

# The Virginia Tech–USDA Forest Service Housing Commentary: Section I August 2022



## **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](mailto: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](mailto:buehlmann@gmail.com)

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To request the commentary, please email: [buehlmann@gmail.com](mailto:buehlmann@gmail.com) or [delton.r.alderman@usda.gov](mailto:delton.r.alderman@usda.gov)

# Opening Remarks

The Federal Reserve Board of Governor's focus for a “housing reset” was in full-force. In August, month-over-month data continued a negative movement in many data categories. Year-over-year data were similar; though single-family permits decreased again. This foreshadows further moderation in single-family activity in the forthcoming months. The impact of increasing borrowing costs, slow income growth combined with still elevated house prices have resulted in a major obstacle for new and existing house sales. Apartment vacancy rates are minimal, and a dearth of single-family houses have strengthened multi-family construction. August was the seventh consecutive monthly decrease for existing house sales.

The October 15th Atlanta Fed GDPNow™ total residential investment spending forecast was a negative 28.1% for September 2022. New private permanent site expenditures were projected at -39.3%; the improvement spending forecast was 1.2%; and the manufactured/mobile expenditures projection was -0.9% (all: quarterly log change and at a seasonally adjusted annual rate).<sup>1</sup>

“Housing affordability is driven by many factors, but the two key inputs are home prices and mortgage rates. We just lived through a unique period in American history where rising home prices were offset by record-low interest rates. The cheap financing helped keep the monthly mortgage payment in check. Interest rates have risen dramatically since the start of the year, though, putting a strain on housing affordability. Buyers were already starting to get priced out of the market when interest rates moved from 3% to 4% and every 100-basis point increase has continued to price millions of Americans out of home ownership. If mortgage rates remain elevated for an extended period, we expect that housing demand will remain soft, new home construction will be restricted, and home prices will need to adjust downward across the country.”<sup>2</sup> – Ali Wolf, Chief Economist, Zonda

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

Sources: <sup>1</sup> [www.frbatlanta.org/cqer/research/gdpnow.aspx](http://www.frbatlanta.org/cqer/research/gdpnow.aspx); 10/14/22;

<sup>2</sup> <https://www.sbcacomponents.com/media/zondas-ali-wolf-weighs-in-on-2023-housing-market/>; 10/1/22

# August 2022

## Housing Scorecard

		M/M		Y/Y
Housing Starts	▲	12.2%	▼	0.1%
Single-Family (SF) Starts	▲	3.4%	▼	14.6%
Multi-Family (MF) Starts*	▲	28.0%	▲	33.1%
Housing Permits	▼	8.5%	▼	13.0%
SF Permits	▼	3.4%	▼	15.2%
MF Permits*	▼	14.7%	▼	9.7%
Housing Under Construction	▲	1.6%	▲	20.5%
SF Under Construction	▼	0.4%	▲	14.4%
Housing Completions	▼	5.4%	▲	3.1%
SF Completions	▲	0.4%	▲	6.5%
New SF House Sales	▲	28.8%	▼	0.1%
Private Residential Construction Spending	▼	0.9%	▲	12.5%
SF Construction Spending	▼	2.9%	NC	0.0%
Existing House Sales <sup>1</sup>	▼	0.4%	▼	19.9%

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

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

# USDA Forest Service Housing Story Map

**USDA FOREST SERVICE HOUSING MARKET REVIEW**

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

WELCOME | MONTHLY HOUSING BRIEFS AND COMMENTARIES | CONSTRUCTION DATA | HOUSING METRICS AND THE WOOD RESOURCE | RESOURCES AND REFERENCES

## USDA Forest Service Housing Market Review

### Housing's Importance

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

The value of wood building materials consumed in new residential and remodeling construction was estimated at \$37.4 billion in 2018.<sup>2</sup>

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

**Melody Jones**  
Natural Resources Specialist  
USDA Forest Service, Northern Research Station (NRS),  
Sustaining Forests in a Changing Environment

**Dr. Delton Alderman**  
Research Forest Products Technologist,  
USDA Forest Service, Forest Products Laboratory (FPL),  
Economics, Statistics and Life Cycle Analysis Research

**Dr. Brian Brashaw**  
Program Manager  
USDA Forest Service, Forest Products Laboratory (FPL)  
Forest Products Marketing Unit

## USDA Forest Service Housing Market Review

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

The story map is available at the following link:

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

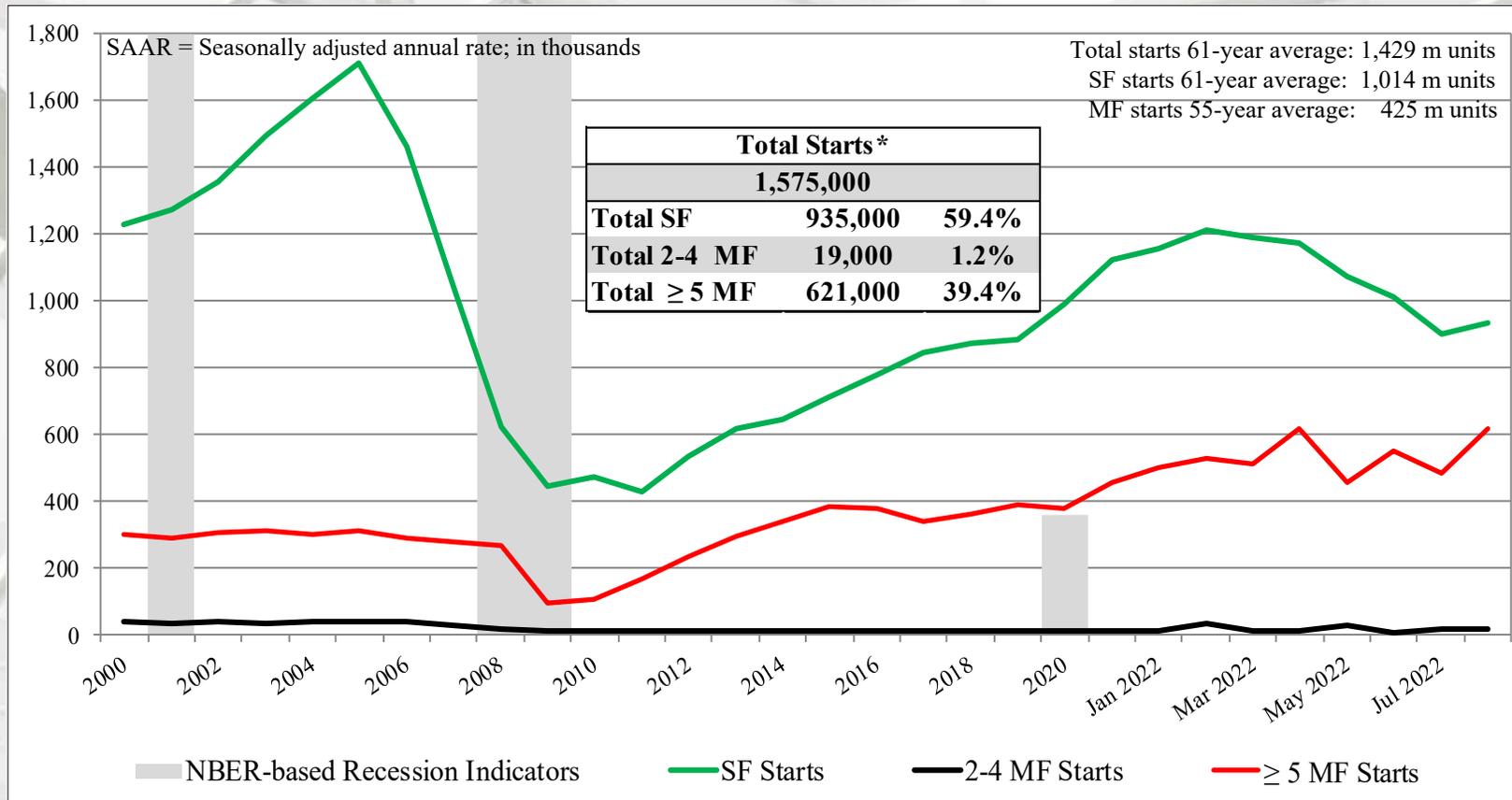
# New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
August	1,575,000	935,000	19,000	621,000
July	1,404,000	904,000	17,000	483,000
2021	1,576,000	1,095,000	7,000	474,000
M/M change	12.2%	3.4%	11.8%	28.6%
Y/Y change	-0.1%	-14.6%	171.4%	31.0%

\* 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

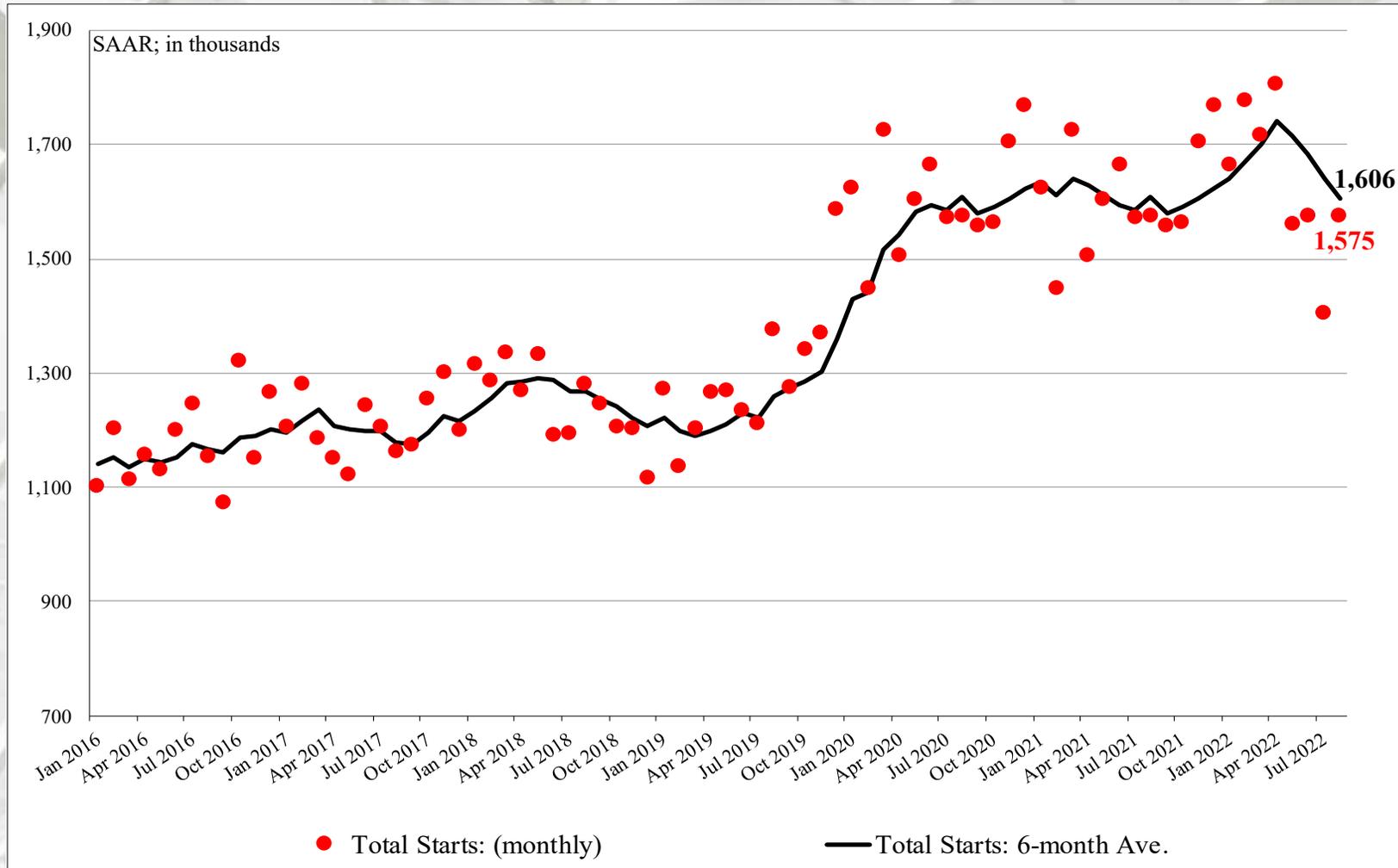


US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: ((Total starts – (SF + ≥ MF)).

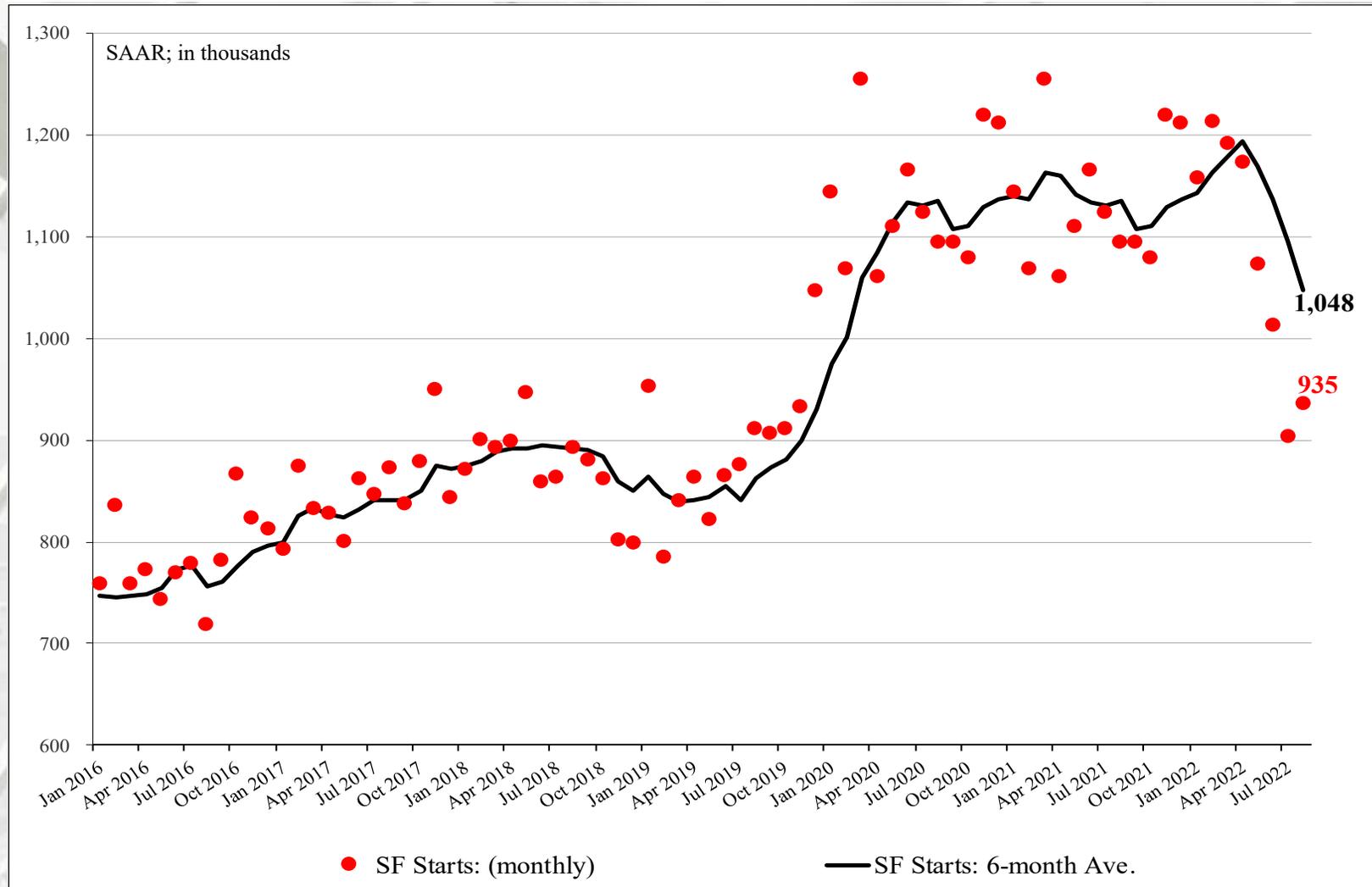
\* Percentage of total starts.

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

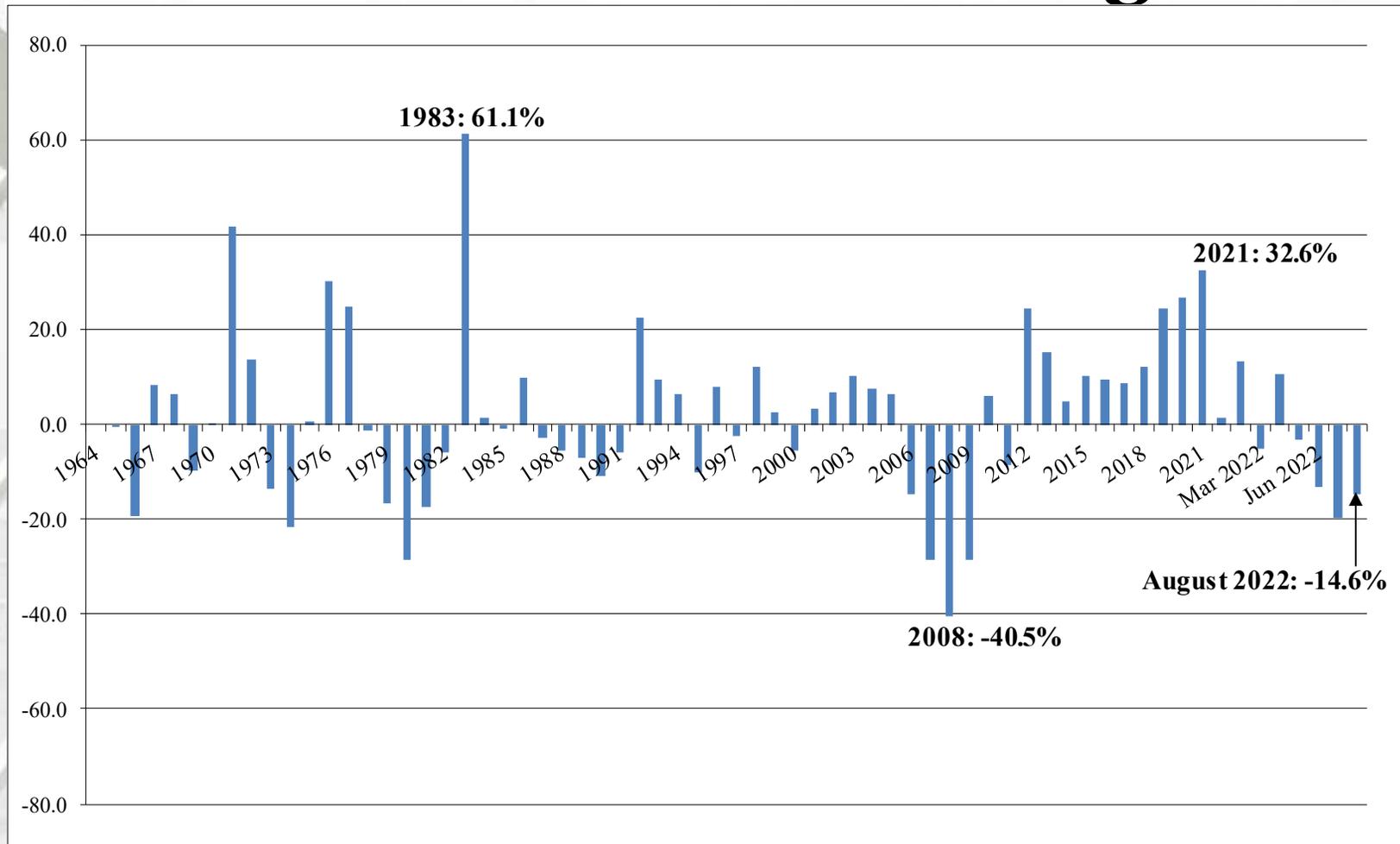
# Total Housing Starts: Six-Month Average



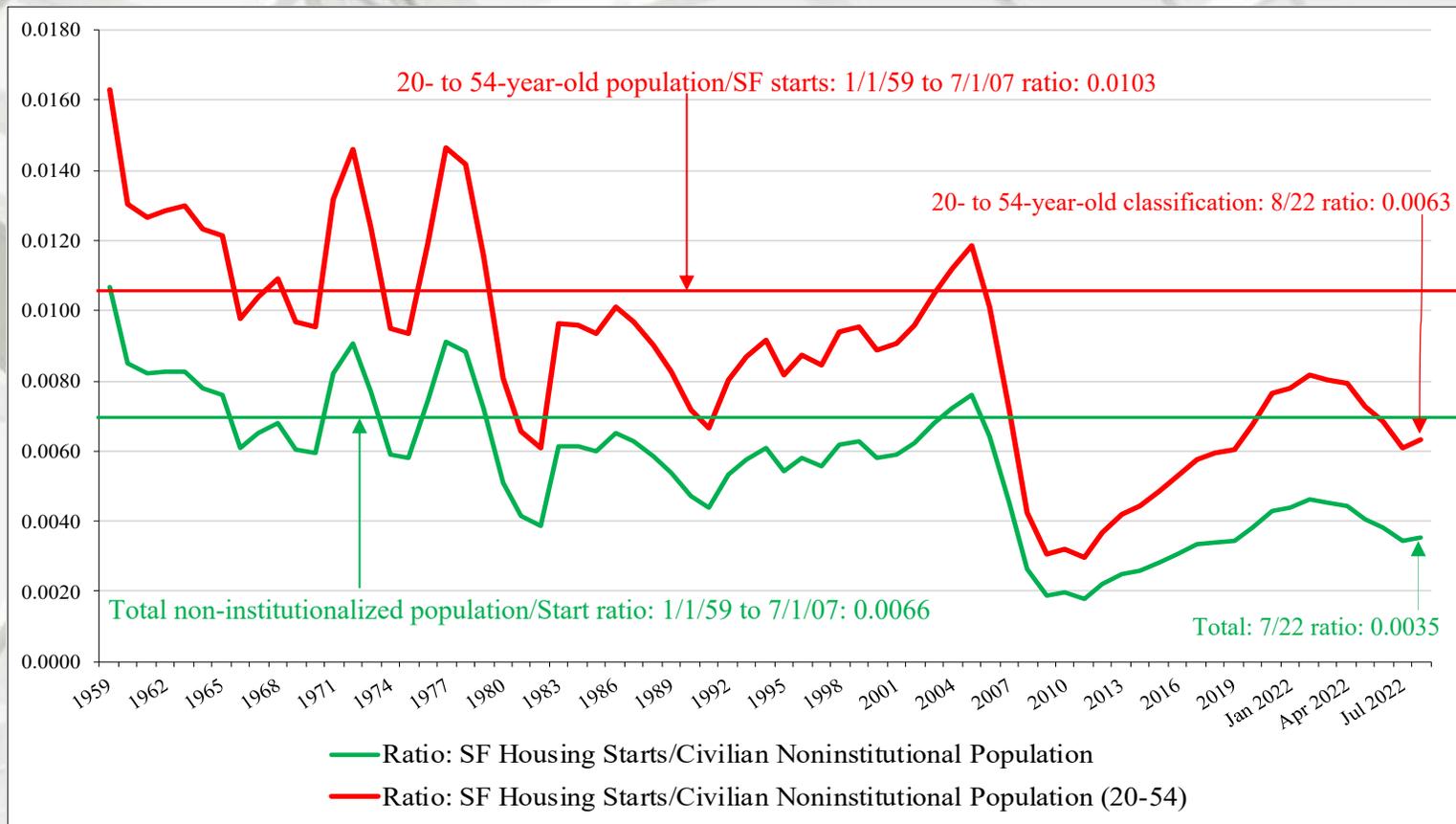
# SF Housing Starts: Six-Month Moving Average



# SF Housing Starts: Year-over-Year Change



# New SF Starts

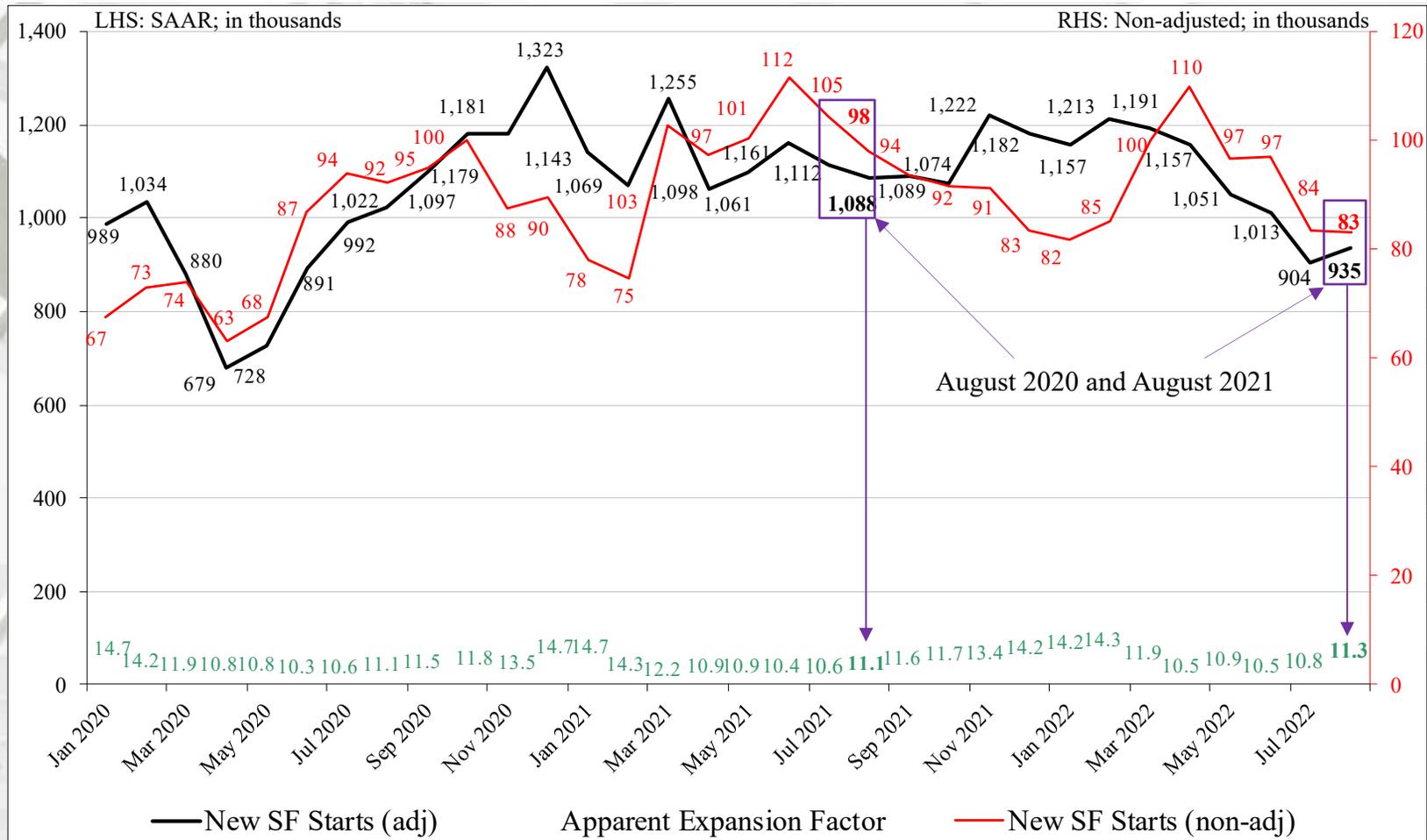


## New SF starts adjusted for the US population

From August 1959 to August 2007, the long-term ratio of new SF starts to the total US non-institutionalized population to is 0.0066. In August 2022 it was 0.0035 – no change from July. The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in August 2022 it was 0.0063 – an increase from July (0.0061). 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

	<b>NE Total</b>	<b>NE SF</b>	<b>NE MF**</b>
August	162,000	60,000	102,000
July	196,000	70,000	126,000
2021	166,000	68,000	98,000
M/M change	-17.3%	-14.3%	-19.0%
Y/Y change	-2.4%	-11.8%	4.1%
	<b>MW Total</b>	<b>MW SF</b>	<b>MW MF</b>
August	167,000	122,000	45,000
July	140,000	101,000	39,000
2021	196,000	130,000	66,000
M/M change	19.3%	20.8%	15.4%
Y/Y change	-14.8%	-6.2%	-31.8%

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).

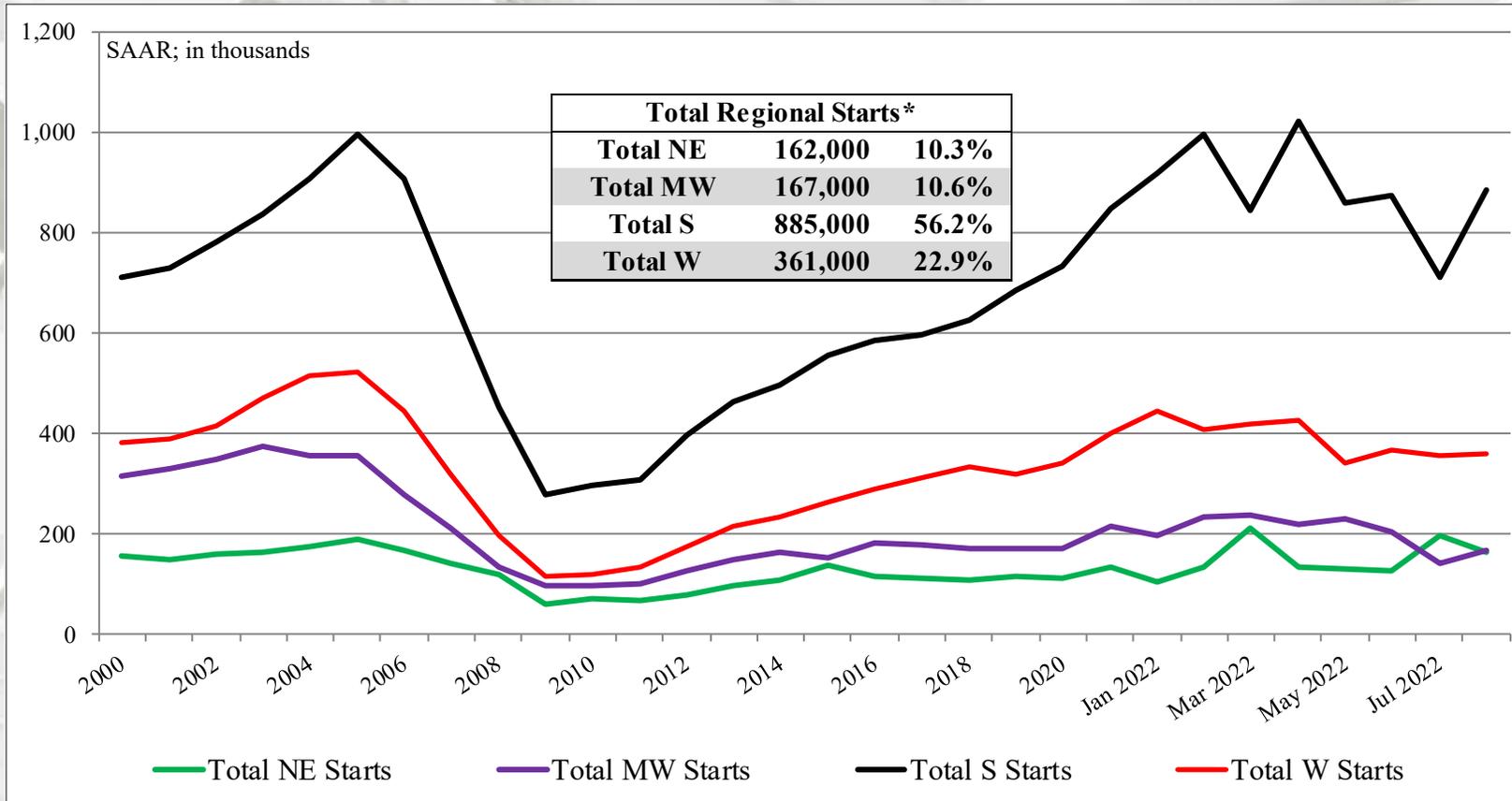
# New Housing Starts by Region

	<b>S Total</b>	<b>S SF</b>	<b>S MF**</b>
August	885,000	530,000	355,000
July	711,000	519,000	192,000
2021	888,000	679,000	209,000
M/M change	24.5%	2.1%	84.9%
Y/Y change	-0.3%	-21.9%	69.9%
	<b>W Total</b>	<b>W SF</b>	<b>W MF</b>
August	361,000	223,000	138,000
July	357,000	214,000	143,000
2021	326,000	218,000	108,000
M/M change	1.1%	4.2%	-3.5%
Y/Y change	10.7%	2.3%	27.8%

