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

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2023 Virginia Polytechnic Institute and State University VCE-ANR

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This report is a free monthly service of Virginia Tech. Past issues are available at: http://woodproducts.sbio.vt.edu/housing-report.

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

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Opening Remarks

Housing completions, in November, was the "bright" spot for housing construction. Year-over-year and month-over-month were mostly negative. Increasing borrowing costs, slow income growth combined with elevated house prices have resulted in a major obstacle for new and existing house sales.

The January 10th Atlanta Fed GDPNow™ total residential investment spending forecast was a negative 26.8% for December 2022. New private permanent site expenditures were projected at -39.1%; the improvement spending forecast was -2.3%; and the manufactured/mobile home expenditures projection was -25.7% (all: quarterly log change and at a seasonally adjusted annual rate).[1]

"… Deloitte expects construction to fall for the remainder of this year and in 2023. Housing may bounce back for a year or two after the current downturn runs its course. Demographics, meanwhile, suggest that housing is not likely to become a key driver of economic growth in the foreseeable future. Population growth has slowed to about 0.5% per year (compared to over 1% during the 2000s housing boom). The baseline forecast assumes that, after the recovery from the current housing downturn, housing starts will eventually begin to slowly fall. Faster medium-term growth in housing would require faster population growth, most likely from immigration. Otherwise, the heightened demand for housing during the pandemic is likely to be a short-term phenomenon. … "[2] – Daniel Bachman, Senior Manager, Deloitte Services LP

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: [1] www.frbatlanta.org/cqer/research/gdpnow.aspx; 1/10/23;
[2] https://www2.deloitte.com/us/en/insights/economy/us-economic-forecast/united-states-outlook-analysis.html?id=us:2em:3pa:economic-outlook:eng:di:010323; 12/20/22

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November 2022
Housing Scorecard

	M/M	Y/Y
Housing Starts	▼ 0.5%	▼ 16.4%
Single-Family (SF) Starts	▼ 4.1%	▼ 32.1%
Multi-Family (MF) Starts*	▲ 4.9%	▲ 23.3%
Housing Permits	▼ 10.6%	▼ 21.9%
SF Permits	▼ 7.1%	▼ 29.7%
MF Permits*	▼ 15.1%	▼ 7.8%
Housing Under Construction	NC 0.0%	▲ 14.5%
SF Under Construction	▼ 1.3%	▼ 2.9%
Housing Completions	▲ 10.8%	▲ 6.0%
SF Completions	▲ 9.5%	▲ 9.9%
New SF House Sales	▲ 5.8%	▼ 15.3%
Private Residential Construction Spending	▼ 0.5%	▲ 5.3%
SF Construction Spending	▼ 2.9%	▼ 10.2%
Existing House Sales[1]	▼ 7.7%	▼ 35.4%

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

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

Sources: U.S. Department of Commerce-Construction; [1] FRED: Federal Reserve Bank of St. Louis

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2023 Housing Forecasts*

	Range	Median
Total starts:	**1,100 to 1,560**	**1,360**
Single-Family (SF) starts:	**750 to 1,000**	**858**
New SF house sales:	**488 to 806**	**565**

Organization	Total Starts	SF Starts	New SF House Sales
APA-*The Engineered Wood Association*[a]	1,601	1,000	
Bank of Montreal (BOM)[b]	1,360		
Deloitte Insights LLP[c]	1,422		
Dodge Data & Analytics[d]	1,613	891	
Fannie Mae[e]	1,145	769	565
Forest Economic Advisors[f]	1,296		
Morningstar[g]	1,435		
Mortgage Bankers Association (MBA)[h]	1,412	923	488

* All in thousands of units

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2023 Housing Forecasts*

	Range	Median
Total starts:	**1,100 to 1,560**	**1,360**
Single-Family (SF) starts:	**750 to 1,000**	**858**
New SF house sales:	**488 to 806**	**565**

Organization	Total Starts	SF Starts	New SF House Sales
National Association of Homebuilders (NAHB)[i]	1,429	906	806
National Association of Realtors (NAR)[j]	1,540	900	610
PNC Financial Services Group[k]	1,189		546
Raymond James[l]	1,100	750	525
RISI[m]	1,359		
Royal Bank of Canada (RBC)[n]	1,352		
Scotiabank[o]	1,370		
Toronto Dominion (TD) Bank Economics[p]	1,340		
Wells Fargo Securities LLC[q]	1,408	825	611
Zonda[r]		805	605

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References

a- APA, Housing Starts November 2022 (12/21/22). APA – The Engineered Wood Association. Tacoma, WA. 53 pps. (Subscription)

b- https://economics.bmo.com/media/filer_public/0b/04/0b04bb2b-b13a-4675-9000-a9977a388389/outlookus.pdf

c- https://www2.deloitte.com/us/en/insights/economy/us-economic-forecast/united-states-outlook-analysis.html

d- https://www.enr.com/articles/55358-dodge-forecast-pace-of-construction-starts-to-flatten-out-in-2023

e- https://www.fanniemae.com/research-and-insights/forecast

f- APA, Housing Starts November 2022 (12/21/22). APA – The Engineered Wood Association. Tacoma, WA. 53 pps. (Subscription)

g- https://www.morningstar.com/articles/1098911/we-now-see-a-sharper-housing-starts-decline-in-2023-24

h- https://mba-erm.informz.net/mba-erm/data/images/Mortgage%20Finance%20Forecast%20dec%202020.pdf

i- https://www.nahb.org/-/media/NAHB/news-and-economics/docs/housing-economics-plus/builders-forecasts/free-forecast/housing-forecast-free.xls

j- https://www.realtor.com/research/2023-national-housing-forecast/

k- https://www.pnc.com/content/dam/pnc-com/pdf/aboutpnc/EconomicReports/NEO%20Reports/2022/NEO_Sept2022.pdf

1- The Raymond James Financial Center. Housing, 2023 Housing Outlook: Hard Landing Ahead, but Next Upcycle Building Steam. St. Petersburg, FL. (Subscription)

m- https://www.rbc.com/economics-subscriber/pdf/economy_us.pdf

n- APA, Housing Starts November 2022 (12/21/22). APA – The Engineered Wood Association. Tacoma, WA. 53 pps. (Subscription)

o- https://www.scotiabank.com/ca/en/about/economics/economics-publications/post.other-publications.global-outlook-and-forecast-tables.scotiabank's-forecast-tables.2022.december-8--2022.html

p- https://economics.td.com/ca-forecast-tables#lt-us

q- https://www.wellsfargo.com/cib/insights/

r- https://calculatedrisk.substack.com/p/2023-housing-forecasts

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2022 Housing Forecasts*

	Range	Median
Total starts:	1,413 to 1,785	1,618
Single-Family (SF) starts:	1,120 to 1,250	1,190
New SF house sales:	470 to 924	905

2021 Housing Forecasts*

	Range	Median
Total starts:	1,233 to 1,605	1,440
Single-Family (SF) starts:	928 to 1,308	1,055
New SF house sales:	736 to 1,259	912

2020 Housing Forecasts*

	Range	Median
Total starts:	1,200 to 1,423	1,305
Single-Family (SF) starts:	810 to 990	920
New SF house sales:	695 to 750	726

* All in thousands of units

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New Housing Starts

	Total Starts*	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
November	1,427,000	828,000	15,000	584,000
October	1,434,000	863,000	14,000	557,000
2021	1,706,000	1,220,000	17,000	469,000
M/M change	-0.5%	-4.1%	7.1%	4.8%
Y/Y change	-16.4%	-32.1%	-11.8%	24.5%

* 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)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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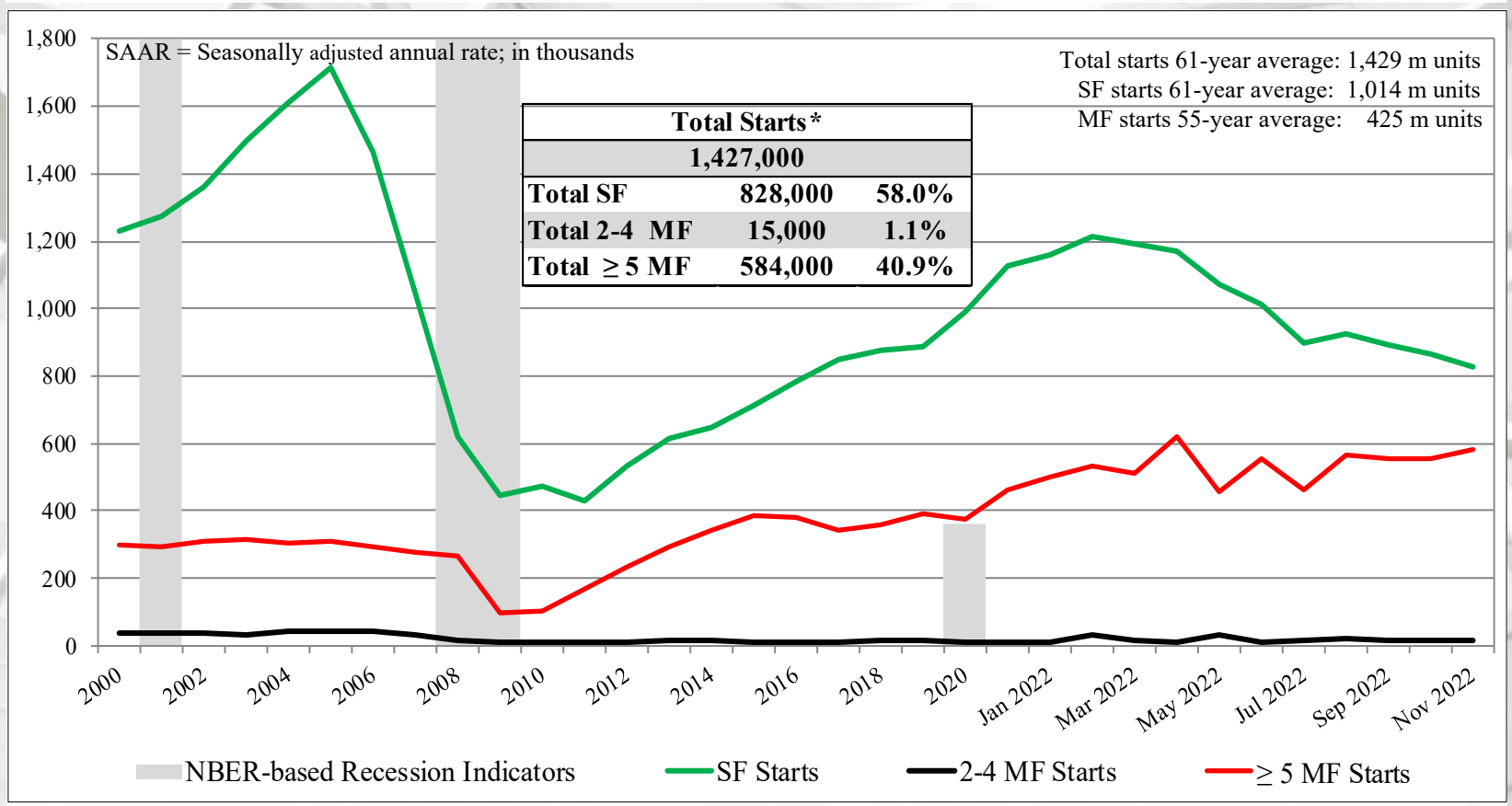
Total Housing Starts



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).

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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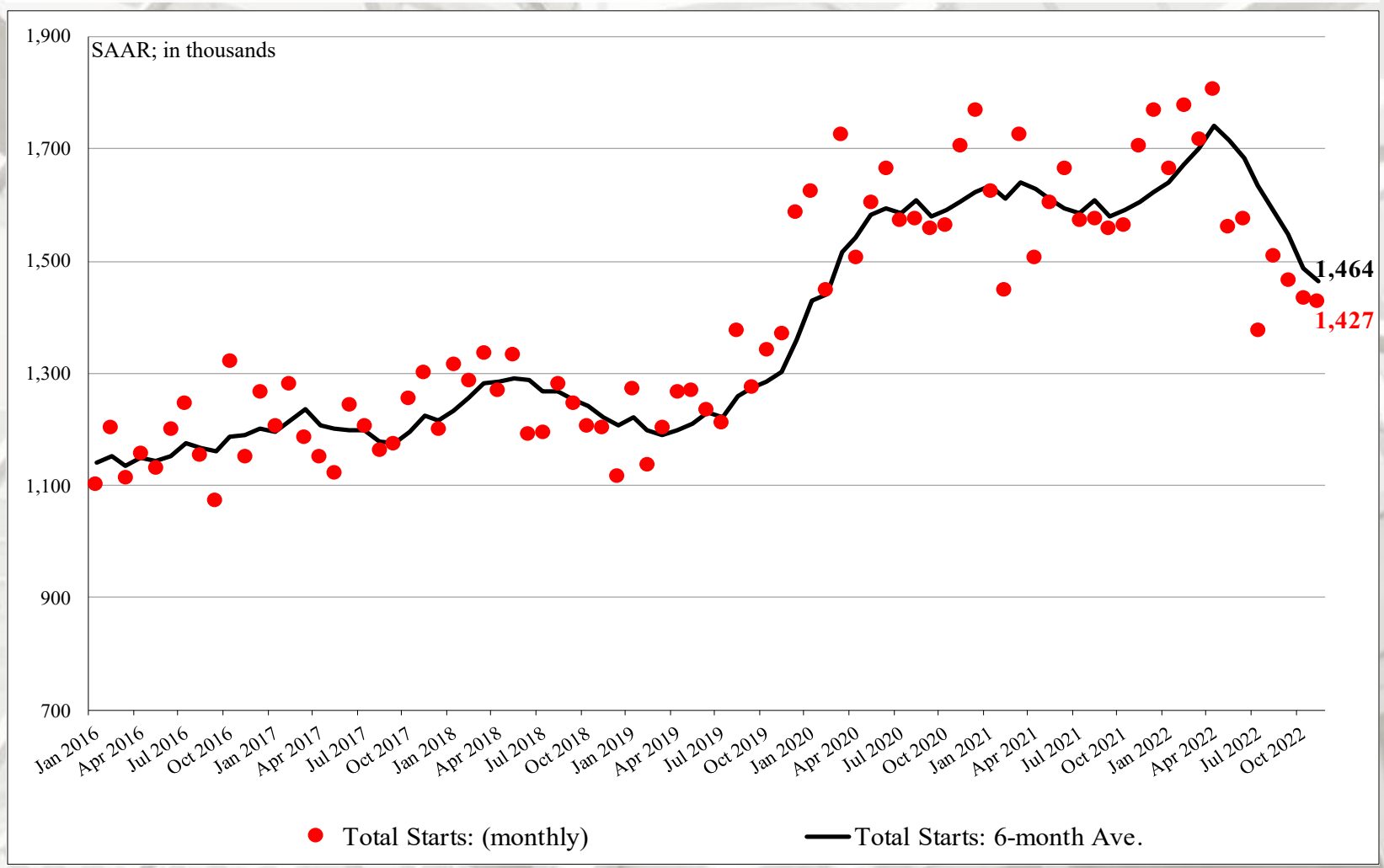
Total Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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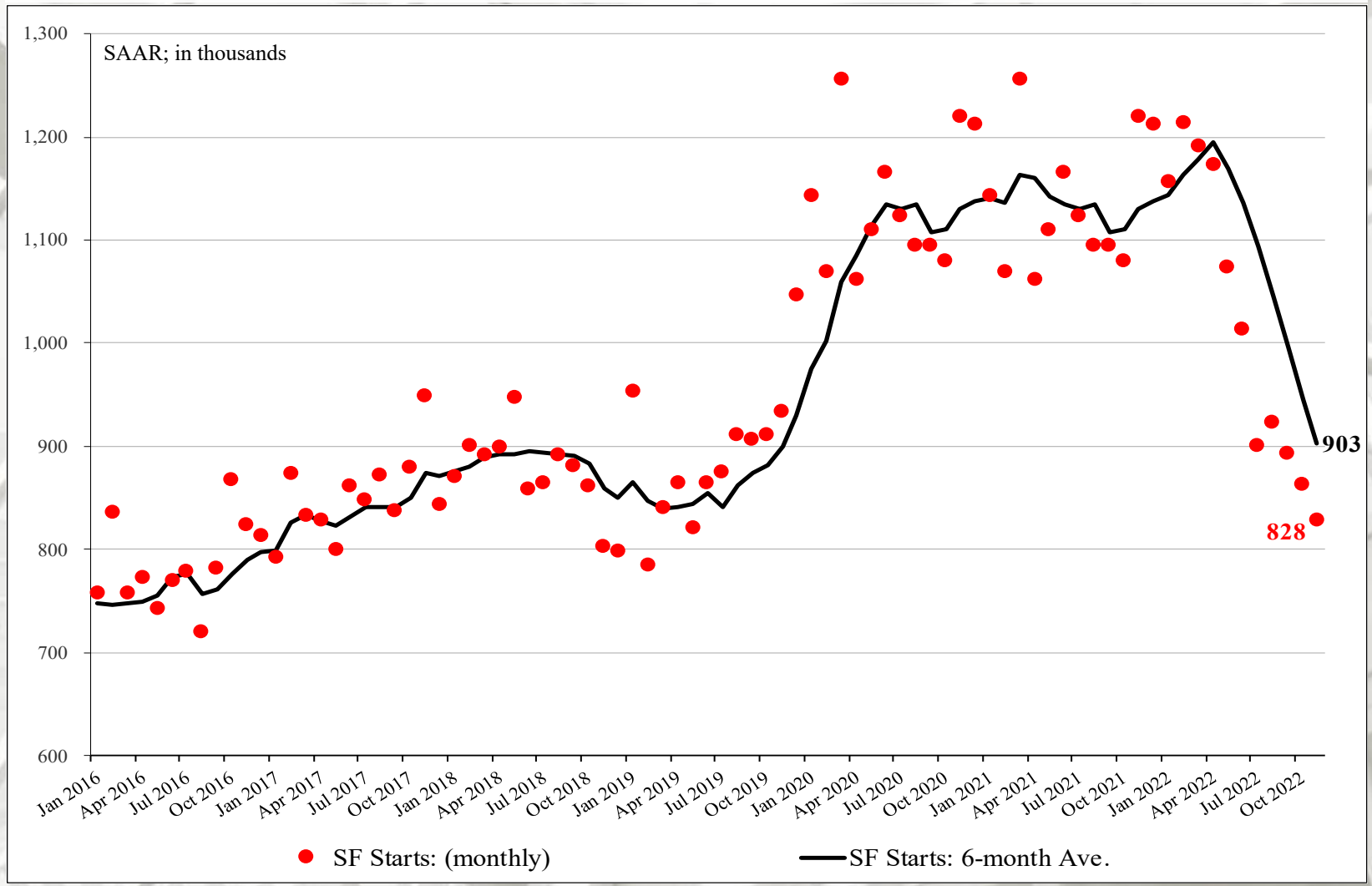
SF Housing Starts: Six-Month Moving Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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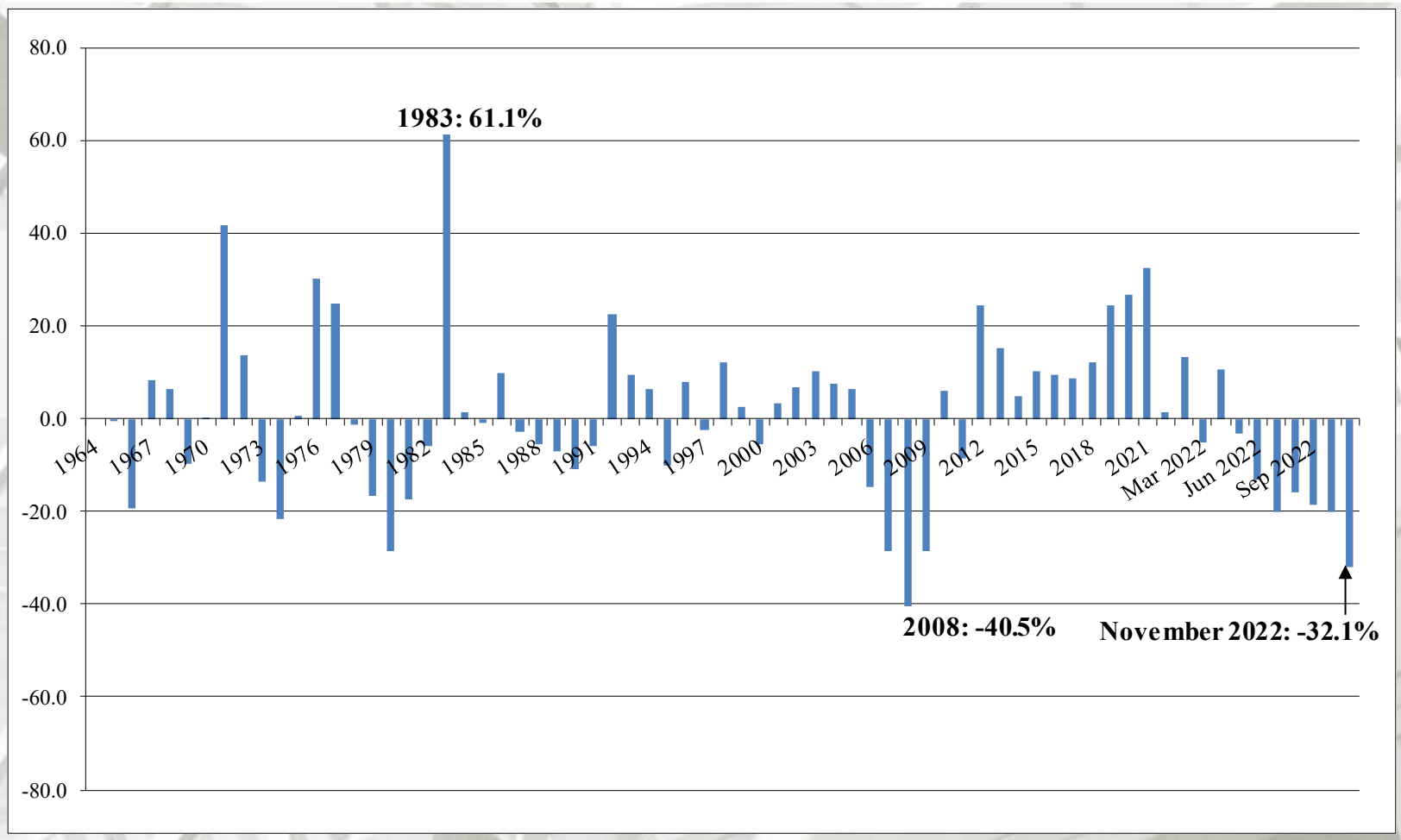
SF Housing Starts: Year-over-Year Change



