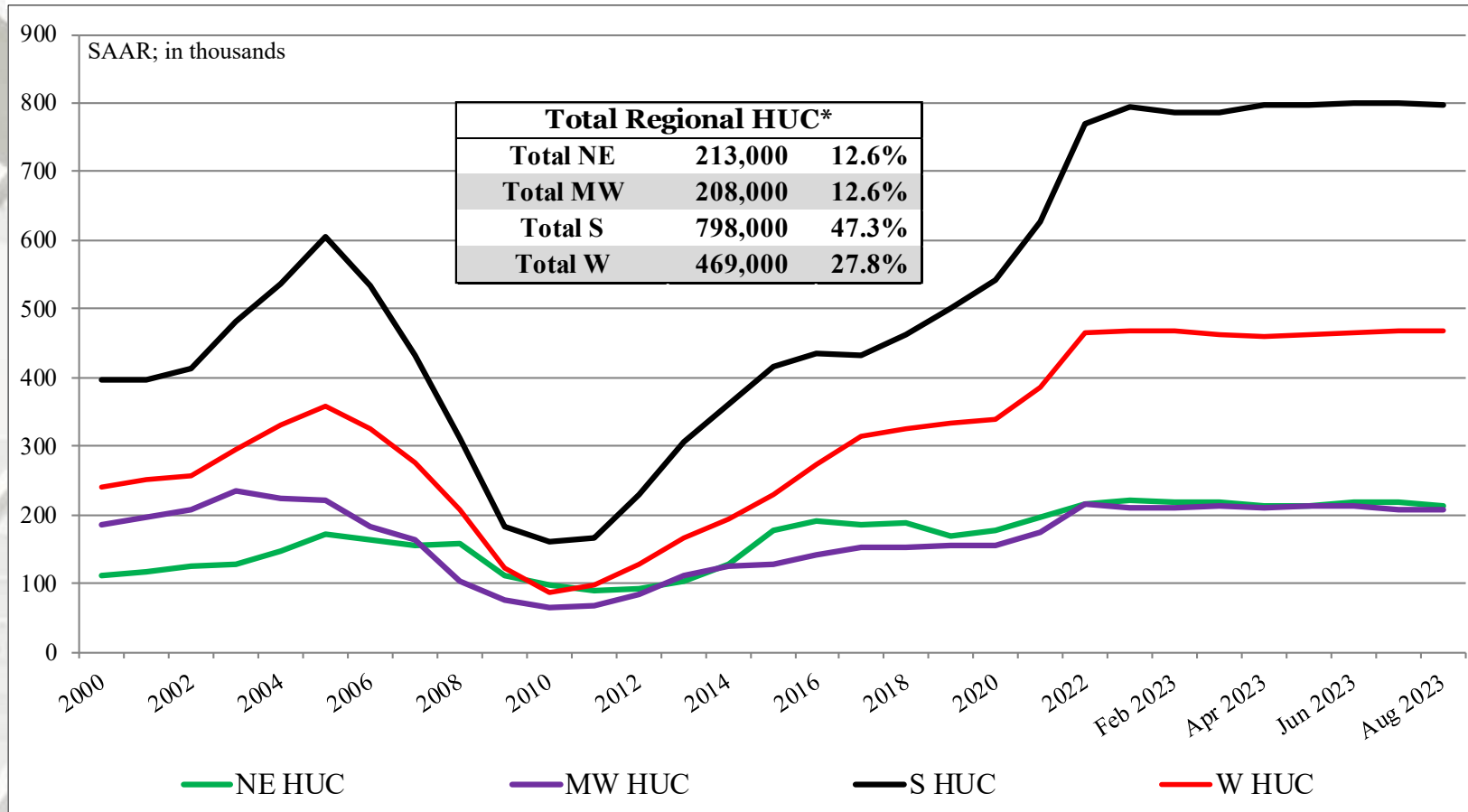
New Housing Under Construction by Region

	S Total	S SF	S MF**
August	798,000	356,000	442,000
July	800,000	356,000	444,000
2022	788,000	434,000	354,000
M/M change	-0.2%	0.0%	-0.5%
Y/Y change	1.3%	-18.0%	24.9%
	W Total	W SF	W MF
August	469,000	167,000	302,000
July	468,000	167,000	301,000
2022	475,000	205,000	270,000
M/M change	0.2%	0.0%	0.3%
Y/Y change	-1.3%	-18.5%	11.9%

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 under construction – SF under construction).

Total Housing Under Construction by Region

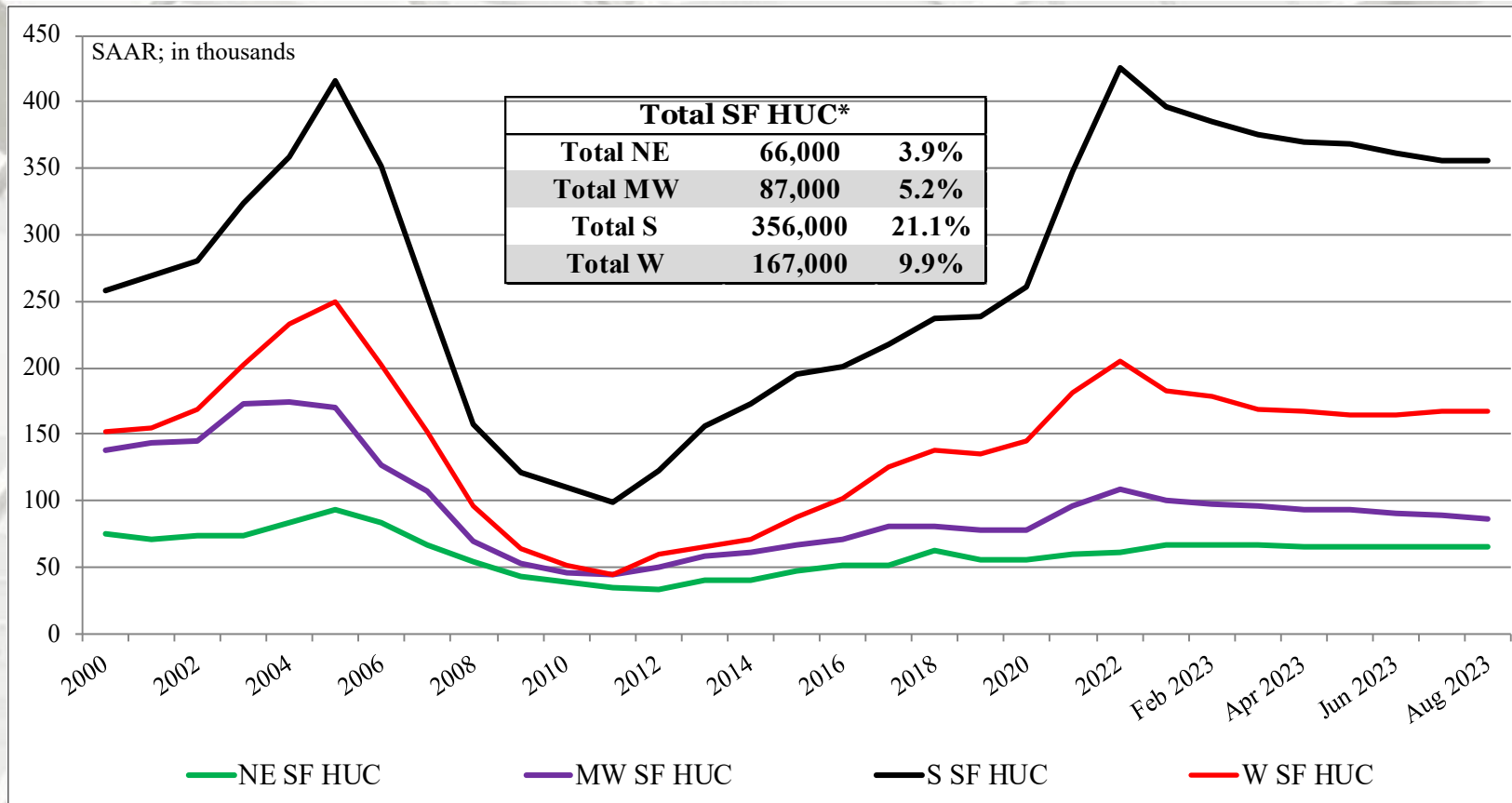


NE = Northeast, MW = Midwest, S = South, W = West

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

* Percentage of total housing under construction units.

SF Housing Under Construction by Region

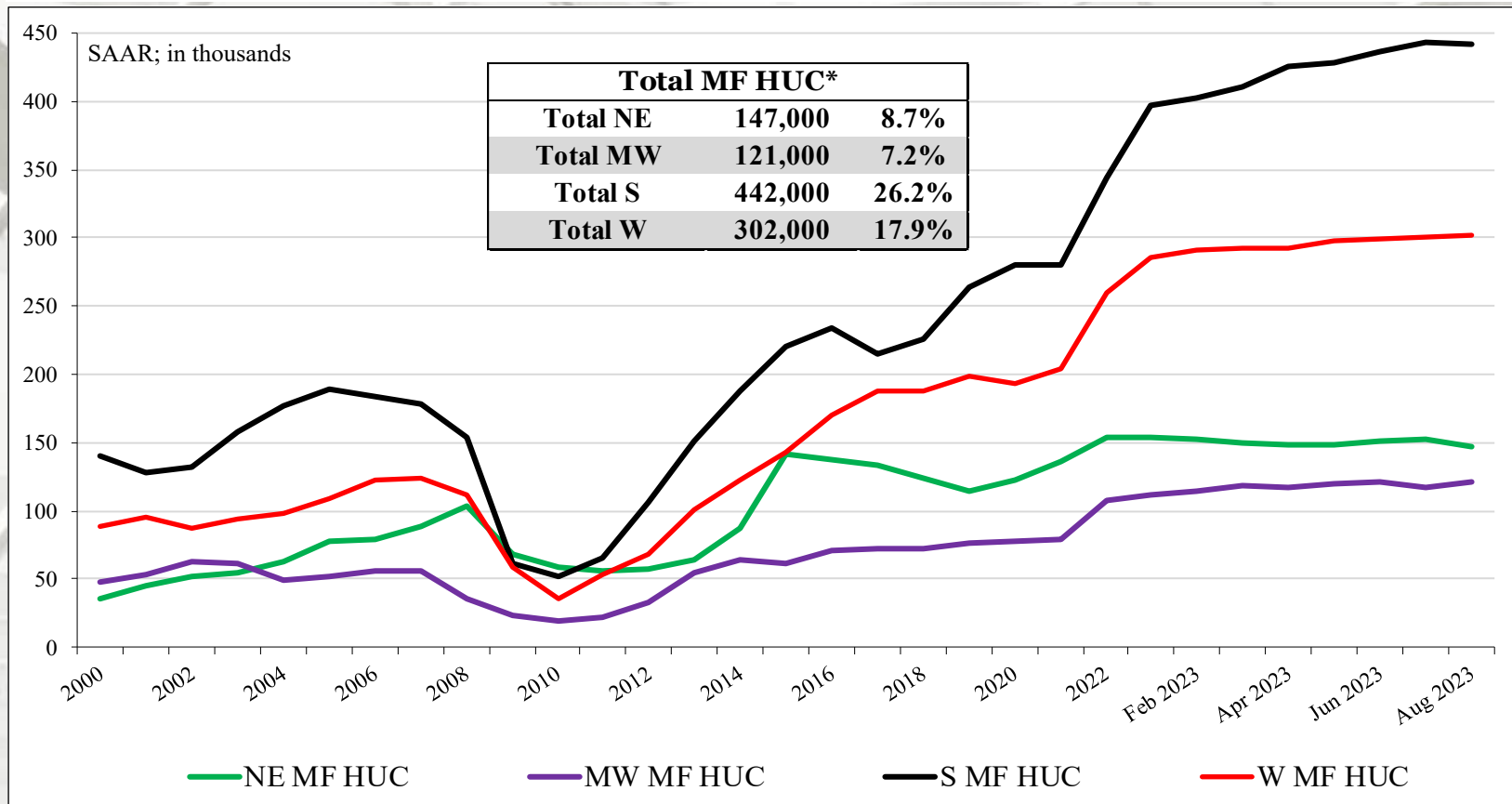


NE = Northeast, MW = Midwest, S = South, W = West.

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

* Percentage of total housing under construction units.

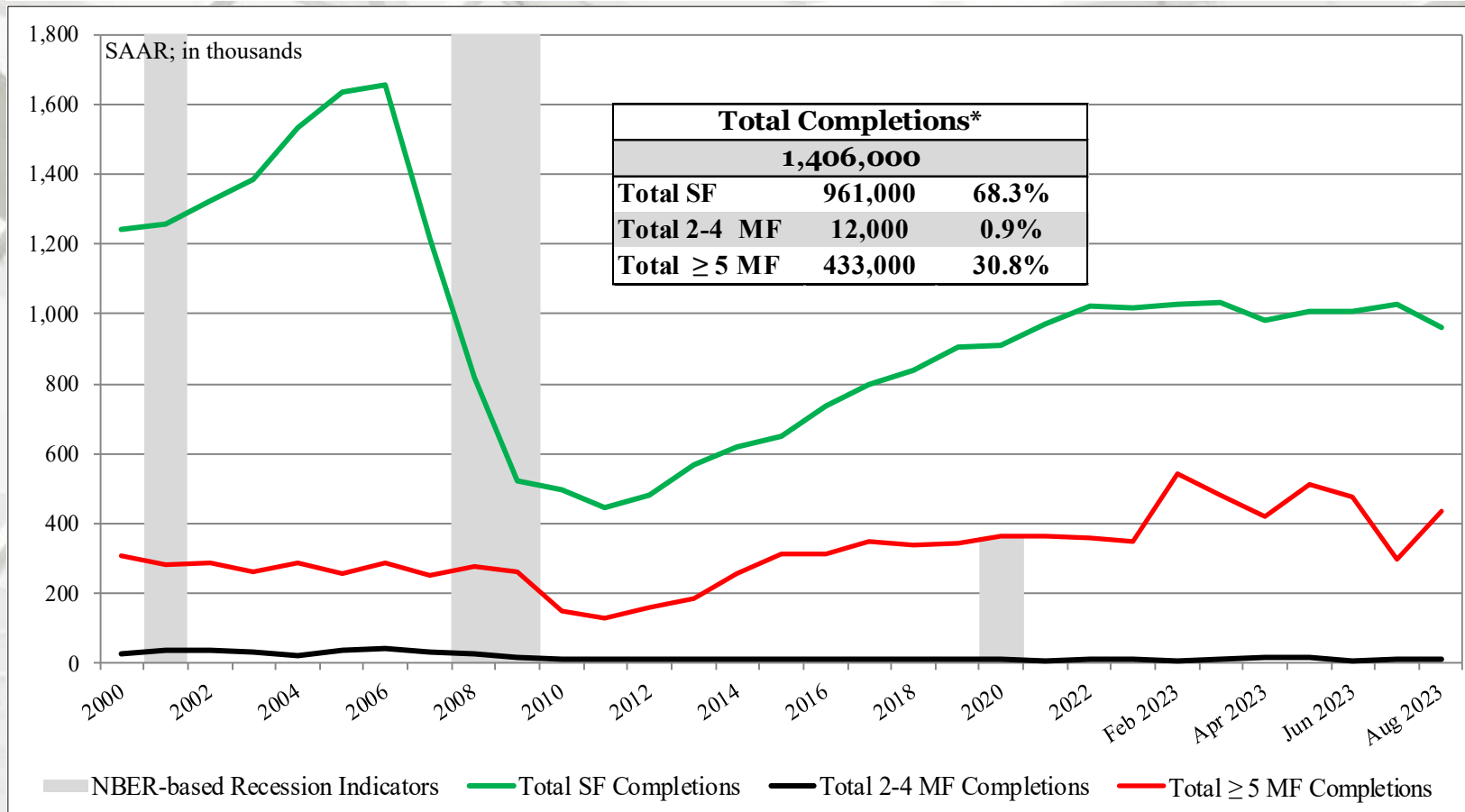
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit**	MF ≥ 5 unit Completions
August	1,406,000	961,000	12,000	433,000
July	1,335,000	1,029,000	9,000	297,000
2022	1,355,000	1,020,000	7,000	328,000
M/M change	5.3%	-6.6%	33.3%	45.8%
Y/Y change	3.8%	-5.8%	71.4%	32.0%

* 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**
August	107,000	37,000	70,000
July	91,000	62,000	29,000
2022	127,000	65,000	62,000
M/M change	17.6%	-40.3%	141.4%
Y/Y change	-15.7%	-43.1%	12.9%
	MW Total	MW SF	MW MF
August	201,000	139,000	62,000
July	201,000	157,000	44,000
2022	206,000	132,000	74,000
M/M change	0.0%	-11.5%	40.9%
Y/Y change	-2.4%	5.3%	-16.2%

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

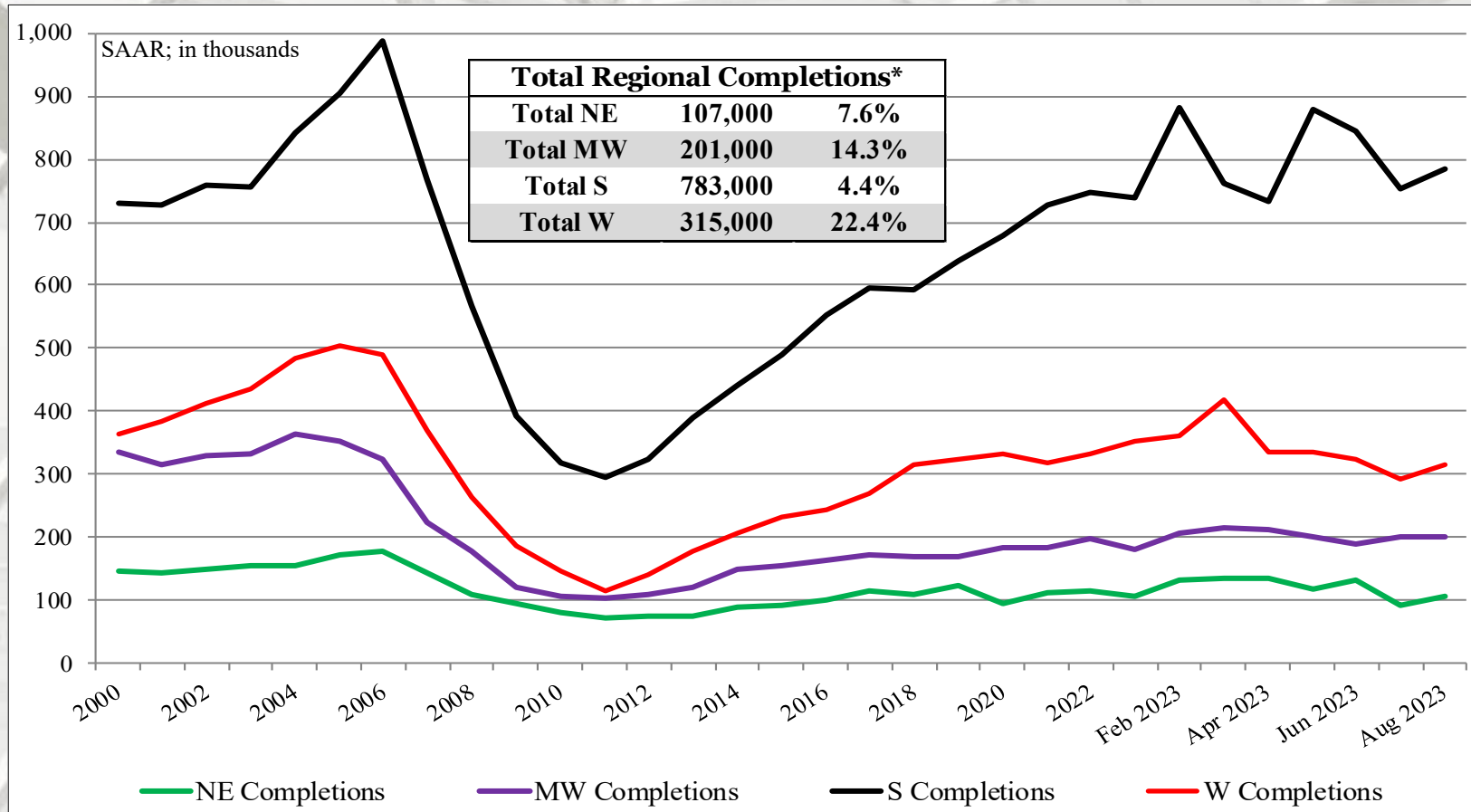
	S Total	S SF	S MF**
August	783,000	589,000	194,000
July	752,000	599,000	153,000
2022	673,000	564,000	109,000
M/M change	4.1%	-1.7%	26.8%
Y/Y change	16.3%	4.4%	78.0%
	W Total	W SF	W MF
August	315,000	196,000	119,000
July	291,000	211,000	80,000
2022	349,000	259,000	90,000
M/M change	8.2%	-7.1%	48.8%
Y/Y change	-9.7%	-24.3%	32.2%