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

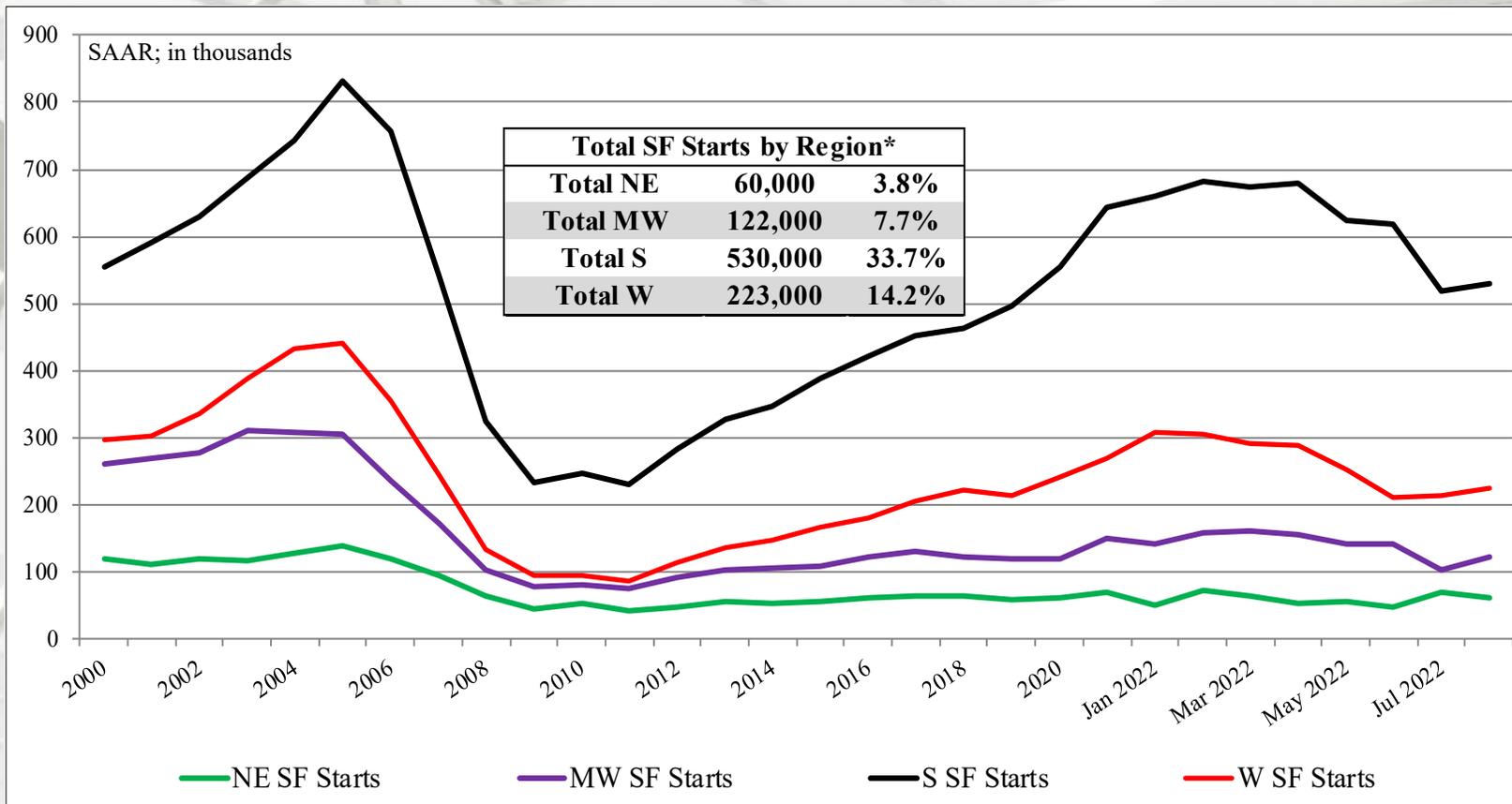


NE = Northeast, MW = Midwest, S = South, W = West

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

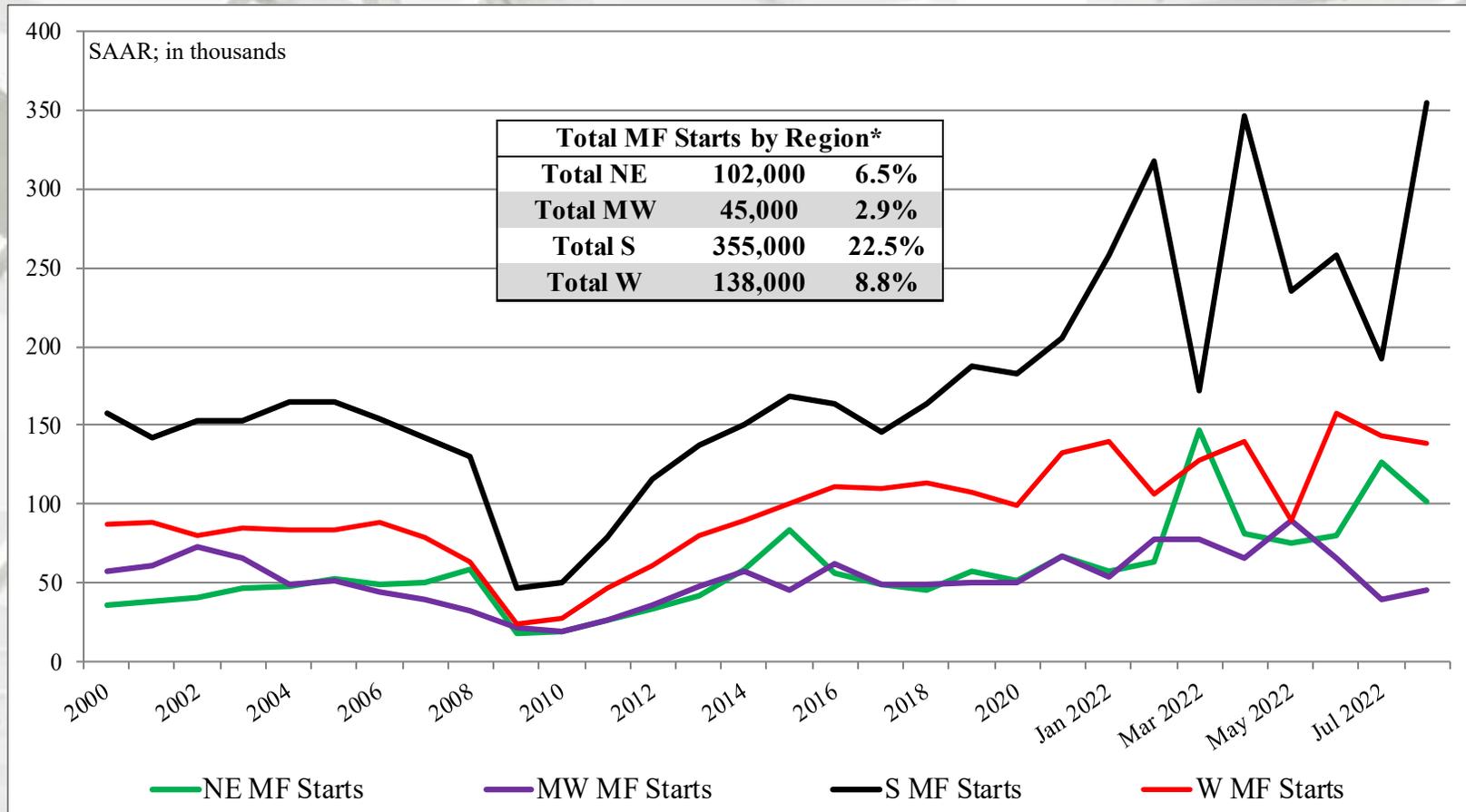


NE = Northeast, MW = Midwest, S = South, W = West

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

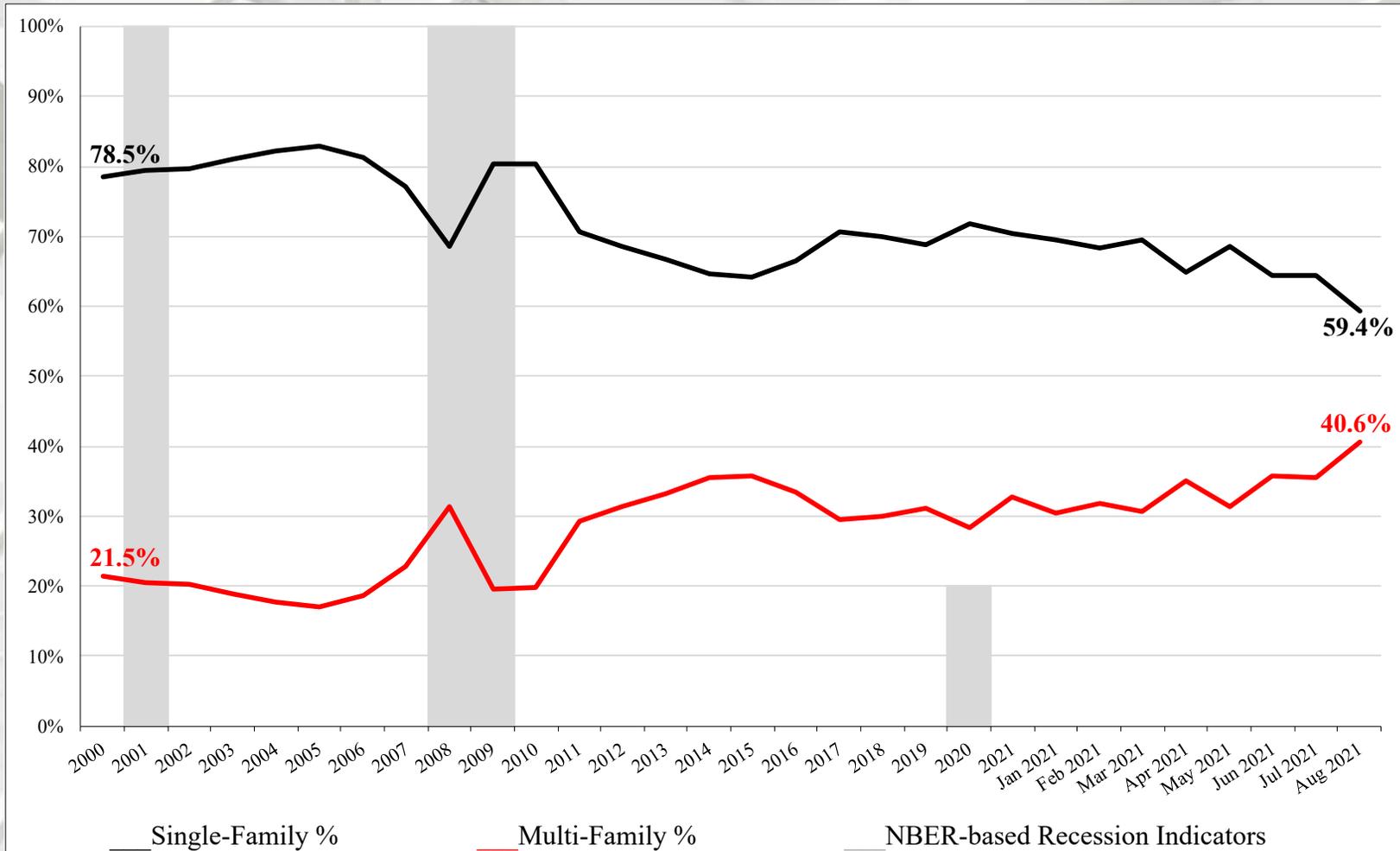


NE = Northeast, MW = Midwest, S = South, W = West

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 (%)



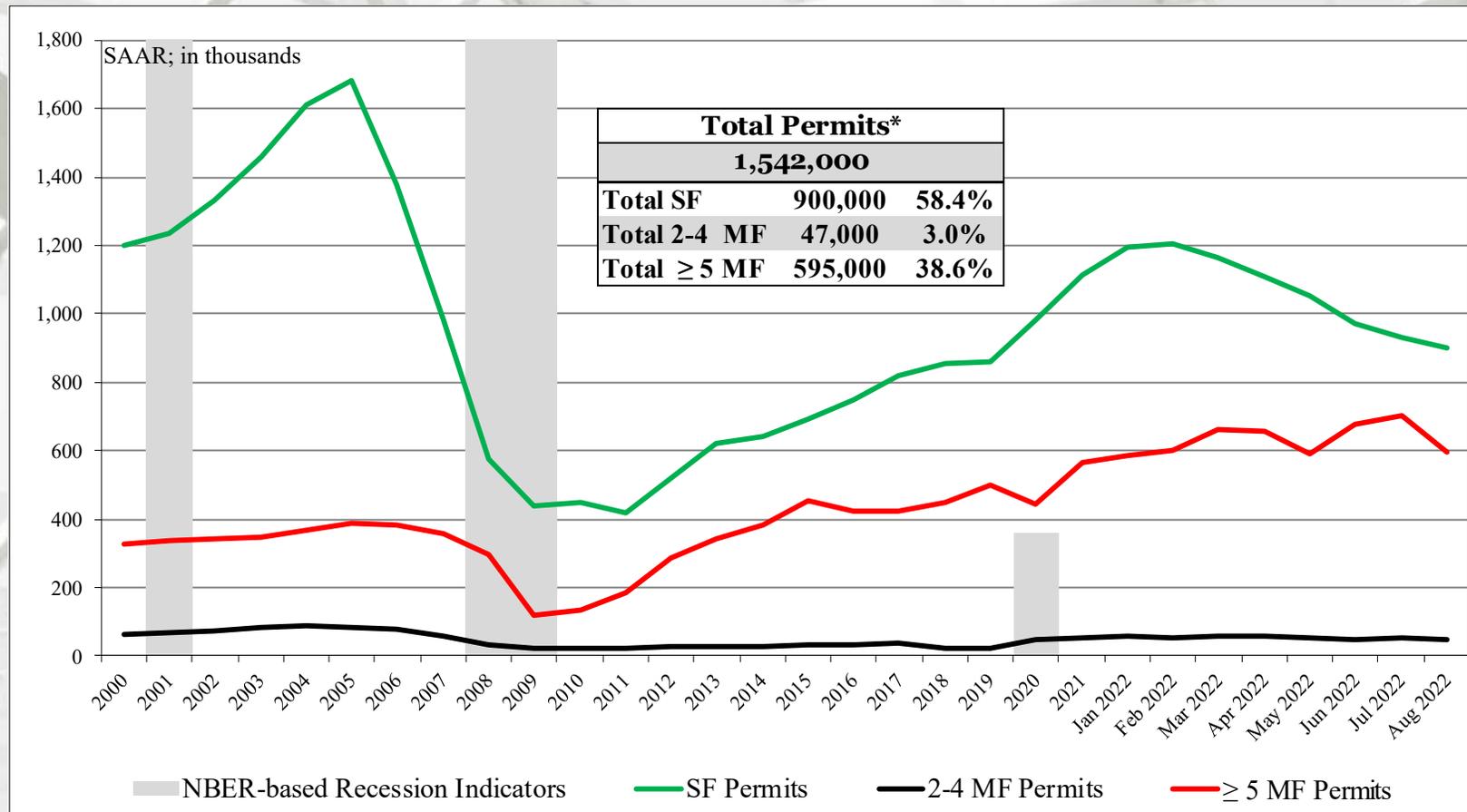
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

# New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
August	1,542,000	900,000	47,000	595,000
July	1,685,000	932,000	52,000	701,000
2021	1,772,000	1,061,000	43,000	668,000
M/M change	-8.5%	-3.4%	-9.6%	-15.1%
Y/Y change	-13.0%	-15.2%	9.3%	-10.9%

\* 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

	<b>NE Total*</b>	<b>NE SF</b>	<b>NE MF**</b>
August	138,000	56,000	82,000
June	164,000	61,000	103,000
2021	161,000	64,000	97,000
M/M change	-15.9%	-8.2%	-20.4%
Y/Y change	-14.3%	-12.5%	-15.5%
	<b>MW Total*</b>	<b>MW SF</b>	<b>MW MF**</b>
August	202,000	111,000	91,000
June	215,000	122,000	93,000
2021	220,000	128,000	92,000
M/M change	-6.0%	-9.0%	-2.2%
Y/Y change	-8.2%	-13.3%	-1.1%

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

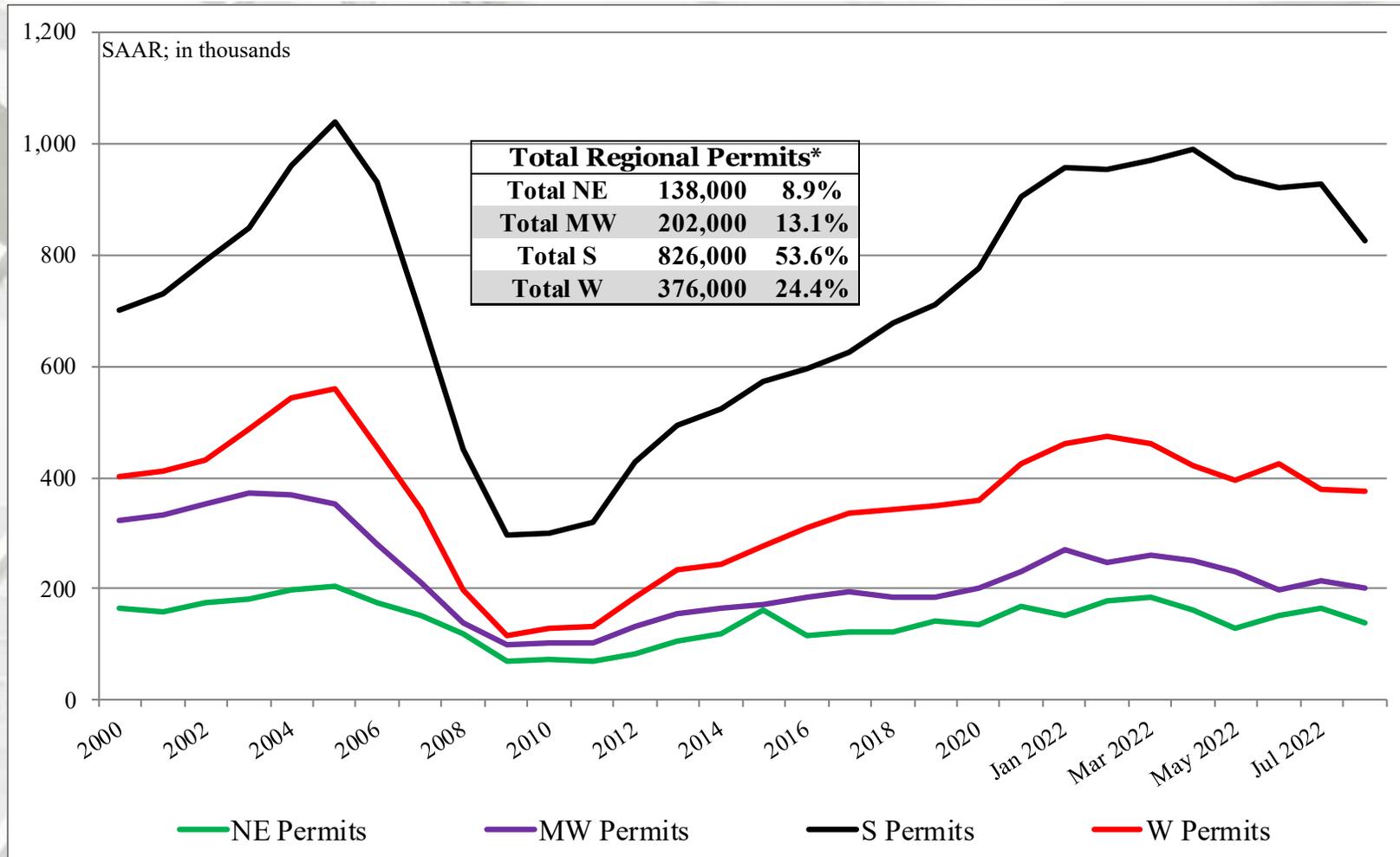
	<b>S Total*</b>	<b>S SF</b>	<b>S MF**</b>
August	826,000	540,000	286,000
June	927,000	559,000	368,000
2021	948,000	622,000	326,000
M/M change	-10.9%	-3.4%	-22.3%
Y/Y change	-12.9%	-13.2%	-12.3%
	<b>W Total*</b>	<b>W SF</b>	<b>W MF**</b>
August	376,000	193,000	183,000
June	379,000	190,000	189,000
2021	443,000	247,000	196,000
M/M change	-0.8%	1.6%	-3.2%
Y/Y change	-15.1%	-21.9%	-6.6%

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).

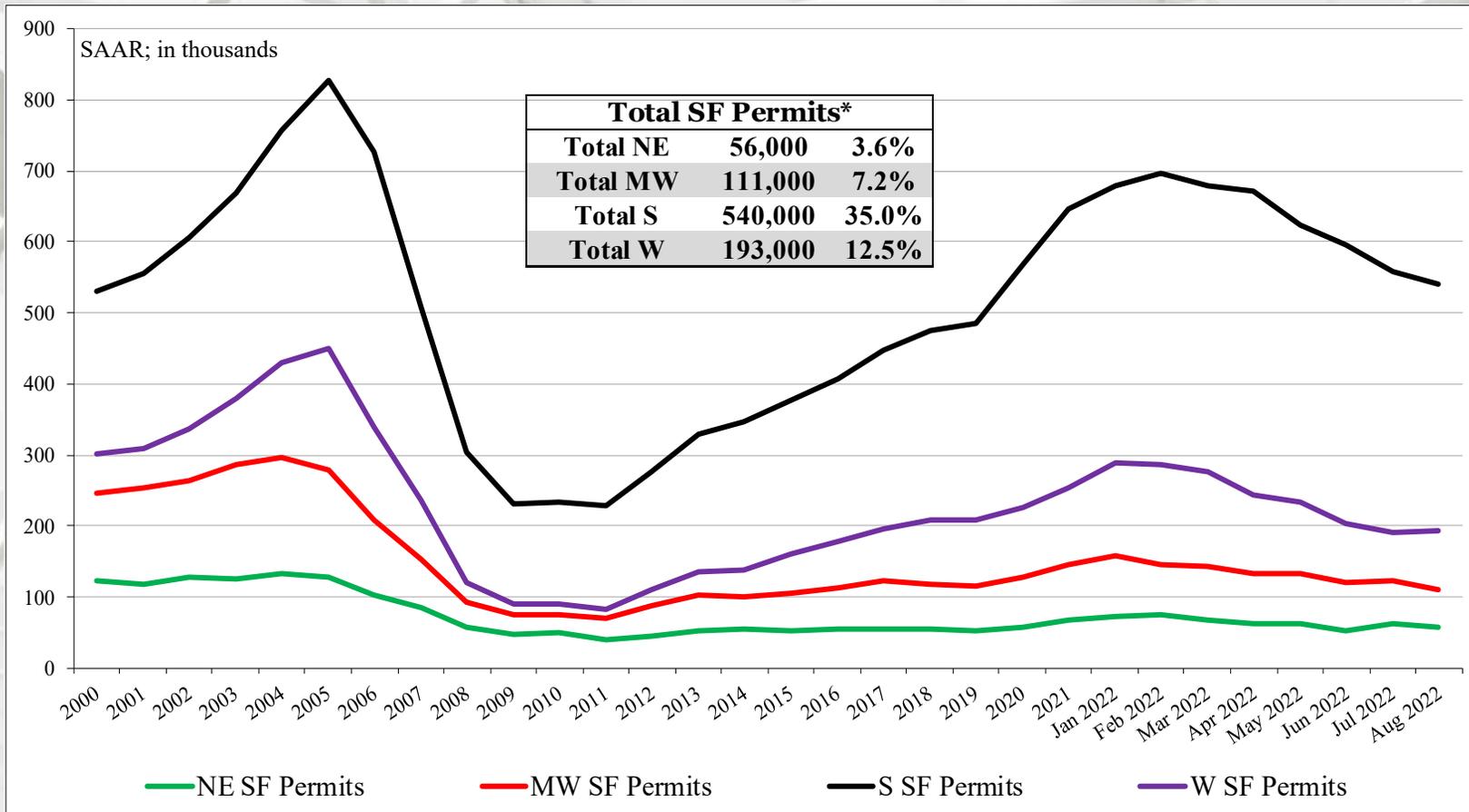
# Total Housing Permits by Region



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

\* Percentage of total permits.

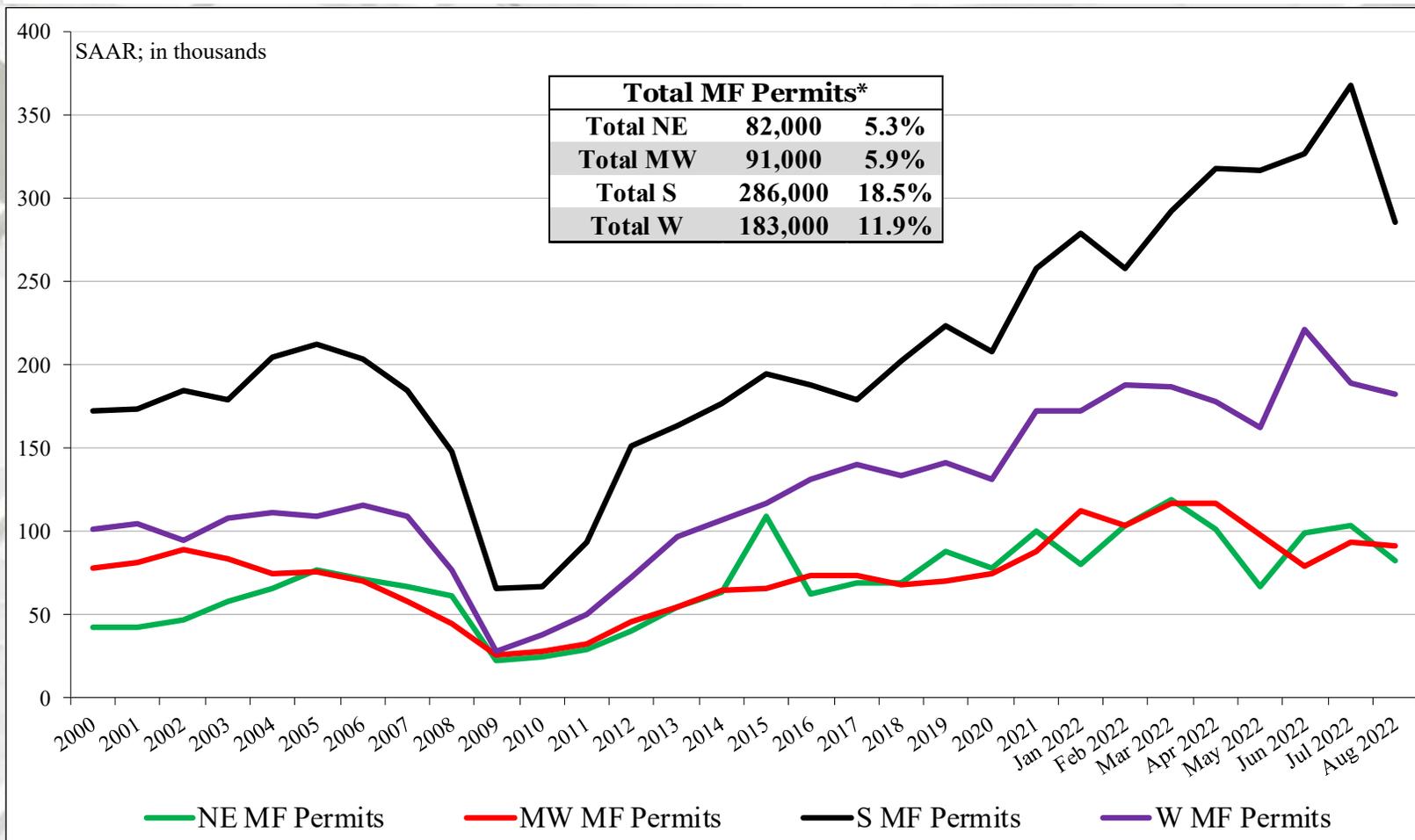
# SF Housing Permits by Region



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.

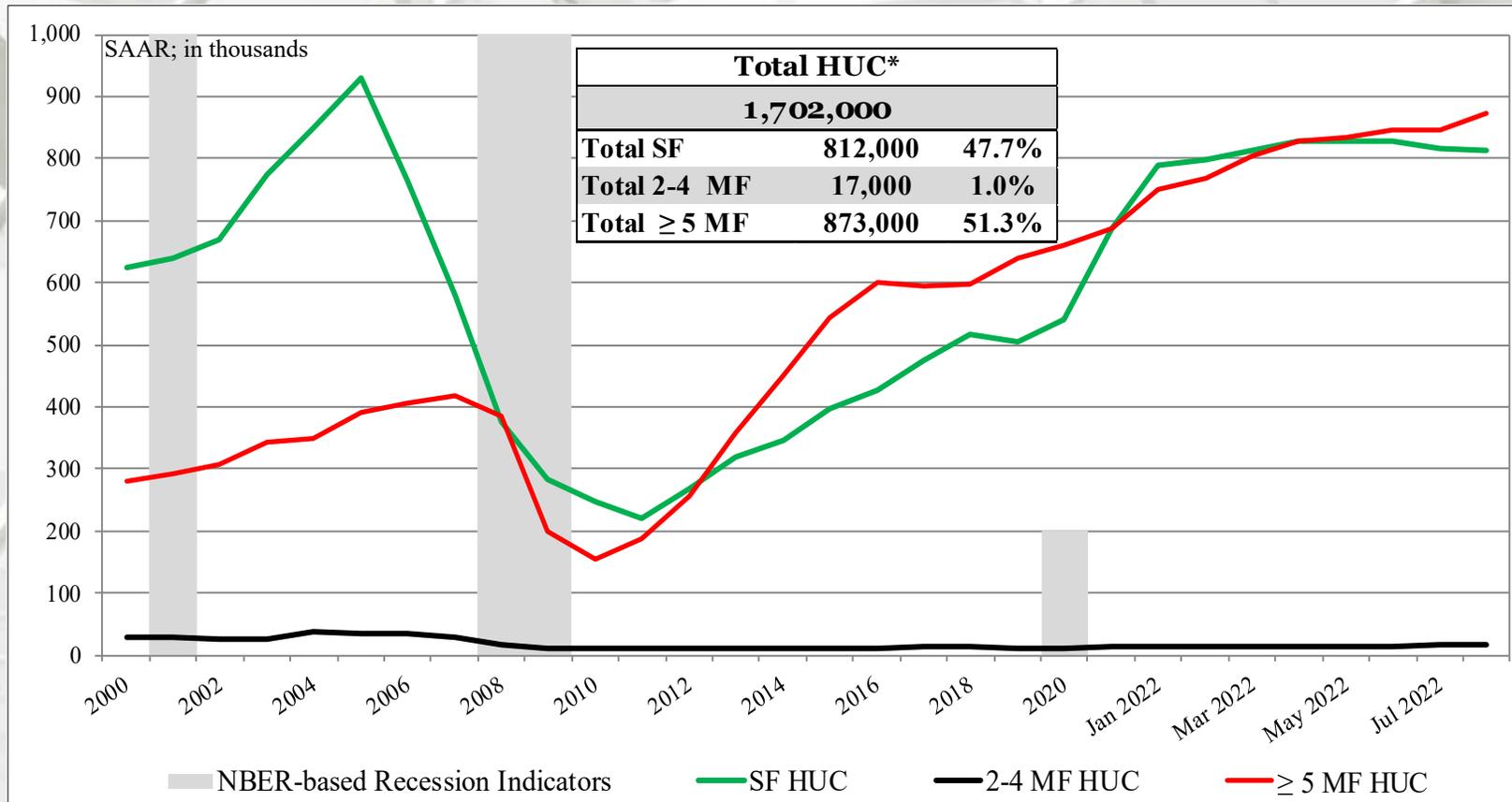
# New Housing Under Construction (HUC)

	Total HUC*	SF HUC	MF 2-4 unit** HUC	MF ≥ 5 unit HUC
August	1,702,000	812,000	17,000	873,000
July	1,676,000	815,000	16,000	845,000
2021	1,413,000	710,000	13,000	690,000
M/M change	1.6%	-0.4%	6.3%	3.3%
Y/Y change	20.5%	14.4%	30.8%	26.5%

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

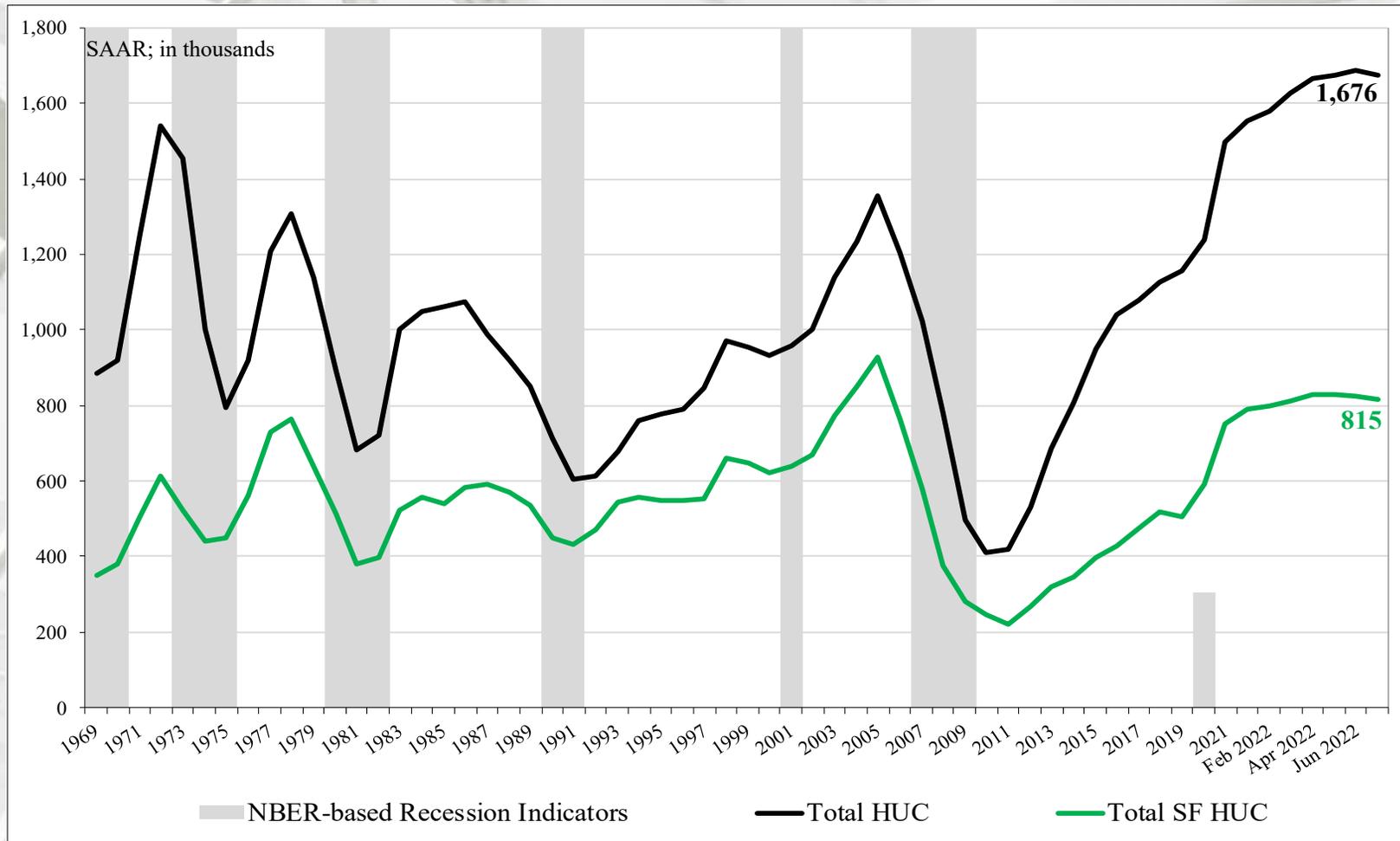


US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF +  $\geq 5$  MF HUC)).

\* 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).

# Total Housing Under Construction



In August total housing units under construction (HUC) were 1,676,000 units, greater than August 1973 total of 1,628,000 units. August's SF HUC reading, 815,000 units, which was substantially less than reported for August 2006 (929,000 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

	<b>NE Total</b>	<b>NE SF</b>	<b>NE MF**</b>
August	223,000	59,000	164,000
July	221,000	59,000	162,000
2021	203,000	61,000	140,000
M/M change	0.9%	0.0%	1.2%
Y/Y change	9.9%	-3.3%	17.1%
	<b>MW Total</b>	<b>MW SF</b>	<b>MW MF</b>
August	212,000	108,000	104,000
July	213,000	109,000	104,000
2021	176,000	100,000	76,000
M/M change	-0.5%	-0.9%	0.0%
Y/Y change	20.5%	8.0%	36.8%

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).