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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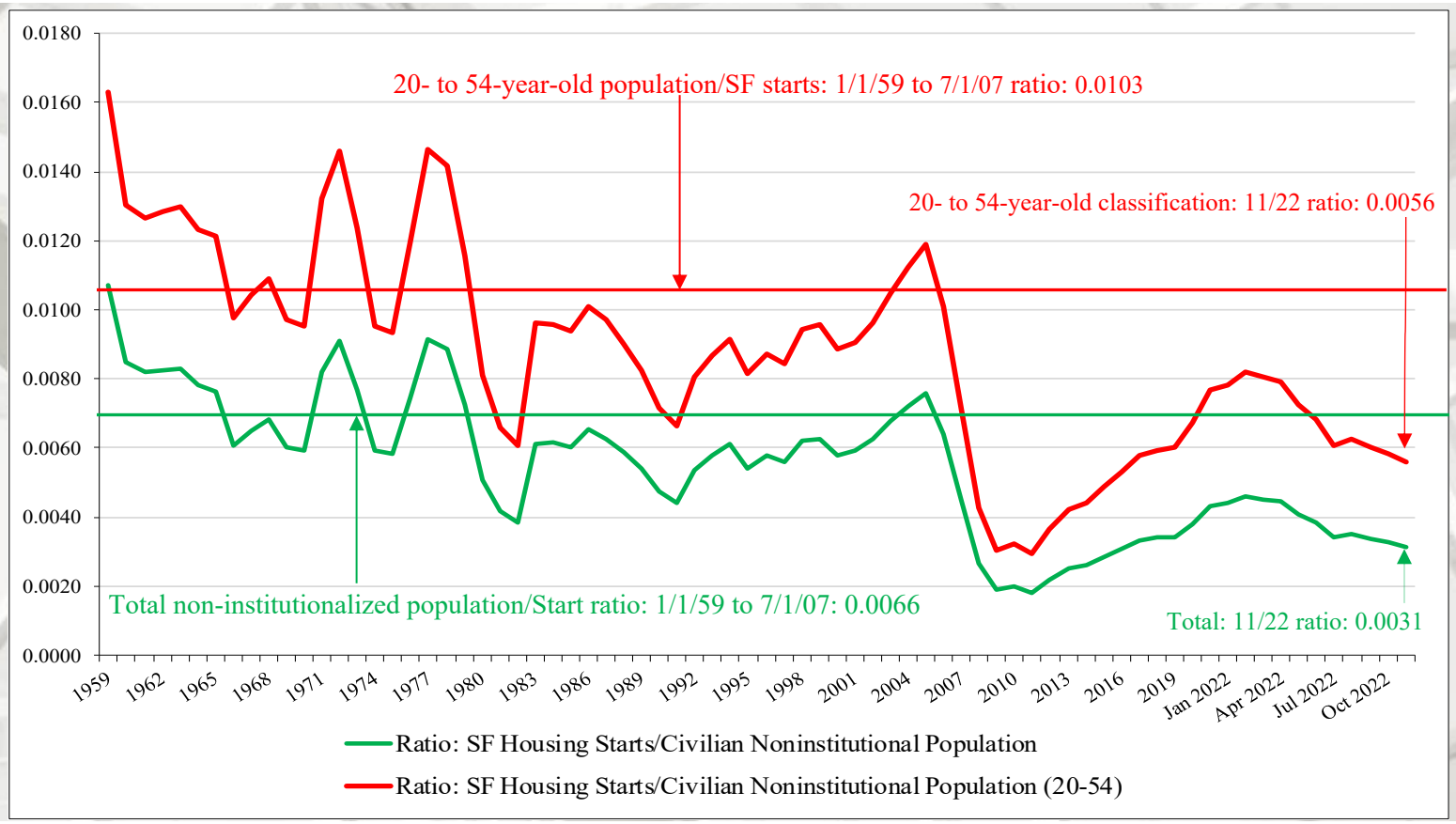
New SF Starts



New SF starts adjusted for the US population

From November 1959 to November 2007, the long-term ratio of new SF starts to the total US non-institutionalized population to is 0.0066. In November 2022 it was 0.0031 – a decline from August. The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in November 2022 it was 0.0056 – also a decrease from August (0.0058). 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.

Sources: http://www.census.gov/construction/nrc/pdf/newresconst.pdff and The Federal Reserve Bank of St. Louis; 12/20/22

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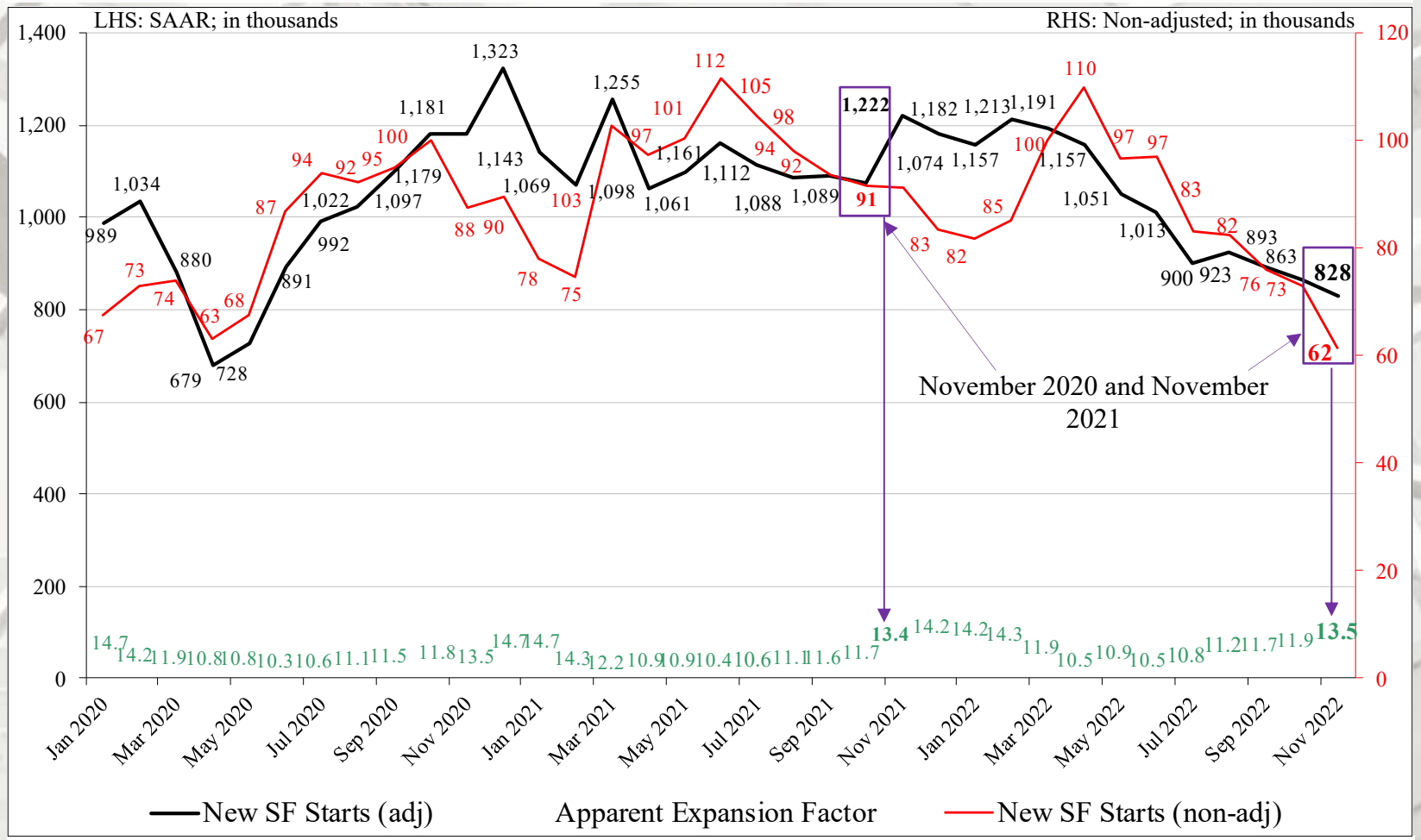
Nominal & SAAR SF Starts



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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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New Housing Starts by Region

	NE Total	NE SF	NE MF**
November	83,000	61,000	22,000
October	102,000	53,000	49,000
2021	114,000	63,000	51,000
M/M change	-18.6%	15.1%	-55.1%
Y/Y change	-27.2%	-3.2%	-56.9%
	MW Total	**MW SF**	**MW MF**
November	215,000	96,000	119,000
October	230,000	131,000	99,000
2021	216,000	137,000	79,000
M/M change	-6.5%	-26.7%	20.2%
Y/Y change	-0.5%	-29.9%	50.6%

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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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New Housing Starts by Region

	S Total	S SF	S MF**
November	788,000	482,000	306,000
October	787,000	516,000	271,000
2021	946,000	726,000	220,000
M/M change	0.1%	-6.6%	12.9%
Y/Y change	-16.7%	-33.6%	39.1%

	W Total	W SF	W MF
November	341,000	189,000	152,000
October	315,000	163,000	152,000
2021	430,000	294,000	136,000
M/M change	8.3%	16.0%	0.0%
Y/Y change	-20.7%	-35.7%	11.8%

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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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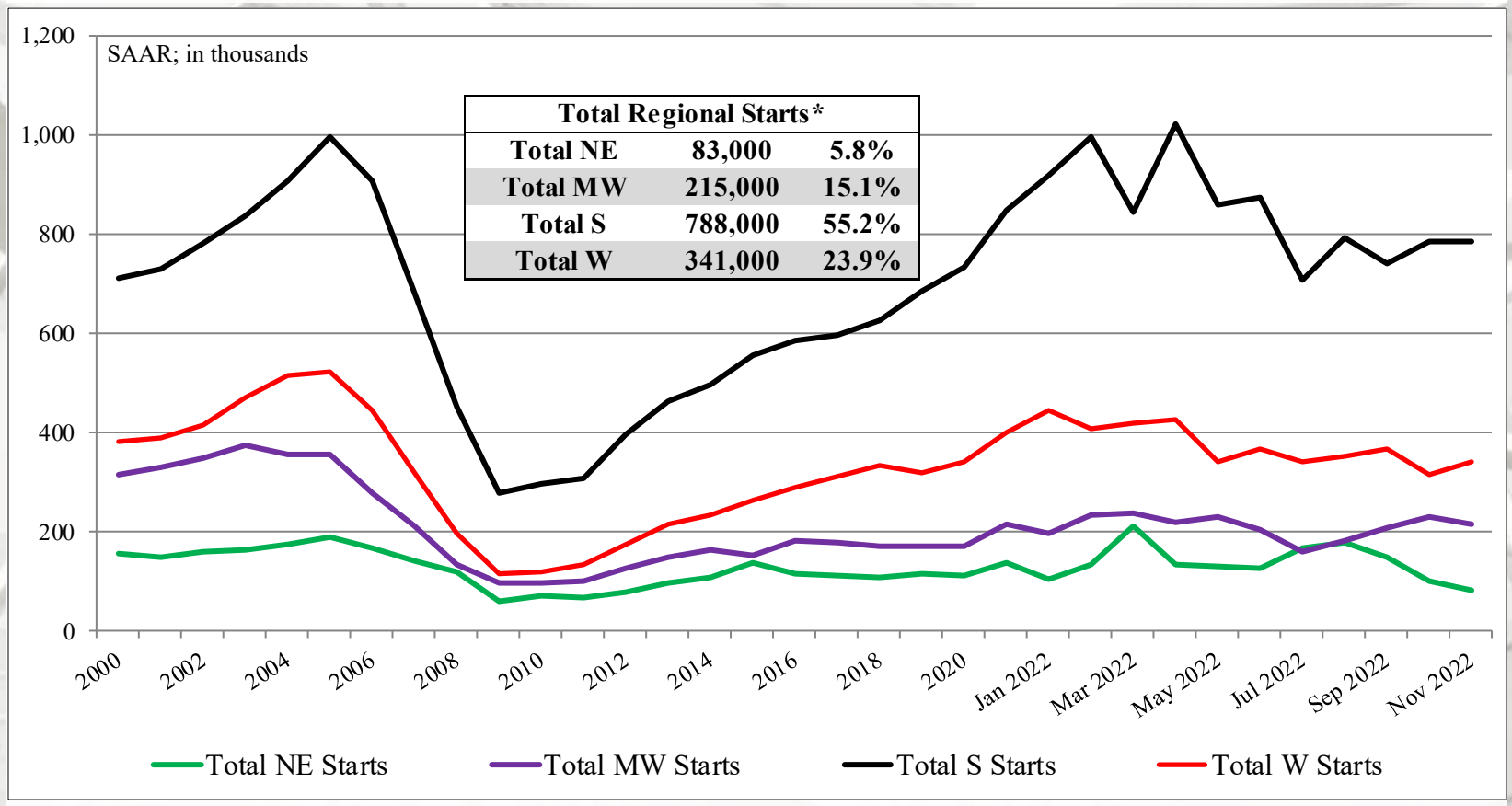
New Housing Starts by Region



Total Regional Starts*		
Total NE	83,000	5.8%
Total MW	215,000	15.1%
Total S	788,000	55.2%
Total W	341,000	23.9%