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

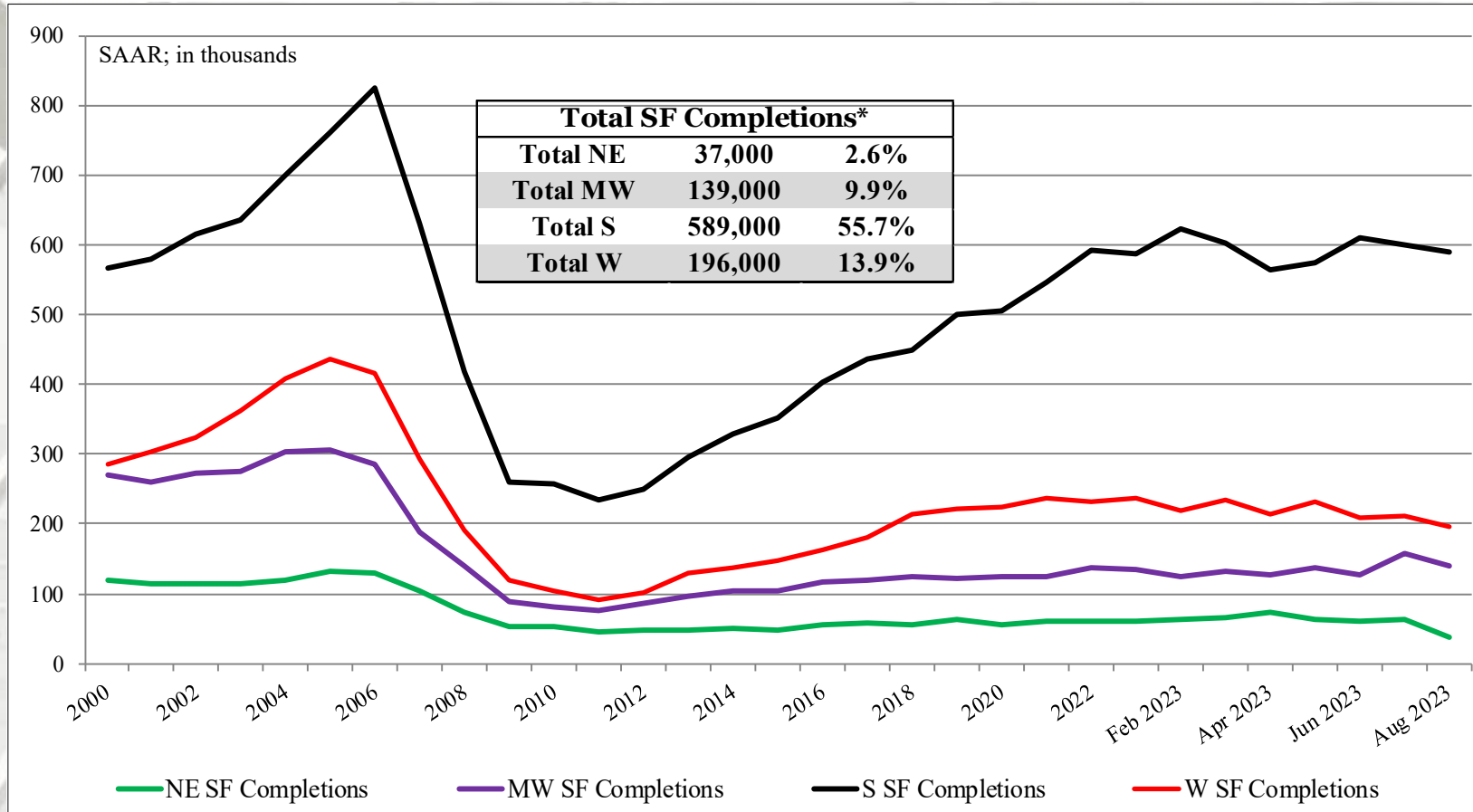
Total Housing Completions by Region



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

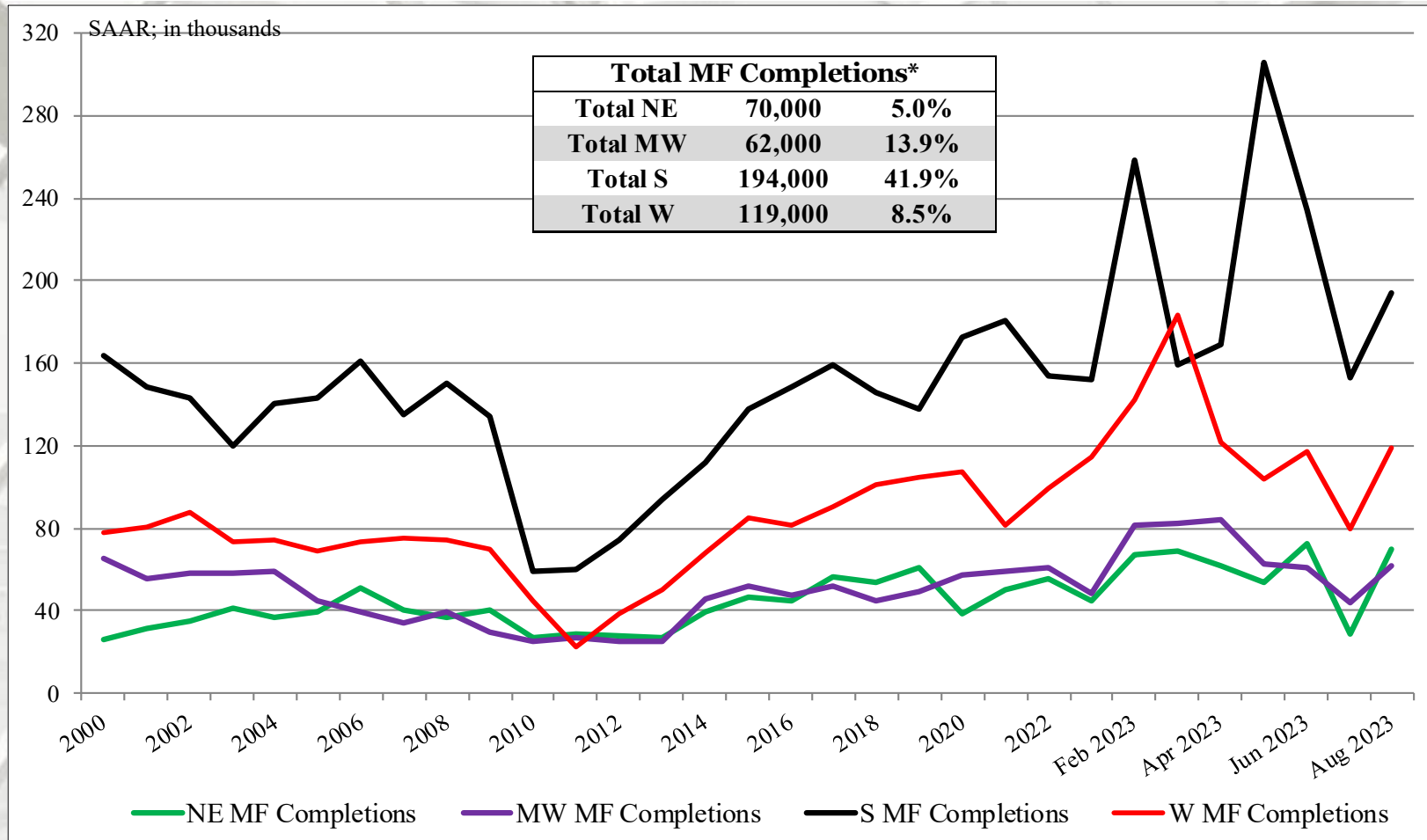


NE = Northeast, MW = Midwest, S = South, W = West

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

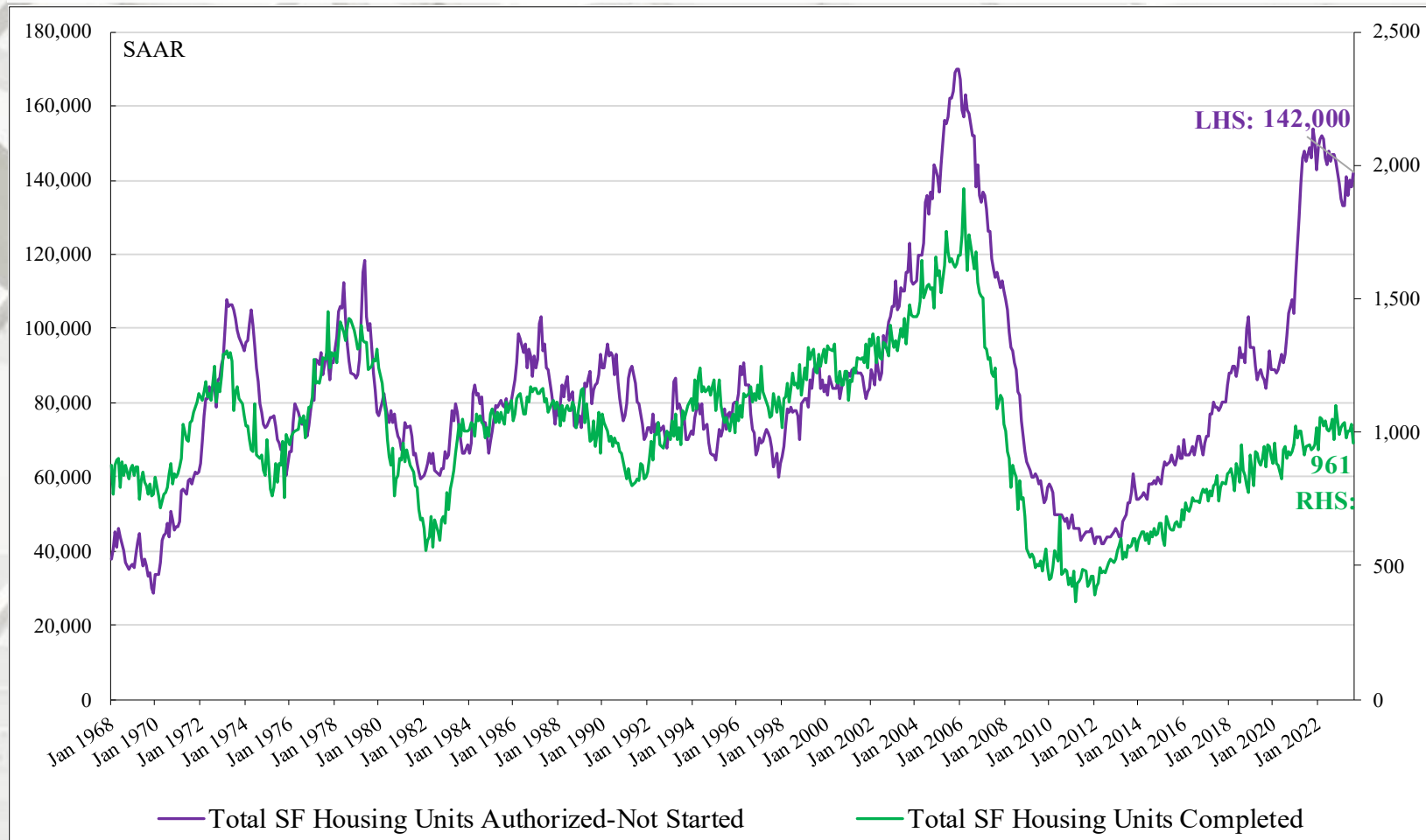


NE = Northeast, MW = Midwest, S = South, W = West

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

Comparison of SF Units Authorized & Not Started to SF Housing Units Completed



Authorized, Not Started vs. Housing Completions

Total authorized units “not” started was 282,000 in August, an increase from July, and SF authorized units “not” started increased to 142,000 units in August. Total completions increased and SF unit completions decreased M/M.

The primary reason is manufacturing supply chain disruptions – ranging from appliances to windows; labor, logistics, and local building regulations.

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
August	675,000	\$430,300	\$514,000	7.8
July	739,000	\$436,600	\$507,900	7.0
2022	638,000	\$440,300	\$530,800	8.7
M/M change	-8.7%	-1.4%	1.2%	11.4%
Y/Y change	5.8%	-2.3%	-3.2%	-10.3%

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

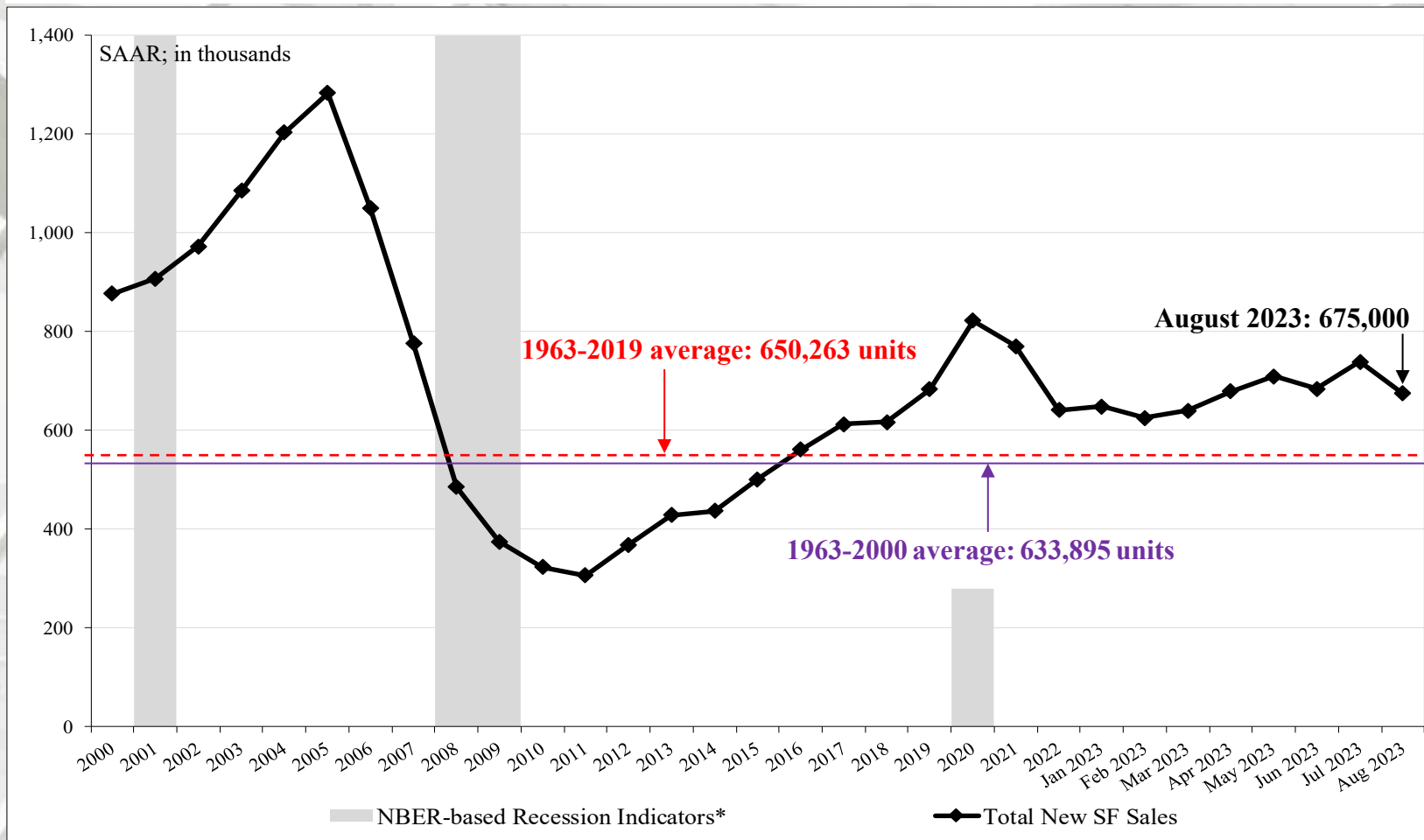
New SF sales were less than the consensus forecast³ of 699 m; range 675 m to 720 m. The past three month's new SF sales data also were revised:

April initial: 683 m, revised to 679 m.

May initial: 763 m, revised to 704 m.

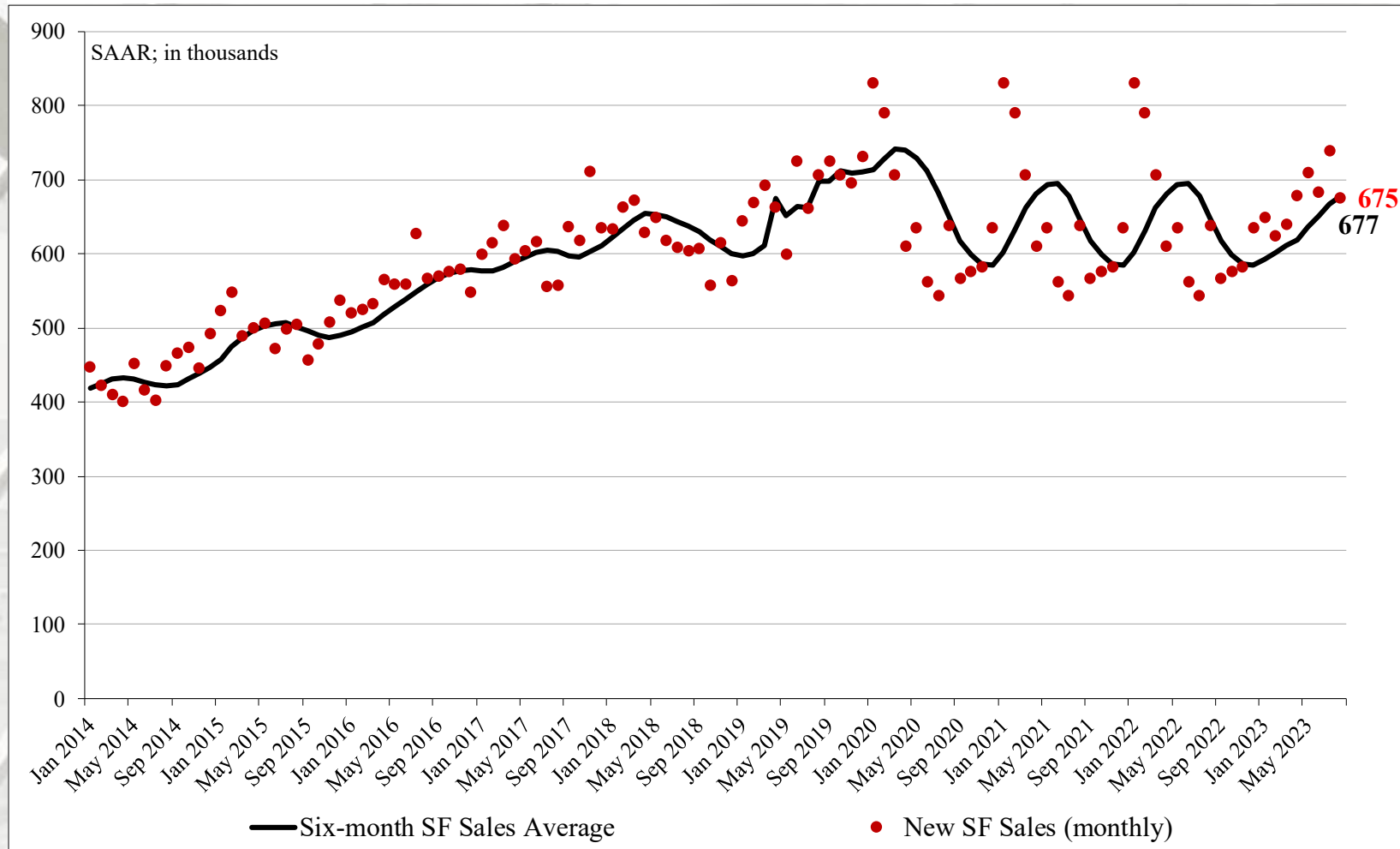
June initial: 697 m, revised to 684 m.

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			
August	32,000	77,000	383,000	183,000			
July	30,000	93,000	414,000	202,000			
2022	27,000	62,000	422,000	127,000			
M/M change	6.7%	-17.2%	-7.5%	-9.4%			
Y/Y change	18.5%	24.2%	-9.2%	44.1%			
	≤ \$150m	\$150 - \$199.9m	\$200 - 299.9m	\$300 - \$399.9m	\$400 - \$499.9m	\$500 - \$749.9m	≥ \$750m
August ^{1,2,3,4}	0	0	7,000	16,000	17,000	15,000	6,000
July	0	1,000	8,000	18,000	12,000	13,000	7,000
2022	500	500	3,000	11,000	9,000	14,000	6,000
M/M change	0.0%	0.0%	-12.5%	-11.1%	41.7%	15.4%	-14.3%
Y/Y change	0.0%	0.0%	133.3%	45.5%	88.9%	7.1%	0.0%
% of New SF sales	0.8%	0.8%	13.3%	31.7%	20.0%	21.7%	13.3%

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

¹ All data are SAAR

² Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;

³ Detail August not add to total because of rounding.

⁴ Housing prices are adjusted at irregular intervals.

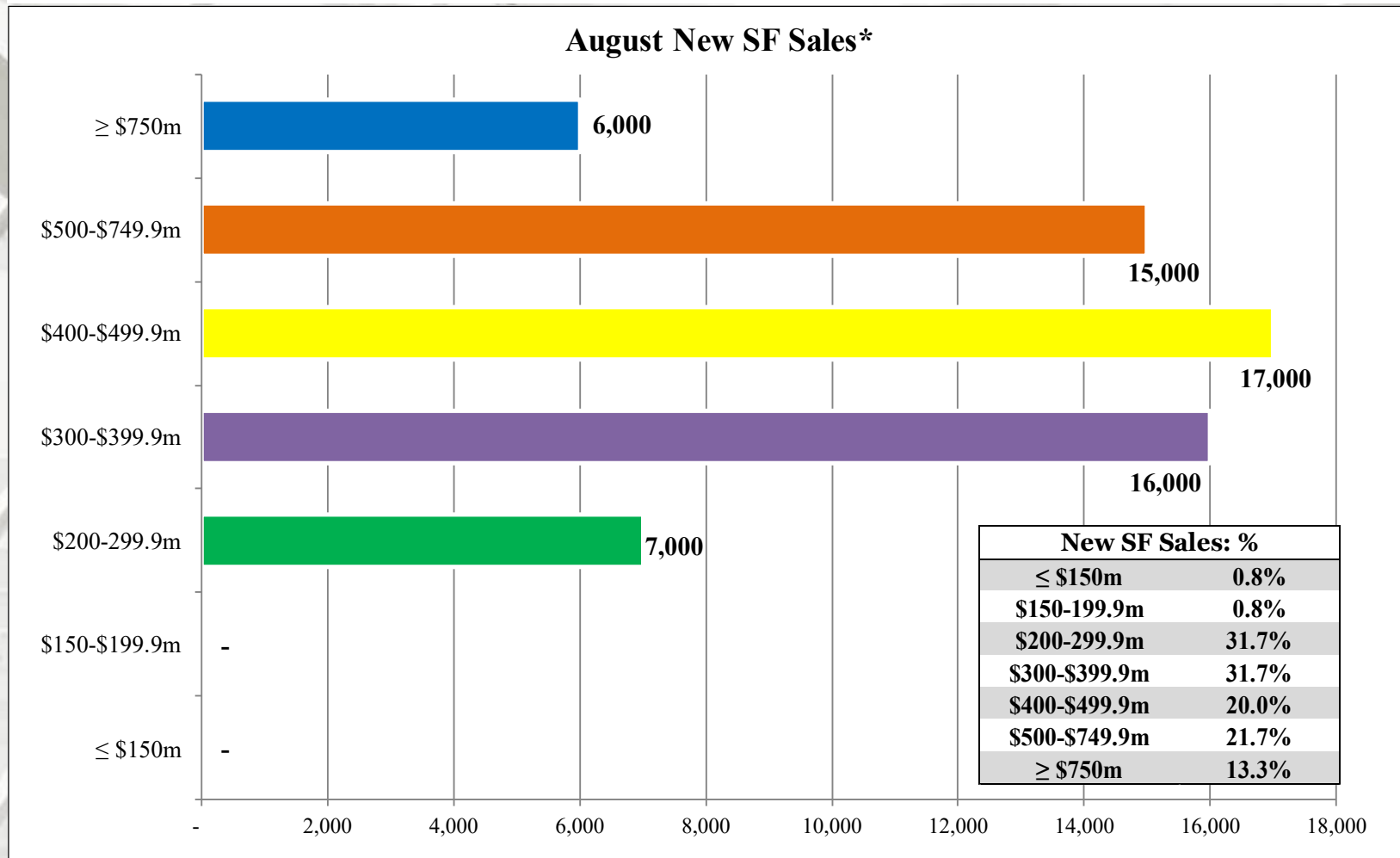
⁵ Z = Less than 500 units or less than 0.5 percent

Sources: ^{1,2,3} <https://www.census.gov/construction/nrs/index.html>; 9/26/23;

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

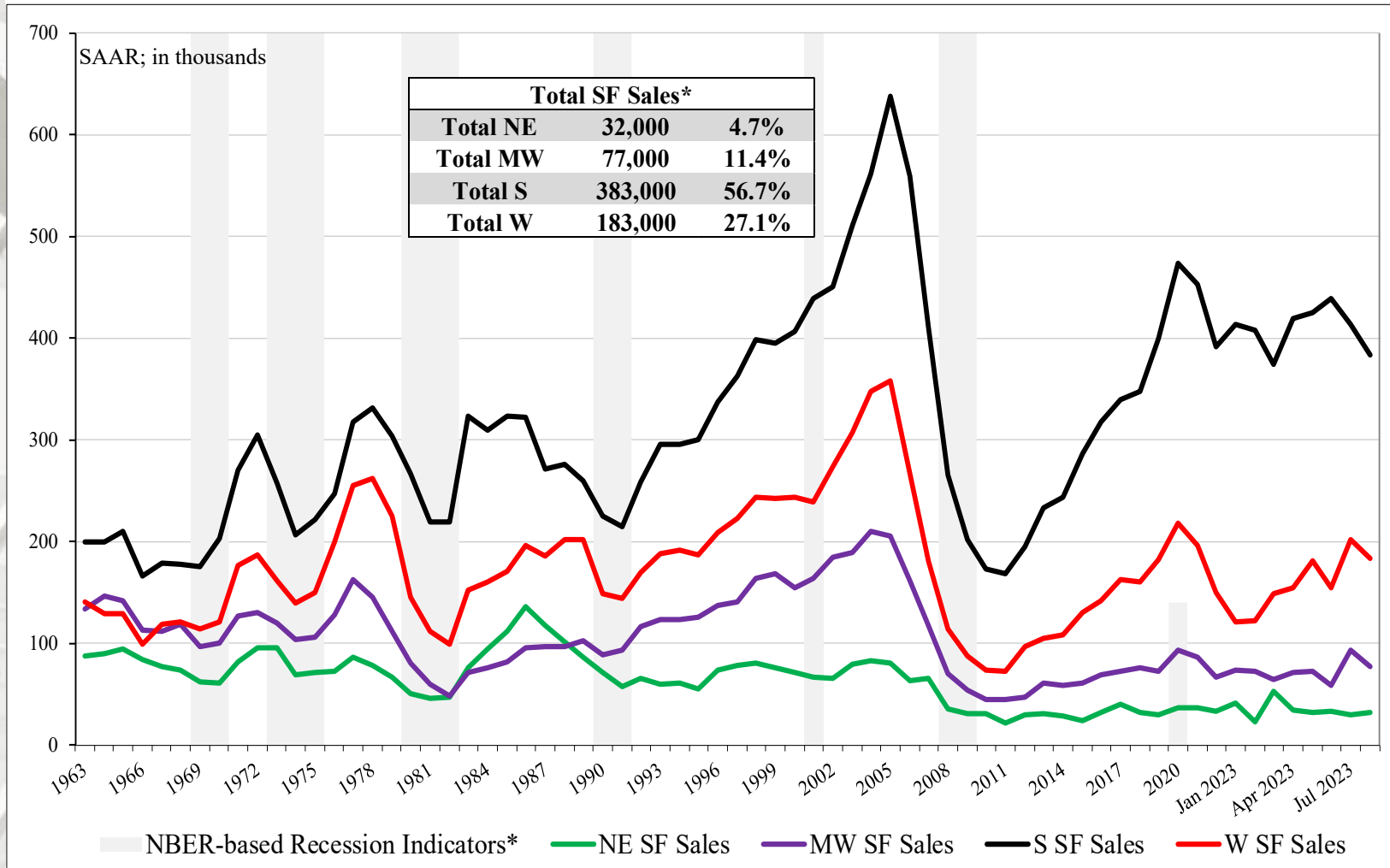
Return TOC

New SF House Sales



* Total new sales by price category and percent.

New SF House Sales by Region

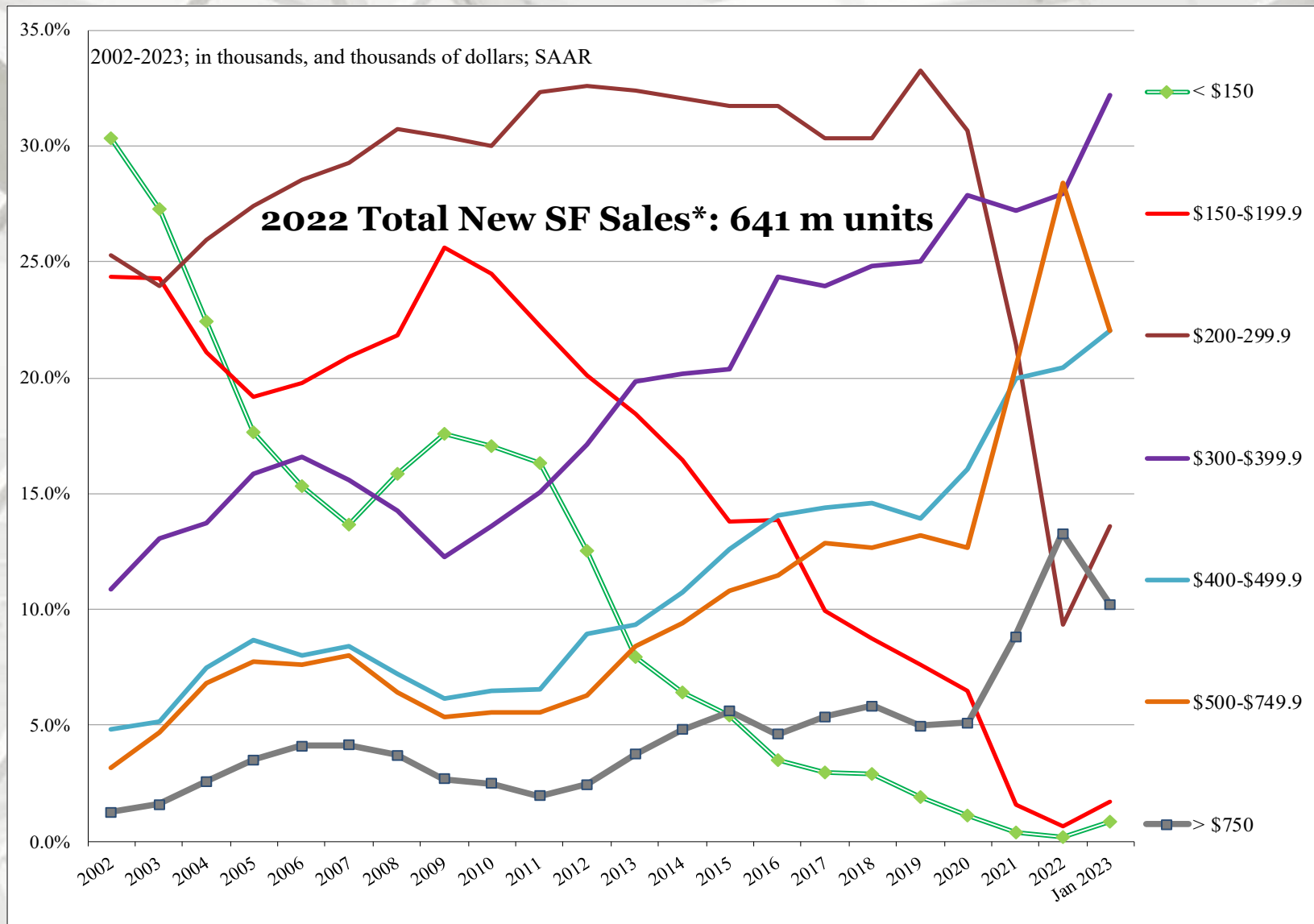


NE = Northeast; MW = Midwest; S = South; W = West

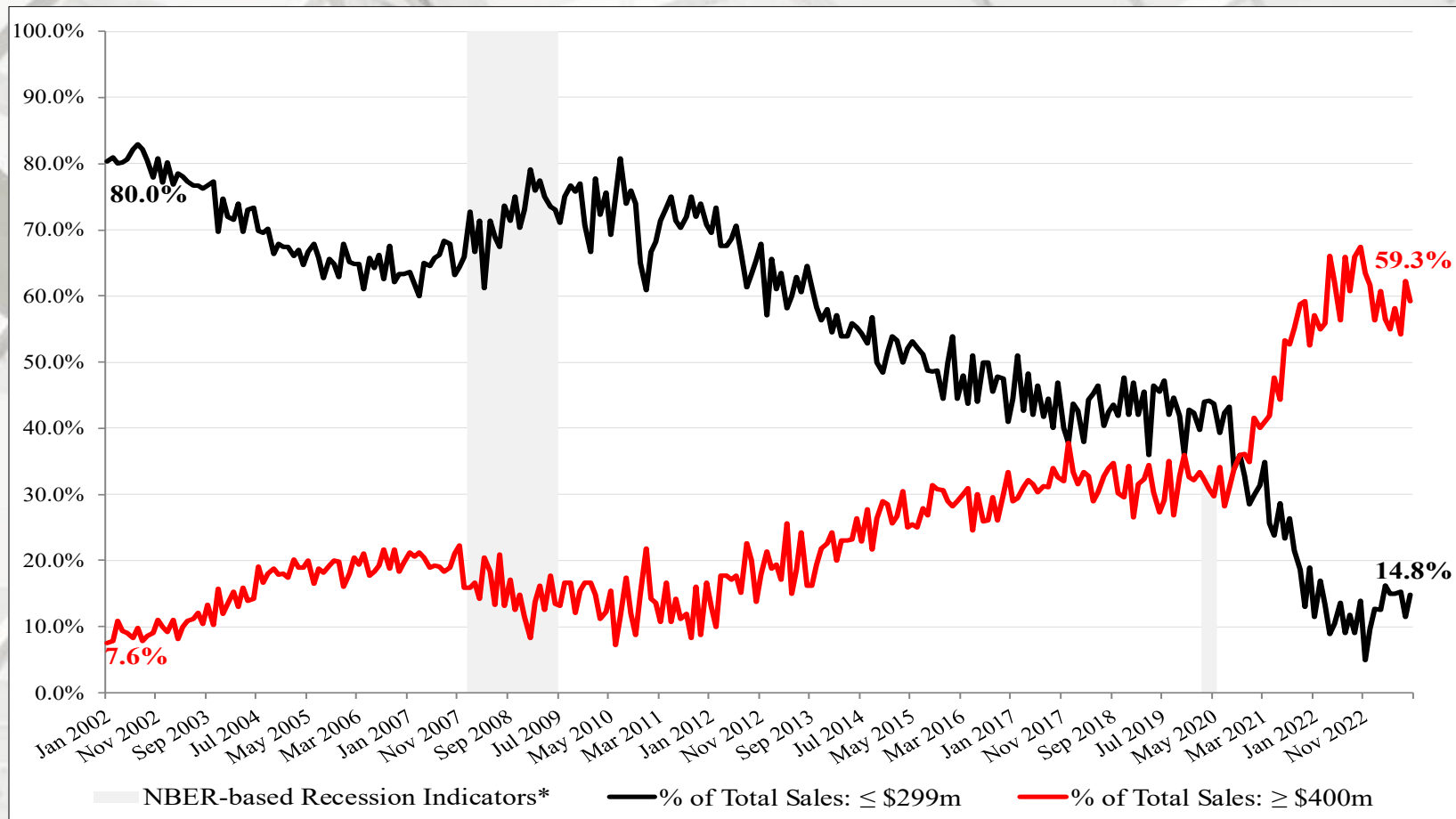
* Percentage of total new sales.