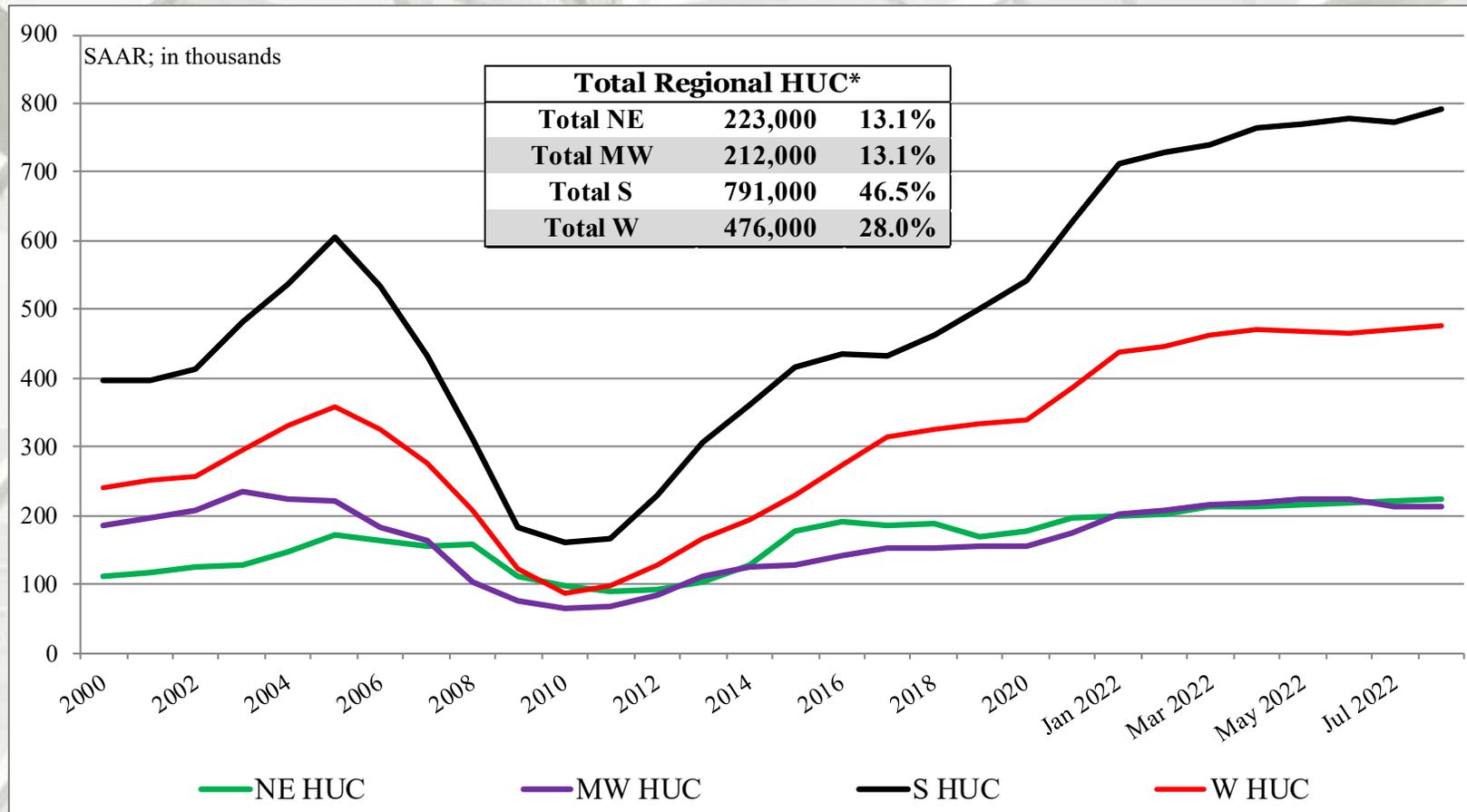
# New Housing Under Construction by Region

	<b>S Total</b>	<b>S SF</b>	<b>S MF**</b>
August	791,000	438,000	353,000
July	772,000	438,000	334,000
2021	647,000	366,000	281,000
M/M change	2.5%	0.0%	5.7%
Y/Y change	22.3%	19.7%	25.6%
	<b>W Total</b>	<b>W SF</b>	<b>W MF</b>
August	476,000	207,000	269,000
July	470,000	209,000	261,000
2021	387,000	183,000	204,000
M/M change	1.3%	-1.0%	3.1%
Y/Y change	23.0%	13.1%	31.9%

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

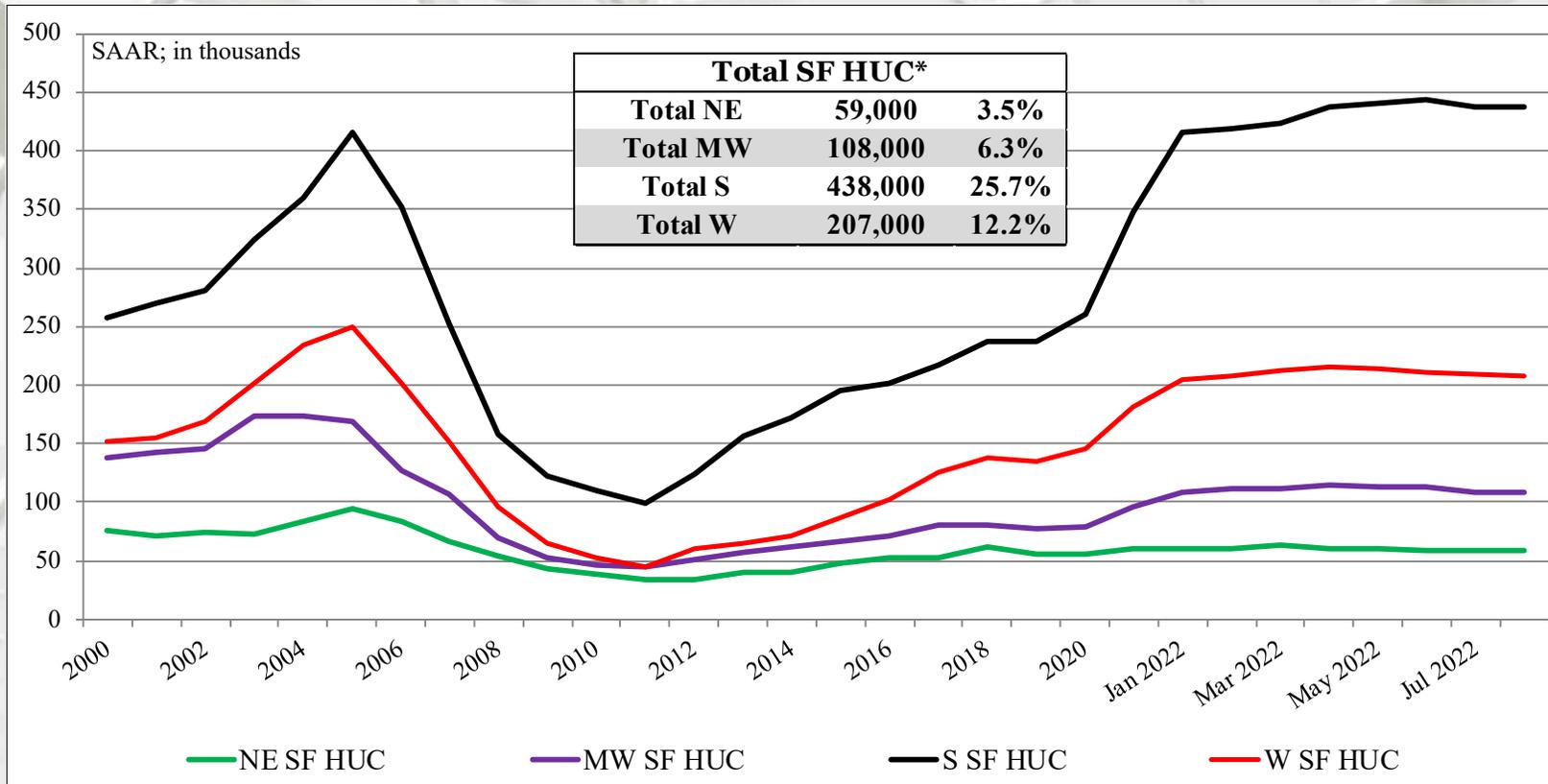


NE = Northeast, MW = Midwest, S = South, W = West

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

\* Percentage of total housing under construction units.

# SF Housing Under Construction by Region

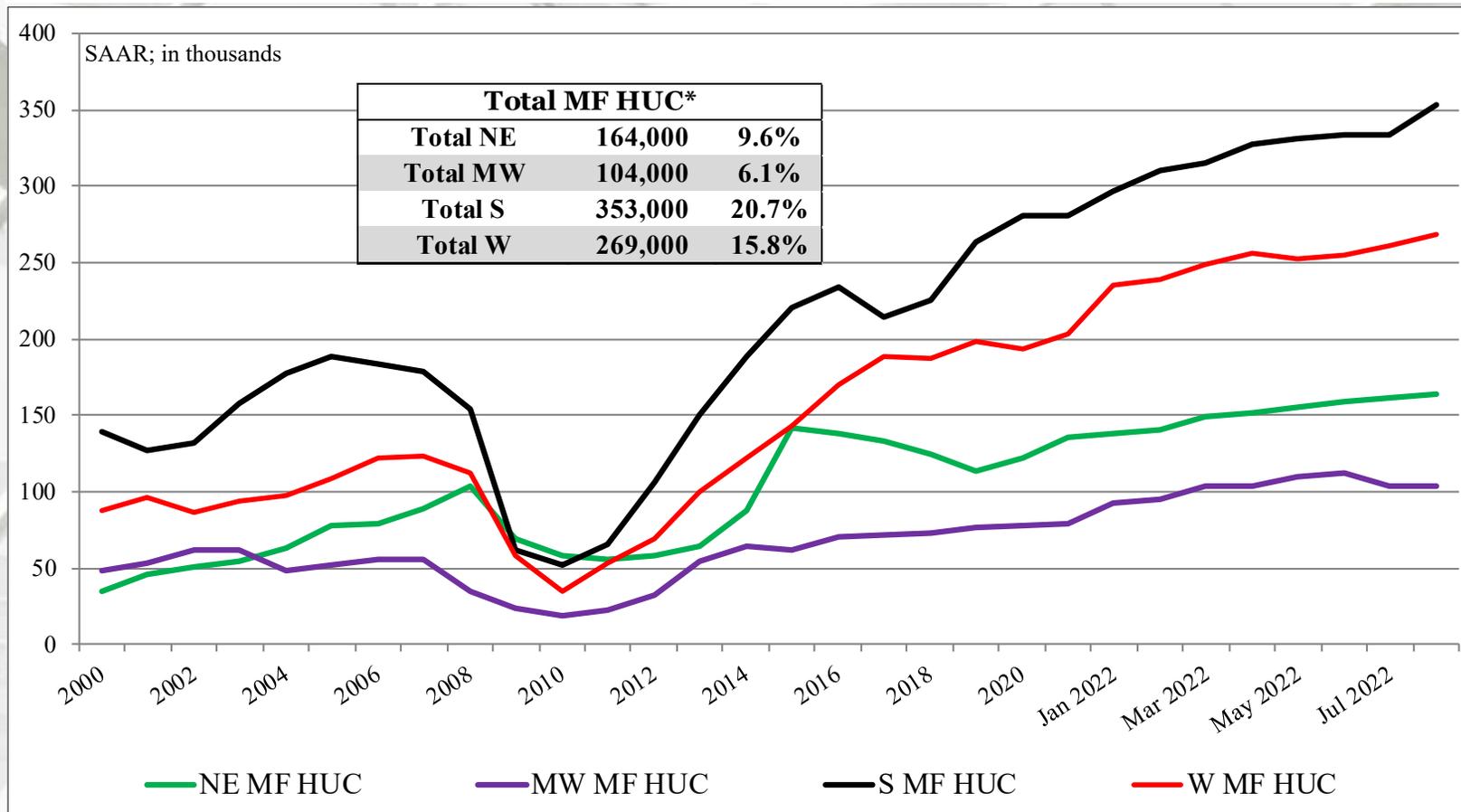


NE = Northeast, MW = Midwest, S = South, W = West.

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.

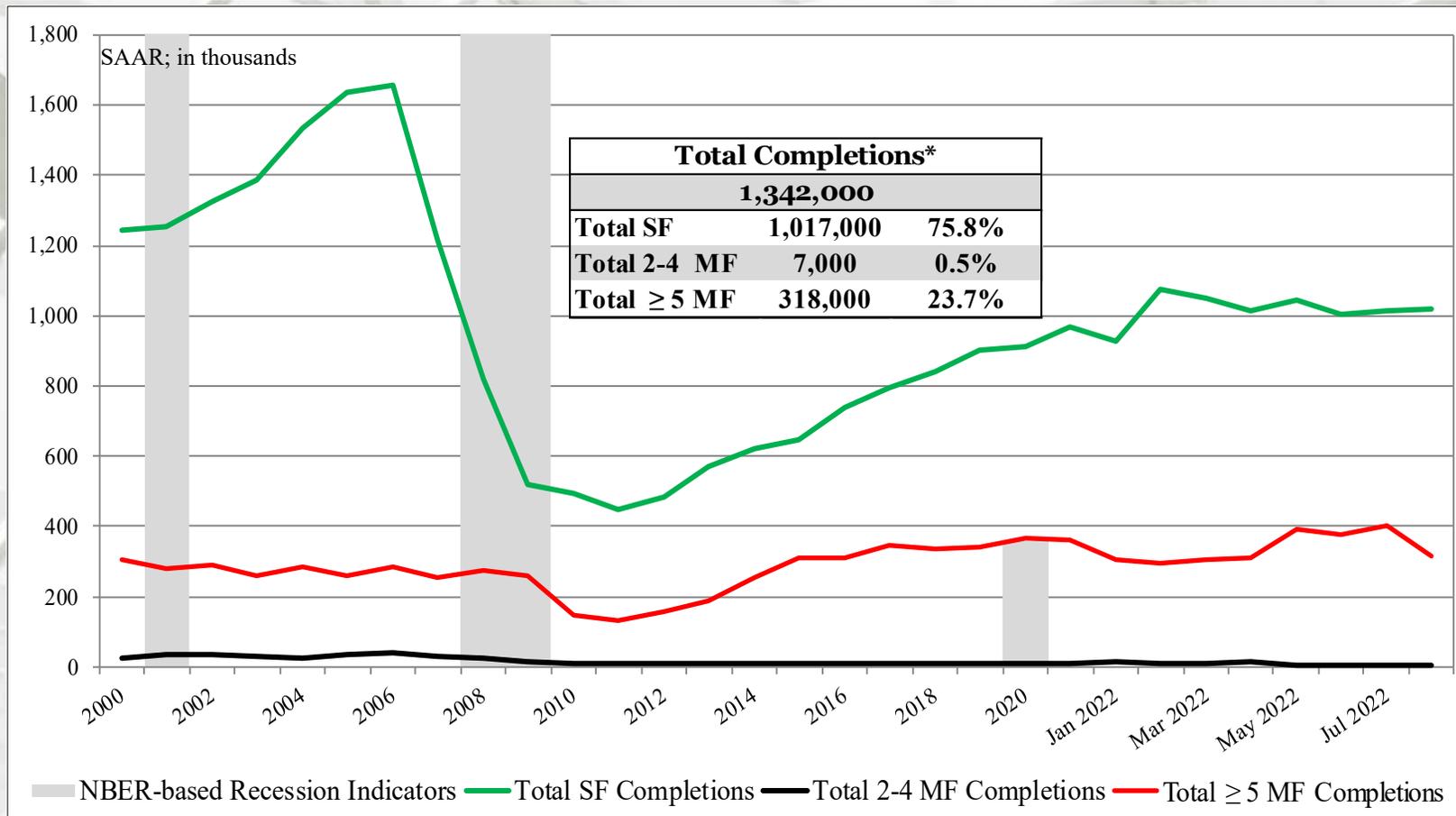
# New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit**	MF ≥ 5 unit Completions
August	1,342,000	1,017,000	7,000	318,000
July	1,419,000	1,013,000	5,000	401,000
2021	1,302,000	955,000	6,000	341,000
M/M change	-5.4%	0.4%	40.0%	-20.7%
Y/Y change	3.1%	6.5%	16.7%	-6.7%

\* 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

	<b>NE Total</b>	<b>NE SF</b>	<b>NE MF**</b>
August	125,000	63,000	62,000
July	94,000	63,000	31,000
2021	135,000	64,000	71,000
M/M change	33.0%	0.0%	100.0%
Y/Y change	-7.4%	-1.6%	-12.7%
	<b>MW Total</b>	<b>MW SF</b>	<b>MW MF</b>
August	200,000	132,000	68,000
July	279,000	152,000	127,000
2021	164,000	112,000	52,000
M/M change	-28.3%	-13.2%	-46.5%
Y/Y change	22.0%	17.9%	30.8%

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

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

\* Percentage of total housing completions

# New Housing Completions by Region

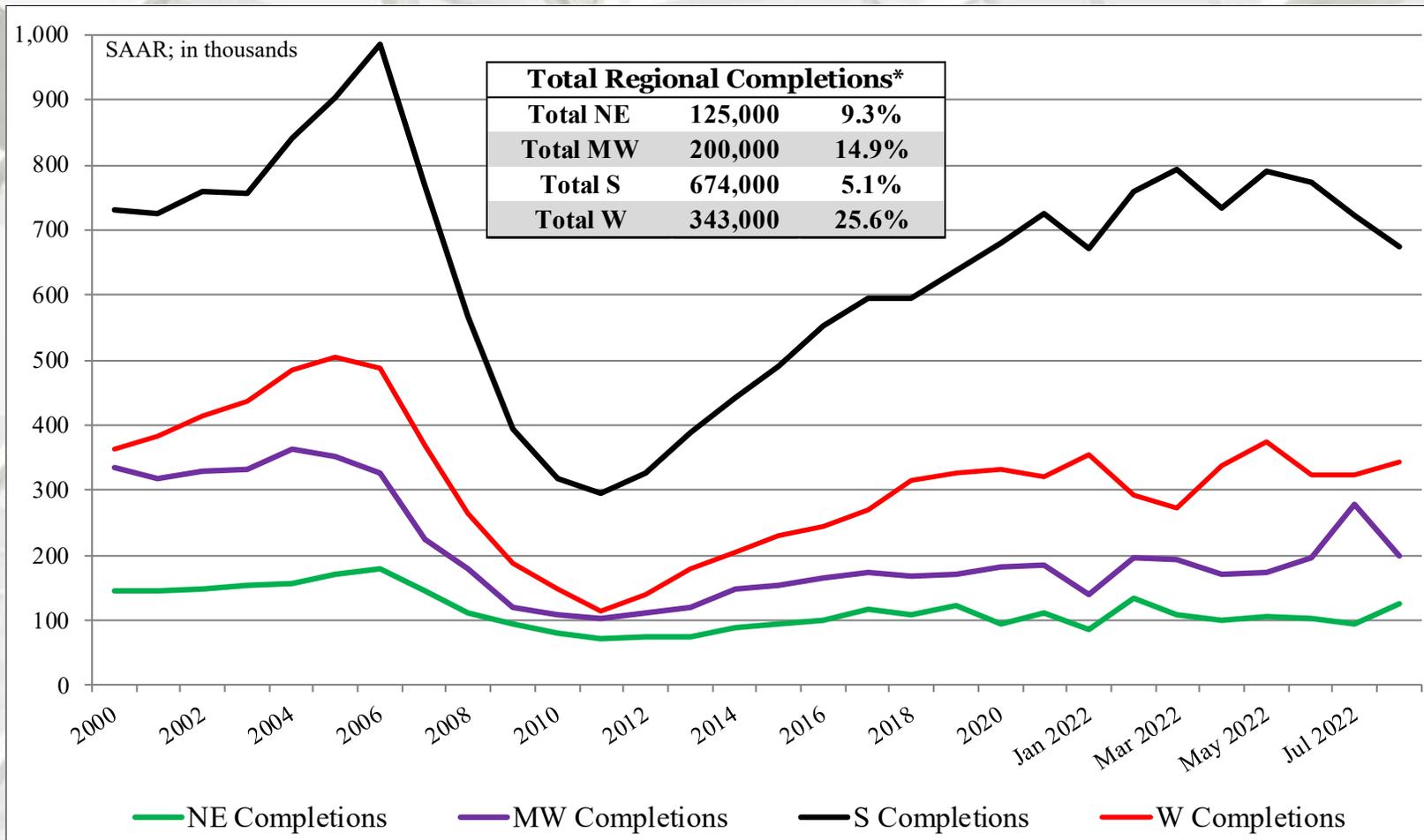
	<b>S Total</b>	<b>S SF</b>	<b>S MF**</b>
August	674,000	561,000	113,000
July	723,000	557,000	166,000
2021	696,000	544,000	152,000
M/M change	-6.8%	0.7%	-31.9%
Y/Y change	-3.2%	3.1%	-25.7%
	<b>W Total</b>	<b>W SF</b>	<b>W MF</b>
August	343,000	261,000	82,000
July	323,000	241,000	82,000
2021	307,000	235,000	72,000
M/M change	6.2%	8.3%	0.0%
Y/Y change	11.7%	11.1%	13.9%

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

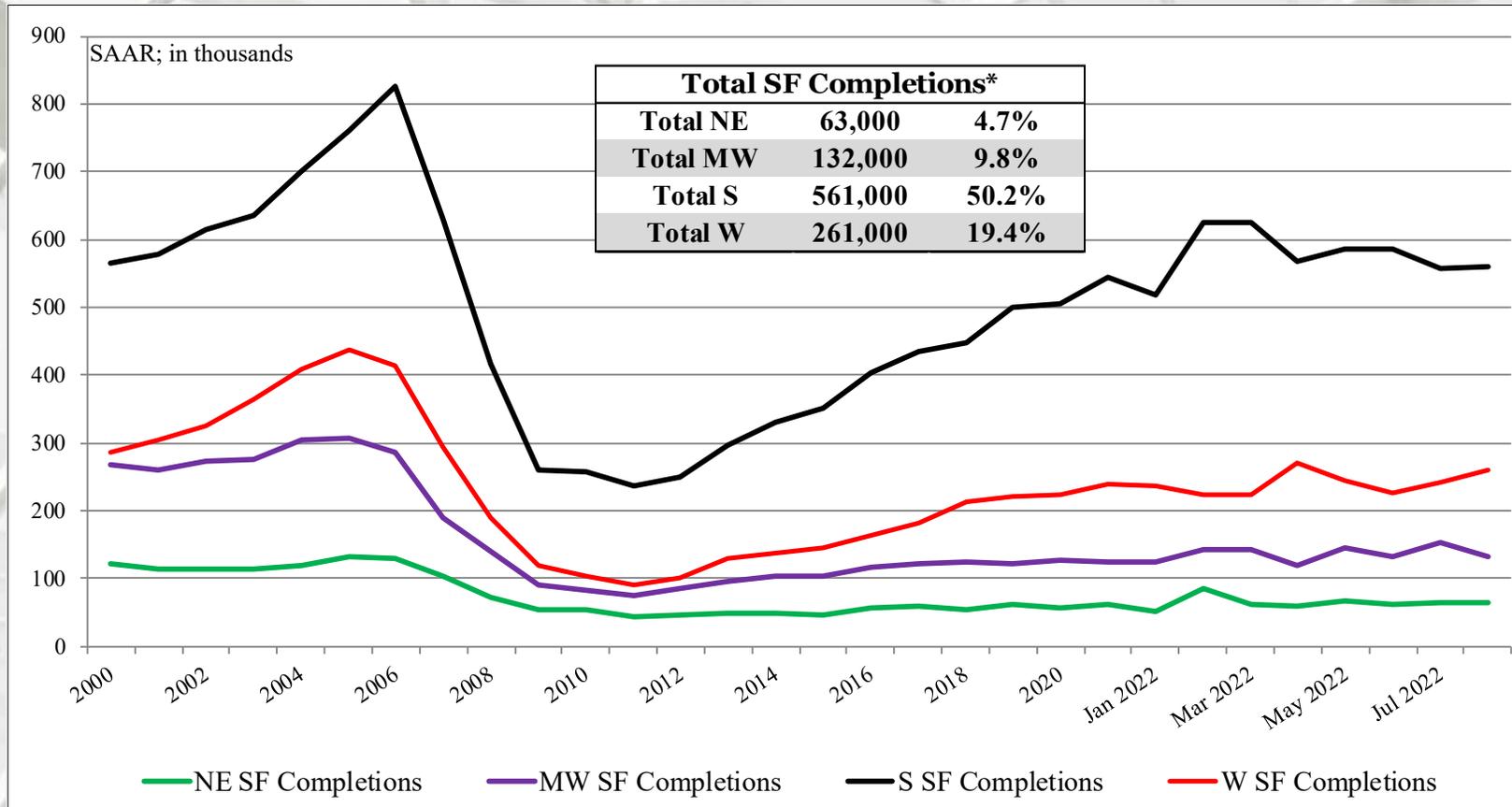
# Total Housing Completions by Region



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

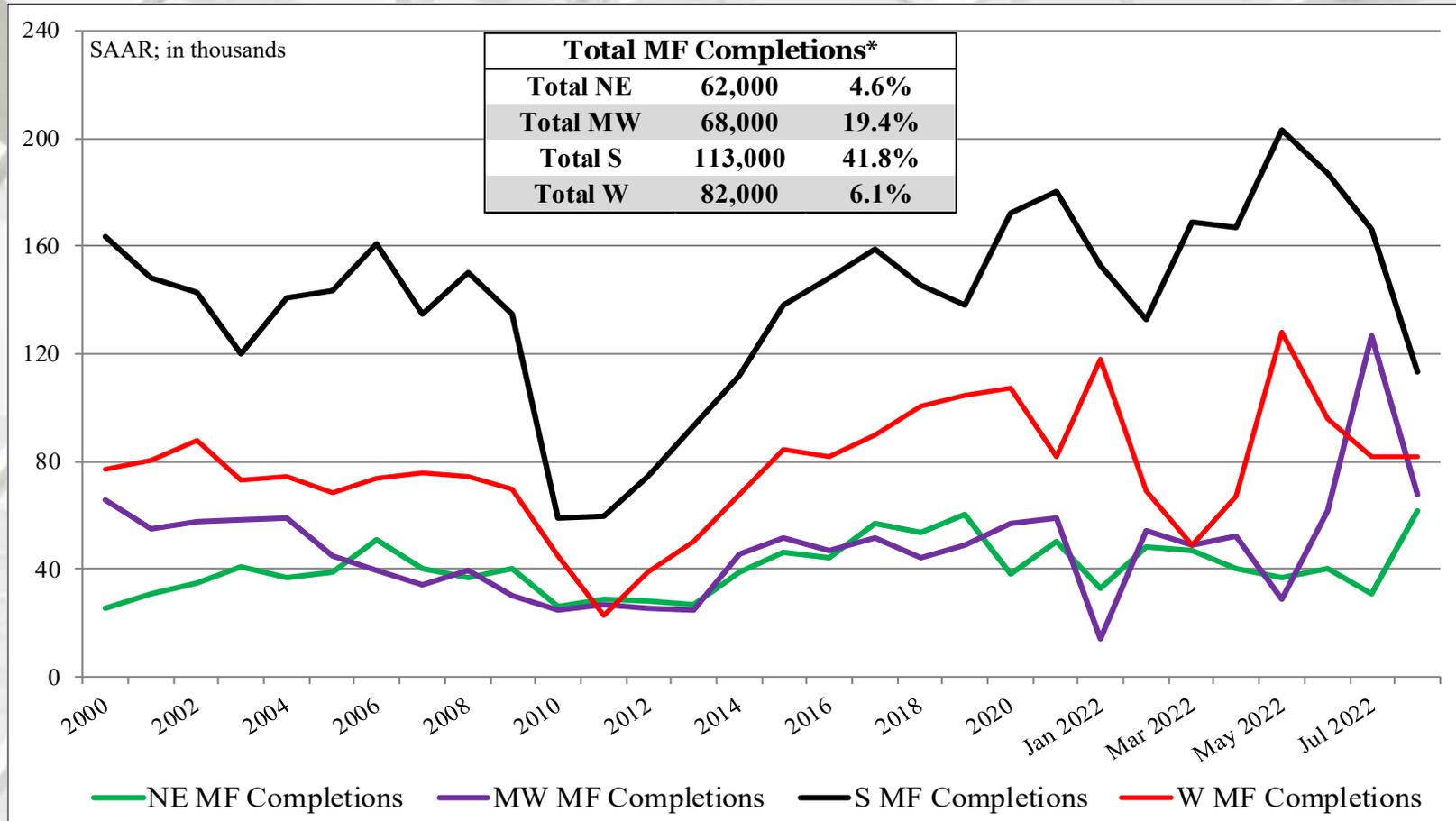


NE = Northeast, MW = Midwest, S = South, W = West

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

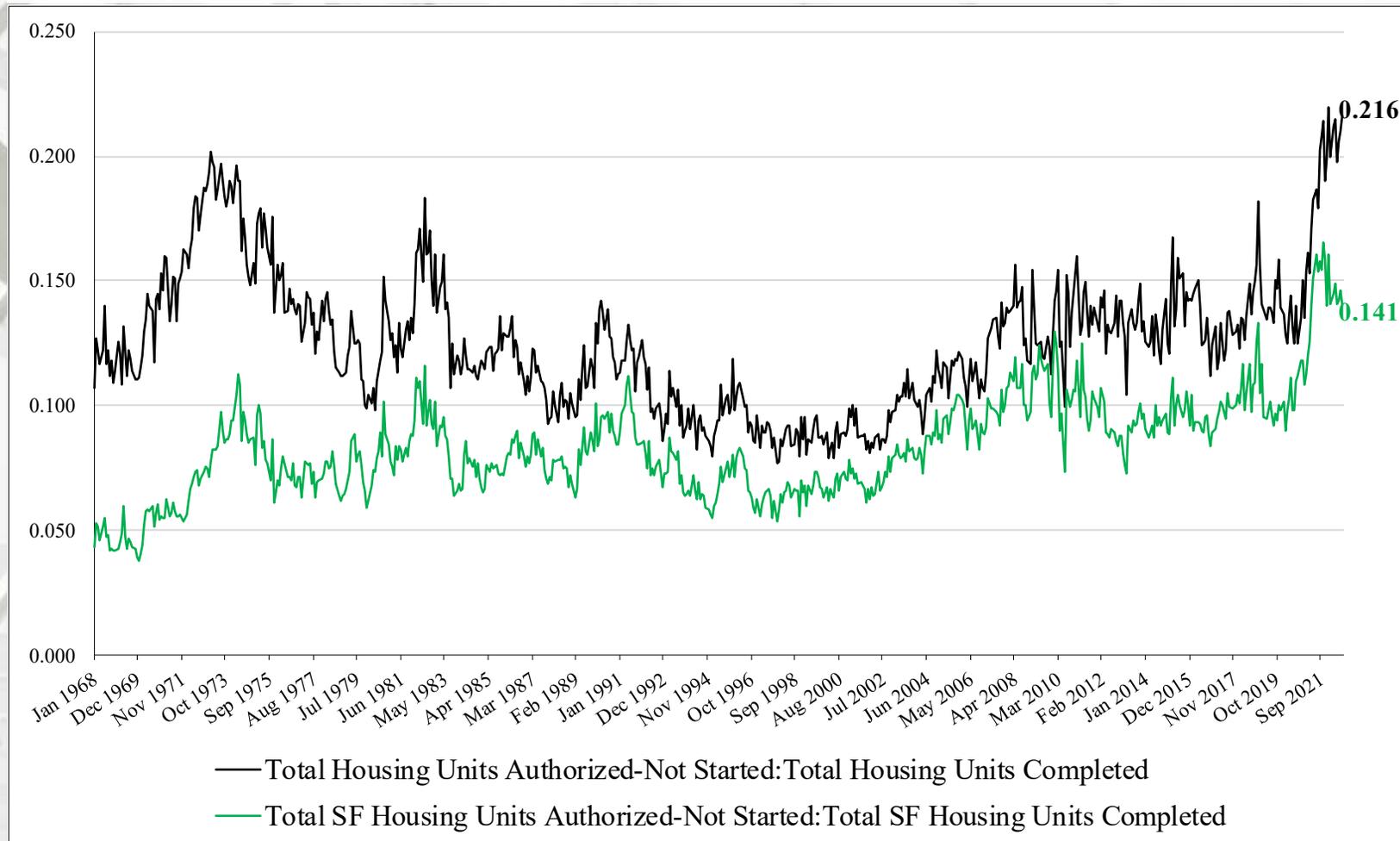


NE = Northeast, MW = Midwest, S = South, W = West

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

# Ratio of Housing Units Authorized & Not Started to Housing Units Completed: M/M



## Authorized, Not Started vs. Housing Completions

The ratio of SF houses authorized-not started to SF houses completed was less than the greatest in the history of this data series (0.165 – October 2021). Total authorized units not started decreased to 290,000 in August and SF authorized units not started declined to 143,000 in August.

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	685,000	\$436,800	\$521,800	8.1
July	532,000	\$466,300	\$556,700	10.4
2021	686,000	\$404,300	\$470,000	6.5
M/M change	28.8%	-6.3%	-6.3%	-22.1%
Y/Y change	-0.1%	8.0%	11.0%	24.6%

\* All new sales data are presented at a seasonally adjusted annual rate (SAAR)<sup>1</sup> and housing prices are adjusted at irregular intervals<sup>2</sup>.

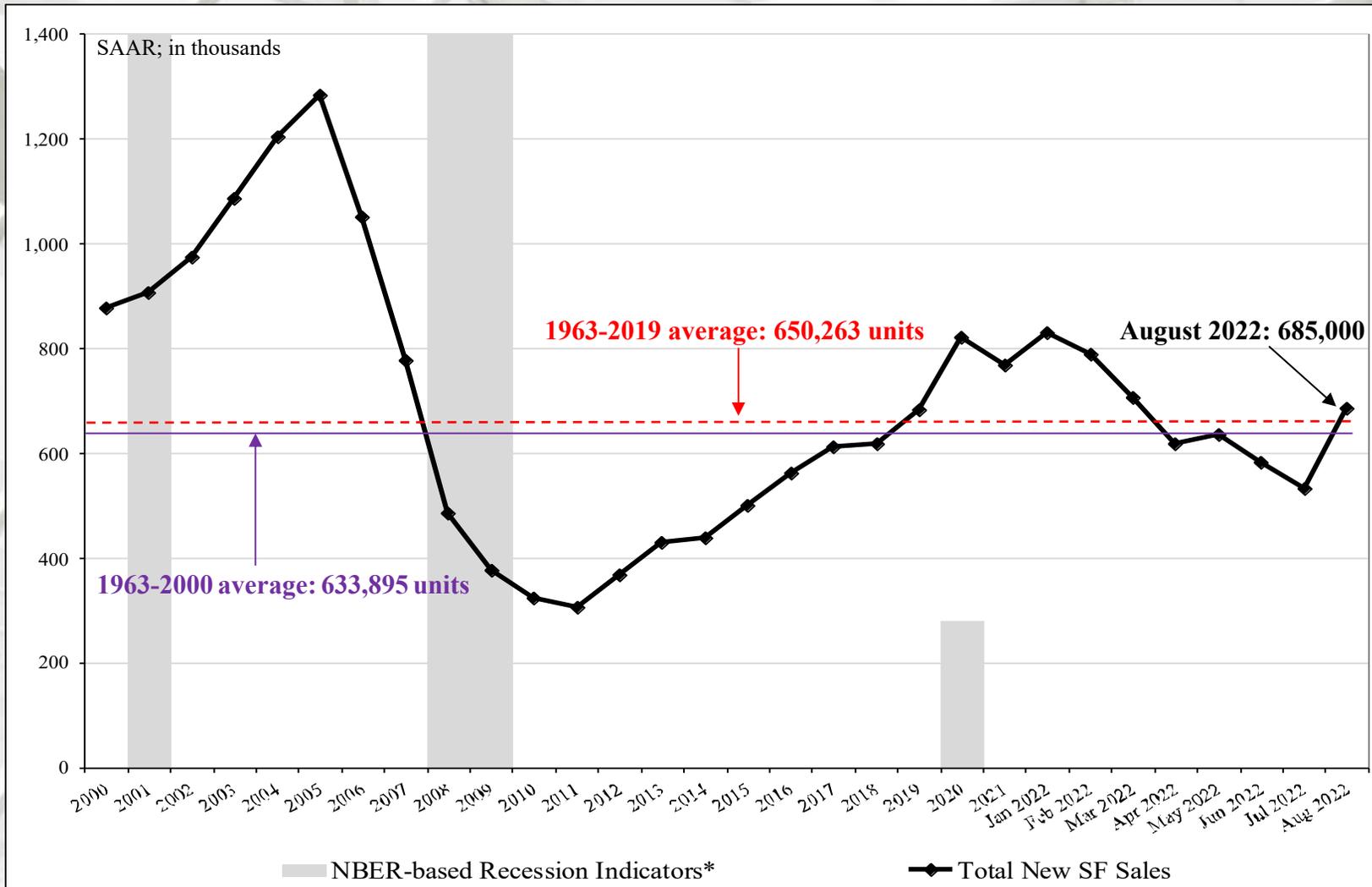
New SF sales were substantially more than the consensus forecast<sup>3</sup> of 498 m (range: 400 m to 522 m). The past three month's new SF sales data also were revised:

May initial: 696 m, revised to 636 m.

June initial: 590 m, revised to 582 m.

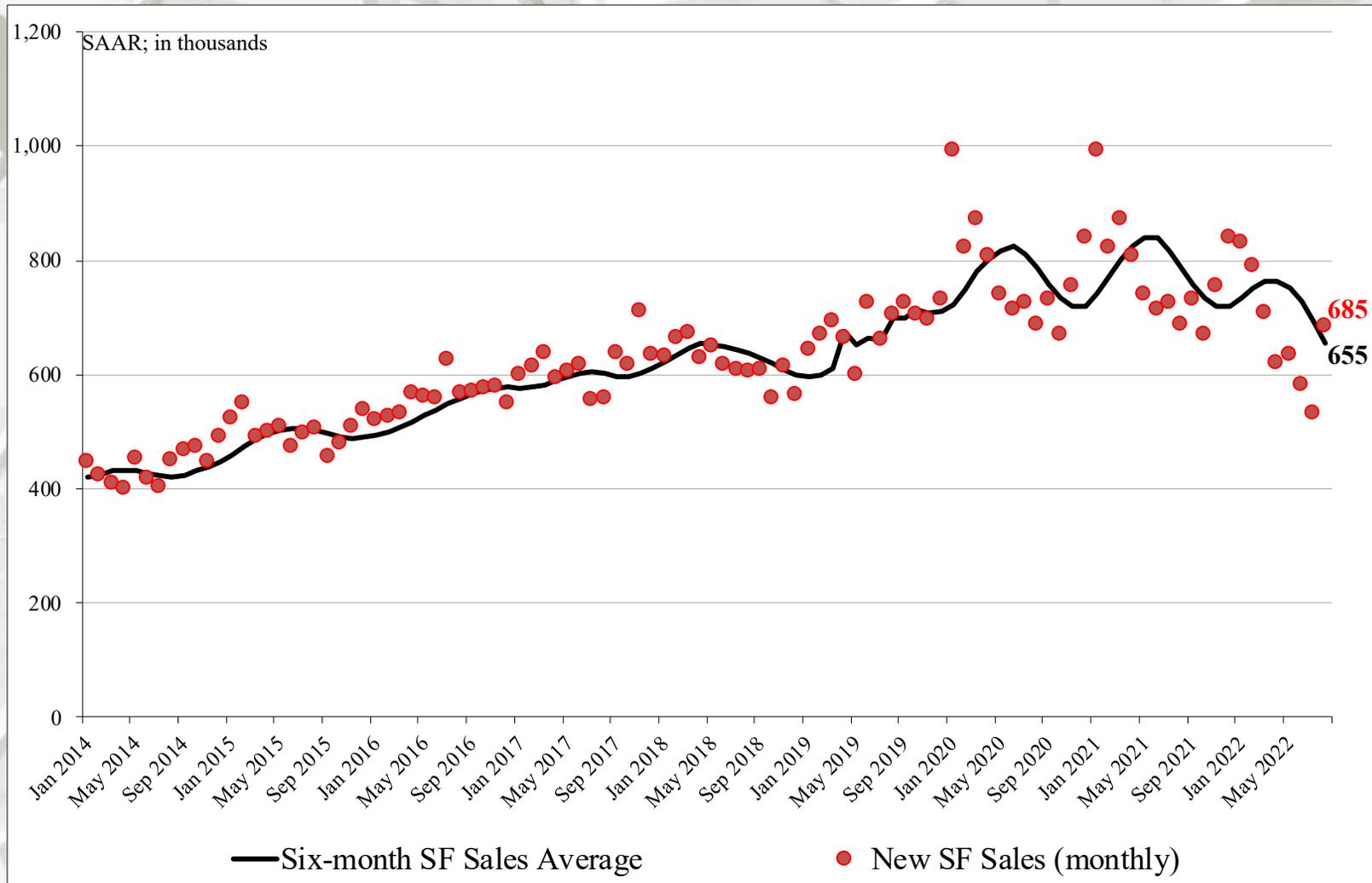
July initial: 511 m, revised to 532 m.