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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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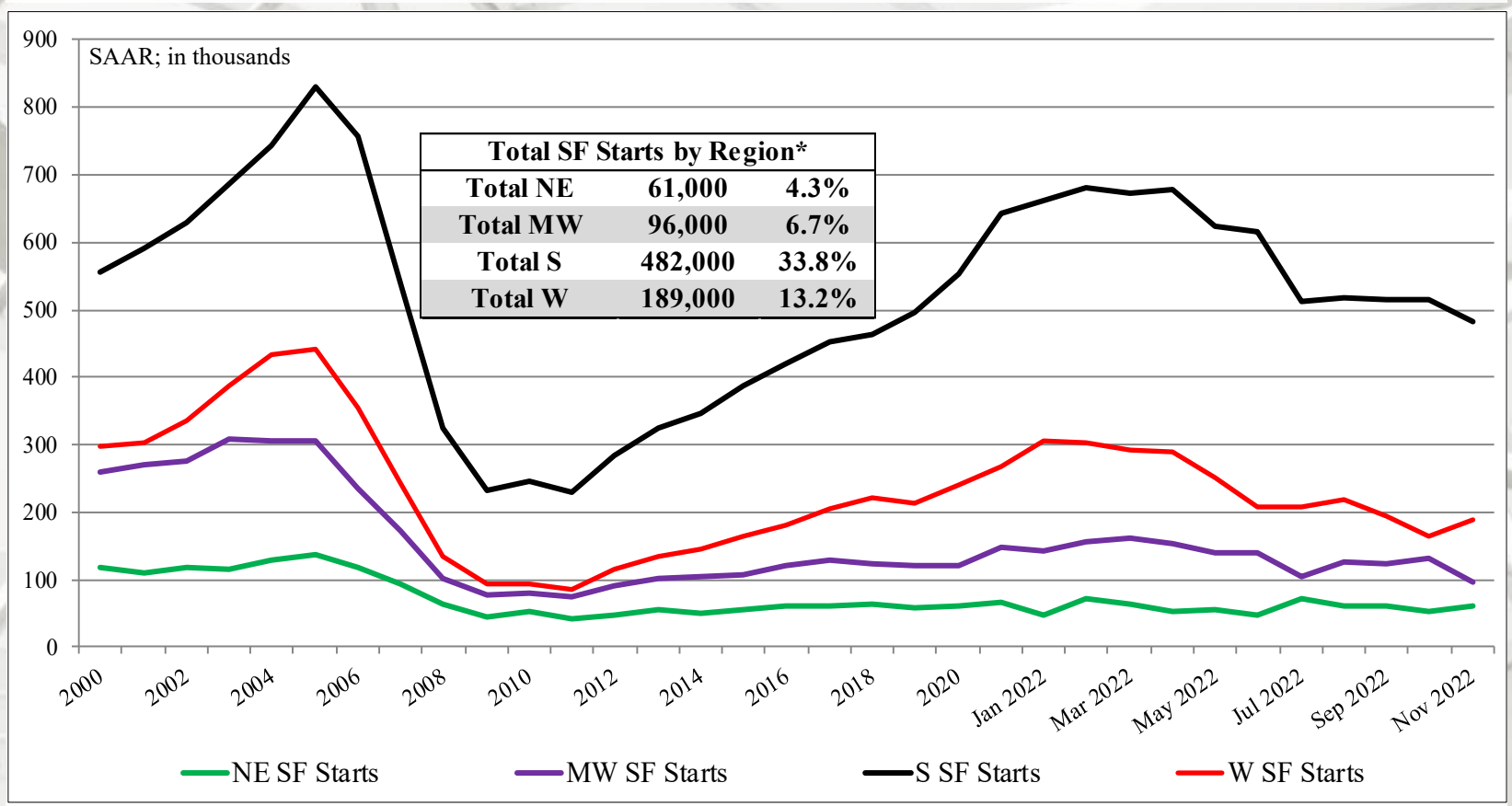
Total SF Housing Starts by Region



Total SF Starts by Region*		
Total NE	61,000	4.3%
Total MW	96,000	6.7%
Total S	482,000	33.8%
Total W	189,000	13.2%

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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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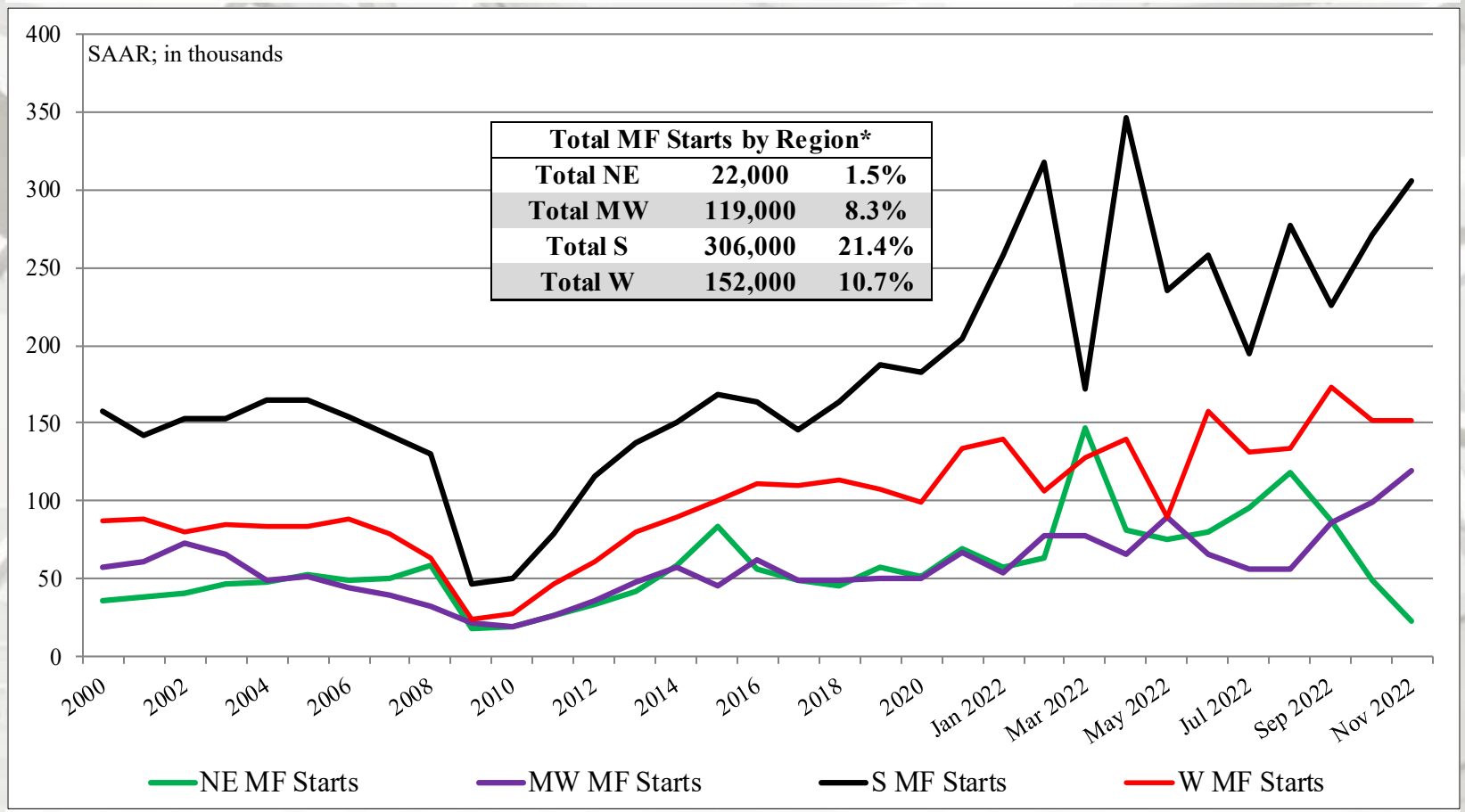
MF Housing Starts by Region



Total MF Starts by Region*		
Total NE	22,000	1.5%
Total MW	119,000	8.3%
Total S	306,000	21.4%
Total W	152,000	10.7%

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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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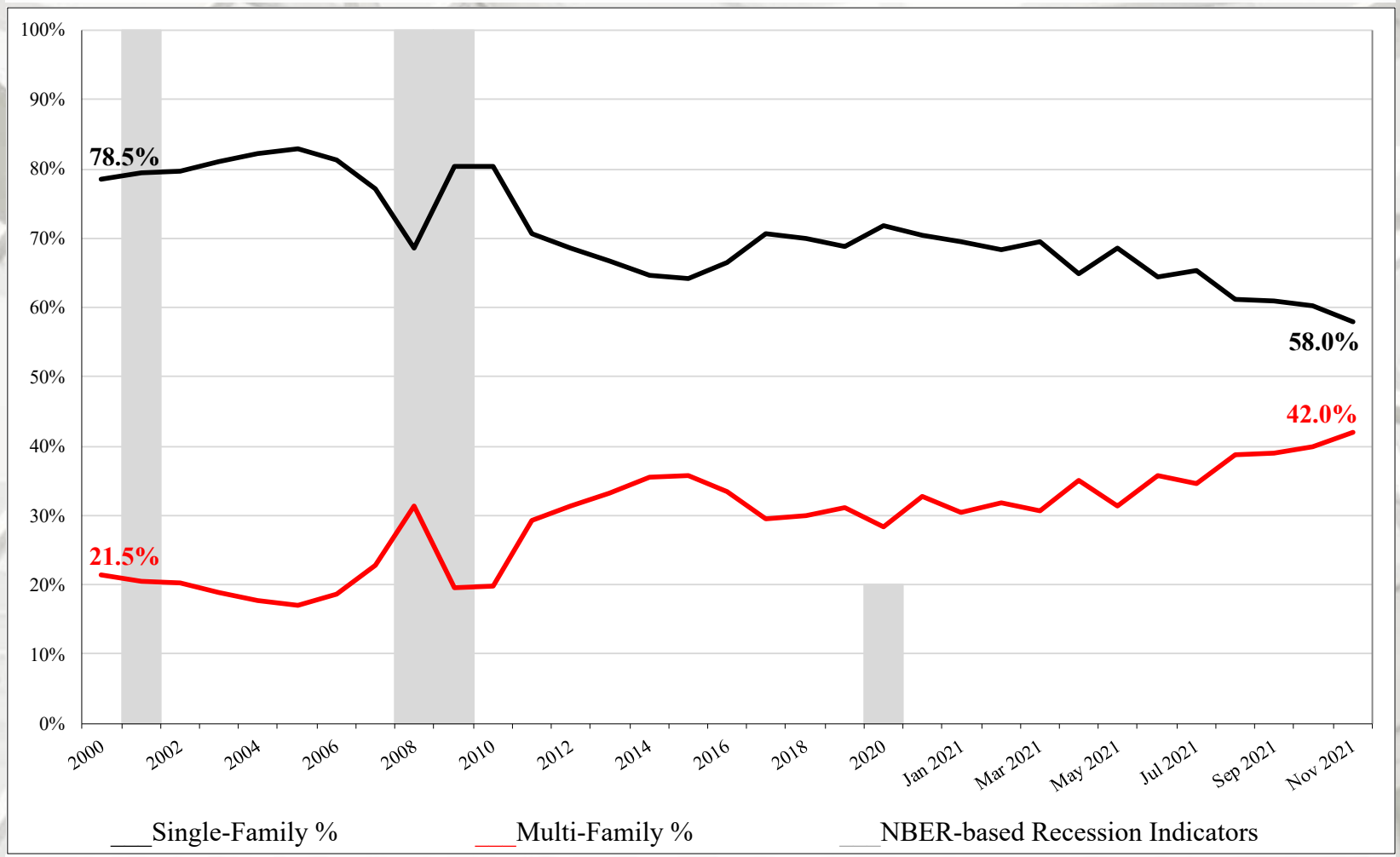
SF vs. MF Housing Starts (%)



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

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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New Housing Permits

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
November	1,351,000	781,000	52,000	518,000
October	1,512,000	841,000	51,000	620,000
2021	1,729,000	1,111,000	48,000	570,000
M/M change	-10.6%	-7.1%	2.0%	-16.5%
Y/Y change	-21.9%	-29.7%	8.3%	-9.1%

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

Source: https://www.census.gov/construction/bps/; 12/23/22

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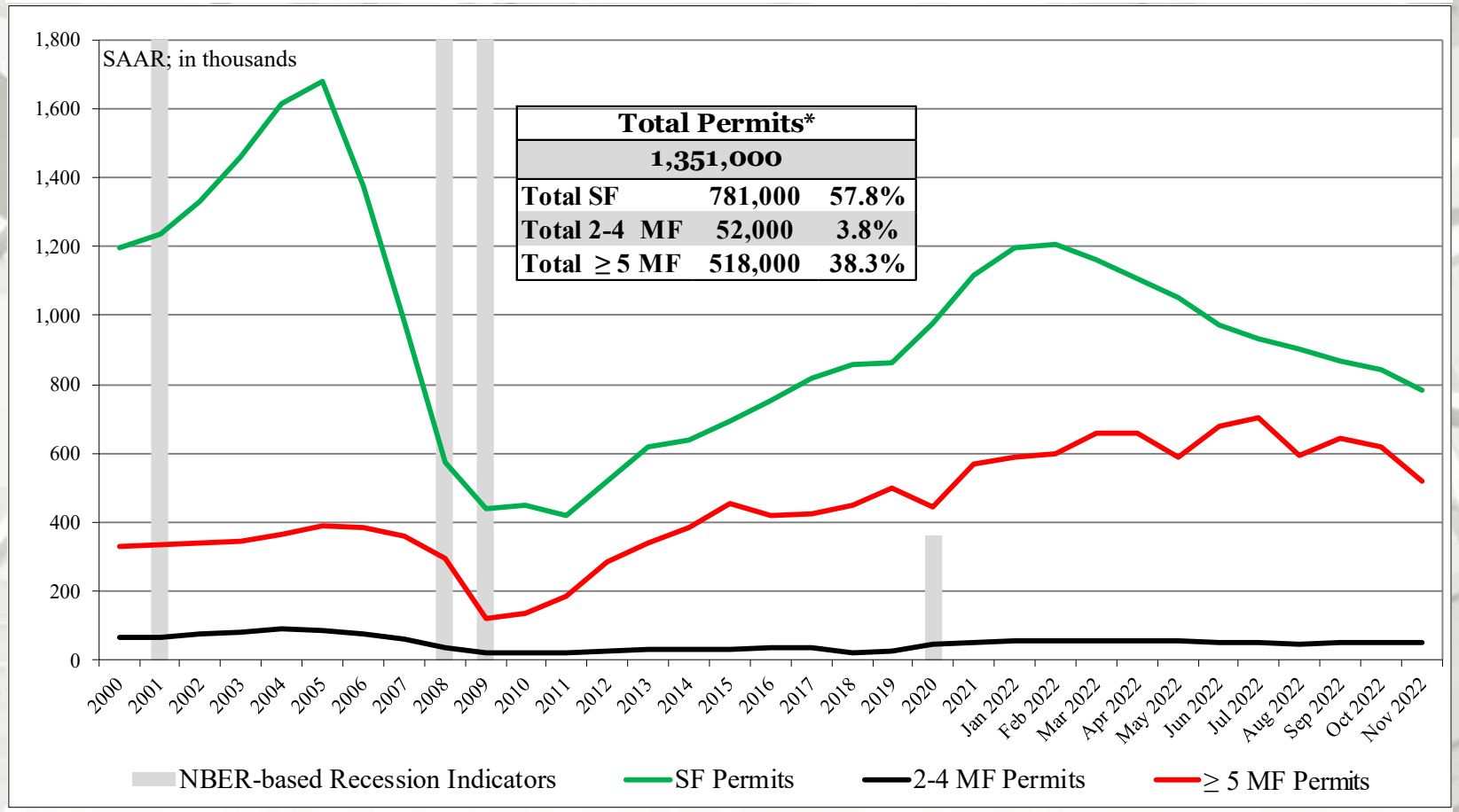
Total New Housing Permits



* 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).

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; https://www.census.gov/construction/bps/; 12/23/22

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New Housing Permits by Region

	NE Total*	NE SF	NE MF**
November	118,000	51,000	67,000
October	112,000	51,000	61,000
2021	151,000	60,000	91,000
M/M change	5.4%	0.0%	9.8%
Y/Y change	-21.9%	-15.0%	-26.4%
	MW Total*	**MW SF**	**MW MF****
November	199,000	100,000	99,000
October	210,000	110,000	100,000
2021	214,000	143,000	71,000
M/M change	-5.2%	-9.1%	-1.0%
Y/Y change	-7.0%	-30.1%	39.4%

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).

Source: https://www.census.gov/construction/bps/; 12/23/22

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New Housing Permits by Region

	S Total*	S SF	S MF**
November	753,000	475,000	278,000
October	860,000	513,000	347,000
2021	918,000	653,000	265,000
M/M change	-12.4%	-7.4%	-19.9%
Y/Y change	-18.0%	-27.3%	4.9%
	W Total*	**W SF**	**W MF****
November	281,000	155,000	126,000
October	330,000	167,000	163,000
2021	446,000	255,000	191,000
M/M change	-14.8%	-7.2%	-22.7%
Y/Y change	-37.0%	-39.2%	-34.0%

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).

Source: https://www.census.gov/construction/bps/; 12/23/22

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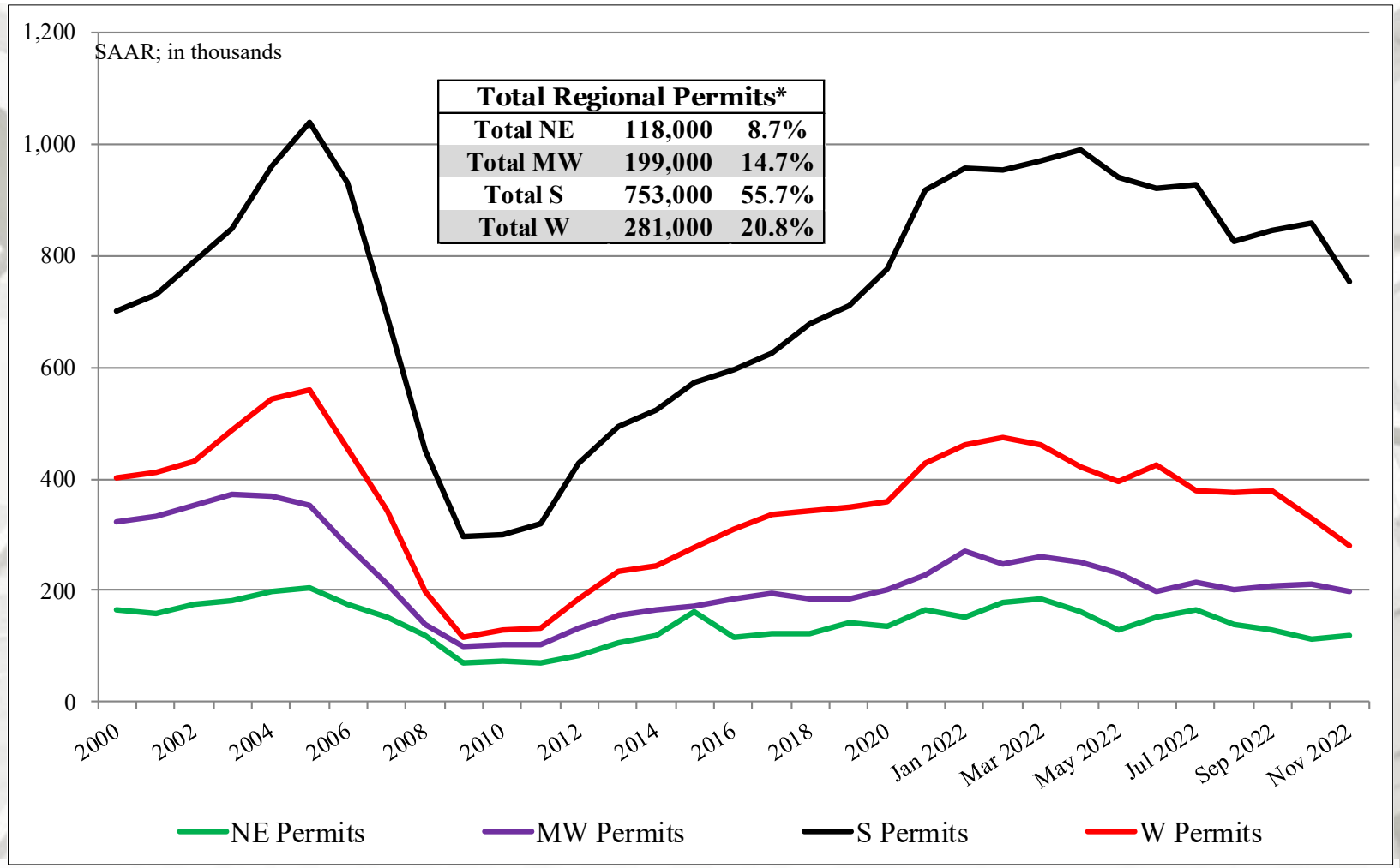
Total Housing Permits by Region



Total Regional Permits*		
Total NE	118,000	8.7%
Total MW	199,000	14.7%
Total S	753,000	55.7%
Total W	281,000	20.8%

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

* Percentage of total permits.