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 – August 2023

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

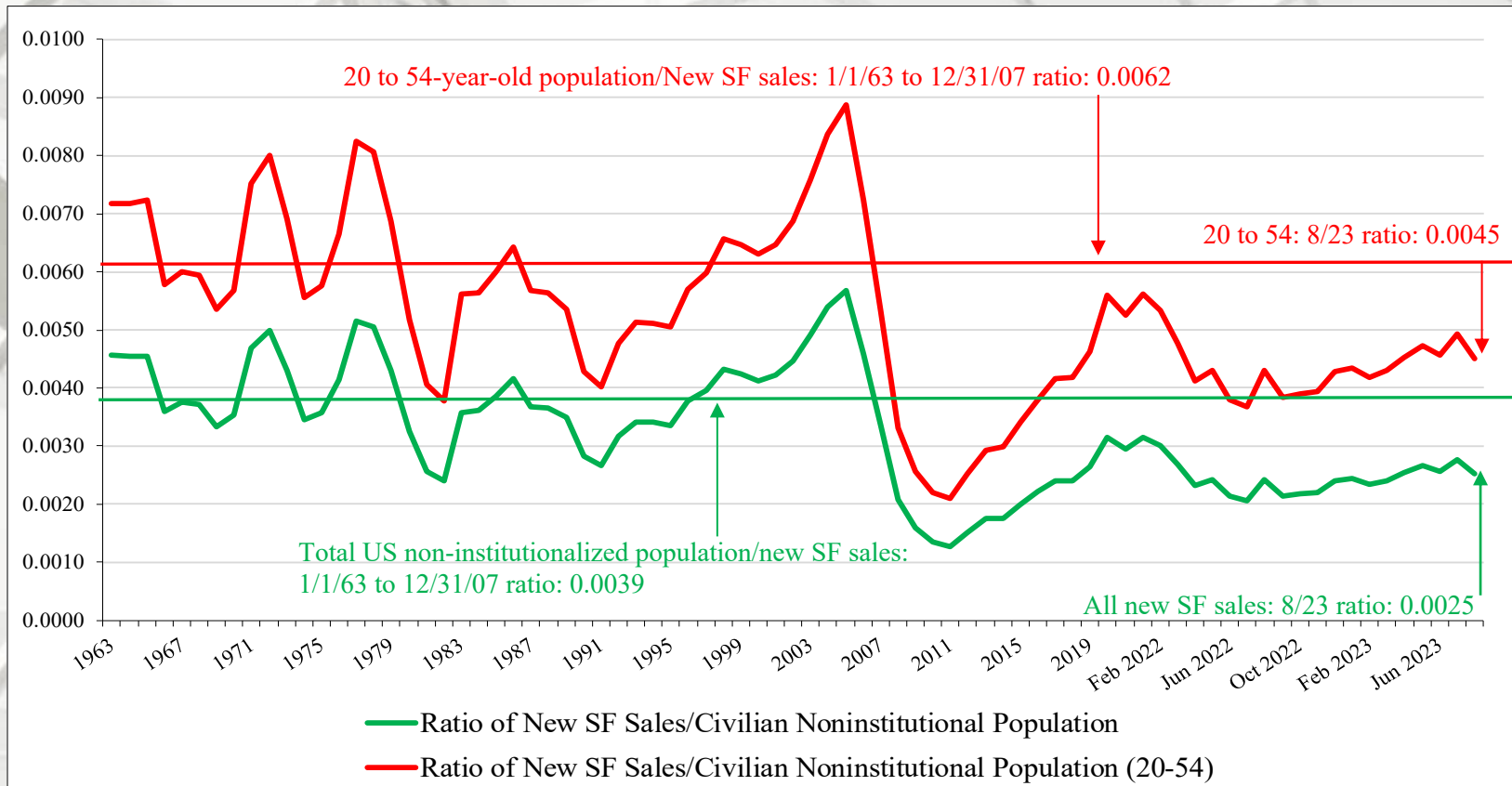


New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to August 2022

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 ≤ \$200 thousand class. Oft mentioned reasons for this occurrence is builder net margins, affordability, and purchase of new houses for rent – single-family rentals.

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

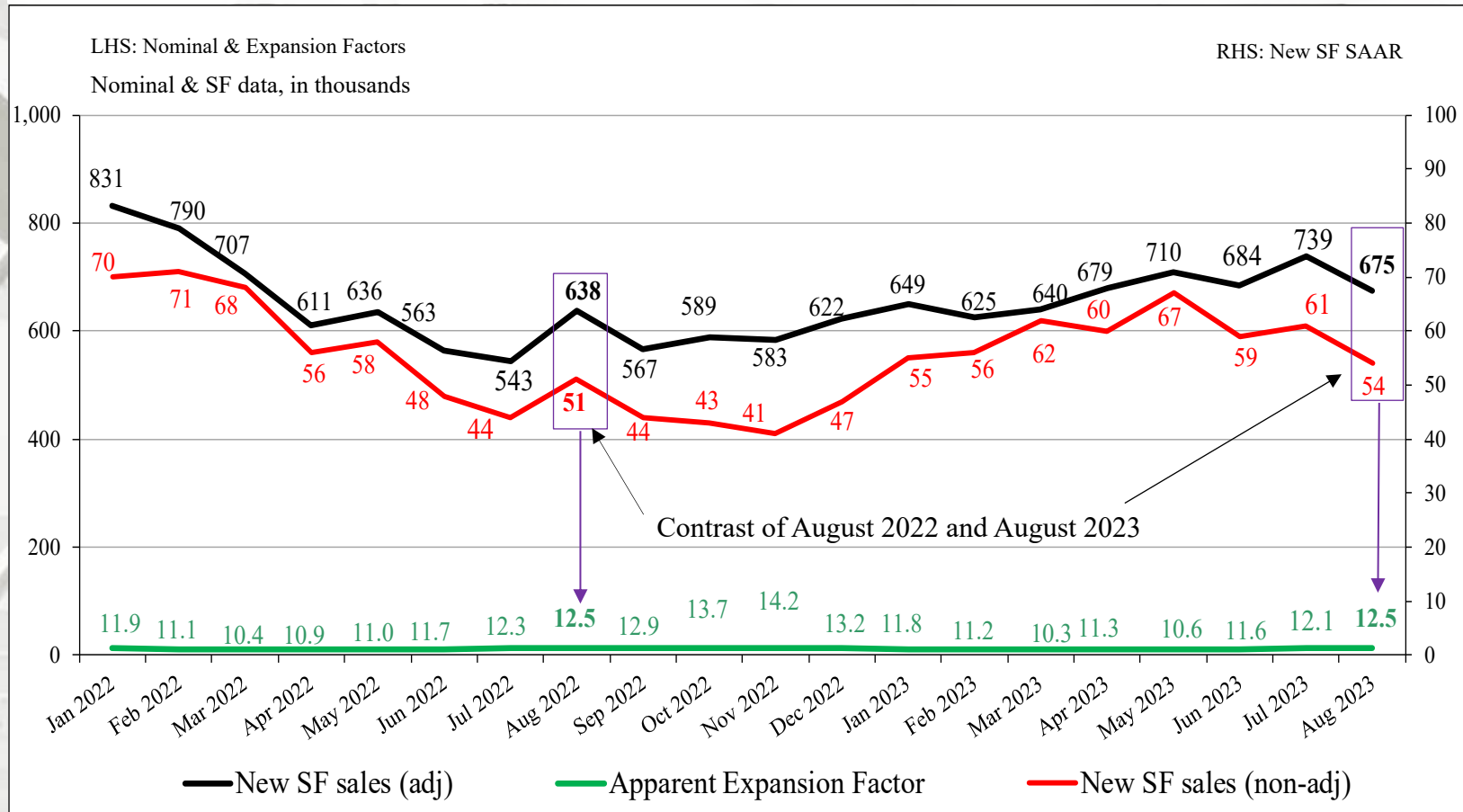


New SF sales adjusted for the US population

From January 1963 to December 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in August 2023 it was 0.0025 – a decrease from June (0.0028). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in August 2023 it was 0.0045 – also a decline from July (0.0049). All are non-adjusted data. From a non-institutionalized population world view, new sales remain less than the long-term average.

On a long-term basis, some studies peg normalized long-term demand at 900,000 to 1,000,000 new SF house sales per year beginning in 2025 through 2050.

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

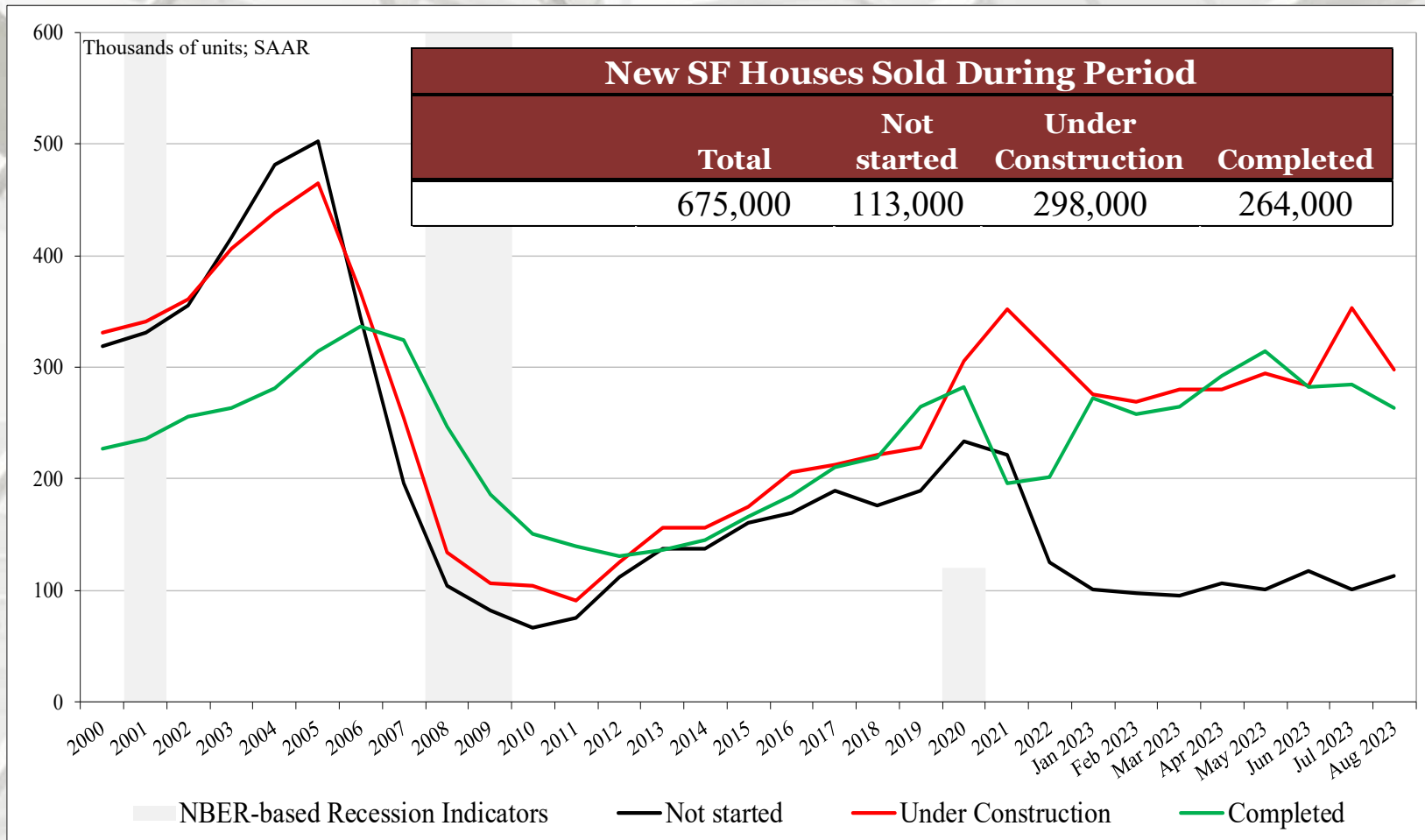
New SF House Sales

New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
August	675,000	113,000	298,000	264,000
July	739,000	101,000	353,000	285,000
2022	460,000	98,000	315,000	47,000
M/M change	-8.7%	11.9%	-15.6%	-7.4%
Y/Y change	46.7%	15.3%	-5.4%	461.7%
Total percentage		16.7%	44.1%	39.1%

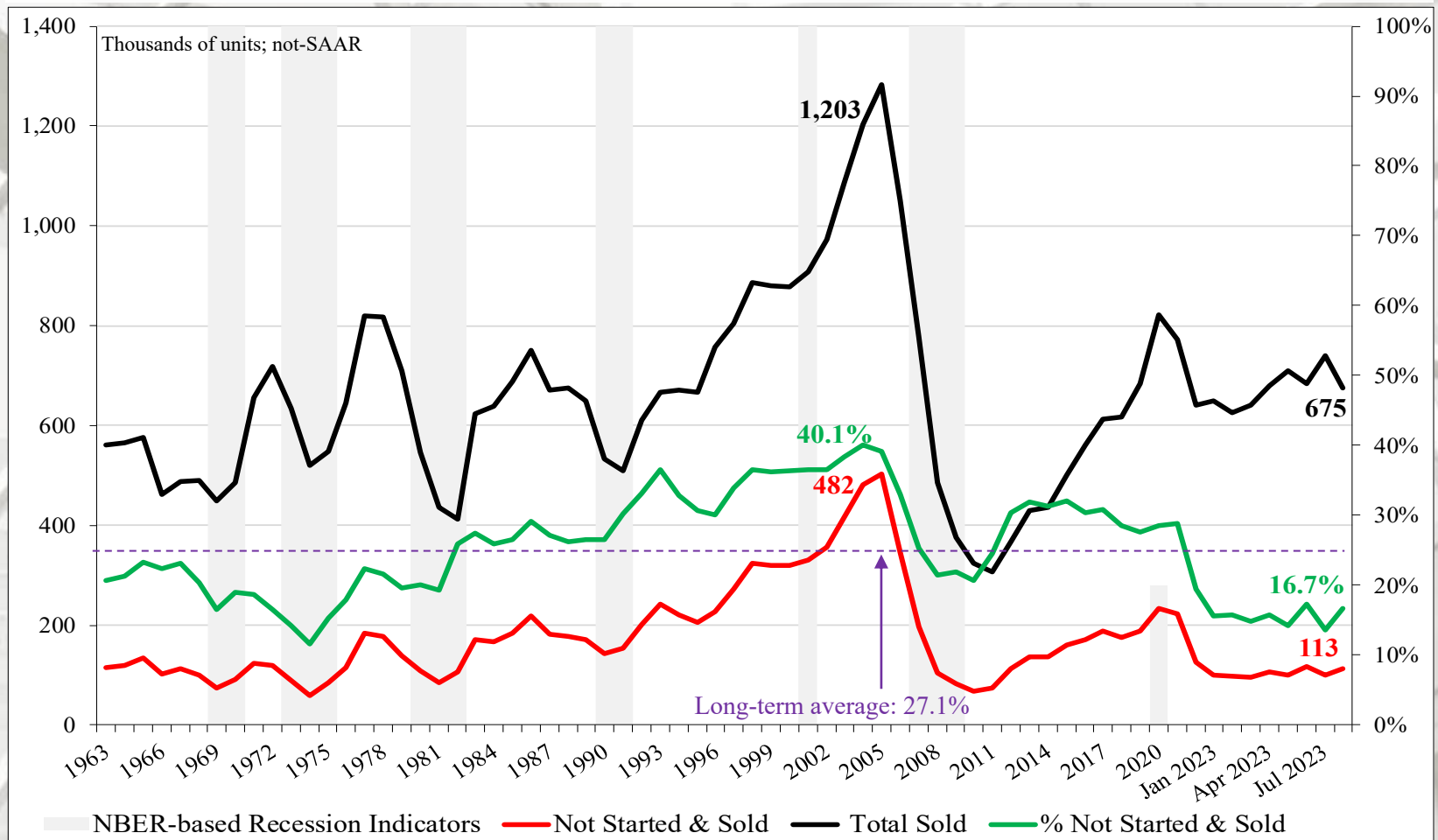
All data is SAAR

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 August (675 m), 16.7% (113 m) had not been started and sold. 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

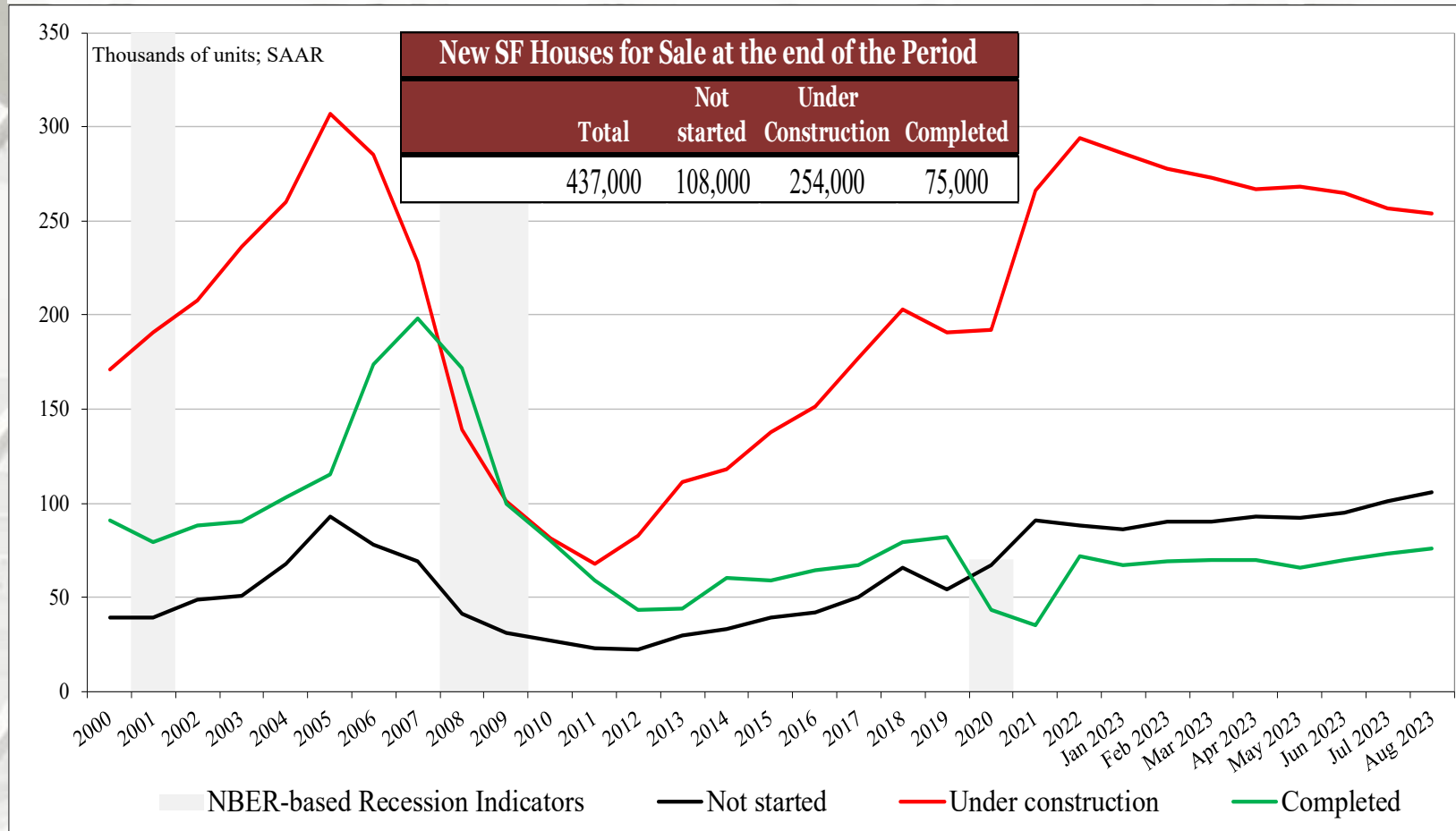
New SF Houses for Sale at the end of the Period

	Total	Not started	Under Construction	Completed
August	436,000	106,000	254,000	76,000
July	431,000	101,000	257,000	73,000
2022	460,000	98,000	315,000	47,000
M/M change	1.2%	5.0%	-1.2%	4.1%
Y/Y change	-5.2%	8.2%	-19.4%	61.7%
Total percentage		24.3%	58.3%	17.4%

Not SAAR

Of houses listed for sale (436 m) in August, 17.4% (76 m) have been built. In the 'ground had not been broken for construction' or 'not started' category, 106 m (24.3%) were sold.

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).

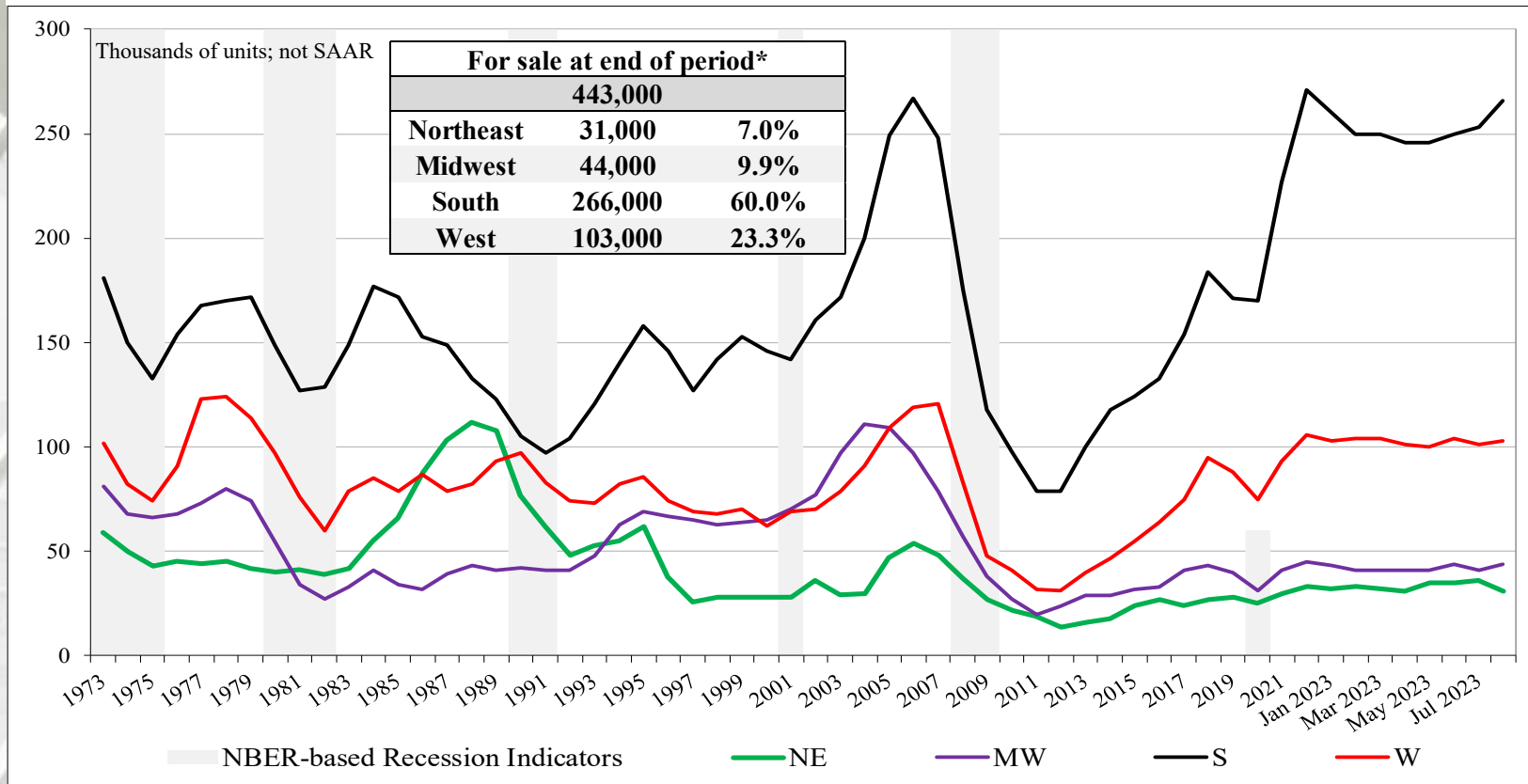
New SF House Sales

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

	Total	NE	MW	S	W
August	443,000	31,000	44,000	266,000	103,000
July	432,000	36,000	41,000	253,000	101,000
2022	467,000	26,000	49,000	279,000	113,000
M/M change	2.5%	-13.9%	7.3%	5.1%	2.0%
Y/Y change	-5.1%	19.2%	-10.2%	-4.7%	-8.8%

* Not SAAR

New SF Houses for Sale at End of Period by Region

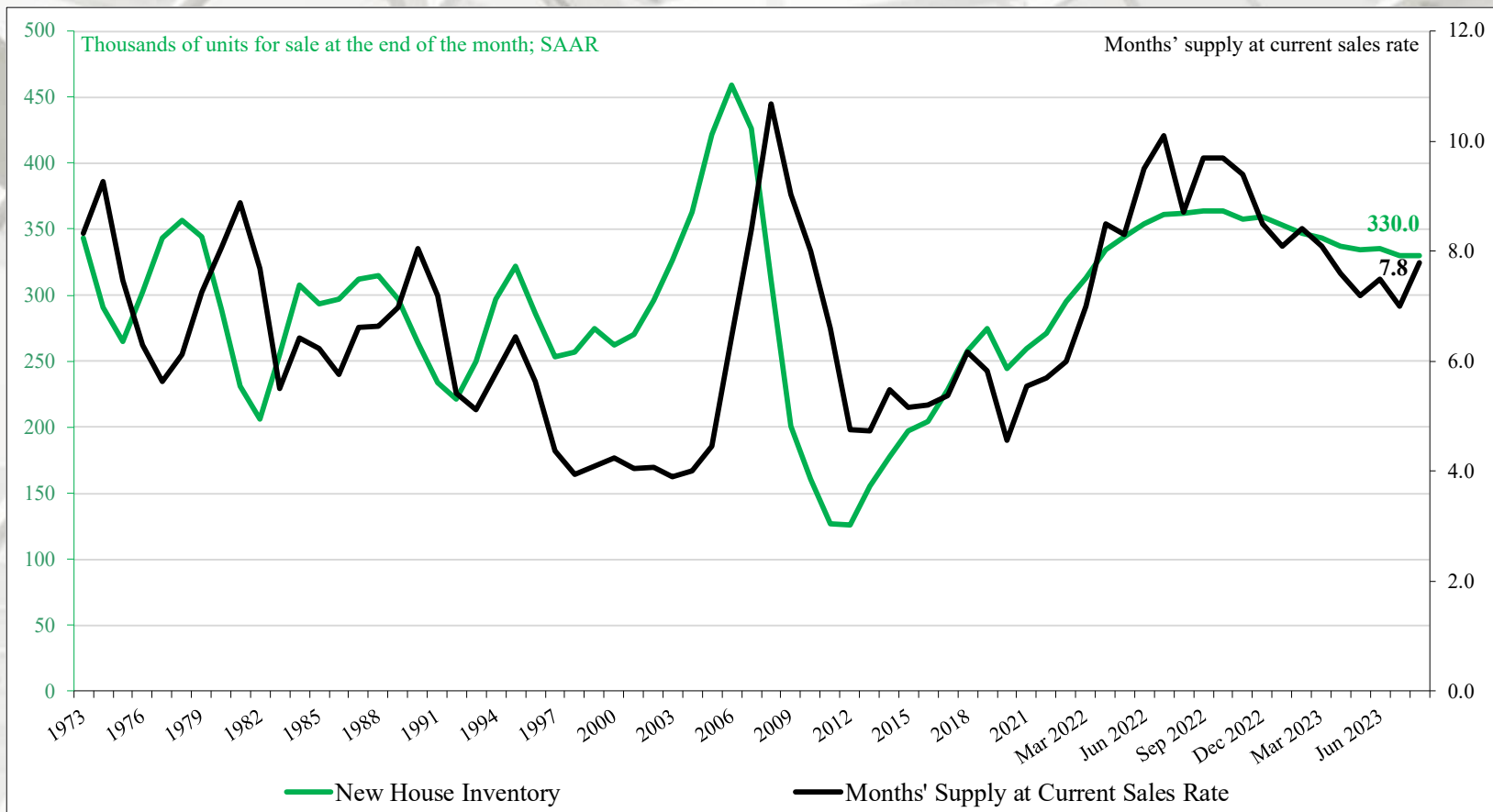


NE = Northeast; MW = Midwest; S = South; W = West

* 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).