# 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	25,000	63,000	467,000	130,000			
July	15,000	54,000	361,000	102,000			
2021	32,000	60,000	423,000	171,000			
M/M change	66.7%	16.7%	29.4%	27.5%			
Y/Y change	-21.9%	5.0%	10.4%	-24.0%			
	\$150 - ? \$150m	\$200 - \$199.9m 299.9m	\$300 - \$399.9m	\$400 - \$499.9m	\$500 - \$749.9m	? \$750m	
August <sup>1,2,3,4</sup>	500	500	6,000	15,000	13,000	12,000	7,000
July	500	500	3,000	12,000	9,000	13,000	6,000
2021	500	1,000	13,000	12,000	12,000	12,000	5,000
M/M change	0.0%	0.0%	100.0%	25.0%	44.4%	-7.7%	16.7%
Y/Y change	0.0%	-50.0%	-53.8%	25.0%	8.3%	0.0%	40.0%
New SF sales: %	0.9%	0.9%	10.9%	27.3%	23.6%	21.8%	12.7%

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

<sup>1</sup> All data are SAAR

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

<sup>3</sup> Detail August not add to total because of rounding.

<sup>4</sup> Housing prices are adjusted at irregular intervals.

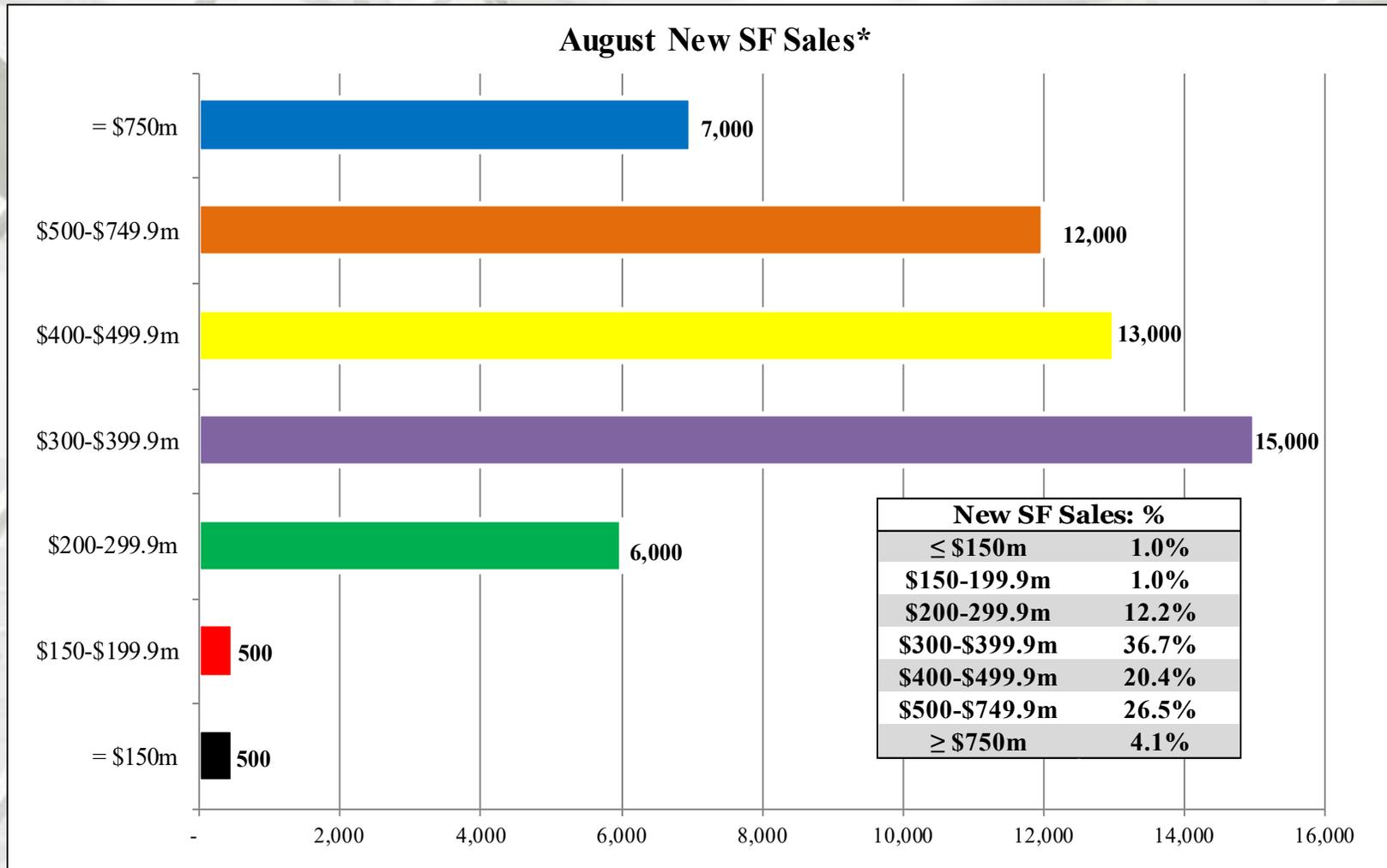
<sup>5</sup> Z = Less than 500 units or less than 0.5 percent

Sources: <sup>1,2,3</sup> <https://www.census.gov/construction/nrs/index.html>; 9/27/22;

<sup>4</sup> [https://www.census.gov/construction/cpi/pdf/descpi\\_sold.pdf](https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf)

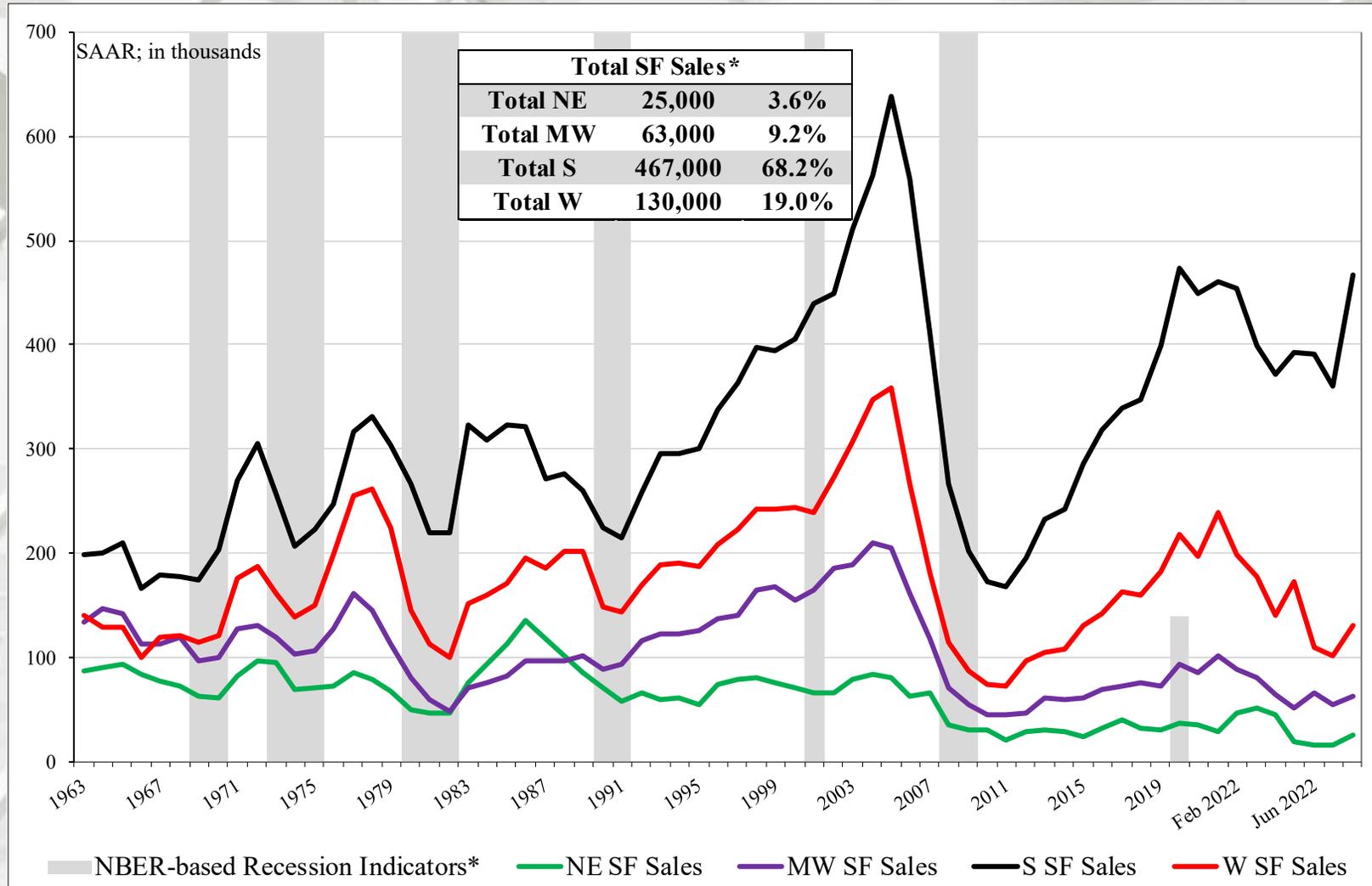
Return TOC

# New SF House Sales



\* Total new sales by price category and percent.

# New SF House Sales by Region

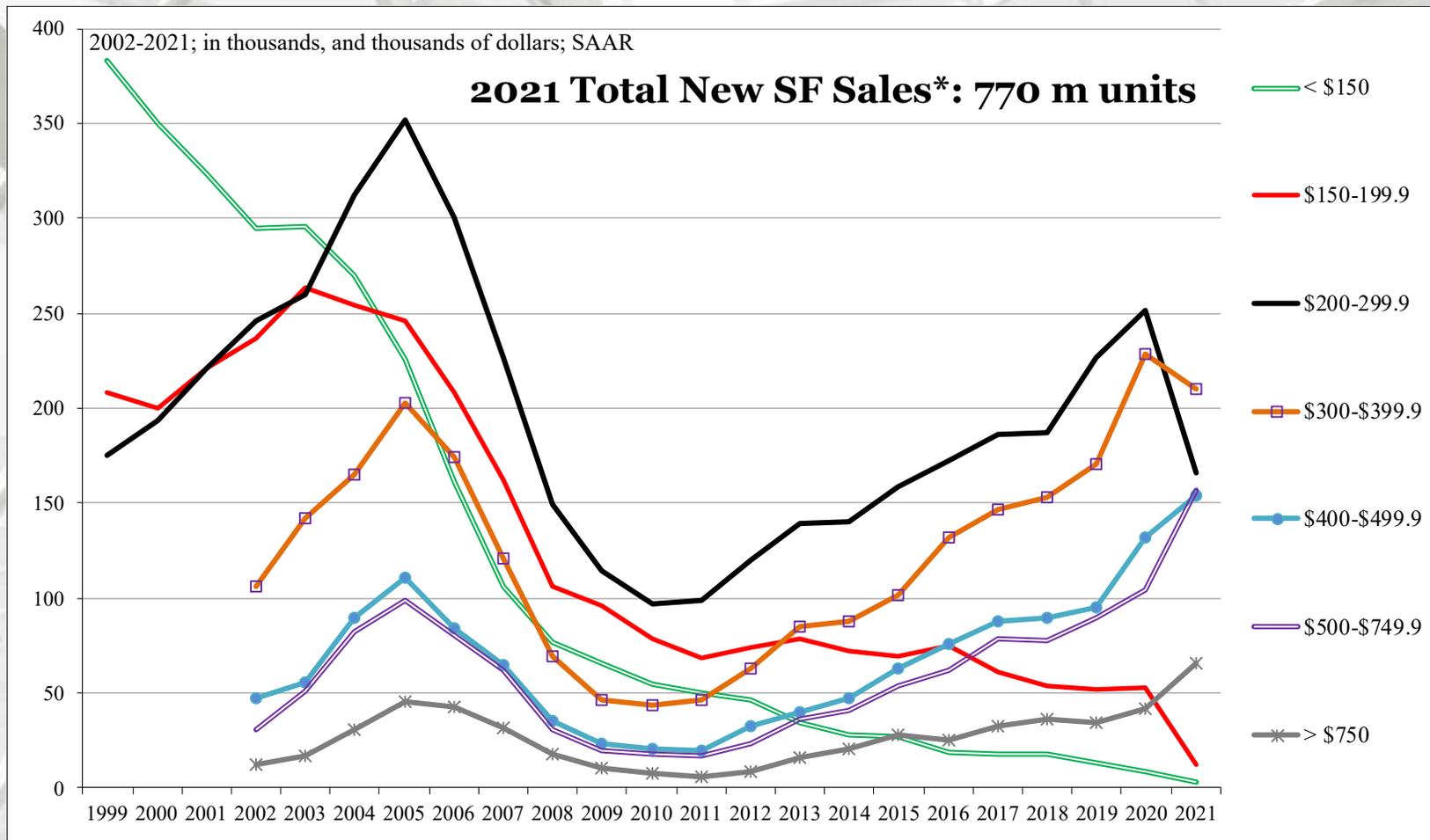


NE = Northeast; MW = Midwest; S = South; W = West

\* Percentage of total new sales.

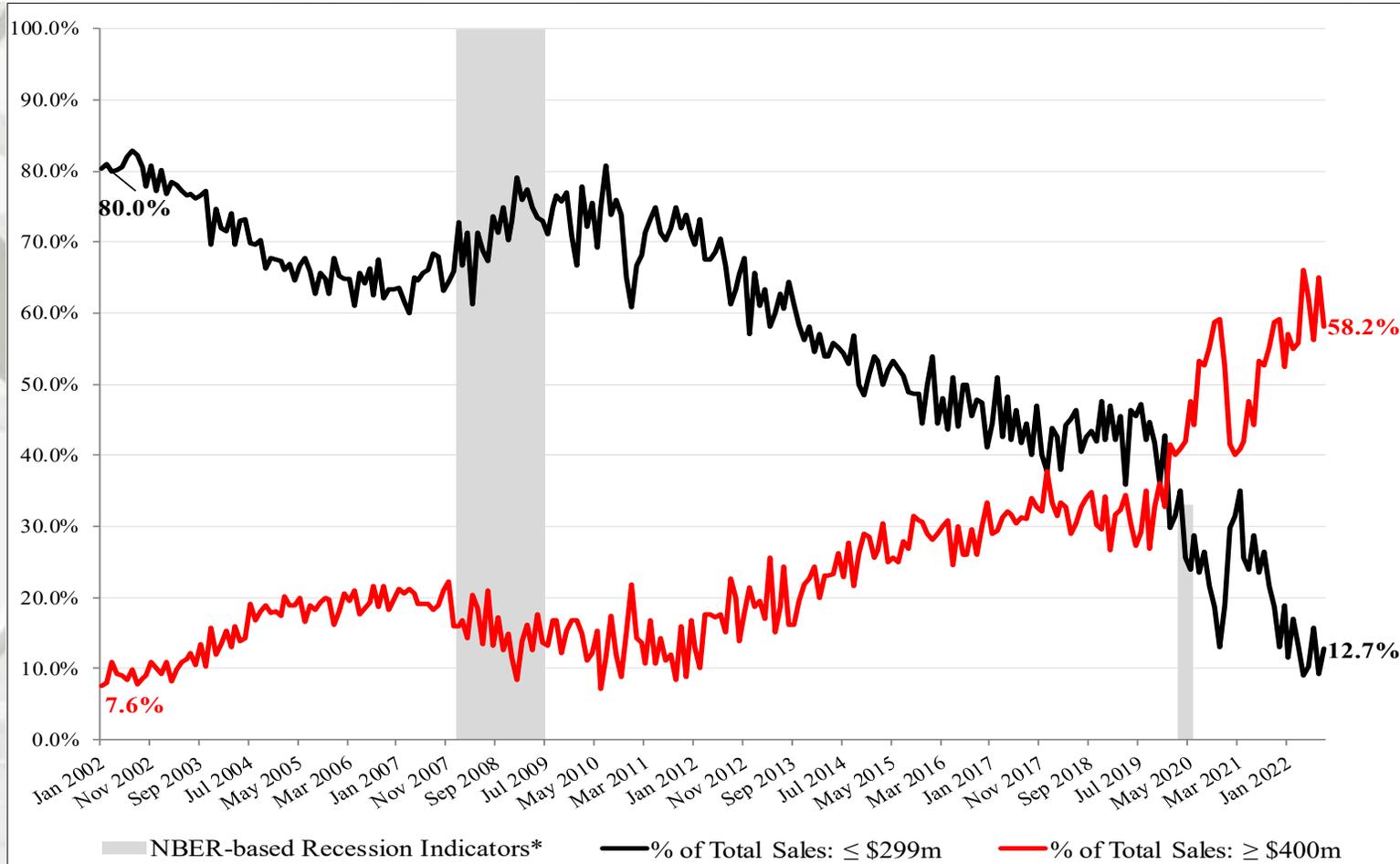
\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

# New SF House Sales by Price Category



\* Sales tallied by price category, nominal dollars.

# New SF House Sales

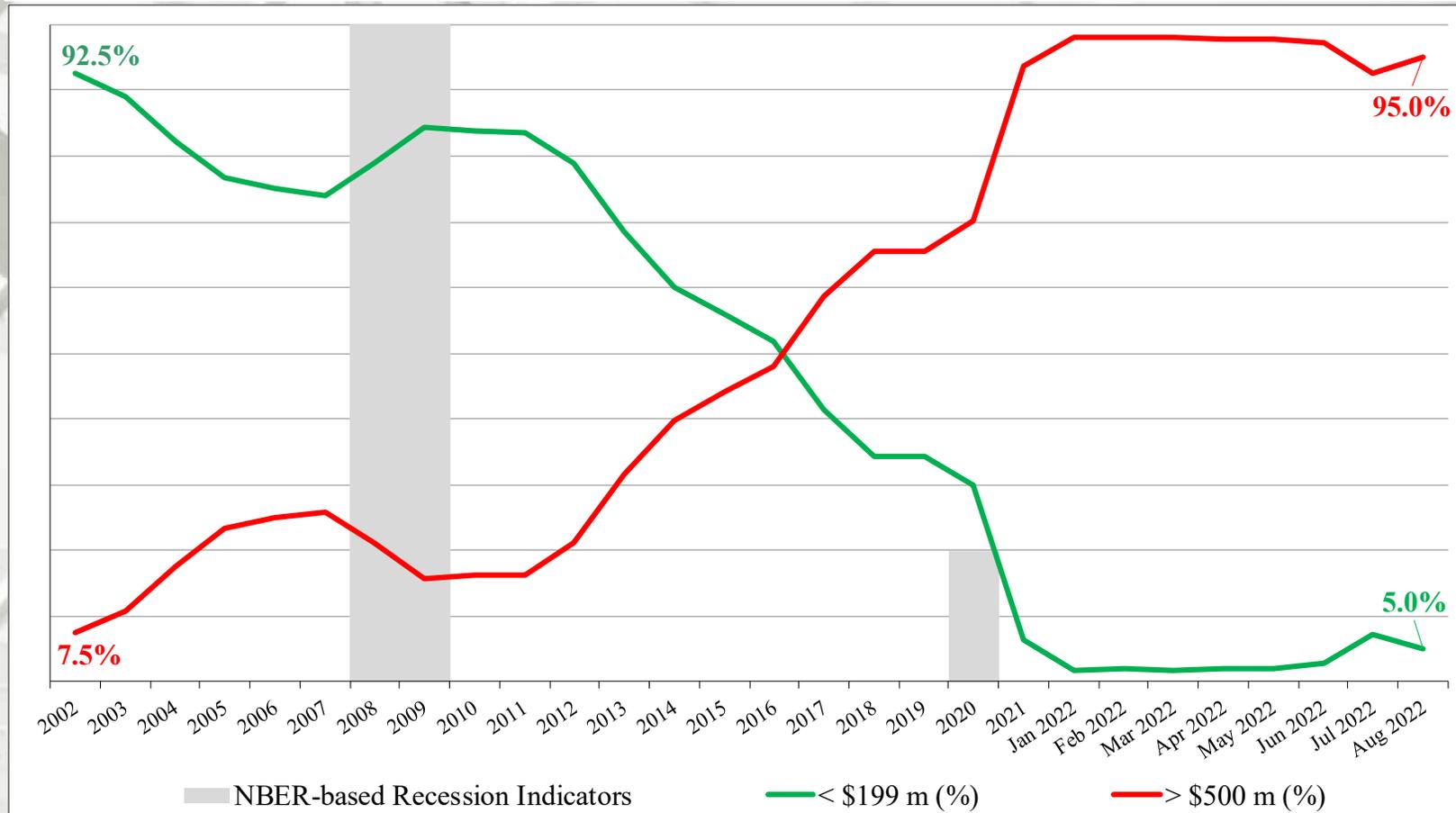


\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

## New SF Sales: ≤ \$299m and ≥ \$400m: 2002 – August 2022

The sales share of \$400 thousand plus SF houses is presented above<sup>1,2</sup>. 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

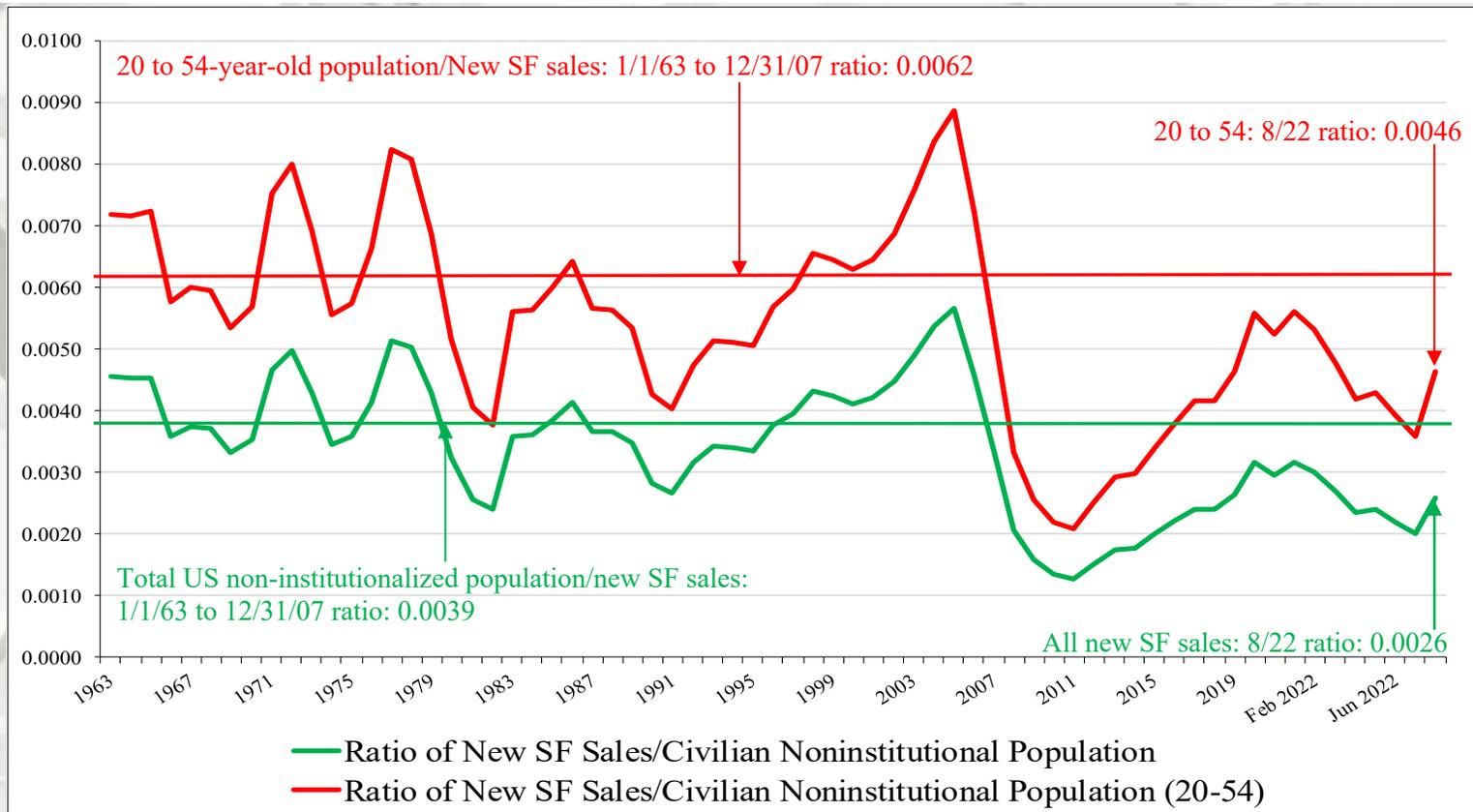


## New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to August 2022

The number of ≤ \$200 thousand SF houses has declined dramatically since 2002<sup>1, 2</sup>. 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

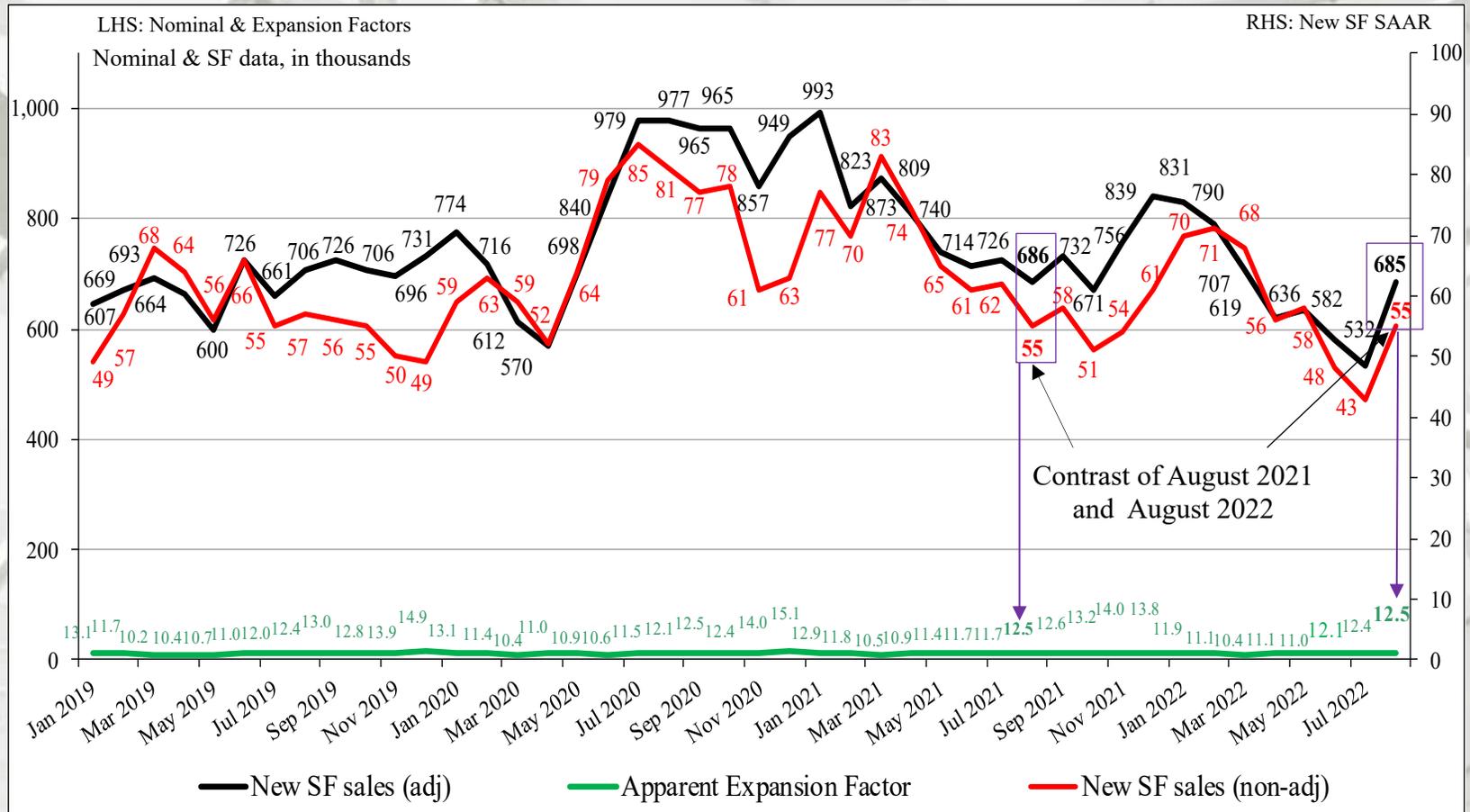


## New SF sales adjusted for the US population

From August 1963 to August 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in August 2022 it was 0.0026 – an increase from July (0.0020). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in August 2022 it was 0.0046 – also an increase from July (0.0036). All are non-adjusted data. From a non-institutionalized population world view, new sales remain less than the long-term average.

However, 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

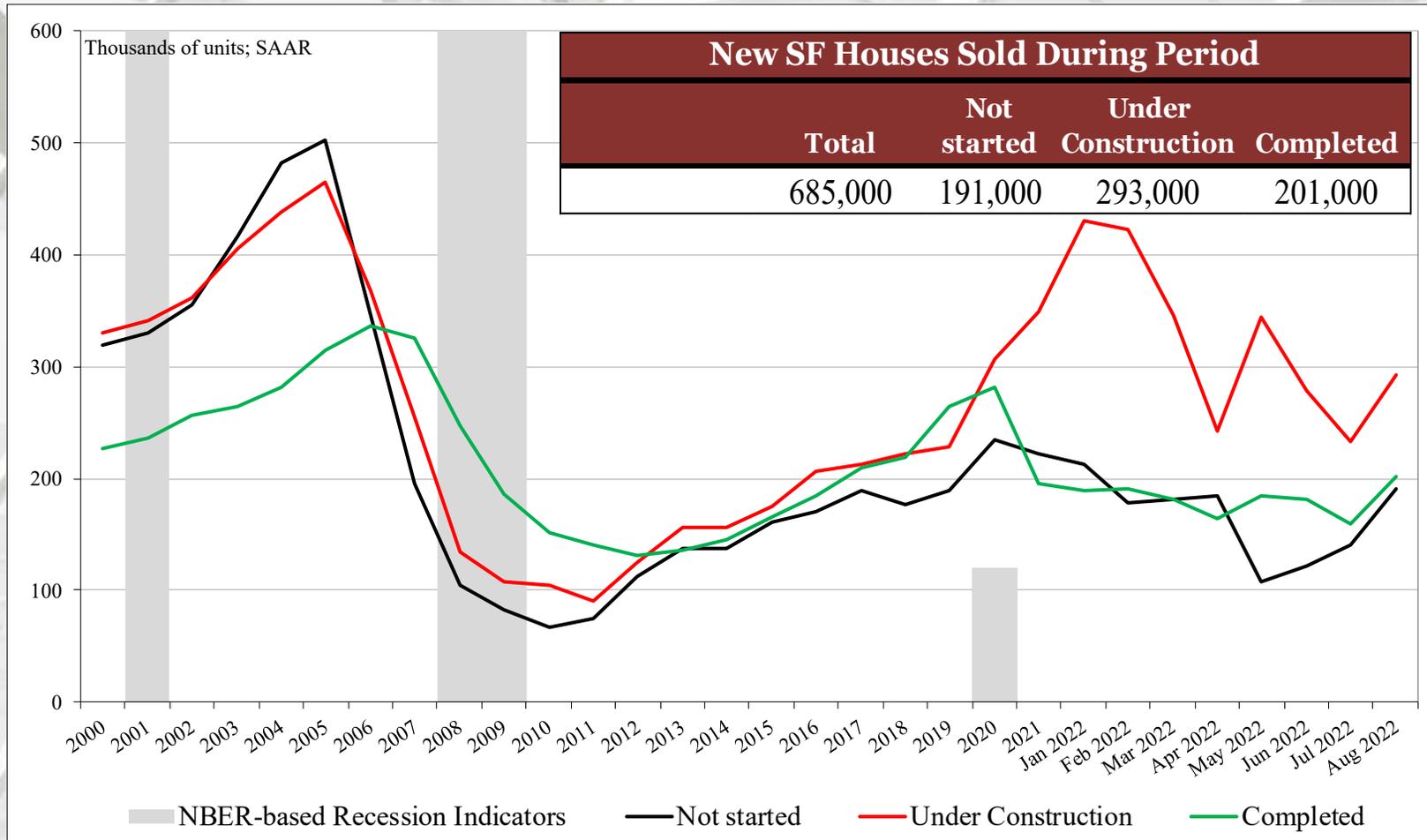
# New SF House Sales

## New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
August	685,000	191,000	293,000	201,000
July	532,000	140,000	233,000	159,000
2021	686,000	188,000	339,000	159,000
M/M change	28.8%	36.4%	25.8%	26.4%
Y/Y change	-0.1%	1.6%	-13.6%	26.4%
Total percentage		27.9%	42.8%	29.3%

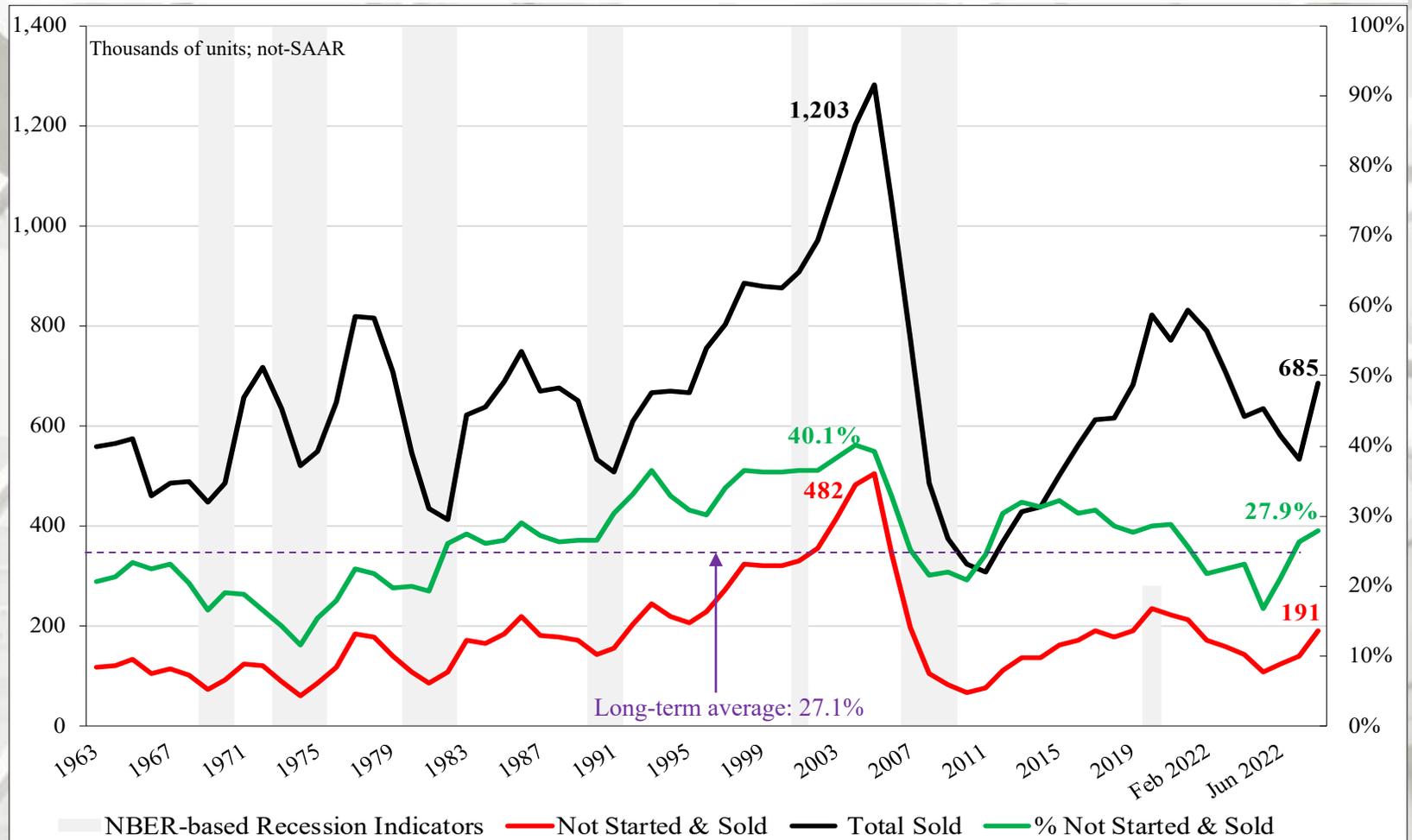
SAAR

# 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 (685 m), 27.9% (191 m) had not been started. The long-term average is 27.1%.