Source: https://www.census.gov/construction/bps/; 12/23/22

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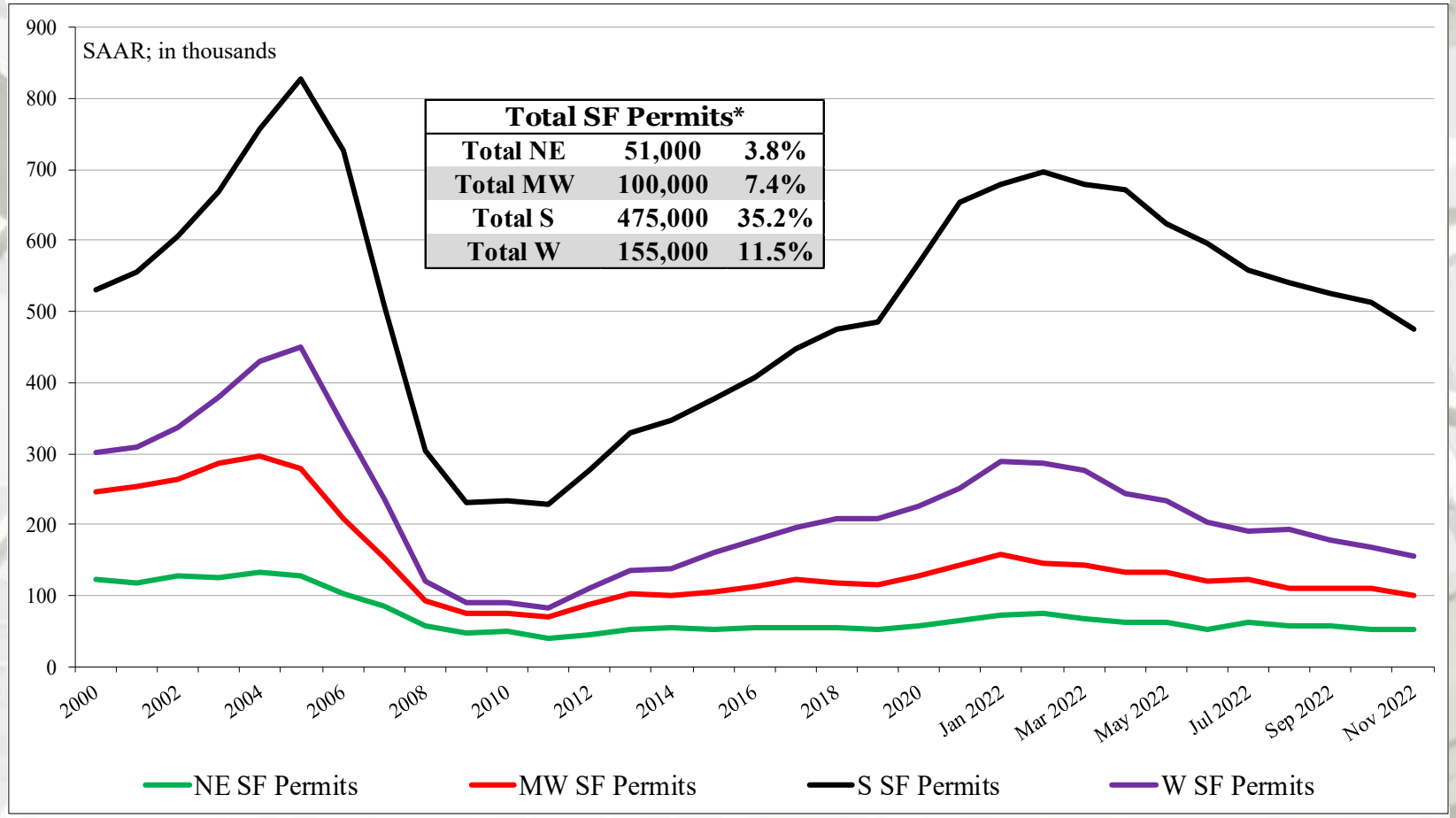
SF Housing Permits by Region



Total SF Permits*		
Total NE	51,000	3.8%
Total MW	100,000	7.4%
Total S	475,000	35.2%
Total W	155,000	11.5%

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

* Percentage of total permits.

Source: https://www.census.gov/construction/bps/; 12/23/22

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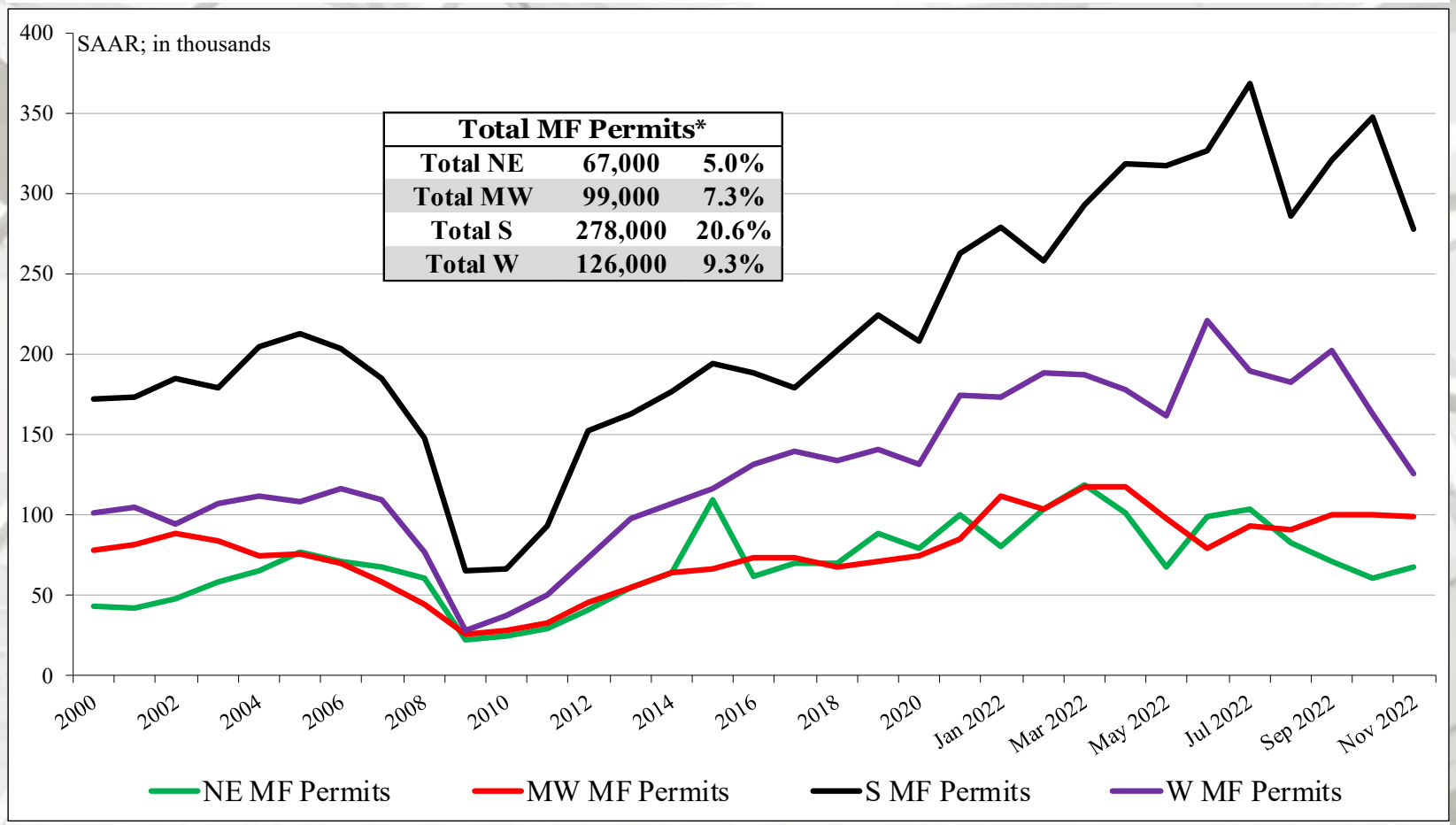
MF Housing Permits by Region



Total MF Permits*		
Total NE	67,000	5.0%
Total MW	99,000	7.3%
Total S	278,000	20.6%
Total W	126,000	9.3%

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

* Percentage of total permits.

Source: https://www.census.gov/construction/bps/; 12/23/22

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New Housing Under Construction (HUC)

	Total HUC*	SF HUC	MF 2-4 unit** HUC	MF ≥ 5 unit HUC
November	1,709,000	777,000	17,000	915,000
October	1,709,000	787,000	17,000	905,000
2021	1,493,000	755,000	13,000	725,000
M/M change	0.0%	-1.3%	0.0%	1.1%
Y/Y change	14.5%	2.9%	30.8%	26.2%

All housing under construction data are presented at a seasonally adjusted annual rate (SAAR).
** US DOC does not report 2-4 multi-family units under construction directly; this is an estimation ((Total under construction – (SF + 5-unit MF)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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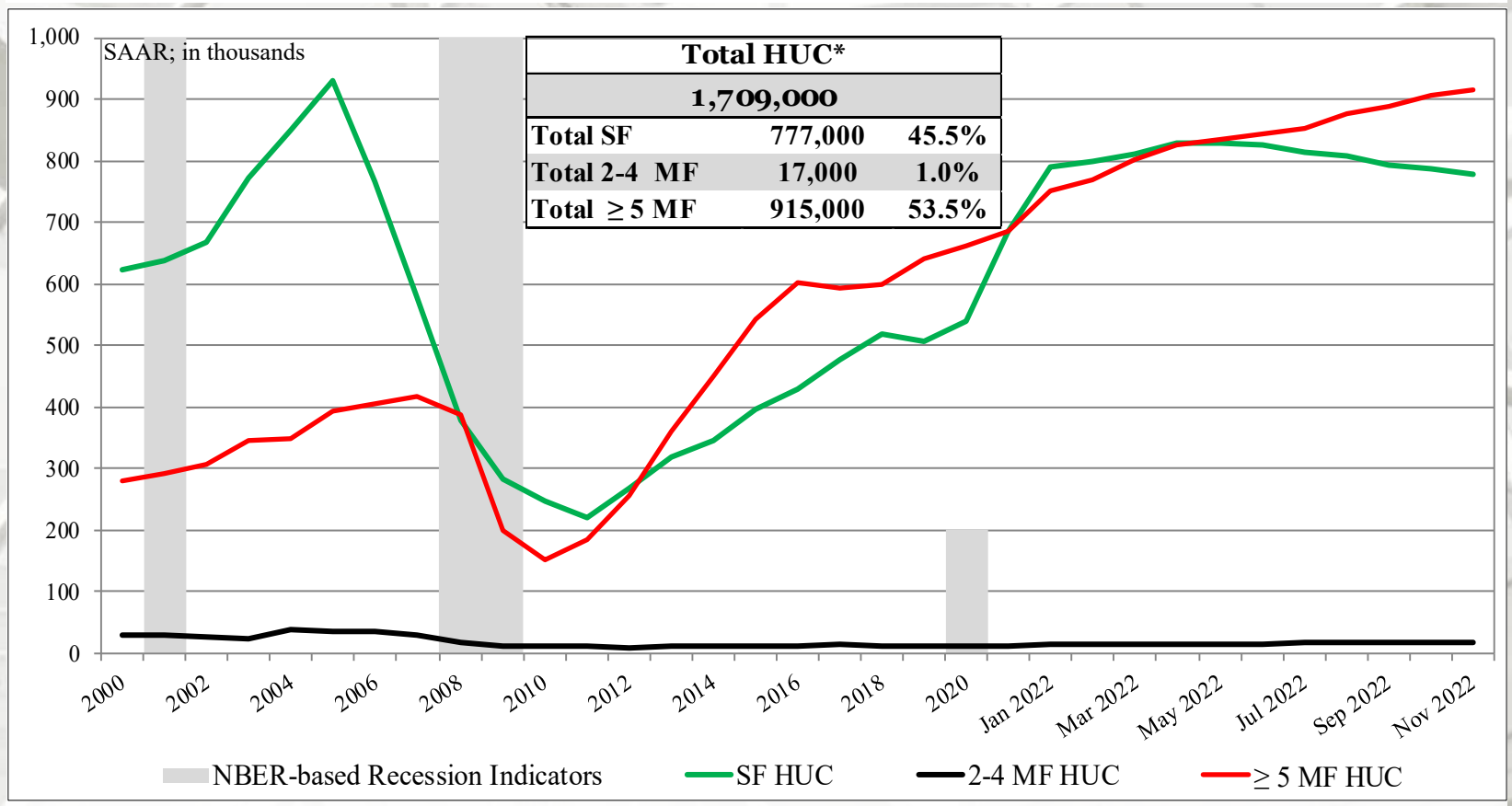
Total Housing Under Construction



Total HUC*		
1,709,000		
Total SF	777,000	45.5%
Total 2-4 MF	17,000	1.0%
Total ≥ 5 MF	915,000	53.5%

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

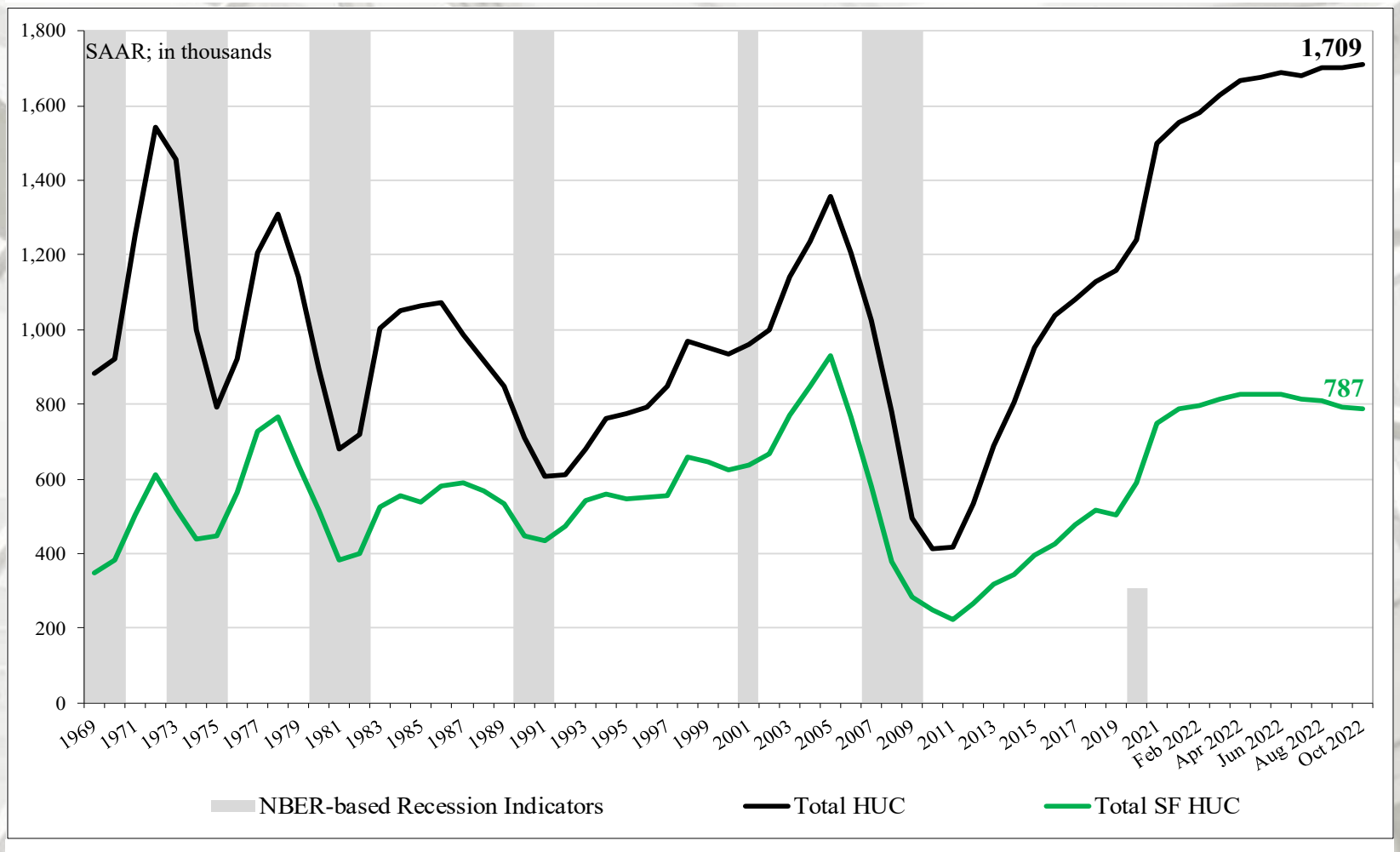
* Percentage of total housing under construction units.

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

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

Total Housing Under Construction



In November total housing units under construction (HUC) were 1,709,000 units, greater than November 1973 total of 1,628,000 units. November's SF HUC reading, 787,000 units, which was substantially less than reported for November 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).