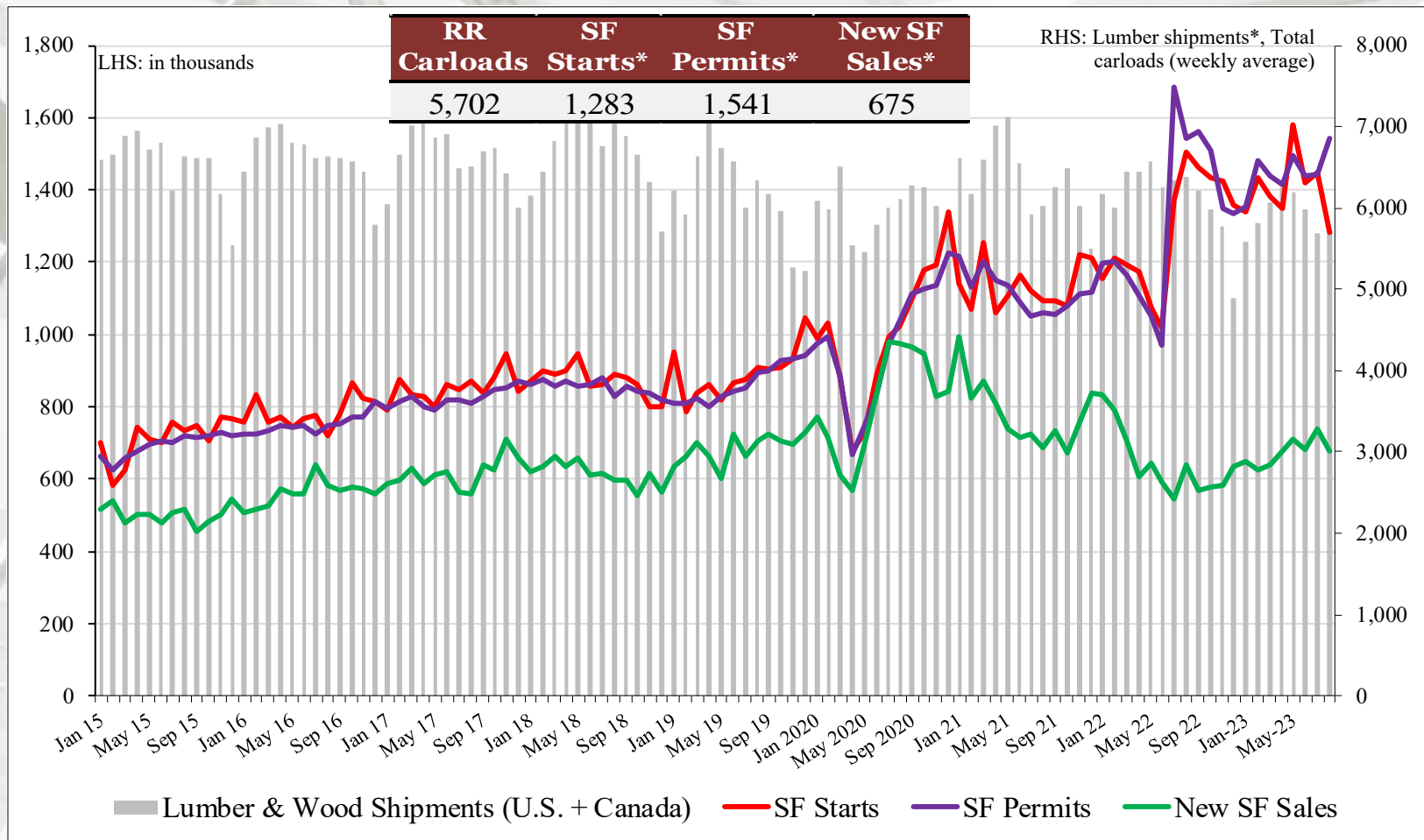
Months' Supply and New House Inventory^a



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

The months' supply of new houses for sale at the end of August was 7.8, greater than the historically preferred number of five- to six-months (SAAR).

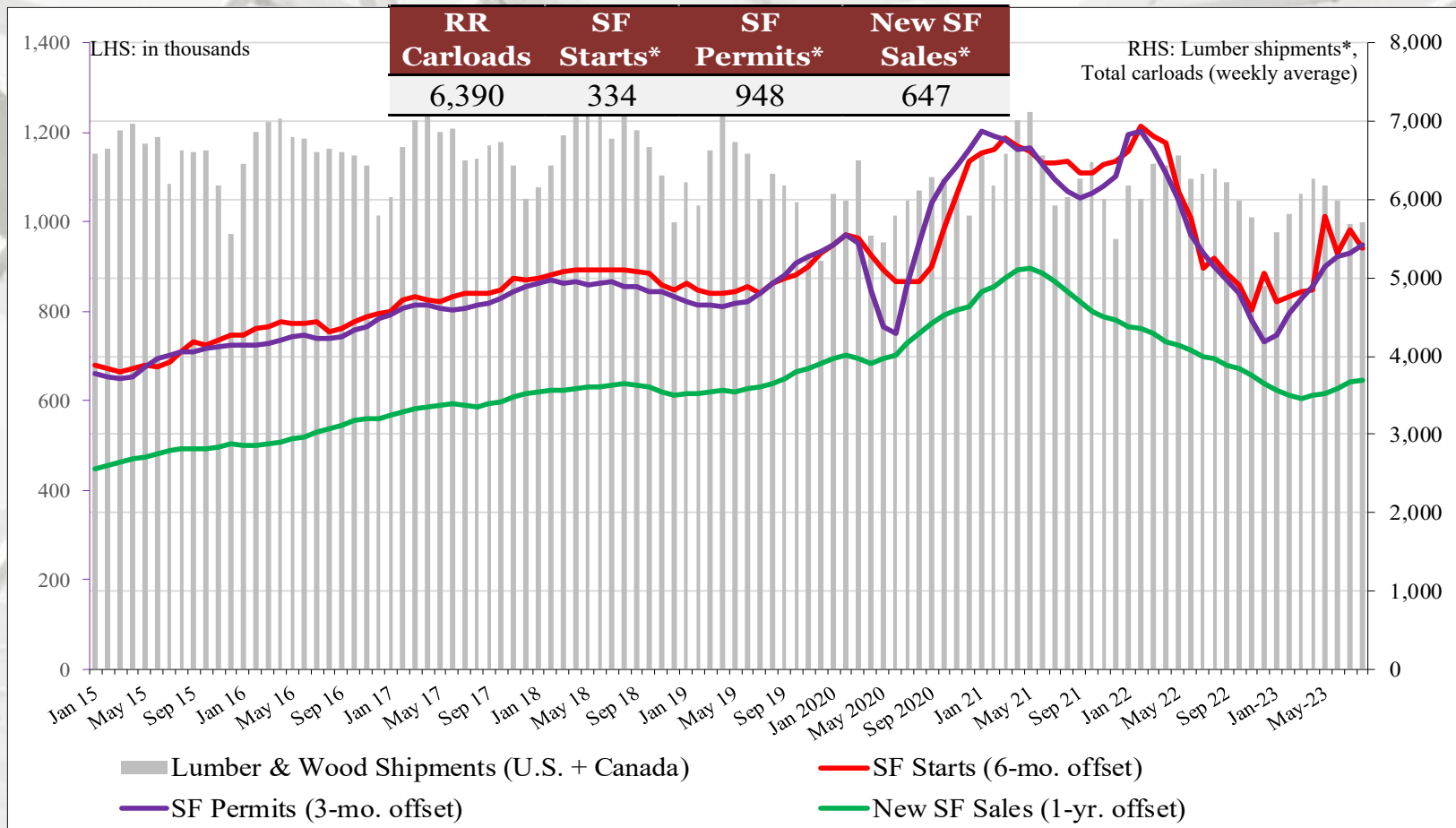
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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 total carload lumber and wood shipments. The intent is to discern 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.

* In thousands

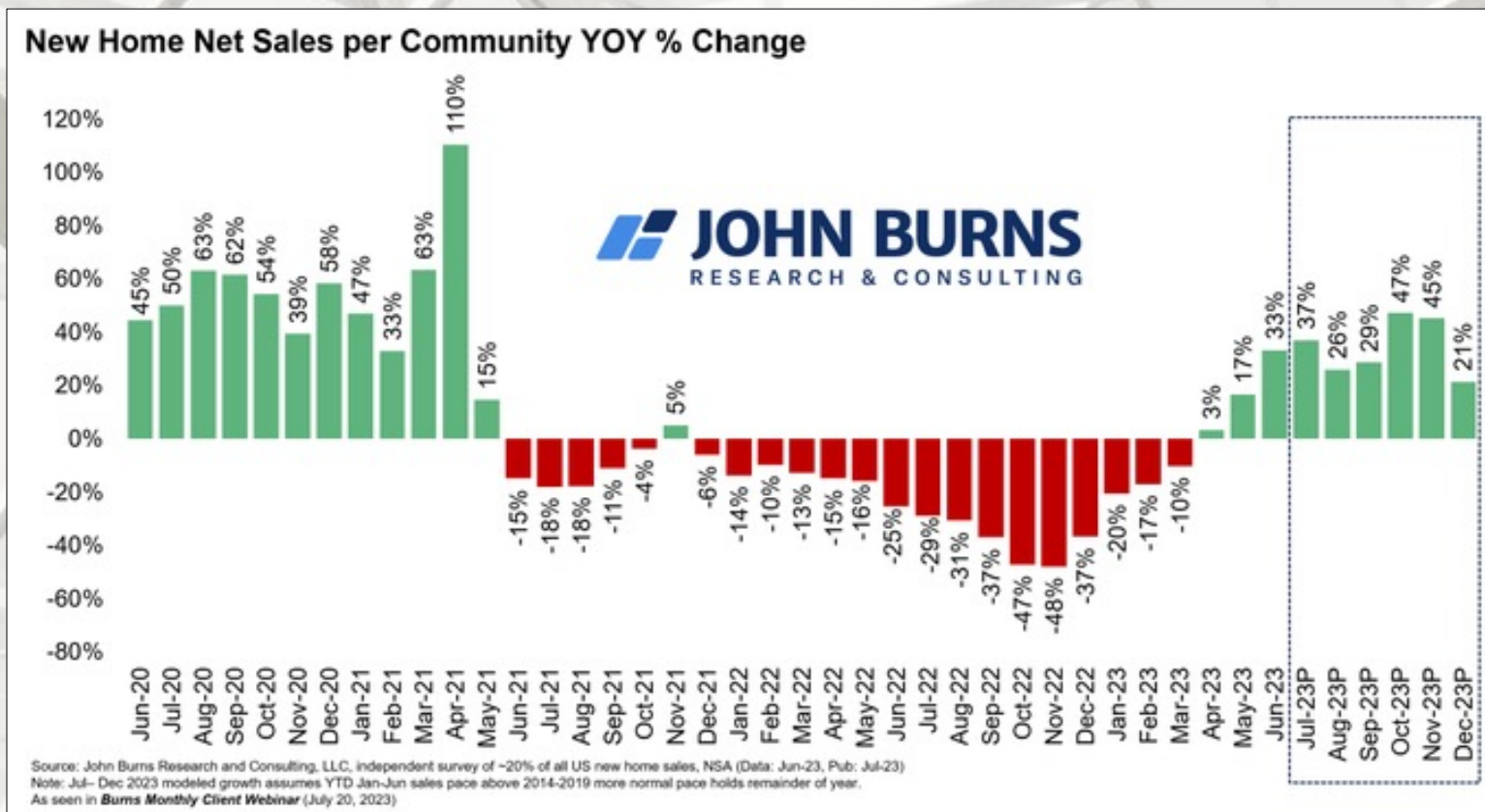
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



Carloads of Canadian + US lumber and wood shipments to the US 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.

US house Builders: New Sales



John Burns Research & Consulting

“For home builder sales, here’s how the second half of 2023 could look using some realistic assumptions from our survey's 10+ years of history along with YTD trends. It’ll be interesting to hear how builders are thinking about the rest of 2023 as many start reporting in coming weeks.” – Rick Palacios Jr., Director of Research, John Burns Research and Consulting

August 2023 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
August	\$879,896	\$396,430	\$134,516	\$348,950
July	\$874,655	\$389,681	\$133,716	\$351,258
2022	\$907,606	\$443,228	\$108,505	\$355,873
M/M change	0.6%	1.7%	0.6%	-0.7%
Y/Y change	-3.1%	-10.6%	24.0%	-1.9%

* millions.

** 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\$.

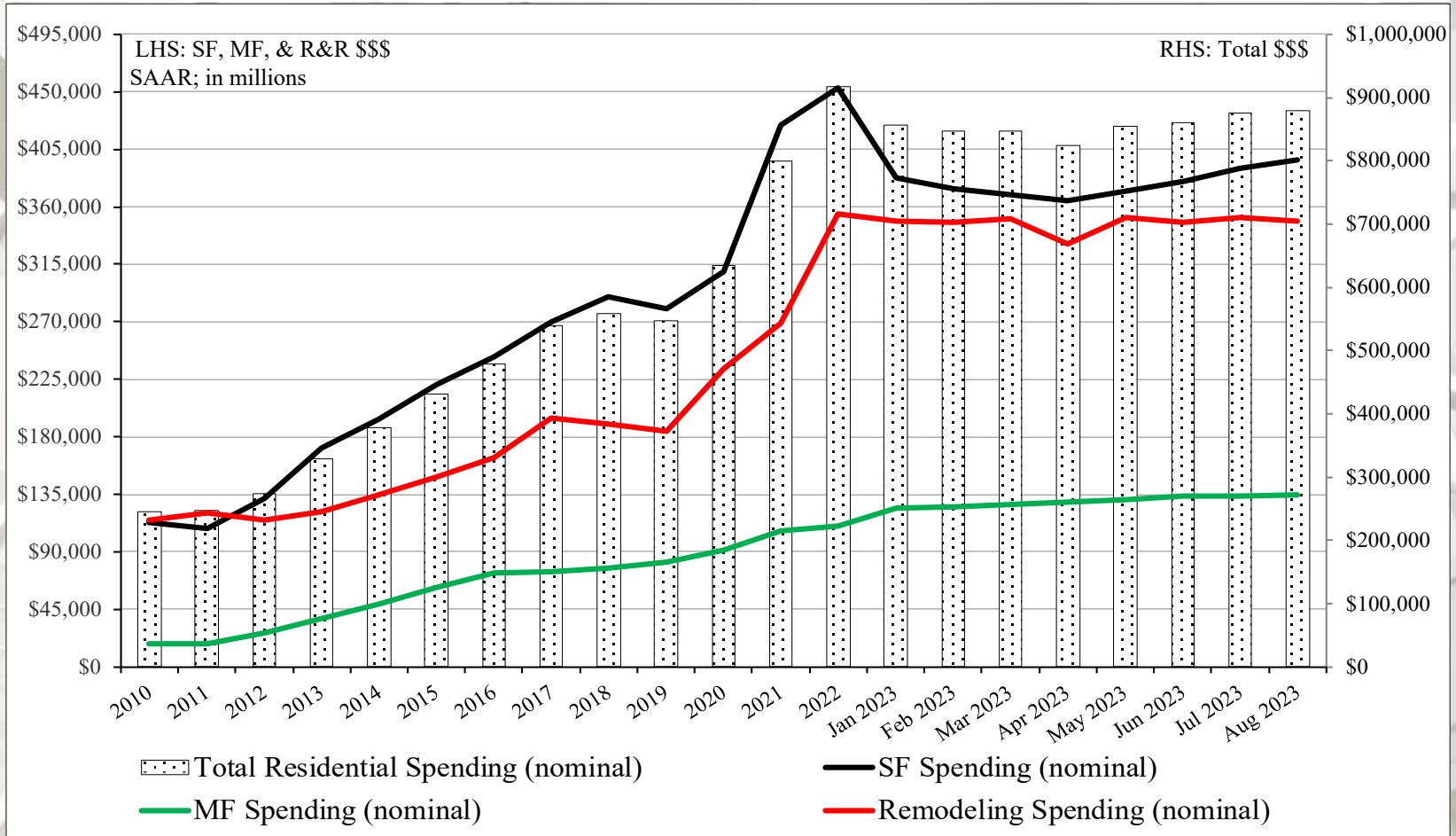
Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

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.

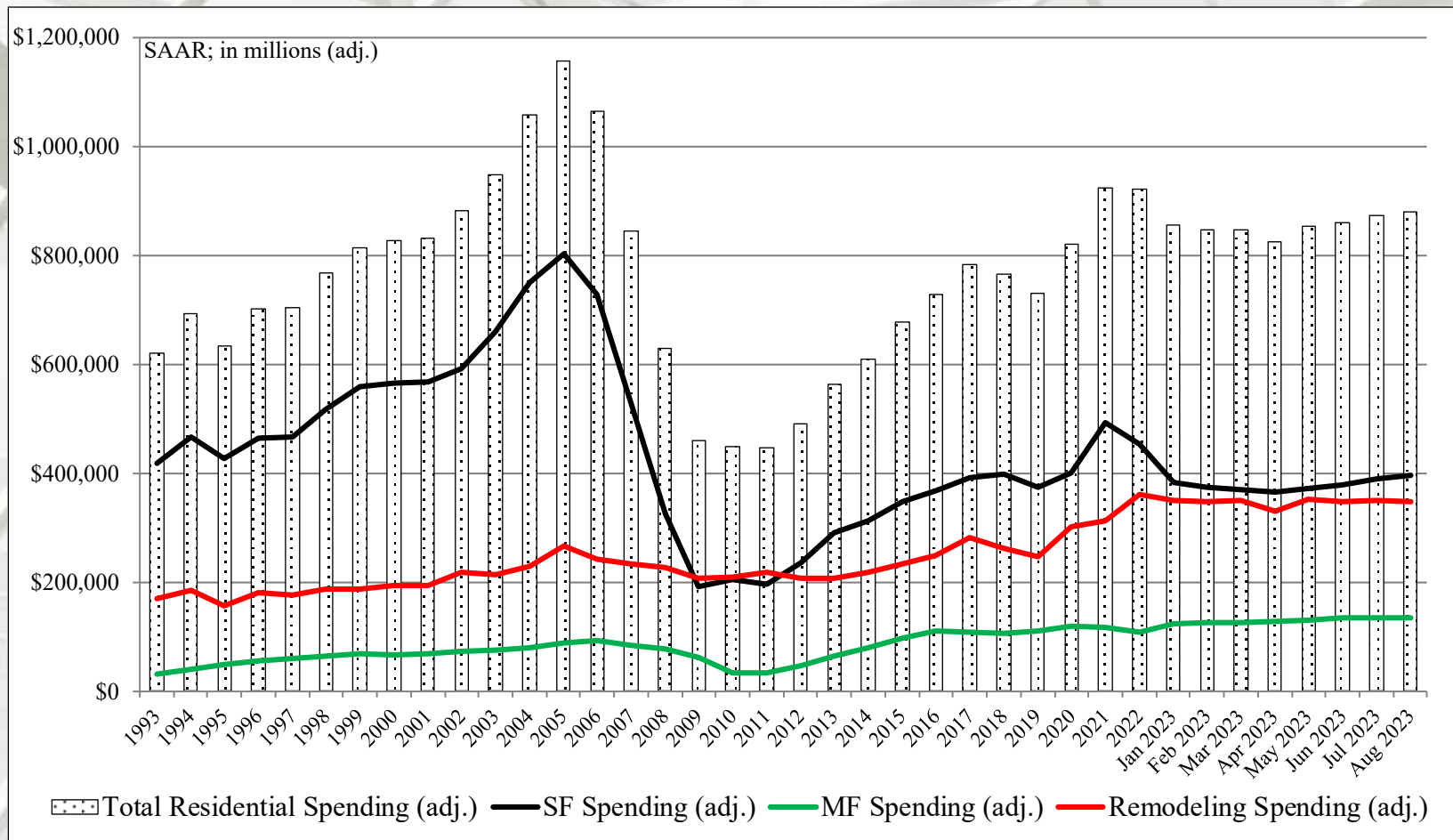
Total Construction Spending (nominal): 2000 – August 2023



Reported in nominal US\$.

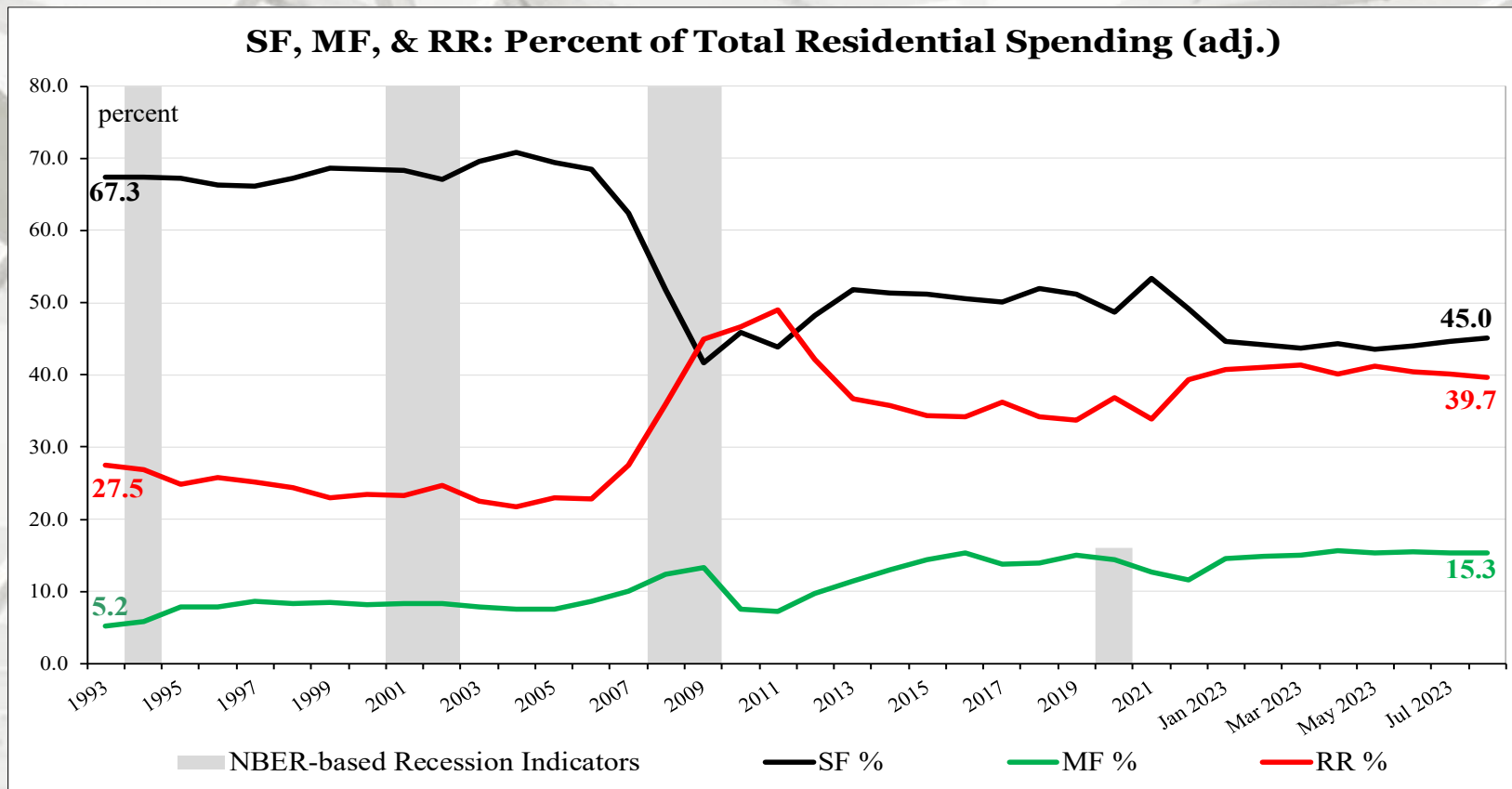
The US DOC does not report improvement spending directly, this is a monthly estimation for 2022.

