

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



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Virginia Polytechnic Institute and State University

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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

In September, month-over-month data were negative in several categories. Year-over-year data were similar. Single-family permits and starts decreased again, month-over-month and year-over-year. The impact of increasing borrowing costs and slow income growth combined with still elevated house prices have resulted in a major obstacle for new and existing house sales. September was the eighth consecutive monthly decrease for existing house sales. Single-family construction spending decreased for the fourth straight month.

The November 16th Atlanta Fed GDPNow™ total residential investment spending forecast was a negative 7.9% for December 2022. New private permanent site expenditures were projected at -14.2%; the improvement spending forecast was 1.9%; and the manufactured/mobile home expenditures projection was -0.2% (all: quarterly log change and at a seasonally adjusted annual rate).¹

“Next year will be particularly challenging for the U.S. and global economies. The sharp increase in interest rates this year – a consequence of the Federal Reserve’s efforts to slow inflation, will lead to an equally sharp slowdown in the economy, matching the downturn that is happening right now in the housing market. MBA’s forecast calls for a recession in the first half of next year, driven by tighter financial conditions, reduced business investment, and slower global growth. As a result, the unemployment rate will increase from its current rate of 3.5% to 5.5% by the end of the year. Inflation will gradually decline towards the Fed’s 2% target by the middle of 2024. ... significant volatility in rates in the near-term due to quantitative tightening by the Fed and other central banks, and as markets grapple with significant geopolitical, economic, and monetary policy uncertainties.”² – Mike Fratantoni, Chief Economist and Senior Vice President for Research and Industry Technology; Mortgage Bankers Association

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.

September 2022 Housing Scorecard

		M/M		Y/Y
Housing Starts	▼	8.1%	▼	7.7%
Single-Family (SF) Starts	▼	4.7%	▼	18.5%
Multi-Family (MF) Starts*	▼	13.2	▲	17.6%
Housing Permits	▲	1.4%	▼	3.2%
SF Permits	▼	3.3%	▼	17.5%
MF Permits*	▲	8.1%	▲	23.7%
Housing Under Construction	▲	0.5%	▲	19.0%
SF Under Construction	▼	1.1%	▲	11.1%
Housing Completions	▲	6.1%	▲	15.7%
SF Completions	▲	3.2%	▲	11.1%
New SF House Sales	▼	10.9%	▼	17.6%
Private Residential Construction Spending	NC	0.0%	▼	12.7%
SF Construction Spending	▼	2.6%	▼	2.7%
Existing House Sales ¹	▼	1.5%	▼	23.8%

* 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.¹

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

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

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USDA Forest Service Housing Market Review

Each story map's tab contains a compilation of housing information. The 'Construction Data' tab is interactive and allows one 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>

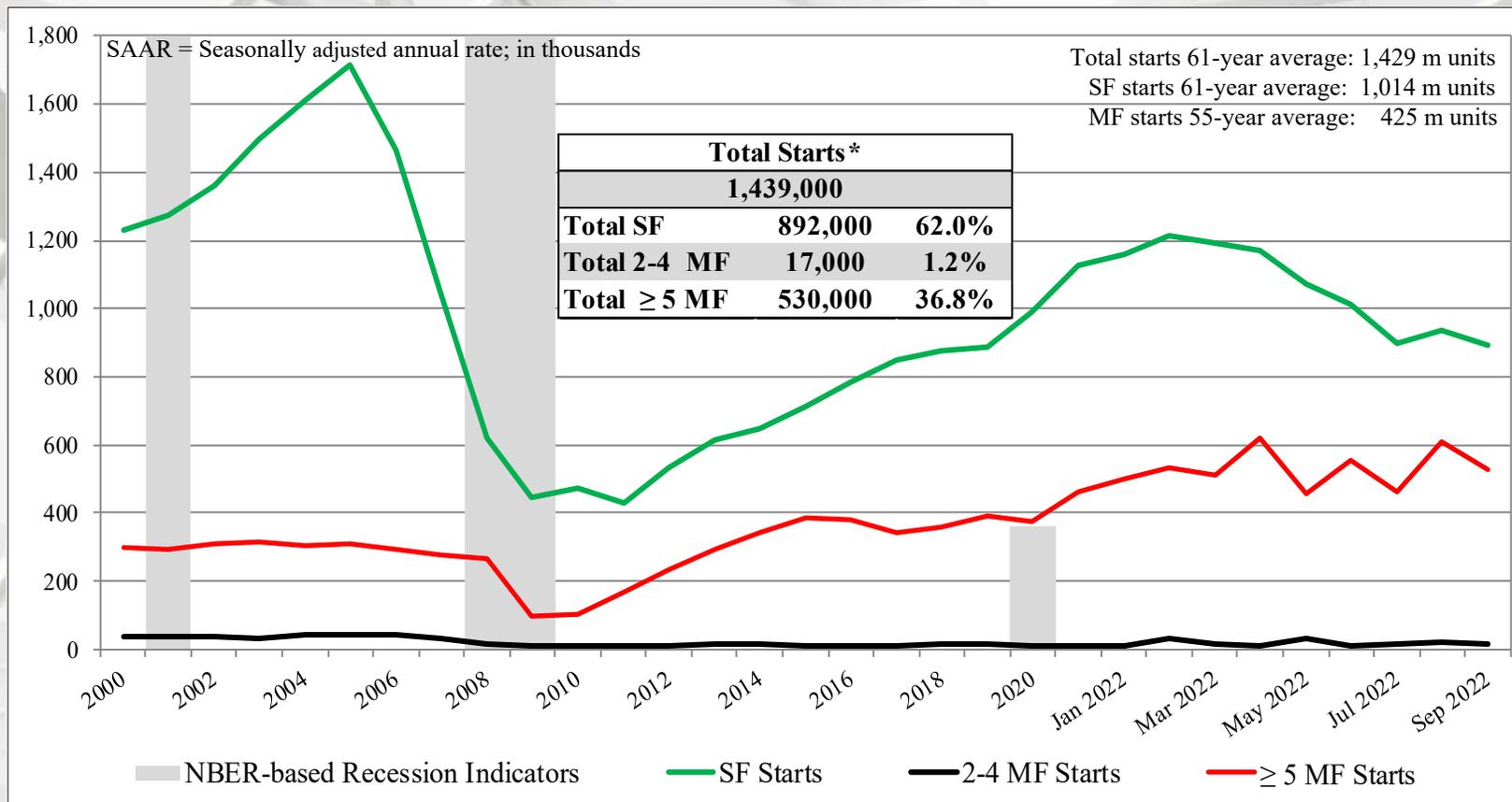
New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
September	1,439,000	892,000	17,000	530,000
August	1,566,000	936,000	20,000	610,000
2021	1,559,000	1,094,000	10,000	455,000
M/M change	-8.1%	-4.7%	-15.0%	-13.1%
Y/Y change	-7.7%	-18.5%	70.0%	16.5%

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

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

Total Housing Starts

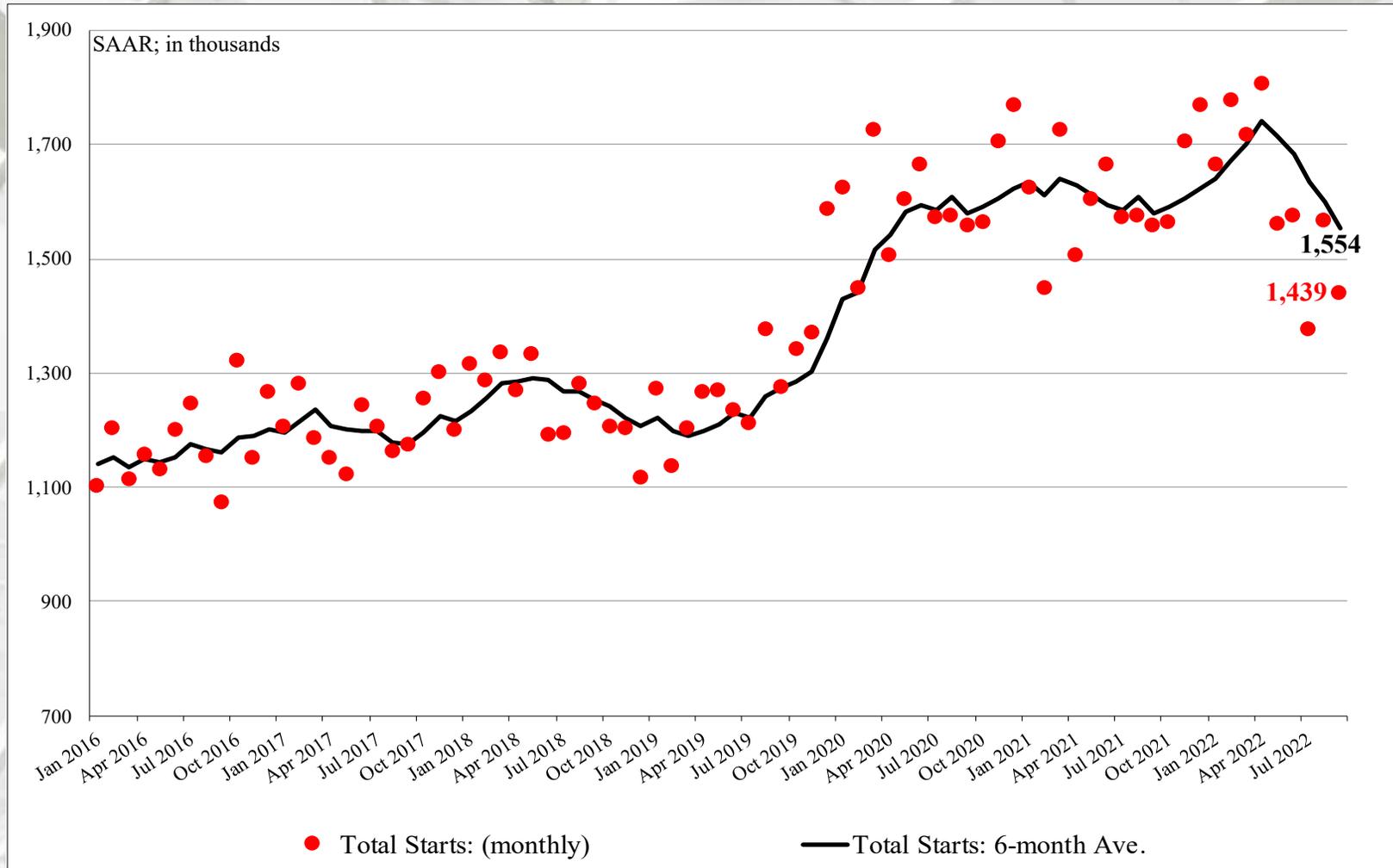


US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: ((Total starts – (SF + ≥ MF)).

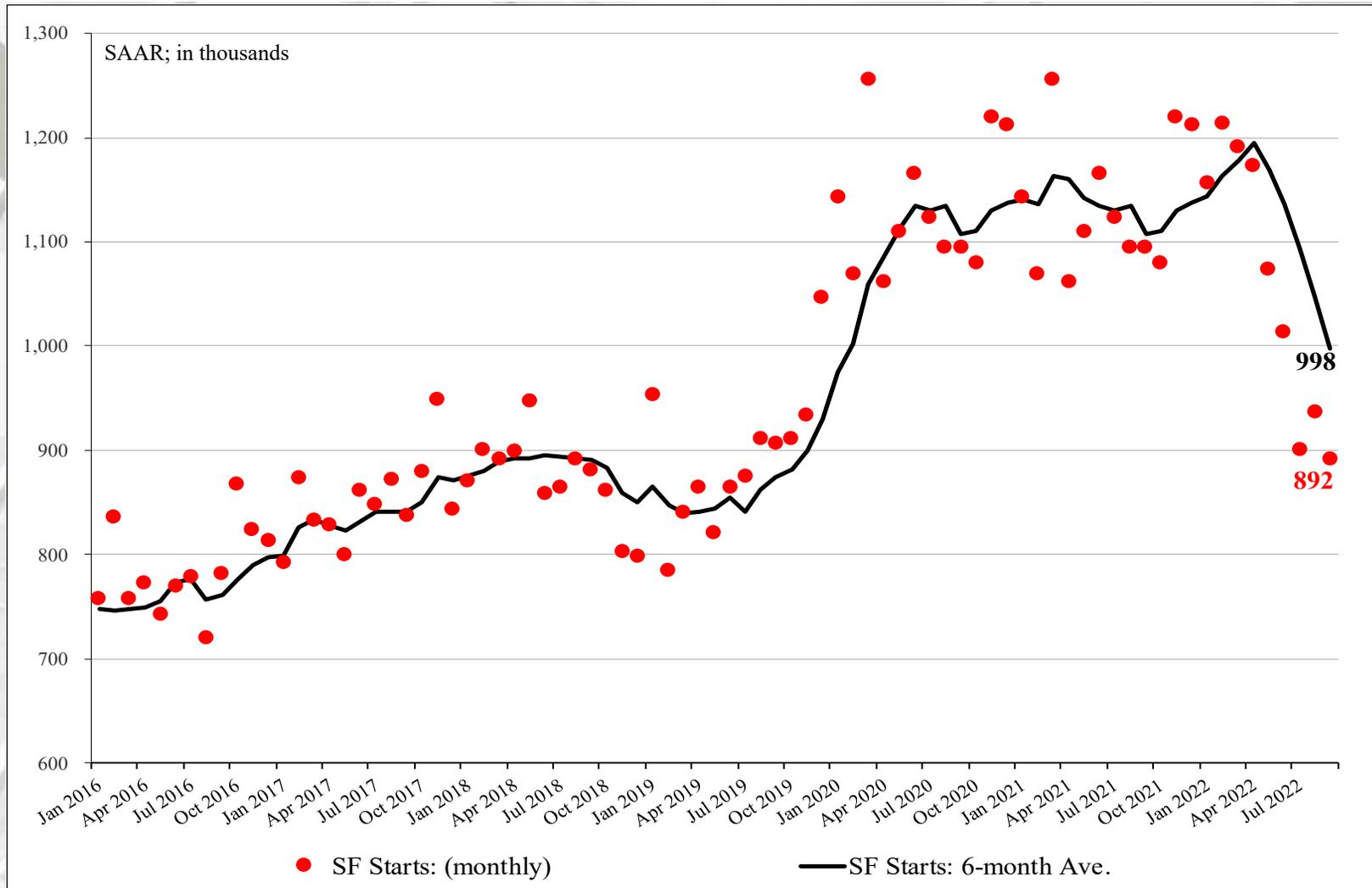
* Percentage of total starts.

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

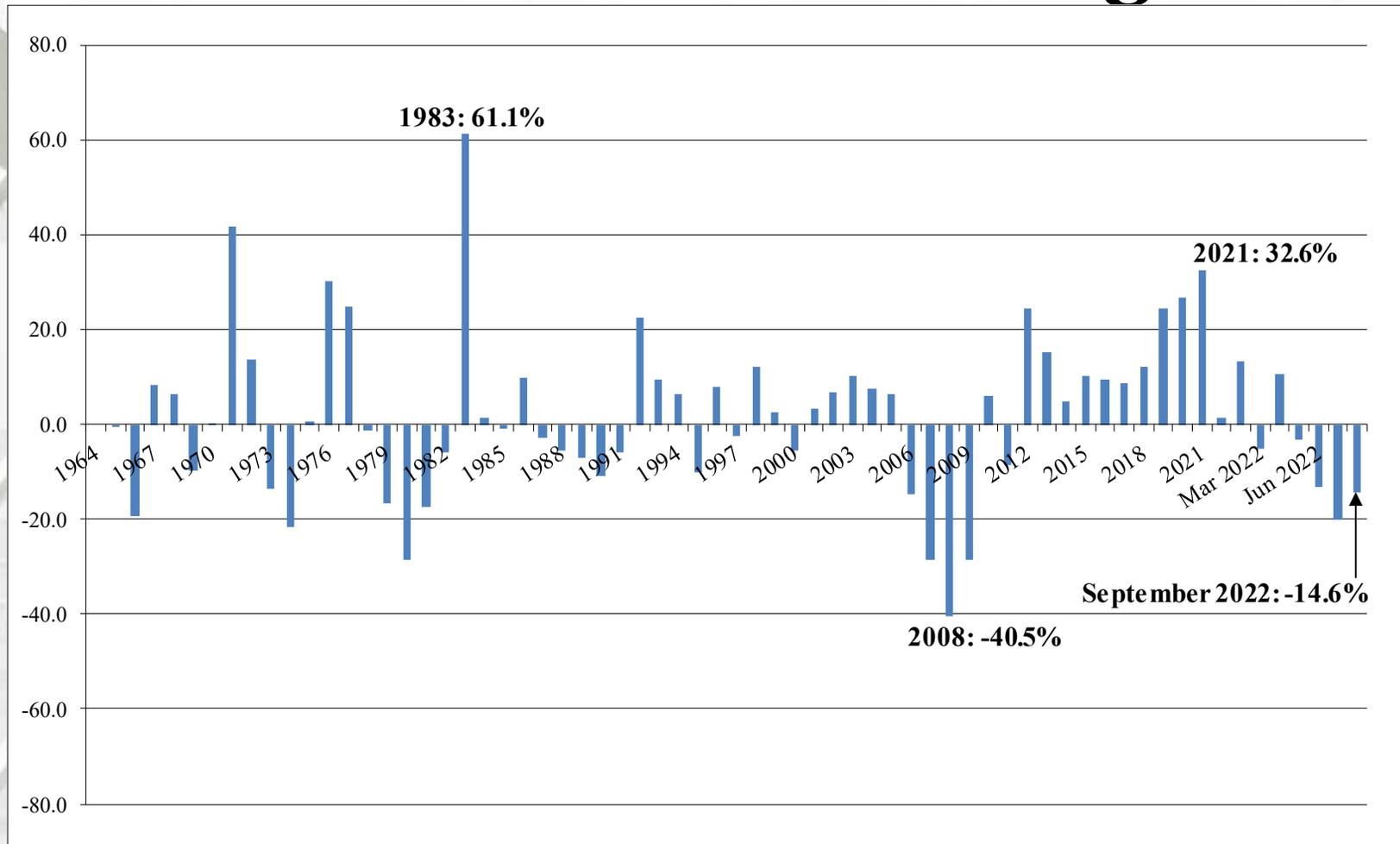
Total Housing Starts: Six-Month Average



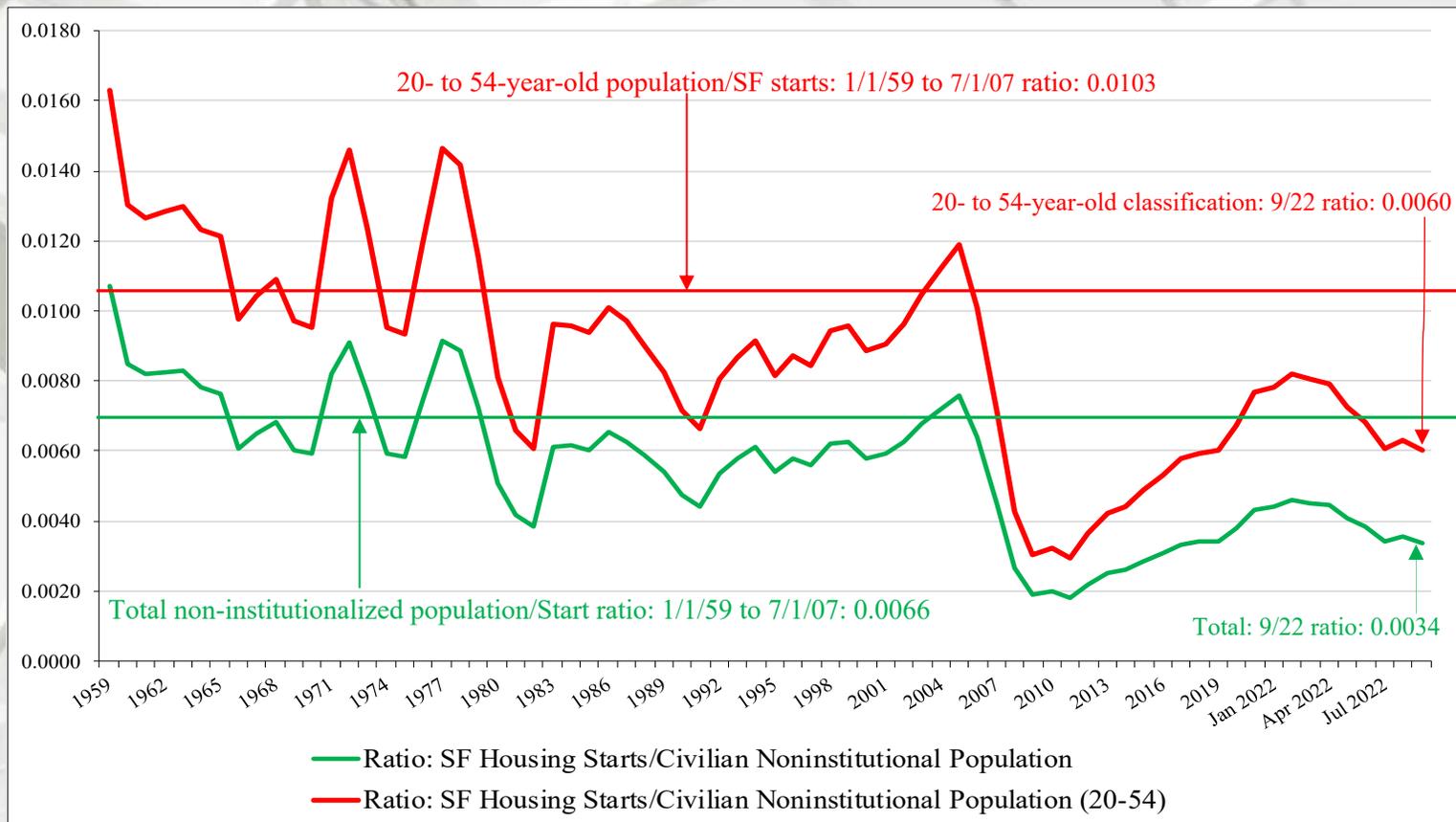
SF Housing Starts: Six-Month Moving Average



SF Housing Starts: Year-over-Year Change



New SF Starts

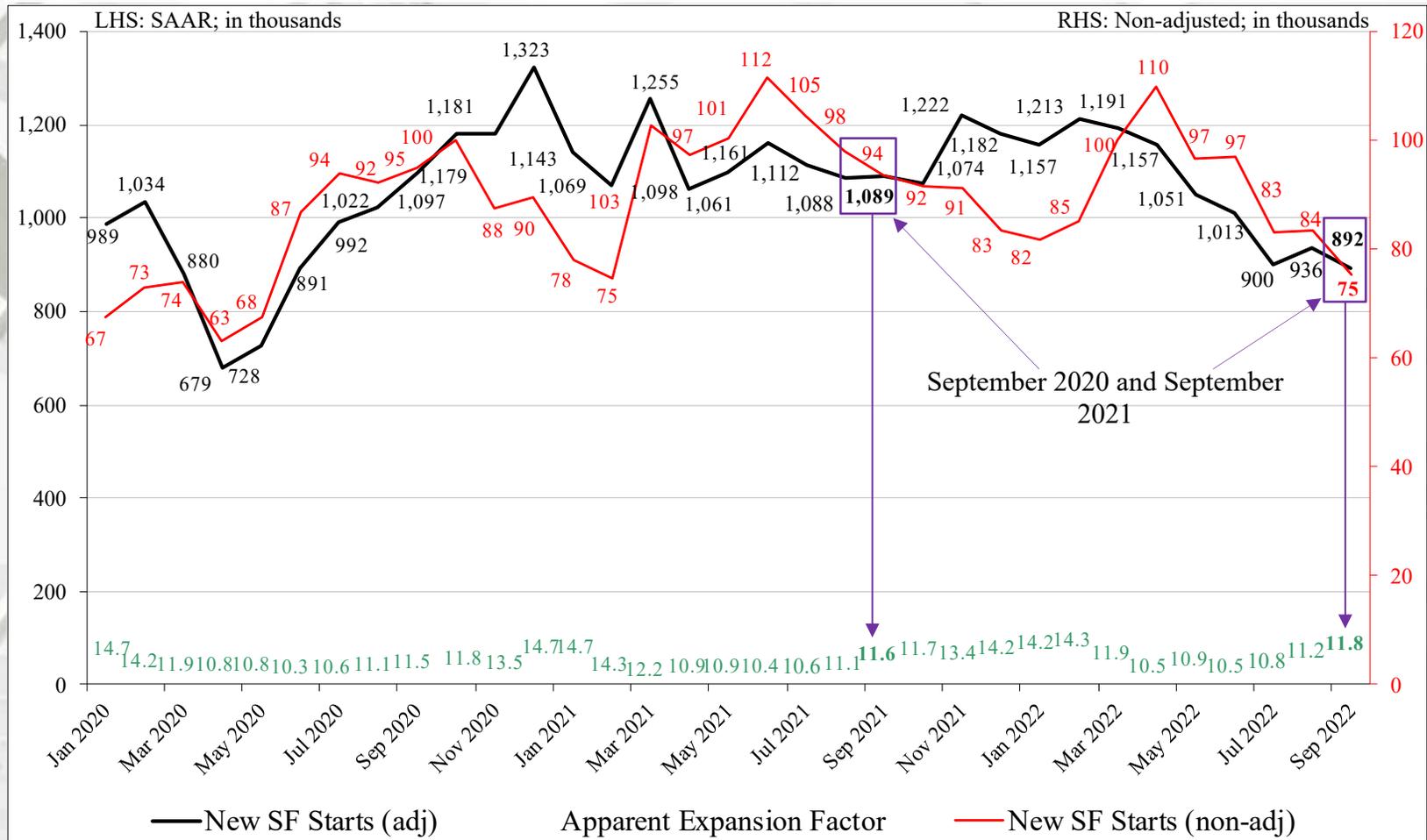


New SF starts adjusted for the US population

From September 1959 to September 2007, the long-term ratio of new SF starts to the total US non-institutionalized population to is 0.0066. In September 2022 it was 0.0034 – a decline from August. The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in September 2022 it was 0.0060 – a decrease from August (0.0063). 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**
September	147,000	58,000	89,000
August	168,000	62,000	106,000
2021	127,000	69,000	58,000
M/M change	-12.5%	-6.5%	-16.0%
Y/Y change	15.7%	-15.9%	53.4%
	MW Total	MW SF	MW MF
September	182,000	112,000	70,000
August	187,000	130,000	57,000
2021	204,000	132,000	72,000
M/M change	-2.7%	-13.8%	22.8%
Y/Y change	-10.8%	-15.2%	-2.8%

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).

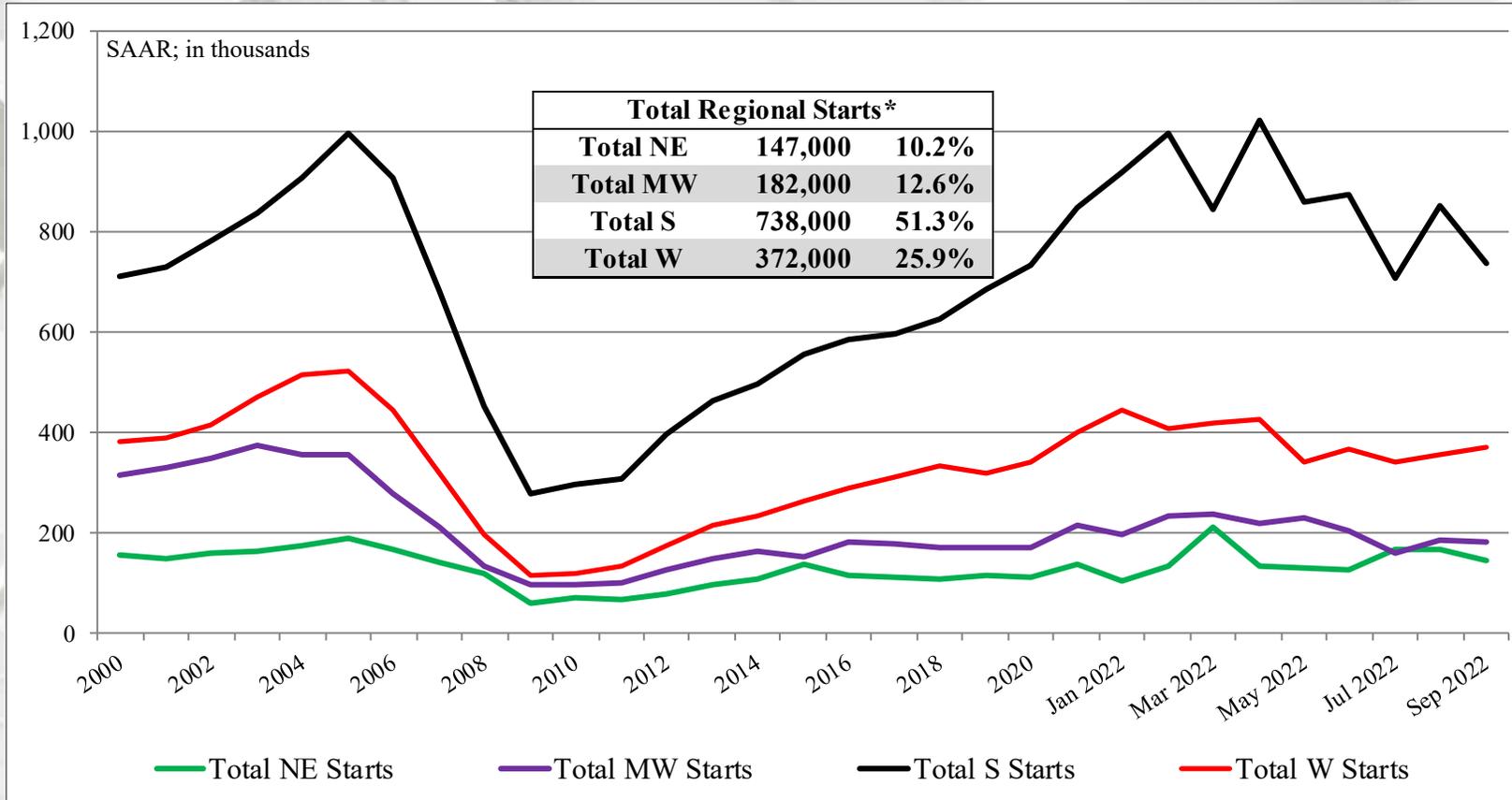
New Housing Starts by Region

	S Total	S SF	S MF**
September	738,000	536,000	202,000
August	855,000	523,000	332,000
2021	809,000	627,000	182,000
M/M change	-13.7%	2.5%	-39.2%
Y/Y change	-8.8%	-14.5%	11.0%
	W Total	W SF	W MF
September	372,000	186,000	186,000
August	356,000	221,000	135,000
2021	419,000	266,000	153,000
M/M change	4.5%	-15.8%	37.8%
Y/Y change	-11.2%	-30.1%	21.6%

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

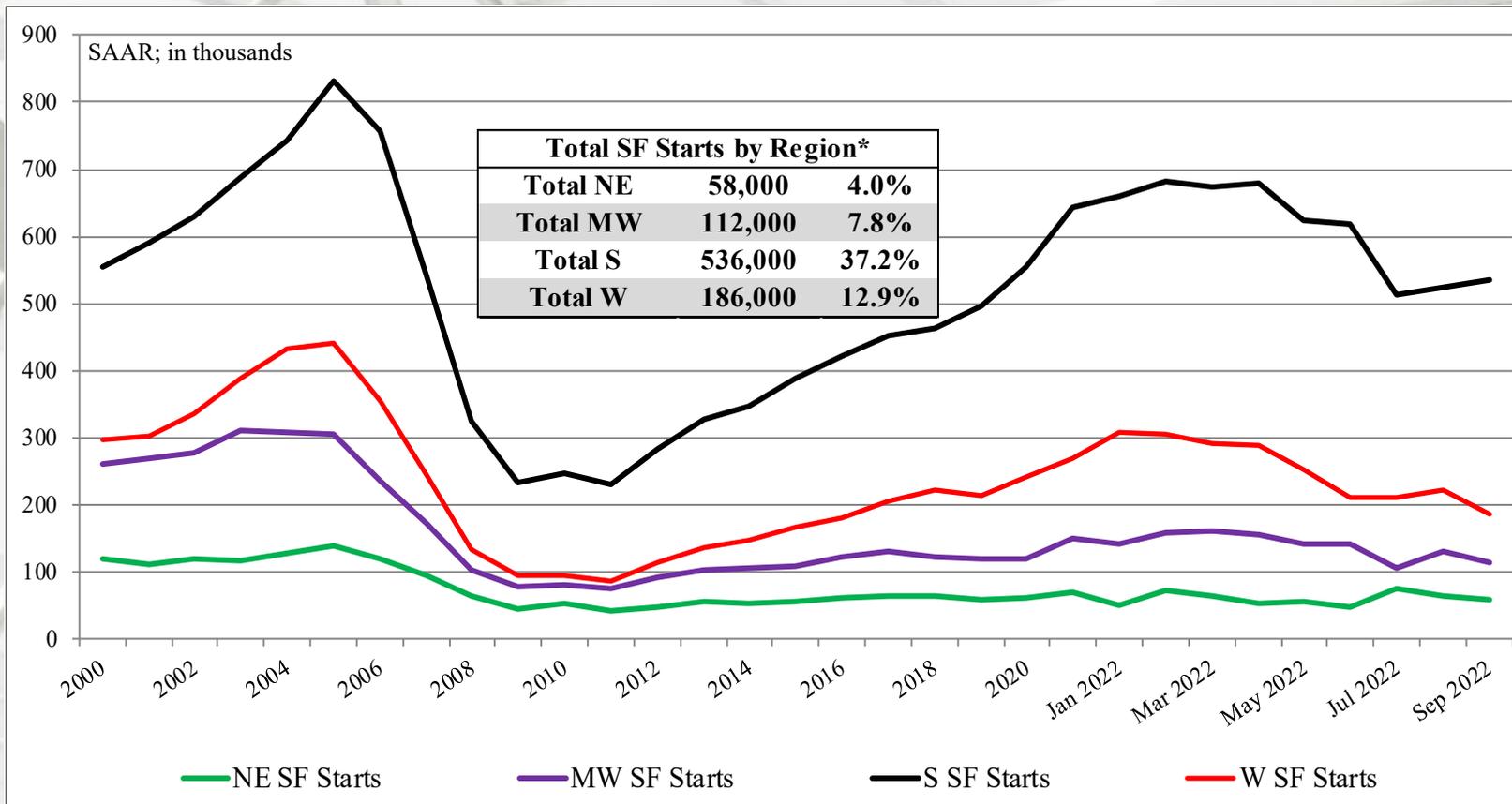


NE = Northeast, MW = Midwest, S = South, W = West

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

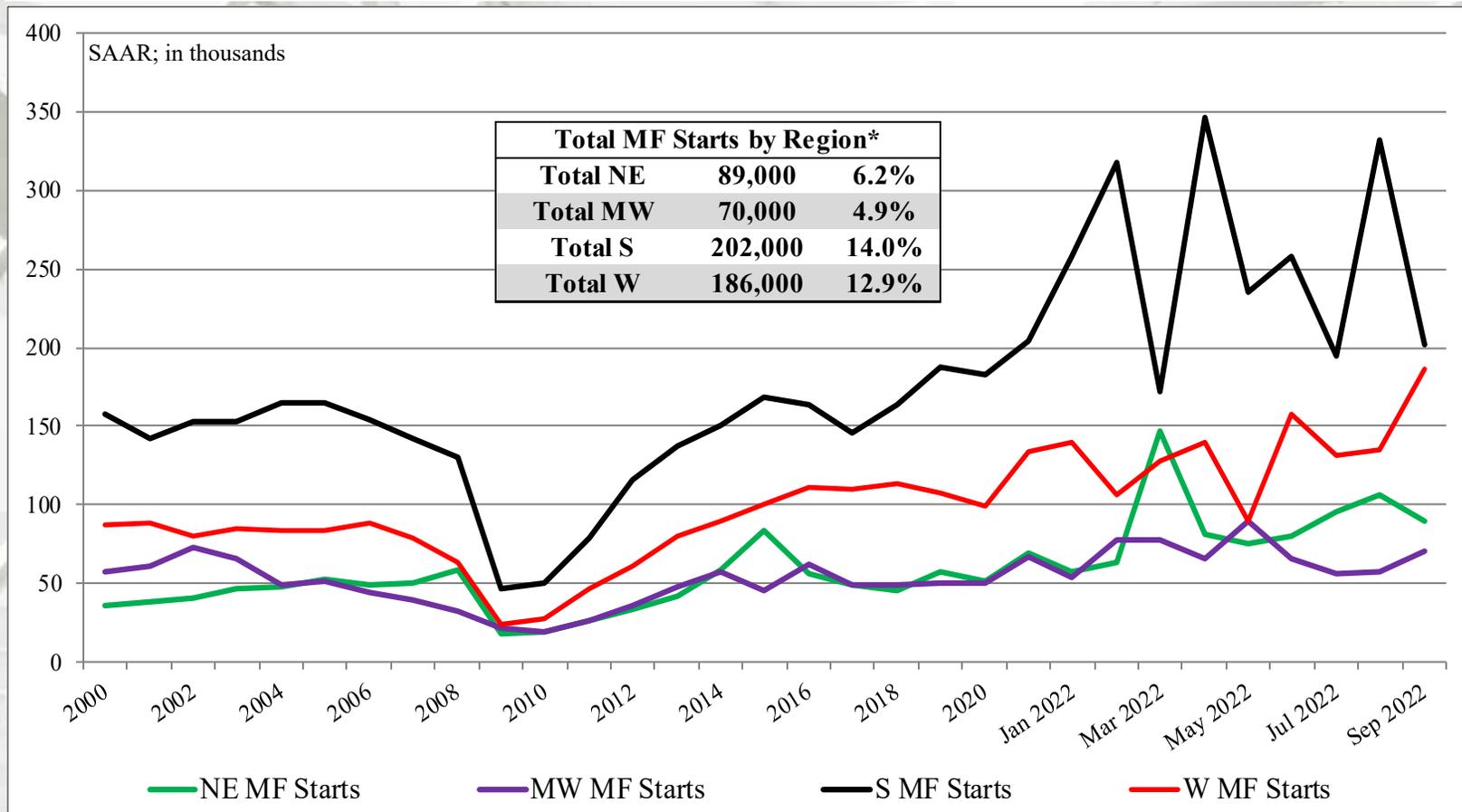


NE = Northeast, MW = Midwest, S = South, W = West

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

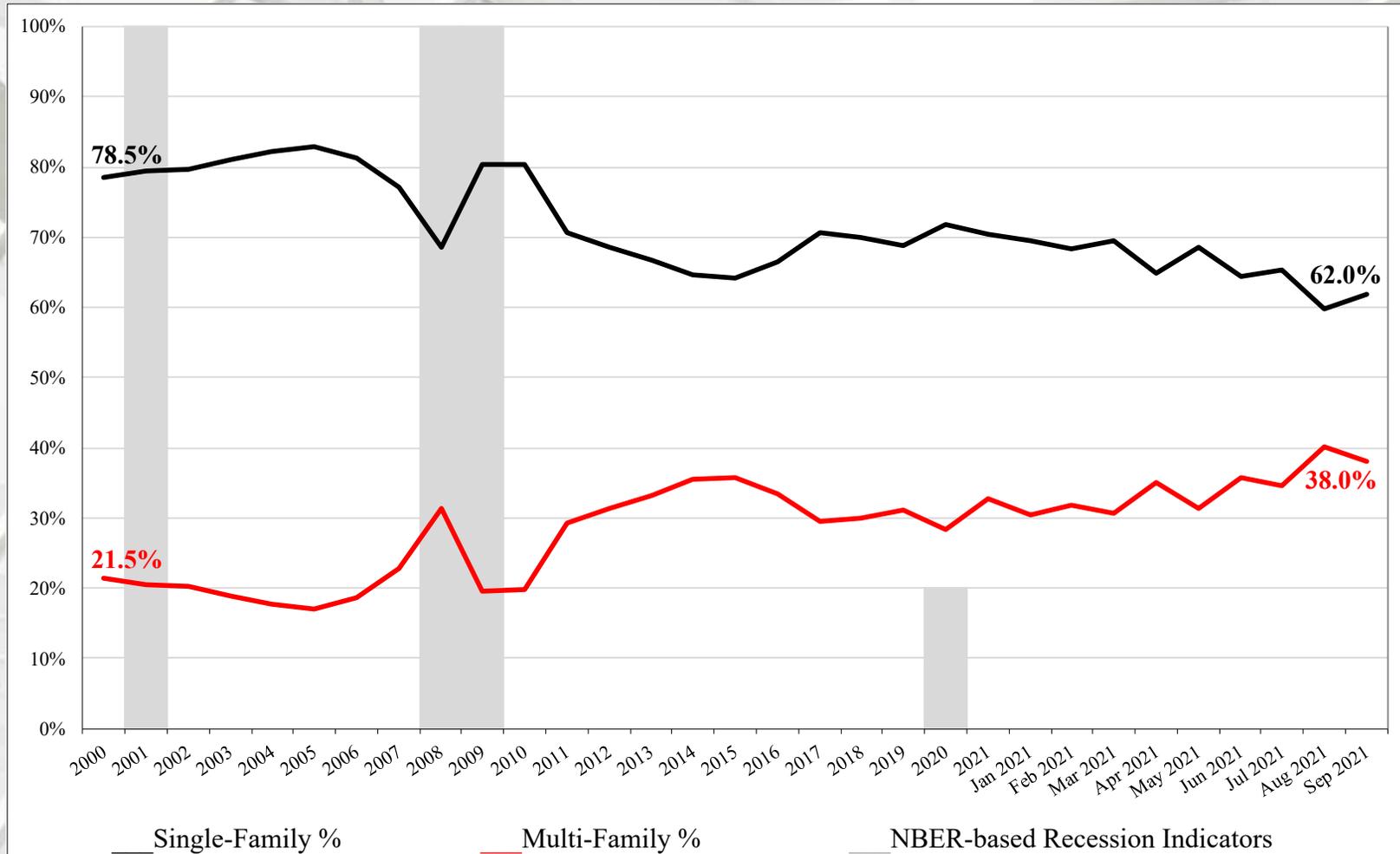


NE = Northeast, MW = Midwest, S = South, W = West

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 (%)