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

# New SF Houses for Sale at End of Period

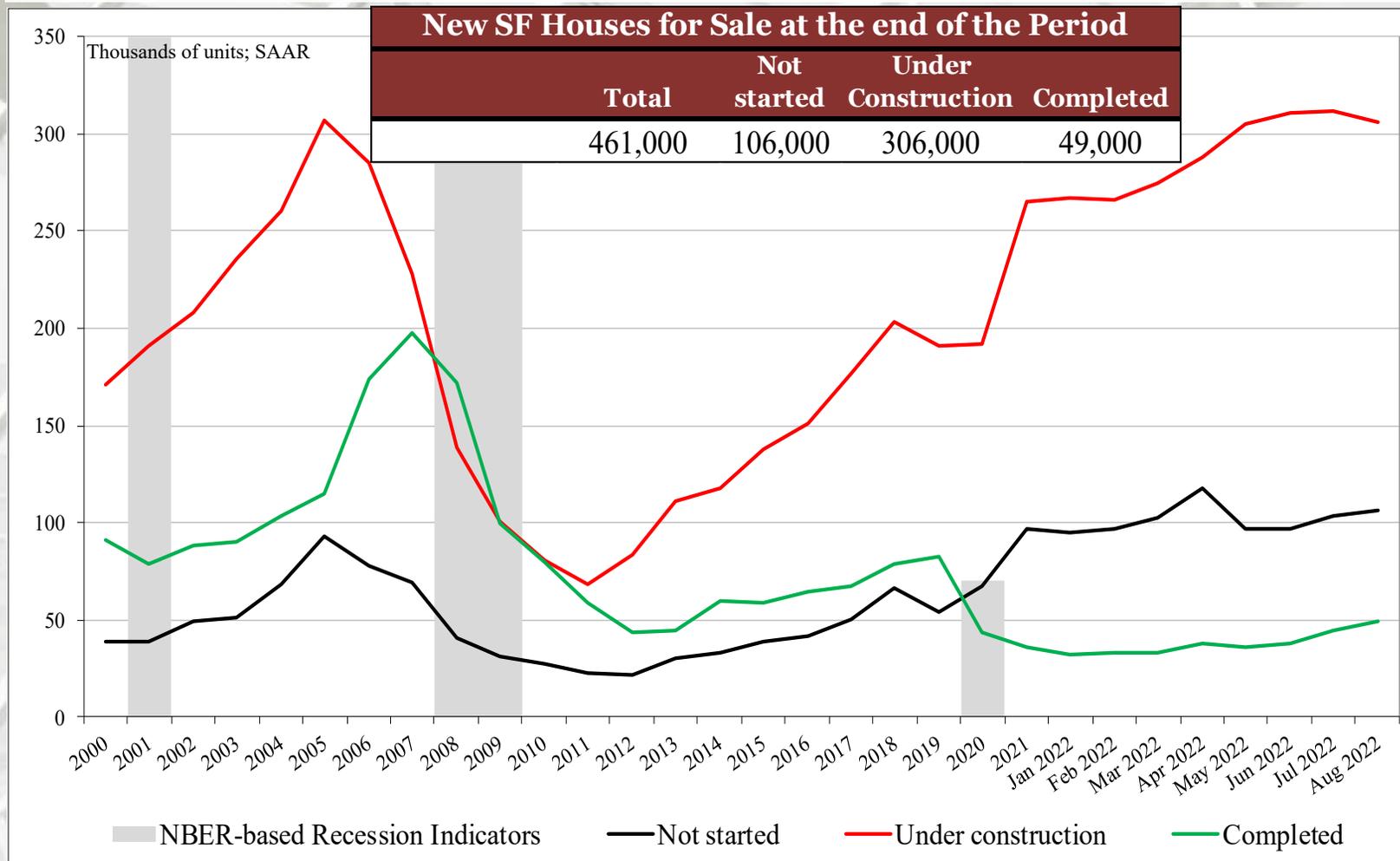
## New SF Houses for Sale at the end of the Period

	Total	Not started	Under Construction	Completed
August	461,000	106,000	306,000	49,000
July	459,000	103,000	312,000	44,000
2021	374,000	94,000	246,000	34,000
M/M change	0.4%	2.9%	-1.9%	11.4%
Y/Y change	23.3%	12.8%	24.4%	44.1%
Total percentage		23.0%	66.4%	10.6%

Not SAAR

Of houses listed for sale (461 m) in August, 10.6% (49 m) have been built. In the 'ground had not been broken for construction' or 'not started' category, 106 m (22.9%) 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).

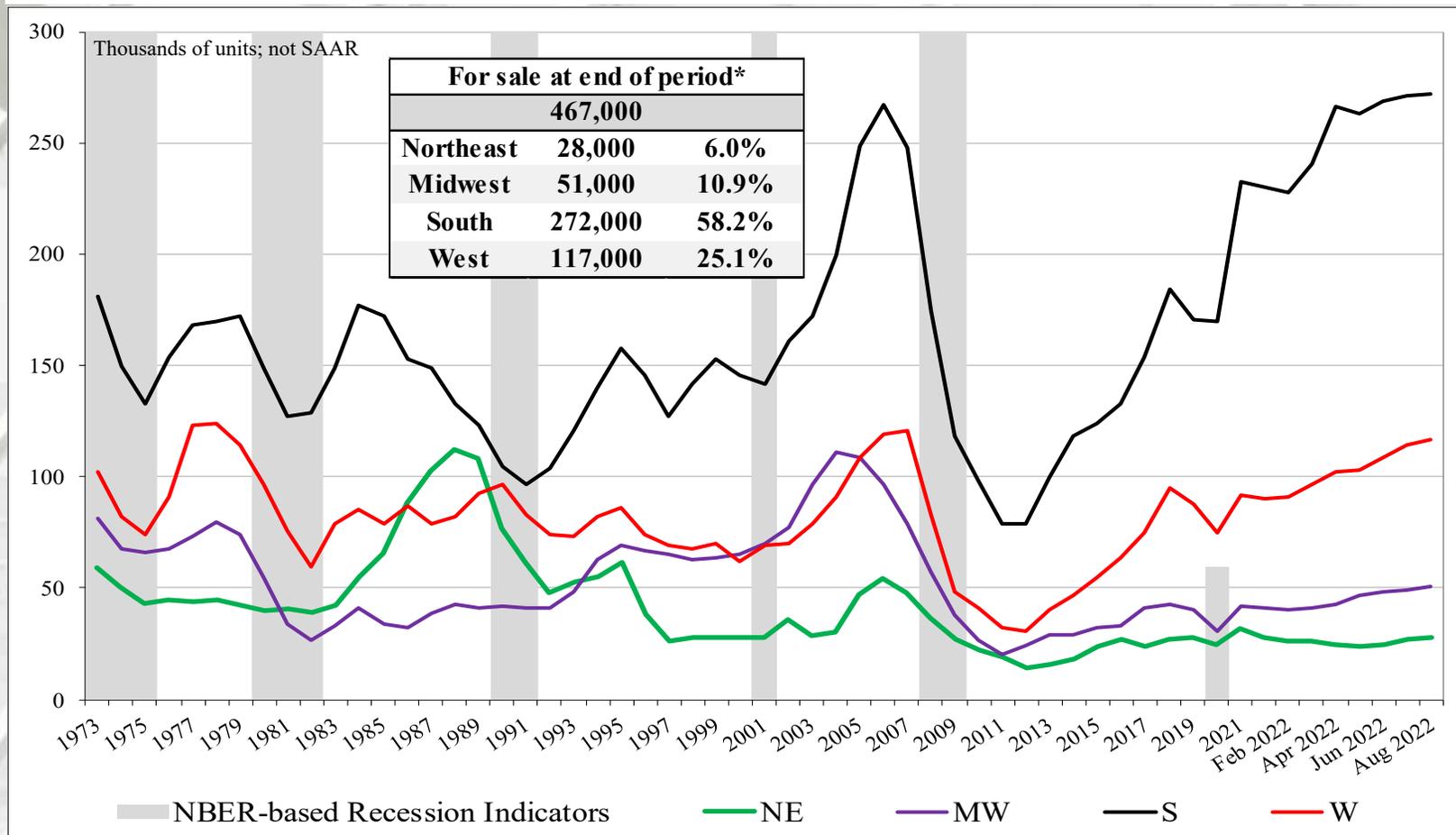
# New SF House Sales

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

	<b>Total</b>	<b>NE</b>	<b>MW</b>	<b>S</b>	<b>W</b>
August	467,000	28,000	51,000	272,000	117,000
July	461,000	27,000	49,000	271,000	114,000
2021	380,000	29,000	32,000	226,000	93,000
M/M change	1.3%	3.7%	4.1%	0.4%	2.6%
Y/Y change	22.9%	-3.4%	59.4%	20.4%	25.8%

\* Not SAAR

# New SF Houses for Sale at End of Period by Region

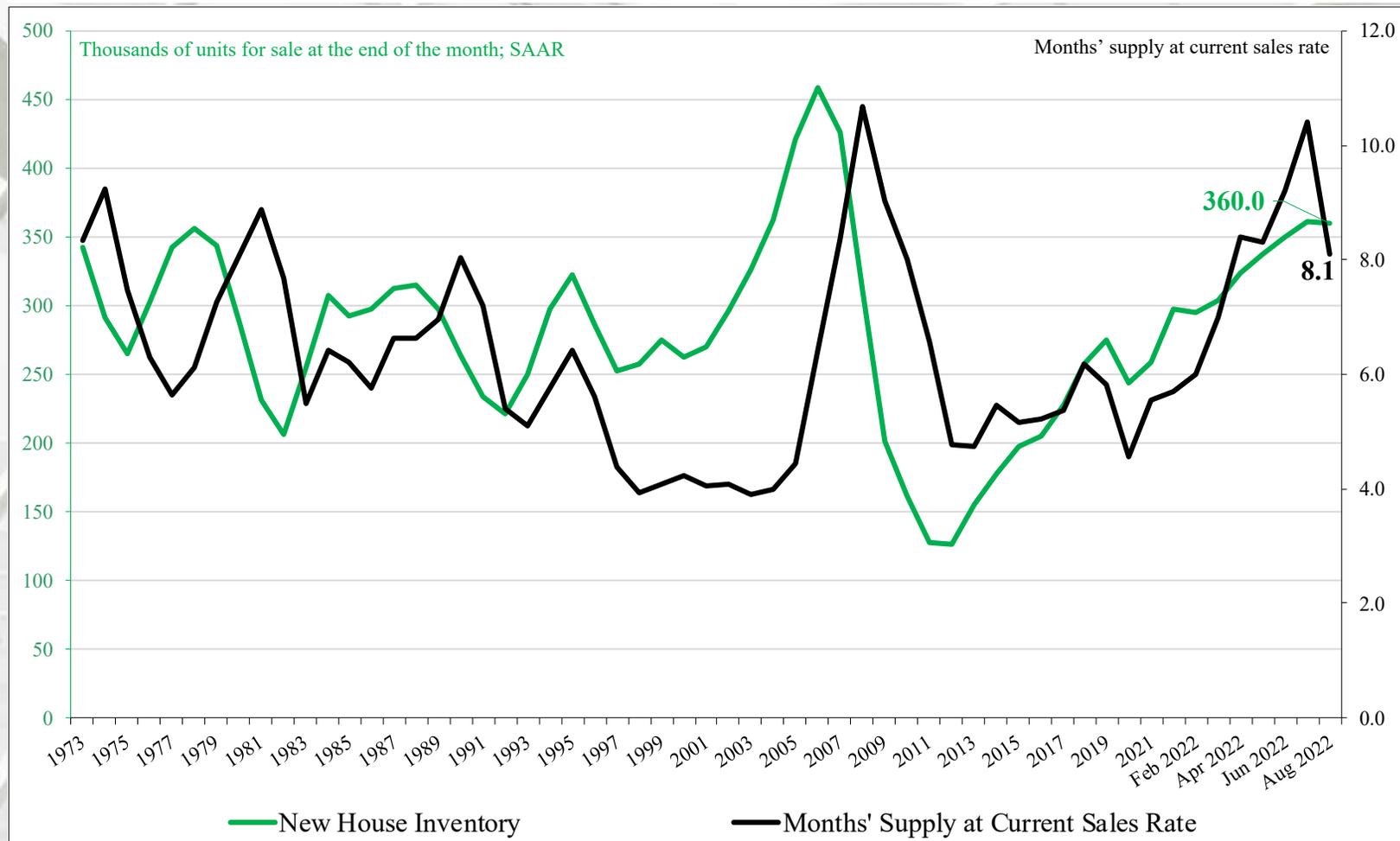


NE = Northeast; MW = Midwest; S = South; W = West

\* 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).

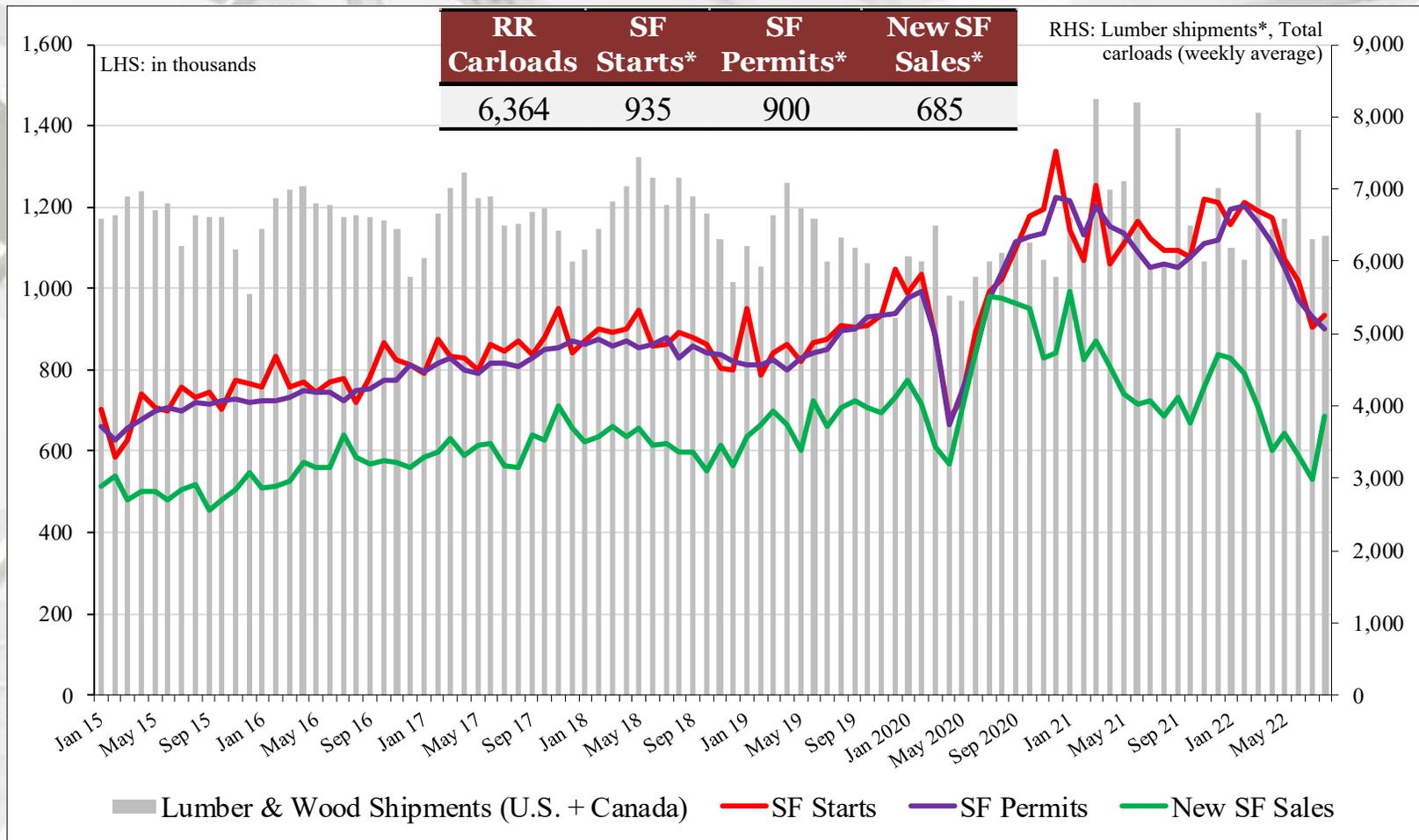
# Months' Supply and New House Inventory<sup>a</sup>



<sup>a</sup> New HUC + New House Completions (sales data only)

The months' supply of new houses for sale was 8.1 at the end of August 2022 (SAAR).

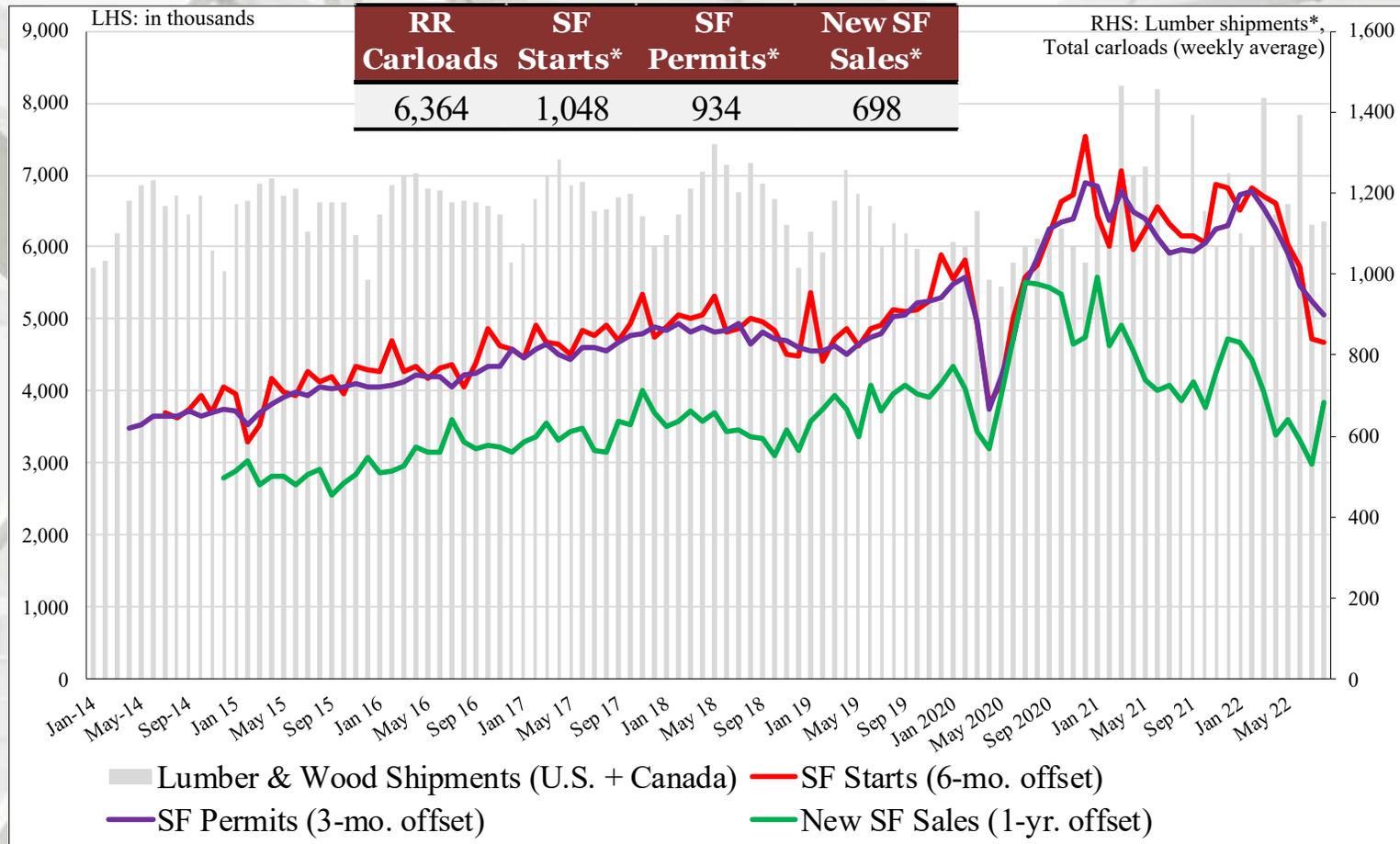
# U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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

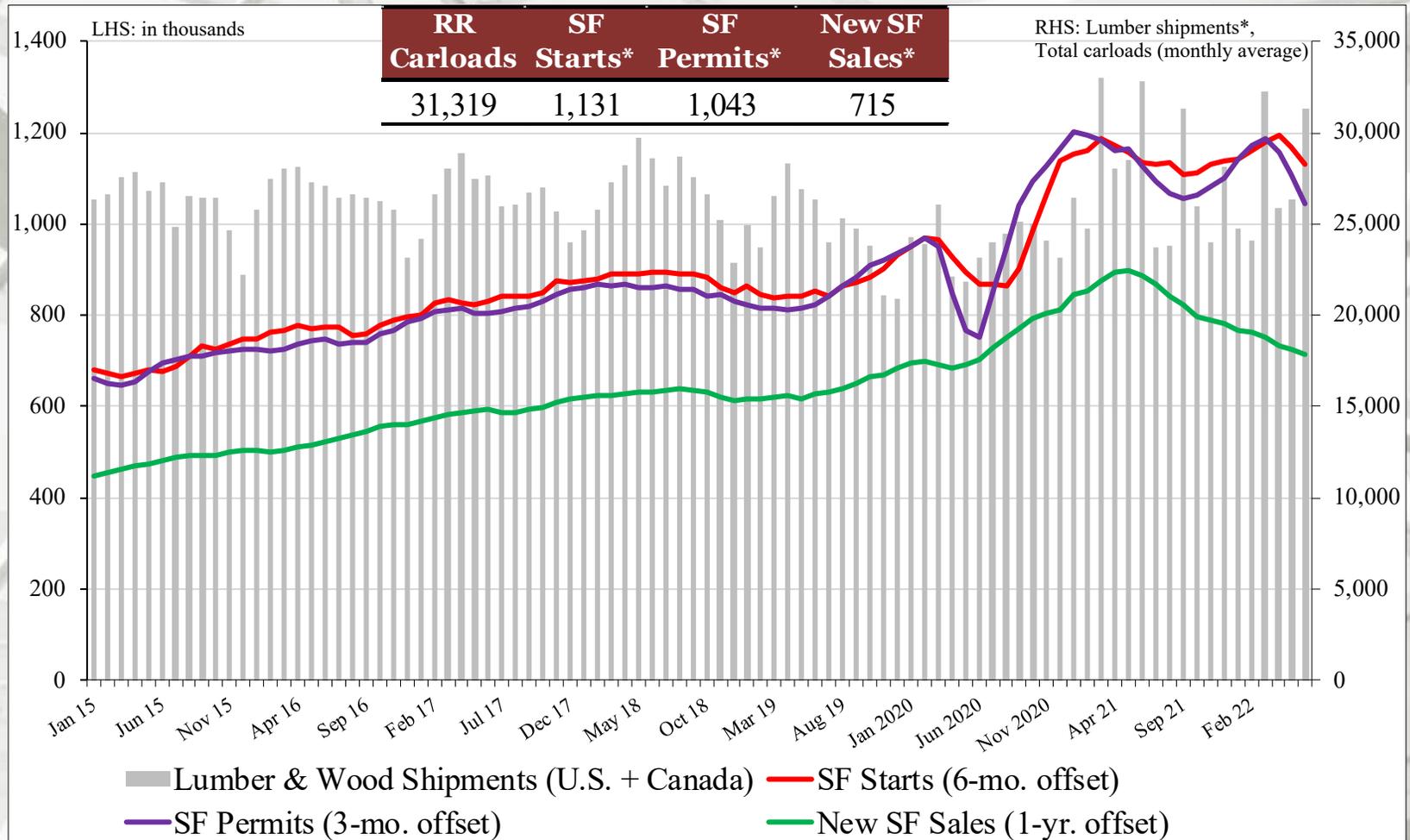
# U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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.

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



Total 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 and offset by respective time-frames.

Sources: \*Association of American Railroads, *Rail Time Indicators* report-August 2022; <http://www.census.gov/construction/>; 9/20/22 & 9/27/22

# August 2022 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
August	\$912,913	\$436,308	\$101,246	\$375,359
July	\$921,616	\$449,186	\$100,859	\$371,571
2021	\$811,497	\$436,397	\$101,432	\$273,668
M/M change	-0.9%	-2.9%	0.4%	1.0%
Y/Y change	12.5%	0.0%	-0.2%	37.2%

\* 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\$.

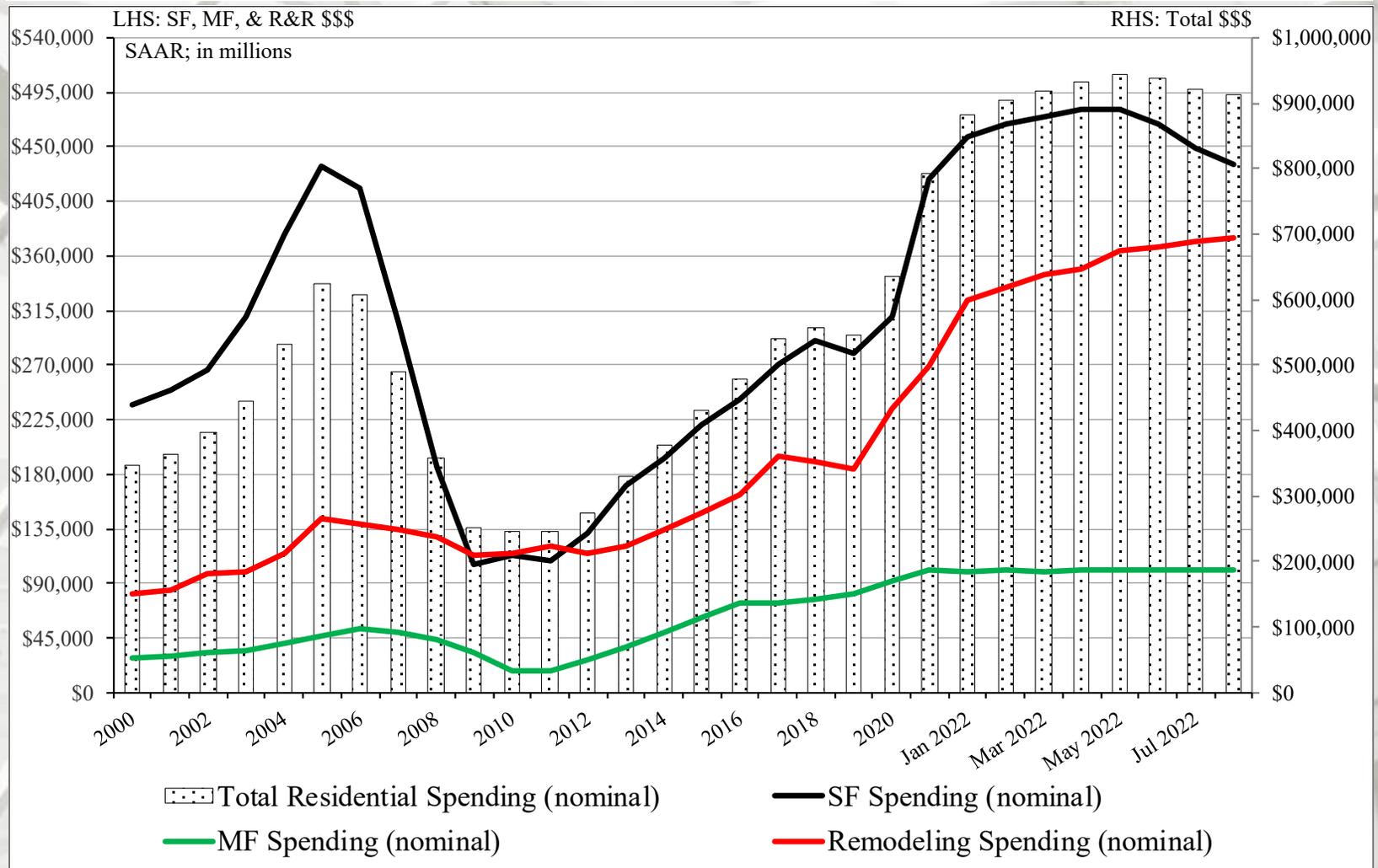
Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

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.

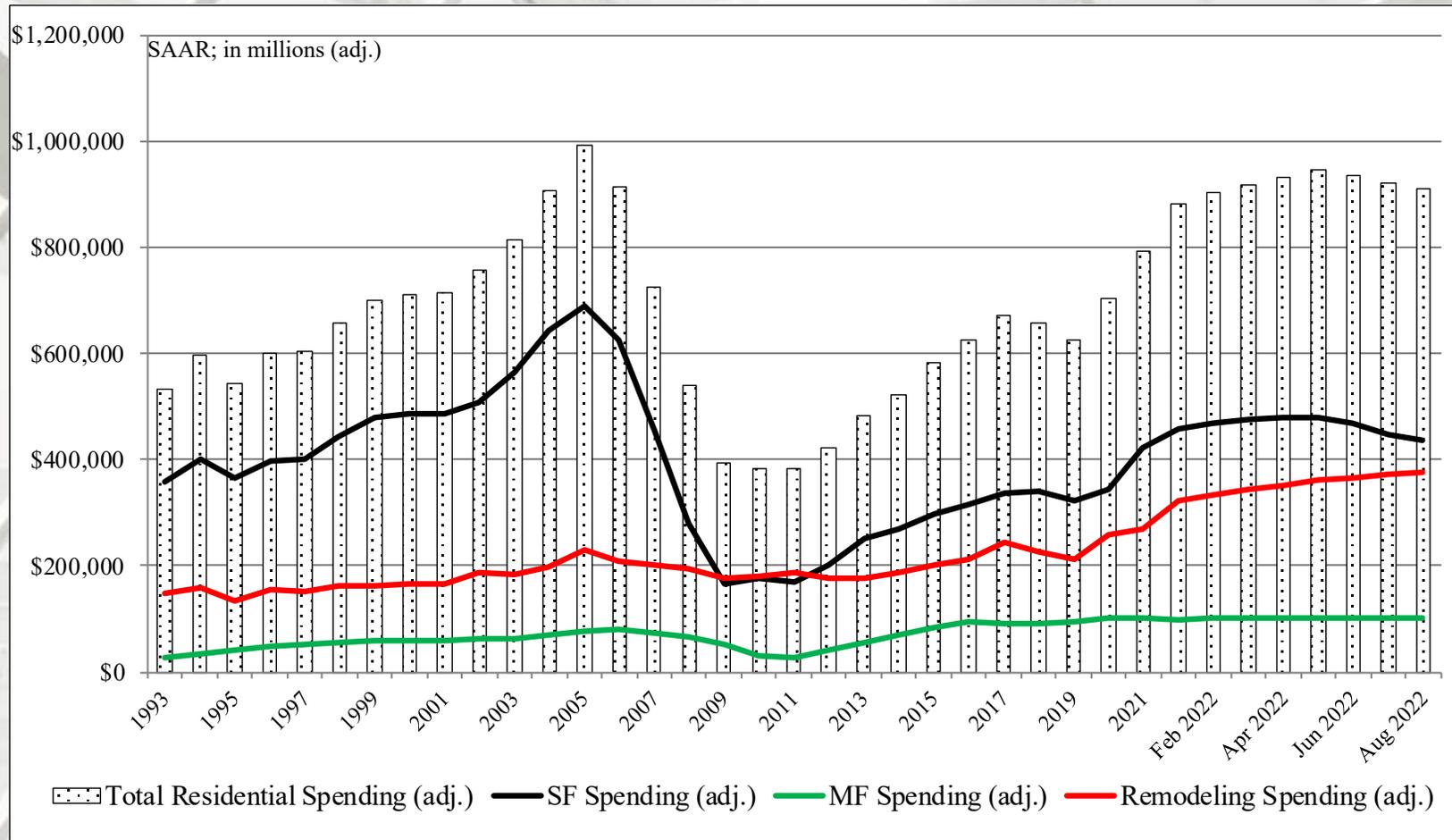
# Total Construction Spending (nominal): 2000 – August 2022



Reported in nominal US\$.

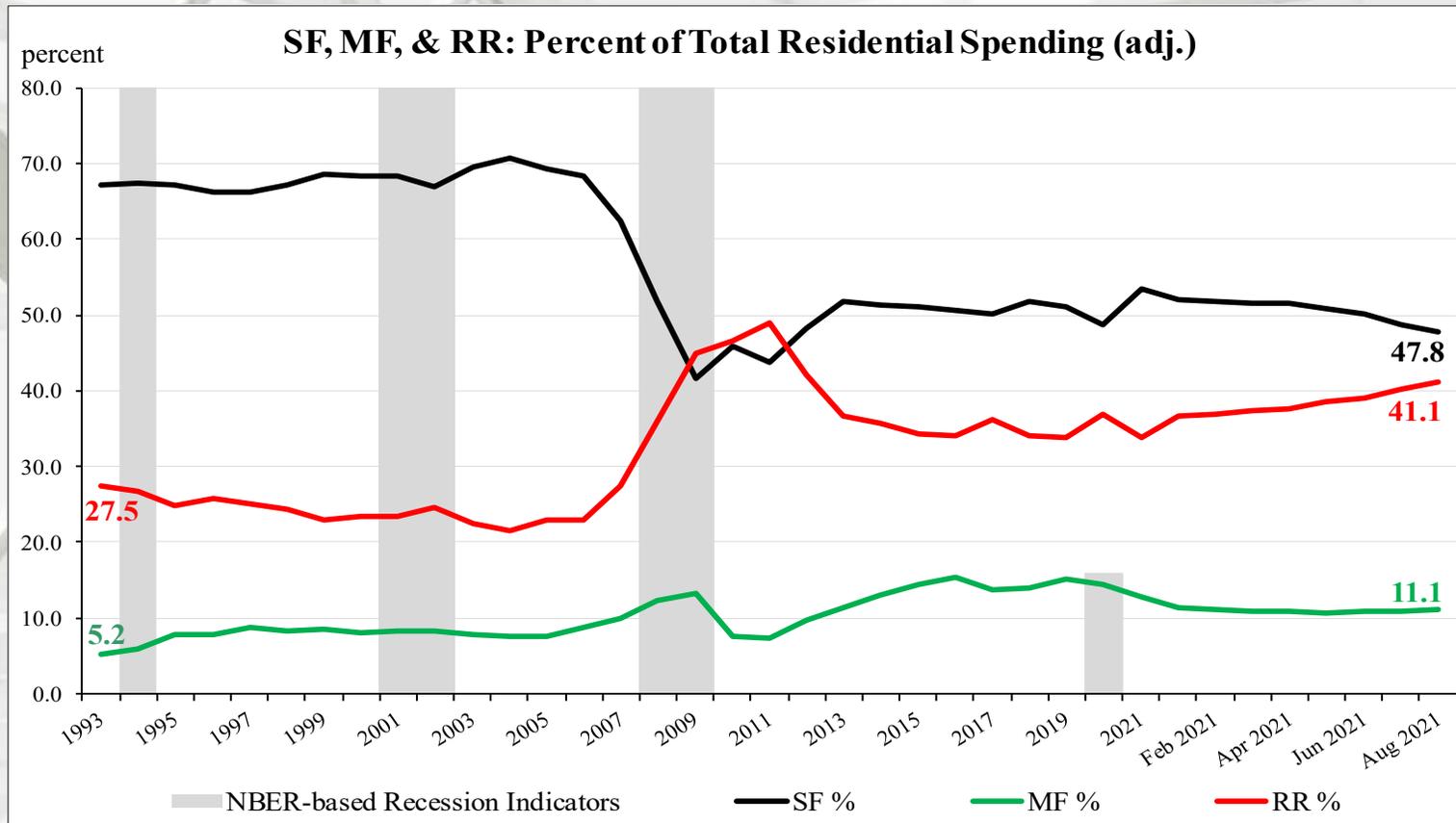
The US DOC does not report improvement spending directly, this is a monthly estimation for 2022.