Total Construction Spending (adjusted): 1993 – August 2023



Reported in adjusted \$US: 1993 – 2021 (adjusted for inflation, BEA Table 1.1.9); August to August 2022 reported in nominal US\$.

Construction Spending Shares: 1993 – August 2023



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

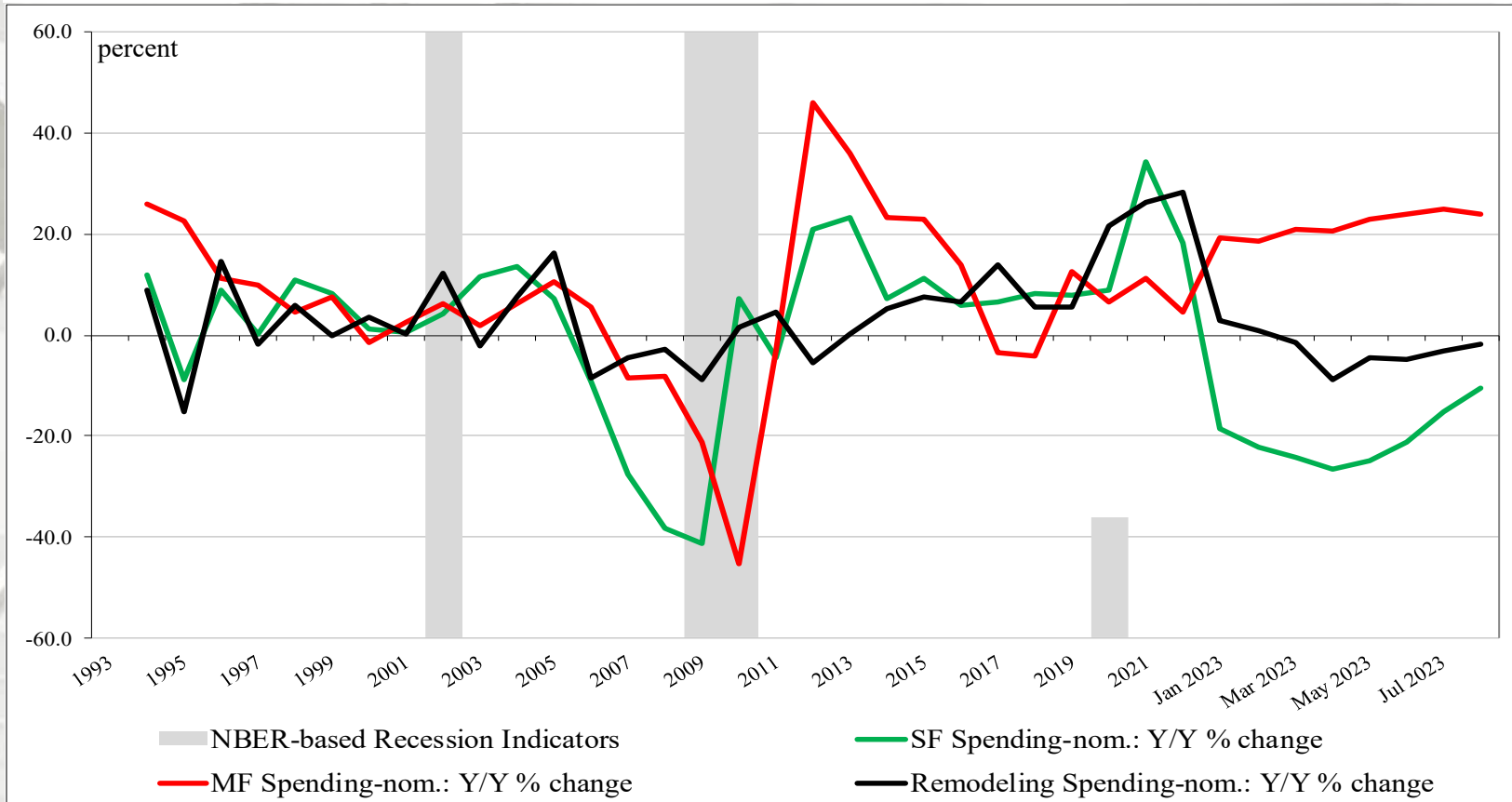
MF spending average: 7.5%

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

Note: 1993 to 2021 (adjusted for inflation, BEA Table 1.1.9); August 2022 reported in nominal US\$.

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

Construction Spending: Y/Y Percentage Change

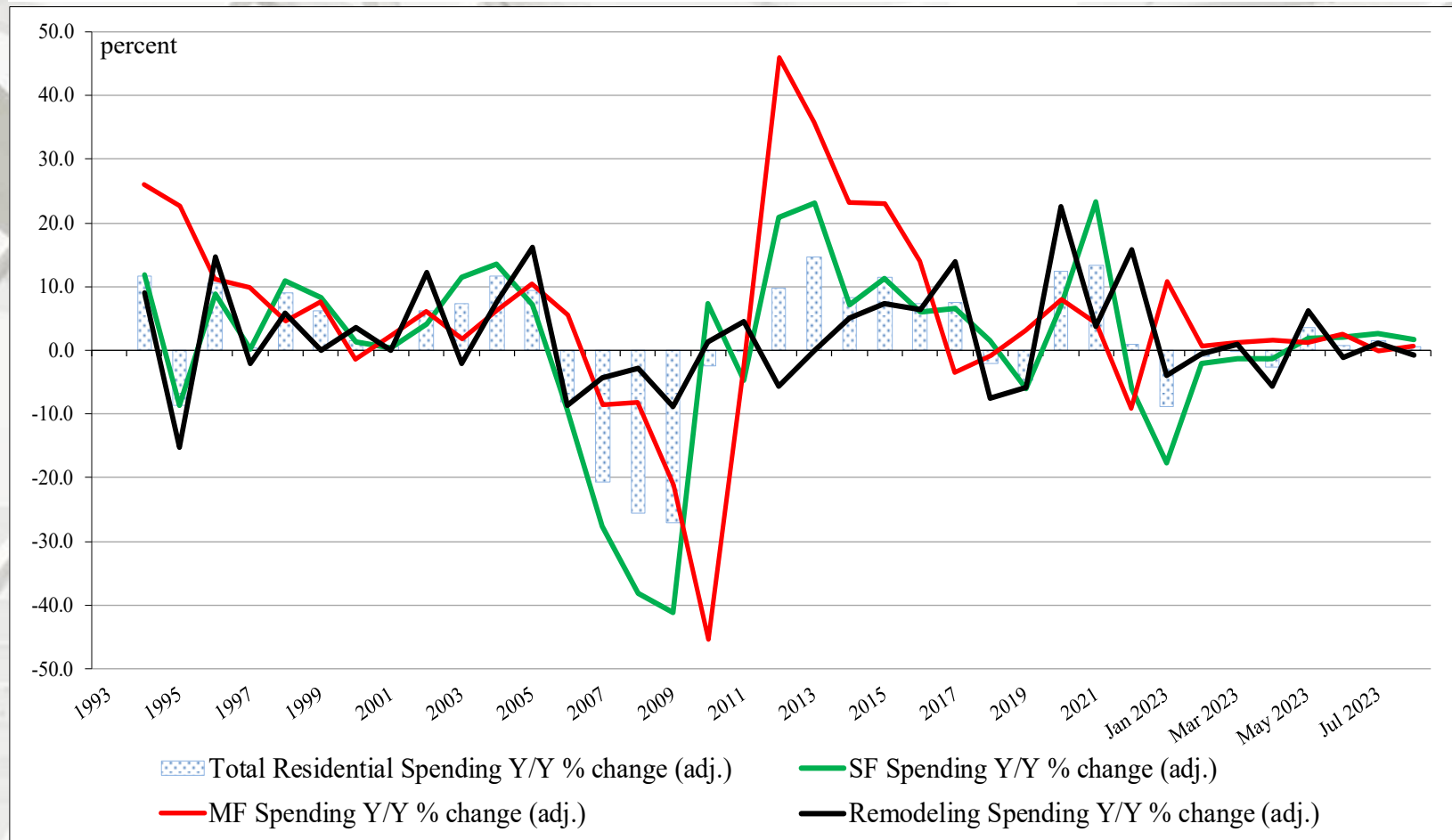


Nominal Residential Construction Spending: Y/Y percentage change, 1993 to August 2023

Presented above is the percentage change of Y/Y construction spending. MF expenditures were positive on a percentage basis, year-over-year (August 2023 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

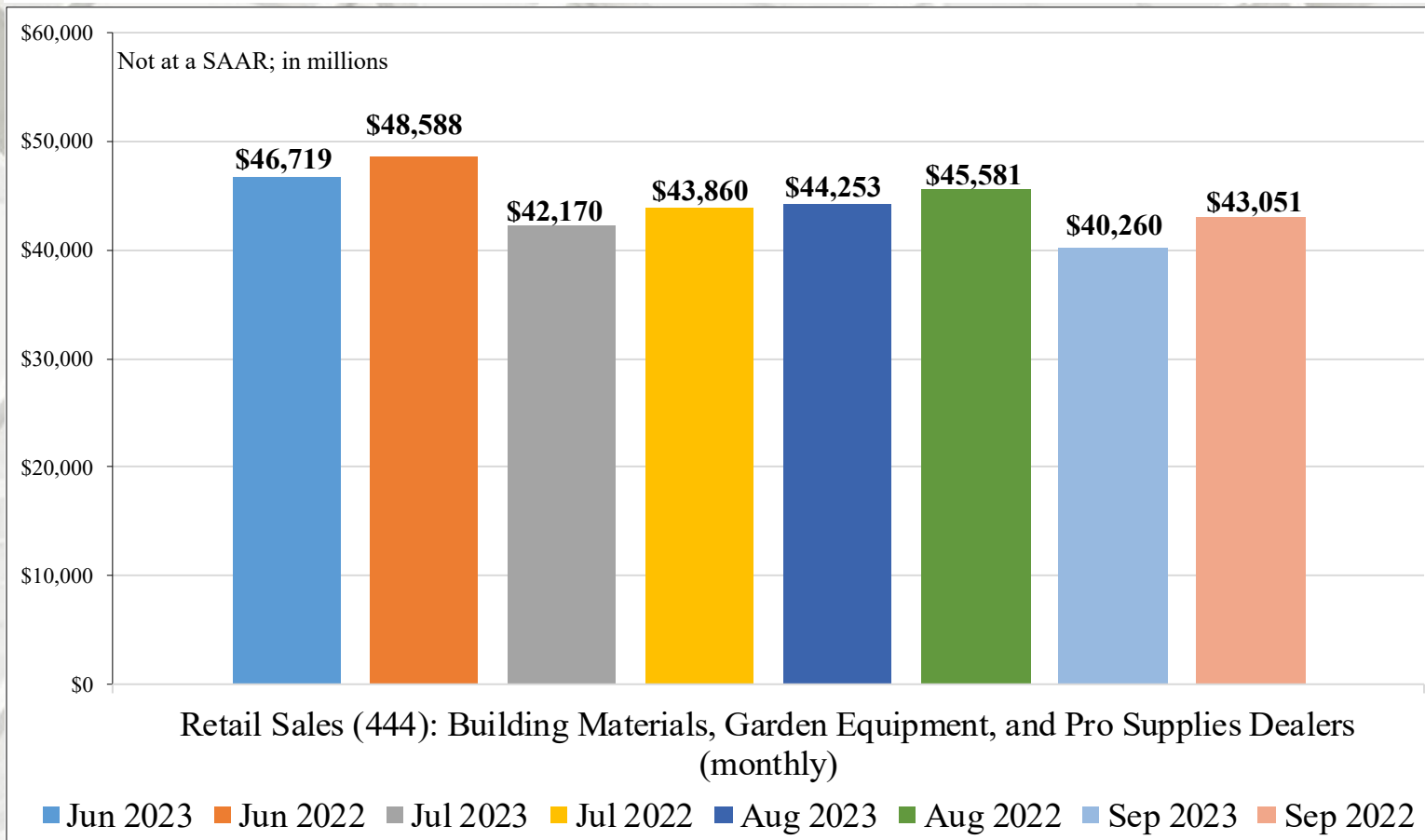


Adjusted Residential Construction Spending: Y/Y percentage change, 1993 to August 2023

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

Remodeling

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

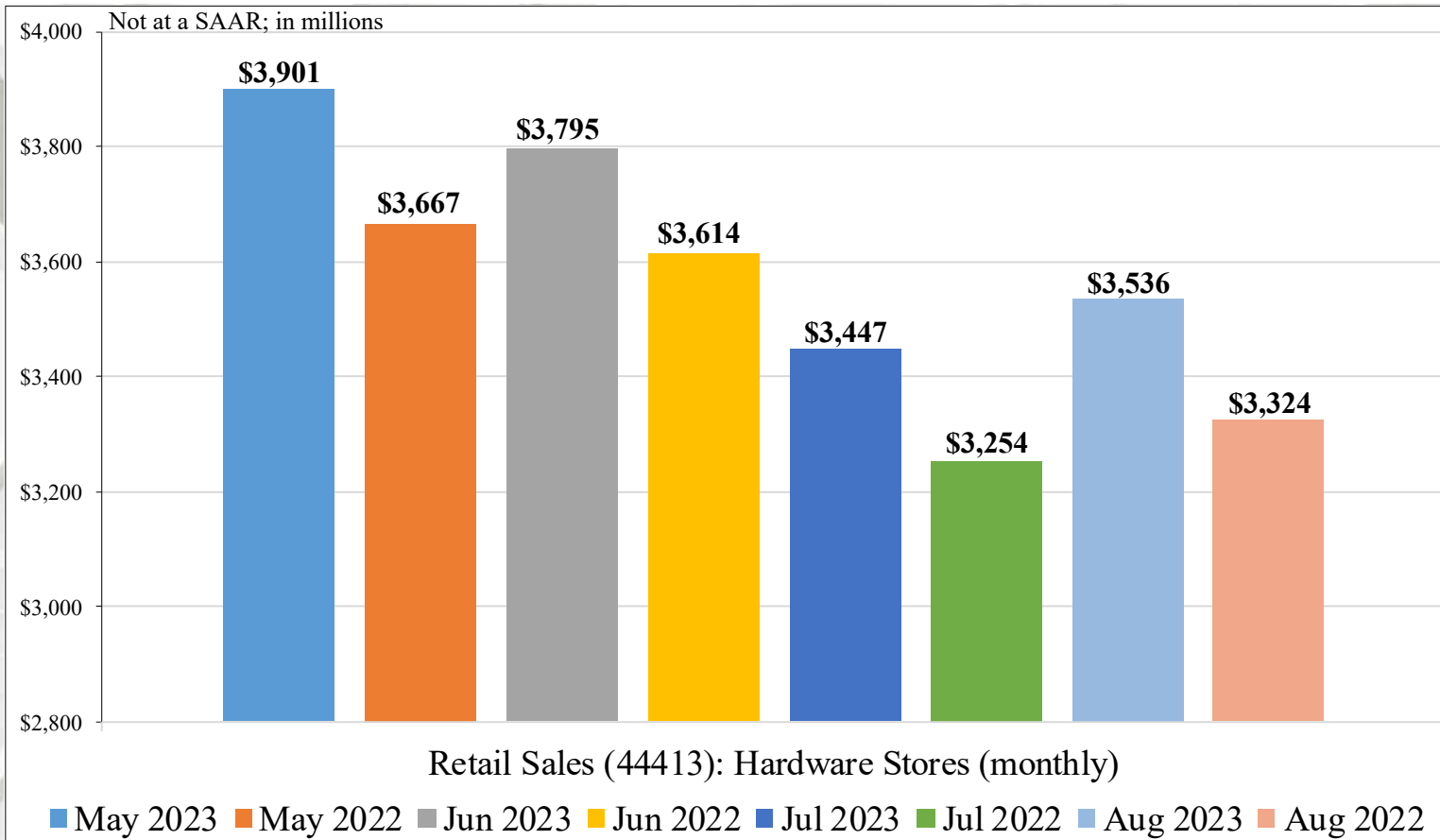


Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

NAICS 444 sales decreased 9.0% in September 2023 from August 2023 and decreased 6.5% Y/Y (on a non-adjusted basis).

Remodeling

Retail Sales: Hardware Stores



Hardware Stores: NAICS 44413

NAICS 44413 retail sales increased 2.6% in August 2023 from July 2023 and improved 6.4% Y/Y. (on a non-adjusted basis).

Existing House Sales

National Association of Realtors®

	Existing Sales	Median Price	Month's Supply
August	4,040,000	\$407,100	3.3
July	4,070,000	\$405,700	3.3
2022	4,770,000	\$391,700	3.2
M/M change	-0.7%	0.3%	0.0%
Y/Y change	-15.3%	3.9%	3.1%

All sales data: SAAR

Existing House Sales

	NE	MW	S	W
July	480,000	970,000	1,840,000	750,000
June	480,000	960,000	1,860,000	770,000
2022	620,000	1,160,000	2,100,000	890,000
M/M change	0.0%	1.0%	-1.1%	-2.6%
Y/Y change	-22.6%	-16.4%	-12.4%	-15.7%

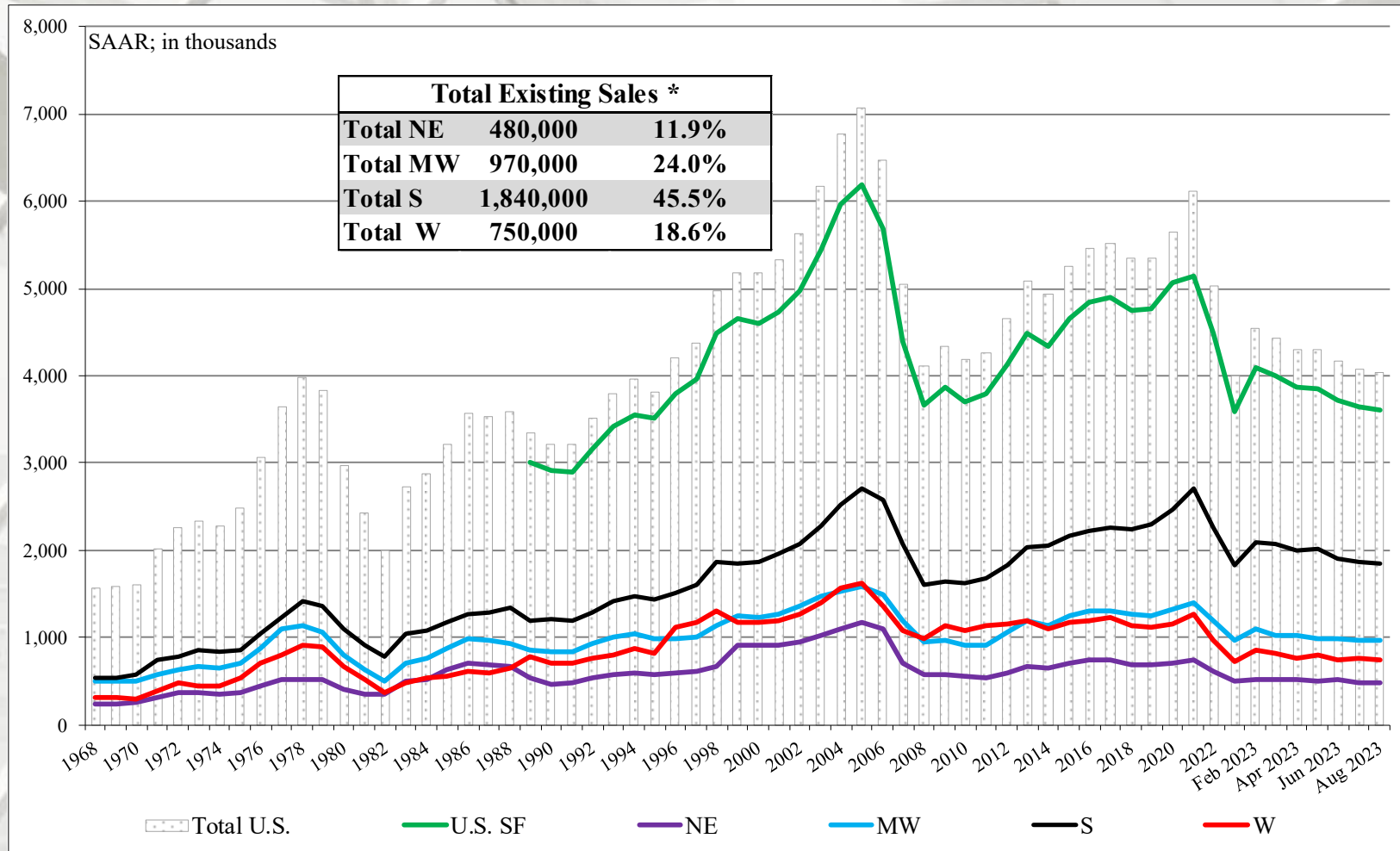
	Existing SF Sales	SF Median Price
August	3,600,000	\$413,500
July	3,650,000	\$411,200
2022	4,250,000	\$398,800
M/M change	-1.4%	0.3%
Y/Y change	-15.3%	3.7%

All sales data: SAAR.

Source: <https://fred.stlouisfed.org/series/EXHOSLUSM495S>; 9/21/23

Return TOC

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

FHFA House Price Index Up 0.8 Percent in July; Up 4.6 Percent from Last Year

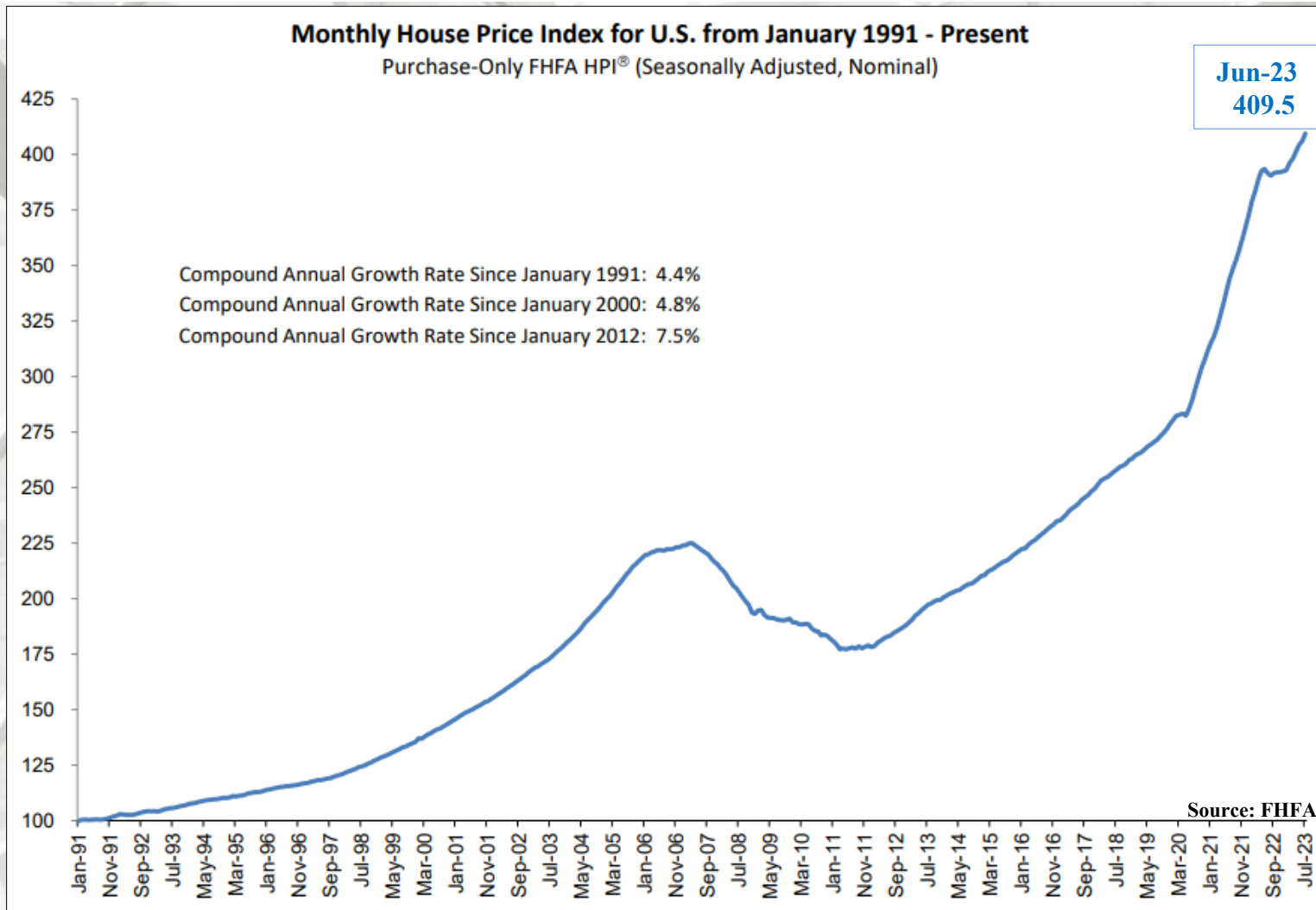
Significant Findings

“U.S. house prices rose in July, up **0.8 percent** from June, according to the Federal Housing Finance Agency (FHFA) seasonally adjusted monthly House Price Index (HPI®). House prices rose **4.6 percent** from July 2022 to July 2023. The previously reported 0.3 percent price increase in June was revised upward to a 0.4 percent increase.

For the nine census divisions, seasonally adjusted monthly price changes from June 2023 to July 2023 ranged from **+0.1 percent** in the East South Central division to **+1.4 percent** in the Middle Atlantic and South Atlantic divisions. The 12-month changes ranged from **+0.3 percent** in the Mountain division to **+8.1 percent** in the New England division.” – Adam Russell, FHFA

“U.S. house prices continued to appreciate in July, consistent with the trend observed over the last several months. Regionally, all nine census divisions posted positive price appreciation over the last 12 months, although the Pacific and Mountain divisions experienced only modest growth.” – Dr. Nataliya Polkovnichenko, Supervisory Economist, Division of Research and Statistics, FHFA

U.S. Housing Prices



U.S. Housing Prices

S&P CoreLogic Case-Shiller Index Continues to Trend Upward in July

“S&P Dow Jones Indices (S&P DJI) released the latest results for the S&P CoreLogic Case-Shiller Indices, the leading measure of U.S. home prices. Data released for July 2023 show that 19 of the 2020 major metro markets reported month-over-month price increases. More than 27 years of history are available for the data series and can be accessed in full by going to www.spglobal.com/spdji/en/index-family/indicators/sp-corelogic-case-shiller.

Year-Over-Year

The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported 1.0% annual change in July, up from a 0% change in the previous month. The 10-City Composite showed an increase of 0.9%, which improves from a -0.5% loss in the previous month. The 20-City Composite posted a year-over-year increase of 0.1%, improving from a loss of -1.2% in the previous month.