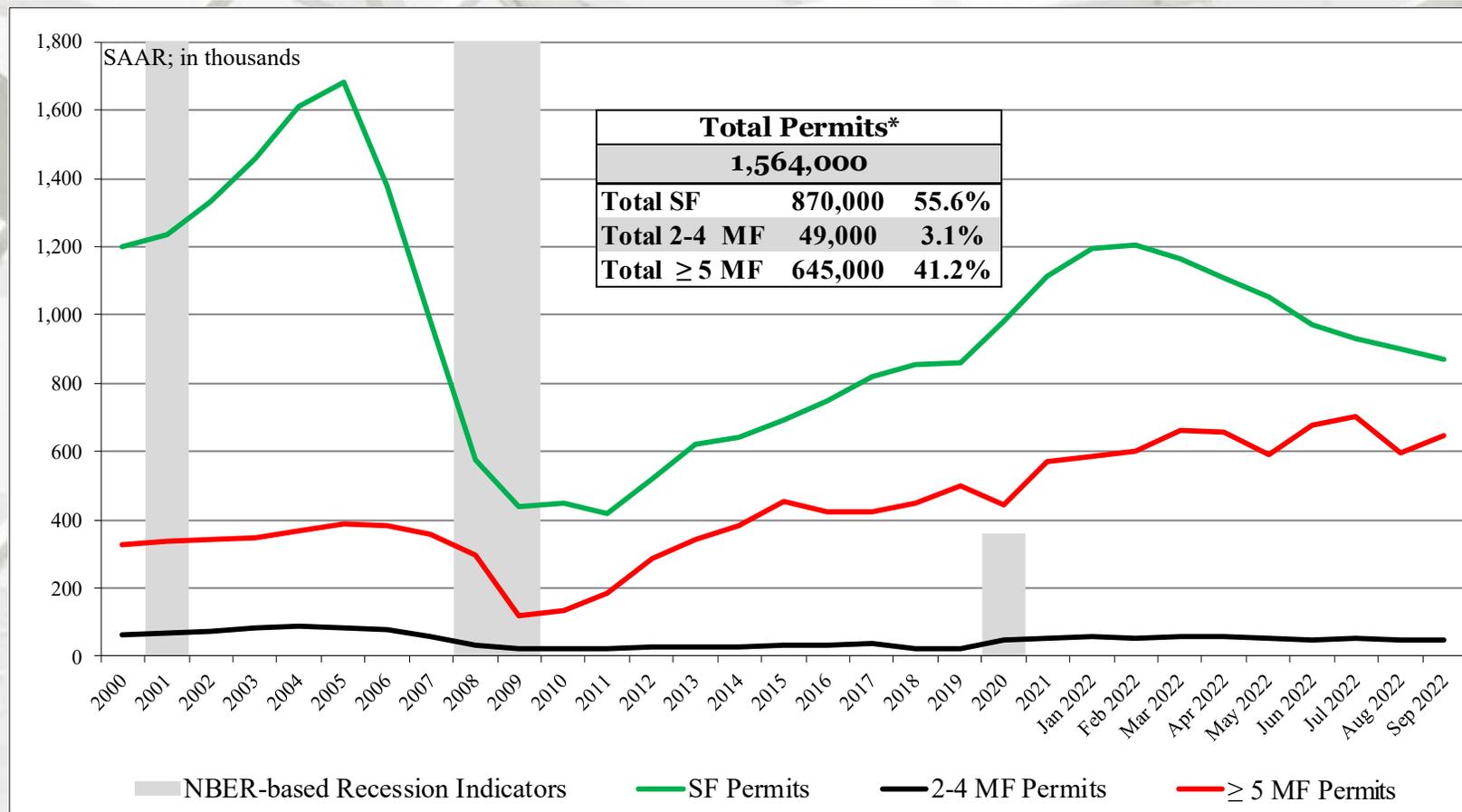
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
September	1,564,000	870,000	49,000	645,000
August	1,542,000	900,000	47,000	595,000
2021	1,615,000	1,054,000	48,000	513,000
M/M change	1.4%	-3.3%	4.3%	8.4%
Y/Y change	-3.2%	-17.5%	2.1%	25.7%

* 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**
September	129,000	58,000	71,000
August	138,000	56,000	82,000
2021	121,000	54,000	67,000
M/M change	-6.5%	3.6%	-13.4%
Y/Y change	6.6%	7.4%	6.0%
	MW Total*	MW SF	MW MF**
September	209,000	109,000	100,000
August	202,000	111,000	91,000
2021	215,000	128,000	87,000
M/M change	3.5%	-1.8%	9.9%
Y/Y change	-2.8%	-14.8%	14.9%

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

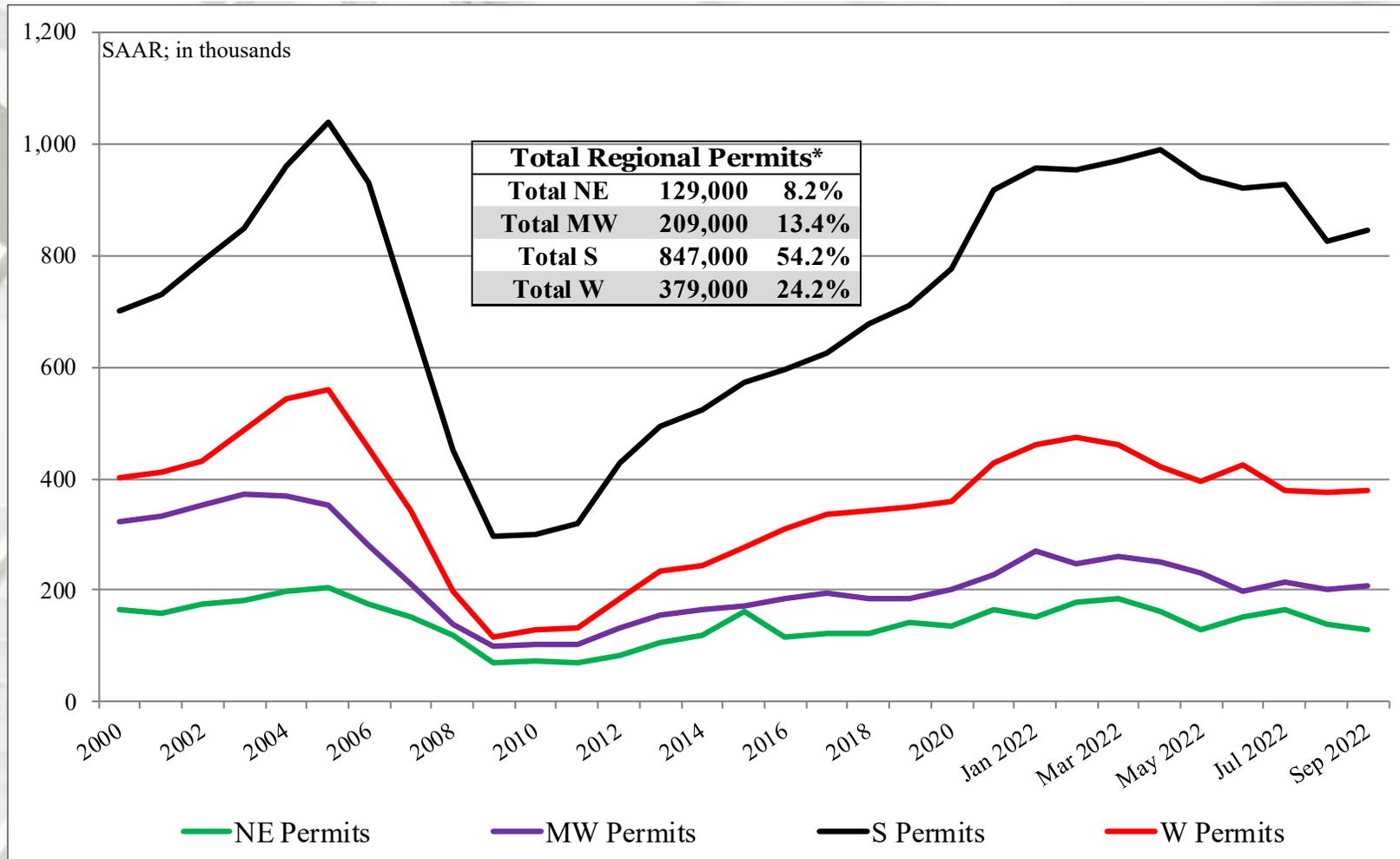
	S Total*	S SF	S MF**
September	847,000	526,000	321,000
August	826,000	540,000	286,000
2021	879,000	630,000	249,000
M/M change	2.5%	-2.6%	12.2%
Y/Y change	-3.6%	-16.5%	28.9%
	W Total*	W SF	W MF**
September	379,000	177,000	202,000
August	376,000	193,000	183,000
2021	400,000	242,000	158,000
M/M change	0.8%	-8.3%	10.4%
Y/Y change	-5.3%	-26.9%	27.8%

S = South; W = West

* All data are SAAR

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

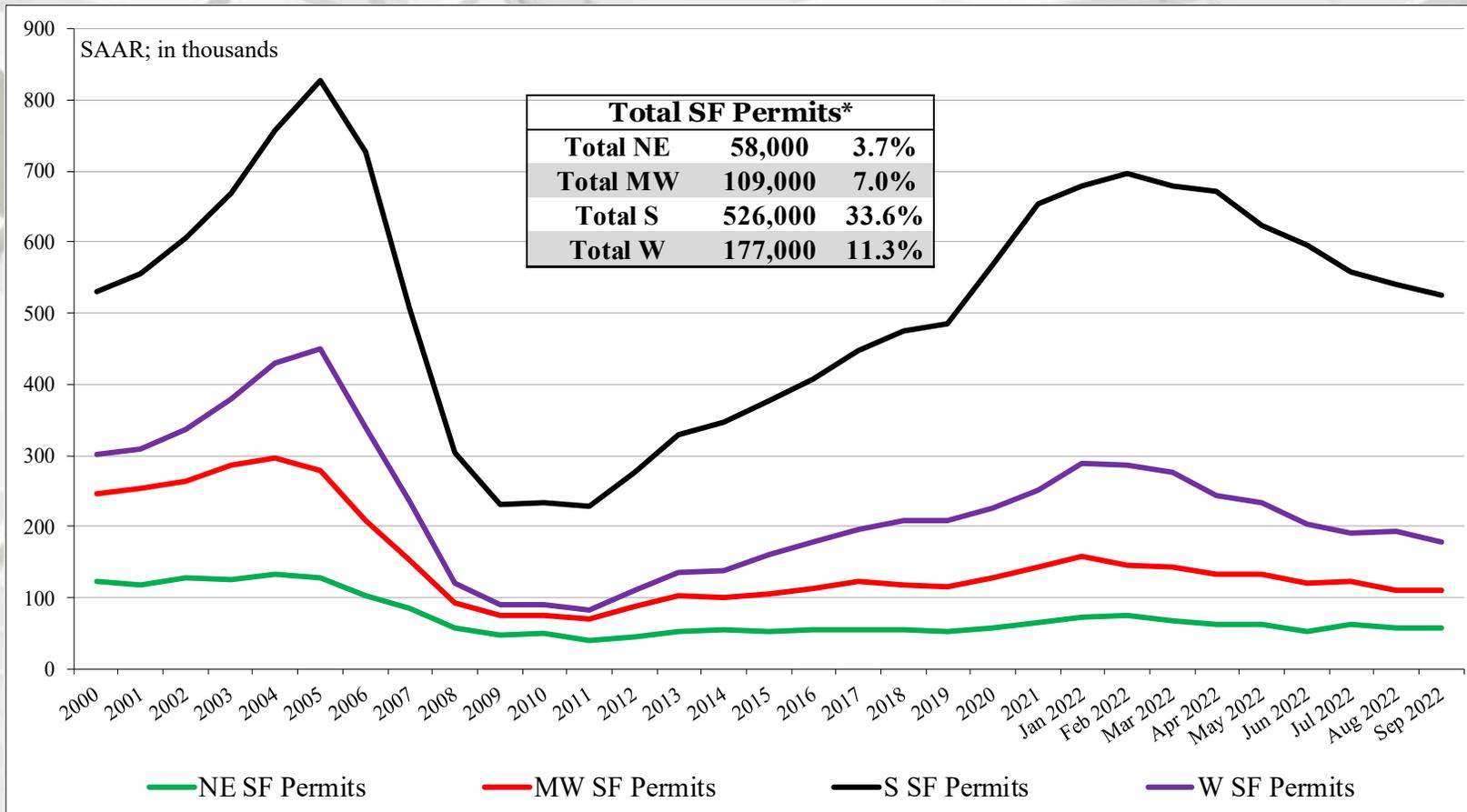
Total Housing Permits by Region



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

* Percentage of total permits.

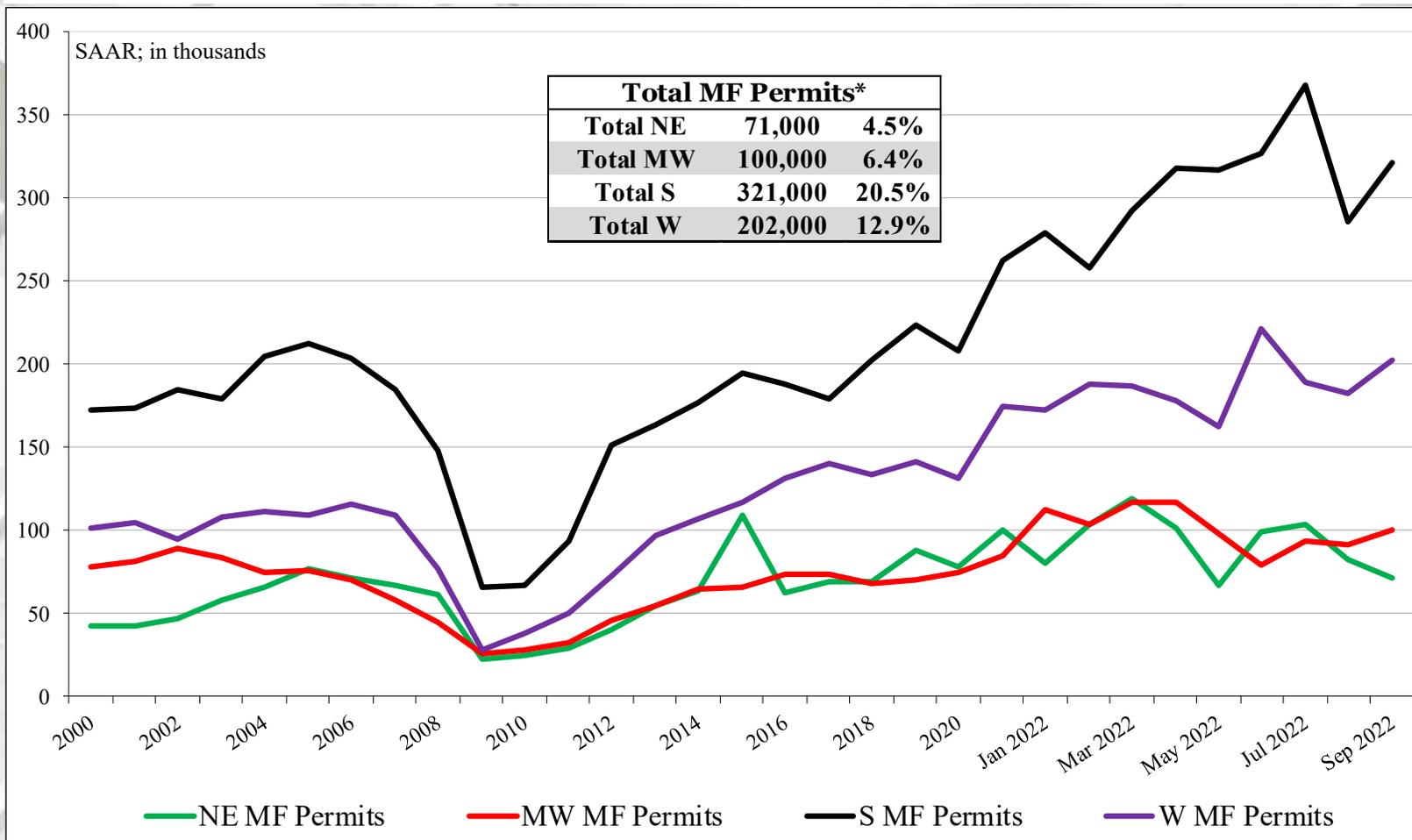
SF Housing Permits by Region



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

* Percentage of total permits.

MF Housing Permits by Region



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

* Percentage of total permits.

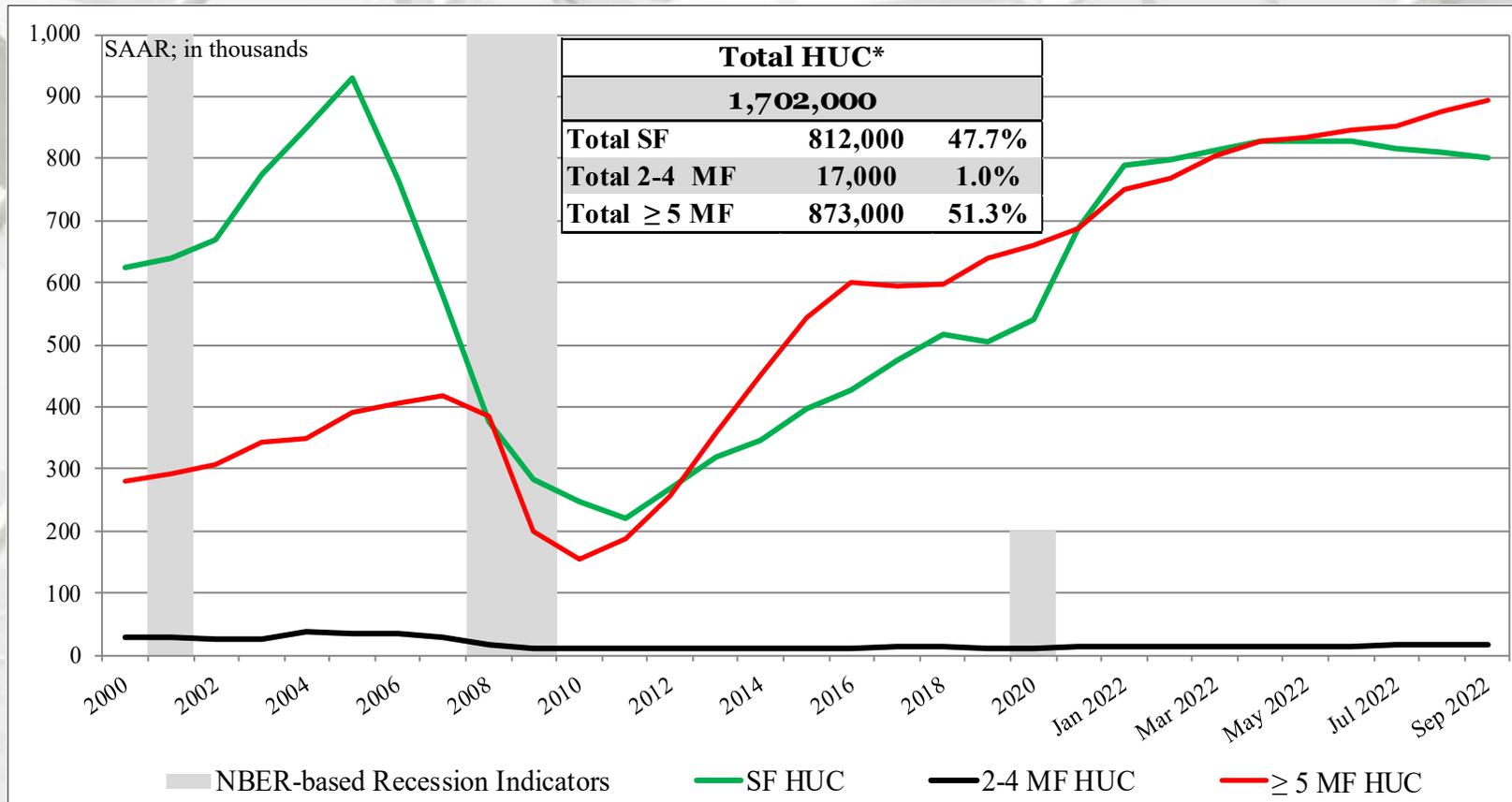
New Housing Under Construction (HUC)

	Total HUC*	SF HUC	MF 2-4 unit** HUC	MF ≥ 5 unit HUC
September	1,710,000	800,000	17,000	893,000
August	1,702,000	809,000	17,000	876,000
2021	1,437,000	720,000	13,000	704,000
M/M change	0.5%	-1.1%	0.0%	1.9%
Y/Y change	19.0%	11.1%	30.8%	26.8%

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

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

Total Housing Under Construction

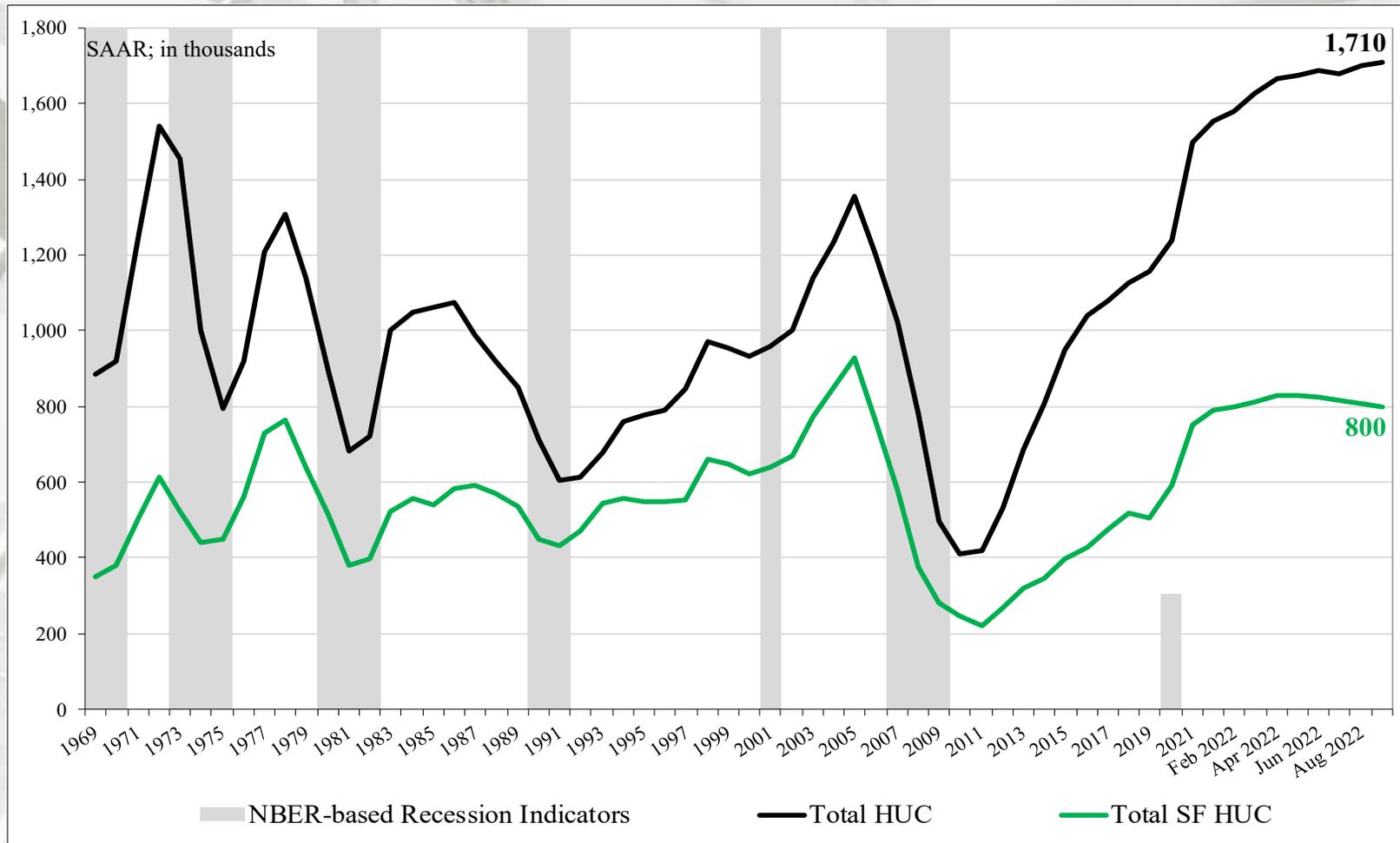


US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF HUC)).

* 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 September total housing units under construction (HUC) were 1,710,000 units, greater than September 1973 total of 1,628,000 units. September's SF HUC reading, 800,000 units, which was substantially less than reported for September 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

	NE Total	NE SF	NE MF**
September	221,000	60,000	161,000
August	222,000	60,000	162,000
2021	204,000	62,000	138,000
M/M change	-0.5%	0.0%	-0.6%
Y/Y change	8.3%	-3.2%	16.7%
	MW Total	MW SF	MW MF
September	214,000	106,000	108,000
August	212,000	108,000	104,000
2021	179,000	101,000	78,000
M/M change	0.9%	-1.9%	3.8%
Y/Y change	19.6%	5.0%	38.5%

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).

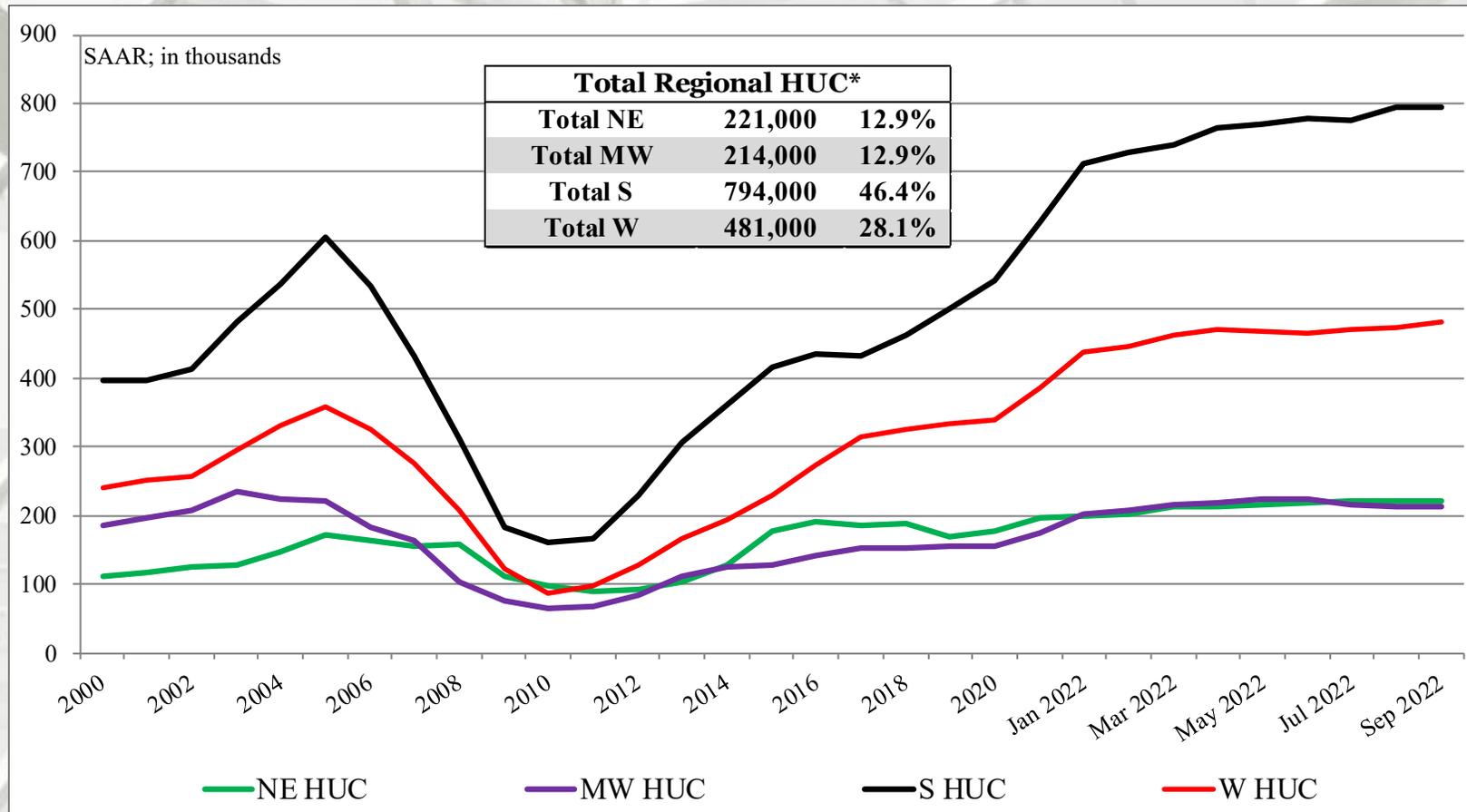
New Housing Under Construction by Region

	S Total	S SF	S MF**
September	794,000	429,000	365,000
August	794,000	435,000	359,000
2021	656,000	370,000	286,000
M/M change	0.0%	-1.4%	1.7%
Y/Y change	21.0%	15.9%	27.6%
	W Total	W SF	W MF
September	481,000	205,000	276,000
August	474,000	206,000	268,000
2021	398,000	187,000	211,000
M/M change	1.5%	-0.5%	3.0%
Y/Y change	20.9%	9.6%	30.8%

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

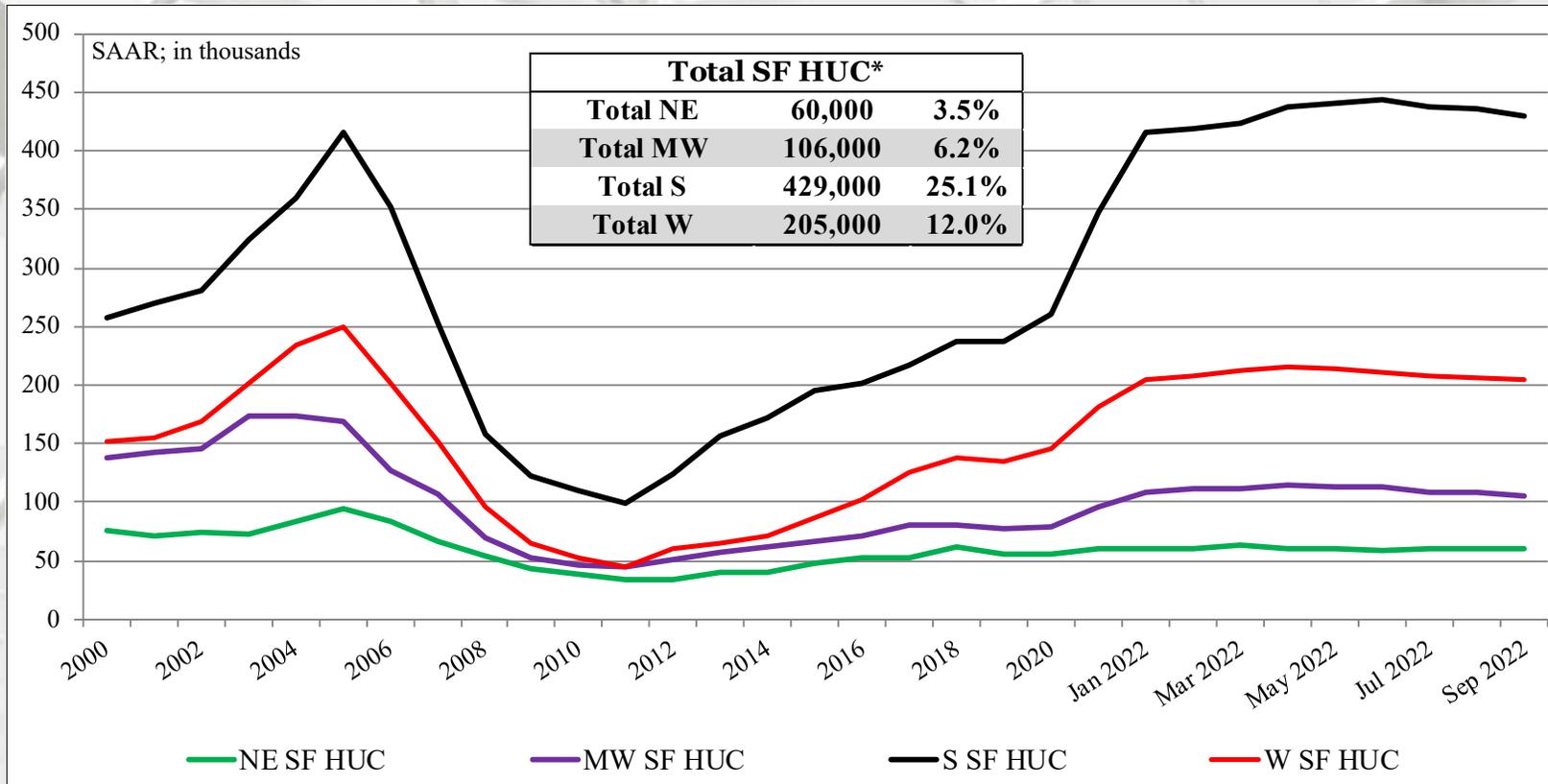


NE = Northeast, MW = Midwest, S = South, W = West

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

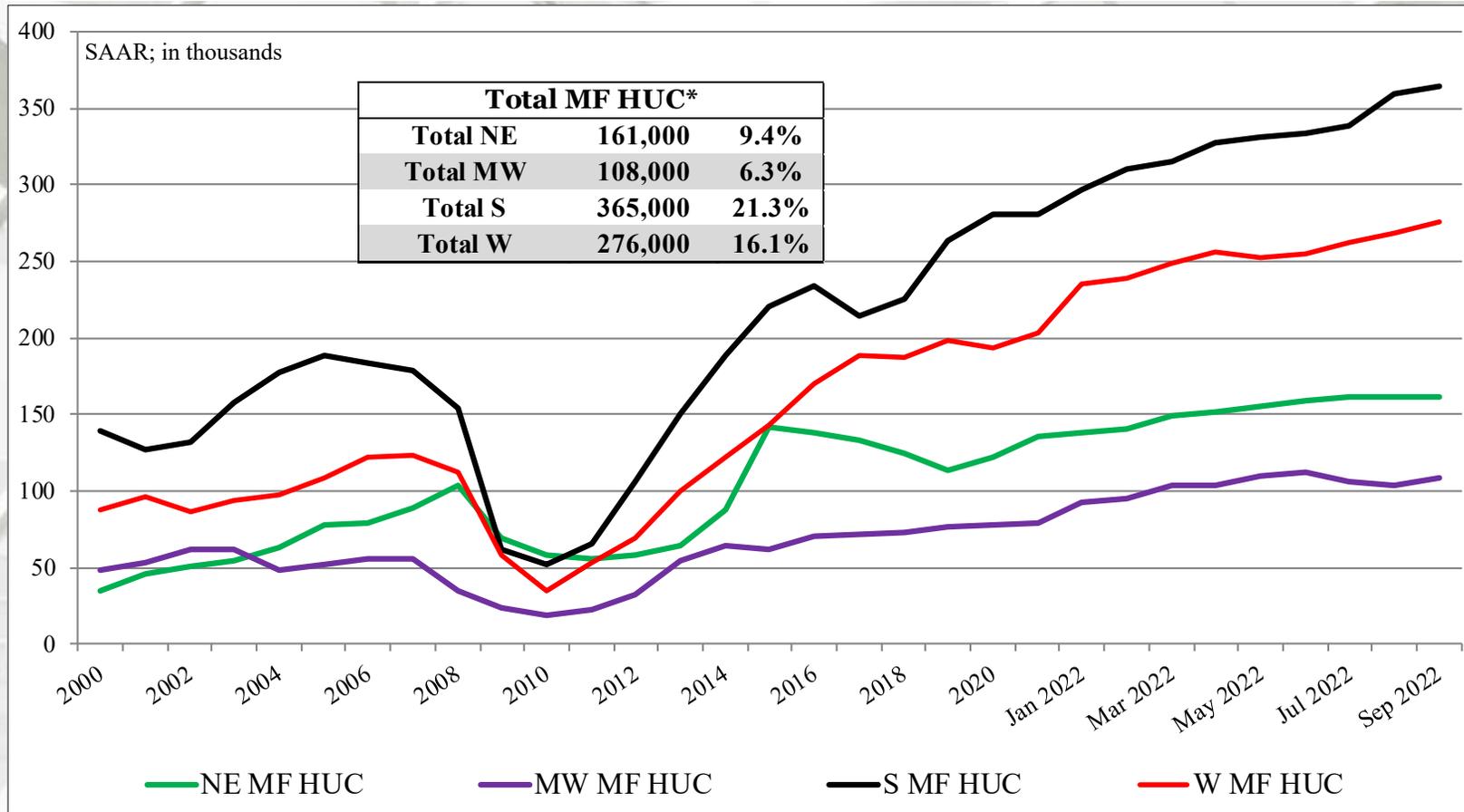


NE = Northeast, MW = Midwest, S = South, W = West.