# Total Construction Spending (adjusted): 1993 – August 2022



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

# Construction Spending Shares: 1993 – August 2022



## Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

MF spending average: 7.5%

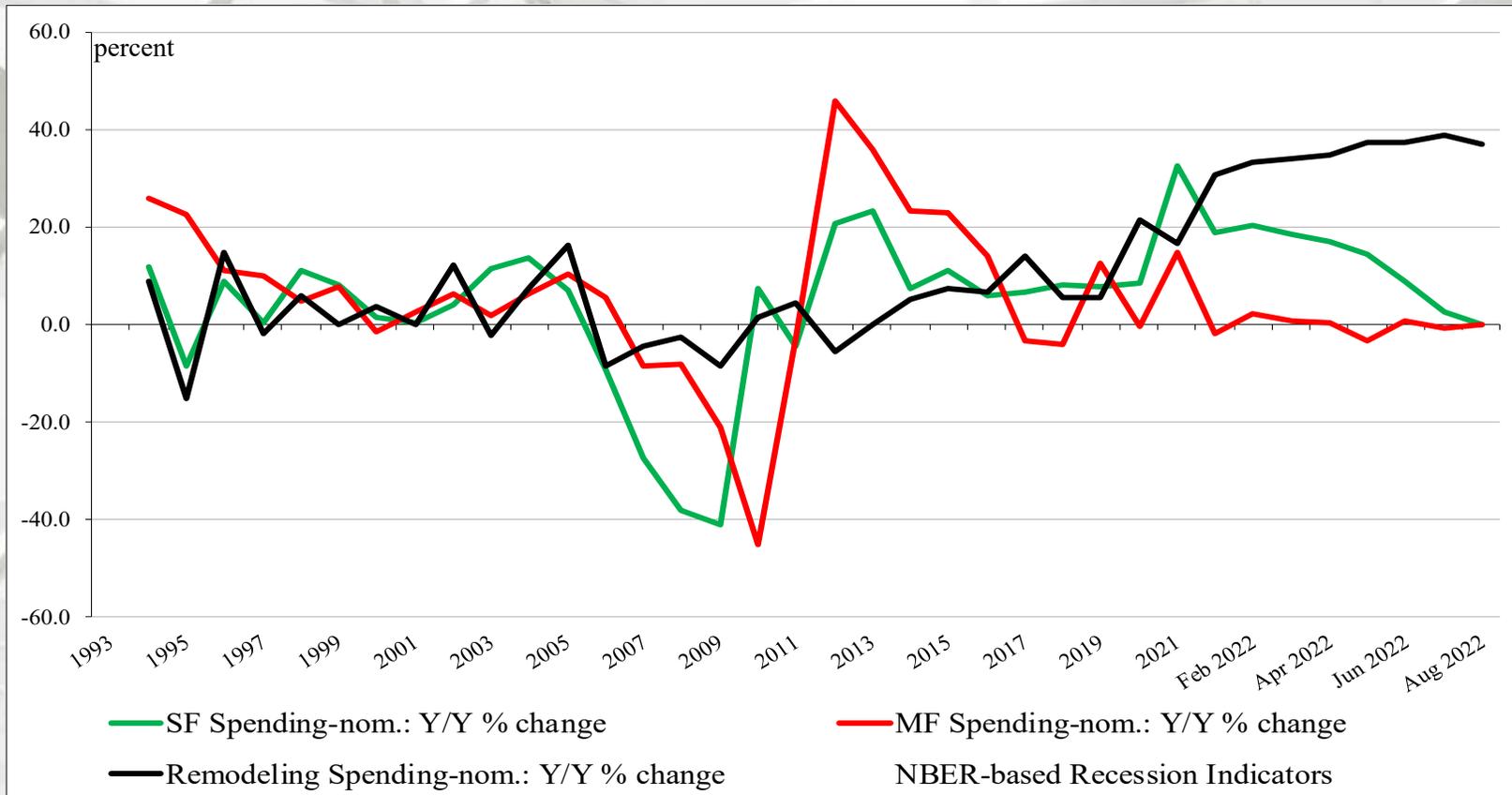
Residential remodeling (RR) spending average: 23.3% (SAAR).

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).

Sources: \* <https://fred.stlouisfed.org/series/USREC>, 7/24/21; <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 10/3/22 and <http://www.bea.gov/iTable/iTable.cfm>; 9/30/22

# Adjusted Construction Spending: Y/Y Percentage Change, 1993 – August 2022



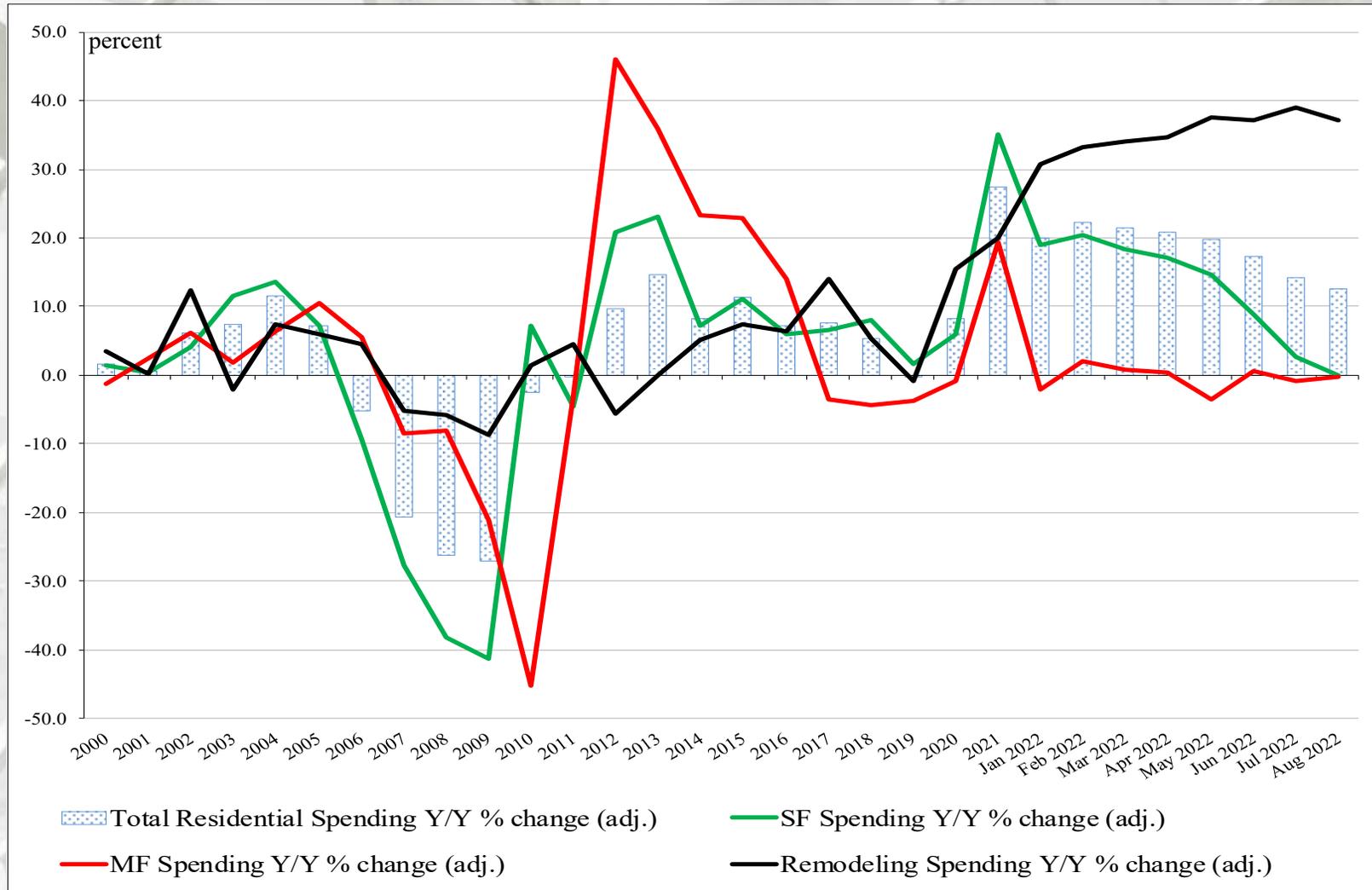
## Nominal Residential Construction Spending: Y/Y percentage change, 1993 to August 2021

Presented above is the percentage change of inflation adjusted Y/Y construction spending. SF and RR expenditures were positive on a percentage basis, year-over-year (August 2022 data reported in nominal dollars).

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

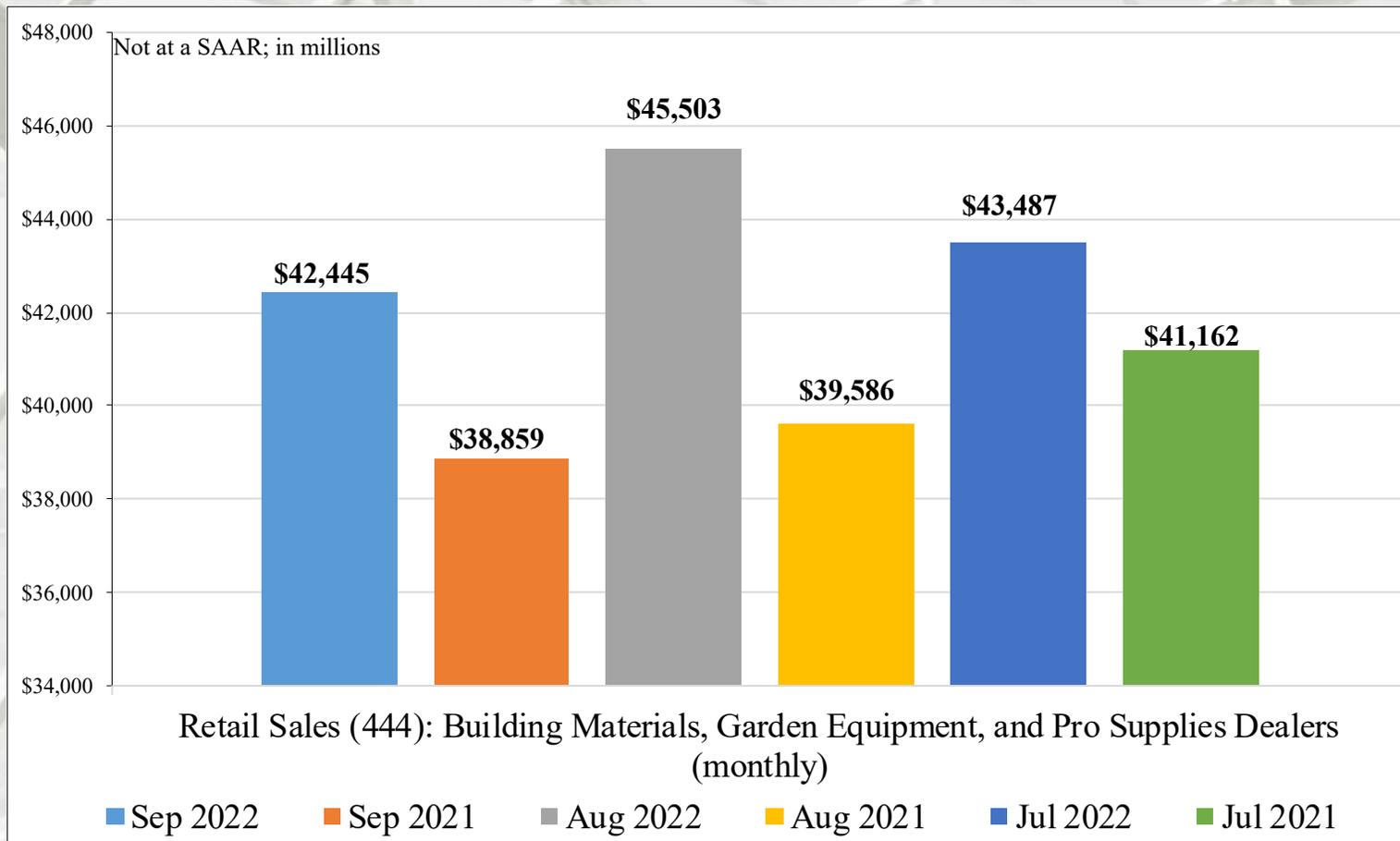
Sources: \* <https://fred.stlouisfed.org/series/USREC>, 6/24/21; <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 10/3/22 and <http://www.bea.gov/iTable/iTable.cfm>; 9/30/22

# Adjusted Construction Spending: Y/Y Percentage Change, 1993 – August 2022



# Remodeling

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



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

NAICS 444 sales decreased 6.7% in September 2022 from September 2022 and improved 9.2% Y/Y (on a non-adjusted basis).

# Remodeling

## Retail Sales: Hardware Stores

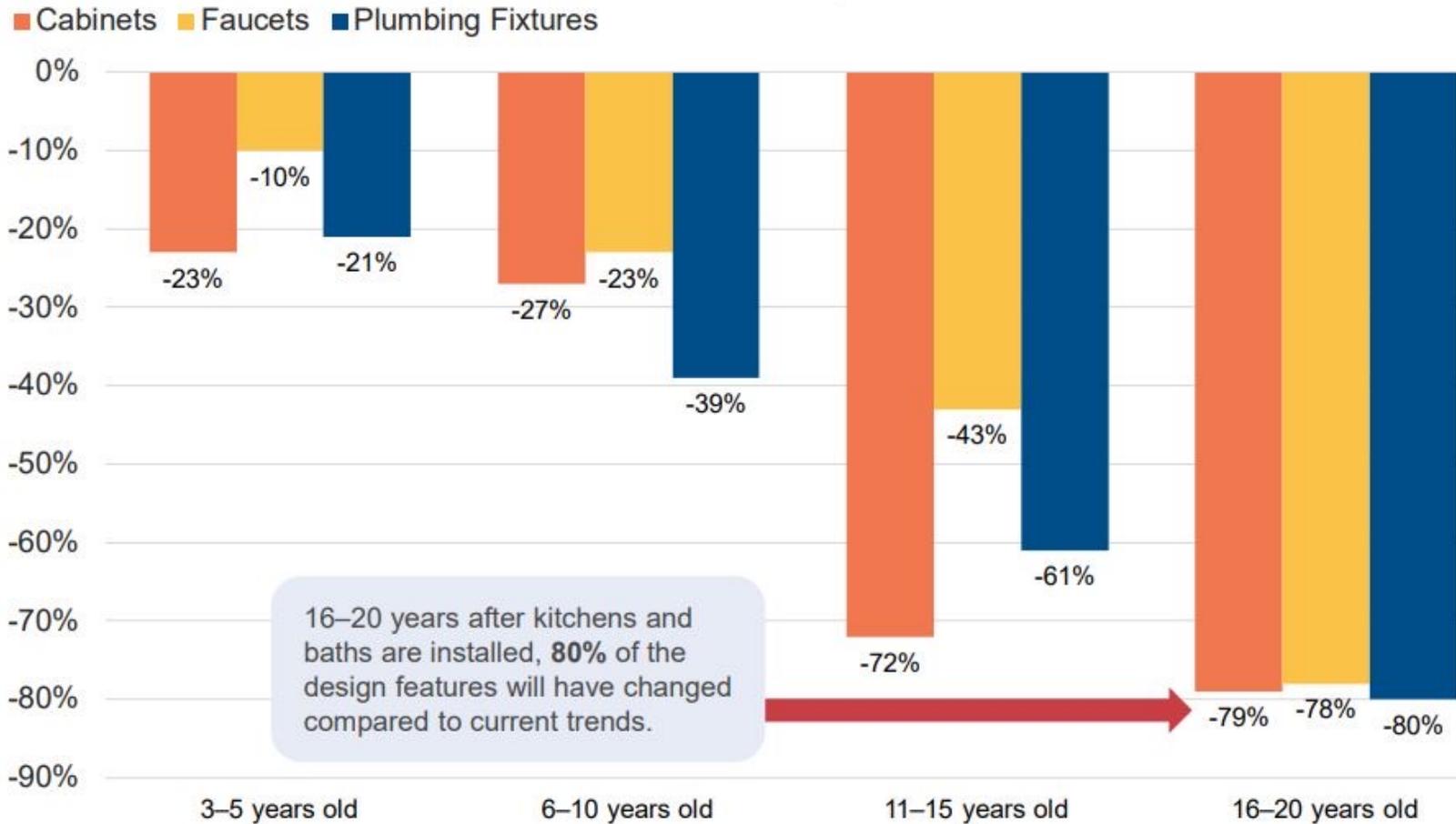


### Hardware Stores: NAICS 44413

NAICS 44413 retail sales decreased 0.8% in August 2022 from July 2022 and increased 11.5% in August 2022 from August 2021 (on a non-adjusted basis).

# Remodeling

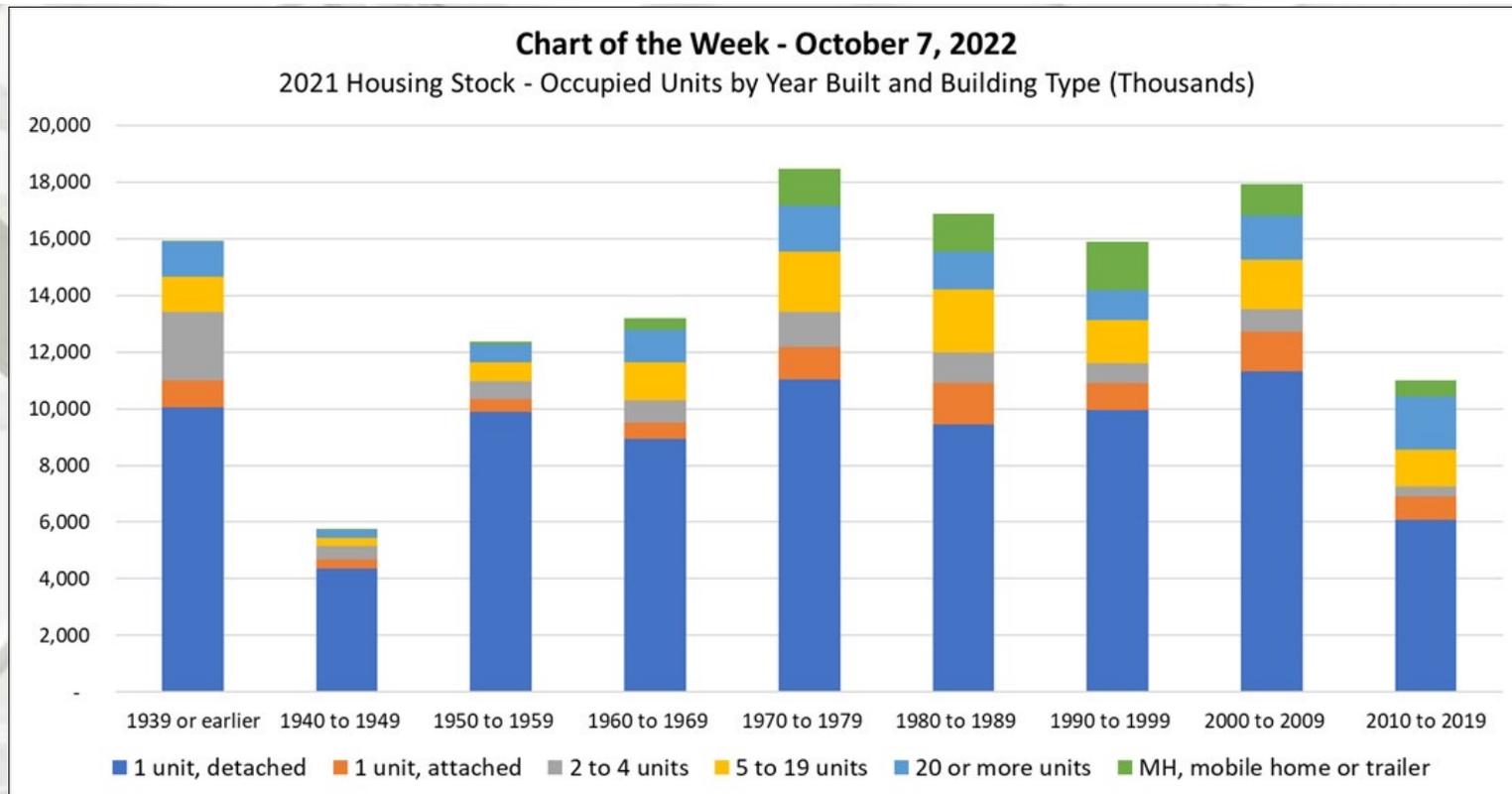
## Kitchen and Bath Design Obsolescence Progression



### John Burns Real Estate Consulting LLC

“Great news for our friends in the kitchen and bath industry. The boom in construction 16-20 years ago (2002-2006) is ready for a kitchen and bath remodel. On a personal note, we remodeled our kitchen when it was 18 years old.” – John Burns, Chief Executive Officer, John Burns Real Estate Consulting LLC

# Remodeling



## Mortgage Bankers Association (MBA)

### Chart of the Week

“At the end of September 2022, the U.S. Department of Housing and Urban Development (HUD) and the U.S. Census Bureau released 2021 [American Housing Survey \(AHS\)](#) summary table estimates in the AHS Table Creator and 2021 AHS National and Metro Public Use File microdata. The AHS, last updated with 2019 data, is the “most comprehensive national housing survey in the United States,” and provides information about the quality and cost of housing, including data on “the physical condition of homes and neighborhoods, the costs of financing and maintaining homes, and the characteristics of people who live in these homes.”” – Eddie Seiler, Executive Director, Research Institute for Housing America and Associate VP, Housing Economics, MBA

# Remodeling

## Mortgage Bankers Association (MBA)

### Chart of the Week

“In this week’s [MBA Chart of the Week](#), we show the stock of occupied homes in the U.S. by the decade built and by building type. The chart indicates that the housing stock in the U.S. is aging:

- As of 2021 there were 11 million occupied units that were built in the 2010s. This is less than the 2021 stock of occupied units for any other decade going back to the 1940s and is 39% lower than the stock of occupied homes built in the 2000s (18 million).
- The median age of the occupied housing stock was 42 years in 2021. This compares to 41 years in the 2019 AHS, 39 years in the 2015 AHS, and 37 years in the 2011 AHS.

The chart also shows that the stock of occupied units by building type has evolved:

- The 2021 stock of 1-4-unit housing units was over 13.5 million for homes built in the 2000s versus 7.3 million for homes built in the 2010s. That is, the 2021 stock of 1-4-unit single-family homes was 86% higher for those built between 2000-2009 than those built between 2010-2019.
- On the other hand, the 2021 stock of units occupied in buildings with 5+ units was 3.3 million for units built in the 2000s versus 3.2 million for units built in the 2010s (4% higher), while the stock of units occupied in buildings with 20+ units was 1.5 million for those built in the 2000s and 1.9 million for units built in the 2010s.
- Additionally, 7% of 1-4-unit homes were built in 2010-2019 versus 14% of 5+ unit homes, 52% of 1-4-unit homes were built in 1970-2009 versus 57% for 5+, and 41% if 1-4-unit homes were built pre-1970 versus 29% for 5+.

These data highlight the lack of new construction over the last decade. Coupled with the disruptions from the pandemic and strong housing demand from the millennial cohort, the U.S. housing market is structurally low on supply, as evidenced by extremely low vacancy rates of units for rent or for sale. Even though the current spike in mortgage rates has sharply decreased demand, we expect this chronic lack of inventory will be a factor in housing markets for some time.” – Eddie Seiler, Executive Director, Research Institute for Housing America and Associate VP, Housing Economics, MBA

# Existing House Sales

## National Association of Realtors®

	Existing Sales	Median Price	Month's Supply
August	4,800,000	\$389,500	3.2
July	4,820,000	\$399,200	3.2
2021	5,990,000	\$361,500	2.6
M/M change	-0.4%	-2.4%	0.0%
Y/Y change	-19.9%	7.7%	23.1%

All sales data: SAAR

# Existing House Sales

	NE	MW	S	W
August	630,000	1,160,000	2,130,000	880,000
July	620,000	1,200,000	2,130,000	870,000
2021	730,000	1,380,000	2,640,000	1,240,000
M/M change	1.6%	-3.3%	0.0%	1.1%
Y/Y change	-13.7%	-15.9%	-19.3%	-29.0%

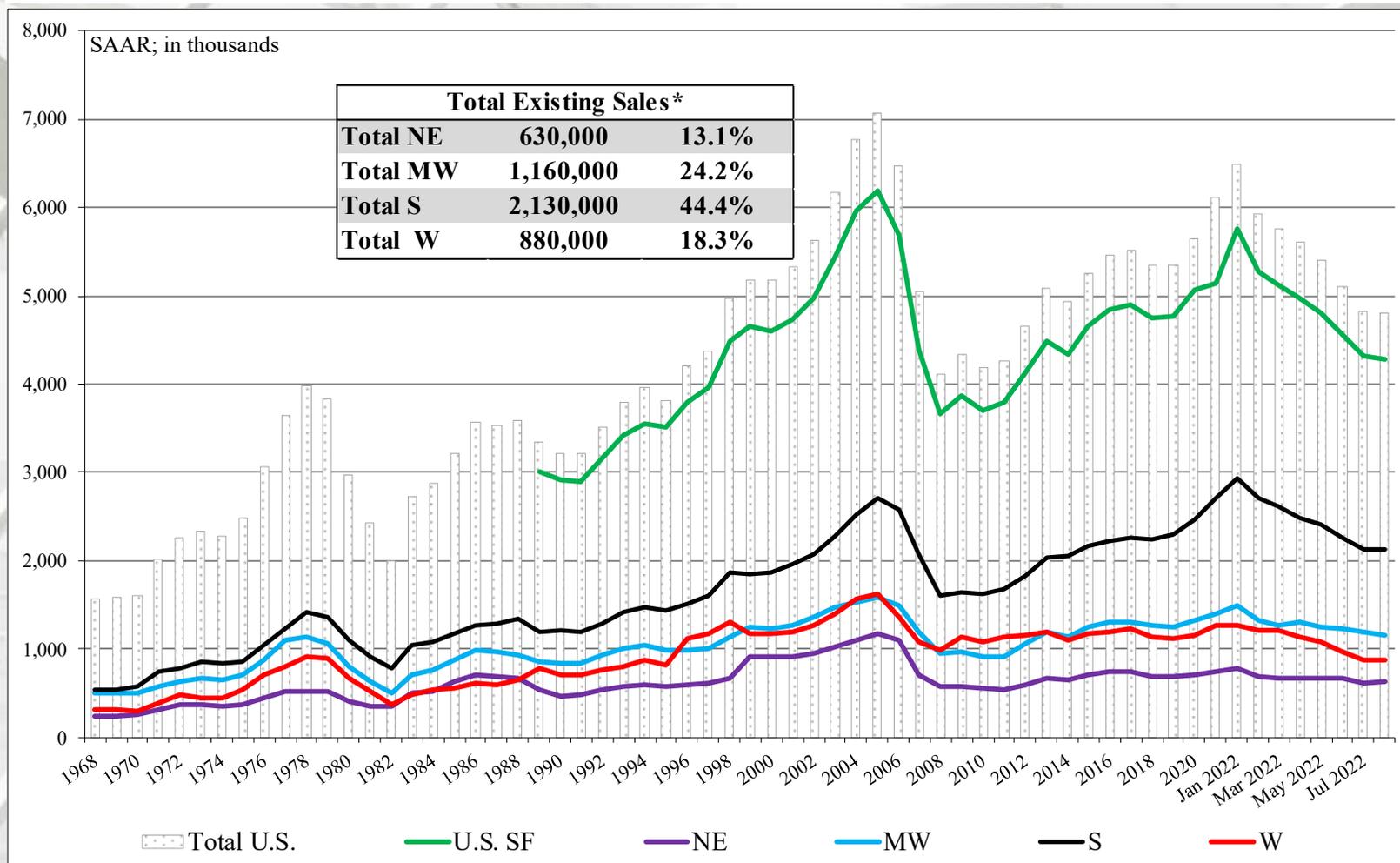
	Existing SF Sales	SF Median Price
August	4,280,000	\$370,000
July	4,320,000	\$360,700
2021	5,300,000	\$315,100
M/M change	-0.9%	-2.4%
Y/Y change	-19.2%	7.6%

All sales data: SAAR.

Source: <https://fred.stlouisfed.org/series/EXHOSLUSM495S>; 9/21/22

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 – August 2022

#### FHFA House Price Index Down 0.6 Percent in July; Up 13.9 Percent from Last Year

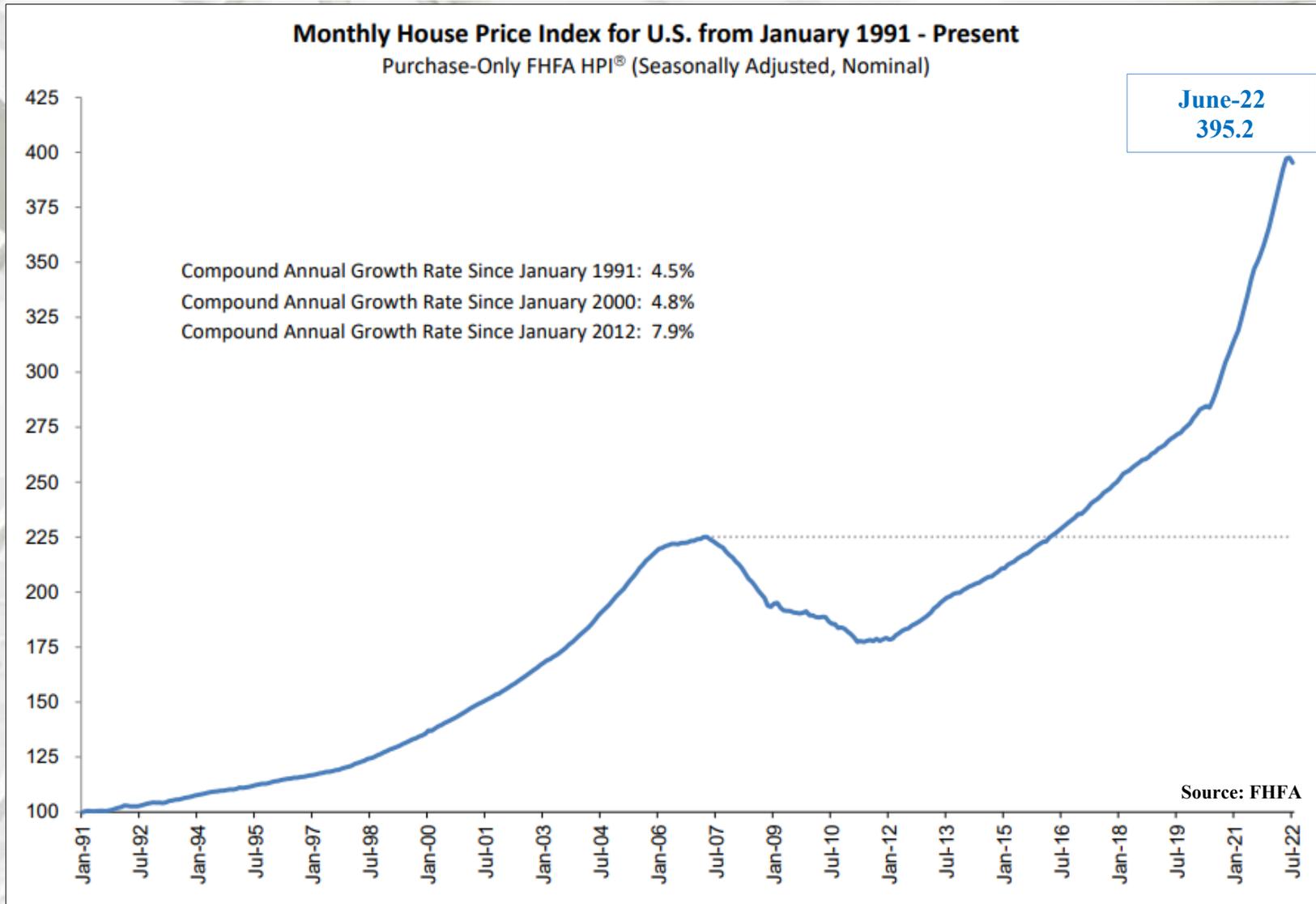
#### Significant Findings

“House prices fell nationwide in July, down 0.6 percent from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices rose **13.9 percent** from July 2021 to July 2022. The previously reported 0.1 percent price increase in June 2022 remained unchanged.

For the nine census divisions, seasonally adjusted monthly house price changes from June to July 2022 ranged from **-1.6 percent** in the Pacific division to **+0.1 percent** in the East North Central division. The 12-month changes were all positive, ranging from **+10.0 percent** in the Pacific division to **+18.9 percent** in the South Atlantic division.”– Raffi Williams and Adam Russell, FHFA

“U.S. house price index posted its first month-over-month decrease in July since May 2020 when the U.S. economy experienced lockdowns as a result of COVID-19. This decline was widespread as eight of the nine census divisions saw a decrease. The 12-month change in house prices remains at historically high rates, but the rate of growth continues to moderate across all census divisions.” – William Doerner, Ph.D., Supervisory Economist, Division of Research and Statistics, FHFA

# U.S. Housing Prices



# U.S. Housing Prices

## S&P CoreLogic Case-Shiller Index Continued its Deceleration in July

“... Data for June 2022 show that home price gains decelerated 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](http://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 15.8% annual gain in July, down from 18.1% in the previous month. The 10-City Composite annual increase came in at 14.9%, down from 17.4% in the previous month. The 20-City Composite posted a 16.1% year-over-year gain, down from 18.7% in the previous month.

Tampa, Miami, and Dallas reported the highest year-over-year gains among the 20 cities in July. Tampa led the way with a 31.8% year-over-year price increase, followed by Miami in second with a 31.7% increase, and Dallas in third with a 24.7% increase. All 20 cities reported lower price increases in the year ending July 2022 versus the year ending June 2022.

### Month-Over-Month

Before seasonal adjustment, the U.S. National Index posted a -0.3% month-over-month decrease in July, while the 10-City and 20-City Composites both posted decreases of -0.8%.

After seasonal adjustment, the U.S. National Index posted a month-over-month decrease of -0.2%, and the 10-City and 20-City Composites posted decreases of -0.5% and -0.4%, respectively.

In July, only 7 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

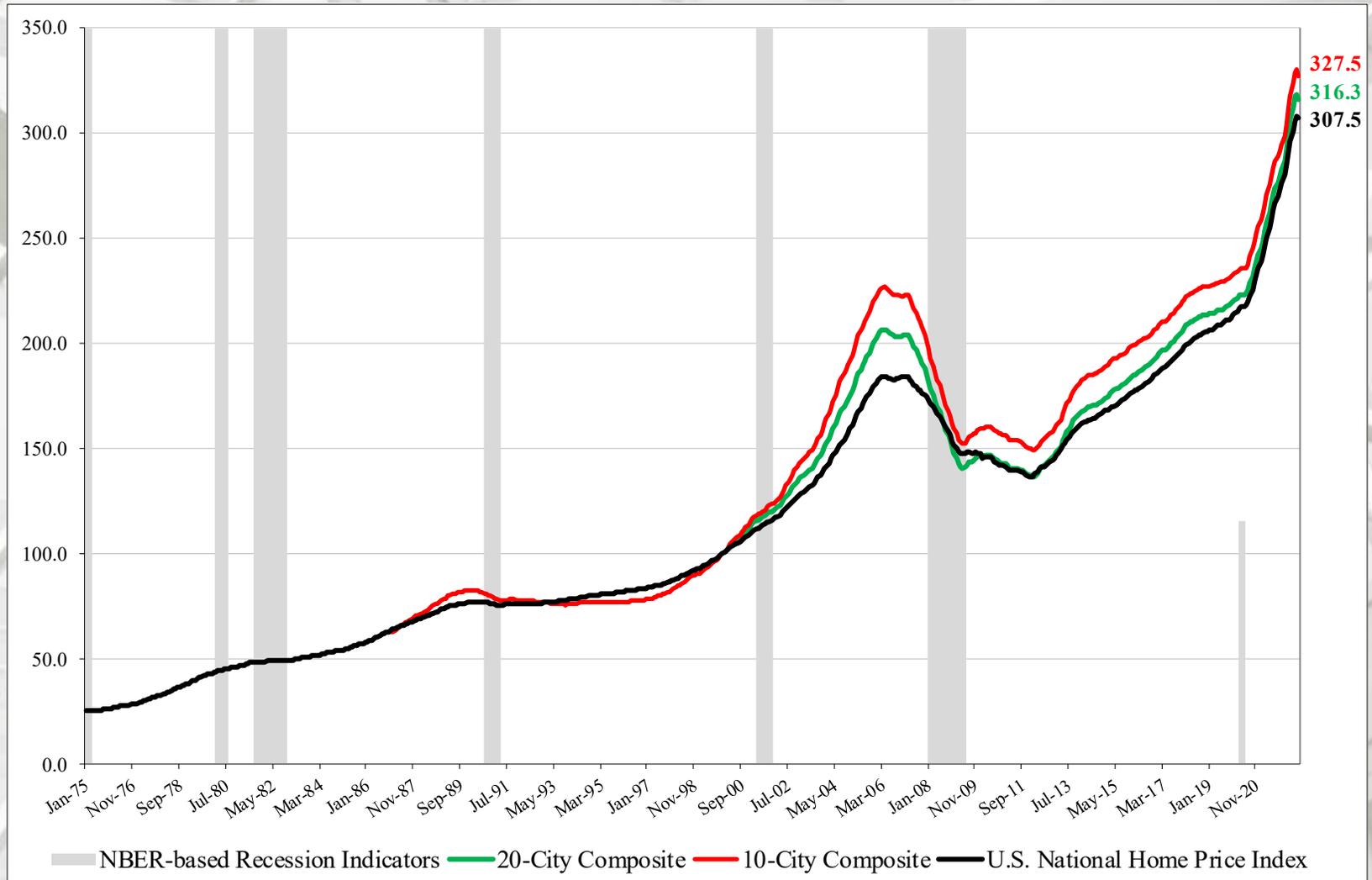
### Analysis

“Although U.S. housing prices remain substantially above their year-ago levels, July’s report reflects a forceful deceleration. For example, while the National Composite Index rose by 15.8% in the 12 months ended July 2022, its year-over-year price rise in June was 18.1%. The -2.3% difference between those two monthly rates of gain is the largest deceleration in the history of the index. We saw similar patterns in our 10-City Composite (up 14.9% in July vs. 17.4% in June) and our 20-City Composite (up 16.1% in July vs. 18.7% in June). On a month-over-month basis, all three composites declined in July.