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
November	212,000	60,000	152,000
October	223,000	61,000	162,000
2021	204,000	63,000	142,000
M/M change	-4.9%	-1.6%	-6.2%
Y/Y change	3.9%	-4.8%	7.0%
	MW Total	**MW SF**	**MW MF**
November	220,000	105,000	115,000
October	217,000	106,000	111,000
2021	185,000	102,000	83,000
M/M change	1.4%	-0.9%	3.6%
Y/Y change	18.9%	2.9%	38.6%

All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multi-family units under construction directly; this is an estimation (Total under construction – SF under construction).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Housing Under Construction by Region

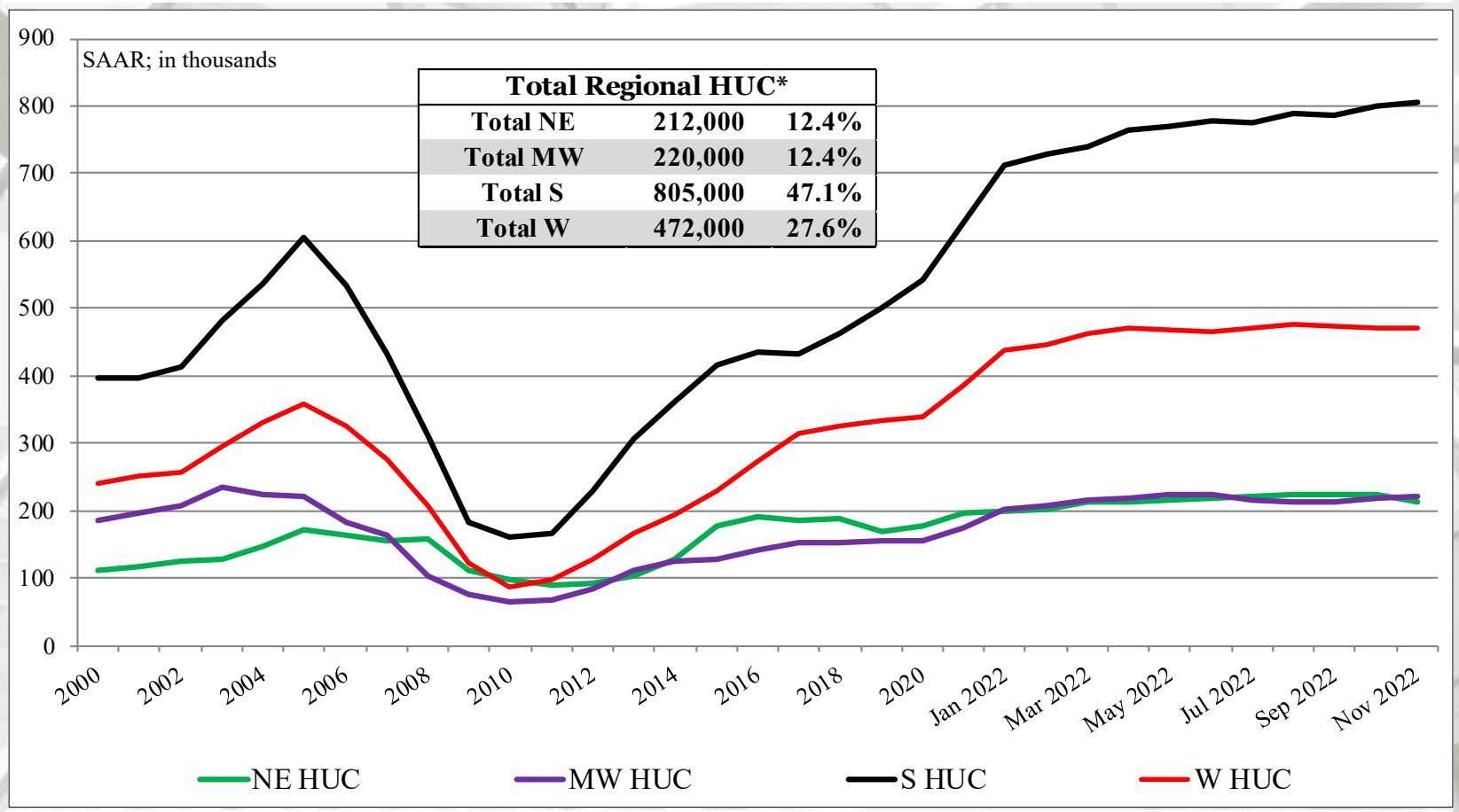
	S Total	S SF	S MF**
November	805,000	416,000	389,000
October	799,000	421,000	378,000
2021	687,000	396,000	291,000
M/M change	0.8%	-1.2%	2.9%
Y/Y change	17.2%	5.1%	33.7%
	W Total	**W SF**	**W MF**
November	472,000	196,000	276,000
October	470,000	199,000	271,000
2021	417,000	194,000	223,000
M/M change	0.4%	-1.5%	1.8%
Y/Y change	13.2%	1.0%	23.8%

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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

Total Housing Under Construction by Region



Total Regional HUC*		
Total NE	212,000	12.4%
Total MW	220,000	12.4%
Total S	805,000	47.1%
Total W	472,000	27.6%

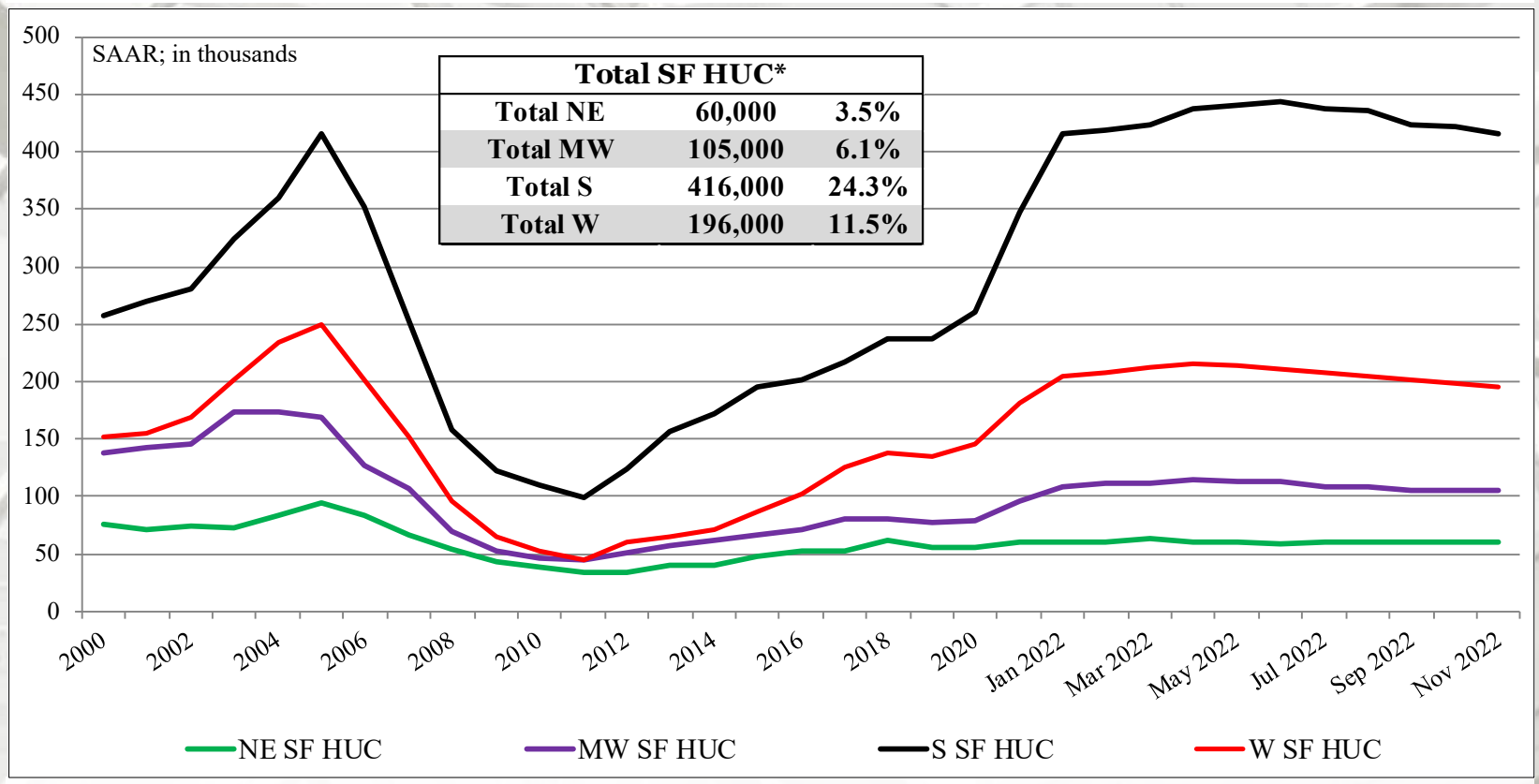
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family under construction directly; this is an estimation (Total under construction – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

SF Housing Under Construction by Region



Total SF HUC*		
Total NE	60,000	3.5%
Total MW	105,000	6.1%
Total S	416,000	24.3%
Total W	196,000	11.5%

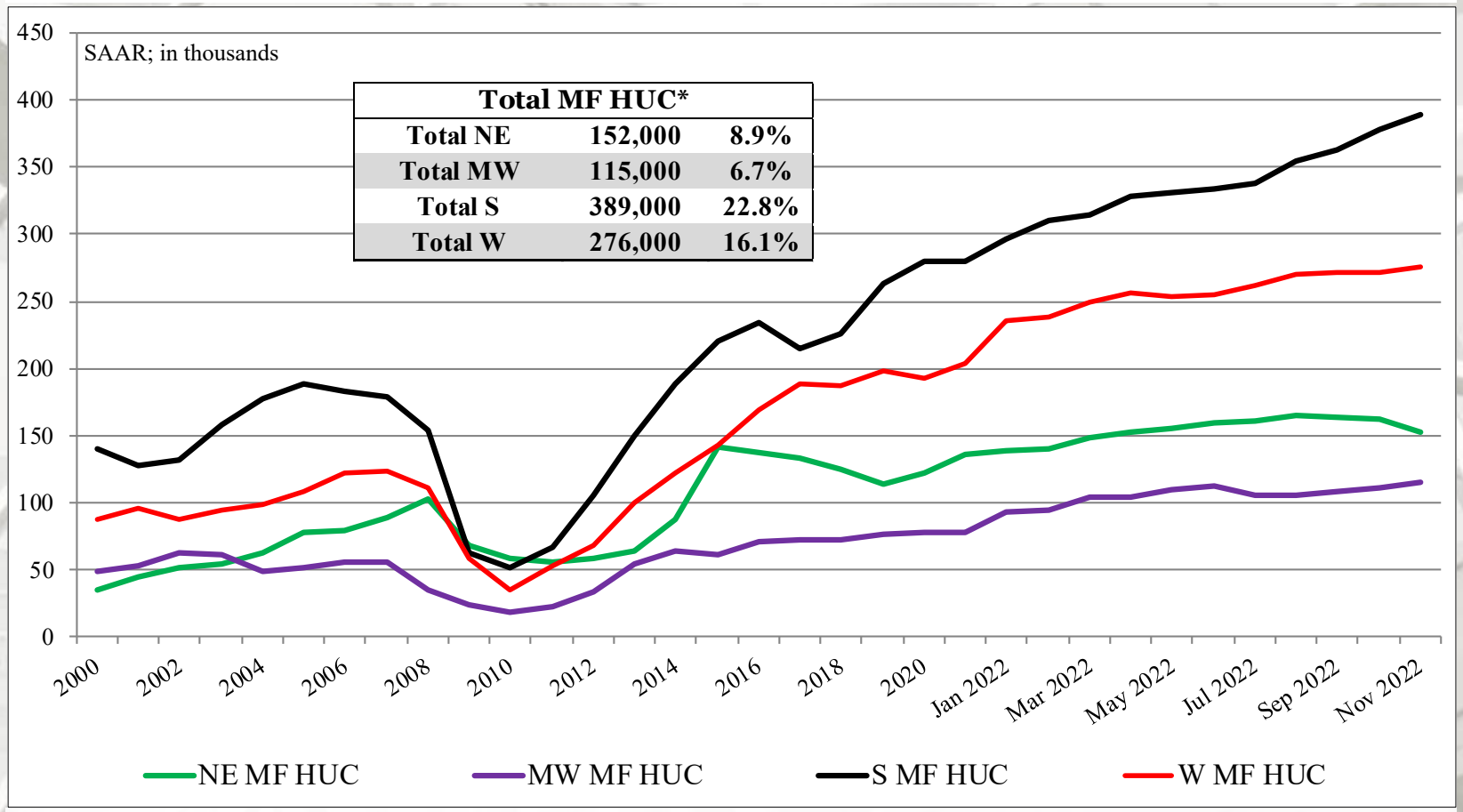
NE = Northeast, MW = Midwest, S = South, W = West.
US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under construction – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
November	1,490,000	1,047,000	13,000	430,000
October	1,345,000	956,000	18,000	371,000
2021	1,406,000	953,000	9,000	444,000
M/M change	10.8%	9.5%	-27.8%	15.9%
Y/Y change	6.0%	9.9%	44.4%	-3.2%

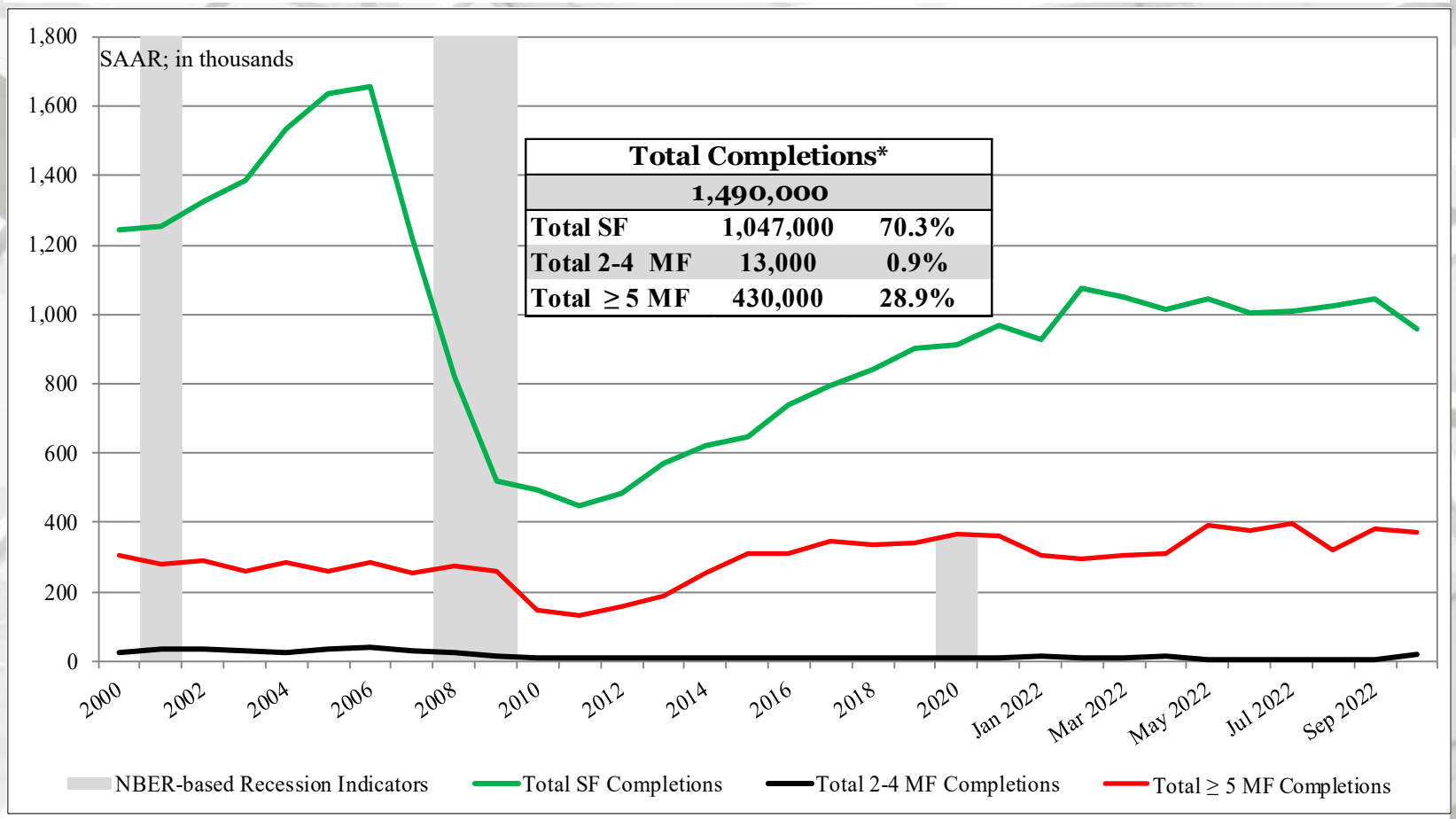
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

Total Housing Completions



Total Completions*		
1,490,000		
Total SF	1,047,000	70.3%
Total 2-4 MF	13,000	0.9%
Total ≥ 5 MF	430,000	28.9%

** 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).

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Housing Completions by Region

	NE Total	NE SF	NE MF**
November	223,000	58,000	165,000
October	99,000	58,000	41,000
2021	114,000	52,000	62,000
M/M change	125.3%	0.0%	302.4%
Y/Y change	95.6%	11.5%	166.1%
	MW Total	**MW SF**	**MW MF**
November	197,000	126,000	71,000
October	182,000	126,000	56,000
2021	213,000	134,000	79,000
M/M change	8.2%	0.0%	26.8%
Y/Y change	-7.5%	-6.0%	-10.1%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Housing Completions by Region

	S Total	S SF	S MF**
November	755,000	632,000	123,000
October	690,000	569,000	121,000
2021	744,000	526,000	218,000
M/M change	9.4%	11.1%	1.7%
Y/Y change	1.5%	20.2%	-43.6%
	W Total	**W SF**	**W MF**
November	315,000	231,000	84,000
October	374,000	203,000	171,000
2021	335,000	241,000	94,000
M/M change	-15.8%	13.8%	-50.9%
Y/Y change	-6.0%	-4.1%	-10.6%