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.

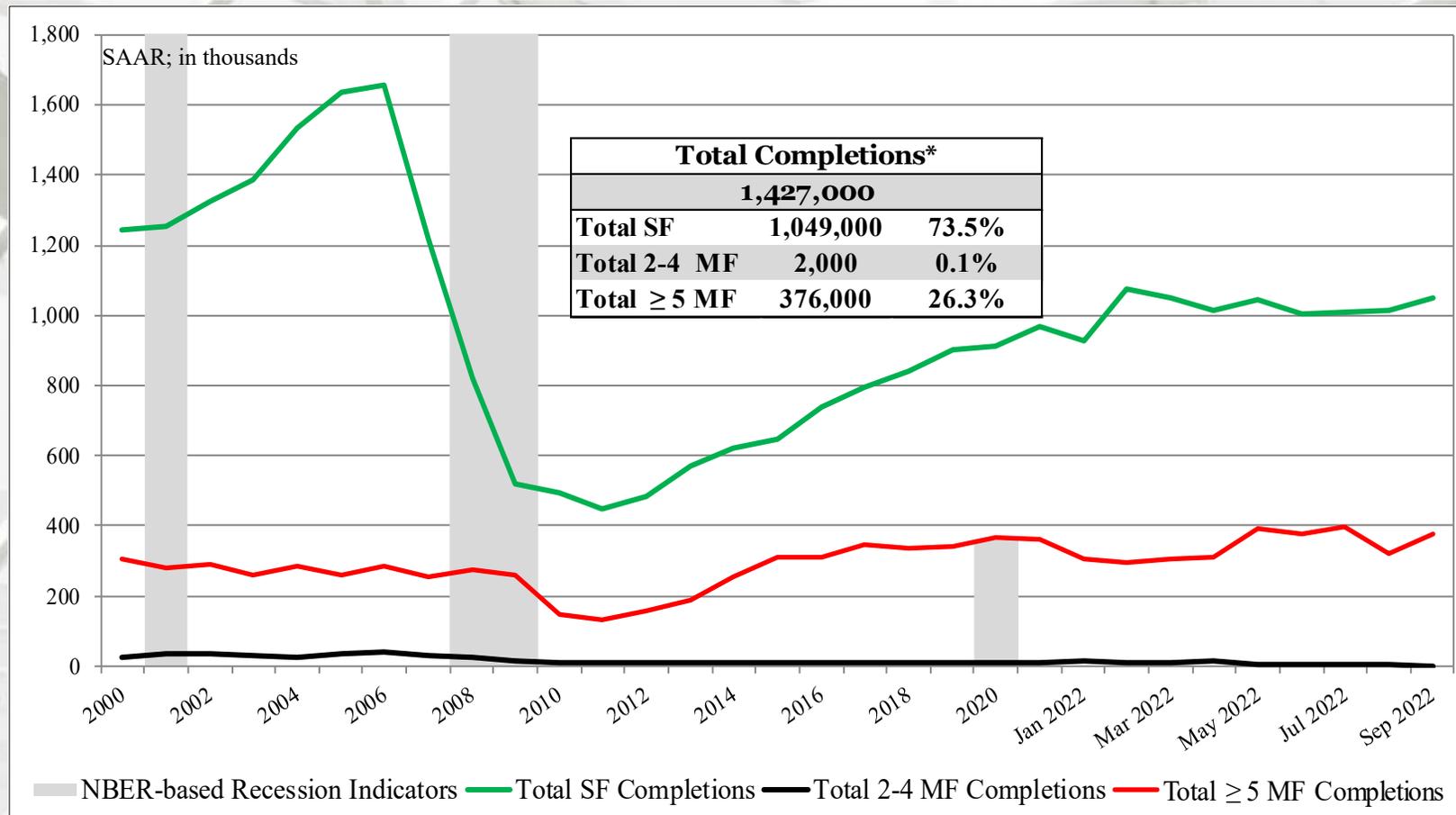
New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit**	MF ≥ 5 unit Completions
September	1,427,000	1,049,000	2,000	376,000
August	1,345,000	1,016,000	7,000	322,000
2021	1,233,000	944,000	7,000	282,000
M/M change	6.1%	3.2%	-71.4%	16.8%
Y/Y change	15.7%	11.1%	-71.4%	33.3%

* 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**
September	128,000	41,000	87,000
August	126,000	63,000	63,000
2021	99,000	54,000	45,000
M/M change	1.6%	-34.9%	38.1%
Y/Y change	29.3%	-24.1%	93.3%
	MW Total	MW SF	MW MF
September	207,000	146,000	61,000
August	201,000	128,000	73,000
2021	196,000	126,000	70,000
M/M change	3.0%	14.1%	-16.4%
Y/Y change	5.6%	15.9%	-12.9%

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

New Housing Completions by Region

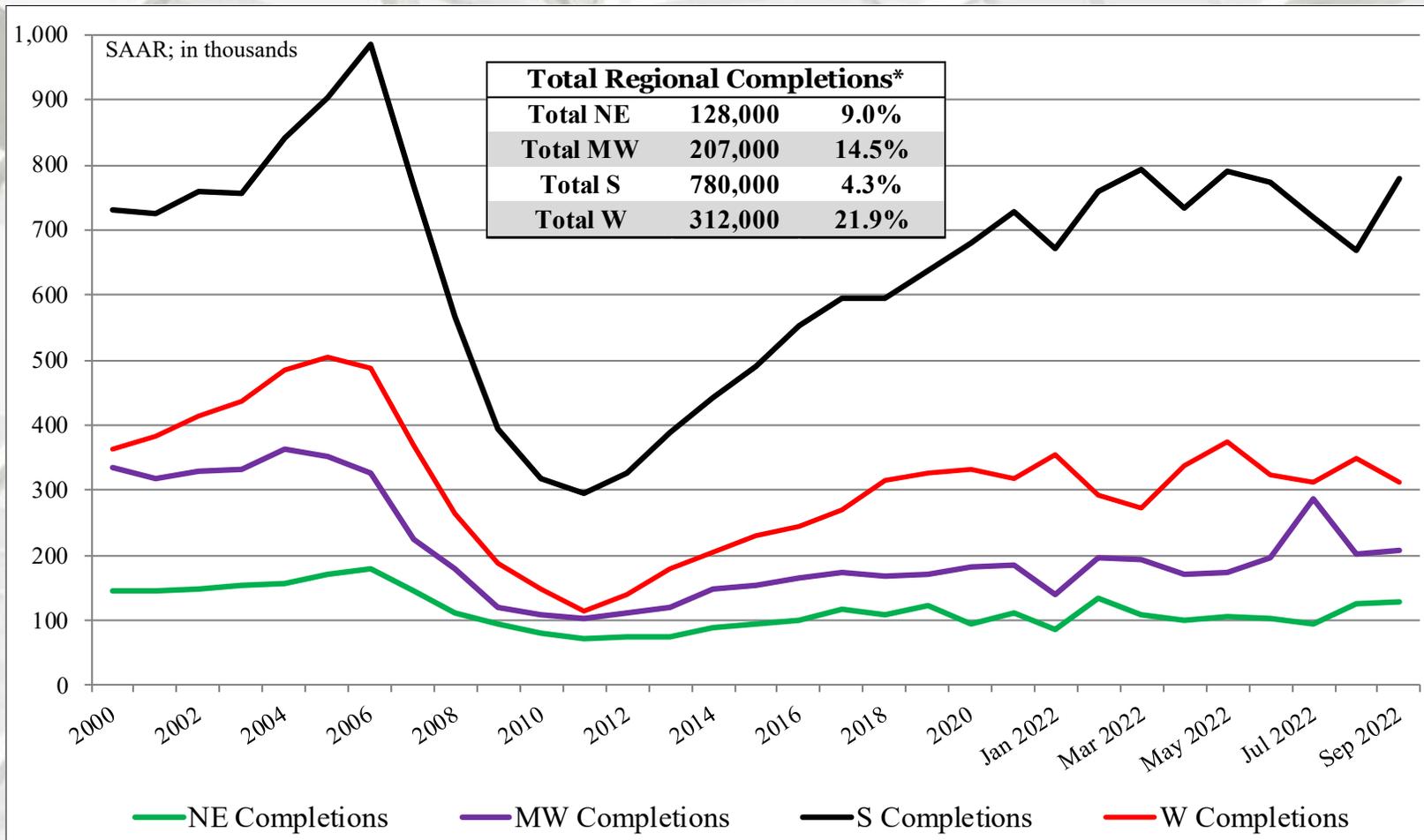
	S Total	S SF	S MF**
September	780,000	646,000	134,000
August	669,000	566,000	103,000
2021	681,000	551,000	130,000
M/M change	16.6%	14.1%	30.1%
Y/Y change	14.5%	17.2%	3.1%
	W Total	W SF	W MF
September	312,000	216,000	96,000
August	349,000	259,000	90,000
2021	257,000	213,000	44,000
M/M change	-10.6%	-16.6%	6.7%
Y/Y change	21.4%	1.4%	118.2%

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

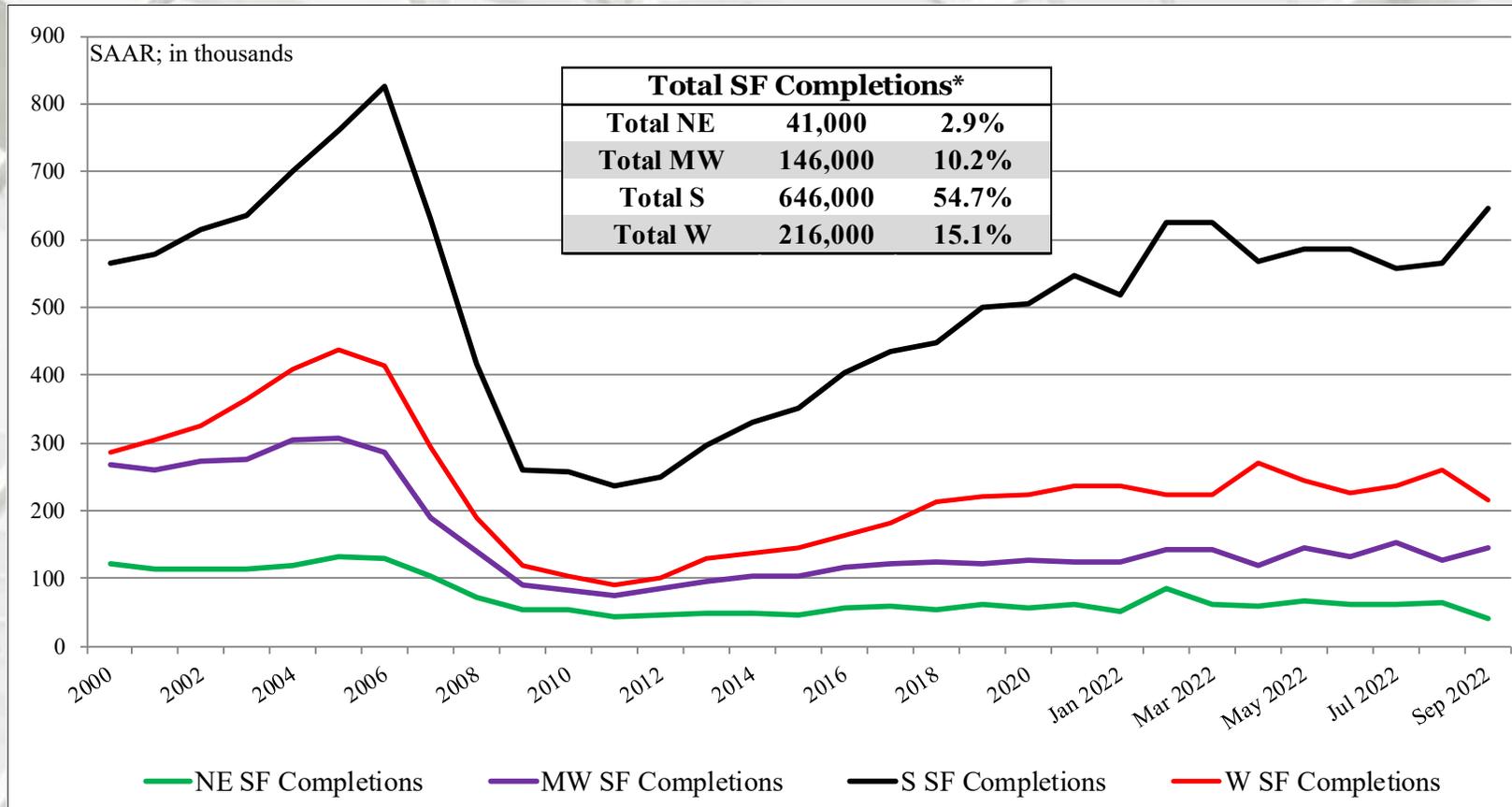
Total Housing Completions by Region



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

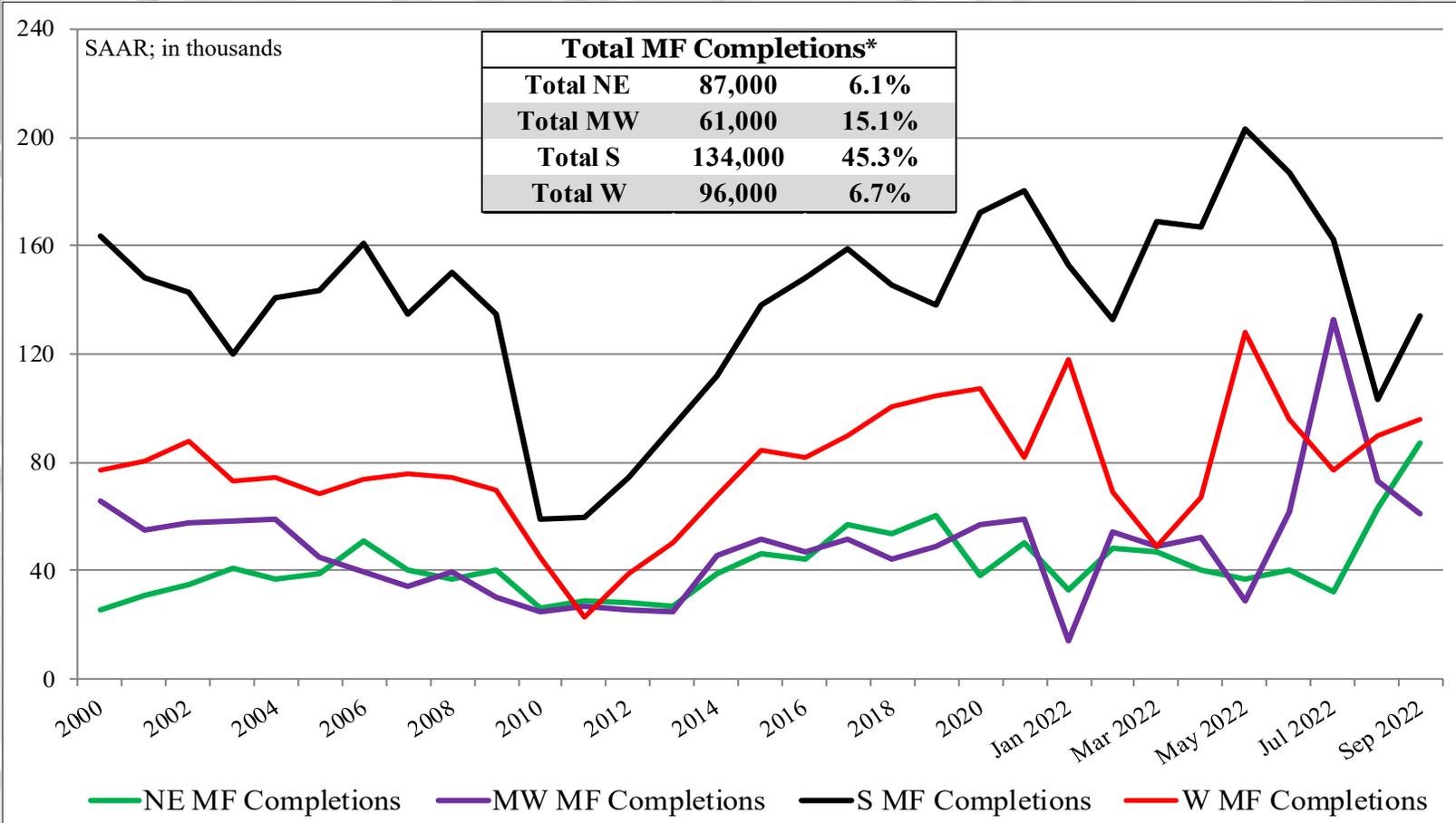


NE = Northeast, MW = Midwest, S = South, W = West

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

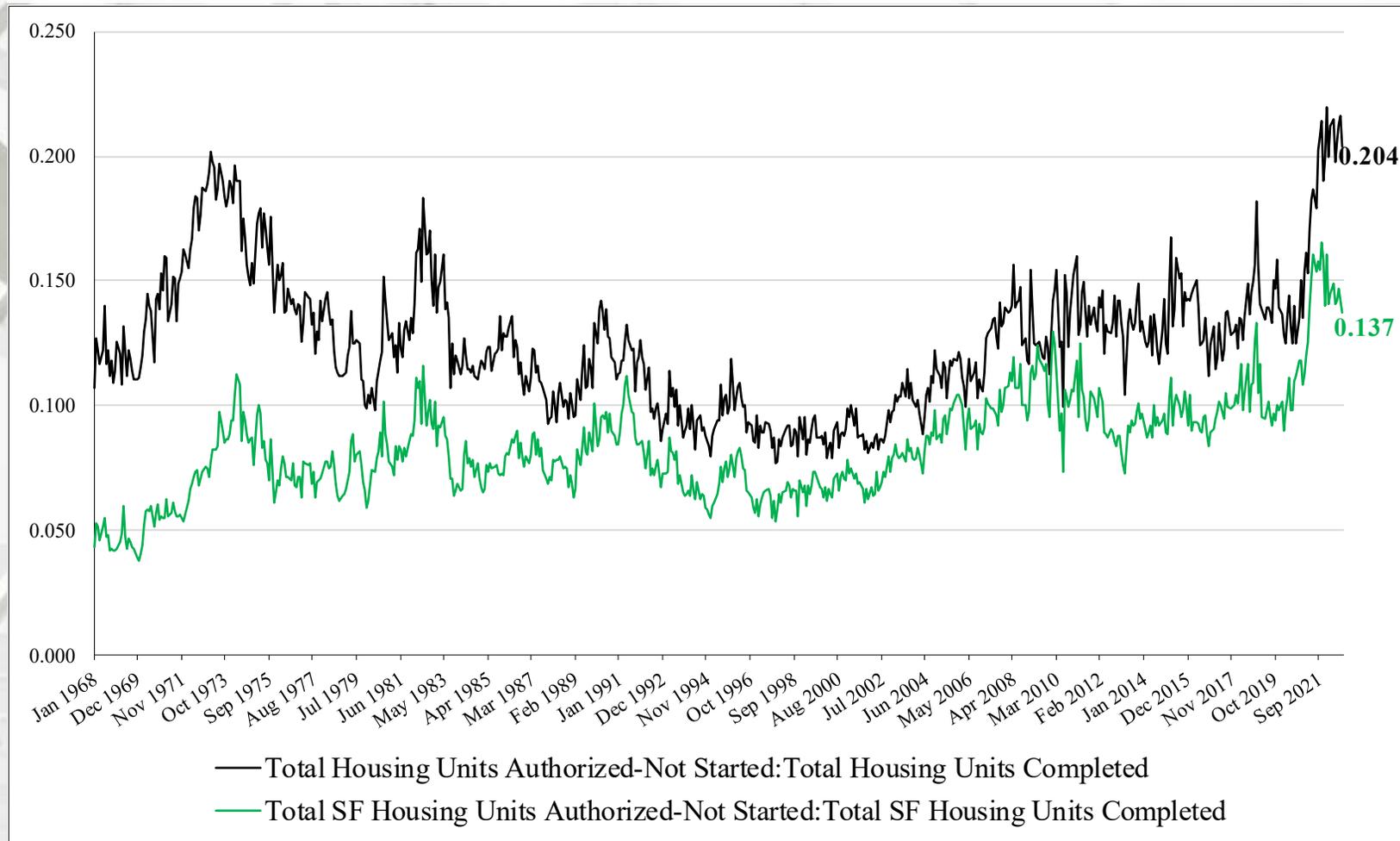


NE = Northeast, MW = Midwest, S = South, W = West

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

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



Authorized, Not Started vs. Housing Completions

Total authorized units “not” started increased to 291,000 in September and SF authorized units “not” started increased to 144,000 in September.

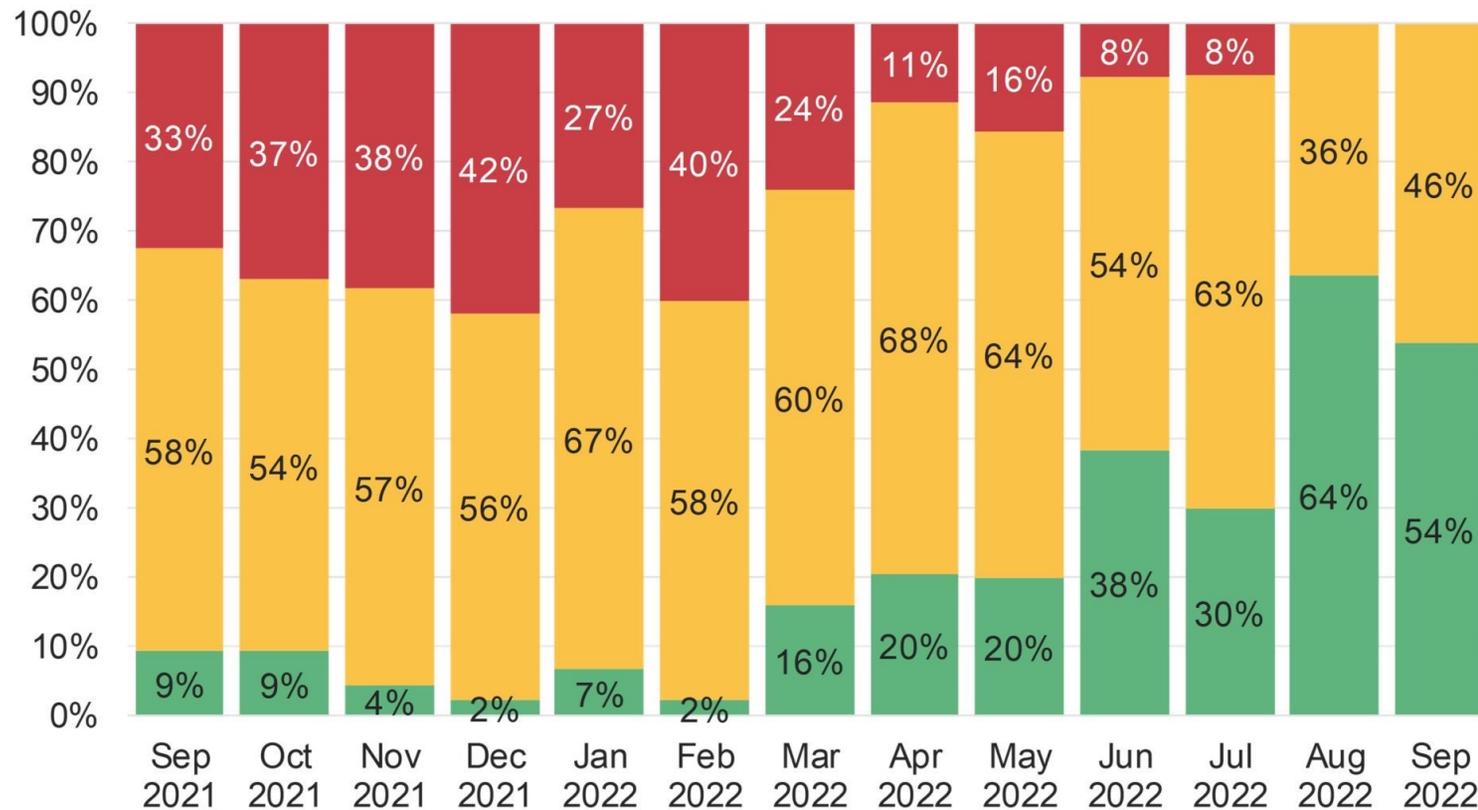
The primary reason is manufacturing supply chain disruptions – ranging from appliances to windows; labor, logistics, and local building regulations.

U.S. Logistics

John Burns Real Estate Consulting LLC

Building Materials Dealers' Supply Bottlenecks: Are they getting worse, better, or staying the same?

■ Getting better ■ Are the same ■ Getting worse



New Single-Family House Sales

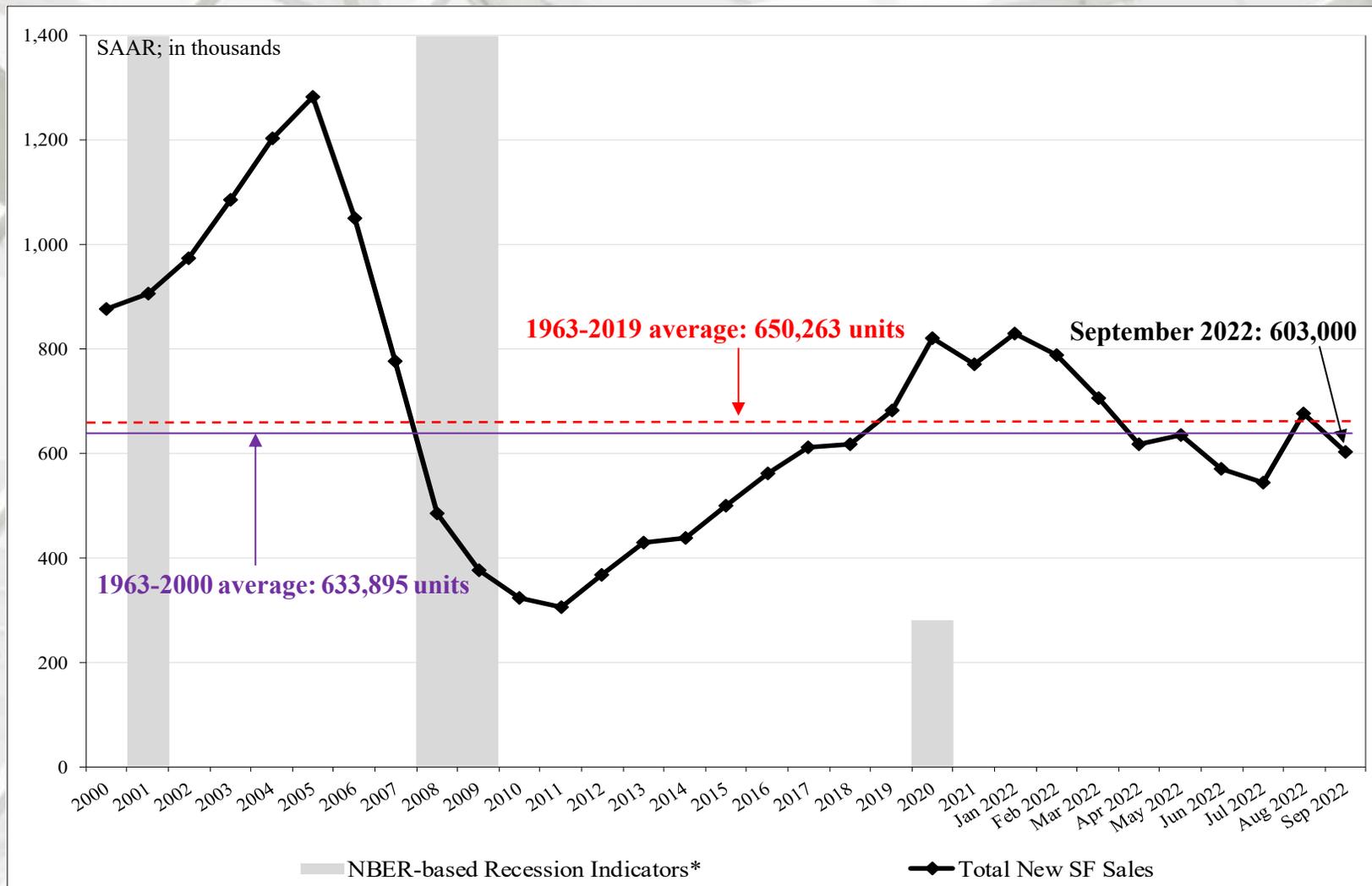
	New SF Sales*	Median Price	Mean Price	Month's Supply
September	603,000	\$470,600	\$517,700	9.2
August	677,000	\$435,800	\$529,000	8.1
2021	732,000	\$413,200	\$470,600	6.1
M/M change	-10.9%	8.0%	-2.1%	13.6%
Y/Y change	-17.6%	13.9%	10.0%	50.8%

* 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 more than the consensus forecast³ of 585 m (range: 475 m to 640 m).
The past three month's new SF sales data also were revised:

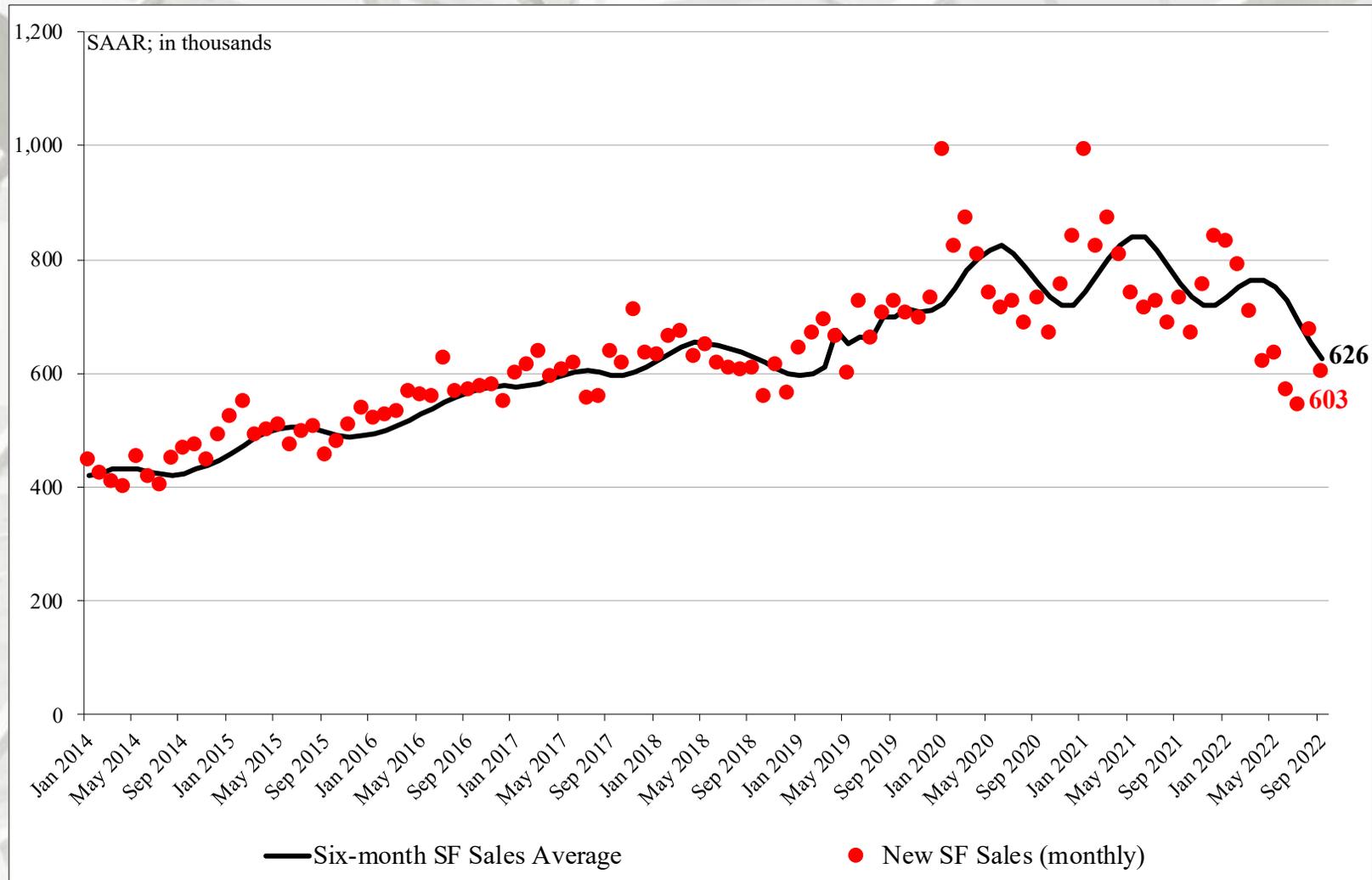
June initial: 590 m, revised to 571 m.
July initial: 511 m, revised to 543 m.
August initial: 685 m, revised to 677 m.