Chicago, Cleveland, and New York led the way for the third consecutive month reporting the highest year-over-year gains among the 20 cities in July. Chicago remained in the top spot with a 4.4% year-over-year price increase, with Cleveland in at number two with a 4.0% increase, and New York held down the third spot with a 3.8% increase. For this month, 8 of 20 cities reported lower prices and 12 of 20 reported higher prices in the year ending July 2023 versus the year ending June 2023. 18 out of the 20 cities, show a positive trend in price acceleration compared to their prior month. ...

Month-Over-Month

Before seasonal adjustment, the U.S. National Index, 10-City and 20-City Composites, all posted a 0.6% month-over-month increase in July. After seasonal adjustment, the U.S. National Index posted a month-over-month increase of 0.6%, while the 10-City posted a 0.8% increase and 20-City Composite a 0.9% increase.” – 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

“U.S. home prices continued to rally in July 2023. Our National Composite rose by 0.6% in July, and now stands 1.0% above its year-ago level. Our 10- and 20-City Composites each also rose in July 2023, and likewise stand slightly above their July 2022 levels.

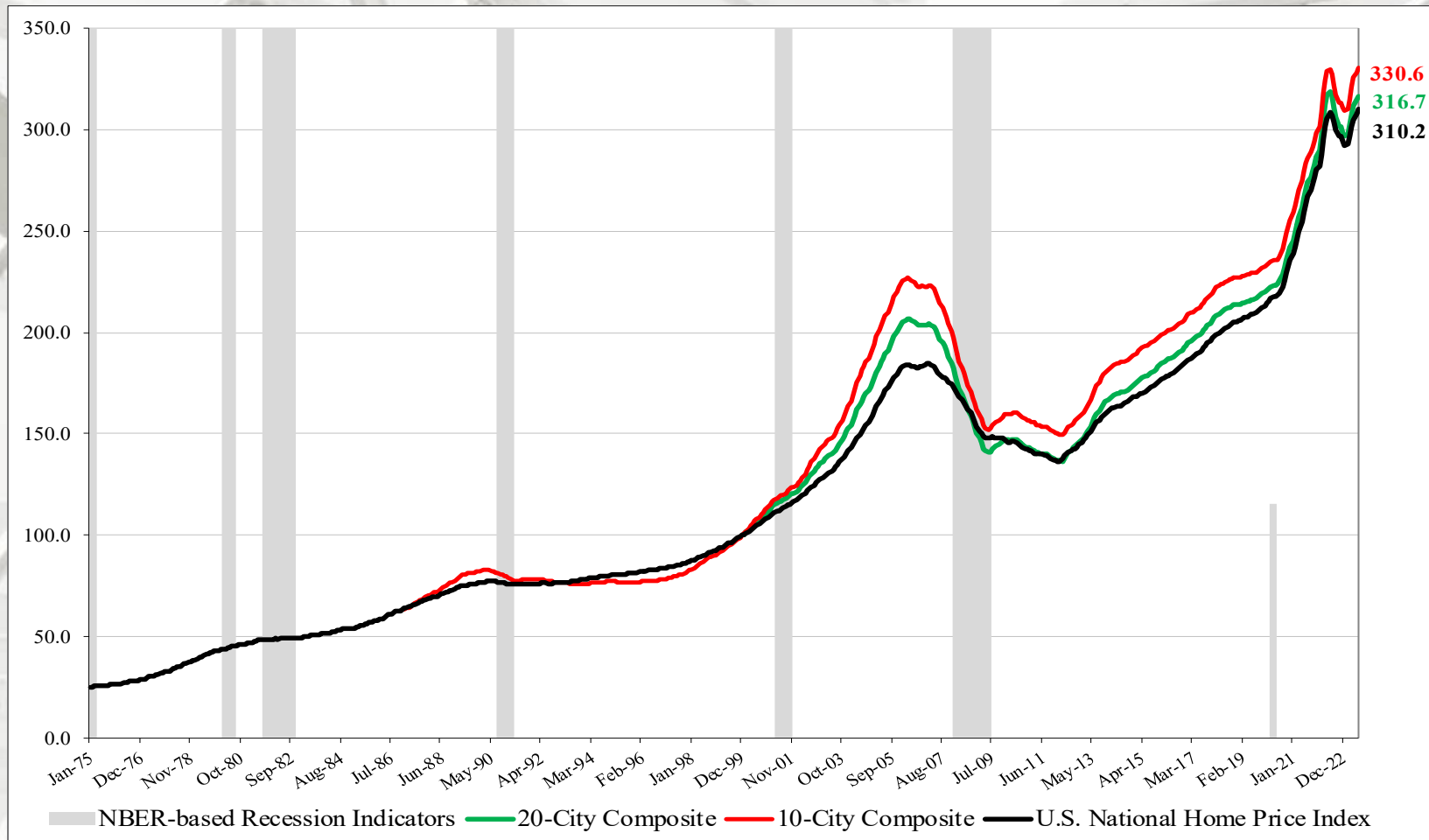
We have previously noted that home prices peaked in June 2022 and fell through January of 2023, declining by 5.0% in those seven months. The increase in prices that began in January has now erased the earlier decline, so that July represents a new all-time high for the National Composite. Moreover, this recovery in home prices is broadly based. As was the case last month, 10 of the 20 cities in our sample have reached all-time high levels. In July, prices rose in all 20 cities after seasonal adjustment (and in 19 of them before adjustment).

That said, regional differences continue to be striking. On a year-over-year basis, the Revenge of the Rust Belt continues. The three best-performing metropolitan areas in July were Chicago (+4.4%), Cleveland (+4.0%), and New York (+3.8%), repeating the ranking we saw in May and June. The bottom of the leader board reshuffled somewhat, with Las Vegas (-7.2%) and Phoenix (-6.6%) this month’s worst performers.

All of the cities at all-time highs are in the Eastern or Central time zones, and with two exceptions (Dallas and Tampa), all of the cities not at all-time highs are in the Pacific or Mountain time zones. The Midwest (+3.2%) continues as the nation’s strongest region, followed by the Northeast (+2.3%). The West (-3.8%) and Southwest (-3.6%) remain the weakest regions.

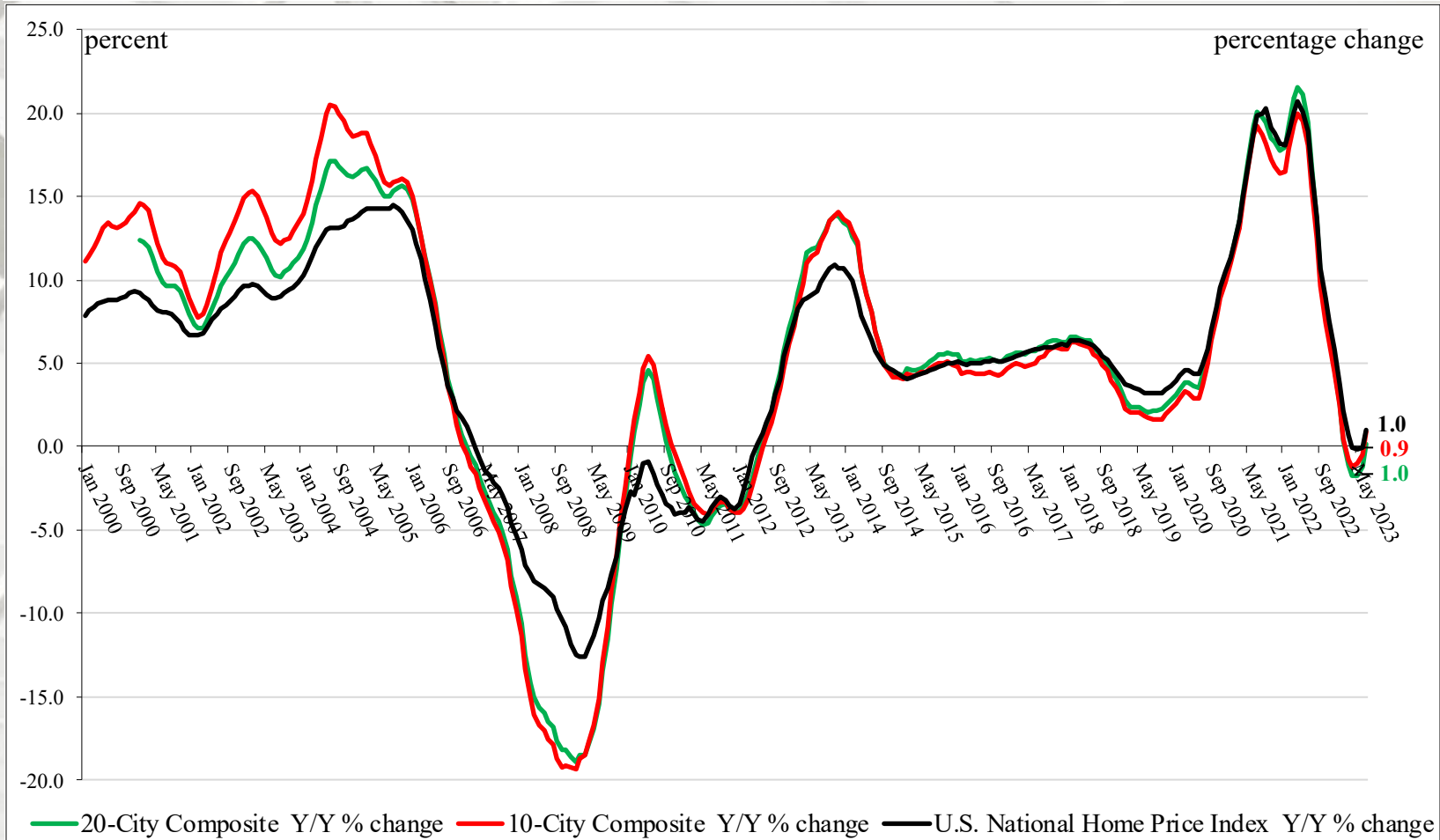
On a year-to-date basis, the National Composite has risen 5.3%, which is well above the median full calendar year increase in more than 35 years of data. Although the market’s gains could be truncated by increases in mortgage rates or by general economic weakness, the breadth and strength of this month’s report are consistent with an optimistic view of future results.” – 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).

S&P/Case-Shiller Home Price Indices

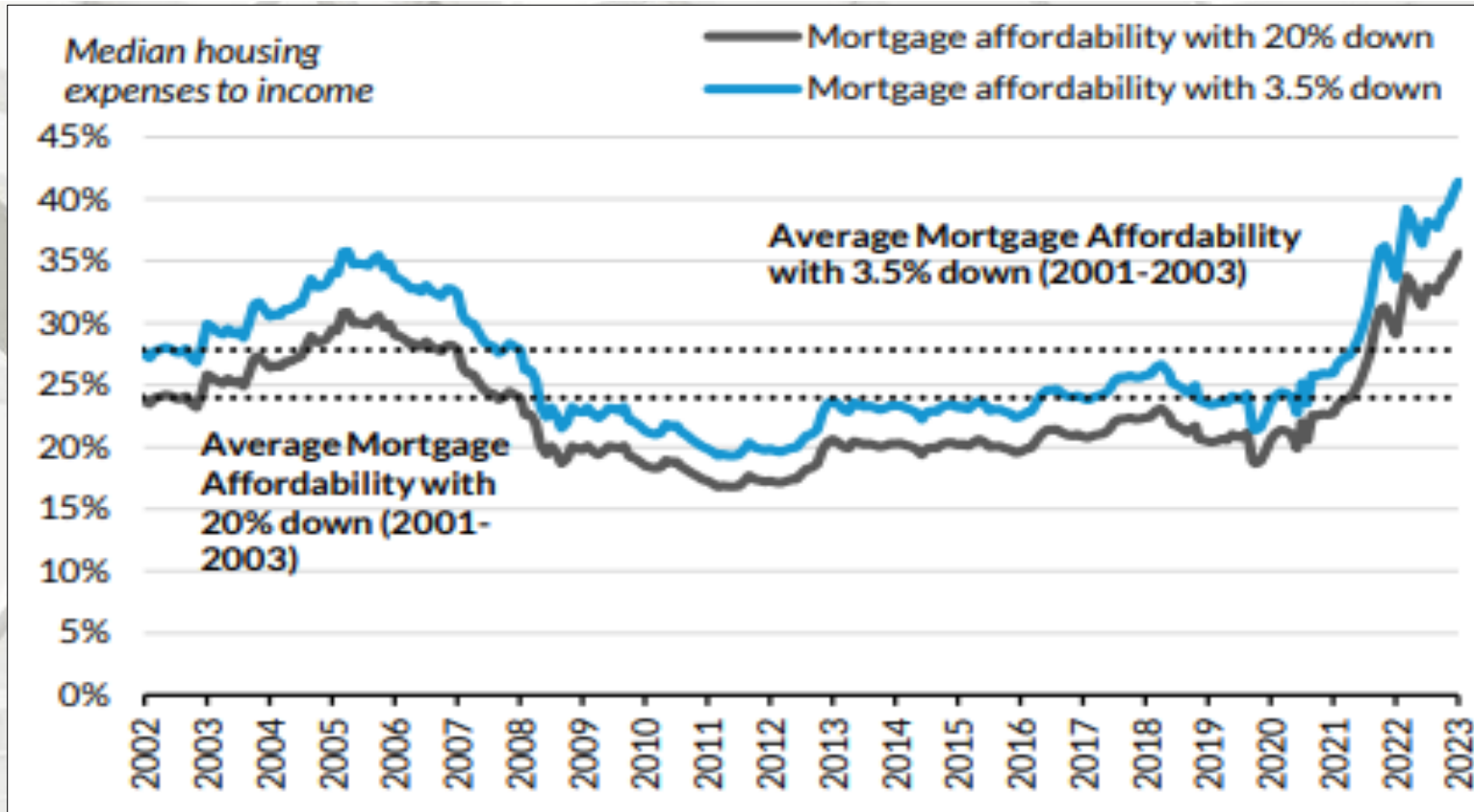


* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Y/Y Price Change

From June 2022 to June 2023, the National Index indicated a 1.0% increase; the Ten-City improved by 0.9%, and the Twenty-City increased by 0.1%.

U.S. Housing Affordability



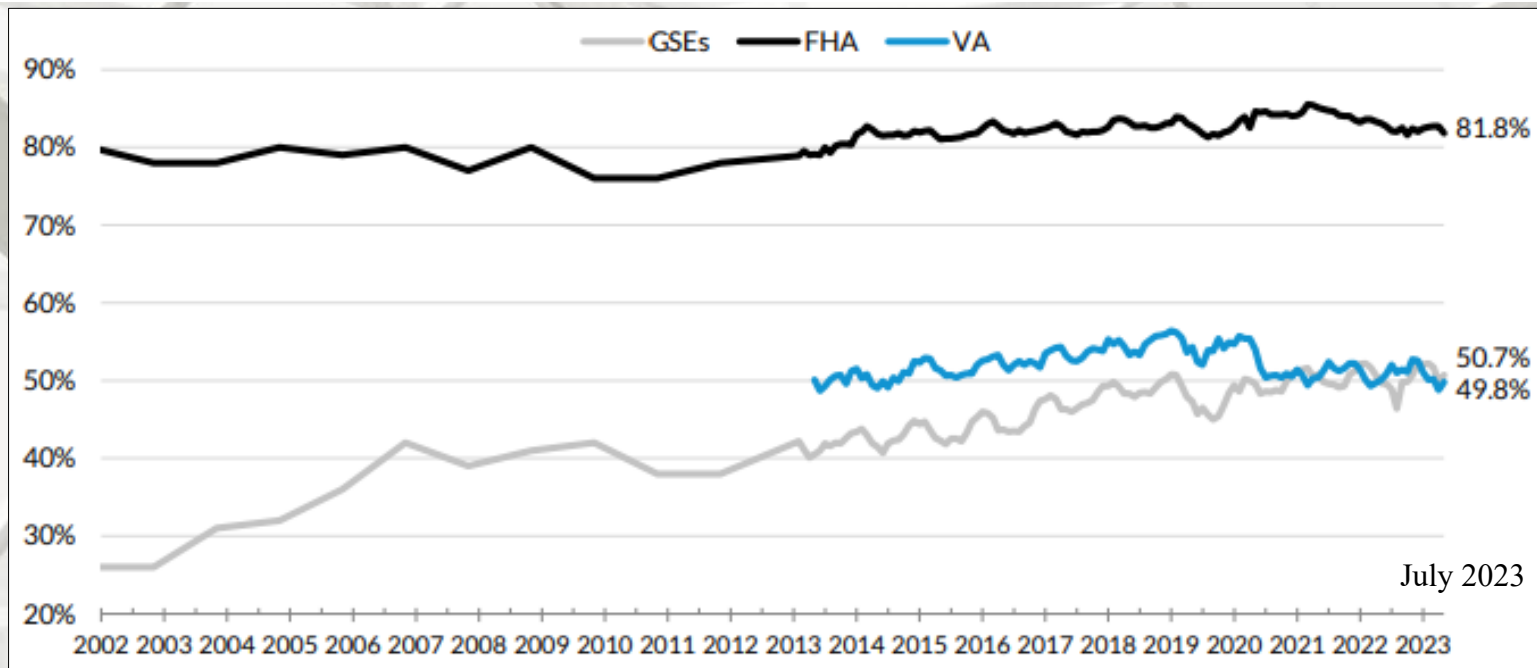
Note: All series measure the first-time home buyer share of purchase loans for principal residences.

Urban Institute

National Mortgage Affordability Over Time

“Mortgage affordability worsened in August, the worst since the series’ inception in 2002. As of August 2023, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 35.6 percent, higher than the 30.9 percent at the peak of the housing bubble in November 2005; and with 3.5 percent down it is 41.4 percent, also above the 35.8 percent prior peak in November 2005. ...” – Laurie Goodman *et. al*, Vice President, Urban Institute

U.S. First-Time House Buyers



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

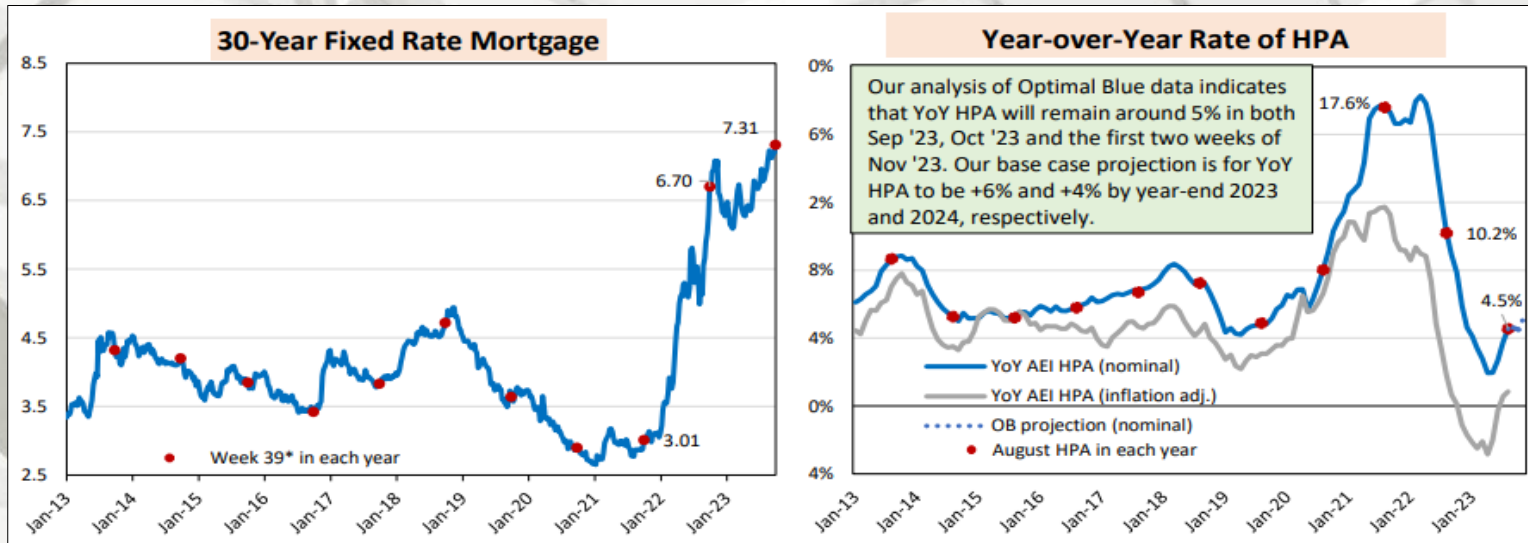
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

Urban Institute

First-time House Buyer Share

“In July 2023, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 81.8 percent. The FTHB share of GSE lending in April was 50.7 percent; the VA share was 49.8 percent. ...” – Laurie Goodman *et. al*, Vice President, Urban Institute

U.S. Housing Affordability



Note: Data are for 30-year fixed-rate prime conventional conforming. Home purchase mortgages with a loan-to-value of 80 percent. * Week 39 2023 refers to the week ending Sep. 28th, 2023.
Source: Freddie Mac.

Note: Data are for the entire country. Data for August 2023 are preliminary.
Source: AEI Housing Center, www.AEI.org/housing.

AEI Housing Center

Year-over-Year (YoY) Home Price Appreciation (HPA) Has Begun to Accelerate

“August 2023’s YoY HPA was 4.5%, up from 3.8% a month ago but down from 10.2% a year ago.

- YoY HPA bottomed out in April 2023 and is expected to continue rising through October 2023 based on Optimal Blue data, and, as our projection on the following slide indicates, continue to be positive through Dec. 2024.
- This is largely due to historically tight supply, cooling, yet still strong job numbers, low levels of foreclosures in most areas, work from home, and continued home price arbitrage opportunities.
- August 2023’s MoM HPA was -0.1%, the first negative figure since January 2023 as the spring and summer home buying season comes to an end.
- Constant-quality HPA controls for mix shifts in home quality, which otherwise may skew MoM or YoY changes.” – Edward Pinto, Senior Fellow and Director and Tobias Peter, Research Fellow and Assistant Director, AEI Housing Center

U.S. Housing Affordability

AEI Housing Center

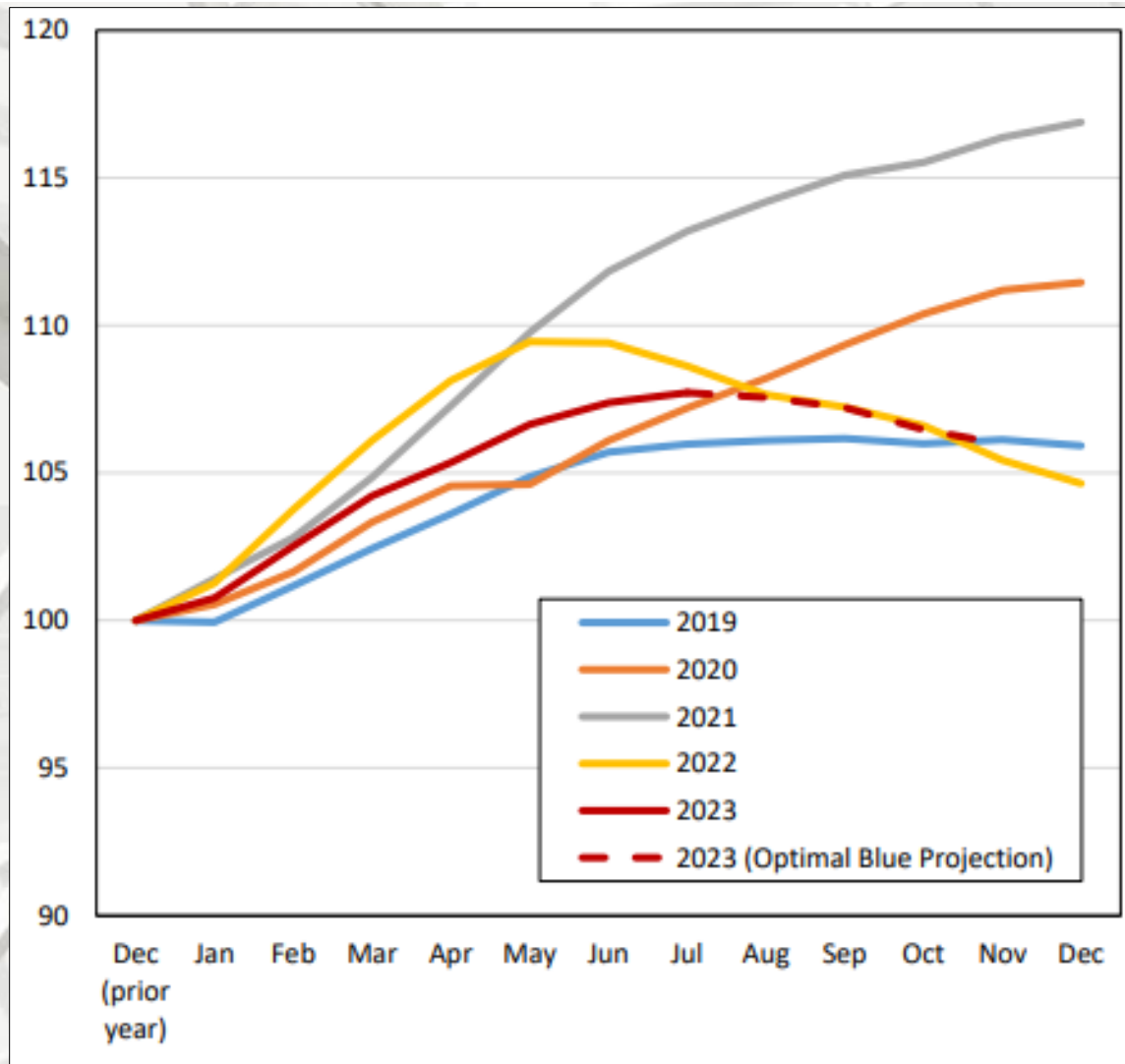
Home Price Appreciation: December 2023 and 2024 YoY HPA for Projections

“Given continuing tight supply notwithstanding rates now being at 7.61% (Mortgage News Daily), the mortgage rate boundaries have been raised by 0.25% for all projections, and 2024’s HPAs have all been reduced:

Base Case HPA Projection for Dec. 2023 and Dec. 2024 of +6% and +4%, respectively.