The theme of strong but decelerating prices was reflected across all 20 cities. July’s year-over-year price change was positive for each one of the 20 cities, with a median gain of 15.0%, but in every case July’s gain was less than June’s. Prices declined in 12 cities on a month-to-month basis. Tampa (+31.8%) narrowly edged Miami (+31.7%) to remain at the top of the league table for the fifth consecutive month, with Dallas (+24.7%) holding on to third place. As has been the case for the last several months, price growth was strongest in the Southeast (+27.5%) and South (+26.9%).

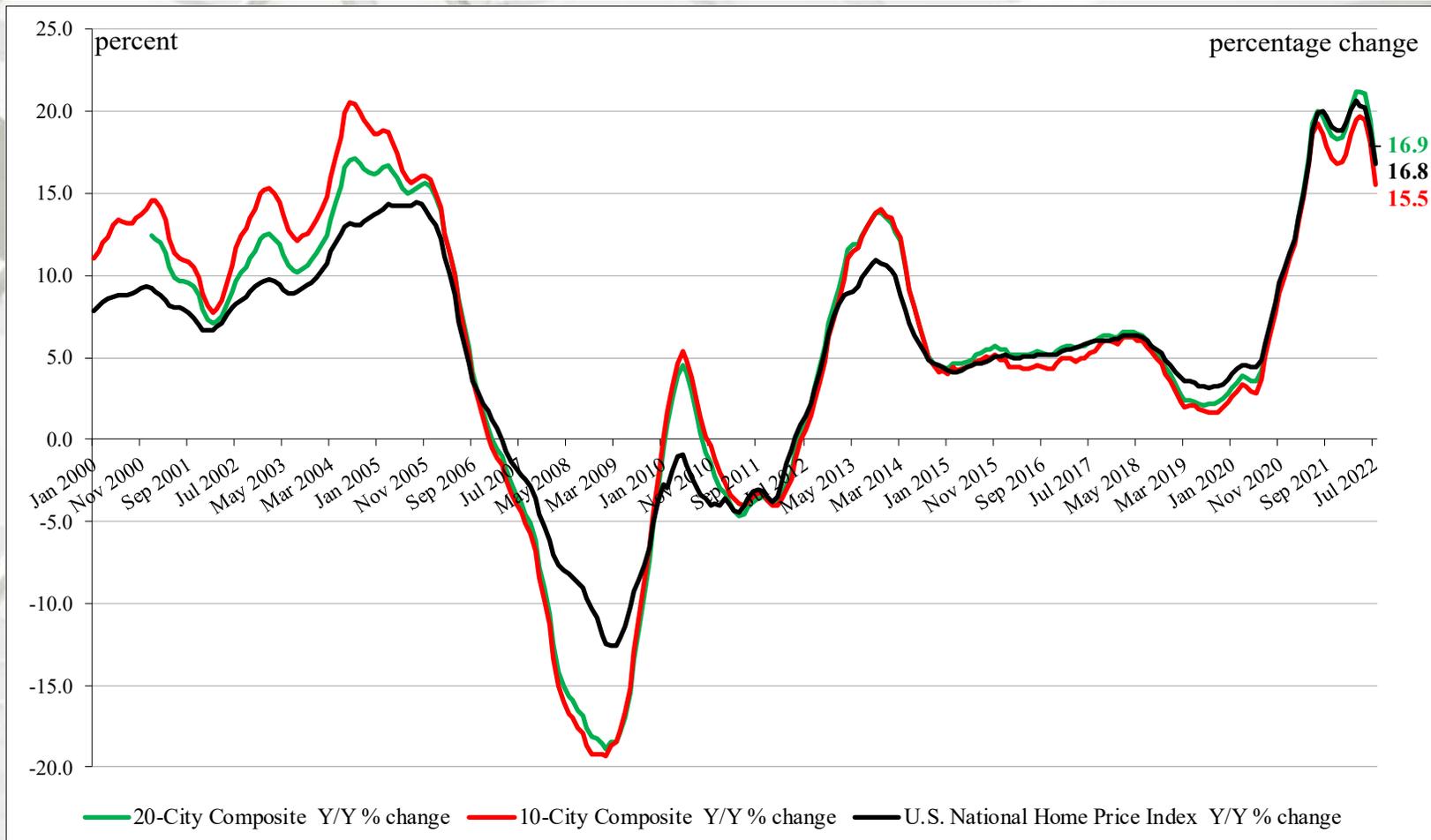
As the Federal Reserve continues to move interest rates upward, mortgage financing has become more expensive, a process that continues to this day. Given the prospects for a more challenging macroeconomic environment, home prices may well continue to decelerate.” – Craig J. Lazzara, Managing Director 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

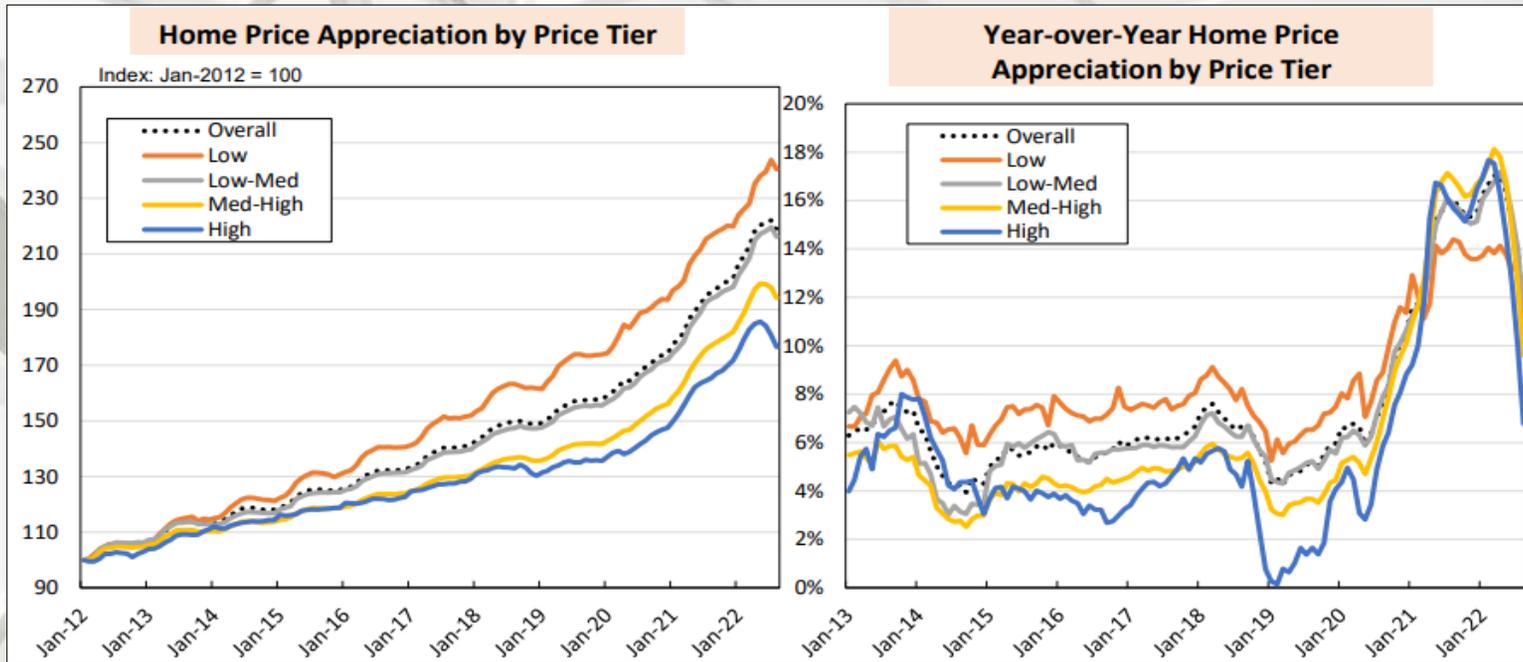


\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

## Y/Y Price Change

From July 2021 to July 2022, the National Index increased 16.8%; the Ten-City by 15.5%, and the Twenty-City by 16.9%.

# U.S. Housing Affordability



Note: Data are for the entire country. Data for August 2022 are preliminary.  
Source: AEI Housing Center, [www.AEI.org/housing](http://www.AEI.org/housing).

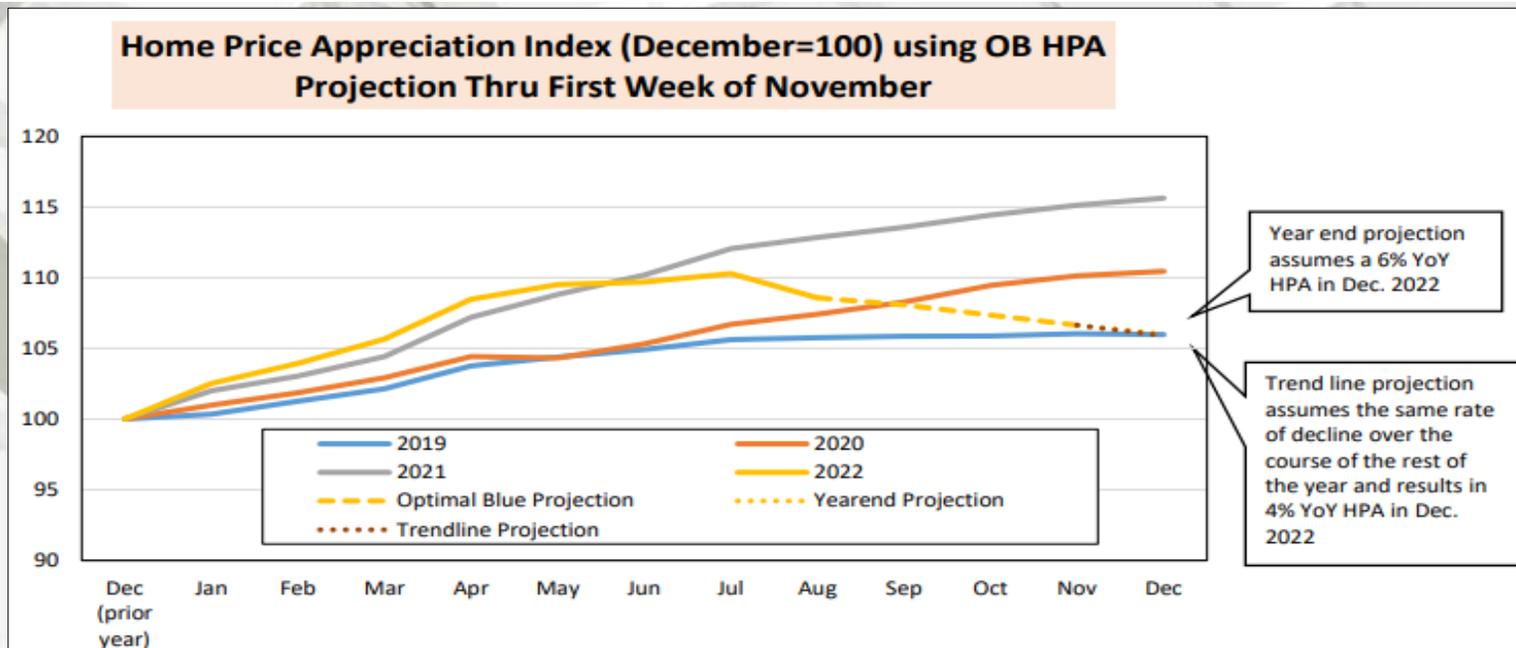
## AEI Housing Center

### 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 August 2022 indicate that while the low price tier continues to have the strongest HPA, the HPA rate has slowed across all four price tiers.
- All four tiers displayed m-o-m declines for August.
- The med-high and high price tiers, which had responded the most to the Fed’s spiking of the monetary punch bowl, are showing the largest declines due to the Fed’s rate hikes (right panel).” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

# U.S. Housing Affordability



Note: Data are for the entire country. Data for August 2022 are preliminary. September and October 2022 HPA are projected based on Optimal Blue data.

Source: AEI Housing Center, [www.AEI.org/housing](http://www.AEI.org/housing).

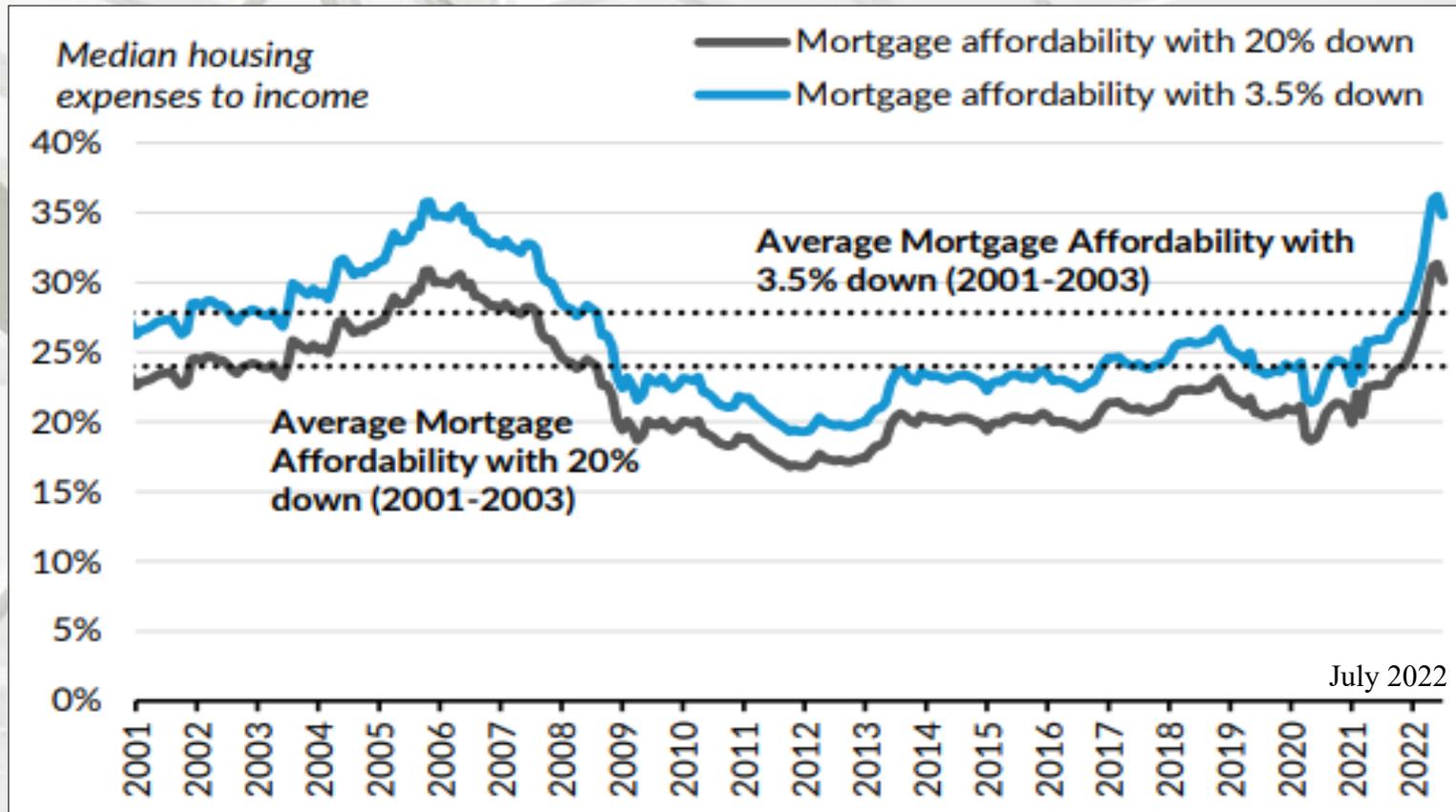
## AEI Housing Center

### Home Price Appreciation by Year – An End of Year Outlook

- The home price appreciation index seems to have peaked in July 2022.
- Home price growth in 2022 started strong by outperforming 2021, the highest HPA year since 2012.
- August HPA had a m-o-m decline of 1.6%. Based on Optimal Blue rate lock data, HPA is projected to further decline in September, October, and early November, indicating that the HPA boom that began in 2012 has ended.
- We expect the year-over-year constant quality HPA to slow to 4%-6% by the end of the end of the year.
- By December 2022 we expect that constant quality home prices will have declined by 3-5% from the July 2022 peak.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Source: <https://www.aei.org/research-products/report/aei-housing-market-indicators-september-2022/>; 9/28/22

# U.S. Housing Affordability

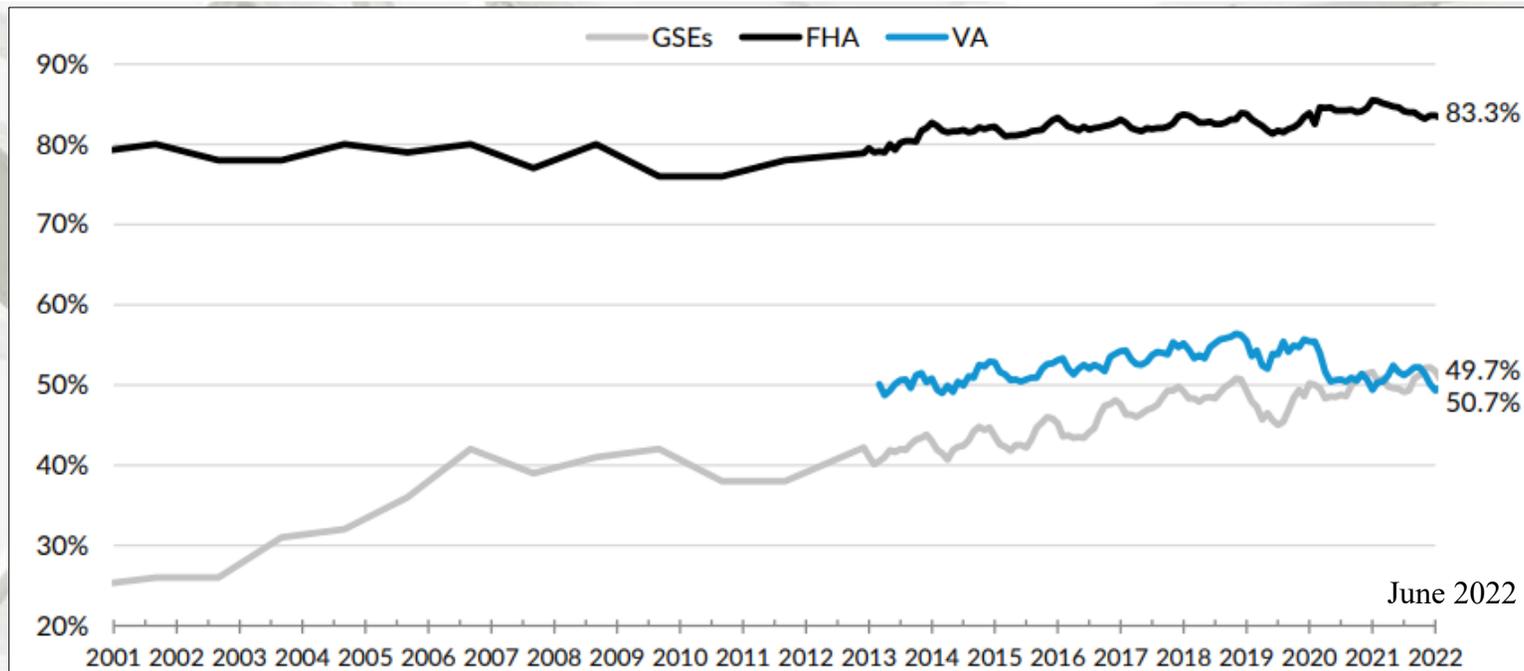


## Urban Institute

### National Mortgage Affordability Over Time

“With the rise in interest rates, and rapid increases in home prices, affordability continues to worsen. As of July 2022, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 30.1 percent, slightly lower than the 30.9 percent at the peak of the housing bubble in November 2005; with 3.5 percent down it is 34.8 percent, again slightly below the 35.8 percent prior peak in November 2005. These numbers represent a sharp worsening in affordability over the past year. ... ” – Laurie Goodman *et. al*, Vice President, Urban Institute

# U.S. Housing



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 Buyers

“In June 2022, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 83.3 percent. The FTHB share of GSE lending in June was 50.7 percent; the VA share was a very similar 49.7 percent. The bottom table shows that based on mortgages originated in July 2022, 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.” – Laurie Goodman *et. al*, Vice President, Urban Institute

# U.S. Housing Market

John Burns Real Estate Consulting, LLC

## Housing Bubble Set to Pop



### TOP 10 SIGNS OF A MARKET BUBBLE

As compiled by 73 executives at The Summit on June 13-14, 2013.  
Last reviewed: September 2022.

NOT WIDESPREAD (Green) | PROMINENT IN MOST MARKETS (Red)

Qualitative	Quantitative
<b>1. LUXURY CARS FOR THE STAFF.</b> When your salesperson parks their Lamborghini in front of the model home, next to your Land Acquisition VP's Land Rover and mortgage	<b>1. VERY HIGH SUPPLY.</b> When single-family construction volumes approach historic market highs.
<b>2. MULTIPLE HOMES FOR EVERYONE.</b> When your hair dresser, cab driver, or nanny buys multiple homes, and your trades are fighting to get on the VIP list for	<b>2. VERY POOR AFFORDABILITY.</b> When affordability approaches historical worst affordability.
<b>3. OUTLANDISH PARTIES.</b> When trades invite you to all-expenses-paid out-	<b>3. WANING DEMAND.</b> When annual job growth is less than annual construction.
<b>4. CREATIVE MORTGAGES.</b> When radio ads and billboards advertise creative mortgages such as no documentation, no income verification, 100%+	<b>4. FALLING SALES.</b> When trailing 12 month total sales begin to trend down, while your cancellation rate spikes.
<b>5. TRUCK STOP FEASIBILITY.</b> When your Land Acquisition VP brings you a deal in a city you have only visited while	<b>5. FALLING BUILDER STOCK PRICES.</b> When home builder stocks are off 15% more than the overall market, and insiders are selling.

<b>6. LAZY UNDERWRITING.</b> When you are outbid by someone who was told to buy the land deal, no matter what, or your bank or equity partner	<b>6. RISING HOME EQUITY CASH-OUT.</b> When home equity lending is much higher than normal.
<b>7. THE NEW URBAN PARADIGM SHIFT.</b> When a staff member suggests a podium deal or condo	<b>7. IMPOSSIBLE MARKET SHARE.</b> When 10 builders announce they will be in the top 5.
<b>8. BOOMING REAL ESTATE CAREERS.</b> When real estate agent is the fastest growing occupation, the Real Estate Club is the most popular club in school, or your Division President has less than 10 years of industry	<b>8. MORTGAGE DEFAULTS AND ARMS.</b> When mortgage defaults and adjustable rate loans are
<b>9. REALITY TV.</b> When builders are giving away free houses on reality TV shows, or "Flip that House" returns to	<b>9. HISTORIC MARGINS.</b> When gross margins on multiple projects exceed 35%.
<b>10. EXCESSIVE INVESTMENTS.</b> When you improve 500 lots when you only need 150 this year, or you are worried about filling your land pipeline five	<b>10. DEVELOPER PROFIT DISAPPEARS.</b> When builders are willing to develop their own lots for no

**8/10 QUALITATIVE SIGNS** | **8/10 QUANTITATIVE SIGNS**

In summary, our conclusion is that the smartest minds in housing believe we are in the early innings of a housing recovery that is playing out much more quickly than usual. If rates continue to rise, which they have through May and June 2013, the pace of recovery should slow. Now is the ideal time for executives to:

- 1. Capitalize their company** with the right mix of debt and equity. For some, this might mean selling a few assets or part of the company, including tapping into the public markets.
- 2. Invest with the discipline** and the risk/reward parameters that are appropriate for you. Investment prices generally require investors to assume that future appreciation will occur, which makes investing even trickier and riskier than usual.

JOHN BURNS REAL ESTATE CONSULTING | WWW.REALESTATECONSULTING.COM

# U.S. Housing Market

## ING Economics

### US housing recession is already here

Rising mortgage rates and a lack of affordability are prompting a steep drop-off in demand for housing. At the same time inventory for sale is on the rise. A combination of falling transactions and prices will intensify the recessionary forces the US economy is facing

#### **The stimulus-fueled surge in prices looks to be over**

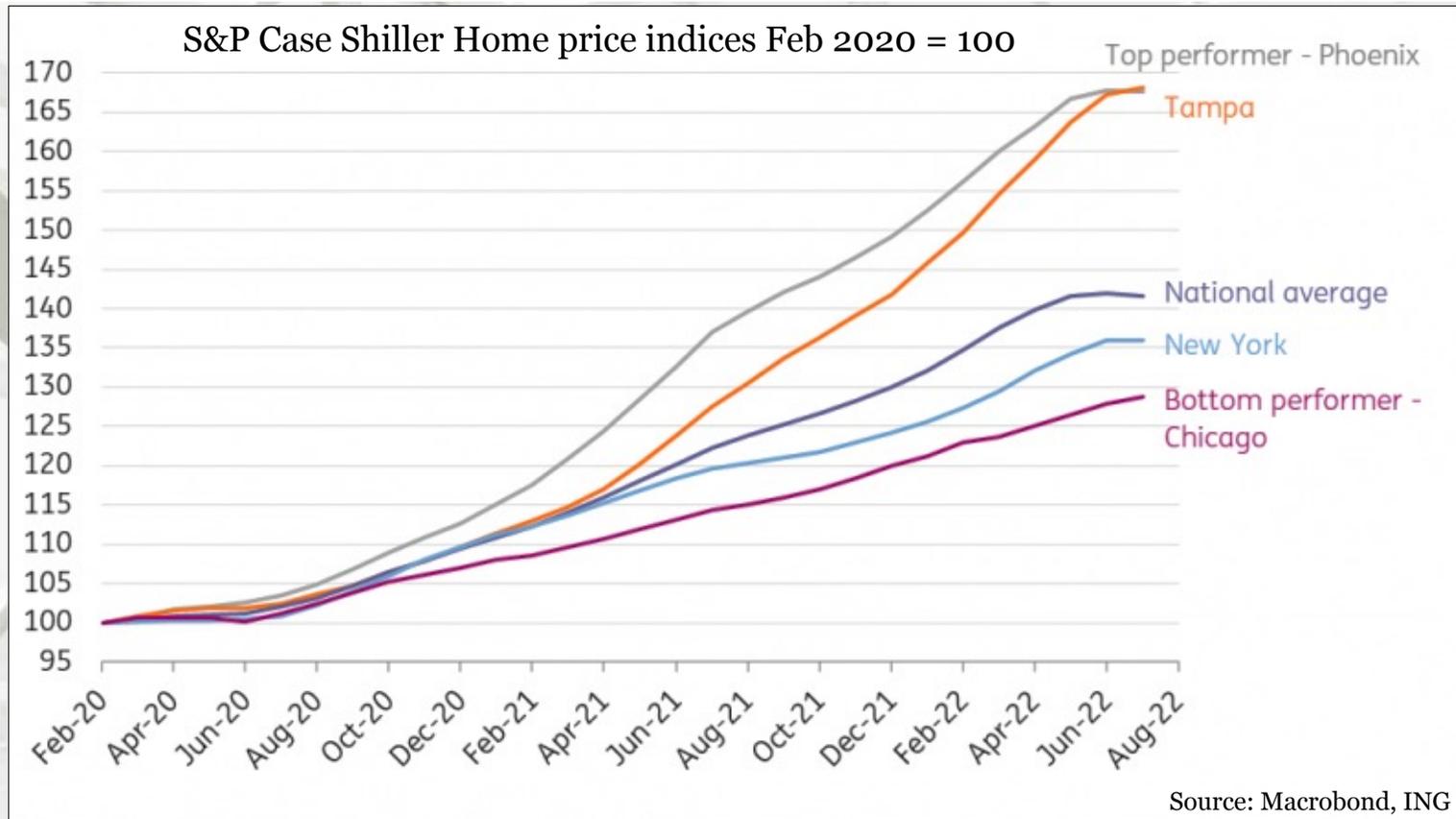
“House prices nationally have increased more than 40% since the start of the pandemic as massive fiscal and monetary stimulus fueled demand for homes. Working from home has also opened more opportunities of where to live, yet at the same time, supply was limited with new construction slow to catch up.

Some hot spots in the south and west of the US have experienced price gains of more than 60%, but even the weaker performers in the north and east of the country have seen price rises in excess of 25%. However, the demand momentum appears to be rapidly fading with affordability, amidst record prices and rising borrowing costs, the key issue. Supply is picking up too with a July month-on-month fall in prices, the first in over ten years, likely to be the start of many.

#### **Affordability is stretched to the limit**

Rapidly rising house prices are typically associated with larger mortgage borrowing. The average new mortgage taken out for a home purchase did rise to \$450,000 between January and April, but this has subsequently declined to a \$413,000 average for May-September 2022, not that far above the \$403,000 average for the whole of 2021. This indicates homeowner equity has been rising significantly as a proportion of the funds used to make a home purchase.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market



## ING Economics Affordability is stretched to the limit

“Yet the challenges for first-time buyers to save for a deposit are mounting, especially with surging inflation squeezing spending (and saving) power. Falling equity markets and tumbling bond prices are further hampering new buyers’ ability to build enough for the required deposit. Homeowners looking to trade up are in a better position, already partially owning an asset whose price is moving in the same direction, but it certainly isn’t easy.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

## ING Economics

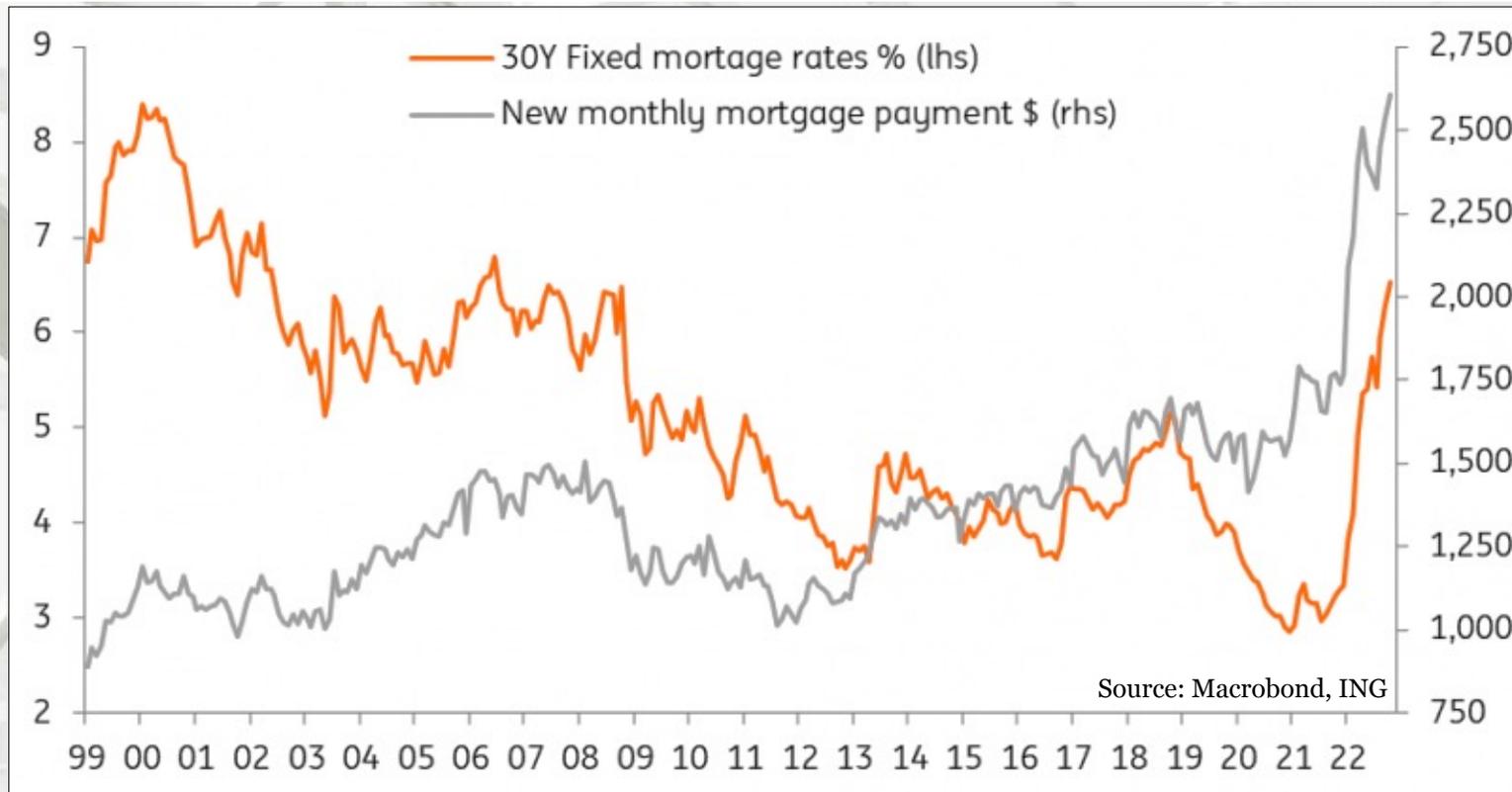
### **Affordability is stretched to the limit**

“Then there is the cost of financing a mortgage. The Federal Reserve has been raising interest rates swiftly since March as inflation continued to surprise to the upside. We expect them to raise the Fed funds target range to 4.25-4.5% by year-end from the current 3-3.25% level. This increasingly hawkish message from the Federal Reserve has resulted in longer dated Treasury yields moving sharply higher, which in turn has been the catalyst for the typical 30Y fixed mortgage rate rising from below 3% in November 2021 to 6.52% as of last week.

The combination of higher borrowing at higher interest rates means that the monthly payment on a new 30Y fixed rate mortgage at the prevailing average mortgage size and the prevailing mortgage interest rate has risen rapidly. It was \$1,550 per month at the start of the pandemic when the typical mortgage size was \$350,000 at 3.4% fixed for 30 years. Today it is over \$2,600 based on a 30Y fixed rate mortgage for \$411,700 at 6.52%.