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			
September	39,000	73,000	356,000	135,000			
August	25,000	70,000	446,000	136,000			
2021	31,000	66,000	441,000	194,000			
M/M change	56.0%	4.3%	-20.2%	-0.7%			
Y/Y change	25.8%	10.6%	-19.3%	-30.4%			
	\$150 - ≤ \$150m	\$200 - \$199.9m 299.9m	\$300 - \$399.9m	\$400 - \$499.9m	\$500 - \$749.9m	≥ \$750m	
September ^{1,2,3,4}	500	500	6,000	15,000	12,000	13,000	8,000
August	500	500	3,000	11,000	9,000	14,000	7,000
2021	500	1,000	13,000	12,000	12,000	12,000	5,000
M/M change	0.0%	0.0%	100.0%	36.4%	33.3%	-7.1%	14.3%
Y/Y change	0.0%	-50.0%	-53.8%	25.0%	0.0%	8.3%	60.0%
New SF sales: %	0.9%	0.9%	11.1%	27.8%	22.2%	24.1%	14.8%

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 September not add to total because of rounding.

⁴ Housing prices are adjusted at irregular intervals.

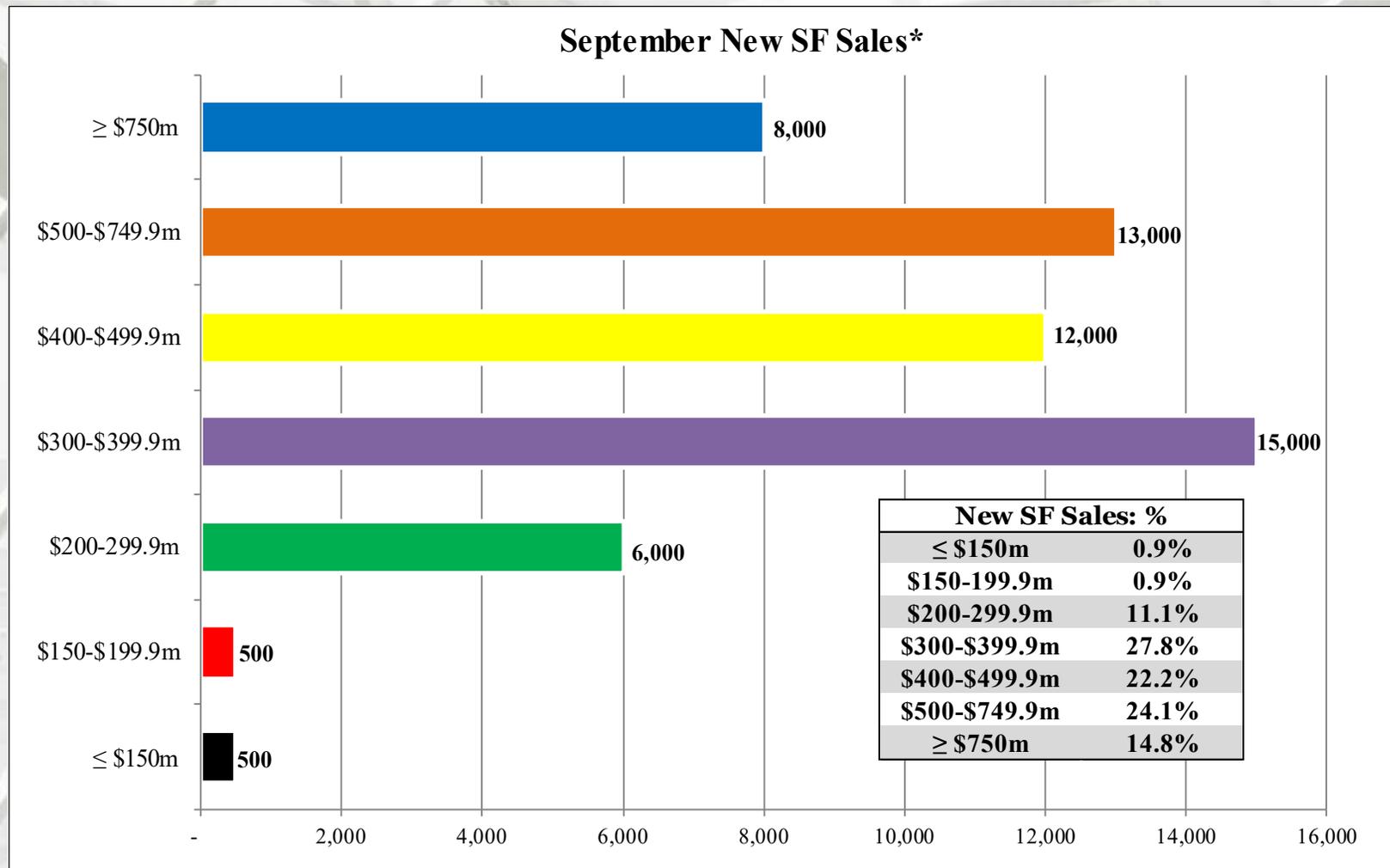
⁵ Z = Less than 500 units or less than 0.5 percent

Sources: ^{1,2,3} <https://www.census.gov/construction/nrs/index.html>; 10/26/22;

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

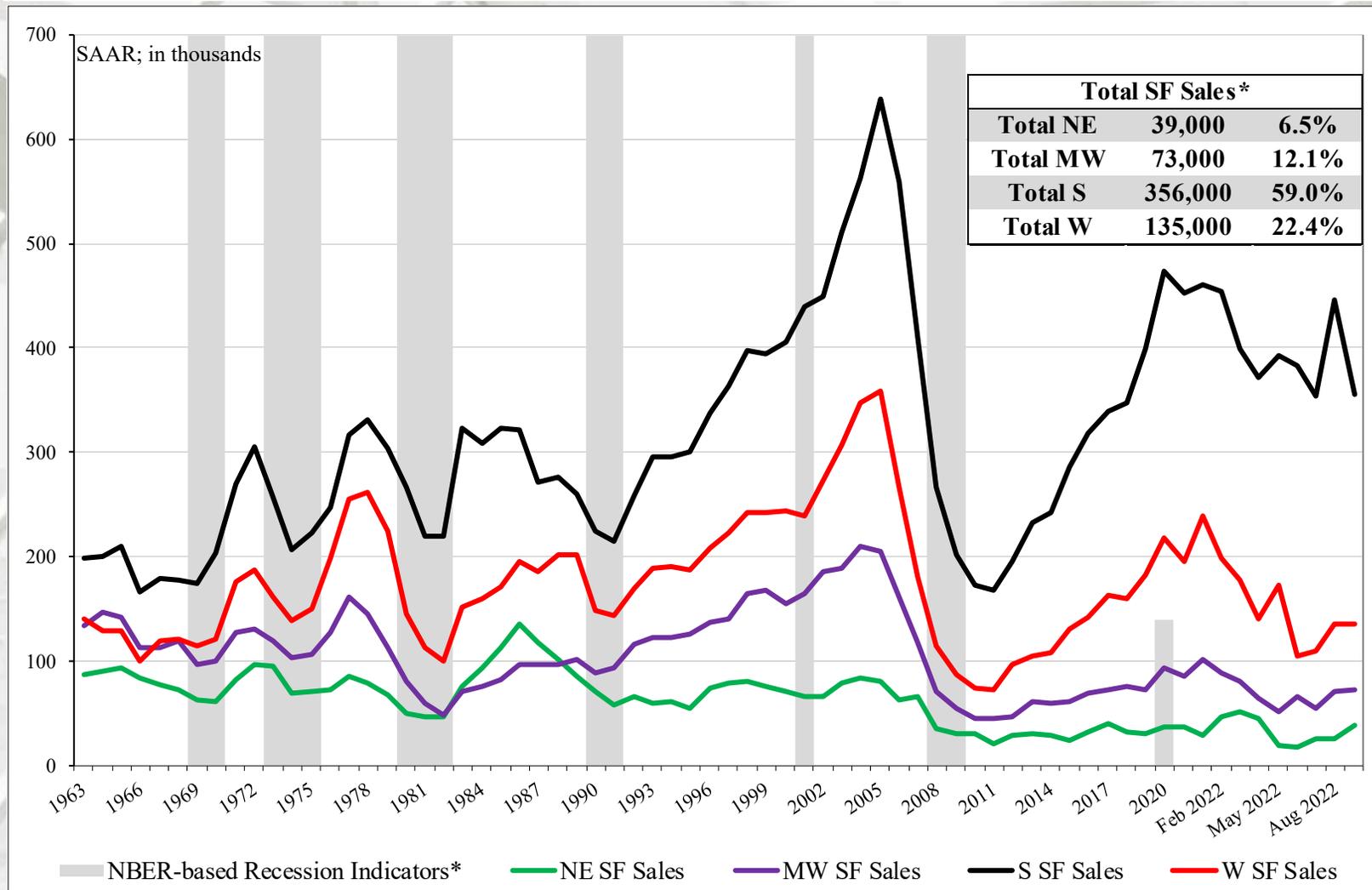
Return TOC

New SF House Sales



* Total new sales by price category and percent.

New SF House Sales by Region

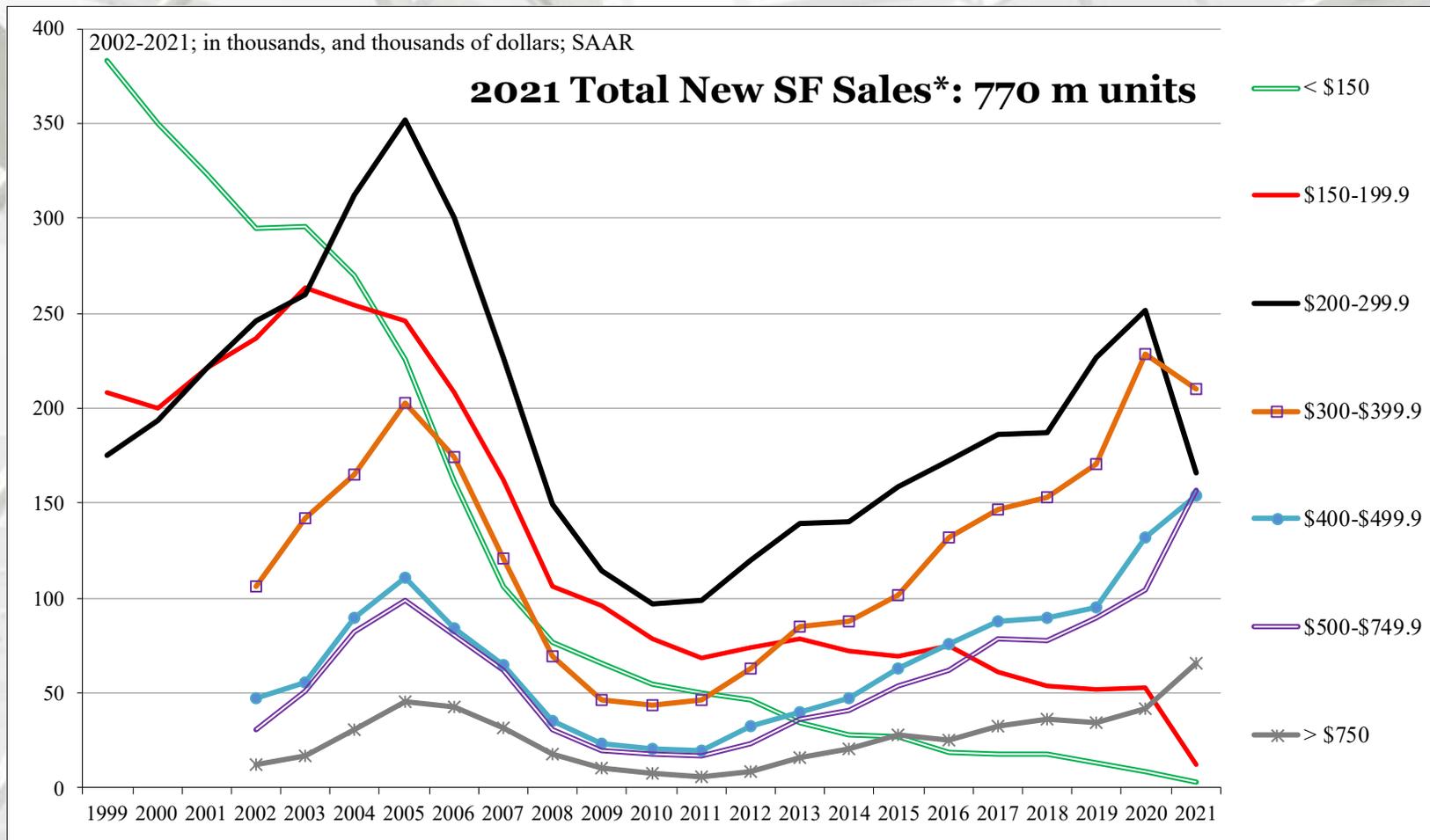


NE = Northeast; MW = Midwest; S = South; W = West

* Percentage of total new sales.

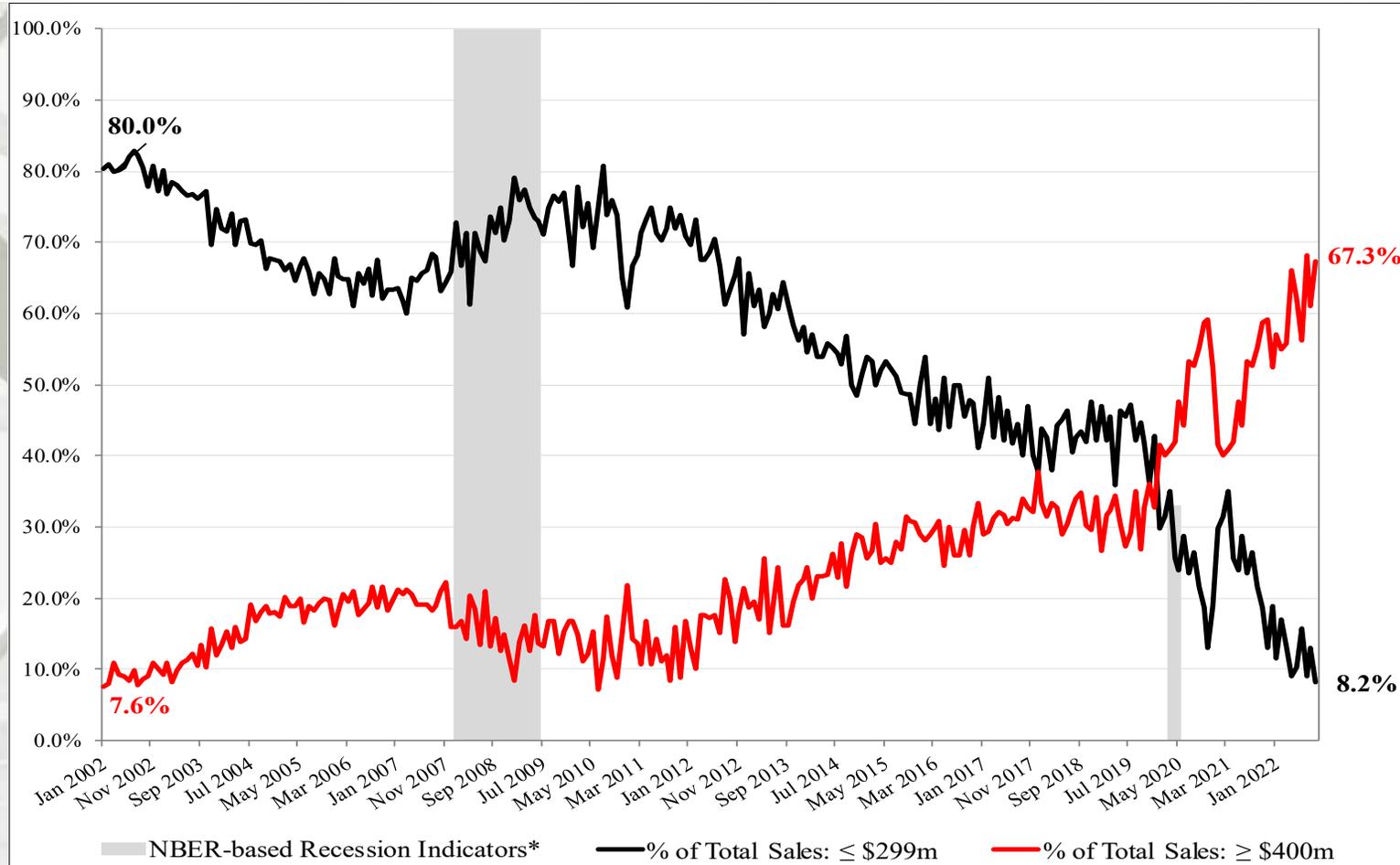
* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

New SF House Sales by Price Category



* Sales tallied by price category, nominal dollars.

New SF House Sales

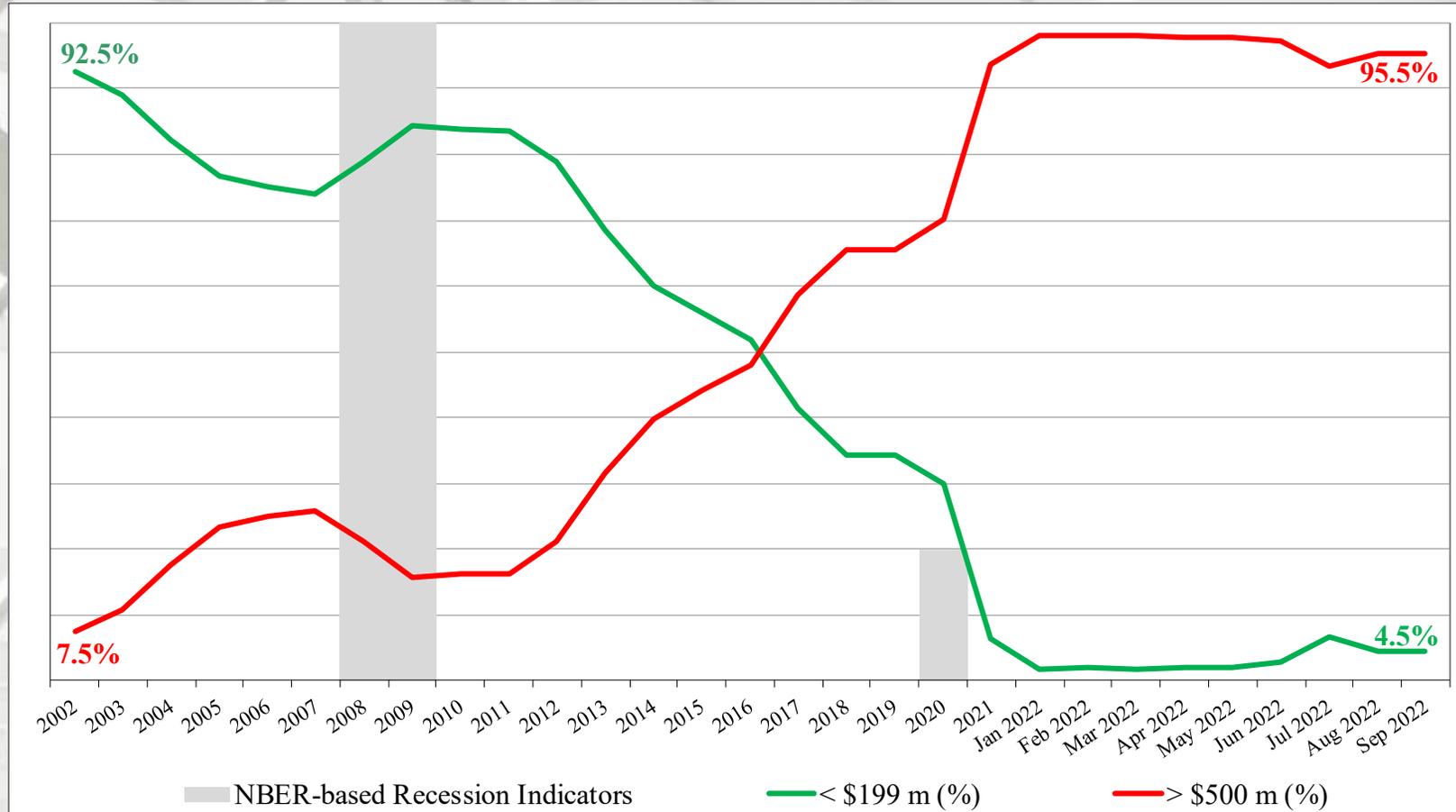


* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

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

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

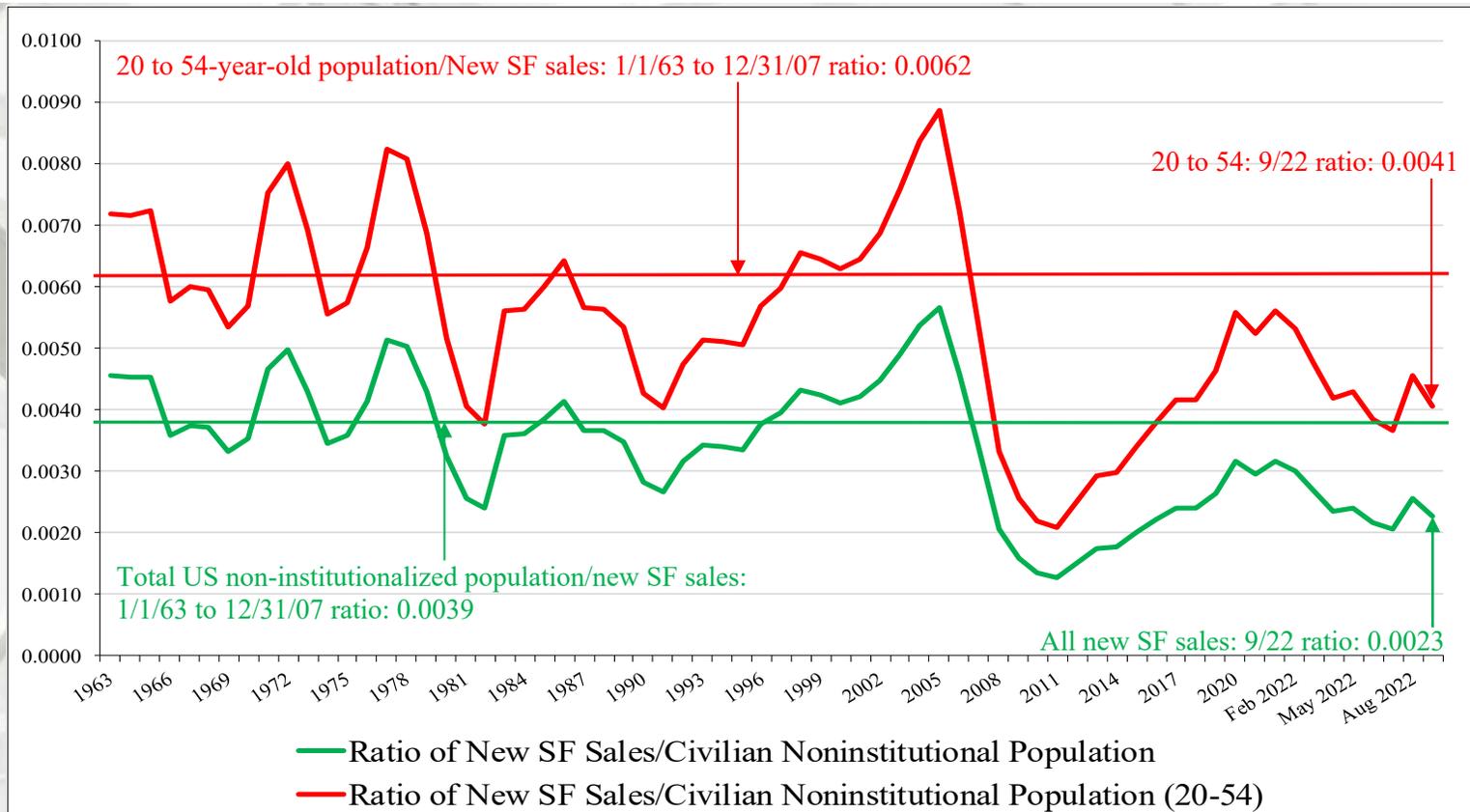


New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to September 2022

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

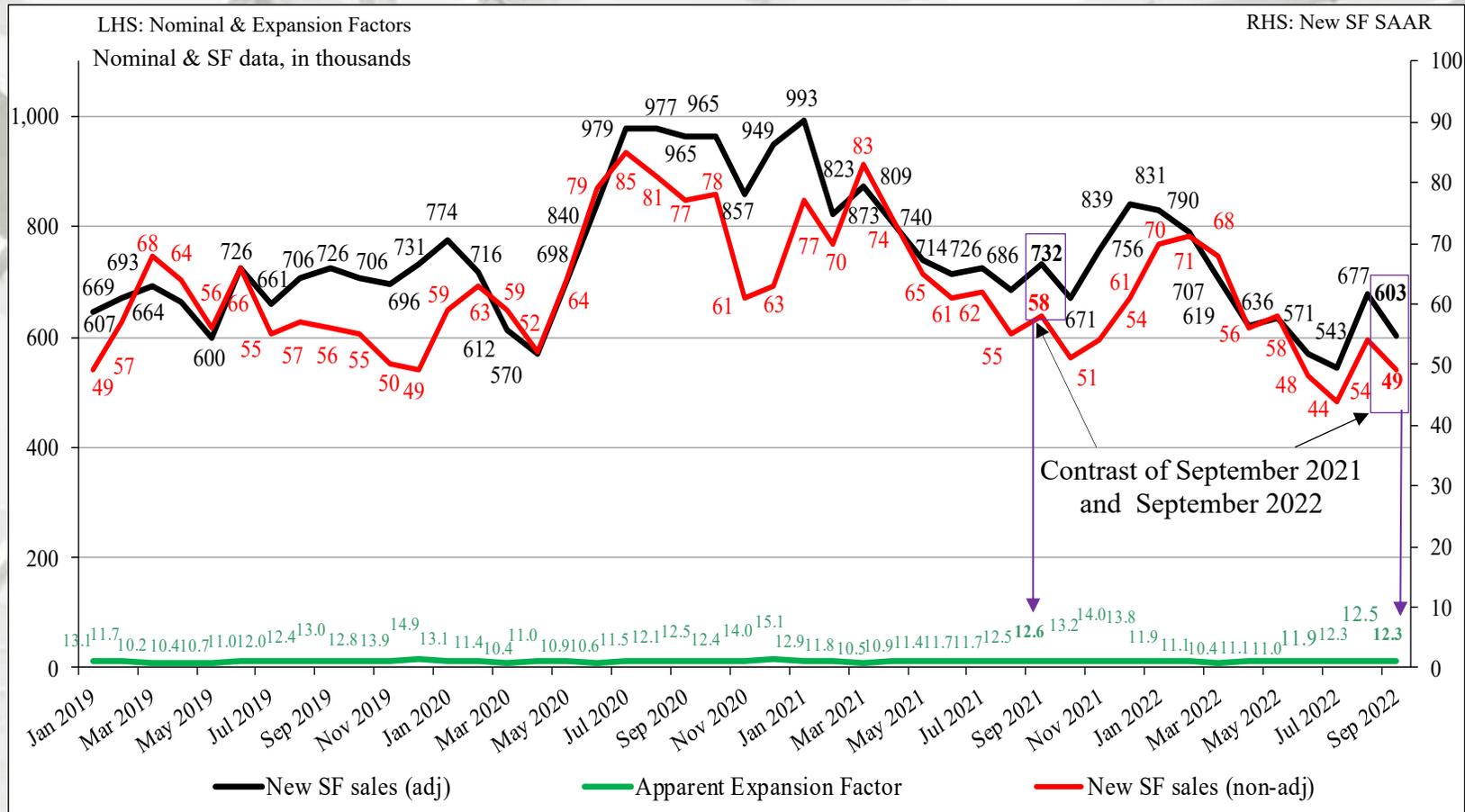


New SF sales adjusted for the US population

From September 1963 to September 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in September 2022 it was 0.0023 – a decrease from August (0.0026). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in September 2022 it was 0.0041 – also a decline from August (0.0046). 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

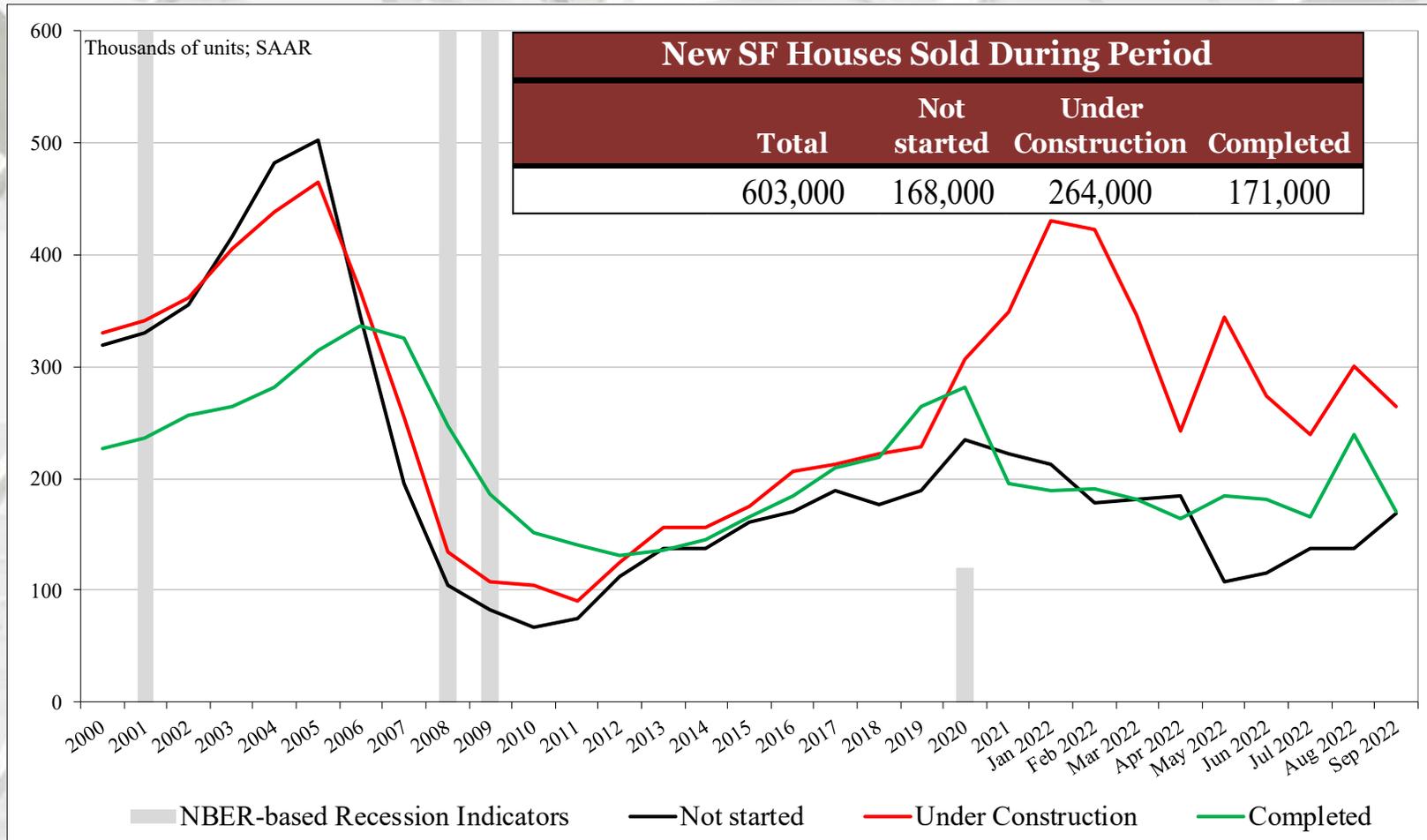
New SF House Sales

New SF Houses Sold During Period

	Total	Not started	Under Construction	Completed
September	603,000	168,000	264,000	171,000
August	677,000	137,000	300,000	240,000
2021	732,000	180,000	361,000	191,000
M/M change	-10.9%	22.6%	-12.0%	-28.8%
Y/Y change	-17.6%	-6.7%	-26.9%	-10.5%
Total percentage		27.9%	43.8%	28.4%

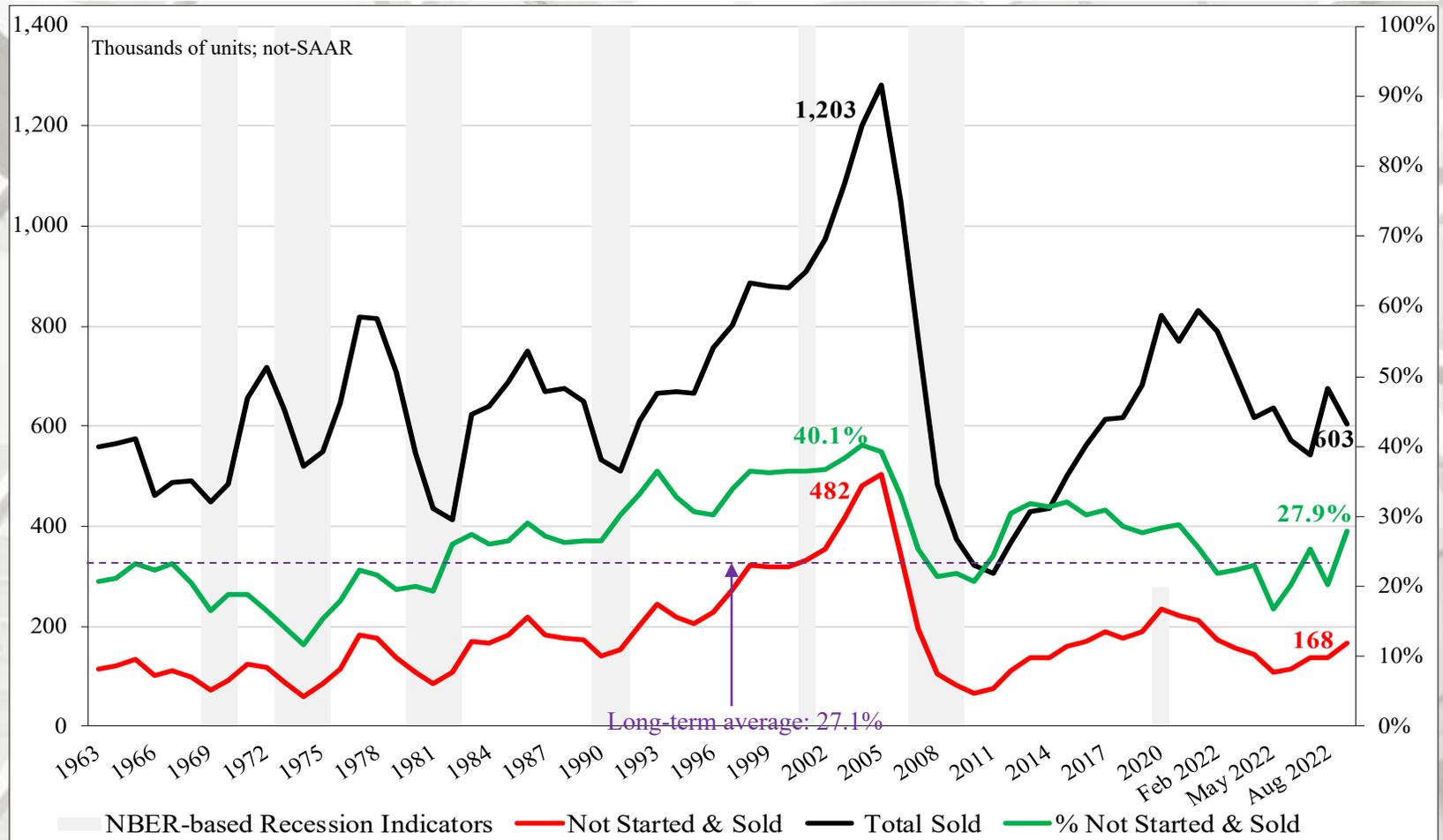
SAAR

New SF House Sales: Sold During Period



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

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



Of the new houses sold in September (603 m), 27.8% (168 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

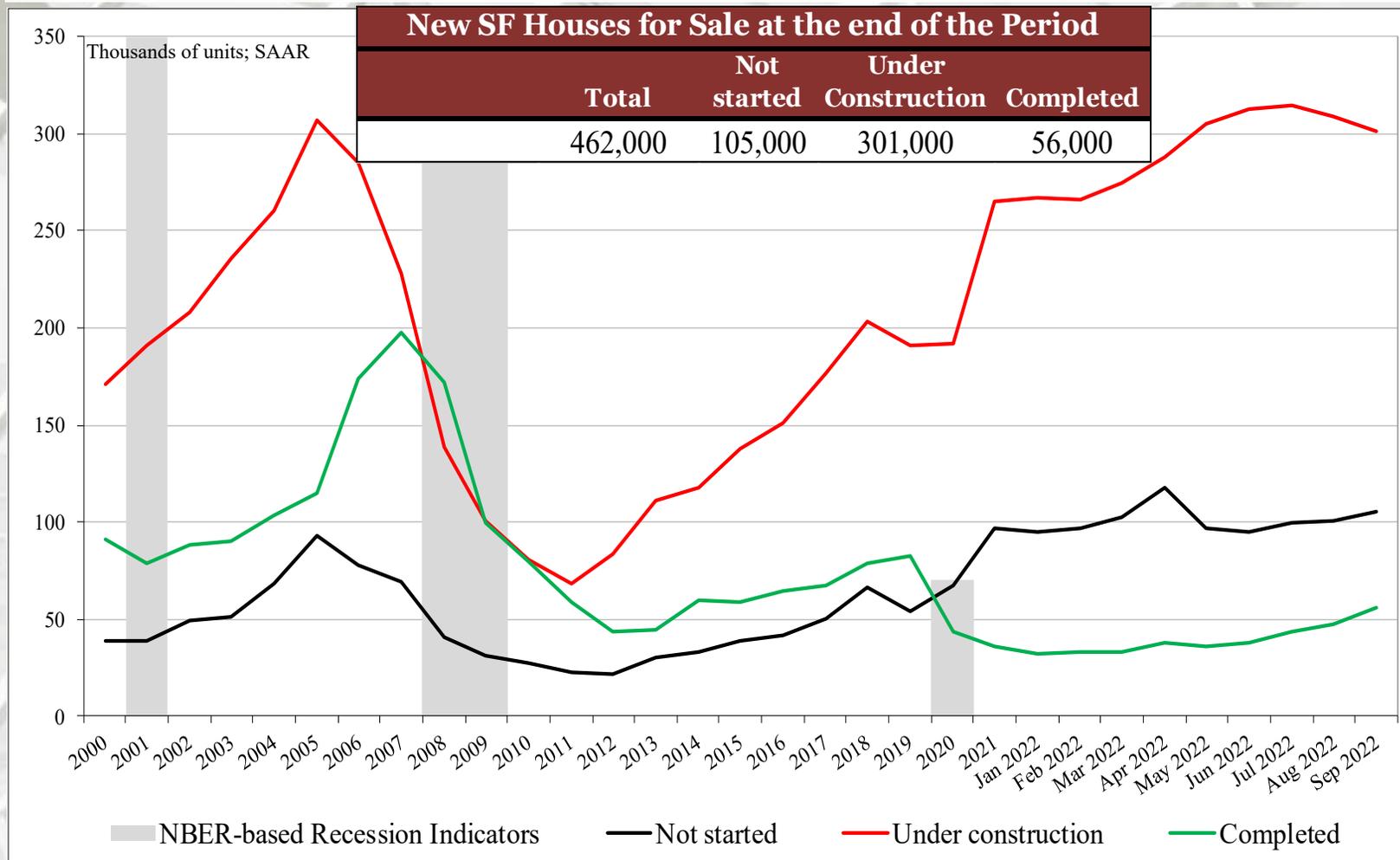
New SF Houses for Sale at the end of the Period

	Total	Not started	Under Construction	Completed
September	462,000	105,000	301,000	56,000
August	457,000	101,000	309,000	47,000
2021	375,000	95,000	246,000	34,000
M/M change	1.1%	4.0%	-2.6%	19.1%
Y/Y change	23.2%	10.5%	22.4%	64.7%
Total percentage		22.7%	65.2%	12.1%

Not SAAR

Of houses listed for sale (462 m) in September, 12.1% (56 m) have been built. In the 'ground had not been broken for construction' or 'not started' category, 105 m (22.7%) 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).