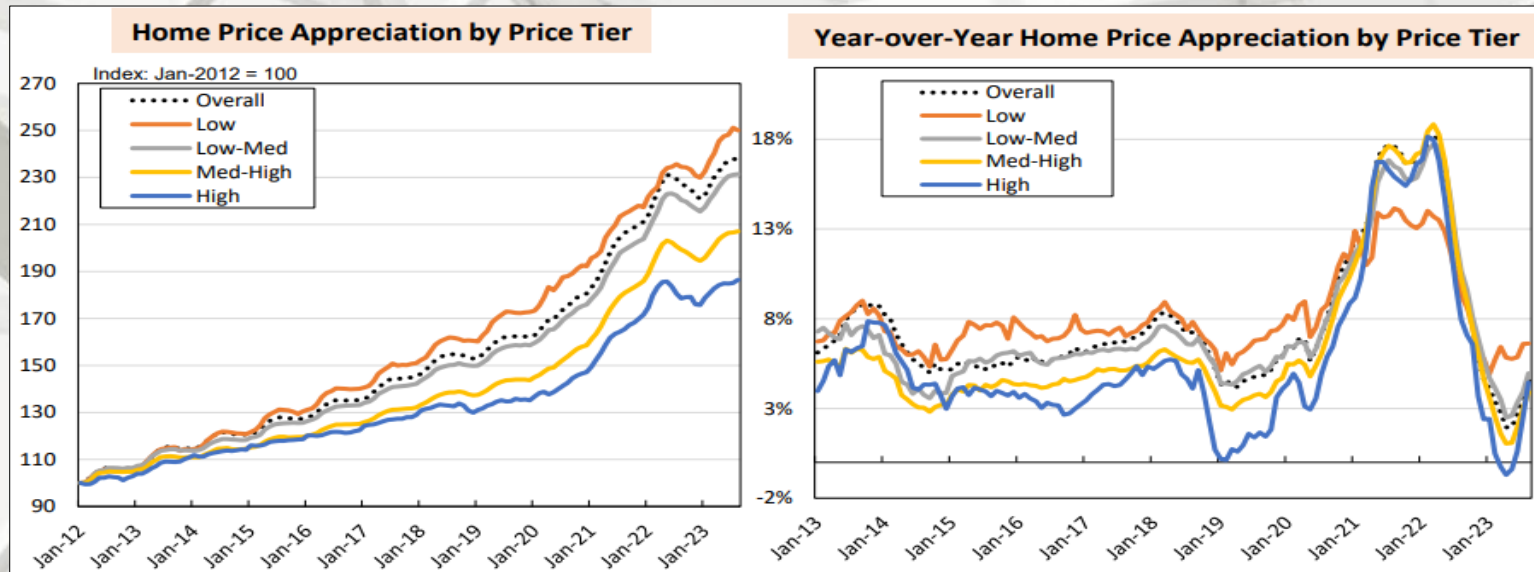
- Assumes mortgage rate at 6.0%-7.5%, unemployment rate $\leq 5.5\%$, and months’ remaining inventory < 4.5 months.
- **Bullish Case Projection** for Dec. 2024 of +8%
 - Assumes mortgage rate at 4.5%-6.0%, unemployment rate $\leq 5.5\%$, and months’ remaining inventory < 4.5 months.
- **Bearish Case Projection** for Dec. 2024 of -7%
 - Assumes mortgage rate at 7.50%-9.00%, unemployment rate $> 5.5\%$ and $\leq 7.5\%$, and months’ remaining inventory > 6 months.
 - Note: These things might occur at different times over the projection period.” – Edward Pinto, Senior Fellow and Director and Tobias Peter, Research Fellow and Assistant Director, AEI Housing Center

Home Price Appreciation by Price Tier



Note: Note: Data are for the entire country. Data for August 2023 are preliminary. September, October and the first two weeks of November HPA is projected based on Optimal Blue data. Source: AEI Housing Center, www.AEI.org/housing

Home Price Appreciation by Price Tier



Note: Data are for the entire country. Data for August 2023 are preliminary .
Source: AEI Housing Center, www.AEI.org/housing

AEI Housing Center

“Since 2012, a large and widening gap in HPA has developed between the lower and upper end of the market (left panel).

- Preliminary numbers for August 2023 indicate that the low price tier leads the YoY change in tier home prices at 6.6% due to low months’ supply (2.1 months), low unemployment, and increasing demand promoted by agency credit easing (right panel).
- Being more dependent on the Fed’s monetary punchbowl, the med-high and high price tiers have had the largest slowdowns in YoY HPA. However, this deceleration has ended as of May 2023.
- As of August 2023, all price tiers have shown relatively robust YoY HPA from 3.9% to 6.6%.” – Edward Pinto, Senior Fellow and Director and Tobias Peter, Research Fellow and Assistant Director, AEI Housing Center

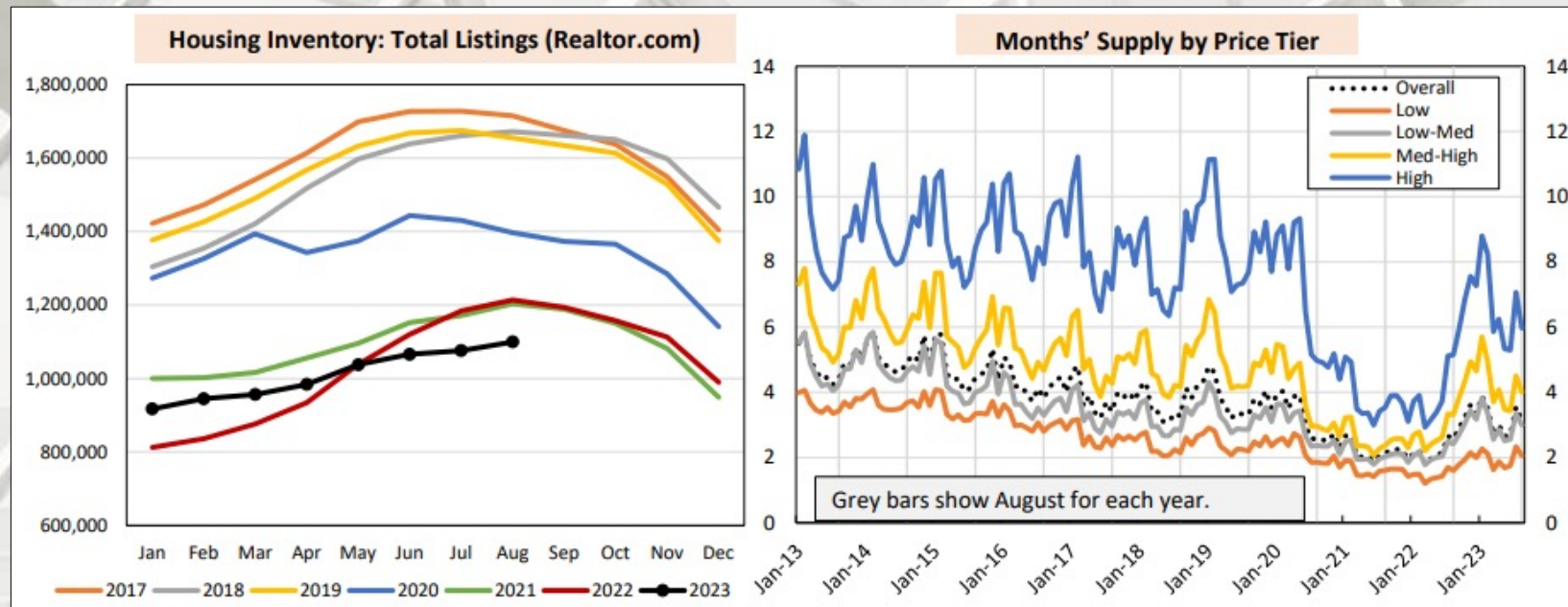
Home Housing Inventory and Months' Supply

AEI Housing Center

“Months’ remaining supply was 3.1 months (not seasonally-adjusted) in August 2023. Housing inventory continued to run below pre-pandemic levels, which helps explain the recent MoM home price appreciation increases.

- August 2023 inventory was up 2.2% from last month but down 9.4% from a year ago. August 2023 inventory is the historical low for the 2017-2023 series, indicating an unhealthy market. Notwithstanding rates above 7%, the supply-demand imbalance will fuel continued upward price pressures.
- Inventory today is still hovering around two-thirds of 2017-2019 levels (left panel).
- Months’ supply stood at 3.1 months in August 2023, down from 3.6 months in July 2023 and 3.3 months in August 2019, the last comparable pre-pandemic month (right panel).
- Given historical data, months’ supply would need to increase to > 6 months to enter a buyer’s market and to 7-9 months to trigger a national YoY decline in home price appreciation.” – Edward Pinto, Senior Fellow and Director and Tobias Peter, Research Fellow and Assistant Director, AEI Housing Center

Home Housing Inventory and Months' Supply



Note: Realtor.com, Zillow, and AEI Housing Center, www.AEI.org/housing.

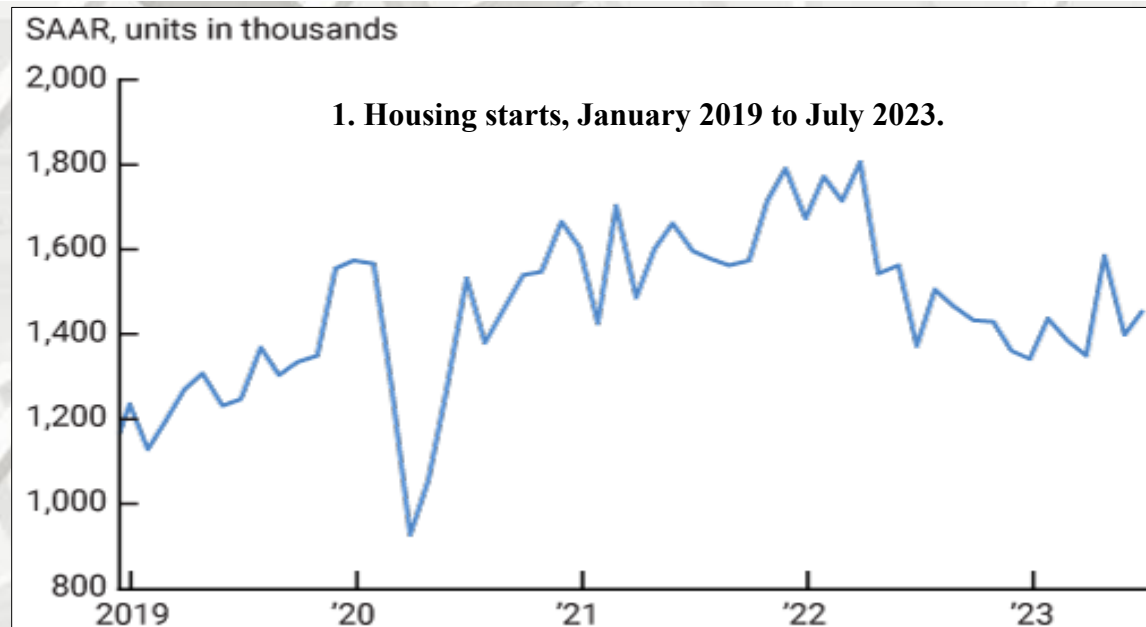
U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

“We begin with figure 1, which shows housing starts between January 2019 and July 2023. We see that between March 2022 (when the Fed started raising rates) and the end of 2022, the housing sector behaved pretty much like one would expect during a monetary tightening cycle: Starting from their high post-Covid-19 pandemic levels, housing starts decreased steadily.¹ It is safe to associate this decrease with a contraction in demand, since figure 2 shows that the year-over-year house price growth decelerated sharply from some extremely high post-pandemic growth rates.” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago



Note: SAAR indicates seasonally adjusted annual rate. Source: U.S. Census Bureau from Haver Analytics.

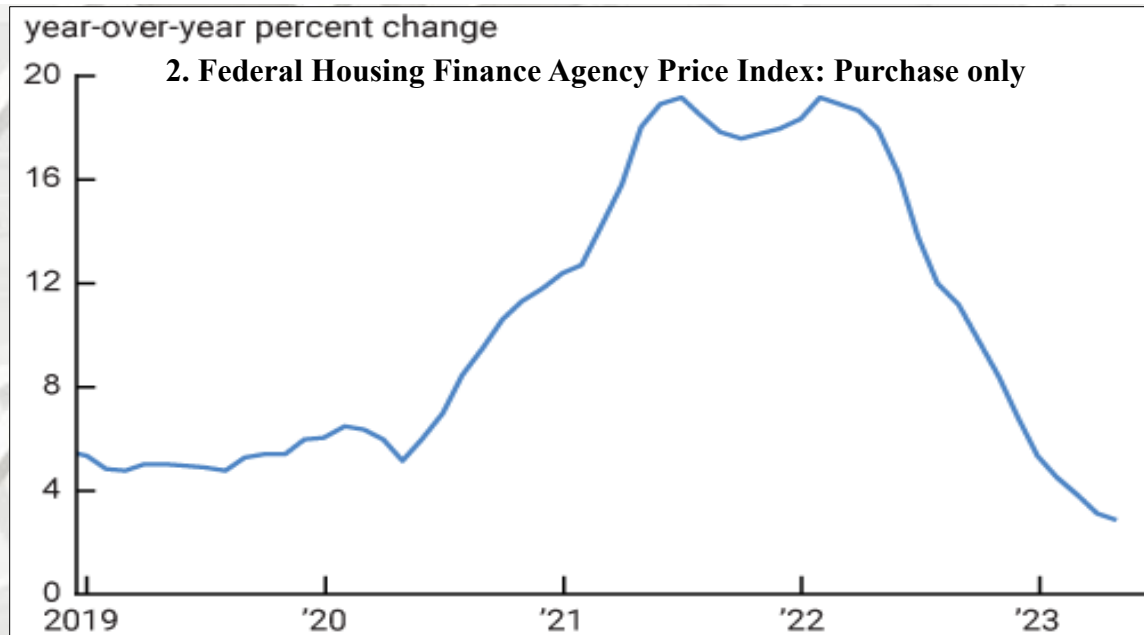
U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

“After experiencing such a normal response to a tightening cycle, the behavior of the housing sector has become quite puzzling during the first half of the current year. Namely, housing starts stabilized at relatively high levels (see figure 1), despite mortgage rates remaining high. In addition, figure 2 shows that this strength in the construction sector took place while house price growth continued to decelerate. In what follows, we provide what we believe is a plausible account of what happened to the housing sector during the first half of the current year.” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago



Note: Seasonally adjusted, January 1991 = 100. Source: Federal Housing Finance Agency from Haver Analytics.

U.S. Housing Market

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Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

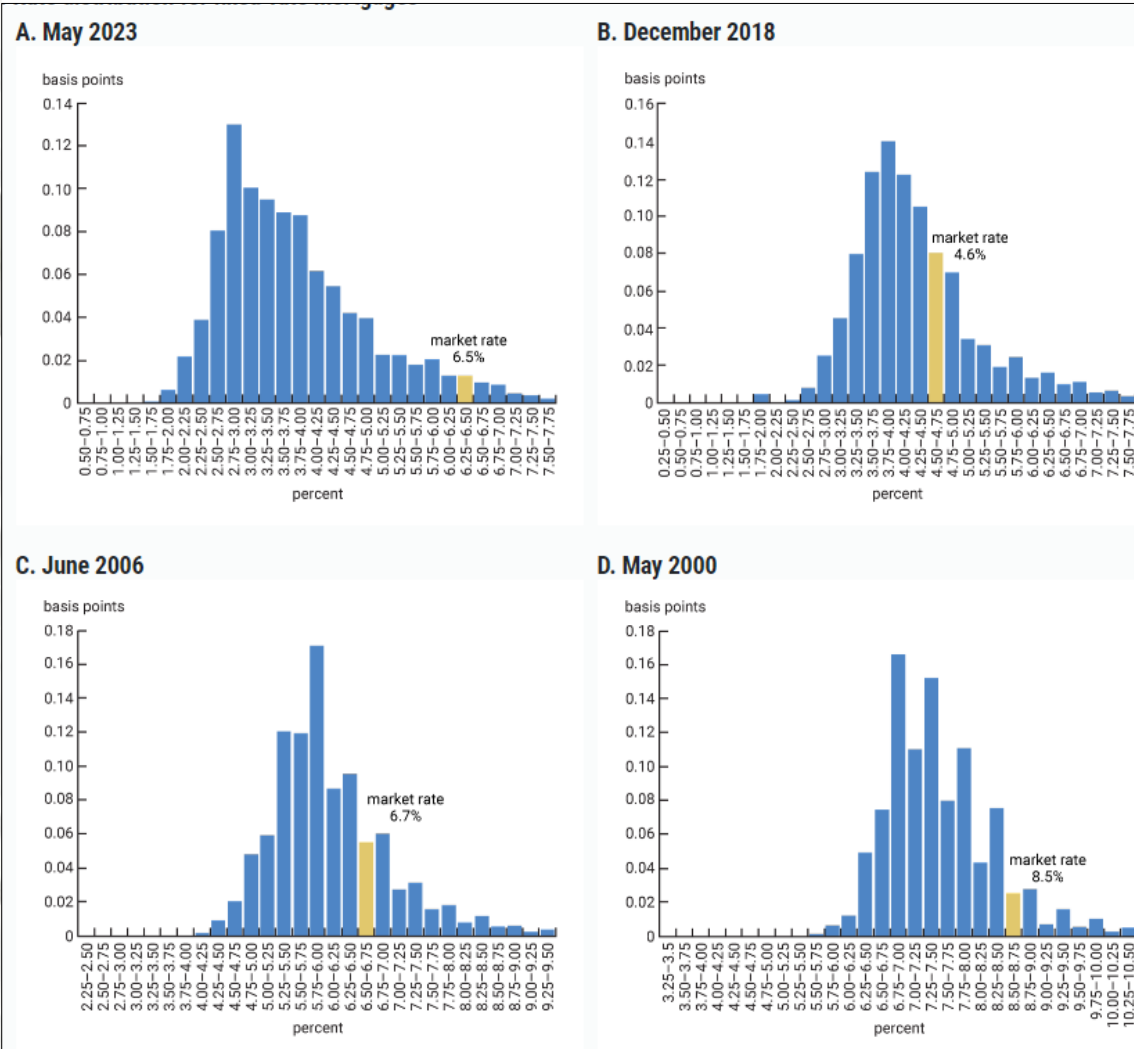
“The key piece of the puzzle, in our view, is the behavior of refinancing activity. Refinancing volumes (shown in figure A3 in the appendix) peaked and started to decrease well before the start of the tightening cycle, during a period in which mortgage rates were at historically low levels. This suggests that most mortgages were able to be refinanced at interest rates well below those that could be obtained later.

This is confirmed by figure 3, panel A, which shows the distribution of existing interest rates among home owners with 30-year fixed-rate mortgage contracts during May 2023.² We see that most of the distribution is well below the market mortgage rate of 6.5% observed at the time (shown in yellow). By comparison, figure 3, panels B, C, and D show similar distributions at the peak of the previous three tightening cycles (i.e., December 2018, June 2006, and May 2000), with the corresponding peak market rate shown in yellow. We see that these distributions are much closer to their corresponding market rates compared to the May 2023 distribution.” – Gene Amromin, Jonas Fisher, and Marcelo Veracierta; Federal Reserve Bank of Chicago

U.S. Housing Market

The Federal Reserve Bank of Chicago

3. Rate distribution for fixed-rate mortgages



Source: Authors' calculations based on BlackKnight McDash mortgage servicer data.

U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

“Indeed, figure 4 shows that while in May 2023, 71% of the fixed-rate mortgages were financed at rates at least 200 bps lower than the market rate, roughly only 1.5% of the mortgages were financed at least 200 bps below the market rate in previous tightening cycles. This tightening cycle is thus quite unusual in having a very high share of fixed-rate mortgages locked in at rates well below market rates. This is crucial because it suggests that during the current tightening cycle, home owners have had unusually weak incentives to sell their homes (and lose the far-below-market rates at which their mortgage loans have been refinanced).” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago

4. Share of outstanding mortgages at the peak of the cycle at least X bps below the then-current mortgage rate: At the "peak" of the tightening cycle

	1999	2004	2016	2022
Mortgage rate	8.5	6.7	4.6	6.5
Date of "peak"	May 2000	Jun 2006	Dec 2018	May 2023
	(----- percent -----)			
> 50 bps gap	65	55	43	91
> 100 bps gap	42	26	17	87
> 200 bps gap	2	1	1	71
> 300 bps gap	0	0	0	38

Source: Authors' calculations based on BlackKnight McDash mortgage servicer data.

U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

“Interestingly, when the distributions in figure 3 are size-weighted (not displayed), the second last row (in bold) in figure 4 does not change much: The fraction of total mortgage values financed at rates at least 200 bps below the market rate increases only to 77% in May 2023 (from the original unweighted 71%), while that fraction remains essentially unchanged at about 1.5% during the previous tightening cycles. Thus, while there is evidence that more-affluent borrowers have been somewhat more effective in making refinancing decisions, the low incentives of home owners to sell their homes have been present across the board.

The effects of this are clearly seen in figure 5, which shows that existing home sales have plummeted since the start of the tightening cycle. While existing home sales may be expected to fall during a tightening cycle (due to the lock-in effects mentioned earlier), the magnitude of the fall during the current cycle is much larger than in any of the other recent tightening cycles (consistent with the lock-in effects being much larger this time around). What we want to emphasize next is that this sharp drop in existing home sales had large effects on the new homes segment of the market.

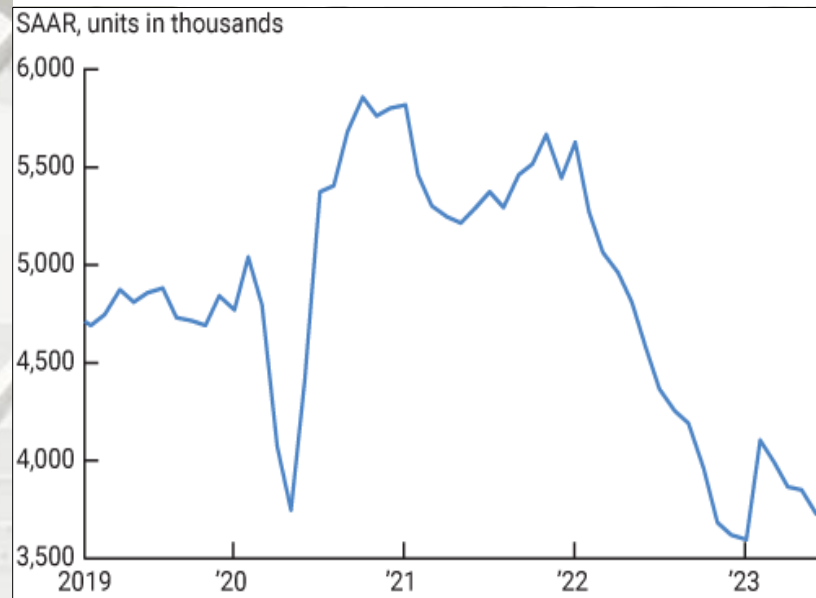
Figure 6 shows that new home sales decreased steadily from the start of the tightening cycle until the end of 2022, while the inventory of new houses for sale increased continuously during the same period (shown in figure A4 in the appendix). Again, this is what one would normally expect to happen during a tightening cycle.” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago

U.S. Housing Market

The Federal Reserve Bank of Chicago

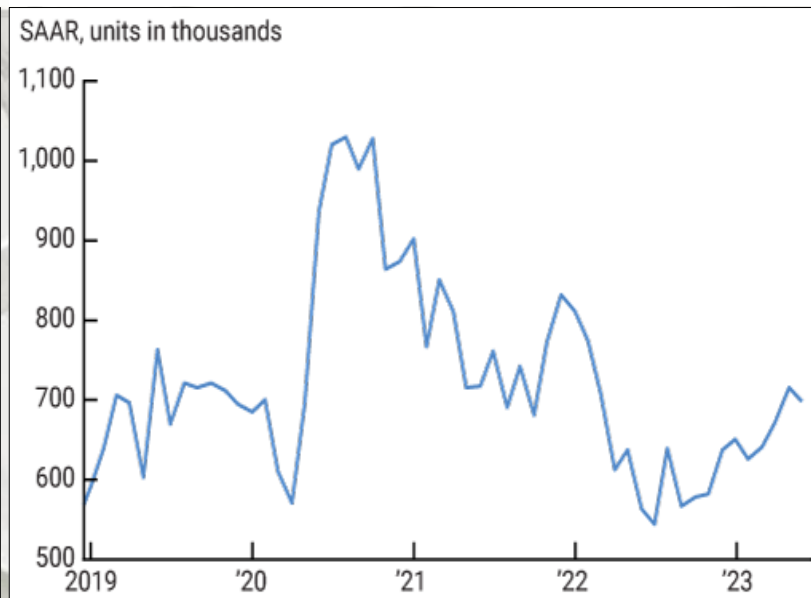
Why Housing Has Been So Strong, But Might Not Be for Long

5. Existing single-family home sales



Note: SAAR indicates seasonally adjusted annual rate.
Source: National Association of Realtors from Haver Analytics.

6. New single-family home sales



Note: SAAR indicates seasonally adjusted annual rate.
Source: National Association of Realtors from Haver Analytics.

U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

“However, we believe that the declines in existing home sales during the first half of 2023 (after a very small short-lived rebound early in the year) led to an increase in the demand for new construction, even though total housing demand probably continued to decrease (as indicated by the further deceleration in house prices shown in figure 2). To see why, let’s step back and consider the normal type of dynamics experienced by the housing market. We can start by considering the segment of the market consisting of existing homeowners who would like to reoptimize their housing holdings while remaining home owners. Ordinarily, as home owners receive shocks to their incomes or their preferences change, some of them want to upgrade and some to downgrade the type of homes that they live in. Also, some home owners normally take advantage of job opportunities in other locations, leading them to sell their houses at origin and buy houses elsewhere. When home owners are locked into mortgages with interest rates well below market rates, this process of reallocating houses among existing home owners is greatly reduced. We believe that a large proportion of the decrease in existing home sales that we have observed reflects this weakened flow of house churning.

Since the reduced purchases by existing homeowners are roughly matched by the reduced sales by existing home owners, we believe that the lower amount of house churning in this market segment has been roughly a wash in terms of its impact on new construction. Moreover, to the extent that some of the houses purchased by continuing home owners are normally new houses, the reduced amount of house churning between continuing home owners probably translated into a somewhat lower demand for new construction.

So why is it that we believe that the reduced amount of house churning due to the lock-in effects translated into higher demand for new construction? The reason lies in the impact on entries and exits from home ownership. First, we look at the impact on exits. Given that their mortgages were locked into low rates and that rents increased quite considerably, people who normally would have decided to exit home ownership were likely to postpone that decision. This effectively took away from the market a number of existing homes that would otherwise have been offered for sale.” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago

U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

The behavior of the housing sector thus far

“This brings us to the last group of market participants: the new entrants to home ownership. Since many of the people who would normally exit home ownership (and many of the existing home owners who would normally sell to the new entrants) held on to their properties due to the lock-in effects, the new entrants had to look into new construction in order to satisfy their demand. This is a large group. According to Equifax data, normally about 40% of all home sales (both of existing houses and new construction) are to first-time home buyers.³ With such a large group of market participants shifting part of their demand from existing homes to new construction, it is not surprising to observe the large increase in the number of new houses sold during the first half of 2023 (figure 6) and the significant decrease in the inventory of new houses for sale (figure A4 in the appendix). In turn, this unusual demand for new houses led to the high levels of housing starts during the first half of 2023, which is what we found puzzling in figure 1.