On an annual basis this equates to 43% of the median pre-tax household income. By point of reference the typical new annual mortgage payments for a home purchase equated to 26% of median incomes in the fourth quarter of 2019 and 37% at the peak of the housing bubble in 2006.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

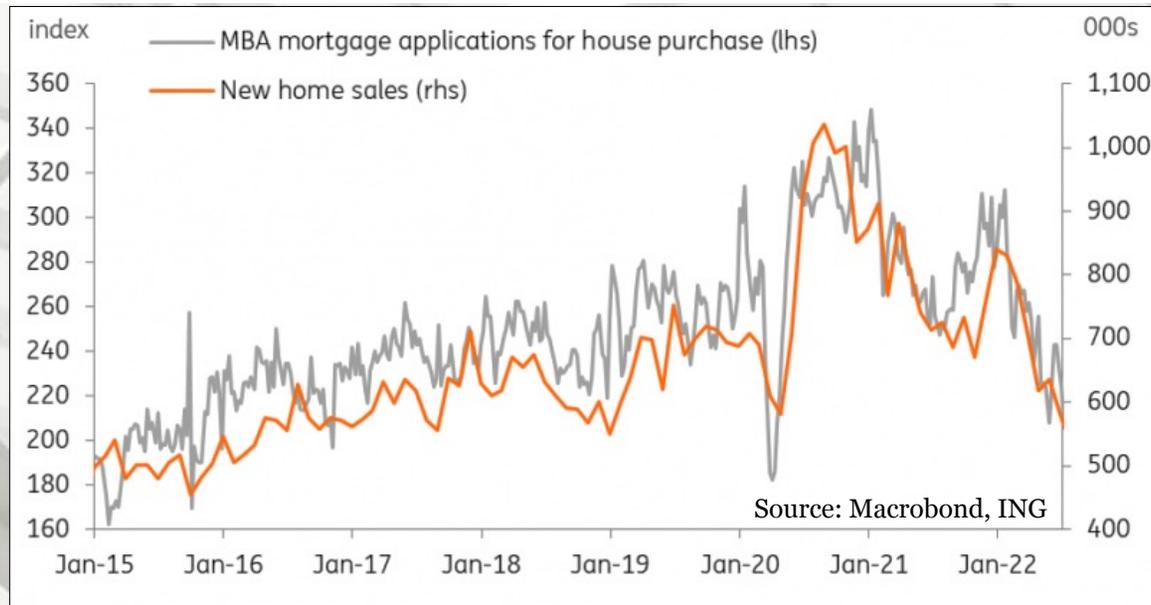


## ING Economics

### Demand is capitulating and transactions are slowing

“With fewer people able to raise the money required for a deposit given inflation and financial asset price falls and then fewer people still who can afford the required monthly mortgage payments, it is little surprise that mortgage applications for home purchases have fallen more than 30% year to date. This is already translating into falling new home sales, although it must be said that the appetite of cash buyers has declined at similar rates with the proportion of cash-only transactions for new homes holding steady at 30%.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market



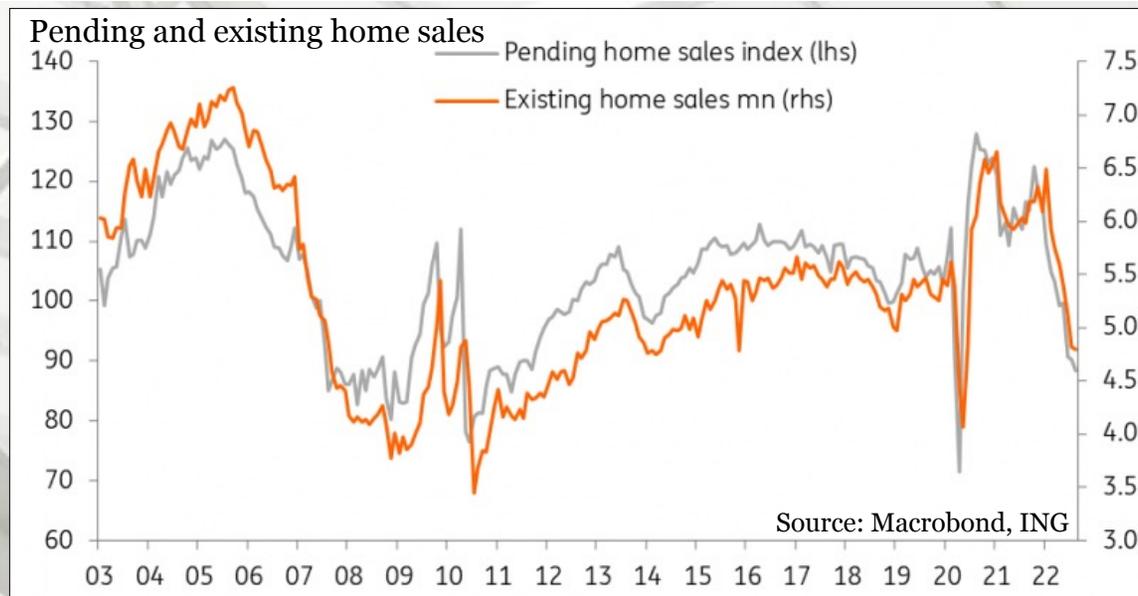
## ING Economics

### Demand is capitulating and transactions are slowing

“Admittedly, the new home sales number did jump 29% MoM in August as the chart below shows. It may be a late wave of buyers trying to beat the hike in interest rates or buyers taking advantage of discounts from builders since year-on-year new home price growth slowed to just 8% YoY, the slowest increase since November 2020. This could be the case of institutional investors who pay cash and are interested in taking advantage of high rents to get a financial return. However, we don’t see this as sustainable as institutional investors would normally account for only 10-15% of home sales with individual buyers by far and away the main driver of housing activity. Moreover, local governments have been pushing back against corporate landlords in many states – favouring policies to promote home ownership – while falling prices may also make the metrics less attractive for investors.

Existing home sales, which account for a greater proportion of total sales are following a similar pattern, with transactions down 26% since last November. Aside from the initial dislocation caused by the pandemic, this is the weakest transaction number since 2012 and is on a par with where we were following the bursting of the 2005/06 housing bubble.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market



## ING Economics

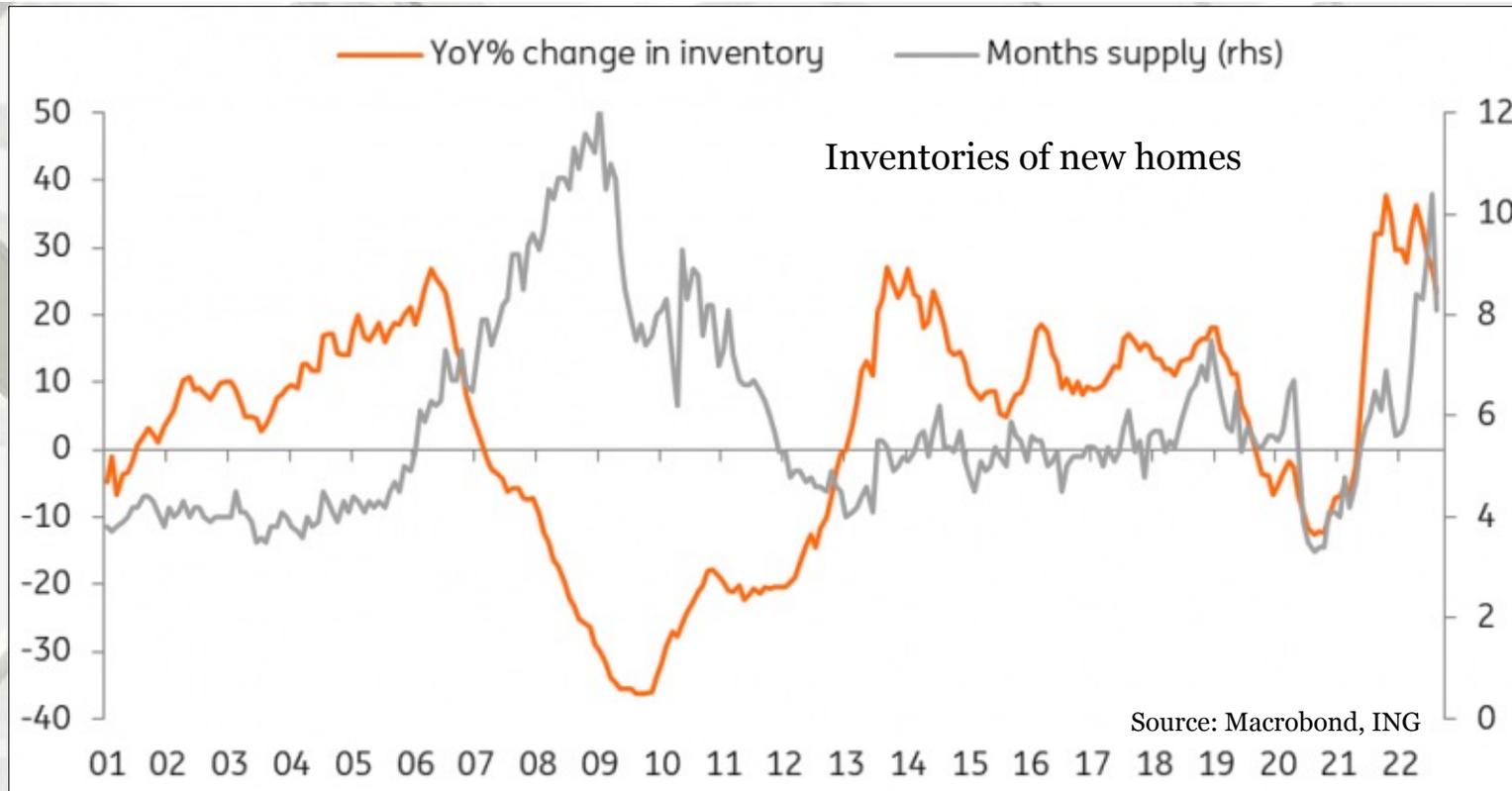
### Supply is on the rise

“New residential construction was slow to respond to the pick-up in demand in 2020 with Covid restrictions limiting activity in the initial phase of the pandemic. Next came surging commodity costs while a lack of available workers created challenges and put-up costs. Housing starts and building permits did eventually accelerate, hitting 16-year highs at the start of 2022.

However, the National Association of Homebuilders Builders’ sentiment index has fallen for nine straight months as the plunge in demand combined with elevated costs to create a challenging environment. They are then faced with the problem that the slowdown in sales at a time of strong construction means that the inventory of new homes for sale has risen 64% since the third quarter of 2020. Builders are not typically in a financial position to keep their homes unoccupied, hence why prices are coming under pressure as they look to sell inventory.

The story isn’t as dramatic in the market for existing homes, although inventory for sale has risen 50% since February to 1.28 million homes with it set to take 3.2 months to clear the backlog of homes for sale at the current rate of transactions. This is up from 1.6 months in January, but we remain below the 5.4-month average of the past 20 years.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

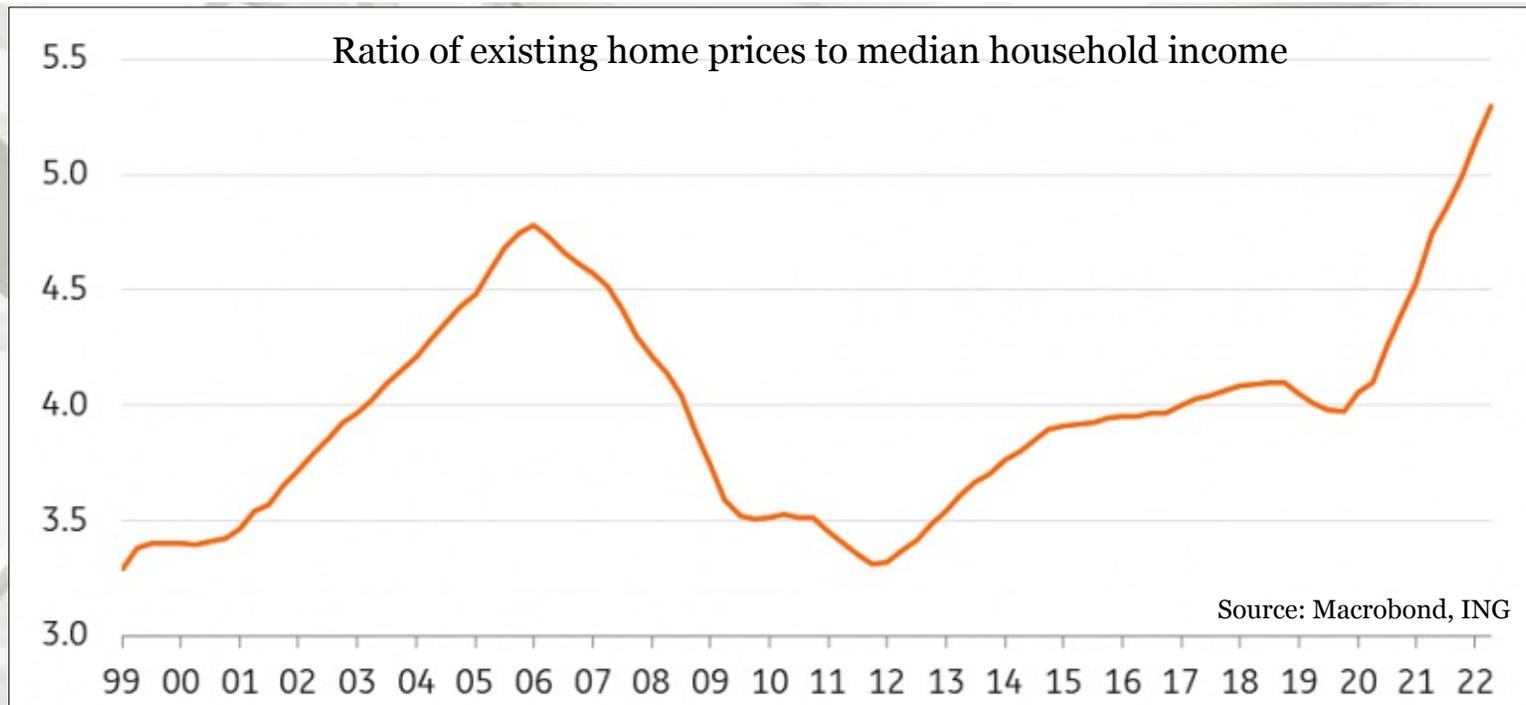


## ING Economics

### Supply is on the rise

“Where this supply of existing homes is coming from is not exactly clear. With rents having risen rapidly we are unlikely to be seeing many people switching from home ownership to the private rental market while low unemployment and mortgage defaults don’t point to forced sellers. It may well be that with prices having risen so rapidly we are starting to see people who have investment properties looking to sell or there may be some people looking to downsize to smaller cheaper homes. Then of course there could be people looking to sell their home to give themselves more flexibility as future cash buyers in a weakening market.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market



## ING Economics

### The Fed wants a correction

“So far, we have only had one monthly fall in house prices but with more supply coming on the market at a time when demand is weakening rapidly implies that prices fall further. Fed Chair Jerome Powell accepted as much in the press conference following the latest 75bp rate hike on September 21st. He warned that “we probably in the housing market have to go through a correction”, adding that “there was a big imbalance between supply and demand, and housing prices were going up at an unsustainably fast level. So, the deceleration in housing prices that we’re seeing should help bring prices more closely in line with rents and other housing market fundamentals – and that’s a good thing”. – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

## ING Economics

### **The Fed wants a correction**

“The Federal Reserve’s forecasts indicated interest rates will be raised further with policy held in restrictive territory to constrain inflation, so there is likely to be more pain ahead for the housing market. With the US 10Y within touching distance of 4% and likely to break above we should be braced for the 30Y fixed rate mortgage to soon approach 7%.

Housing valuations look very stretched right now. The median price for an existing home is 5.3 times the median level of household incomes, higher than even at the peak of the housing boom of the mid-2000s. To get us back to the long-run average house price-to-income ratio of around 4 on a three-year horizon would imply prices falling peak-to-trough by around 20% while assuming nominal incomes rise 3% in each year.

### **Recessionary forces are intensifying**

Falling transactions and falling home prices will intensify the recessionary forces buffeting the US economy. Weaker housing transactions leads to weaker activity elsewhere with construction at the forefront. On a GDP basis, residential fixed investment accounted for 4.7% of all economic output over the past 12 months. Back in the previous housing boom in 2005/06 it peaked at 6.7% before dropping below 2.5% in 2010/11 during which time the volume of residential investment output fell 59%.

There will be knock-on effects for realtors, mortgage brokers and real estate lawyers, together with movers and packers. Then there is the strong correlation between the performance of the housing market and key retail sales components such as furniture and home furnishings, electric appliances and building supplies as people look to upgrade and refresh in a new home.

Aside from the direct spending consequences, rising interest rates in an environment of falling home prices are never a good combination for consumer sentiment and will add to the chances of a retrenchment in broader consumer spending.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

## ING Economics

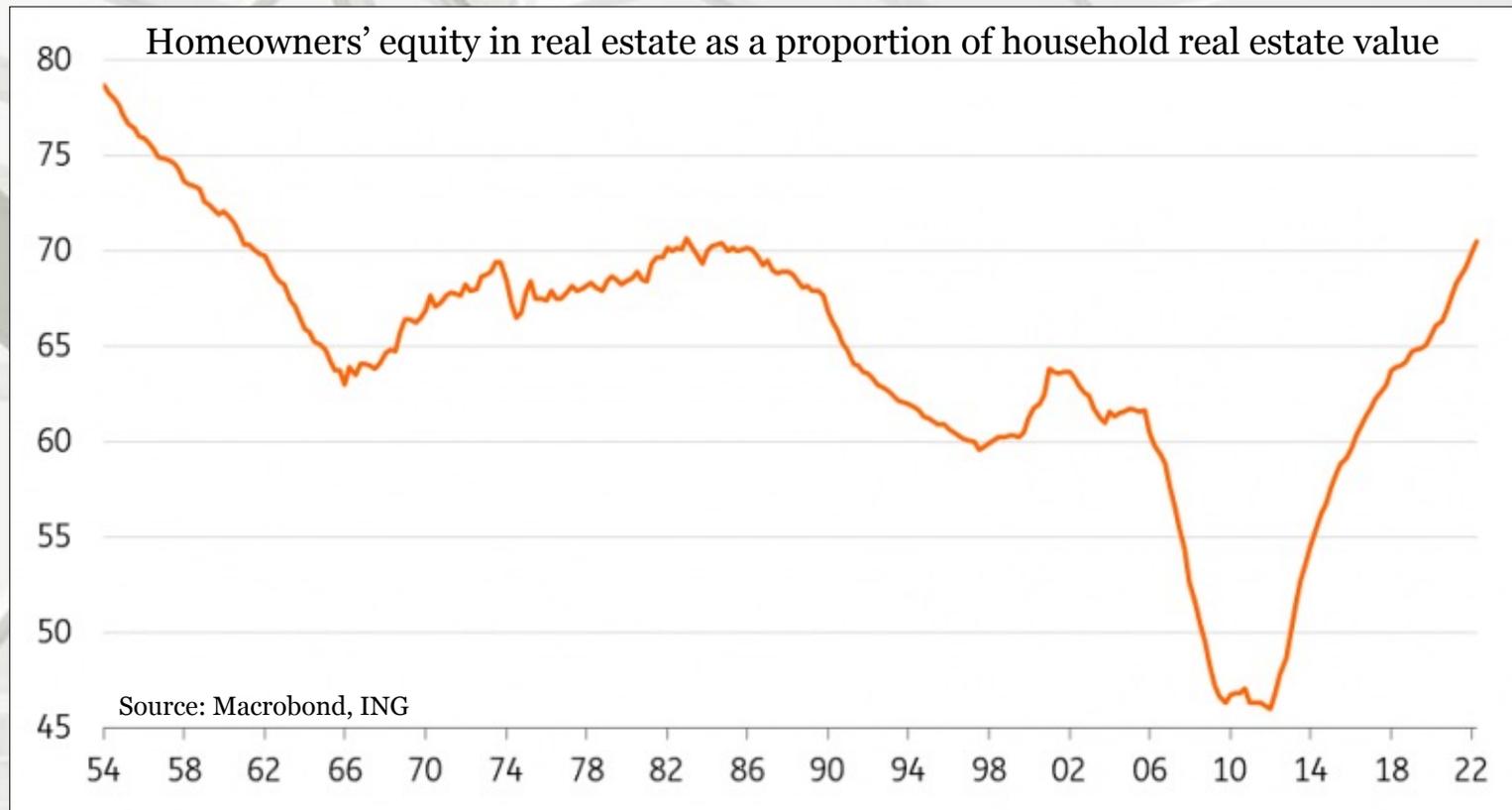
### **Negative equity and financial risks are lower than in the Global Financial Crisis**

“Undoubtedly many people who have bought over the past 18 months will be exposed to the risk that the value of their home falls below what they paid and may, in some cases, erode all of the equity they have in their home. In such an instance we have to expect that some homeowners cease servicing their loans, particularly if the US economy does enter a downturn and unemployment starts to rise. This will result in banks becoming more reluctant to lend with lending standards tightening, exacerbating the strains in the housing market.

However, the broader risks appear to be small. Household balance sheets are in a healthy shape with household assets having doubled to \$163tn since their pre-Global Financial Crisis peak while liabilities have risen less than \$5tn over the same period to stand at \$19tn. Moreover, the proportion of equity that homeowners have in their property is 70.5%, the highest since 1983, while in 2005/06 it was only 62%.

With financial regulations having been tightened significantly since the Global Financial Crisis the risk of catastrophic loan losses and major strains on the US financial system, even under a scenario of 20%+ price falls appears small. Furthermore, with the labour market in a strong position with two job vacancies currently available for every single unemployed American, we remain confident that businesses will be reluctant to implement major job losses, fearing that a swift economic rebound could mean firms having to hire back staff at much higher wage rates amid intense competition.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market

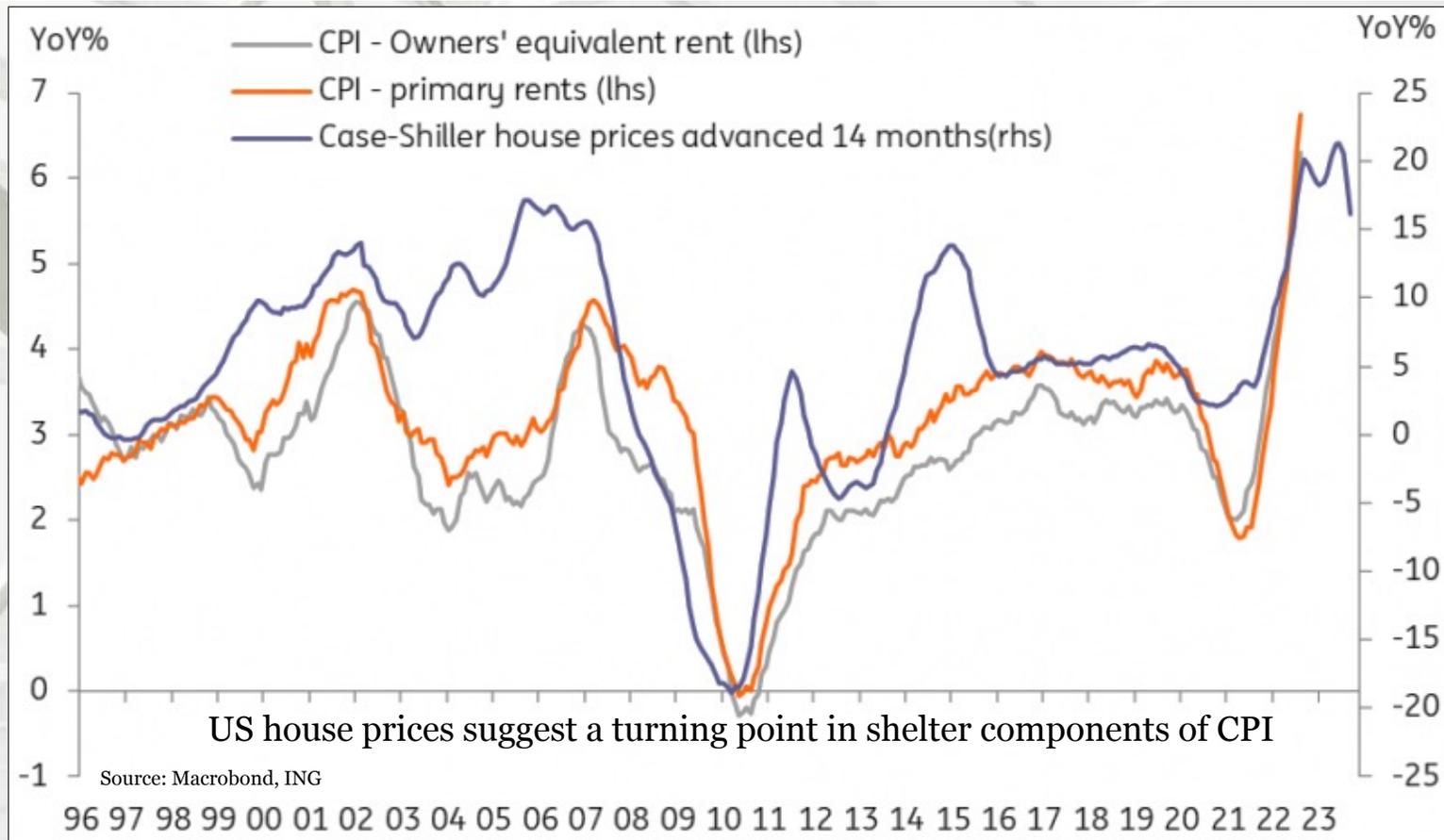


## ING Economics

### Housing downturn opens the door to lower inflation and lower interest rates

“A housing market downturn will weaken the US growth story, but it is also important to remember it will dampen inflation too. Shelter is the largest component of CPI with a one-third weighting via the primary and owners’ equivalent rent components. As the chart below shows there is a lag of 12-16 months between movements in house prices and the shelter components of CPI – rents are typically only changed once a month is one reason.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Market



## ING Economics

### Housing downturn opens the door to lower inflation and lower interest rates

“It suggests we may be soon getting to a turning point in the annual rate of change in these key CPI rent components, which if so, can meaningfully depress consumer price inflation through 2023 and likely contribute to getting the US inflation rate back towards 2% by the end of 2023. While the Federal Reserve is downplaying the possibility, we are firmly of the view that interest rate cuts will be on the table in the second half of 2023.” – James Knightley, Chief International Economist, ING Economics

# U.S. Housing Finance

## Mortgage Bankers Association (MBA)

### Mortgage Credit Availability Decreased in September

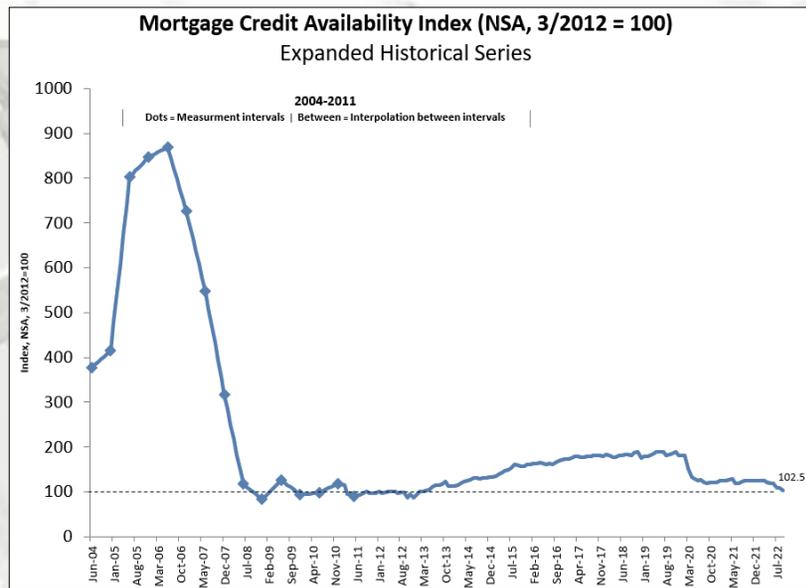
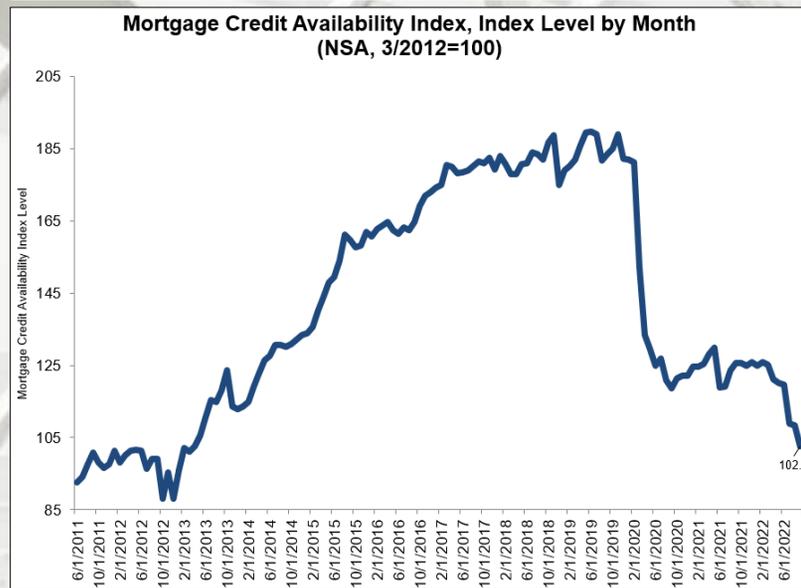
“Mortgage credit availability decreased in September according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from ICE Mortgage Technology. Mortgage credit availability decreased in August according to the Mortgage Credit Availability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

The MCAI fell by 5.4 percent to 102.5 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 decreased 4.9 percent, while the Government MCAI decreased by 5.7 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI decreased by 5.8 percent, and the Conforming MCAI fell by 3.6 percent.

Credit availability fell to the lowest level since March 2013 – the seventh consecutive month of tightening. With the likelihood of a weakening economy, which would lead to an increase in delinquencies, there was a smaller appetite for lower credit score and high LTV loan programs, along with a reduction in government streamline refinance programs. As mortgage rates have more than doubled over the past year, resulting in a drop in refinance activity, lenders have worked to reduce excess capacity and costs by eliminating underutilized loan programs. All the component indices declined last month, with most of the indices falling to their lowest levels in over a year. In particular, the government credit availability index has declined in seven of the last eight months to its lowest level since April 2013.” – 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

September 19, 2022

	2021				2022				2023				2021	2022	2023	2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<b>Housing Measures</b>																
Housing Starts (SAAR, Thous)	1,581	1,591	1,569	1,679	1,720	1,655	1,480	1,466	1,478	1,514	1,564	1,595	1,605	1,580	1,538	1,660
Single-Family	1,138	1,112	1,104	1,170	1,187	1,088	950	964	992	1,032	1,100	1,143	1,131	1,047	1,067	1,210
Two or More	443	479	465	509	533	567	530	502	486	482	464	452	474	533	471	450
<b>Home Sales (SAAR, Thous)</b>																
Total Existing Homes	6,287	5,950	6,067	6,203	6,057	5,373	5,027	5,177	5,221	5,191	5,264	5,382	6,127	5,409	5,264	5,454
New Homes	853	754	715	755	776	612	586	698	719	738	741	753	769	668	738	784
<b>FHFA US House Price Index (YOY % Change)</b>																
Median Price of Total Existing Homes (Thous \$)	317.6	355.9	360.4	357.6	365.8	405.9	379.5	376.1	389.4	393.5	399.8	402.0	347.9	381.8	396.2	410.6
Median Price of New Homes (Thous \$)	364.9	380.6	407.8	422.5	431.3	434.6	437.2	439.7	438.9	440.6	441.5	442.3	394.0	435.7	440.8	443.7
<b>Interest Rates</b>																
30-Year Fixed Rate Mortgage (%)	2.9	3.0	2.9	3.1	3.8	5.2	5.5	5.5	5.3	5.3	5.1	5.0	3.1	5.5	5.0	4.4
10-Year Treasury Yield (%)	1.3	1.6	1.3	1.5	1.9	2.9	3.0	3.1	3.0	3.0	2.9	2.9	1.5	3.1	2.9	2.5
<b>Mortgage Originations</b>																
Total 1- to 4-Family (Bil \$)	1,212	1,168	1,062	994	689	678	480	477	467	620	577	580	4,436	2,324	2,244	2,501
Purchase	362	521	500	480	381	477	388	372	343	482	444	435	1,863	1,618	1,704	1,806
Refinance	850	648	562	515	308	201	92	105	124	138	133	145	2,574	706	540	695
Refinance Share (%)	70	55	53	52	45	30	19	22	27	22	23	25	58	30	24	28
FHA Originations (Bil \$)													326	163	168	180
Total 1- to 4-Family (000s loans)	3,767	3,554	3,220	3,009	1,830	1,846	1,520	1,423	1,309	1,664	1,557	1,493	13,549	6,619	6,023	6,296
Purchase	1,012	1,454	1,398	1,340	1,025	1,282	1,092	1,047	908	1,246	1,139	1,081	5,204	4,446	4,374	4,494
Refinance	2,755	2,100	1,822	1,669	805	564	428	376	401	418	418	412	8,346	2,173	1,649	1,802
Refinance Share (%)	73	59	57	55	44	31	28	26	31	25	27	28	62	33	27	29
<b>Mortgage Debt Outstanding</b>																
1- to 4-Family (Bil \$)	11,783	12,022	12,274	12,536	12,777	12,993	13,211	13,389	13,590	13,800	14,000	14,188	12,536	13,389	14,188	14,814

**Notes:**

As of the August 2022 forecast, 2021 origination volume was revised based on the 2021 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

September 19, 2022

	2021				2022				2023				2021	2022	2023	2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<b>Percent Change, SAAR</b>																
Real Gross Domestic Product	6.3	6.7	2.3	6.9	-1.6	-0.6	1.3	1.8	0.6	0.9	0.7	1.2	5.5	0.2	0.9	1.3
Personal Consumption Expenditures	11.4	12.0	2.0	2.5	1.8	1.5	1.6	3.1	0.6	0.8	1.0	1.2	6.9	2.0	0.9	1.9
Business Fixed Investment	12.9	9.2	1.7	2.9	10.0	0.0	2.5	3.6	-1.0	-1.0	-1.3	-0.7	6.6	3.9	-1.0	-0.9
Residential Investment	13.3	-11.7	-7.7	2.2	0.4	-16.2	-29.9	-17.0	2.0	10.6	12.6	13.6	-1.5	-16.3	9.6	7.1
Govt. Consumption & Investment	4.2	-2.0	0.9	-2.6	-2.9	-1.8	-0.7	1.7	3.3	1.4	1.4	1.3	0.1	-0.9	1.9	0.8
Net Exports (Bil. Chain 2012\$)	-1033.0	-1048.4	-1112.3	-1139.5	-1311.0	-1247.4	-1146.6	-1169.3	-1188.6	-1180.3	-1191.0	-1202.4	-1083.3	-1218.6	-1190.6	-1269.8
Inventory Investment (Bil. Chain 2012\$)	-75.1	-143.3	-56.8	164.3	160.3	71.3	51.5	54.9	56.9	40.4	23.0	14.6	-27.7	84.5	33.7	21.2
Consumer Prices (YOY)	1.9	4.8	5.3	6.7	8.0	8.6	8.2	7.3	5.5	3.4	2.7	2.3	6.7	7.3	2.3	2.0
<b>Percent</b>																
Unemployment Rate	6.2	5.9	5.1	4.2	3.8	3.6	3.7	3.7	3.9	4.0	4.3	4.5	5.4	3.7	4.2	4.9
Federal Funds Rate	0.125	0.125	0.125	0.125	0.375	1.625	2.375	3.875	4.125	4.125	4.125	4.125	0.125	3.875	4.125	3.125
10-Year Treasury Yield	1.3	1.6	1.3	1.5	1.9	2.9	3.0	3.1	3.0	3.0	2.9	2.9	1.5	3.1	2.9	2.5

**Notes:**

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

All data except interest rates are seasonally adjusted

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

Forecast produced with the assistance of the Macroeconomic Advisers' model

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# MBA

MORTGAGE BANKERS ASSOCIATION

# Summary

## **In conclusion:**

The Federal Reserve Board of Governor's focus for a “housing reset” was in full-force. In August, month-over-month data continued a negative movement in many data categories. Year-over-year data were similar; though single-family permits decreased again. This foreshadows further moderation in single-family activity in the forthcoming months. The impact of increasing borrowing costs, slow income growth combined with still elevated house prices have resulted in a major obstacle for new and existing house sales. Apartment vacancy rates are minimal, and a dearth of single-family houses have strengthened multi-family construction. August was the seventh consecutive monthly decrease for existing house sales.

The disparity between the number of houses started versus houses completed are at the greatest level since 1984. This spread is evident for both single- and multi-family starts as builders await building materials and products necessary to complete started houses. New and existing house sales were negative, due to a lack of available inventory for sale and increasing mortgage interest rates. Increasing mortgage rates, in combination with record house prices, August reduce affordability for potential house buyers.

## **Pros:**

- 1) The desire to own a house remains strong.

## **Cons:**

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

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