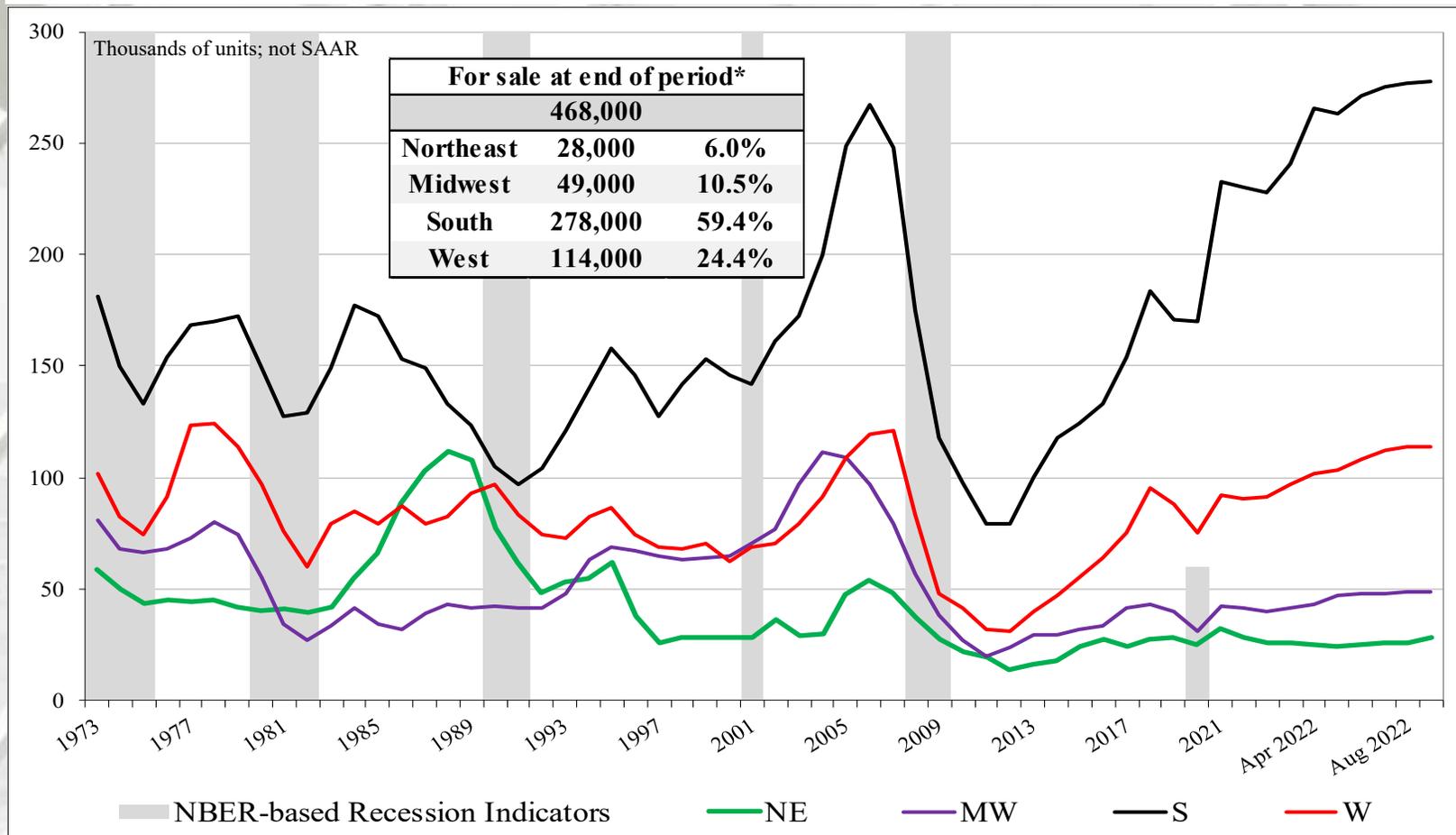
New SF House Sales

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

	Total	NE	MW	S	W
September	468,000	28,000	49,000	278,000	114,000
August	465,000	26,000	49,000	277,000	114,000
2021	381,000	29,000	34,000	227,000	92,000
M/M change	0.6%	7.7%	0.0%	0.4%	0.0%
Y/Y change	22.8%	-3.4%	44.1%	22.5%	23.9%

* Not SAAR

New SF Houses for Sale at End of Period by Region

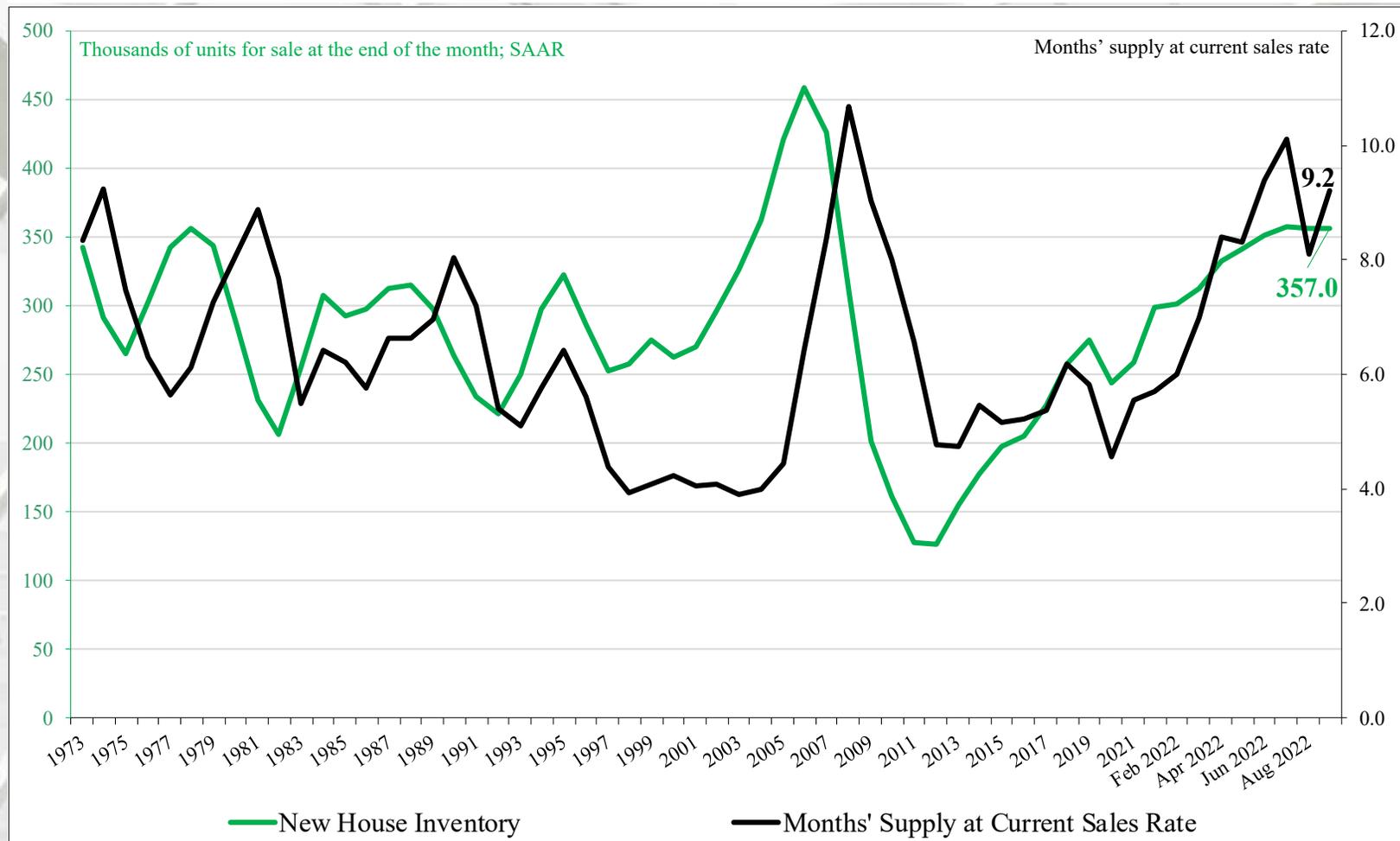


NE = Northeast; MW = Midwest; S = South; W = West

* Percentage of new SF sales.

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

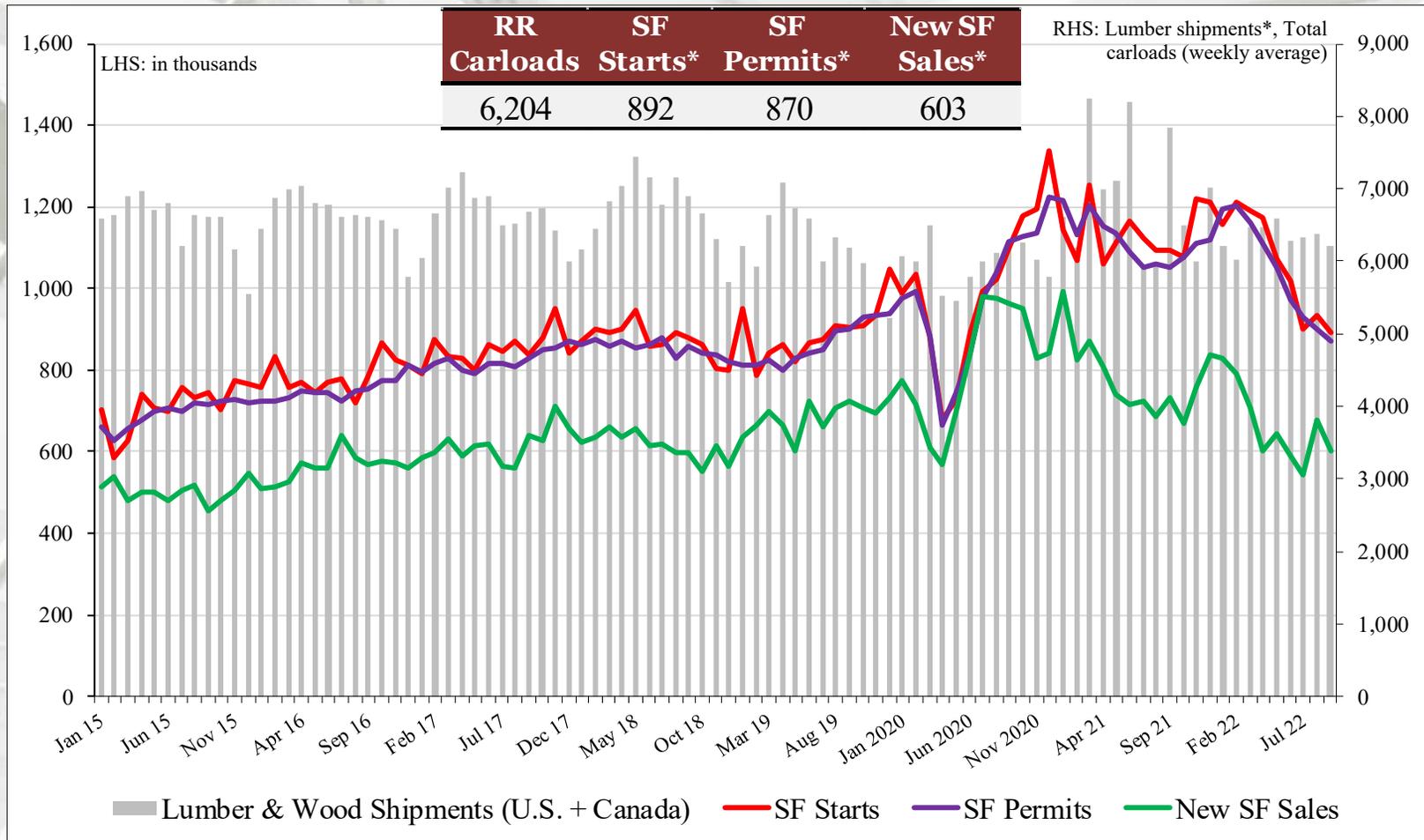
Months' Supply and New House Inventory^a



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

The months' supply of new houses for sale was 9.2 at the end of September 2022 (SAAR).

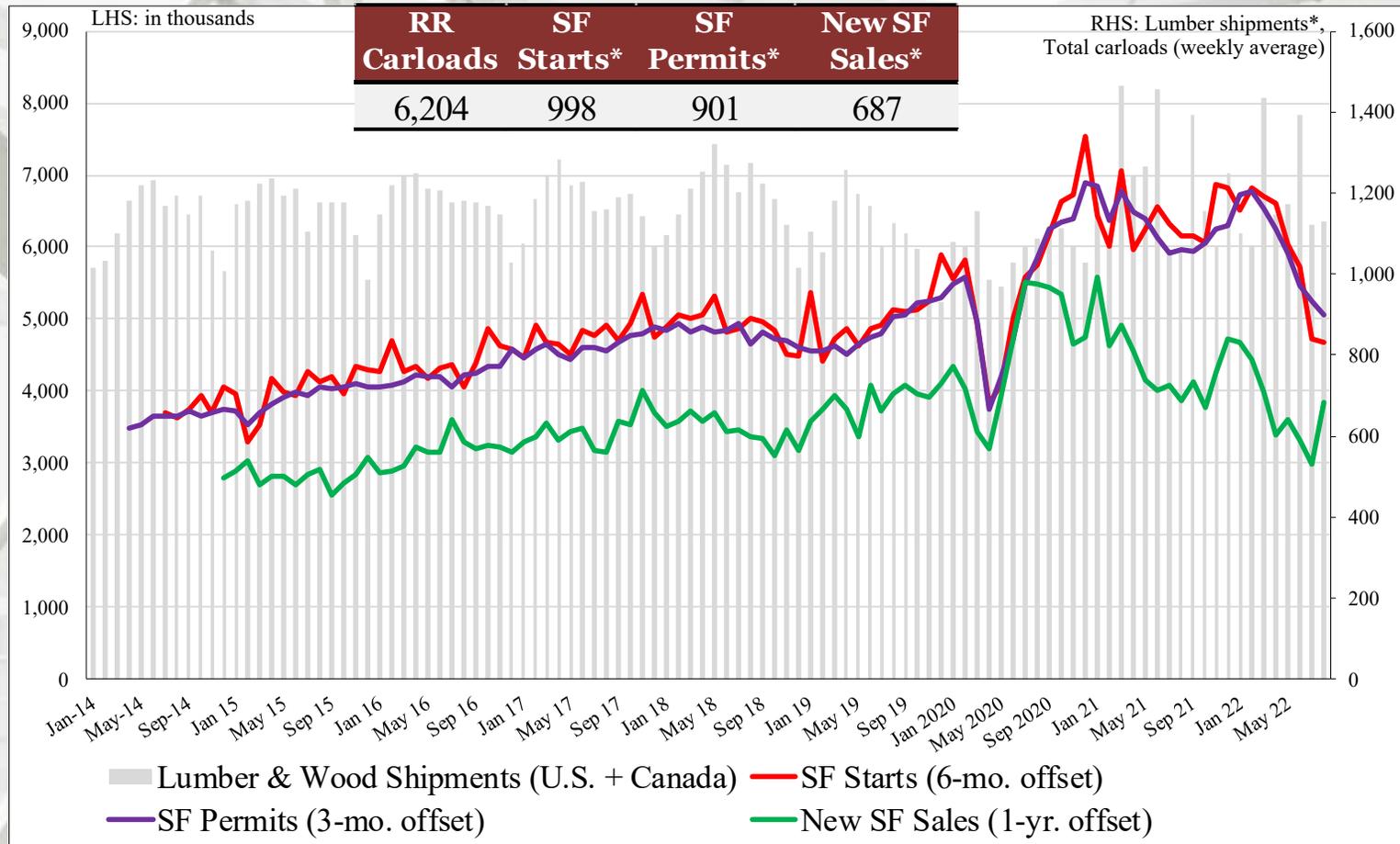
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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

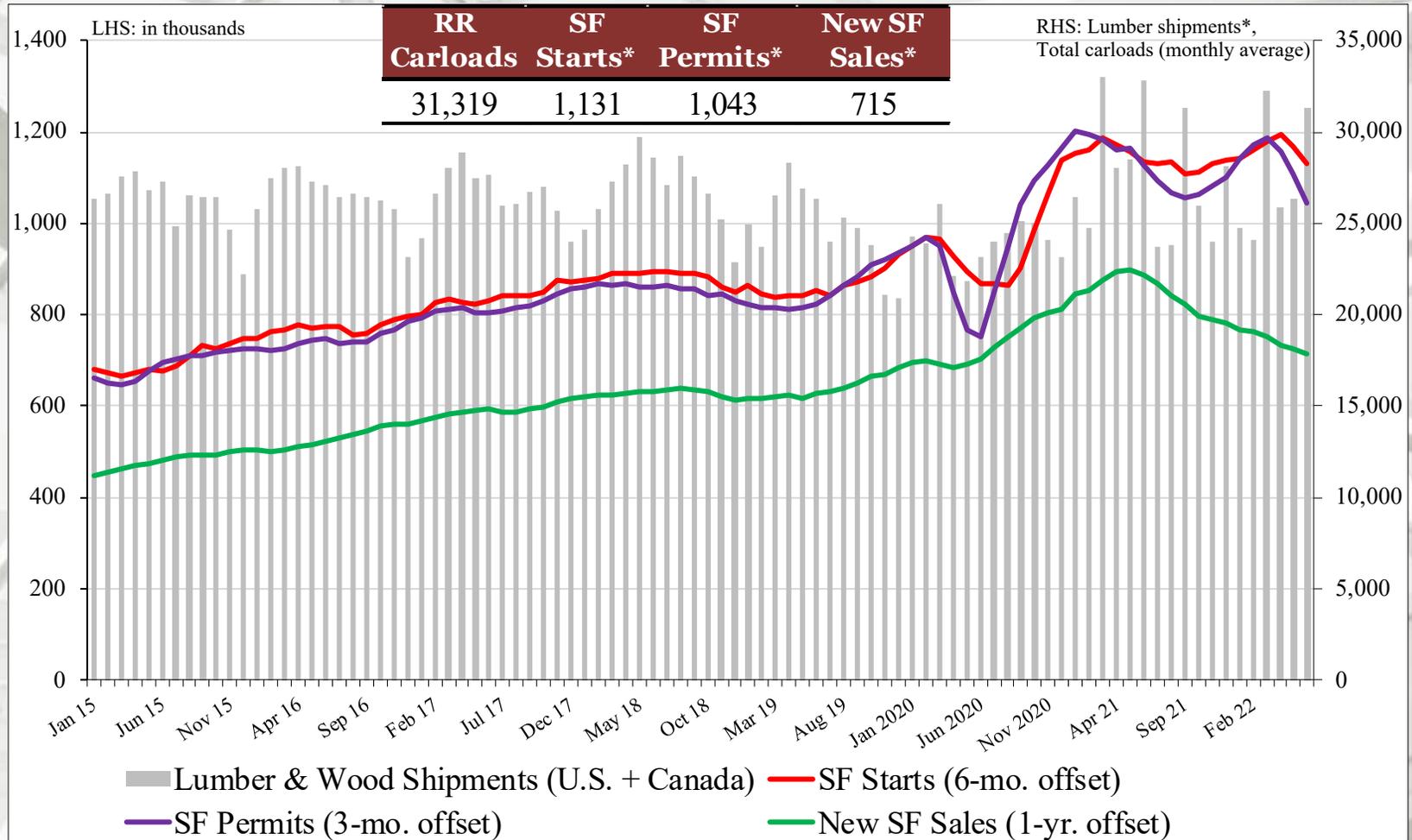
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



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-September 2022; <http://www.census.gov/construction/>; 10/19/22 & 10/26/22

September 2022 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
October	\$917,986	\$423,742	\$101,552	\$392,692
September	\$917,970	\$435,191	\$101,285	\$381,494
2021	\$814,272	\$435,713	\$99,700	\$278,859
M/M change	0.0%	-2.6%	0.3%	2.9%
Y/Y change	12.7%	-2.7%	1.9%	40.8%

* 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\$.

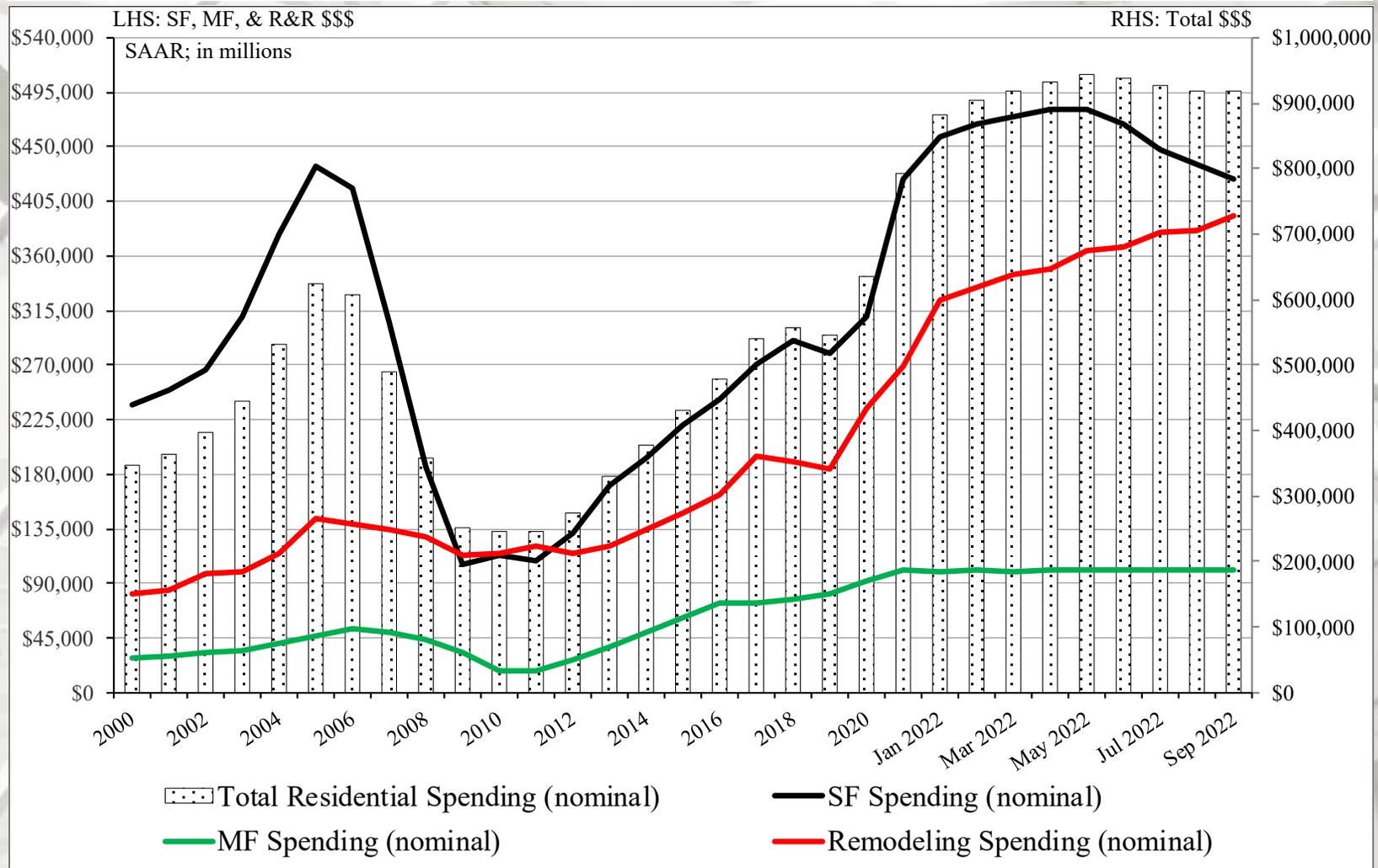
Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

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.

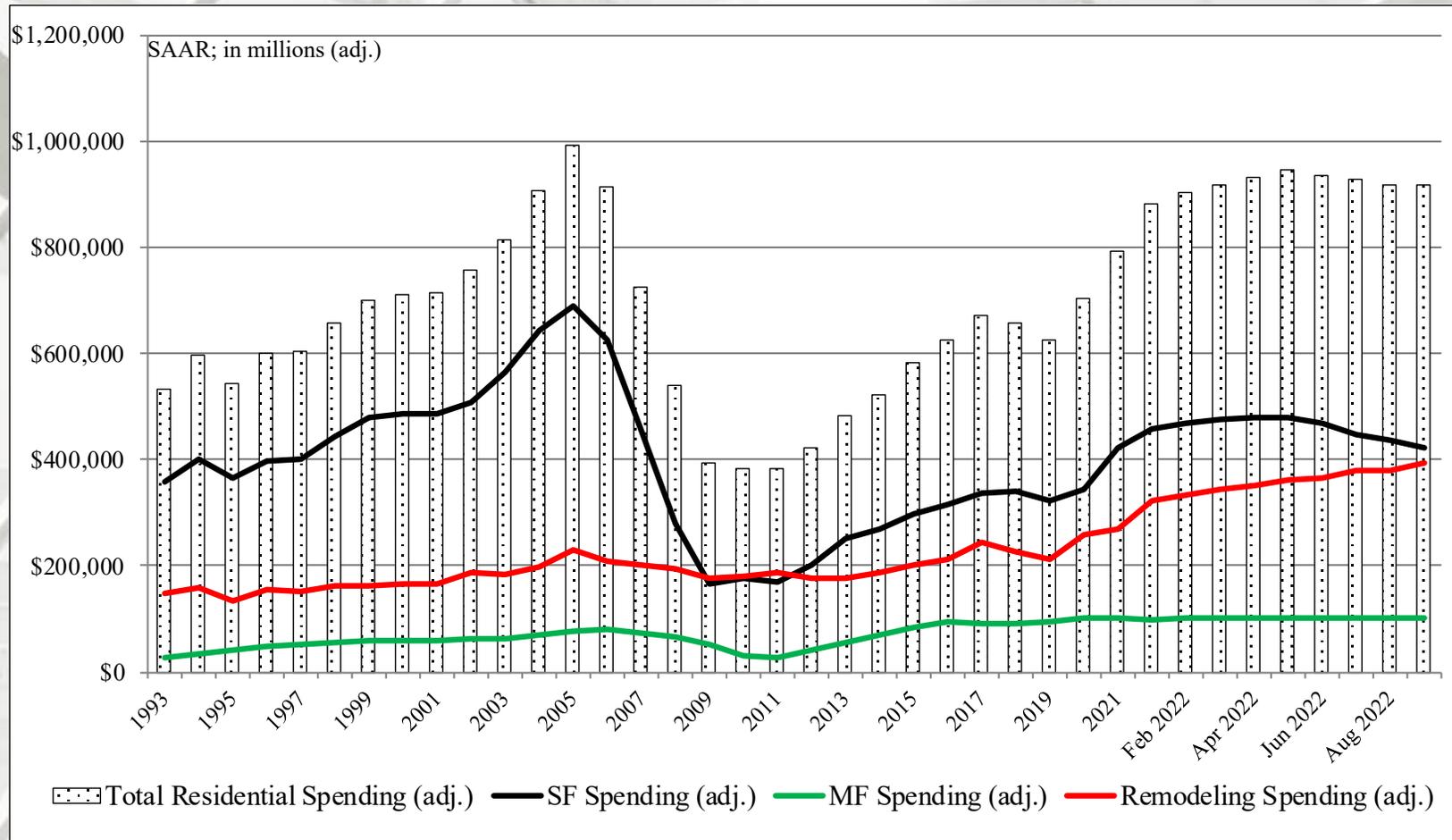
Total Construction Spending (nominal): 2000 – September 2022



Reported in nominal US\$.

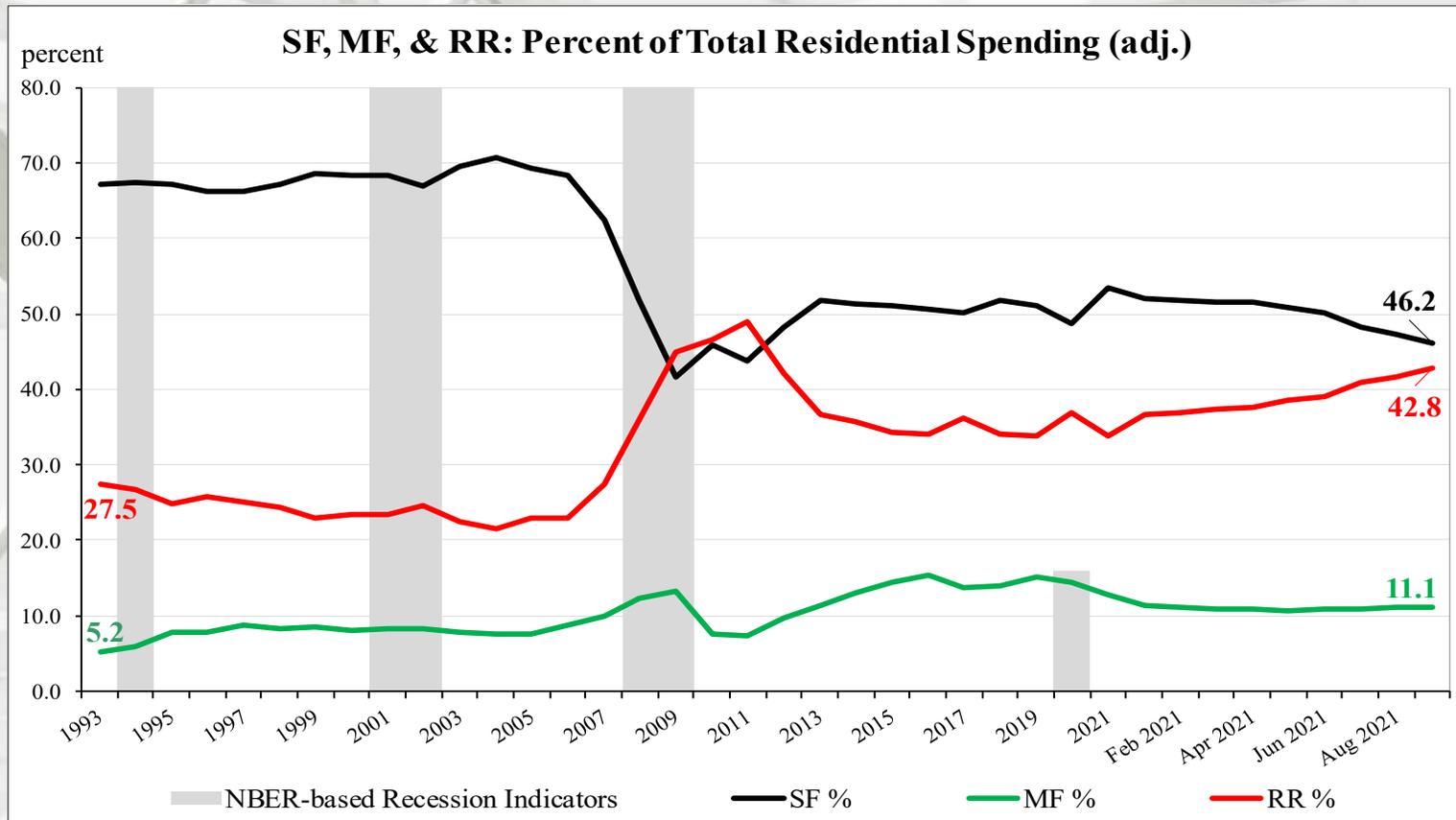
The US DOC does not report improvement spending directly, this is a monthly estimation for 2022.

Total Construction Spending (adjusted): 1993 – September 2022



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

Construction Spending Shares: 1993 – September 2022



Total Residential Spending: 1993 through 2006

SF spending average: 69.2%

MF spending average: 7.5%

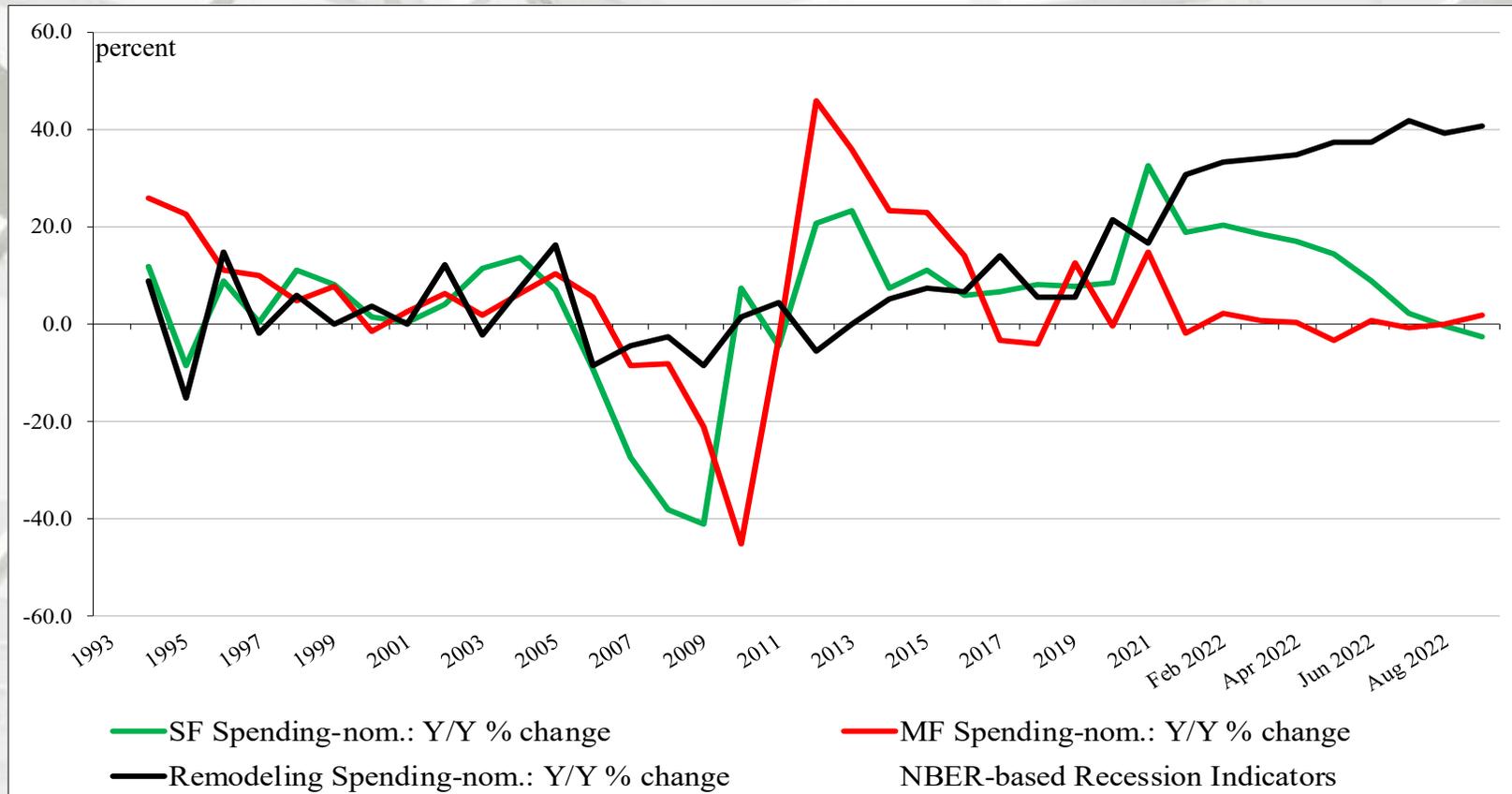
Residential remodeling (RR) spending average: 23.3% (SAAR).