As these housing dynamics unfolded, it is worth noting that another potential contributor to the inventory of homes available for sale — foreclosures — remained low. Foreclosures declined from already low levels in 2020–21, helped by moratoriums and forbearance programs. Since then, healthy household balance sheets and strong labor markets have kept forced sales and foreclosures at very low levels (see figure A5 in the appendix).” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago

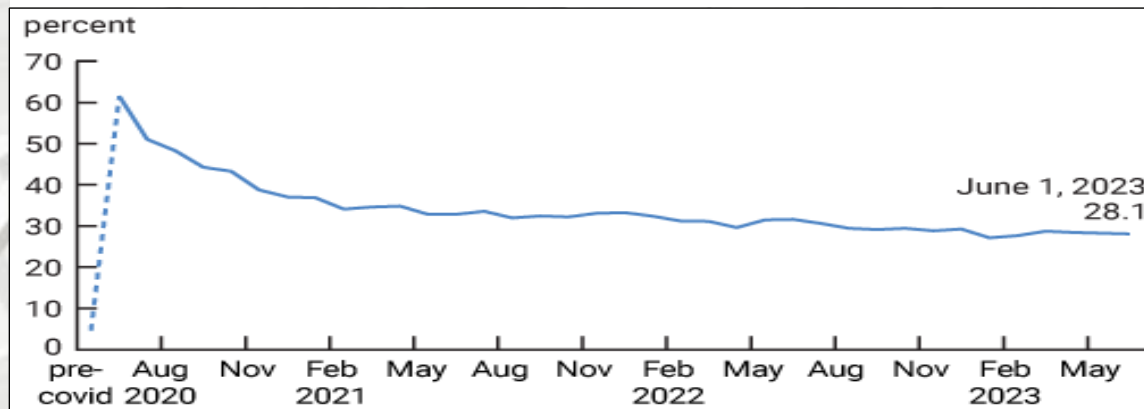
U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long And what to expect going forward

“The fundamentals for housing demand remain strong in the long run: Figure 7 shows that the fraction of full working days supplied from home has stabilized at around 29%, increasing the demand for housing services relative to before-Covid pandemic levels (since people spend more time in their homes, and they value this time). However, in the short run the demand for housing services is likely to continue to weaken. The reason is that house prices and mortgage rates (on new loans) remain very high. In fact, figure 8 shows a sharp drop in the National Association of Realtors [affordability index](#) (see [Gillet and Hull, 2023](#), for a detailed discussion of the recent changes to housing affordability). This index evaluates how hard it is for a hypothetical family of median income to make mortgage payments at current interest rates and house prices. The low affordability of purchasing homes is likely to take a toll on total housing demand going forward, especially if the labor market finally turns down after long lags in its response to the current tightening cycle. Lower total housing demand is likely to lower the demand for new construction if, as expected, existing home sales stabilize.⁴” – Gene Amromin, Jonas Fisher, and Marcelo Veracierto; Federal Reserve Bank of Chicago

7. Share of full working days supplied from home



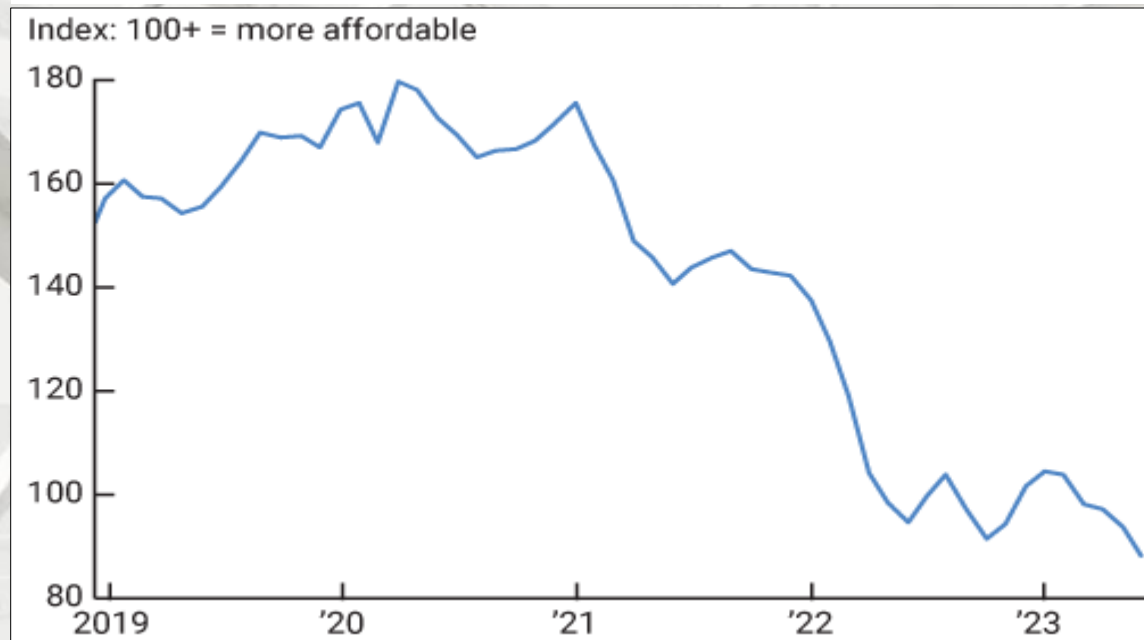
Source: [Barrero, Bloom, and Davis, 2021](#).

U.S. Housing Market

The Federal Reserve Bank of Chicago

Why Housing Has Been So Strong, But Might Not Be for Long

8. National Association of Realtors Housing Affordability Index, fixed-rate mortgages



Source: National Association of Realtors from Haver Analytics.

Notes

¹ Housing permits followed a similar pattern (see figure A2 in the appendix).

² Over the past decade, adjustable-rate mortgages averaged less than 10% of mortgage originations ([Urban Institute, July 2023](#)). Data collected under the Home Disclosure Mortgage Act in 2021 suggest that 30-year fixed-rate contracts represented the vast majority (70%) of mortgage originations.

³ According to National Association of Realtors surveys, the share is somewhat lower: about 30%.

⁴ The recently published 11% decrease in housing starts in August 2023 could indicate that the lower demand for new construction may already be in the works. However, the 6% increase in housing permits during that same month muddles the view.

U.S. Housing Finance

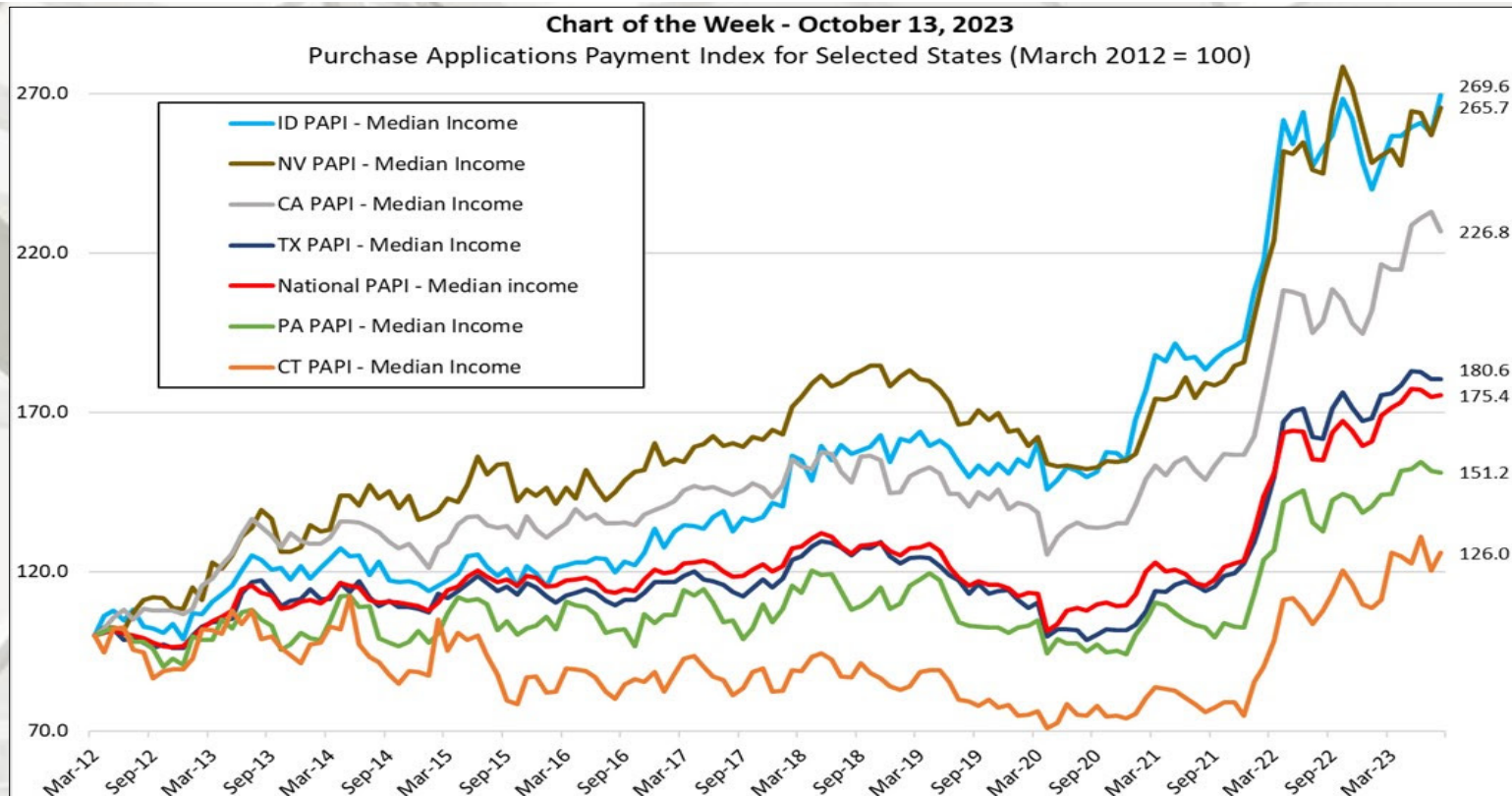
Mortgage Bankers Association (MBA)

Chart of the Week: Purchase Applications Payment Index

“The monthly cost burden of purchasing a new home, as interest rates and house prices rose precipitously in 2022, has continued into 2023. Indeed, this week’s Weekly Applications Survey (WAS) [release](#) noted that the 30-year fixed mortgage rate is at 7.67% – the highest level since 200 – and the Federal Housing Finance Agency’s [House Price Index](#) shows that house prices continue to appreciate even as interest rates have eclipsed 7%. MBA’s Purchase Applications Payment Index (PAPI), which uses WAS data to measure how new fixed-rate 30-year purchase mortgage payments vary across time relative to income, increased by 29.2% in 2022 and reached a series high in May 2023 when it was 43.7% higher than at the start of 2022. Since then, despite 30-year rates continuing to climb, the index has decreased slightly as median loan application amounts have moderated.

In this week’s [MBA Chart of the Week](#), we show the PAPI series – constructed using median WAS payments and median income – for the nation and six selected states. The red line, which shows the national PAPI series, reached 177.4 in May 2023. It has remained in record territory and was 175.4 in the most recent PAPI release (that uses August WAS data). Similar patterns are evident across the country. In Idaho, the state with the highest PAPI in August, the index is up 71% since it first overtook Nevada in the number-one spot in October 2020. Even lower PAPI states – i.e., states where affordability has eroded the least relative to March 2012 – such as Connecticut and Pennsylvania, have seen their affordability levels decrease substantially in the last year and a half. For example, at the start of 2022, the PAPI in Connecticut was 74.8 (meaning that the median loan payment relative to median income was 25% less than in March 2012). This trend, however, has reversed since the start of 2022, with the latest PAPI reading at 126.0. In other words, purchase affordability in Connecticut has eroded by about two-thirds in the last 20 months.” – Eddie Seiler, Associate Vice President of Economics; MBA

U.S. Housing Finance



Sources: MBA Weekly Applications Survey and U.S. Bureau of Labor Statistics

Mortgage Bankers Association (MBA)

Chart of the Week: Purchase Applications Payment Index

“Tellingly, PAPI was higher in every state and the District of Columbia in December 2022 than in December 2021. Moreover, it was higher in August 2023 in every state and DC than in December 2022. The good news is that we may be near the top. MBA is forecasting that mortgage interest rates will steadily decline over the next few years and that median existing home sales prices will also decrease through 2024. This should reduce PAPI levels, but it may not be until 2025 that the index retreats to meaningfully lower levels and affordability notably improves.” – Eddie Seiler, Associate Vice President of Economics; MBA

U.S. Housing Finance

Mortgage Bankers Association (MBA)

Mortgage Credit Availability Increased in September

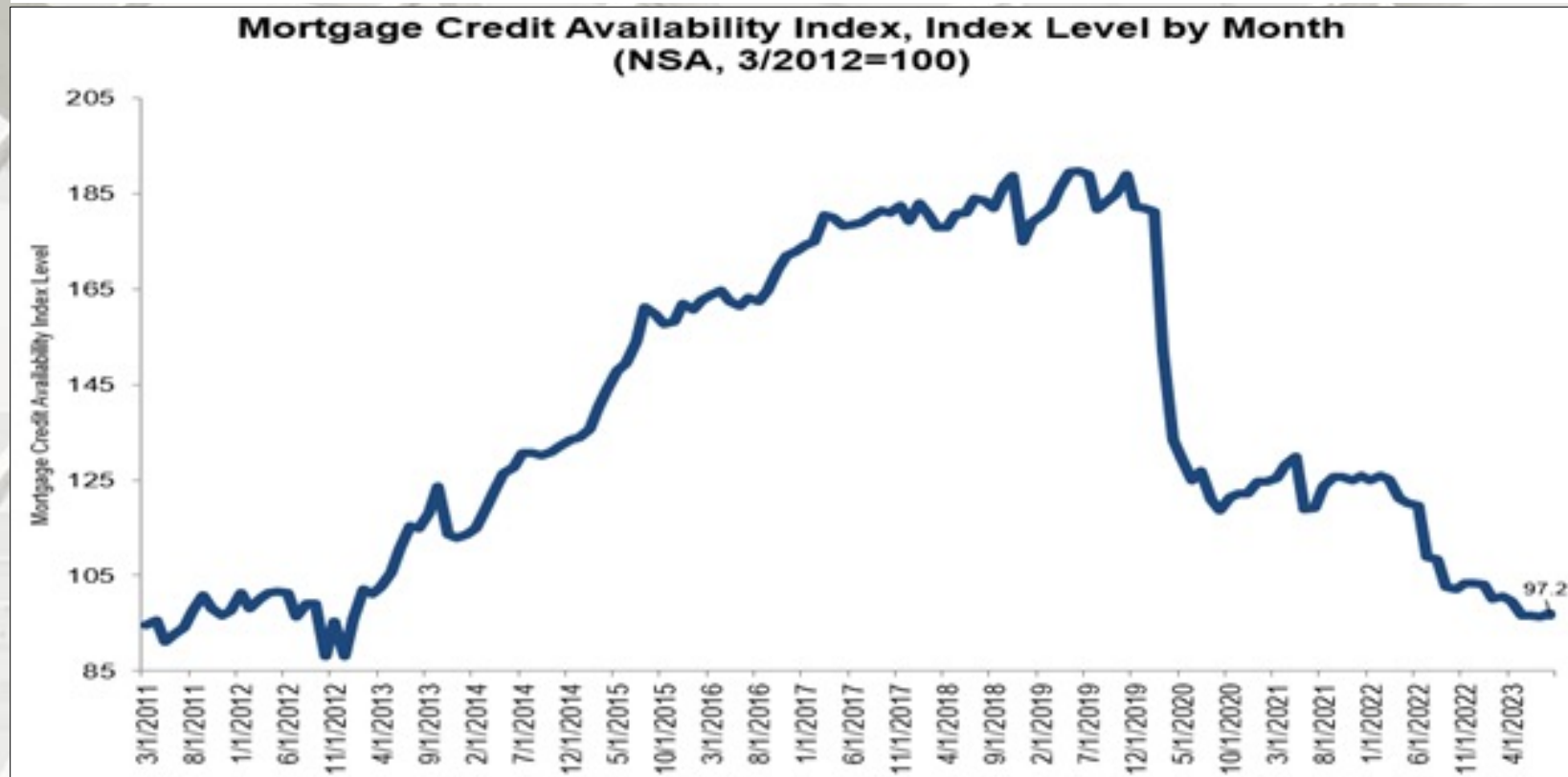
“Mortgage credit availability increased in September according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from ICE Mortgage Technology.

The MCAI rose by 0.6 percent to 97.2 in September. A decline in the MCAI indicates that lending standards are tightening, while increases in the index are indicative of loosening credit. The index was benchmarked to 100 in March 2012. The Conventional MCAI increased 0.6 percent, while the Government MCAI increased by 0.6 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 0.8 percent, and the Conforming MCAI rose by 0.2 percent.

Credit availability in August increased slightly in September, as lenders increased their loan offerings marginally to meet the changing needs of borrowers who are facing higher mortgage rates. There were more loan programs for ARM loans for borrowers seeking lower initial monthly payments and also some increases in non-QM product offerings. Credit availability increased across all loan categories, with the jumbo index increasing for the second straight month, driven by the expansion of ARM and non-QM offerings. Industry capacity has declined significantly since the peak originations months in 2021, and MBA expects to see further declines in originations volume, given the high interest rate environment and typical seasonal slowdown.” – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

U.S. Housing Finance

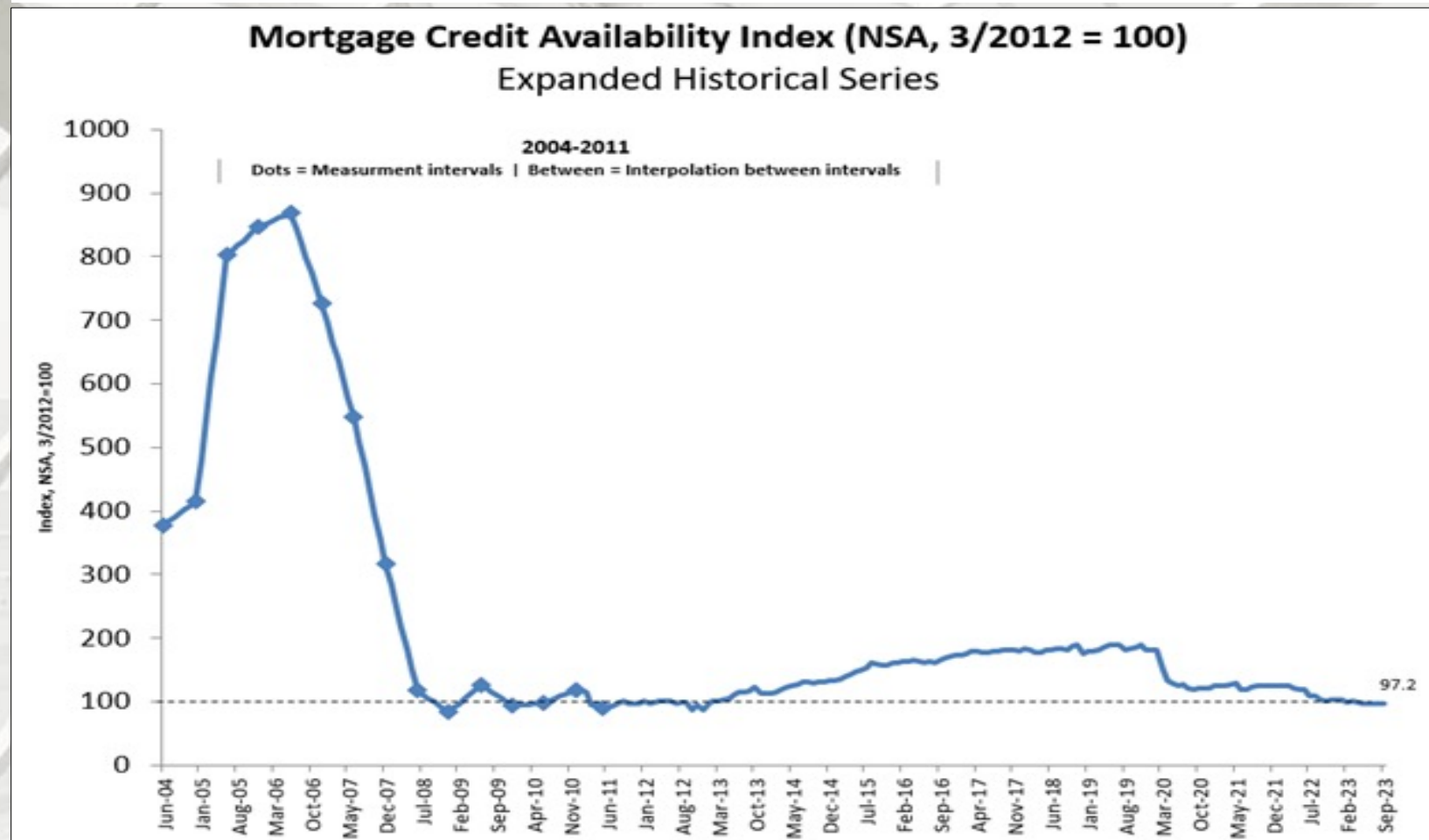
Mortgage Credit Availability (MBA)



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

U.S. Housing Finance

Mortgage Credit Availability (MBA)



Source: Mortgage Bankers Association; Powered by ICE Mortgage Technology

MBA Mortgage Finance Forecast

	2023				2024				2025				2022	2023	2024	2025	2026
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Housing Measures																	
Housing Starts (SAAR, Thous)	1,385	1,450	1,387	1,376	1,351	1,346	1,346	1,380	1,418	1,435	1,462	1,479	1,551	1,399	1,356	1,449	1,424
Single-Family	834	930	965	974	989	1,014	1,032	1,076	1,102	1,123	1,148	1,176	1,004	926	1,028	1,137	1,123
Two or More	552	520	422	402	362	332	314	304	316	312	314	303	547	474	328	311	302
Home Sales (SAAR, Thous)																	
Total Existing Homes	4,327	4,250	4,027	4,093	4,196	4,324	4,501	4,661	4,767	4,836	4,899	4,921	5,099	4,174	4,420	4,856	4,999
New Homes	638	694	709	727	736	747	765	762	780	791	797	811	641	692	752	795	789
FHFA US House Price Index (YOY % Change)																	
Median Price of Total Existing Homes (Thous \$)	366.7	397.5	413.7	396.5	393.4	389.6	387.6	384.4	384.9	383.7	380.8	386.1	384.0	393.6	388.8	386.6	385.2
Median Price of New Homes (Thous \$)	434.8	418.0	435.5	431.2	432.0	430.2	429.8	430.6	432.7	434.6	437.6	440.0	455.8	429.9	430.6	436.2	430.7
Interest Rates																	
30-Year Fixed Rate Mortgage (%)	6.4	6.5	7.0	7.2	6.8	6.6	6.3	6.1	5.9	5.8	5.6	5.5	6.6	7.2	6.1	5.5	5.4
10-Year Treasury Yield (%)	3.6	3.6	4.2	4.2	4.1	4.0	3.8	3.7	3.7	3.7	3.6	3.6	3.8	4.2	3.7	3.6	3.6
Mortgage Originations																	
Total 1- to 4-Family (Bil \$)	333	463	444	399	409	507	525	508	478	601	594	581	2,305	1,639	1,949	2,254	2,382
Purchase	267	371	363	324	314	394	393	371	328	453	434	423	1,619	1,325	1,471	1,639	1,747
Refinance	66	92	81	75	95	113	132	138	150	148	160	158	686	314	478	616	635
Refinance Share (%)	20	20	18	19	23	22	25	27	31	25	27	27	30	19	25	27	27
FHA Originations (Bil \$)													228	197	214	224	219
Total 1- to 4-Family (000s loans)	895	1,239	1,173	1,052	1,086	1,342	1,396	1,353	1,281	1,578	1,555	1,511	6,720	4,359	5,177	5,925	6,065
Purchase	686	948	919	818	791	990	985	927	818	1,123	1,069	1,035	4,382	3,370	3,693	4,044	4,182
Refinance	210	291	254	234	294	353	411	426	463	455	486	477	2,338	989	1,484	1,881	1,882
Refinance Share (%)	23	23	22	22	27	26	29	32	36	29	31	32	35	23	29	32	31
Mortgage Debt Outstanding																	
1- to 4-Family (Bil \$)	13,671	13,767	13,822	13,879	13,931	13,988	14,050	14,117	14,190	14,264	14,343	14,425	13,610	13,879	14,117	14,690	14,783

Notes:

As of the August 2023 forecast, 2022 origination volume was revised based on the 2022 Home Mortgage Disclosure Act data.
 Total 1-to-4-family originations and refinance share are MBA estimates. These exclude second mortgages and home equity loans.
 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.
 The FHFA US House Price Index is the forecasted year over year percent change of the FHFA Purchase-Only House Price Index.
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MBA Economic Forecast

MBA Economic Forecast

October 15, 2023

	2023				2024				2025				2022	2023	2024	2025	2026
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Percent Change, SAAR																	
Real Gross Domestic Product	2.2	2.1	4.8	1.4	-0.3	-0.4	0.6	1.2	1.7	1.7	1.8	1.8	0.7	2.6	0.3	1.7	1.8
Personal Consumption Expenditures	3.8	0.8	3.2	1.4	0.9	0.5	1.2	1.1	1.4	1.4	1.4	1.5	1.2	2.3	0.9	1.4	2.0
Business Fixed Investment	5.7	7.4	0.7	1.2	-0.7	-1.7	-1.4	0.1	1.6	1.7	2.3	2.2	5.6	3.7	-0.9	1.9	2.1
Residential Investment	-5.3	-2.2	5.4	-1.4	-1.4	0.0	0.5	4.9	8.1	6.4	5.1	7.7	-17.4	-1.0	1.0	6.8	0.0
Govt. Consumption & Investment	4.8	3.3	3.2	1.8	0.9	0.8	0.6	0.5	0.5	0.4	0.5	0.5	0.8	3.3	0.7	0.5	0.4
Net Exports (Bil. Chain 2012\$)	-1048.8	-1039.0	-971.0	-959.6	-1011.9	-1046.0	-1053.5	-1052.9	-1065.9	-1074.6	-1075.7	-1081.1	-1158.7	-1004.6	-1041.1	-1074.3	-1091.7
Inventory Investment (Bil. Chain 2012\$)	24.1	13.2	33.7	20.0	14.5	8.6	2.1	8.1	20.9	33.7	43.6	51.3	113.4	22.7	8.3	37.4	60.7
Consumer Prices (YOY)	5.8	4.1	3.5	3.1	2.8	2.6	2.4	2.3	2.1	2.0	2.2	2.1	7.1	3.1	2.3	2.1	2.1
Percent																	
Unemployment Rate	3.5	3.5	3.7	3.9	4.1	4.4	4.8	5.0	4.9	4.8	4.6	4.4	3.6	3.7	4.6	4.7	4.2
Federal Funds Rate	4.875	5.125	5.375	5.375	5.375	5.125	4.875	4.625	4.375	4.125	3.875	3.625	4.375	5.375	4.625	3.625	2.625
10-Year Treasury Yield	3.6	3.6	4.2	4.2	4.1	4.0	3.8	3.7	3.7	3.7	3.6	3.6	3.8	4.2	3.7	3.6	3.6

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:

Housing data, year-over-year and month-over-month, were mostly negative. Notable in month-over-month were single-family permit data, which was positive. Total housing completions and total private residential and single-family construction spending also indicated improvement. Year-over-year single-family starts, total housing completions, new house sales improved. The influence of increasing mortgage rates is evident, as aggregate costs have decreased affordability.

Pros:

- 1) The desire to own a house remains strong, though consumer sentiment August be waning

Cons:

- 1) Mortgage interest rates and affordability;
- 2) US bank failures;
- 3) Inflation;
- 4) The war in Ukraine and Israel, other international concerns;
- 5) Construction material, appliance constraints, and logistics/supply chains remain;
- 6) Lot availability and building regulations (according to several sources);
- 7) Labor shortages in many sectors;
- 8) Household formations still lag historical averages;
- 9) Job creation is improving and consistent, but some economists question the quantity and types of jobs being created;
- 10) Debt: Corporate, personal, government – United States and globally;
- 11) Other global uncertainties.

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