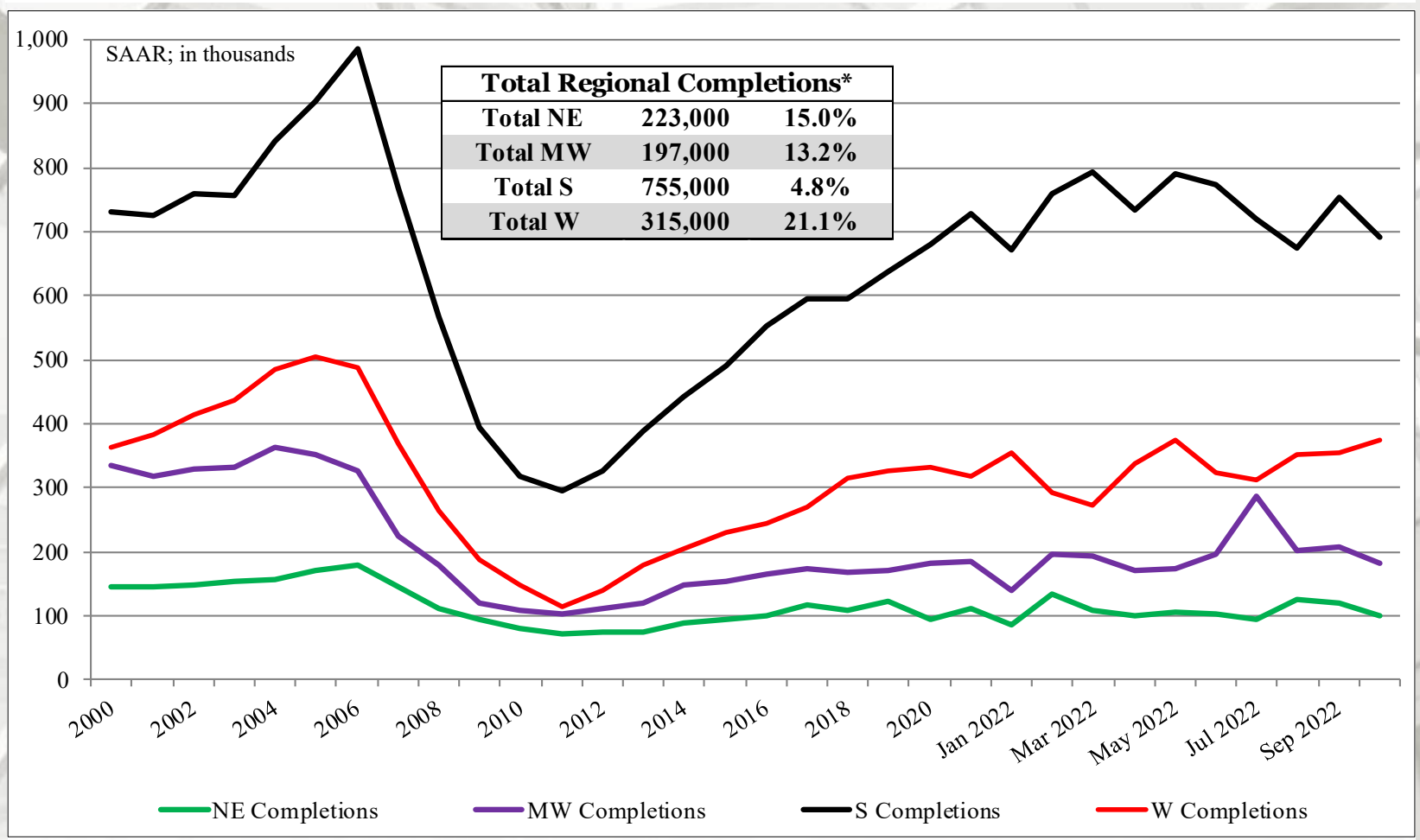
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

Total Housing Completions by Region



Total Regional Completions*		
Total NE	223,000	15.0%
Total MW	197,000	13.2%
Total S	755,000	4.8%
Total W	315,000	21.1%

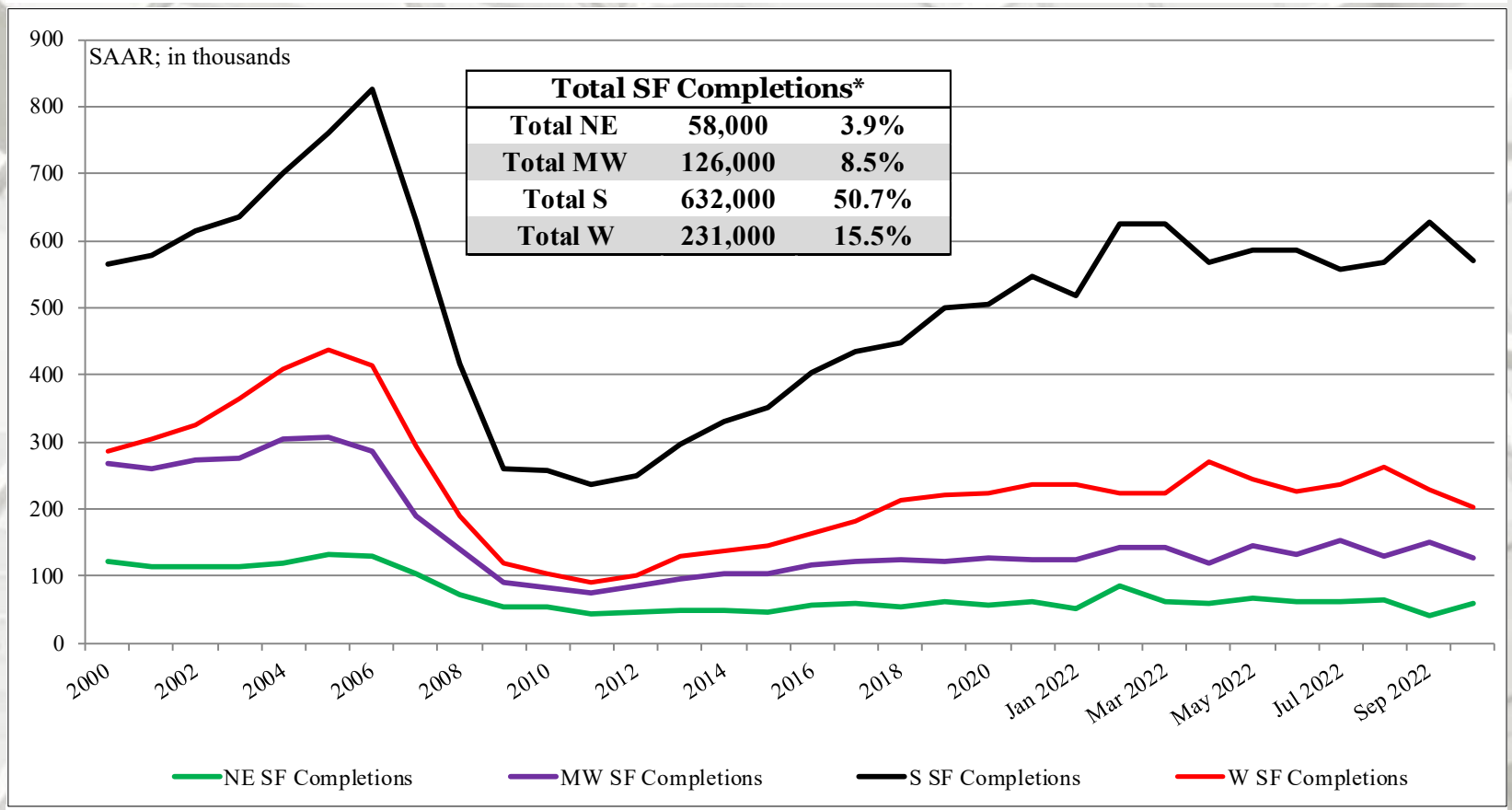
All data are SAAR; NE = Northeast and MW = Midwest; S = South, W = West

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

SF Housing Completions by Region



Total SF Completions*		
Total NE	58,000	3.9%
Total MW	126,000	8.5%
Total S	632,000	50.7%
Total W	231,000	15.5%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

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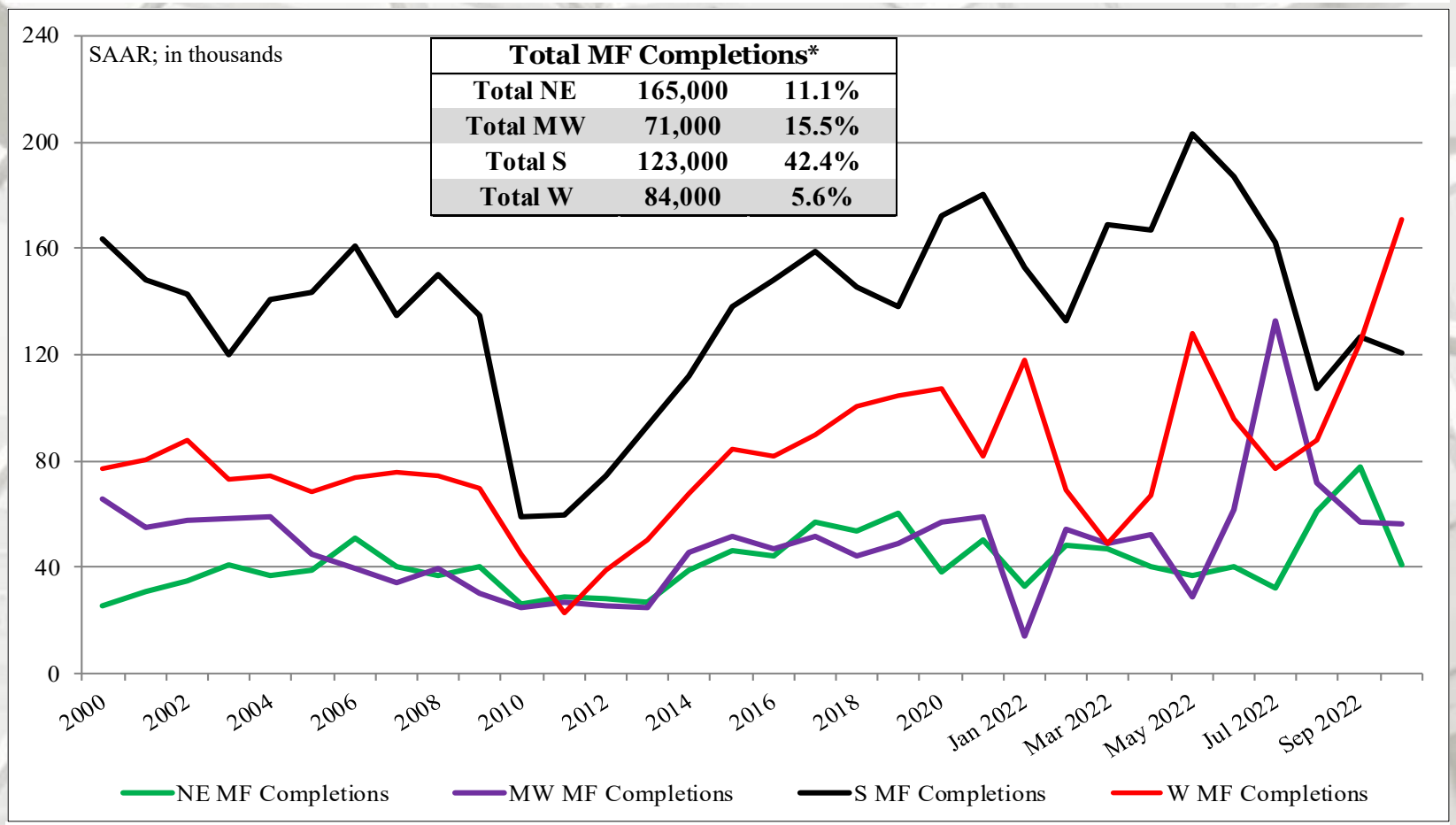
MF Housing Completions by Region



Total MF Completions*		
Total NE	165,000	11.1%
Total MW	71,000	15.5%
Total S	123,000	42.4%
Total W	84,000	5.6%

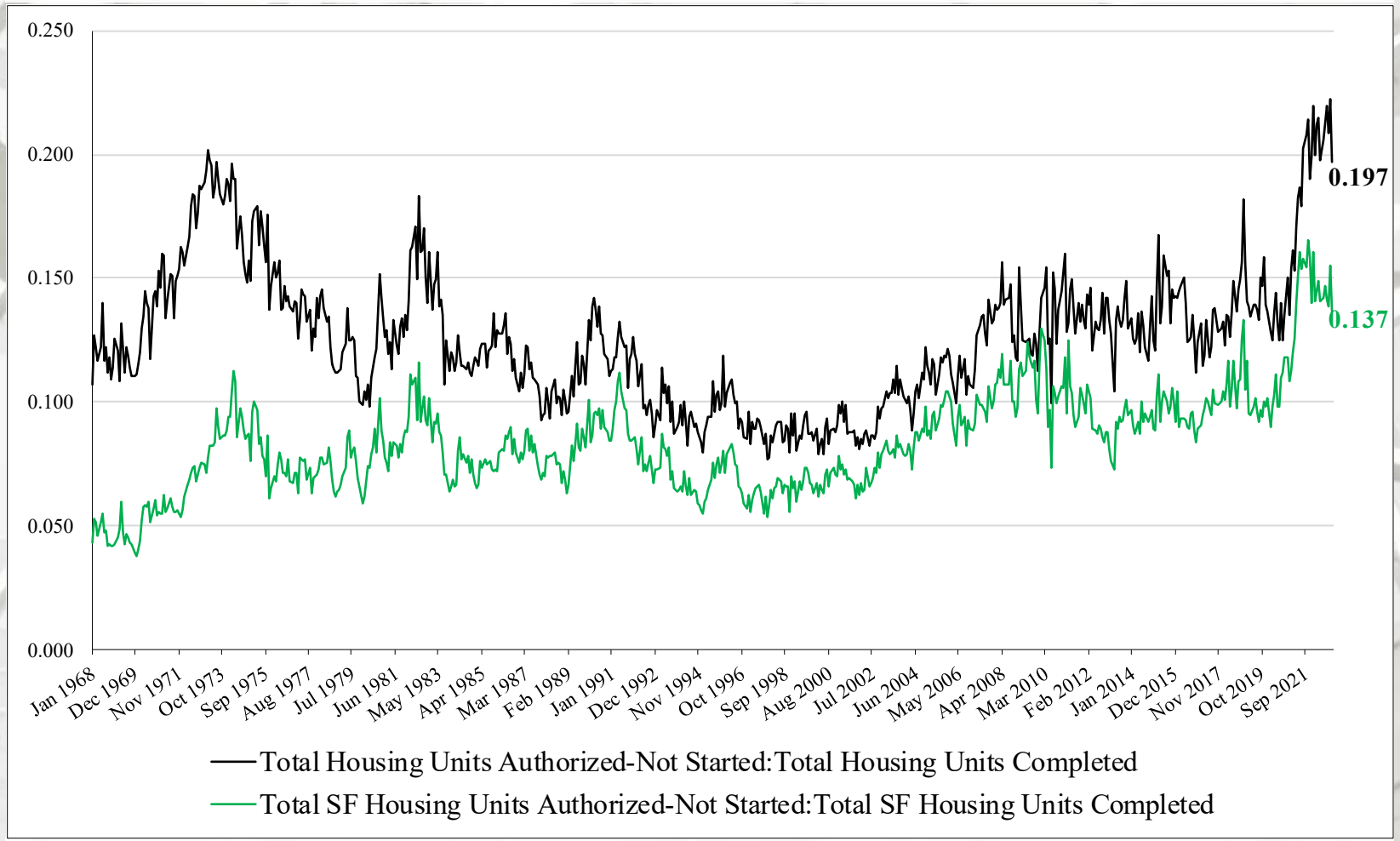
NE = Northeast, MW = Midwest, S = South, W = West
US DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions – SF completions).

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

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



Authorized, Not Started vs. Housing Completions

Total authorized units "not" started decreased to 293,000 in November and SF authorized units "not" started increased to 143,000 in November.

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

Sources: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/20/22

Return TOC

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
November	640,000	$471,200	$543,600	8.6
October	605,000	$484,700	$533,400	9.3
2021	756,000	$430,300	$498,800	6.2
M/M change	5.8%	-2.8%	1.9%	-7.5%
Y/Y change	-15.3%	9.5%	9.0%	38.7%

* All new sales data are presented at a seasonally adjusted annual rate (SAAR)[1] and housing prices are adjusted at irregular intervals[2].

New SF sales were more than the consensus forecast[3] of 600 m (range: 550 m to 632 m). The past three month's new SF sales data also were revised:

August initial: 685 m, revised to 646 m.
September initial: 603 m, revised to 559 m.
October initial: 511 m, revised to 605 m.

Sources: [1] https://www.census.gov/construction/nrs/index.html; 6/24/21; [2] https://www.census.gov/construction/nrs/pdf/newressales.pdf; 12/23/22
[3] http://us.econoday.com; 12/23/22

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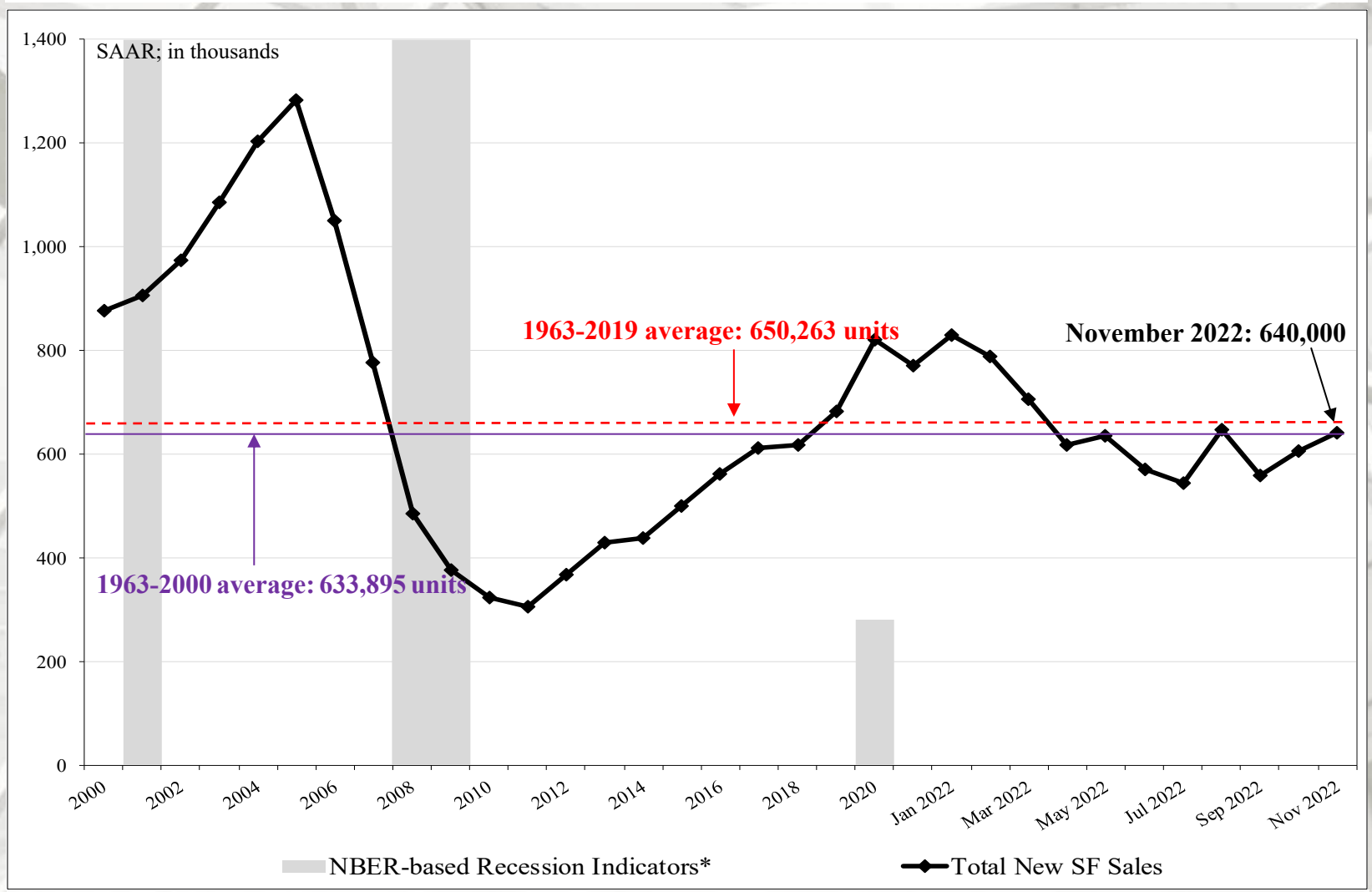
New SF House Sales