Note: 1993 to 2021 (adjusted for inflation, BEA Table 1.1.9); September 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>; 11/1/22 and <http://www.bea.gov/iTable/iTable.cfm>; 9/30/22

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



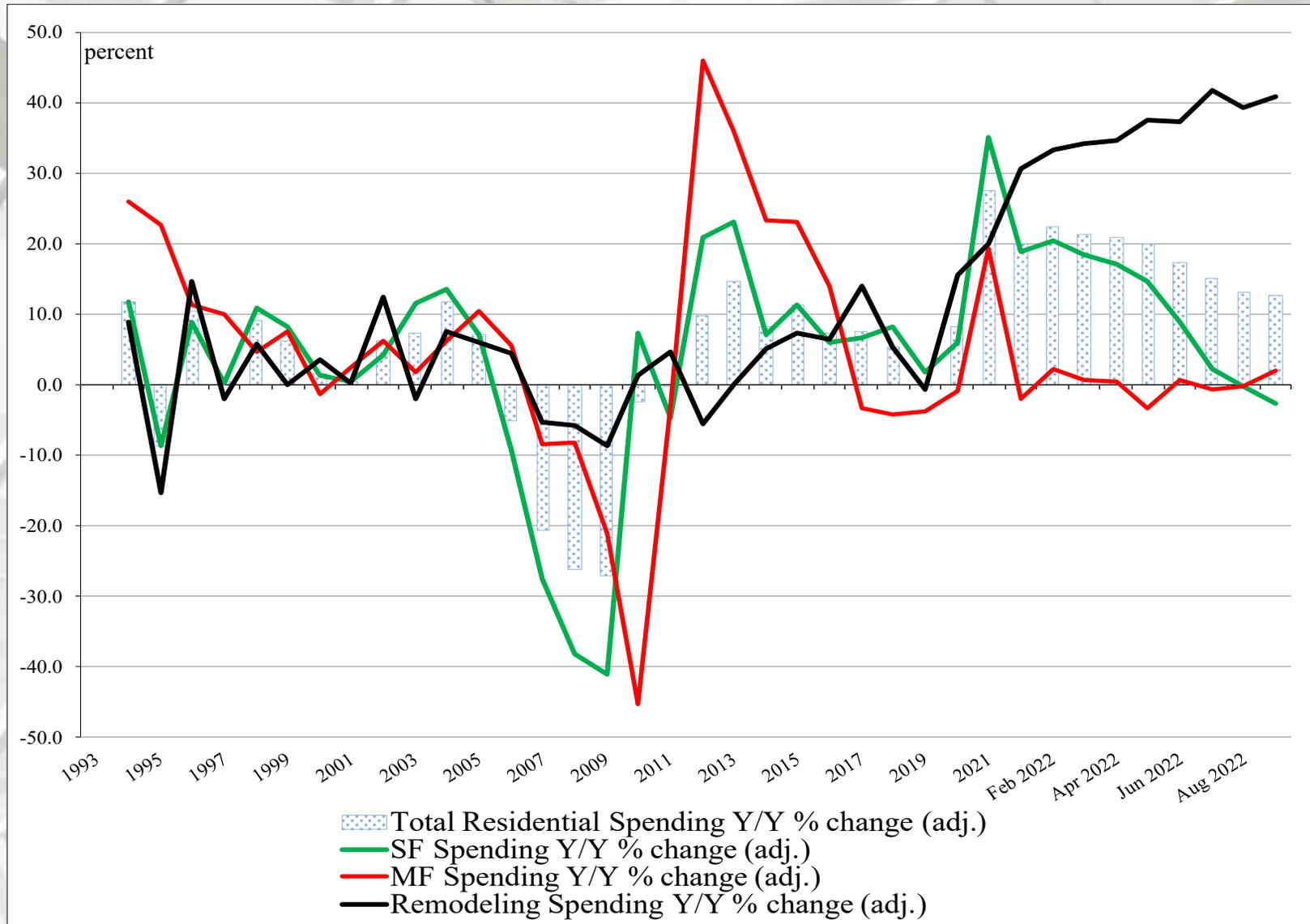
Nominal Residential Construction Spending: Y/Y percentage change, 1993 to September 2021

Presented above is the percentage change of inflation adjusted Y/Y construction spending. MF and RR expenditures were positive on a percentage basis, year-over-year (September 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).

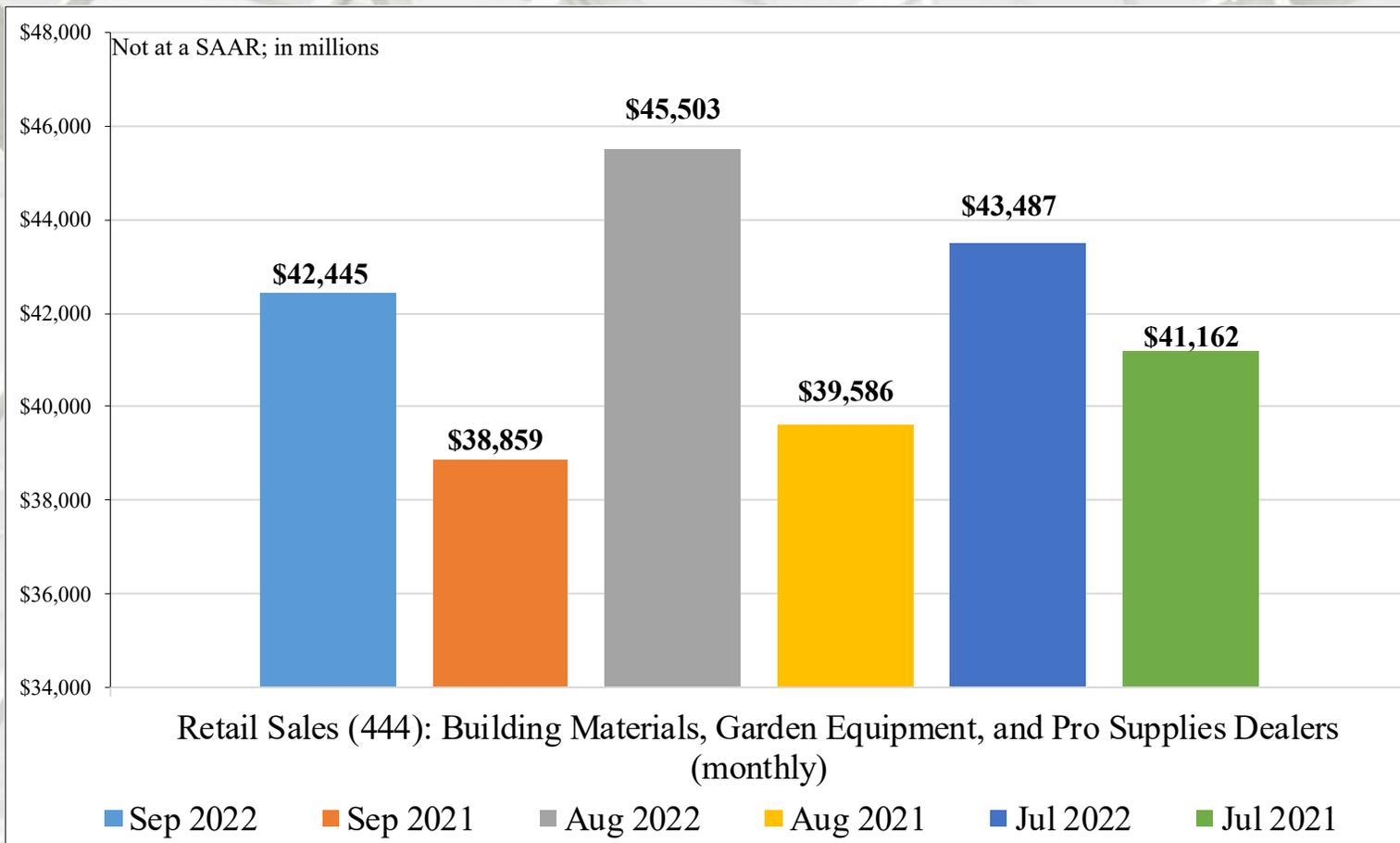
Sources: * <https://fred.stlouisfed.org/series/USREC>, 6/24/21; <http://www.census.gov/construction/c30/pdf/privsa.pdf>; 11/1/22 and <http://www.bea.gov/iTable/iTable.cfm>; 9/30/22

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



Remodeling

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

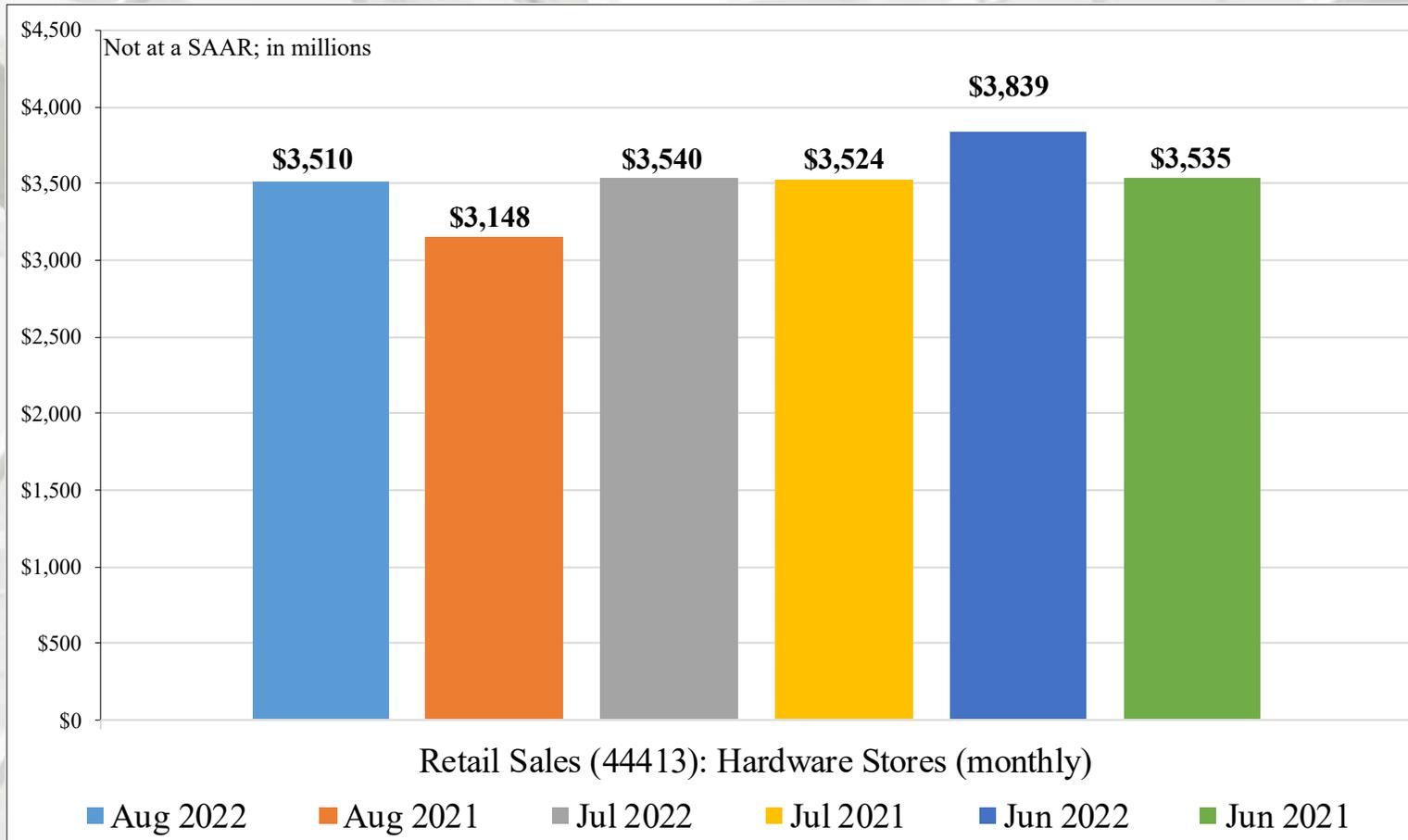


Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

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 September 2022 from July 2022 and increased 11.5% in September 2022 from September 2021 (on a non-adjusted basis).

Remodeling

Harvard Joint Center for Housing Studies

Sharp Slowdown Projected in the Pace of Home Remodeling

“Annual gains in improvement and maintenance expenditures to owner-occupied homes are expected to decline sharply by the middle of next year, according to the Leading Indicator of Remodeling Activity (LIRA) released today by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University. The LIRA projects year-over-year growth in homeowner remodeling and repair spending to shrink from 16.1 percent in 2022 to 6.5 percent by the third quarter of 2023.

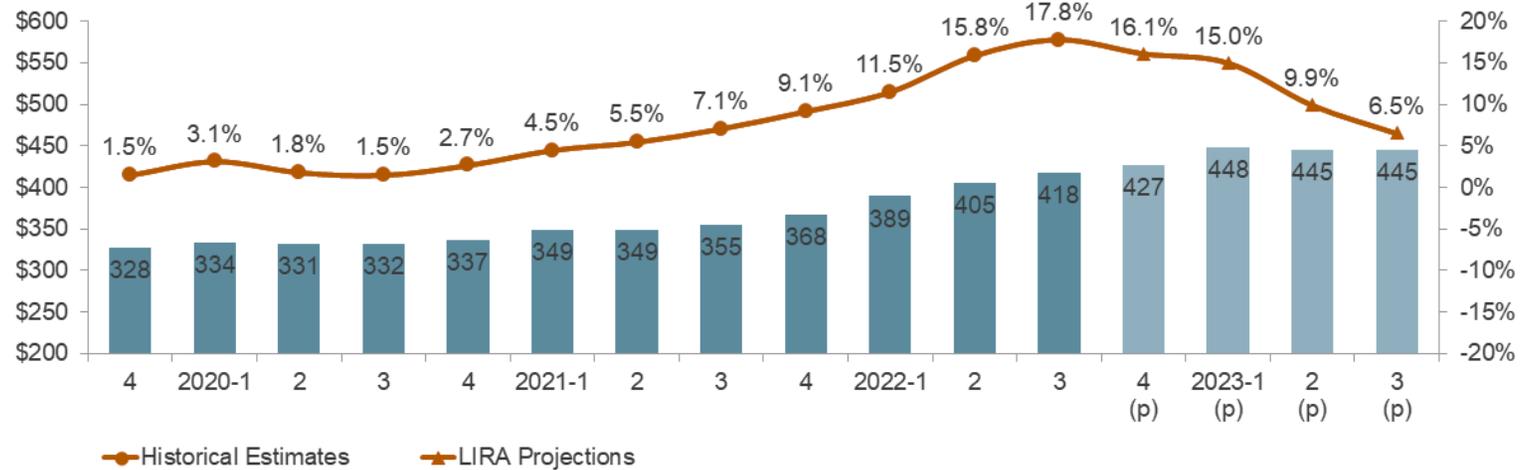
“Housing and remodeling markets are undoubtedly slowing from the exceptionally high and unsustainable growth rates that followed in the wake of the pandemic-induced recession,” says Carlos Martín, Project Director of the Remodeling Futures Program at the Center. “Spending for home improvements will continue to face headwinds from declining home sales, rising interest rates, and the increasing costs of contractor labor and building materials.”

“Although remodeling market gains are expected to cool significantly next year, homeowners still have record levels of home equity to support financing of renovations,” says Abbe Will, Associate Project Director of the Remodeling Futures Program. “Energy-efficiency retrofits incentivized by the Inflation Reduction Act of 2022, as well as disaster repairs and mitigation projects following Hurricane Ian will further support expansion of the home remodeling market to almost \$450 billion in 2023.”” – Kerry Donahue, Associate Director of Communications, Harvard Joint Center for Housing Studies

Remodeling

Leading Indicator of Remodeling Activity – Third Quarter 2022

**Homeowner Improvements & Repairs
Four-Quarter Moving Totals
Billions**



Notes: Improvements include remodels, replacements, additions, and structural alterations that increase the value of homes. Routine maintenance and repairs preserve the current quality of homes. Historical estimates since 2019 are produced using the LIRA model until American Housing Survey benchmark data become available.

1 | © PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Joint Center for Housing Studies of Harvard University 

Remodeling

John Burns Real Estate Consulting LLC & Qualified Remodeler

U.S. Remodeler Index pulls back, still 'strong'

Third quarter sentiment among remodelers falls to 62 from 65.7 in Q2. Any reading over 50 indicates growth.

“As consumers begin pulling back on spending, remodelers and home improvement pros show signs they’re girding for an environment of slower demand. That’s the result of the recently released U.S. Remodeler Index for the third quarter of 2022, which ticked lower to a 62 reading, down from 65.7 in the second quarter. Despite the pullback the most recent reading remains at a level of business sentiment that is considered ‘strong’.

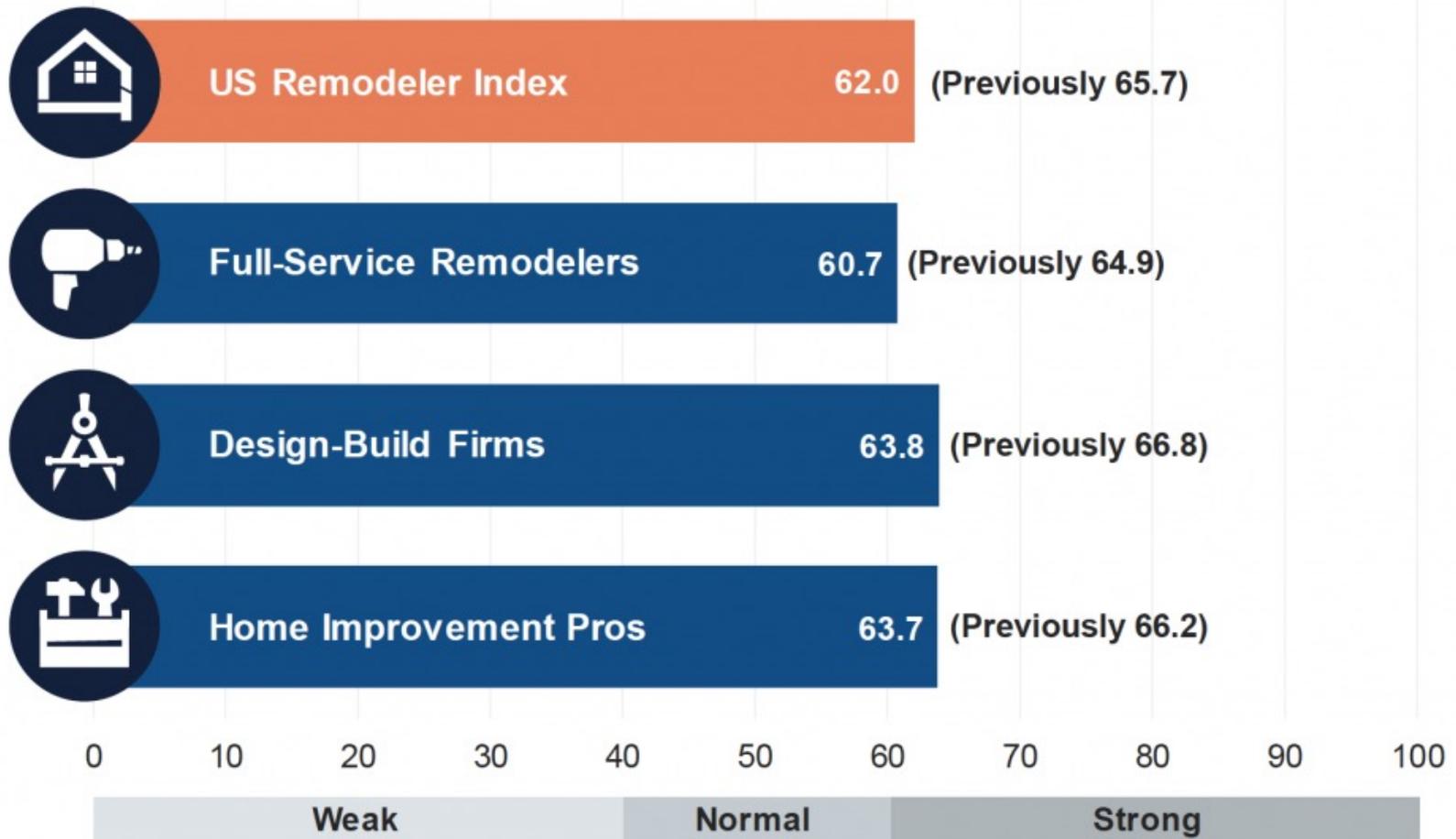
The U.S. Remodeler Index is a diffusion index where a reading of 50 or above indicates growth. The 62 out of 100 reading for Q3 2022 indicates that the remodeling market expanded during the quarter. It was created in 2019 by John Burns Real Estate Consulting and Qualified Remodeler magazine and is a composite reading from three groups: home improvement pros, full-service remodeling contractors and design-build remodeling professionals.

During the quarter design-build firms offered the most positive reading (63.8) followed by home improvement pros (63.7) and full-service contractors (60.7). The index is also broken down by gauges of current activity, near-term outlook, and a remodeling demand meter that is expressed differently on a scale of 1 to 10 where 10 is the strongest possible reading. The 3Q USRI reading pegged current activity at 62.9, down from 65.3 previously. Near-term activity for the next three months fell to 60.9, down from 67.3 previously. And the remodeling demand fell to 6.1, down from 6.5 in Q2.” – Patrick O’Toole, Qualified Remodeler

Remodeling

The overall U.S. Remodeler Index reading for Q3 2022 along with reading for composite segments.

US Remodeler Index 3Q22



Sources: Qualified Remodeler; John Burns RE Consulting LLC (Data 3Q22, Pub: Oct-22)

Source: https://www.qualifiedremodeler.com/u-s-remodeler-index-pulls-back-still-strong/?oly_enc_id=5144A7718801A40; 10/27/22

Return TOC

Remodeling

John Burns Real Estate Consulting LLC & Qualified Remodeler

U.S. Remodeler Index pulls back, still 'strong'

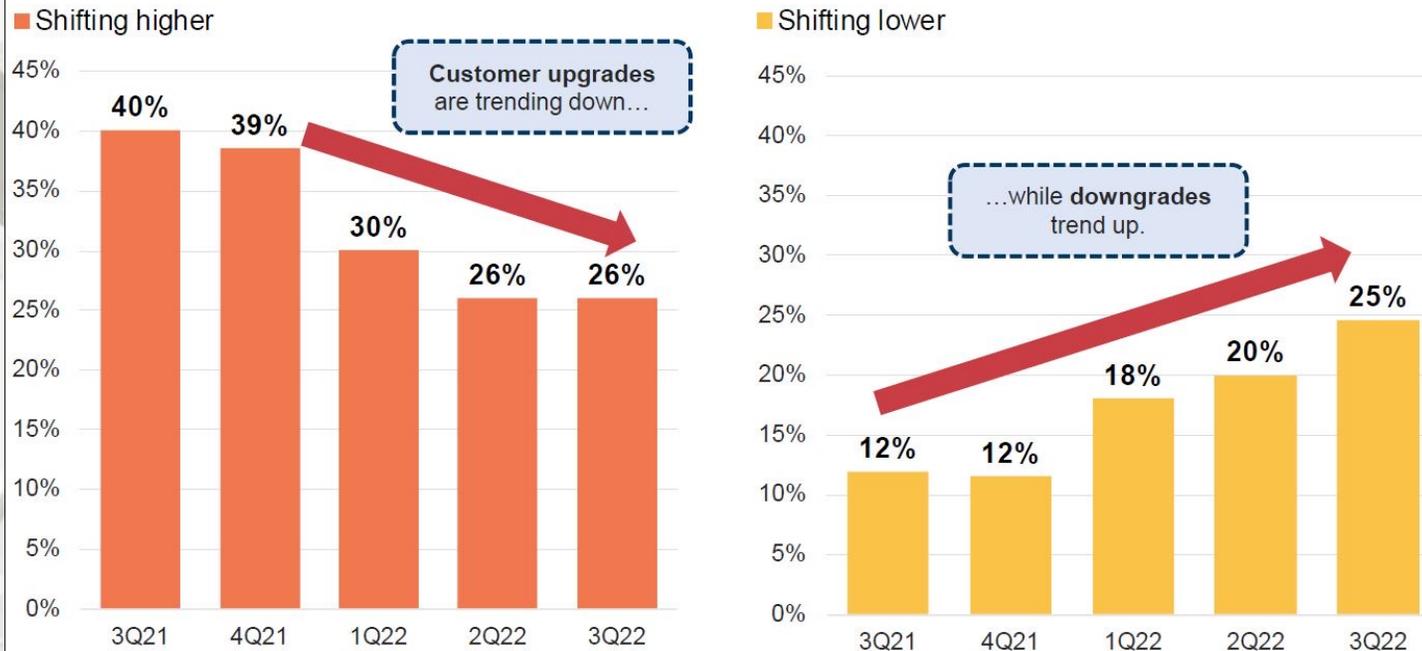
“Analysts at Burns identified four key takeaways from the latest survey.

- A 4.9-month average backlog among respondents continues to support remodeling and spending levels. Fifty-six percent of remodelers report at least four months of projects ‘in-progress’ or ‘planned’ with very low or rare project cancellations.
- Pricing power is shifting away from remodelers and building product companies as remodeling clients have less room to flex in their budgets. Fifty-five percent of remodelers say customers are downgrading to stay within a budget.
- Supply chain issues continue to improve. More than two-thirds of remodelers now see some improvement on product lead times.
- Revenue growth for remodelers will range between 5 percent and 8 percent in 2022 with a slowdown coming in 2023.

“”The USRI confirms the post-pandemic remodeling boom has passed,” said Eric Finnigan, vice president of research and demographics at John Burns. “With home values now declining and interest rates soaring, look out for a more significant slowdown in residential remodeling next year.”” – Patrick O’Toole, Qualified Remodeler

Remodeling

Are remodelers seeing a shift in product grades / price points demanded from customers?



Note: Percentages may not add up to 100% due to rounding.

Sources: Qualified Remodeler, John Burns Real Estate Consulting, LLC (Data: 3Q22, Pub: Oct-22)

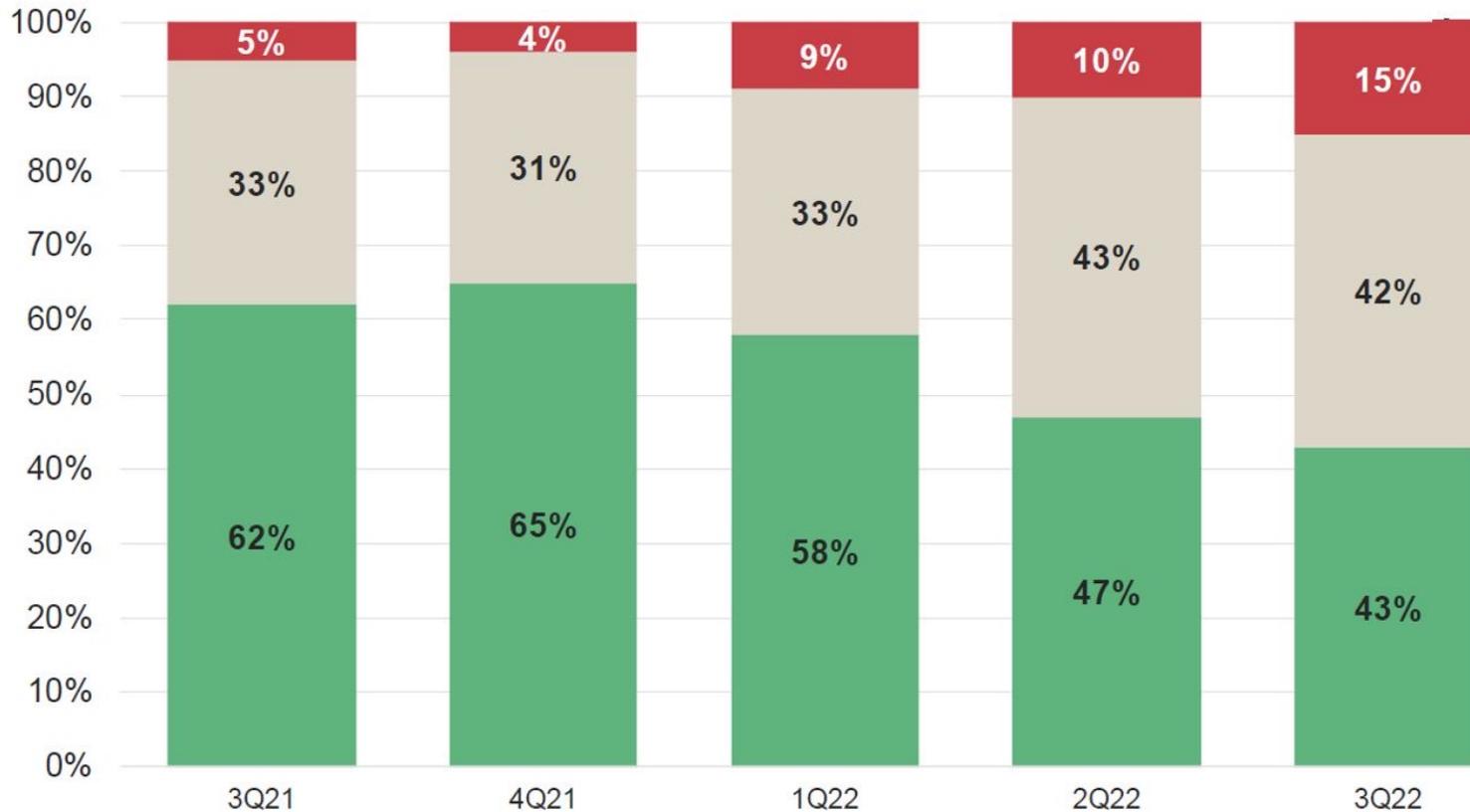
John Burns Real Estate Consulting LLC

“Remodelers continue to see their clients choosing lower grade products to save \$\$\$\$. We are advising manufacturers to shift more of their production in this direction. [#remodeling](#).” – John Burns, President & CEO, John Burns Real Estate Consulting LLC

Remodeling

Average Project Remodeling Size

As a percentage of total responses ■ Increasing ■ About the same ■ Decreasing



Note: Percentages may not add up to 100% due to rounding.

Sources: Qualified Remodeler, John Burns Real Estate Consulting, LLC (Data: 3Q22, Pub: Oct-22)

John Burns Real Estate Consulting LLC

“Remodeling projects continue to decrease in scope, which should help provide cost relief on building materials. I wonder what consumers cut out first? We will ask next month.” – John Burns, President & CEO, John Burns Real Estate Consulting LLC

Existing House Sales

National Association of Realtors®

	Existing Sales	Median Price	Month's Supply
September	4,710,000	\$384,800	3.2
August	4,780,000	\$391,700	3.2
2021	6,180,000	\$355,100	2.4
M/M change	-1.5%	-1.8%	0.0%
Y/Y change	-23.8%	8.4%	33.3%

All sales data: SAAR

Existing House Sales

	NE	MW	S	W
September	610,000	1,140,000	2,080,000	880,000
August	620,000	1,160,000	2,120,000	880,000
2021	750,000	1,420,000	2,730,000	1,280,000
M/M change	-1.6%	-1.7%	-1.9%	0.0%
Y/Y change	-18.7%	-19.7%	-23.8%	-31.3%

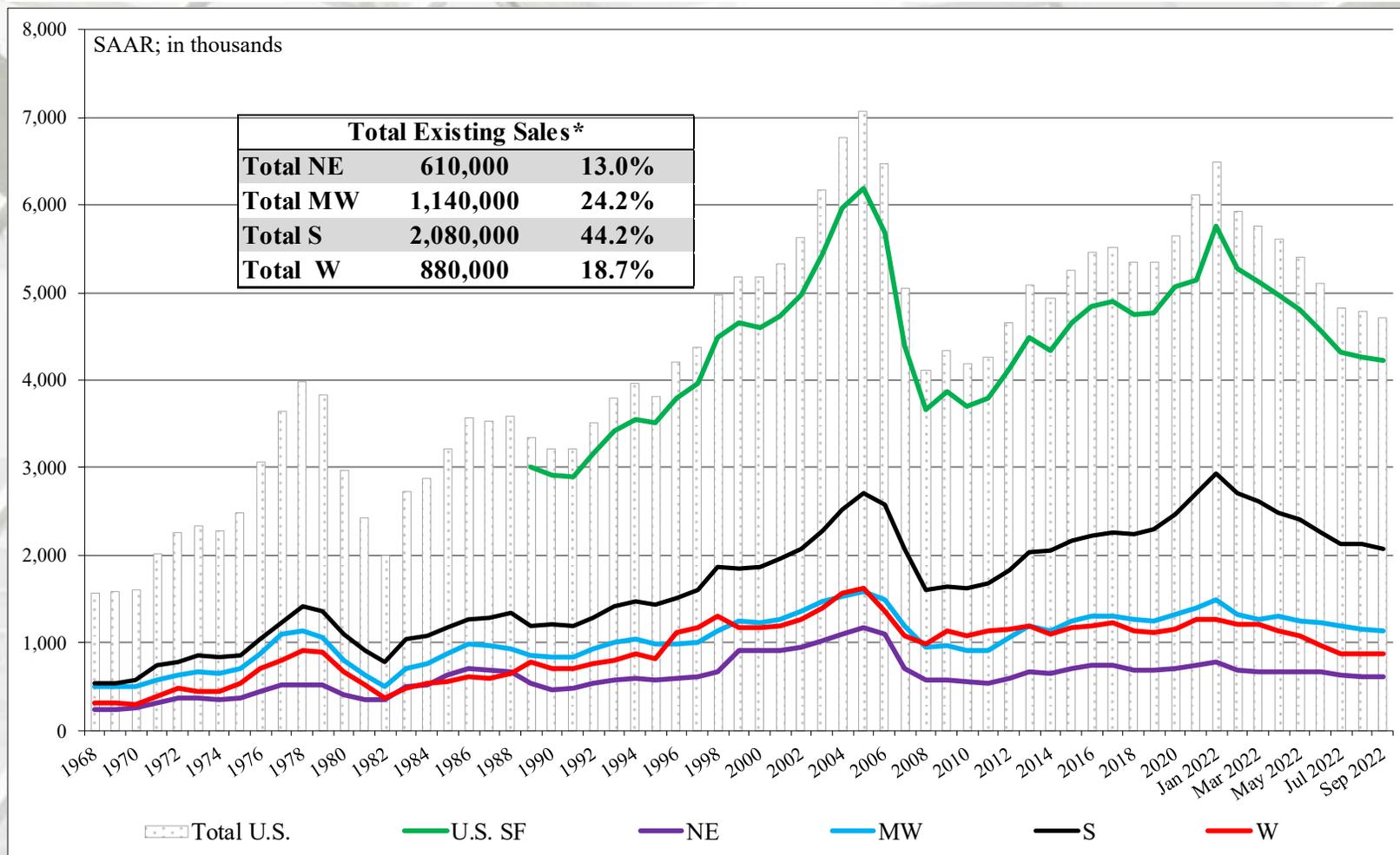
	Existing SF Sales	SF Median Price
September	4,222,000	\$391,000
August	4,260,000	\$398,800
2021	5,480,000	\$361,800
M/M change	-0.9%	-1.8%
Y/Y change	-23.0%	8.1%

All sales data: SAAR.