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

Sources: https://fred.stlouisfed.org/series/USREC, 6/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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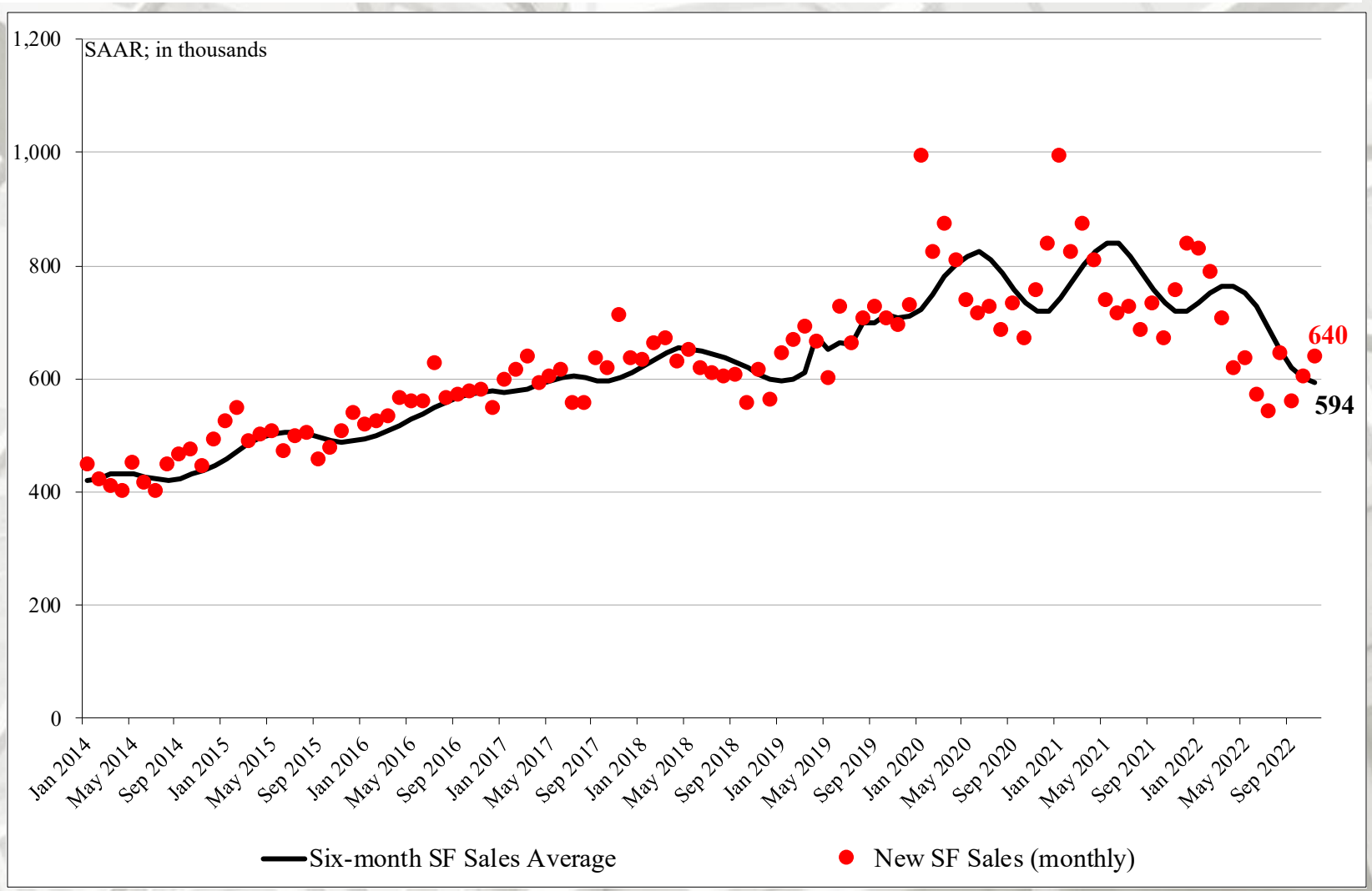
New SF Housing Sales: Six-month average & monthly



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22.

Return TOC

New SF House Sales by Region and Price Category

	NE	MW	S	W
November	43,000	57,000	369,000	171,000
October	47,000	47,000	377,000	134,000
2021	34,000	55,000	434,000	233,000
M/M change	-8.5%	21.3%	-2.1%	27.6%
Y/Y change	26.5%	3.6%	-15.0%	-26.6%

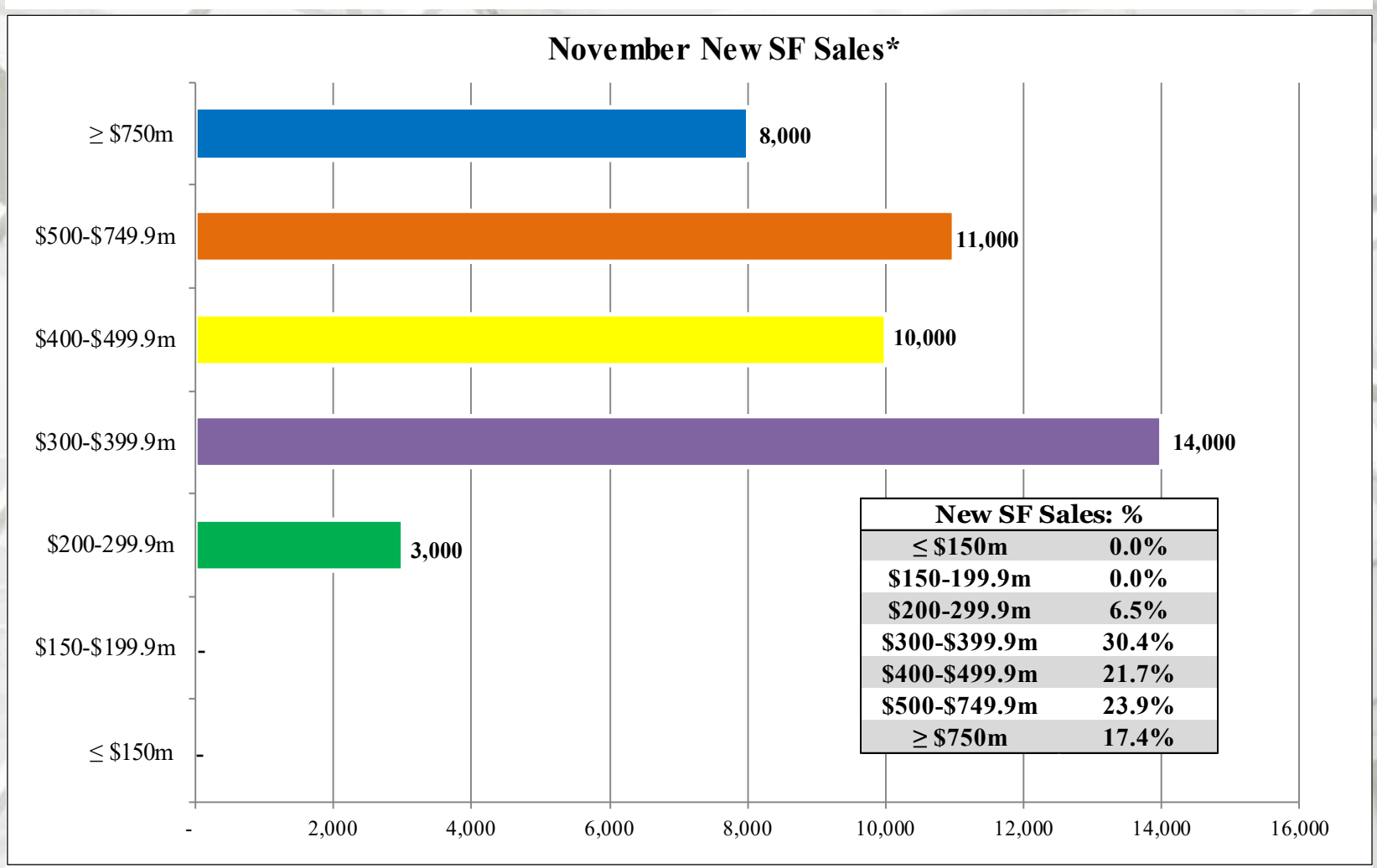
	≤ $150m	$150 - $199.9m	$200 - 299.9m	$300 - $399.9m	$400 - $499.9m	$500 - $749.9m	≥ $750m
November[1,2,3,4]	0	0	3,000	14,000	10,000	11,000	8,000
October	500	500	6,000	9,000	9,000	15,000	6,000
2021	500	500	6,000	16,000	13,000	13,000	6,000
M/M change	0.0%	0.0%	50.0%	-25.0%	-10.0%	25.0%	0.0%
Y/Y change	-50.0%	0.0%	-25.0%	-30.8%	-30.8%	36.4%	0.0%
New SF sales: %	0.0%	0.0%	6.5%	30.4%	21.7%	23.9%	17.4%

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 November 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; 12/23/22;
[4]https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

Return TOC

New SF House Sales



New SF Sales: %	
≤ $150m	0.0%
$150-199.9m	0.0%
$200-299.9m	6.5%
$300-$399.9m	30.4%
$400-$499.9m	21.7%
$500-$749.9m	23.9%
≥ $750m	17.4%

* Total new sales by price category and percent.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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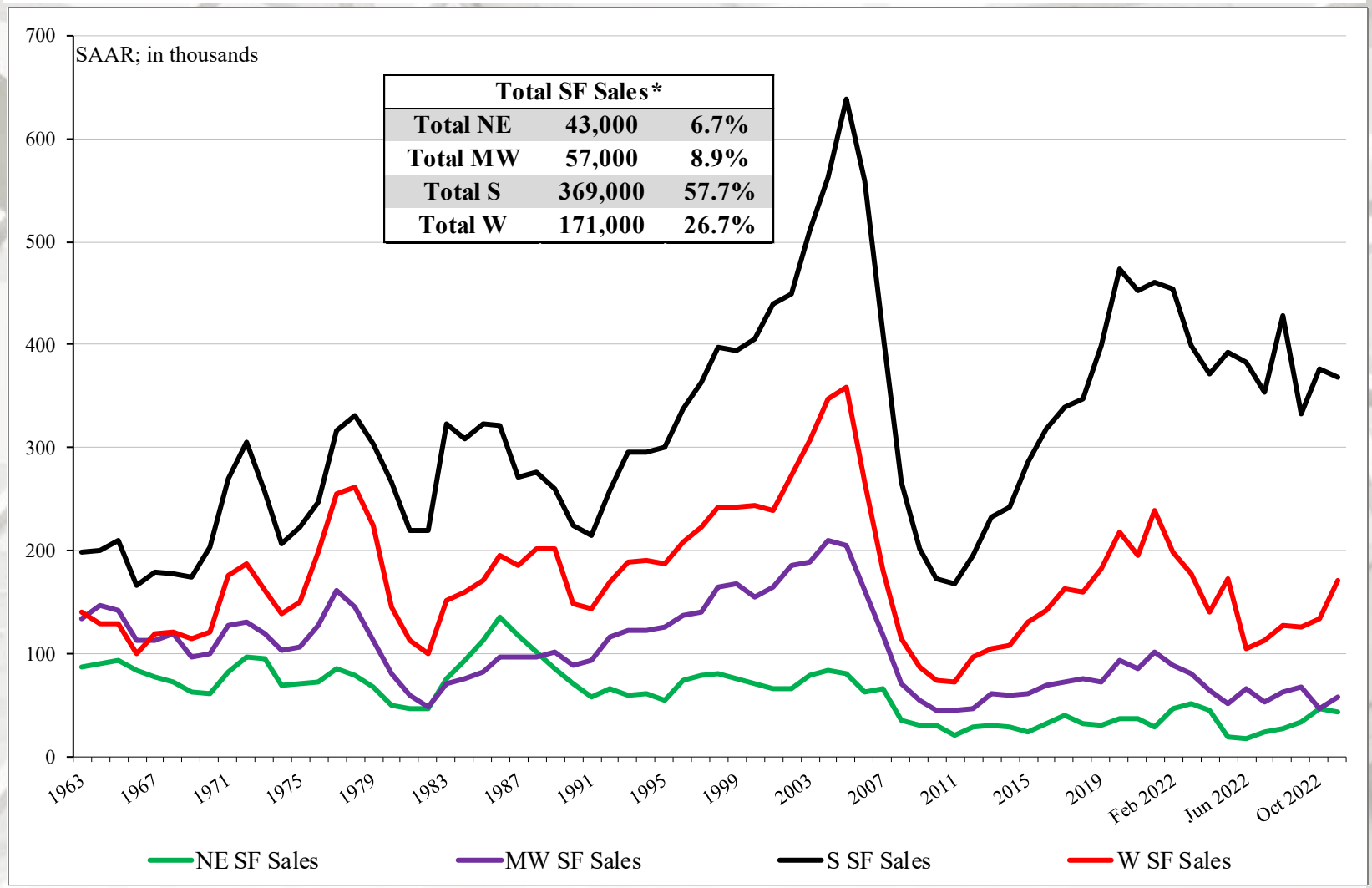
New SF House Sales by Region



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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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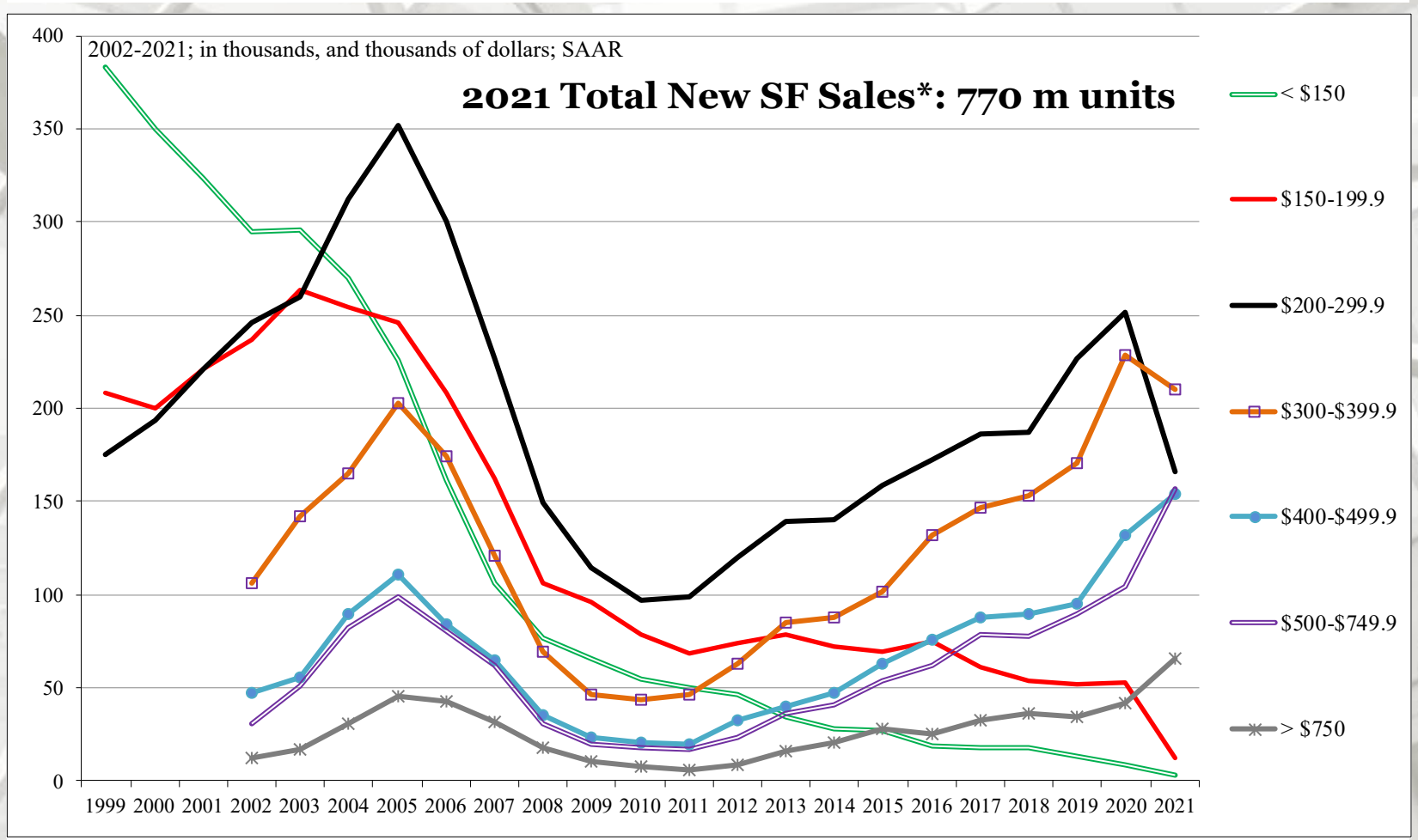
New SF House Sales by Price Category



* Sales tallied by price category, nominal dollars.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 3/24/21

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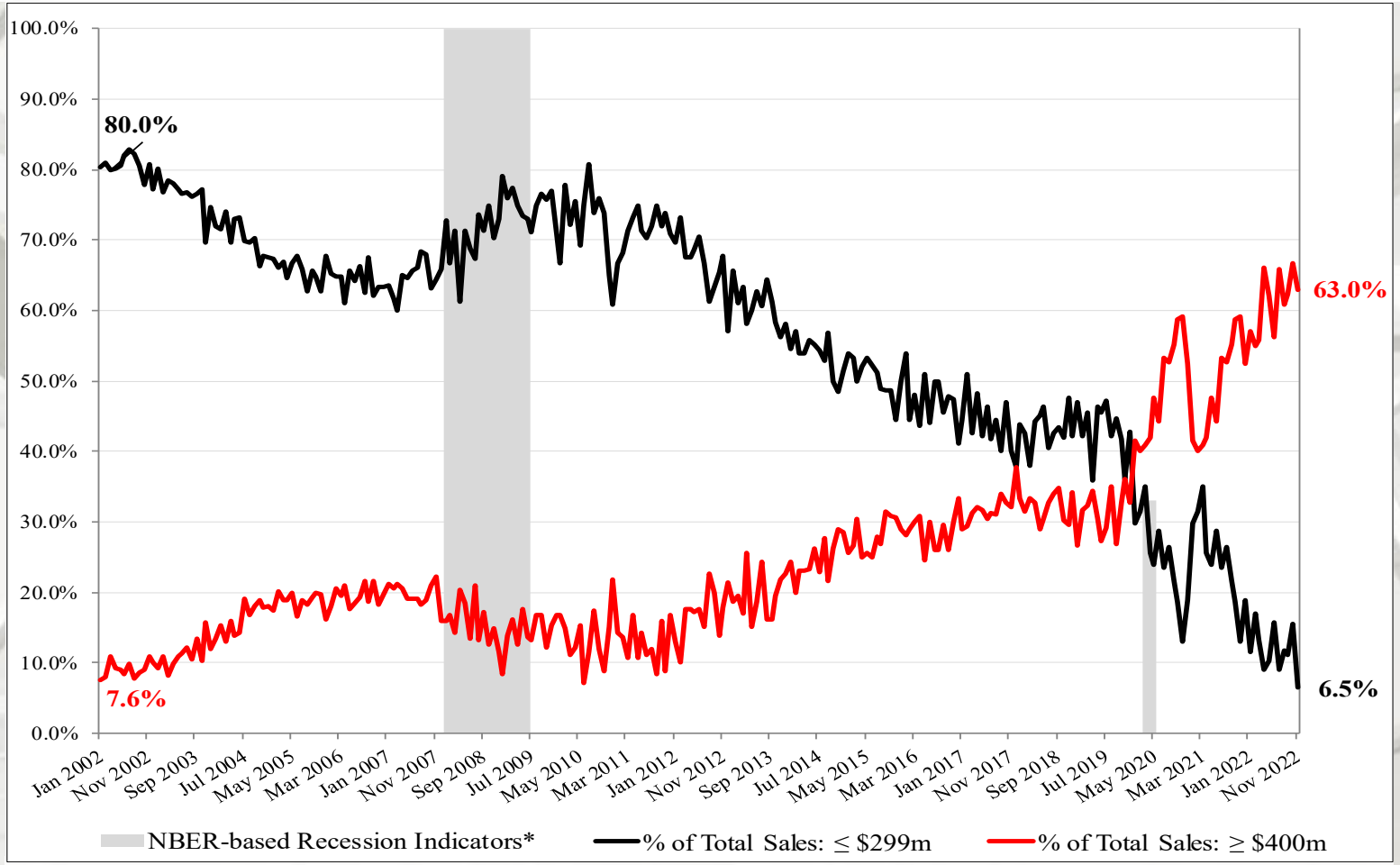
New SF House Sales



* 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 – November 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.