Source: <https://fred.stlouisfed.org/series/EXHOSLUSM495S>; 10/20/22

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

FHFA House Price Index Down 0.7 Percent in August; Up 11.9 Percent from Last Year

Significant Findings

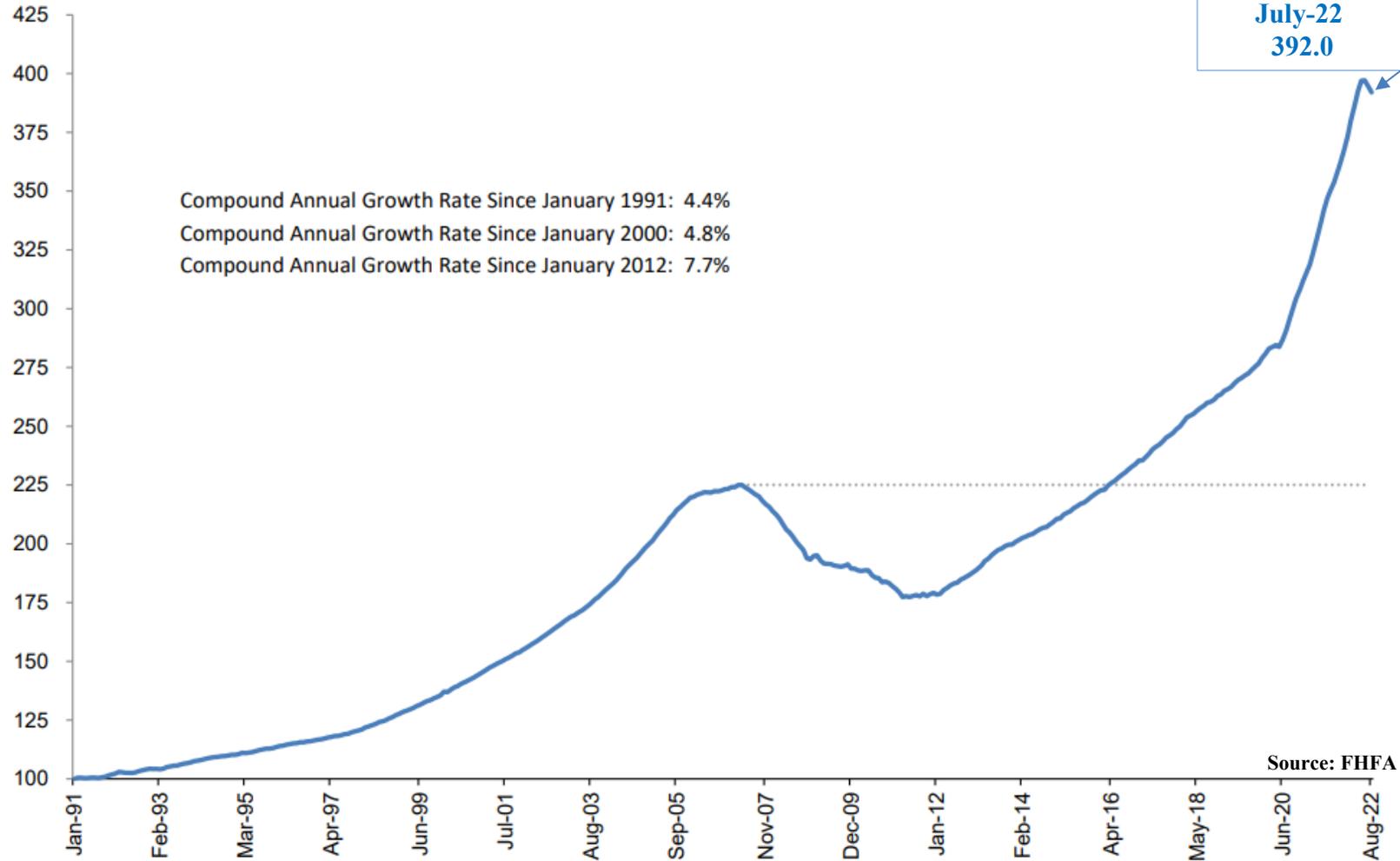
“House prices fell nationwide in August, down **0.7 percent** from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices rose **11.9 percent** from August 2021 to August 2022. The previously reported 0.6 percent price decline in July 2022 remained unchanged.

For the nine census divisions, seasonally adjusted monthly house price changes from July to August 2022 ranged from **-2.0 percent** in the Mountain division to **+0.4 percent** in the New England division. The 12-month changes were all positive, ranging from **+7.4 percent** in the Pacific division to **+16.2 percent** in the South Atlantic division.” – Raffi Williams and Adam Russell, FHFA

“U.S. house prices declined in August at a similar pace to the previous month. This is the first time since March 2011 that the index has seen two consecutive months of decline. The recent monthly decline solidifies the deceleration of 12-month house price growth that began earlier this year. Higher mortgage rates continued to put pressure on demand, notably weakening house price growth.” – William Doerner, Ph.D., Supervisory Economist, Division of Research and Statistics, FHFA

U.S. Housing Prices

Monthly House Price Index for U.S. from January 1991 - Present
Purchase-Only FHFA HPI® (Seasonally Adjusted, Nominal)



U.S. Housing Prices

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

“... Data for August 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.

Year-Over-Year

The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported a 13.0% annual gain in August, down from 15.6% in the previous month. The 10-City Composite annual increase came in at 12.1%, down from 14.9% in the previous month. The 20-City Composite posted a 13.1% year-over-year gain, down from 16.0% in the previous month.

Miami, Tampa, and Charlotte reported the highest year-over-year gains among the 20 cities in August. Miami led the way with a 28.6% year-over-year price increase, followed by Tampa in second with a 28.0% increase, and Charlotte in third with a 21.3% increase. All 20 cities reported lower price increases in the year ending August 2022 versus the year ending July 2022.

Month-Over-Month

Before seasonal adjustment, the U.S. National Index posted a -1.1% month-over-month decrease in August, while the 10-City and 20-City Composites both posted decreases of -1.6%.

After seasonal adjustment, the U.S. National Index posted a month-over-month decrease of -0.9%, and the 10-City and 20-City Composites both posted decreases of -1.3%.

In August, all 20 cities reported declines 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

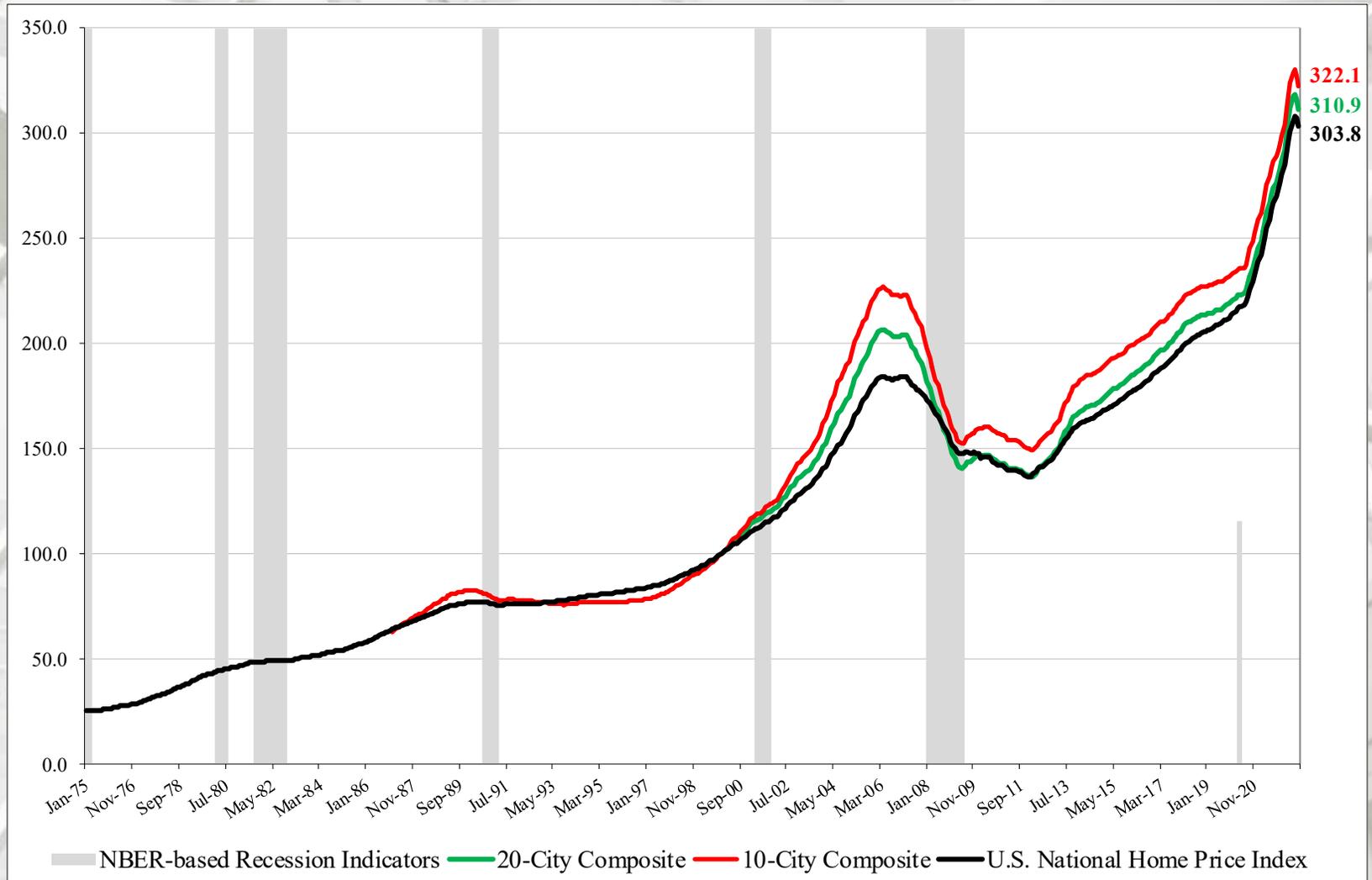
S&P CoreLogic Case-Shiller Index Analysis

“The forceful deceleration in U.S. housing prices that we noted a month ago continued in our report for August 2022. For example, the National Composite Index rose by 13.0% for the 12 months ended in August, down from its 15.6% year-over-year growth in July. The -2.6% difference between those two monthly rates of change is the largest deceleration in the history of the index (with July’s deceleration now ranking as the second largest). We see similar patterns in our 10-City Composite (up 12.1% in August vs. 14.9% in July) and our 20-City Composite (up 13.1% in August vs. 16.0% in July). Further, price gains decelerated in every one of our 20 cities. These data show clearly that the growth rate of housing prices peaked in the spring of 2022 and has been declining ever since.

Month-over-month comparisons are consistent with these observations. All three composites declined in July, as did prices in every one of our 20 cities. On a month-over-month basis, the biggest declines occurred on the west coast, with San Francisco (-4.3%), Seattle (-3.9%), and San Diego (-2.8%) falling the most. Despite the ongoing deceleration, August’s housing prices remain well above year-ago levels in all 20 cities. Florida continues to hold the top two spots, with Miami (+28.6%) taking the lead over Tampa (+28.0%). This month, Charlotte (+21.3%) edged out Dallas (+20.2%) and Atlanta (+20.1%) for third position. Price growth continued strongest in the Southeast (+24.5%) and South (+23.6%).

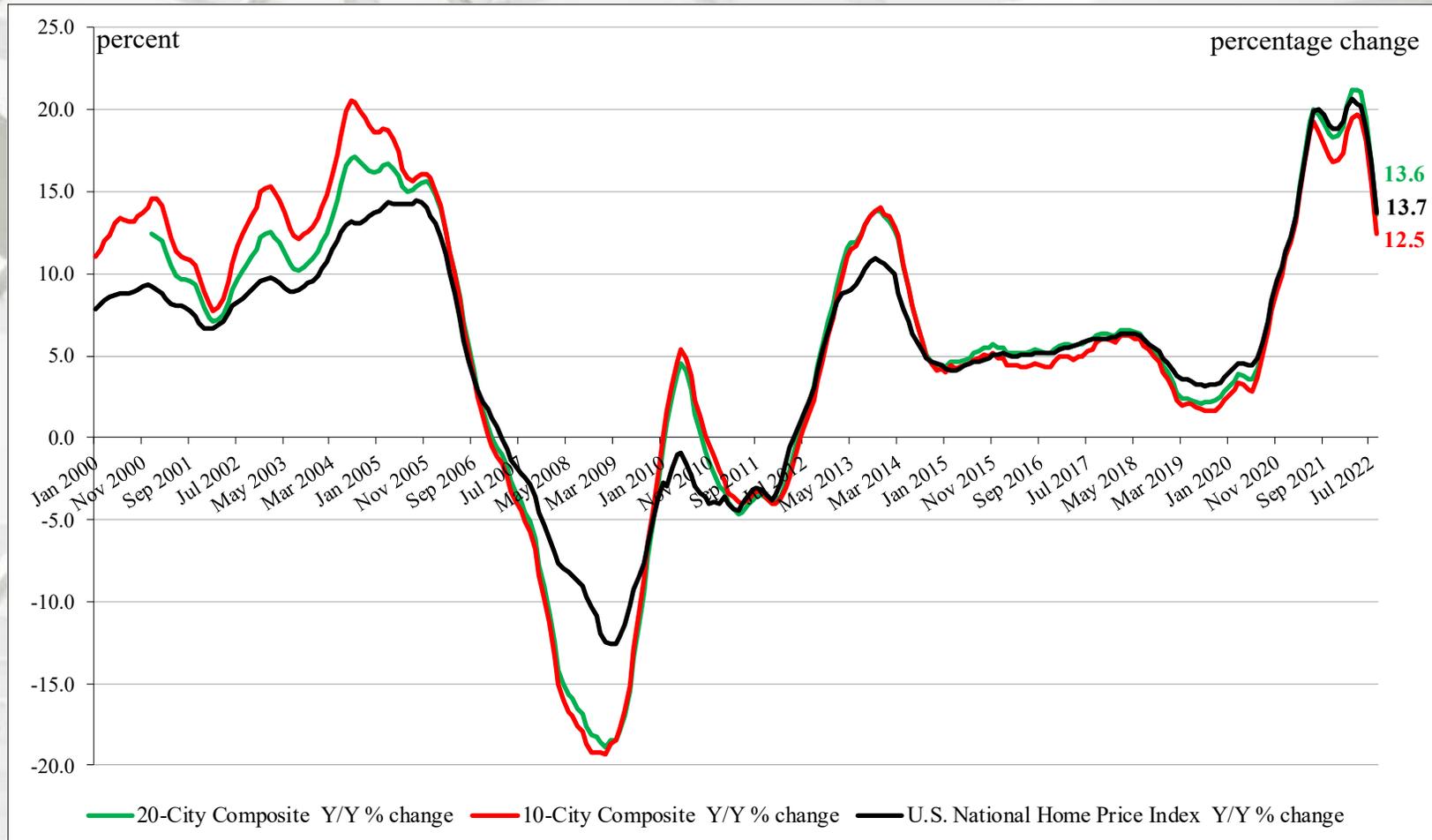
As the Federal Reserve moves interest rates higher, mortgage financing becomes more expensive and housing becomes less affordable. Given the continuing prospects for a challenging macroeconomic environment, home prices may well continue to decelerate.” – Craig J. Lazzara, Managing Director and Global 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

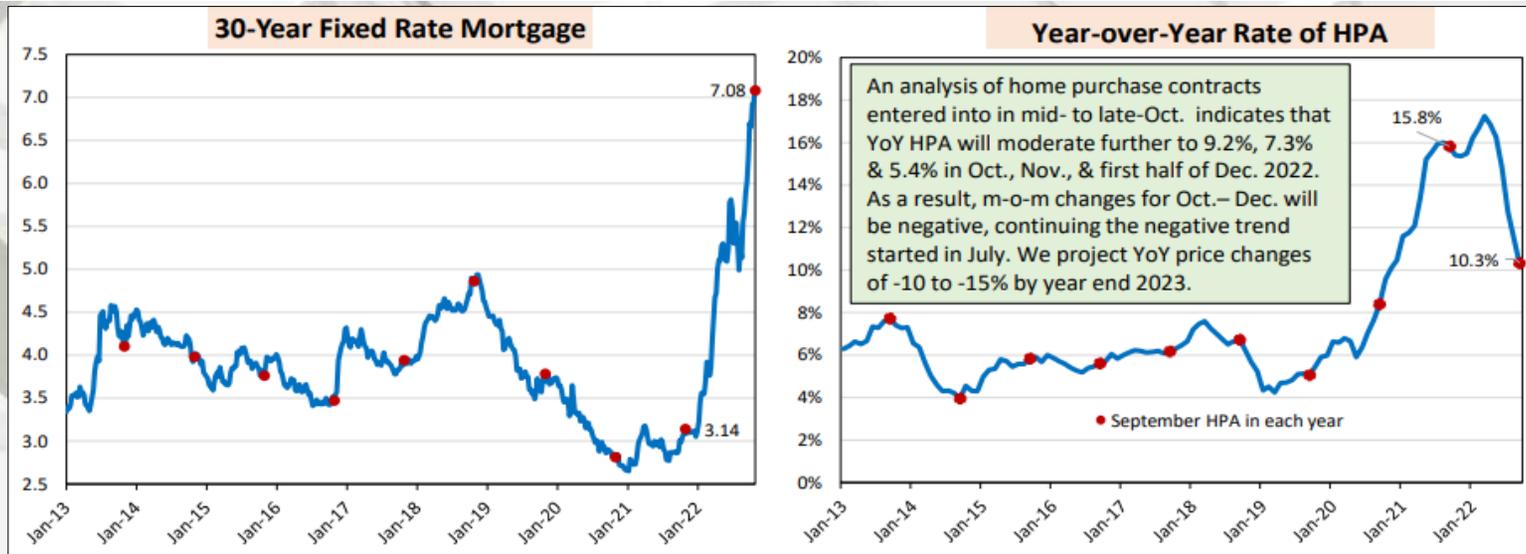


* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Y/Y Price Change

From August 2021 to August 2022, the National Index decreased 13.7%; the Ten-City by 12.5%, and the Twenty-City by 13.6%.

U.S. Housing Affordability

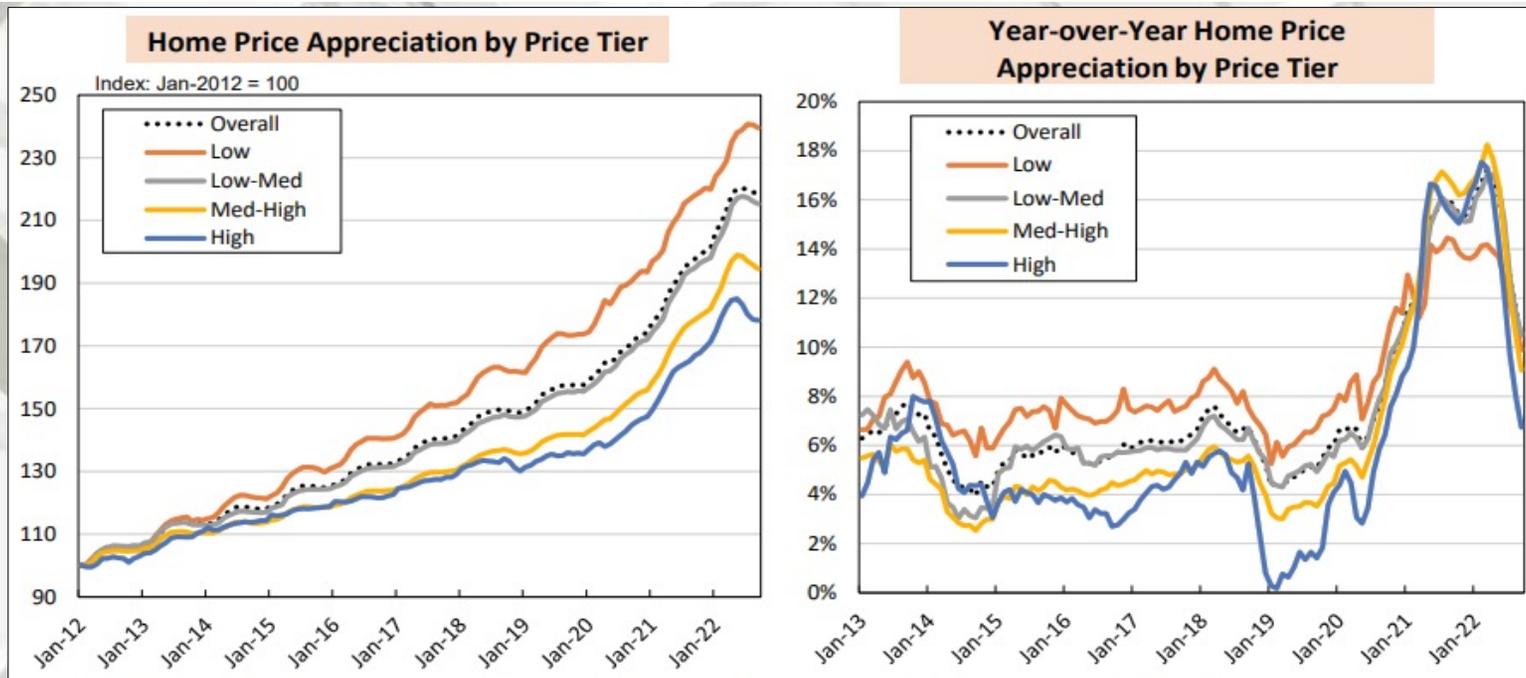


Note: Data are for 30-year fixed-rate prime conventional conforming. Home purchase mortgages with a loan-to-value of 80 percent. Data are for the entire country. Data for September 2022 are preliminary.
Sources: Freddie Mac; AEI Housing Center, www.AEI.org/housing.

AEI Housing Center Home Price Appreciation (HPA) Has Decelerated, with M-o-M Decline Continuing in September

- “The 10-year-old seller’s market is showing its age, with strong purchase volume declines due to sharply higher rates & a cumulative 37% increase in constant quality HPA since Jan. 2020.
- Tight supply, the work from home revolution, & arbitrage opportunities due to metro & regional price differences are helping to extend the seller’s market, but this is likely to change with HPA peaking in June.
- Based on Optimal Blue data, HPA is projected to moderate further to 9.2%, 7.3%, & 5.4% in Oct., Nov., & the first half of Dec. 2022. We expect Dec. 2022 HPA to slow to about 5% (YoY).
- We project YoY price changes of -10 to -15% by year-end 2023.
- Constant quality HPA controls for mix shifts, which otherwise may skew m-o-m or YoY changes.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Affordability



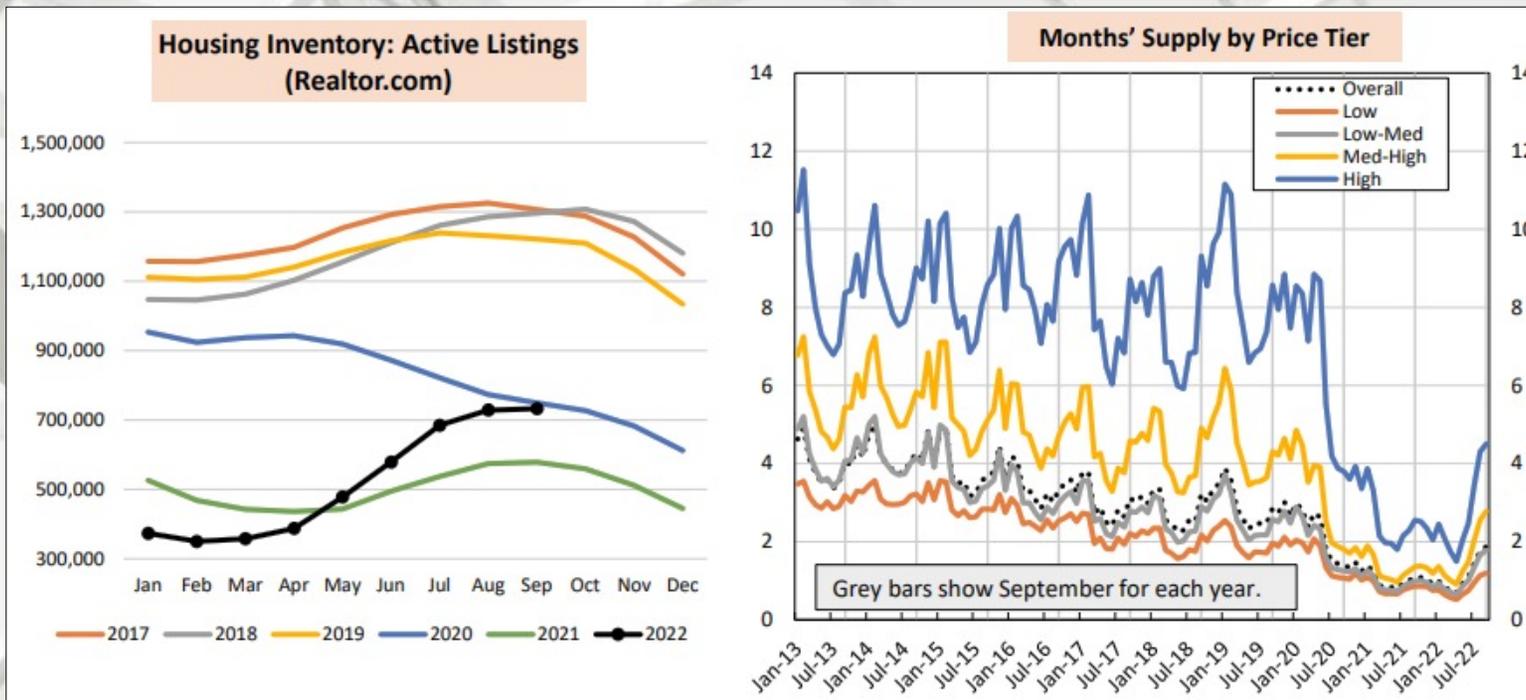
Note: Data are for the entire country. Data for September 2022 are preliminary. Source: AEI Housing Center, www.AEI.org/housing.

AEI Housing Center

Home Price Appreciation 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 September 2022 indicate that while the low-price tier continues to have the strongest HPA, home prices were down across all four price tiers (left panel).
 - The med-high and high price tiers, being more dependent on the Fed’s monetary punchbowl, are showing the largest declines as the Fed’s hikes rates (right panel).
 - With 1.9 months’ remaining inventory in Sept. 2022, we still have a long way to go to get to a more balanced market. The high price bin is expected to be the 1st to transition to a buyer’s market in Dec. 2022 or Jan. 2023.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Supply



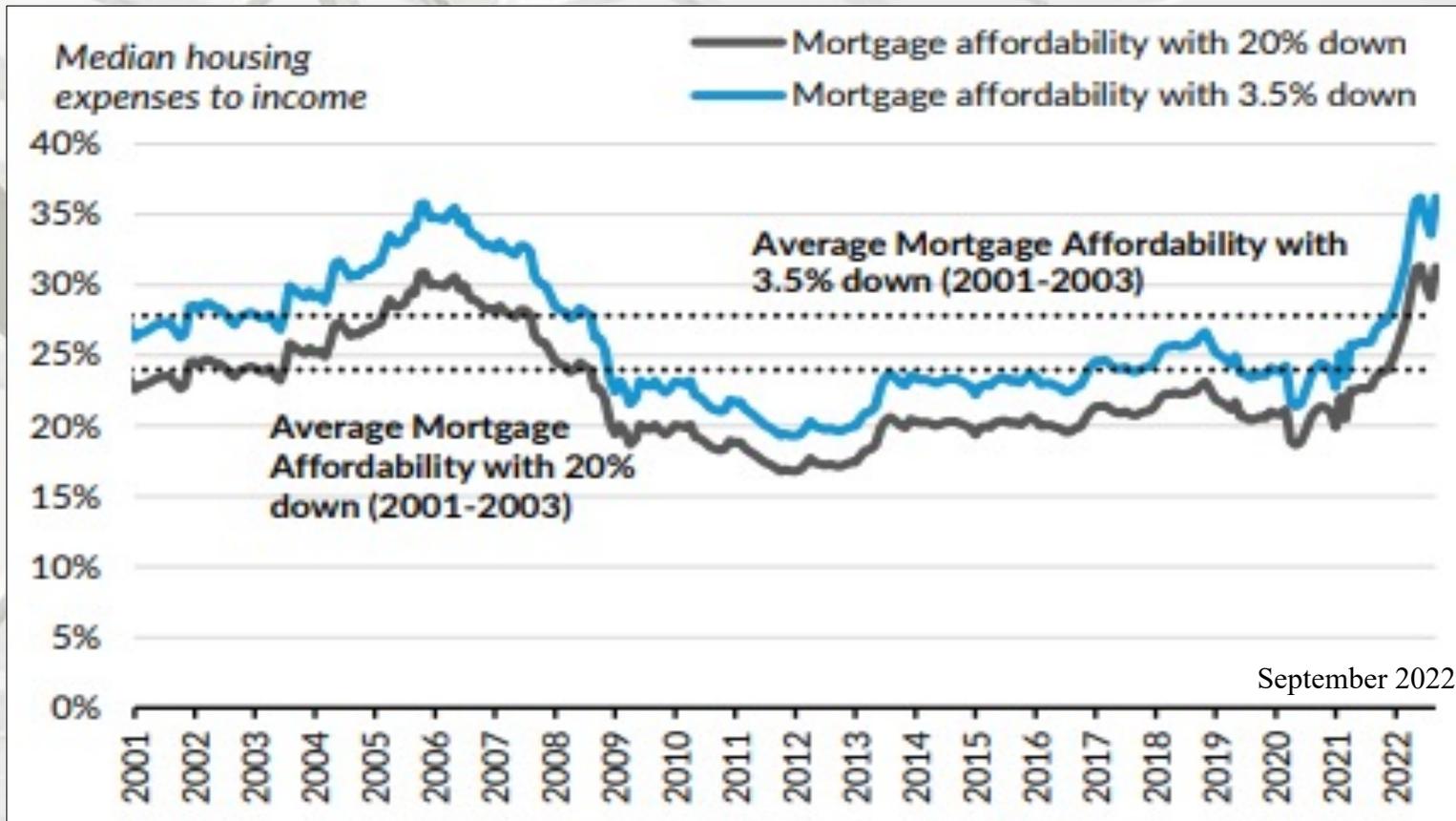
Sources: Realtor.com, Zillow, and AEI Housing Center, www.AEI.org/housing.

AEI Housing Center

Supply Continues to be Extremely Tight

- “Housing inventory in September increased dramatically beyond expected seasonal changes. Though a good sign in terms of reigning in unsustainable HPA, housing inventory continued to run well below previous years’ levels.
 - September 2022 inventory was up 27% from a year ago but was still at only half of 2017-2019 levels. We continue to be a very long way from a healthy supply (left).
 - Months’ supply, currently at 1.9 months, is near the lowest level seen in our series (right). It would need to increase to >6 months to indicate a buyer’s market and to 7-9 months to trigger a decline in national YoY home price appreciation.” – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

U.S. Housing Affordability

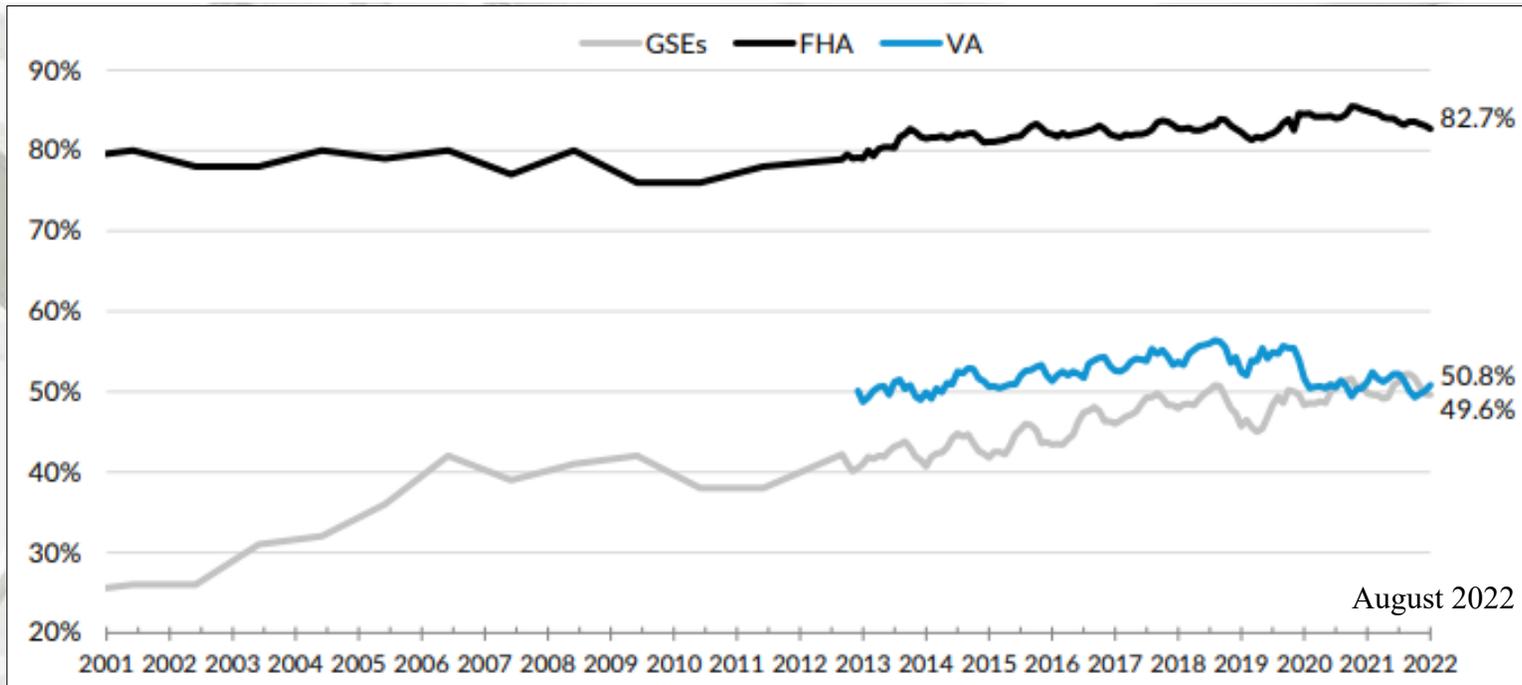


Urban Institute

National Mortgage Affordability Over Time

“With the rise in interest rates, and rapid increases in home prices, affordability continues to worsen. As of September 2022, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 31.2 percent, slightly higher than the 30.9 percent at the peak of the housing bubble in November 2005; with 3.5 percent down it is 36.2 percent, again slightly above 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



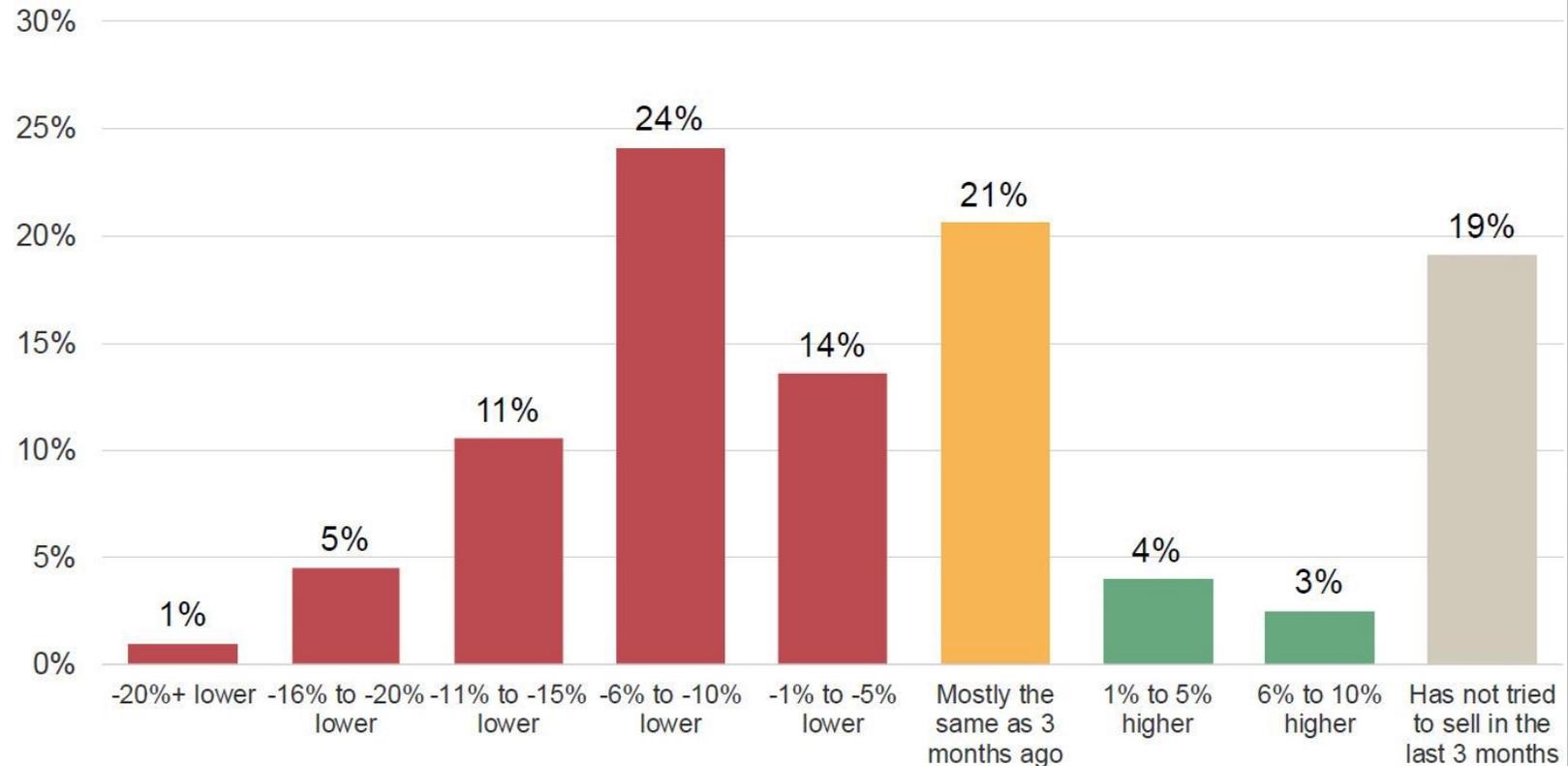
Sources: eMBS, Federal Housing Administration (FHA), and Urban Institute.
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

Urban Institute First-time Home Buyers

“In August 2022, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 82.7 percent. The FTHB share of GSE lending in June was 49.6 percent; the VA share was a very similar 50.8 percent. ... 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

On average, how much have sale (closing) prices for your flipped homes changed in this market compared to 3 months ago?



Source: John Burns Real Estate Consulting, LLC, independent survey of fix-and-flipped homes, NSA (Data: 3Q22, Pub: Oct-22)

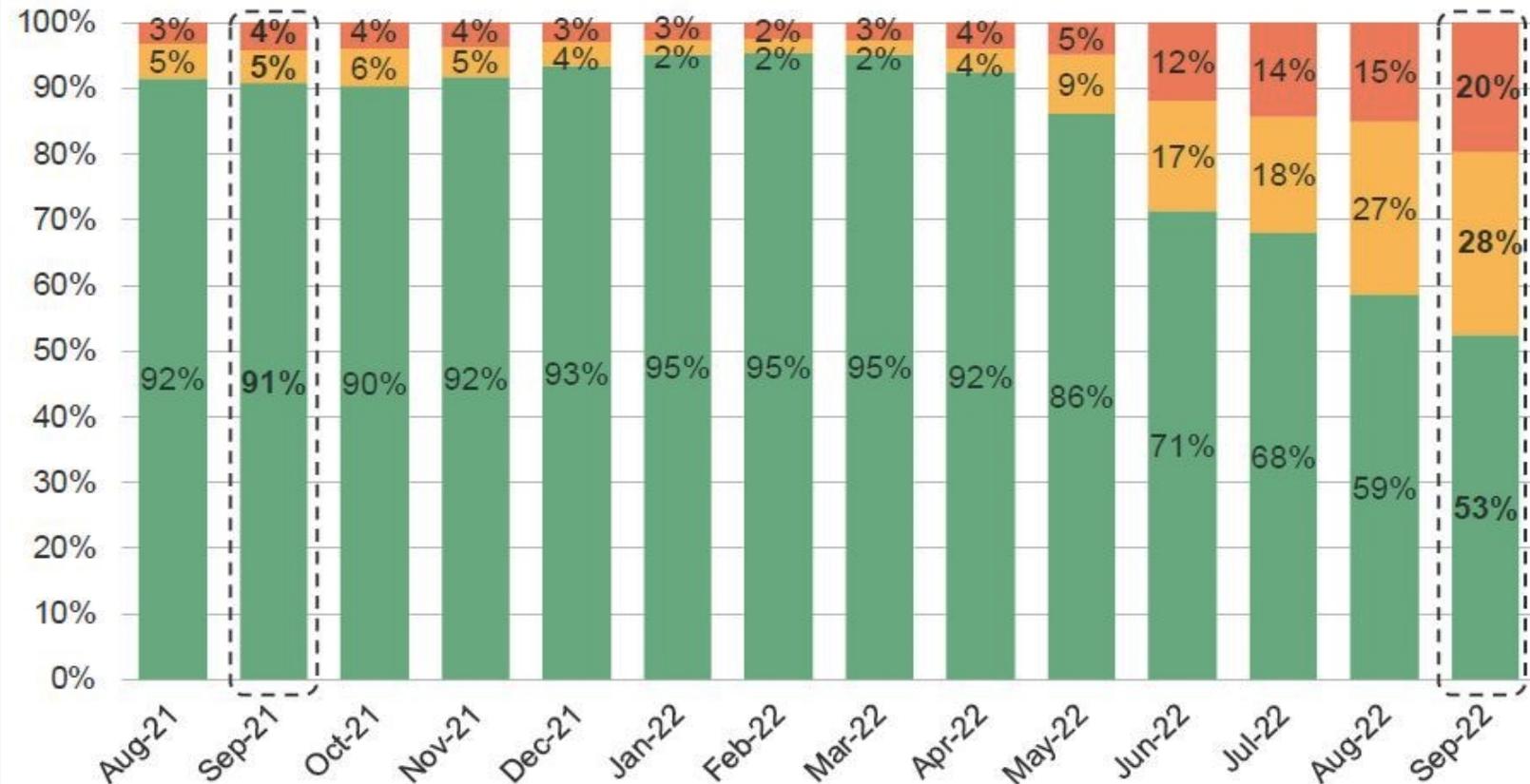
John Burns Real Estate Consulting LLC

“Only 7% of “fix and flippers” are now selling homes for higher prices than 3-months ago. Yet another industry player sharing with us how distressed the housing market is becoming.” – John Burns, President & CEO, John Burns Real Estate Consulting LLC

U.S. Housing

National: In today's housing market:

■ Buyers outnumber sellers
 ■ Buyers roughly equal sellers
 ■ Sellers outnumber buyers



Source: John Burns Real Estate Consulting, LLC, independent survey of US resale home sales, NSA (Data: Sep-22, Pub: Oct-22)

John Burns Real Estate Consulting LLC

“Demand (buyers) still exceeds supply (sellers), but this doesn't look to be lasting too much longer. In 20% of the country, supply is low but demand is even lower.” – John Burns, President & CEO, John Burns Real Estate Consulting LLC

U.S. Housing

Zillow

Home values are 25% above affordability norms

A substantial home value correction is very unlikely

- “The share of income required to afford a mortgage has risen to 30.2%, well above the norm of 22.8%.
- Nationally, home values are about 25% above where they would need to be for affordability to return to normal. It is extremely unlikely home values will fall to this degree. Zillow forecasts home value growth will be nearly flat over the next 12 months.
- A sharp inventory increase would be needed for home values to fall dramatically. However, there have been roughly 11% fewer new listings on the market so far this year compared to 2019.

Housing affordability is the worst it has been in several years, and many buyers are pulling back, hoping relief is around the corner. A [new analysis by Zillow®](#) shows home values are 24.7% above where they would need to be for affordability to return to recent norms.¹ A shock of this size is extremely unlikely, so buyers may need to reset their expectations.

The [monthly mortgage payment on a typical U.S. home is about \\$1,850](#) – that is 75.5%, or about \$800, higher than it was a year ago.² Home values have fallen a bit since the peak in June, but rising mortgage rates have overwhelmed those small affordability gains. Mortgage affordability – the share of income a median household would need to spend on a typical mortgage payment – has risen to 30.2% nationally, even before including the cost of taxes and insurance. That is above the 30% threshold for households to be considered cost burdened, and much higher than the 2005–2021 average of 22.8%.

““The next several years appear set up for affordability to be a major challenge for home buyers, said Zillow senior economist Nicole Bachaud. Inventory remains tight, real income growth is dismal, mortgage rates show no signs of dropping, and there is plenty of pent-up demand ready to bid prices back up if they reach a level would-be buyers can once again afford. Filling the housing deficit continues to be the key to long-term affordability, but the recent slowdown in single-family construction is not a good sign that the market is getting closer to building enough to meet demand.”” – Alex Lacter, Zillow

U.S. Housing

Zillow

Home values are 25% above affordability norms

“For mortgage affordability to return to the 22.8% norm nationally, U.S. home values would need to fall 24.7%. Some markets are much closer to their historical affordability norms – for example, Hartford home values are only 2.4% higher than where they would need to be, and in Baltimore, they are 3.7% higher – but others have seen affordability deteriorate much more. Salt Lake City, Nashville, Dallas and Las Vegas are furthest away from their historical affordability, at least 37% above where they would need to be to once again reach that level.

Far from a significant drop, [Zillow’s home value forecast](#) calls for home values to remain nearly flat in the 12 months ending September 2023. It would take a sharp increase in inventory for home values to fall dramatically. That is simply not the case right now. Overall inventory is ticking up, but it remains nearly 40% below pre-pandemic levels and is nowhere near a glut that would put the market in a position for significant price drops.

New listings are coming onto the market at a mere trickle, down 16% in September compared to a year prior. In 2022 to date, there have been about 11% fewer homes listed than at this point in 2019. Many homeowners have mortgages with low rates from purchasing or refinancing earlier in the pandemic, and have very little financial incentive to sell while mortgage rates are this high. Most also have significant equity in their homes, which makes it unlikely that a large number of properties will be forced into distressed sales, like many were during the Great Recession.

The housing market slowdown is being driven by [discouraged buyers pulling back](#) as their budgets are stretched. Some buyers simply have been priced out of today’s market, but those who are waiting for affordability to improve will [likely have a long wait ahead of them](#). If home values continue to fall, buyers will likely reenter the market and drive values back up. And while mortgage rates are nearly impossible to predict, inflation pressures remain strong, and it’s perhaps a better bet that rates will rise further than come back down.” – Alex Lacter, Zillow

U.S. Housing

Metro Area	Typical Home Value	Median Household Income	Mortgage Affordability (Current)	Mortgage Affordability (Historical Norm)	Home Value Change Needed to Reach Historical Norm Mortgage Affordability
United States	\$358,283	\$71,895	30.2 %	22.8 %	-24.7 %

Zillow

Home values are 25% above affordability norms

“Affordability is clearly a major challenge for home buyers. The silver lining is that first-time buyers who can overcome these steep obstacles have an opportunity to shop with more bargaining power, less chance of a bidding war and more time to consider their options. Zillow has gathered tools that can help shoppers make the leap to home ownership on [one easy-to-navigate web page](#).” – Alex Lacter, Zillow

¹ Recent norms indicate the historical average (2005–2021) share of median household income needed for a mortgage payment (principal and interest only) on the typically valued home. The home value change needed to return to affordability norms assumes incomes do not change.

² Monthly principal and interest on a 30-year fixed-rate mortgage for the typical U.S. home as of September 2022, assuming a 20% down payment and the interpolated average 30-year interest rate reported by Freddie Mac’s Primary Mortgage Market Survey on the last day of the month.

U.S. Housing

Zonda

New Home Lot Supply Index

The New Home Lot Supply Index (LSI) hit a turning point in the third quarter with the value rising both month-over-month and year-over-year.

The LSI is still in significantly undersupplied territory but the fruits of the labor on the land development side are finally resulting in a bit more inventory.

National Index 41.7

SFD Lot Supply: +7.4% Year-over-year

Quarter-over-quarter: +9.7%

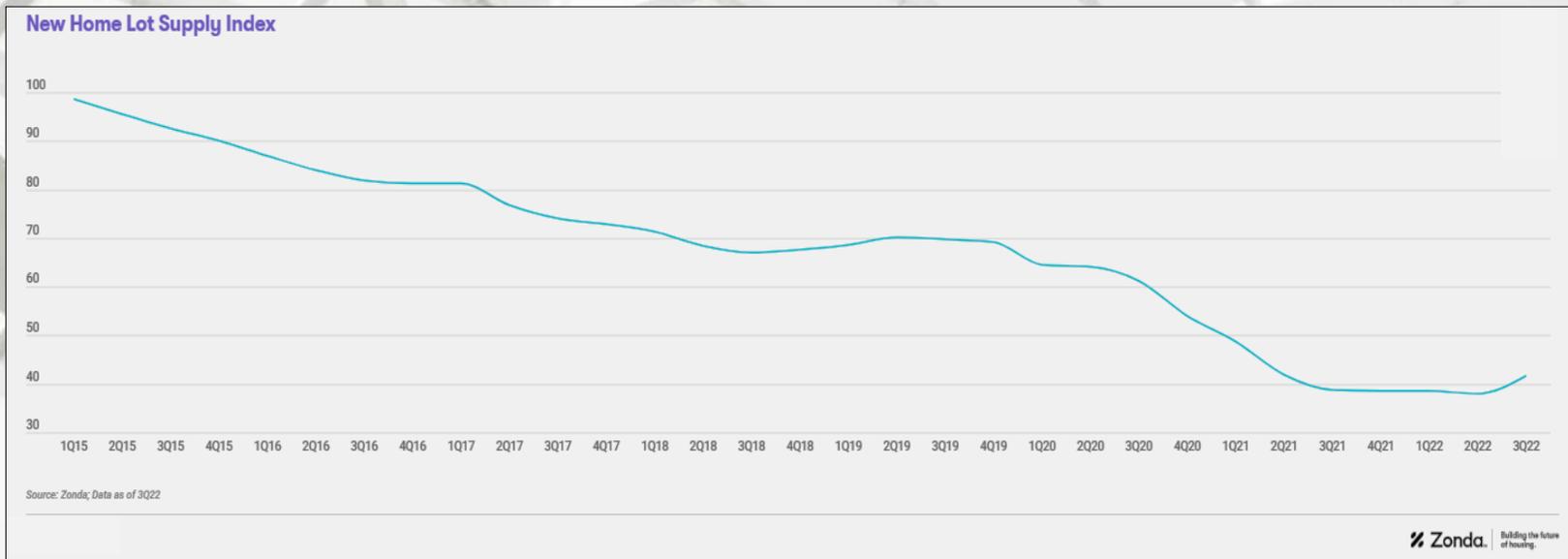
Most impacted markets

Supply in 11 of 30 select markets tightened year-over-year, led by Miami, Jacksonville, and New York



“One thing that has plagued the housing market over the past couple years was that demand was running 100 miles a minute and every part of the industry was struggling to keep up. While the land market remains significantly undersupplied, the uptick in the third quarter captures that the lower levels of housing demand are finally allowing the industry to catch up a bit.” – Ali Wolf, Chief Economist, Zonda

U.S. Housing



Zonda

New Home Lot Supply Index

“The New Home Lot Supply Index (LSI) is backed by data from Zonda and shows lot supply loosened year-over-year across the United States. The index is a residential real estate indicator based on the number of single-family vacant developed lots and the rate at which those lots are absorbed.

- The New Home LSI came in at 41.7 for 3Q22, representing a 7.4% increase from 2Q21.
- On a quarter-over-quarter basis, supply increased by 9.7%, up from 2Q22.
- Despite the increase, the 3Q22 data reflects a significantly undersupplied market nationally.” – Ali Wolf, Chief Economist, Zonda

U.S. Housing

Mortgage Bankers Association (MBA)

Chart of the Week

“The biennial [American Housing Survey \(AHS\)](#), the most comprehensive national housing survey in the United States, was released earlier this year by the U.S. Department of Housing and Urban Development (HUD). The survey provides detailed data on housing migration (where at least one member of the respondent’s household moved during the two years before the survey). These data include responses on the distance of the move, the tenure of the respondent’s previous residence, and reasons for leaving one’s previous residence.

This week’s [MBA Chart of the Week](#) shows the reasons for leaving one’s previous residence. The three main reasons in the 2021 AHS are wanting a larger or better-quality home (17.7%), wanting a more desirable neighborhood (15.6%), and forming their own household (14.4%). In the 2019 AHS, the same top three reasons were given with similar results (16.6%, 15.3%, and 13.8%, respectively). The category with the largest drop from 2019 to 2021 was “new job or job transfer,” which fell from 7.5% to 6.4%.

Comparing the 2021 and 2019 AHS data, highlights include:

- Of the 128.5 million households in the 2021 data, 35.4 million (27.5%) had at least one member who moved during the past two years. This compares to 27.7% in the 2019 AHS.
- Of the respondents who reported a household member moving during the past two years, 20.3% moved more than 50 miles in the 2021 data versus 19.9% in the 2019 data.
- For respondents who reported a household member moving during the past two years and whose previous residence was a house, an apartment, or a manufactured/mobile home, 32.5% moved from an owner-occupied unit in the 2021 AHS versus 31.5% in the 2019 data.

The AHS helps provide a richer picture of household migration prior to and during the pandemic—and corroborates what we have learned from other data sources.” – Edward Seiler, Executive Director-Research Institute for Housing America and Associate VP, Housing Economics, MBA

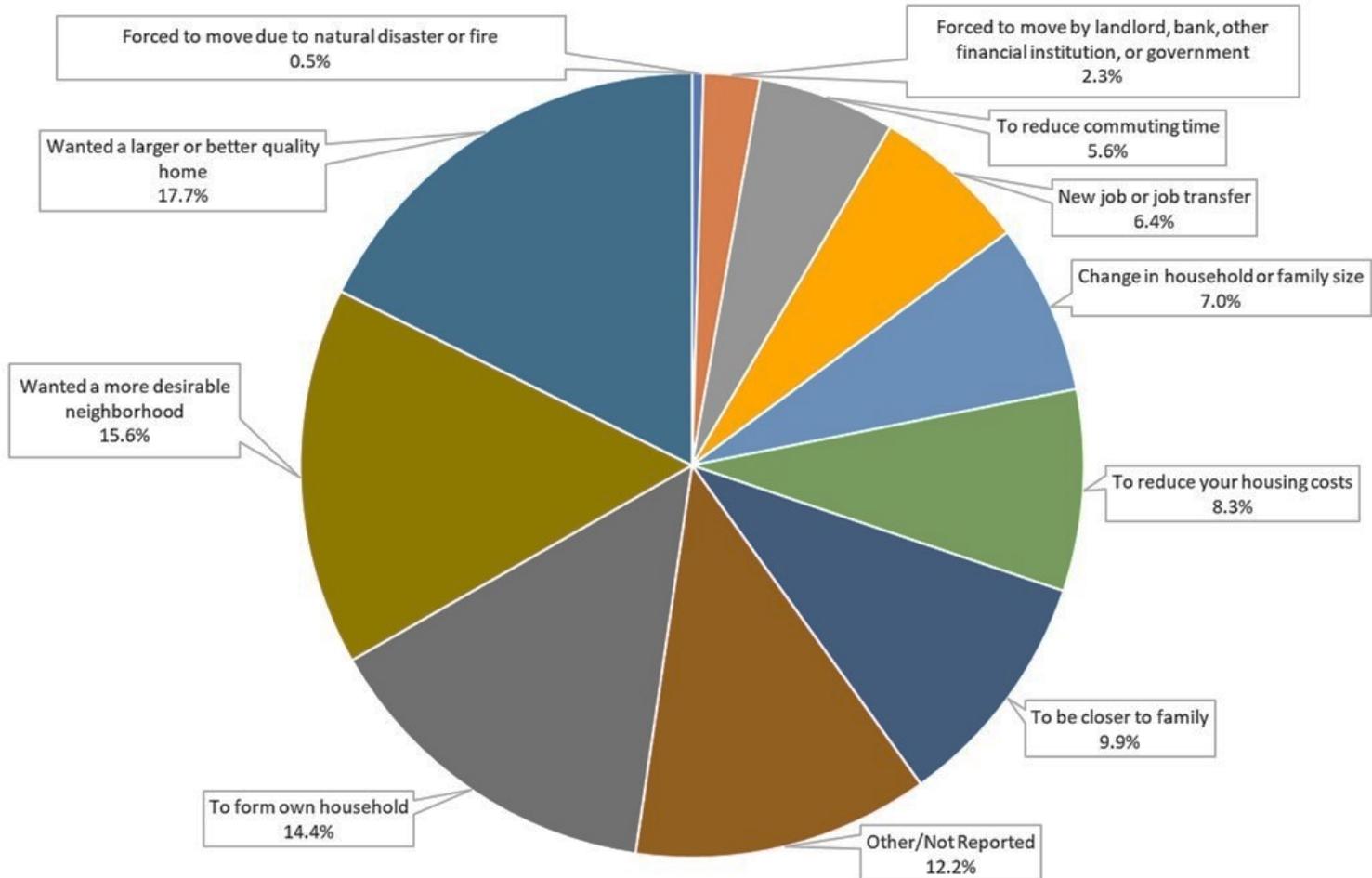
Source:

<https://s3141176.t.en25.com/e/es?s=3141176&e=50744&elqTrackId=efd74c1a1b7a40299e524d6e5aa03bea&elq=18f485cdf4254459a41cc4a2d9f6f43c&elqaid=5274&elqat=1&elqah=18964396E40E464C4A973D175EF78F45AE35E64BA379196E415D43566D215051; 11/10/22>

U.S. Housing

Chart of the Week - November 10, 2022

Housing Migration: Reasons for Leaving Previous Residence During 2020 and 2021



Source:

<https://s3141176.t.en25.com/e/es?s=3141176&e=50744&elqTrackId=efd74c1a1b7a40299e524d6e5aa03bea&elq=18f485cdf4254459a41cc4a2d9f6f43c&elqaid=5274&elqat=1&elqah=18964396E40E464C4A973D175EF78F45AE35E64BA379196E415D43566D215051; 11/10/22>

U.S. Housing Finance

Mortgage Bankers Association (MBA)

Mortgage Credit Availability Decreased in October

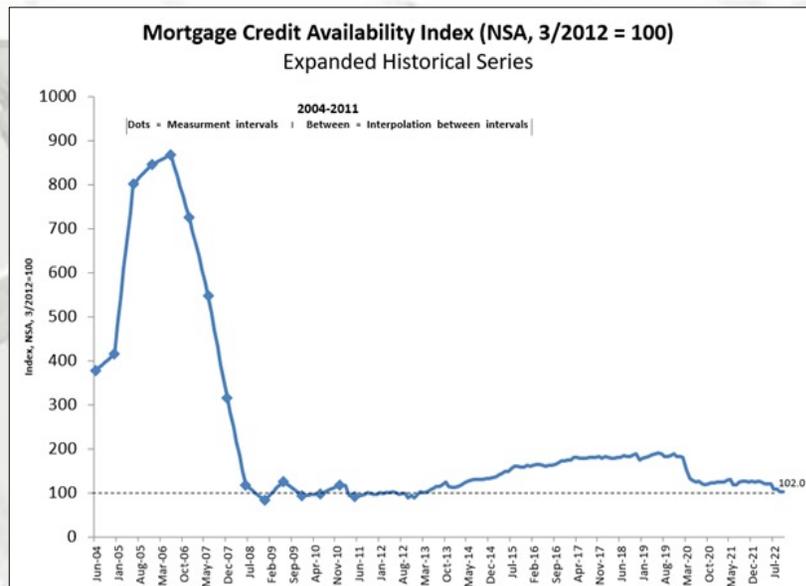
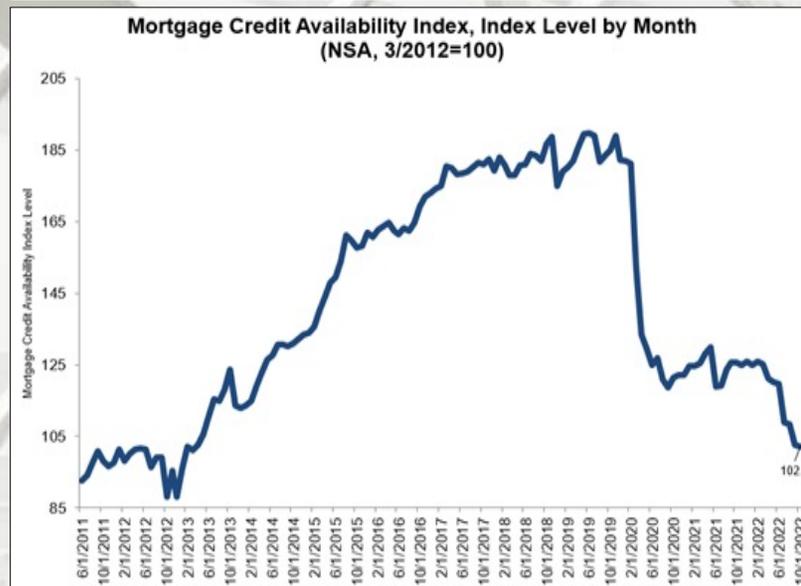
“Mortgage credit availability decreased in September according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from ICE Mortgage Technology. Mortgage credit availability decreased in October according to the Mortgage Credit Availability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

The MCAI fell by 0.5 percent to 102.0 in October. 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 1.5 percent, while the Government MCAI increased by 0.4 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI decreased by 2.5 percent, and the Conforming MCAI remained unchanged.

“Mortgage credit availability declined for the eighth straight month in October to its lowest level since March 2013. Much higher mortgage rates and the worsening outlook for the housing market and economy are behind the continued tightening in credit availability. Lenders continue to reduce their capacity and are eliminating some loan offerings, including certain types of refinance loan products and others that require less than full borrower documentation.” – 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

Board of Governors of the Federal Reserve System

Senior Loan Officer Opinion Survey on Bank Lending Practices

The October 2022 Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) addressed changes in the standards and terms on, and demand for, bank loans to businesses and households over the past three months, which generally correspond to the third quarter of 2022.

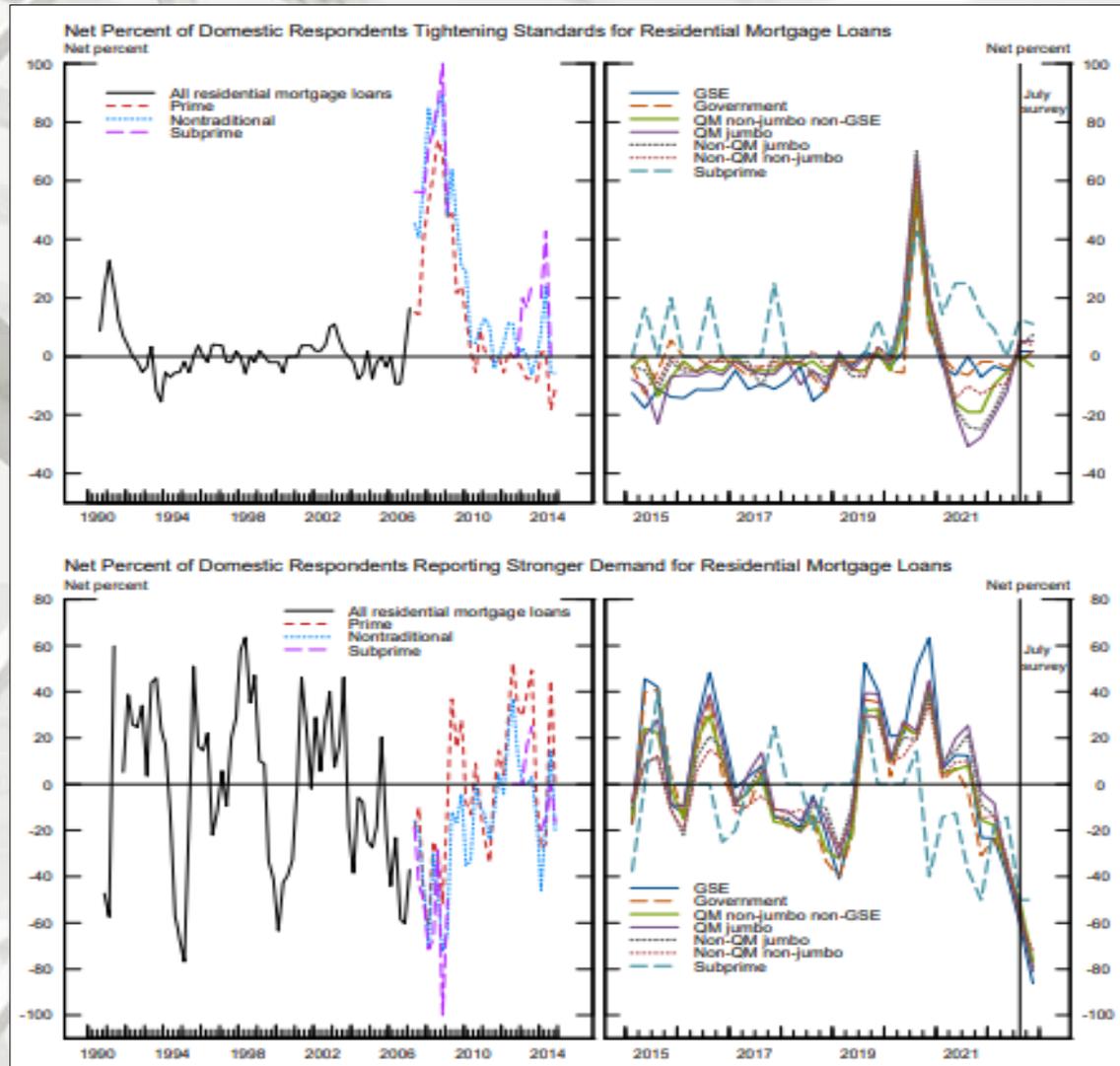
Regarding loans to businesses, survey respondents reported, on balance, tighter standards and weaker demand for commercial and industrial (C&I) loans to firms of all sizes over the third quarter. Meanwhile, banks reported tighter standards and weaker demand for all commercial real estate (CRE) loan categories.

For loans to households, lending standards tightened or remained basically unchanged across all categories of residential real estate (RRE) loans and demand weakened for all such loans. In addition, banks reported tighter standards and stronger demand for home equity lines of credit (HELOCs). Standards tightened for credit card loans and other consumer loans while standards for auto loans remained unchanged. Meanwhile, demand strengthened for credit card loans, was unchanged for other consumer loans, and weakened for auto loans. To better understand how consumer lending standards have changed conditional on borrower credit quality, the survey also included a set of special questions that asked banks to assess the likelihood of approving credit card and auto loan applications by borrower FICO score in comparison with the beginning of the year. Banks reported they were less likely to approve such loans for borrowers with FICO scores of 620 and 680 in comparison with the beginning of the year, while they were more likely and about as likely to approve credit card loan and auto loan applications, respectively, for borrowers with FICO scores of 720 over this same period.

U.S. Housing Finance

Board of Governors of the Federal Reserve System

Measures of Supply and Demand for Residential Mortgage Loans



Note: QM is qualified mortgage; GSE is government-sponsored enterprise. For data starting in 2007: Q2, changes in standards and demand for prime, nontraditional, and subprime mortgage loans are reported separately. For data starting in 2015: Q1, changes in standards and demand were expanded into the following 7 categories: GSE-eligible, government, QM non-jumbo non-GSE-eligible, QM jumbo, non-QM jumbo, non-QM non-jumbo, and subprime. Series are set to zero when the number of respondents is 3 or fewer.

Source: Federal Reserve Board, Senior Loan Officer Opinion Survey on Bank Lending Practices.

MBA Mortgage Finance Forecast

MBA Mortgage Finance Forecast

October 23, 2022

	2022				2023				2024				2021	2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Housing Measures																	
Housing Starts (SAAR, Thous)	1,720	1,647	1,460	1,436	1,422	1,437	1,524	1,563	1,580	1,609	1,632	1,641	1,605	1,566	1,487	1,616	1,648
Single-Family	1,187	1,086	909	925	925	952	1,052	1,115	1,124	1,157	1,189	1,205	1,131	1,027	1,011	1,169	1,218
Two or More	533	561	551	511	497	485	472	448	456	452	443	436	474	539	476	447	430
Home Sales (SAAR, Thous)																	
Total Existing Homes	6,057	5,373	4,770	4,551	4,480	4,478	4,959	5,159	5,165	5,309	5,388	5,455	6,127	5,188	4,769	5,329	5,521
New Homes	776	612	610	583	586	602	704	737	746	764	780	787	769	645	657	769	800
FHFA US House Price Index (YOY % Change)	18.8	17.9	14.2	9.8	5.3	2.5	2.0	0.7	-0.1	-0.5	-0.4	-0.1	17.6	9.8	0.7	-0.1	2.0
Median Price of Total Existing Homes (Thous \$)	365.8	405.9	383.1	376.3	367.9	372.7	377.1	379.2	385.9	385.8	385.7	385.8	347.9	382.8	374.2	385.8	393.2
Median Price of New Homes (Thous \$)	431.3	445.7	443.5	440.2	439.4	438.7	437.8	439.0	436.3	439.5	442.8	446.1	394.0	440.2	438.7	441.2	452.6
Interest Rates																	
30-Year Fixed Rate Mortgage (%)	3.8	5.2	5.6	6.7	6.2	5.7	5.5	5.4	5.1	4.8	4.6	4.5	3.1	6.7	5.4	4.5	4.5
10-Year Treasury Yield (%)	1.9	2.9	3.1	3.9	3.5	3.1	3.0	3.0	2.8	2.6	2.5	2.5	1.5	3.9	3.0	2.5	2.5
Mortgage Originations																	
Total 1- to 4-Family (Bil \$)																	
Purchase	689	678	480	410	427	565	526	529	490	633	599	589	4,436	2,257	2,047	2,311	2,468
Refinance	381	477	388	340	309	434	400	392	344	479	432	421	1,863	1,586	1,534	1,676	1,783
Refinance Share (%)	308	201	92	70	118	131	126	138	146	154	167	168	2,574	671	513	635	685
FHA Originations (Bil \$)	45	30	19	17	28	23	24	26	30	24	28	29	58	30	25	27	28
FHA Originations (Bil \$)													337	159	139	141	139
Total 1- to 4-Family (000s loans)																	
Purchase	1,939	1,789	1,206	1,003	1,047	1,369	1,270	1,279	1,192	1,528	1,456	1,433	13,549	5,937	4,964	5,609	5,962
Refinance	1,000	1,202	946	809	726	1,013	929	908	798	1,113	1,005	979	5,204	3,957	3,576	3,896	4,123
Refinance Share (%)	938	588	260	193	321	355	341	371	393	415	451	454	8,346	1,980	1,389	1,713	1,839
Refinance Share (%)	48	33	22	19	31	26	27	29	33	27	31	32	62	33	28	31	31
Mortgage Debt Outstanding																	
1- to 4-Family (Bil \$)	12,704	12,985	13,180	13,327	13,465	13,606	13,722	13,815	13,893	13,980	14,041	14,088	12,549	13,327	13,815	14,088	14,269

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. Copyright 2022 Mortgage Bankers Association. All rights reserved. THE HISTORICAL DATA AND PROJECTIONS ARE PROVIDED "AS IS" WITH NO WARRANTIES OF ANY KIND.



MBA Economic Forecast

MBA Economic Forecast

October 23, 2022

	2022				2023				2024				2021	2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Percent Change, SAAR																	
Real Gross Domestic Product	-1.6	-0.6	2.3	-0.7	-1.9	-0.7	1.4	1.7	1.5	1.7	1.7	1.8	5.7	-0.2	0.1	1.7	1.8
Personal Consumption Expenditures	1.3	2.0	0.8	0.9	-0.4	0.3	1.1	1.1	1.5	2.0	2.2	2.4	7.2	1.3	0.5	2.0	2.5
Business Fixed Investment	7.9	0.1	3.3	0.3	-4.0	-3.1	-0.4	1.3	0.8	0.9	1.2	1.7	5.0	2.8	-1.6	1.2	1.7
Residential Investment	-3.1	-17.8	-29.2	-22.8	-4.5	5.5	14.9	17.1	10.7	10.1	9.2	6.9	-0.3	-18.8	7.9	9.2	1.9
Govt. Consumption & Investment	-2.3	-1.6	0.6	0.9	3.6	1.3	1.2	1.2	1.2	0.9	0.7	0.8	0.5	-0.6	1.8	0.9	0.8
Net Exports (Bil. Chain 2012\$)	-1260.3	-1207.6	-1051.6	-1047.7	-1057.3	-1084.2	-1130.7	-1161.5	-1190.7	-1225.2	-1258.8	-1298.0	-1037.4	-1141.8	-1108.4	-1243.2	-1382.7
Inventory Investment (Bil. Chain 2012\$)	182.4	93.7	80.7	63.1	4.1	-17.6	10.9	22.8	29.3	34.3	34.8	37.7	-16.5	105.0	5.1	34.0	43.7
Consumer Prices (YOY)	8.0	8.6	8.2	7.5	6.2	4.1	3.4	2.6	2.2	2.2	2.2	2.3	6.7	7.5	2.6	2.3	2.2
Percent																	
Unemployment Rate	3.8	3.6	3.5	3.7	4.0	4.7	5.3	5.5	5.4	5.1	4.8	4.6	5.4	3.7	4.9	5.0	4.3
Federal Funds Rate	0.375	1.625	2.375	4.375	4.375	4.375	4.375	4.375	3.875	3.625	3.375	3.125	0.125	4.375	4.375	3.125	2.375
10-Year Treasury Yield	1.9	2.9	3.1	3.9	3.5	3.1	3.0	3.0	2.8	2.6	2.5	2.5	1.5	3.9	3.0	2.5	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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Summary

In conclusion:

In September, month-over-month data were negative in several categories. Year-over-year data were similar. Single-family permits and starts decreased again, month-over-month and year-over-year. The impact of increasing borrowing costs and slow income growth combined with still elevated house prices have resulted in a major obstacle for new and existing house sales. September was the eighth consecutive monthly decrease for existing house sales. Single-family construction spending decreased for the fourth straight month.

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, September 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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