Source: [1] https://www.census.gov/construction/nrs/index.html; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 12/23/22

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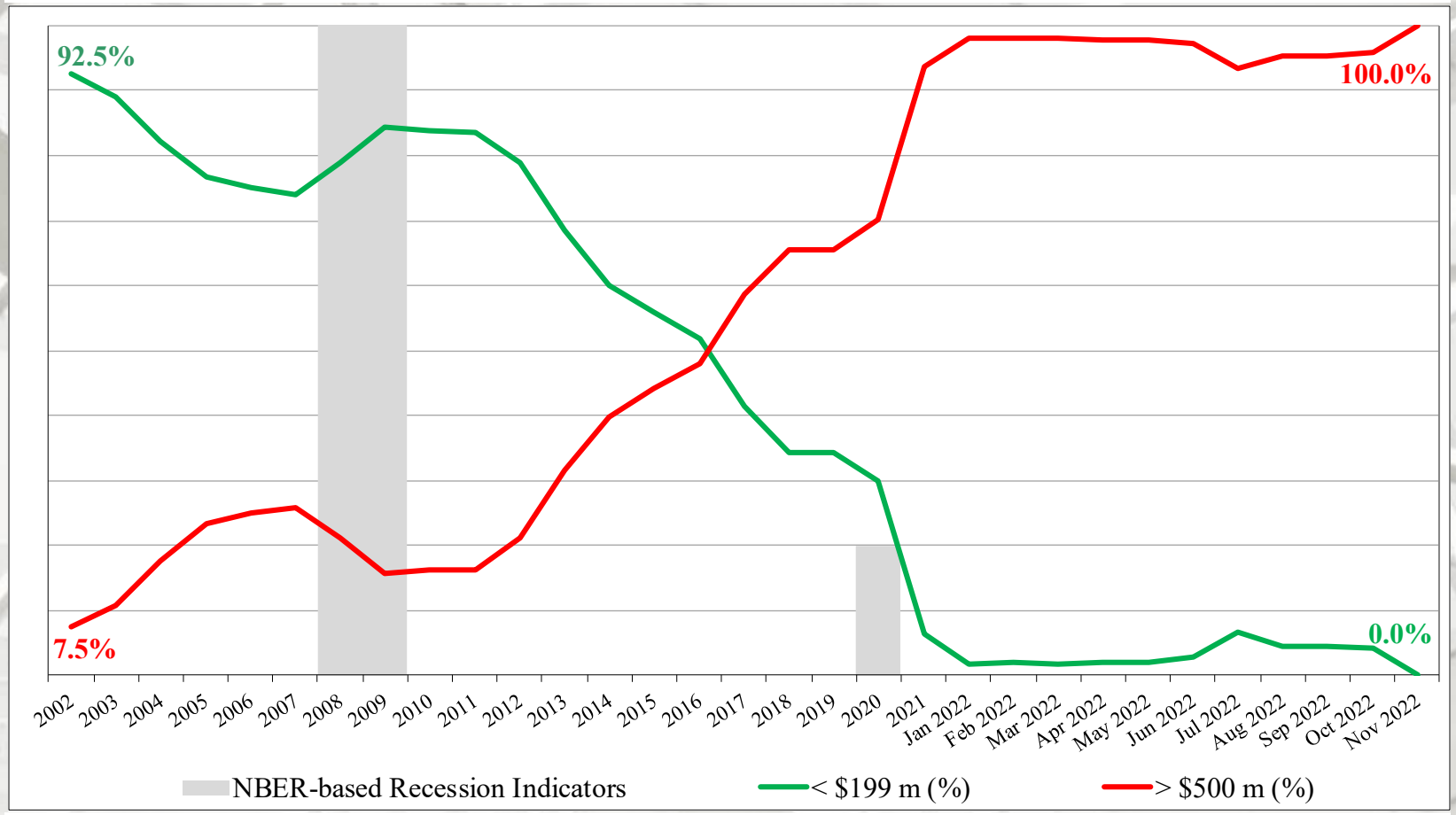
New SF House Sales



New SF Sales: ≤ $ 200m and ≥ $500m: 2002 to November 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).

Source: [1] https://www.census.gov/construction/nrs/index.html; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 12/23/22

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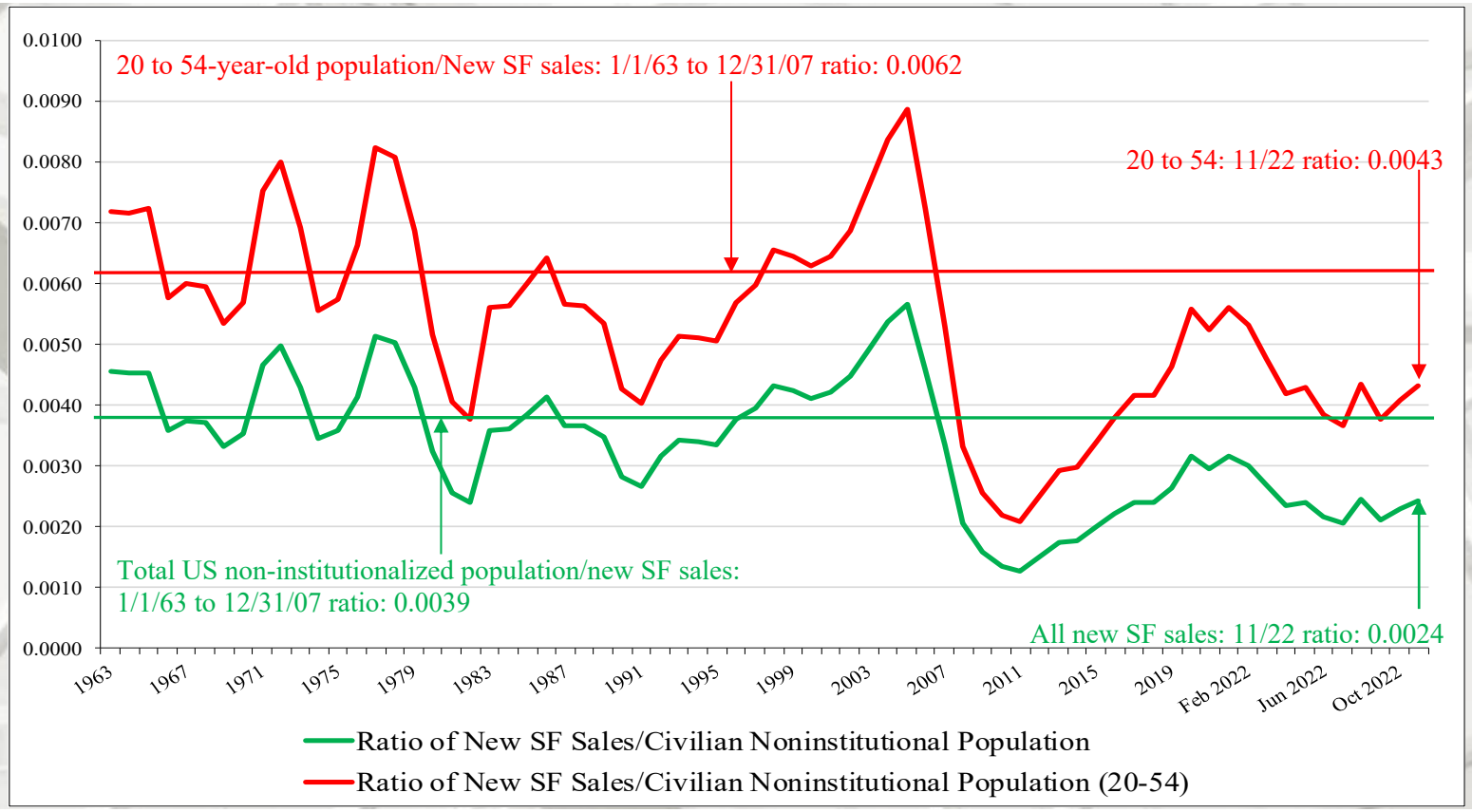
New SF House Sales



New SF sales adjusted for the US population

From November 1963 to November 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in November 2022 it was 0.0024 – an increase from August (0.0023). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in November 2022 it was 0.0043 – also an improvement from August (0.0041). 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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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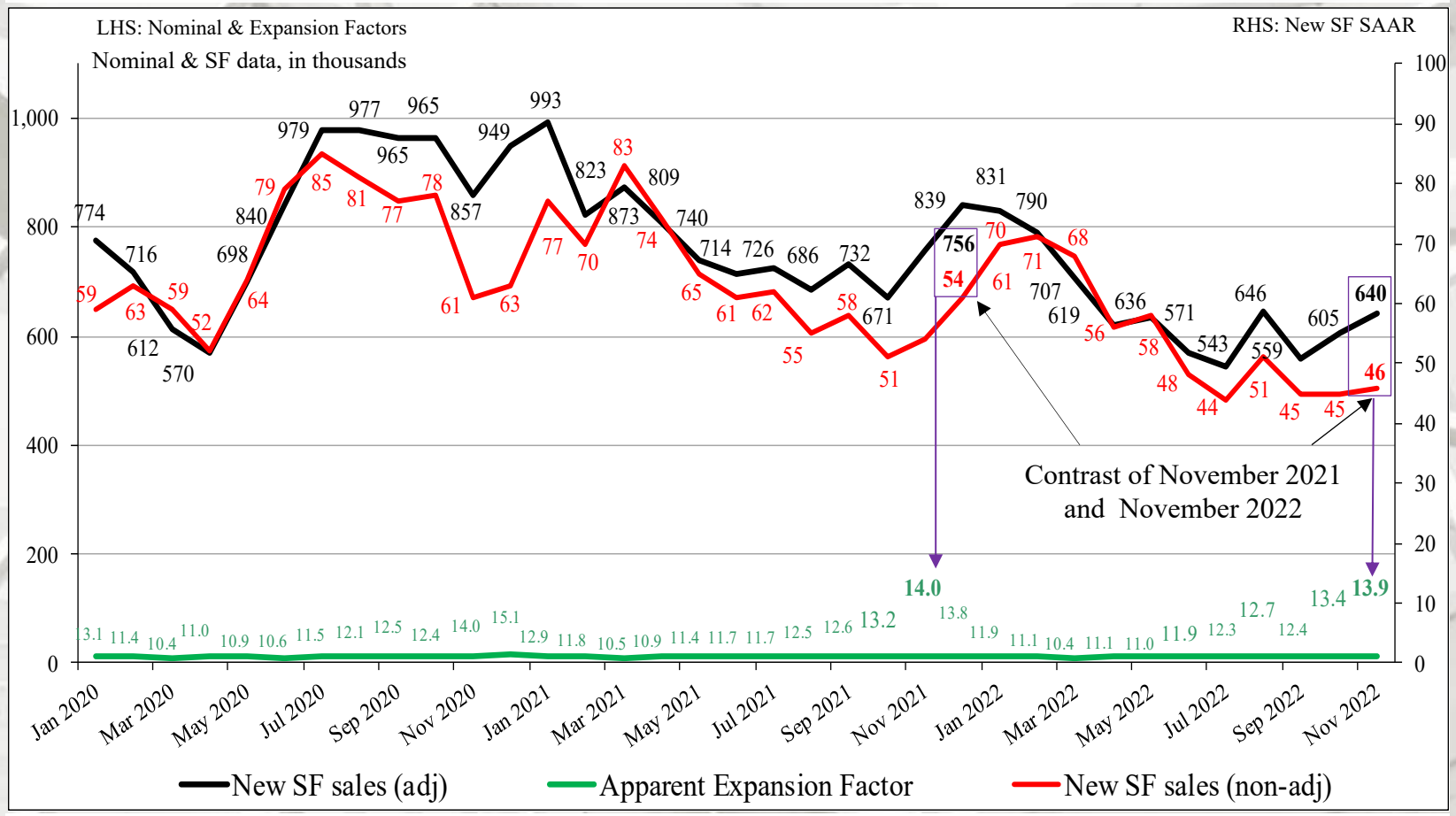
Nominal vs. SAAR New SF House Sales



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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

Return TOC

New SF House Sales

New SF Houses Sold During Period				
	Total	Not started	Under Construction	Completed
November	640,000	176,000	280,000	184,000
October	605,000	120,000	275,000	210,000
2021	756,000	181,000	392,000	183,000
M/M change	5.8%	46.7%	1.8%	-12.4%
Y/Y change	-15.3%	-2.8%	-28.6%	0.5%
Total percentage		27.5%	43.8%	28.8%

SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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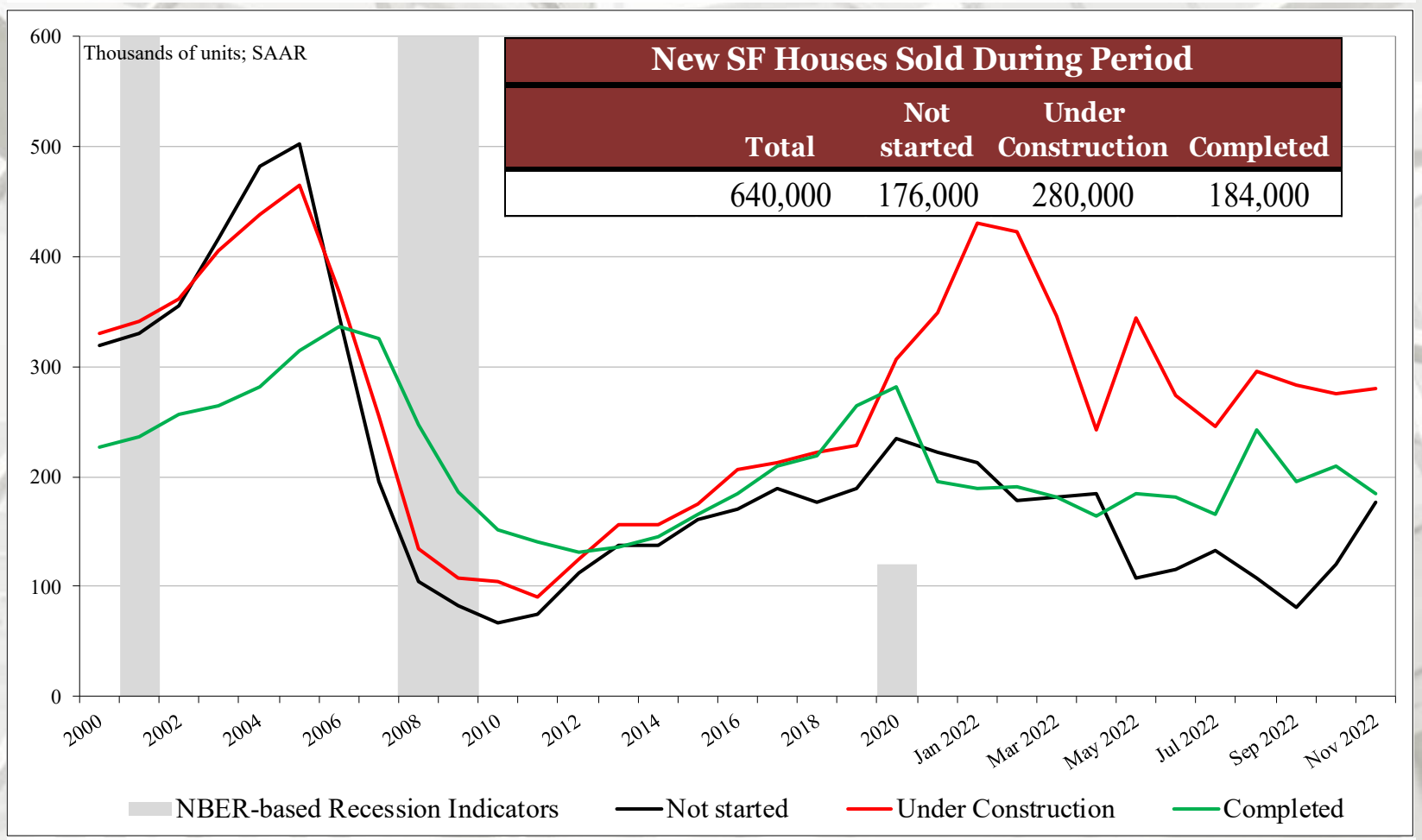
New SF House Sales: Sold During Period



New SF Houses Sold During Period			
Total	Not started	Under Construction	Completed
640,000	176,000	280,000	184,000

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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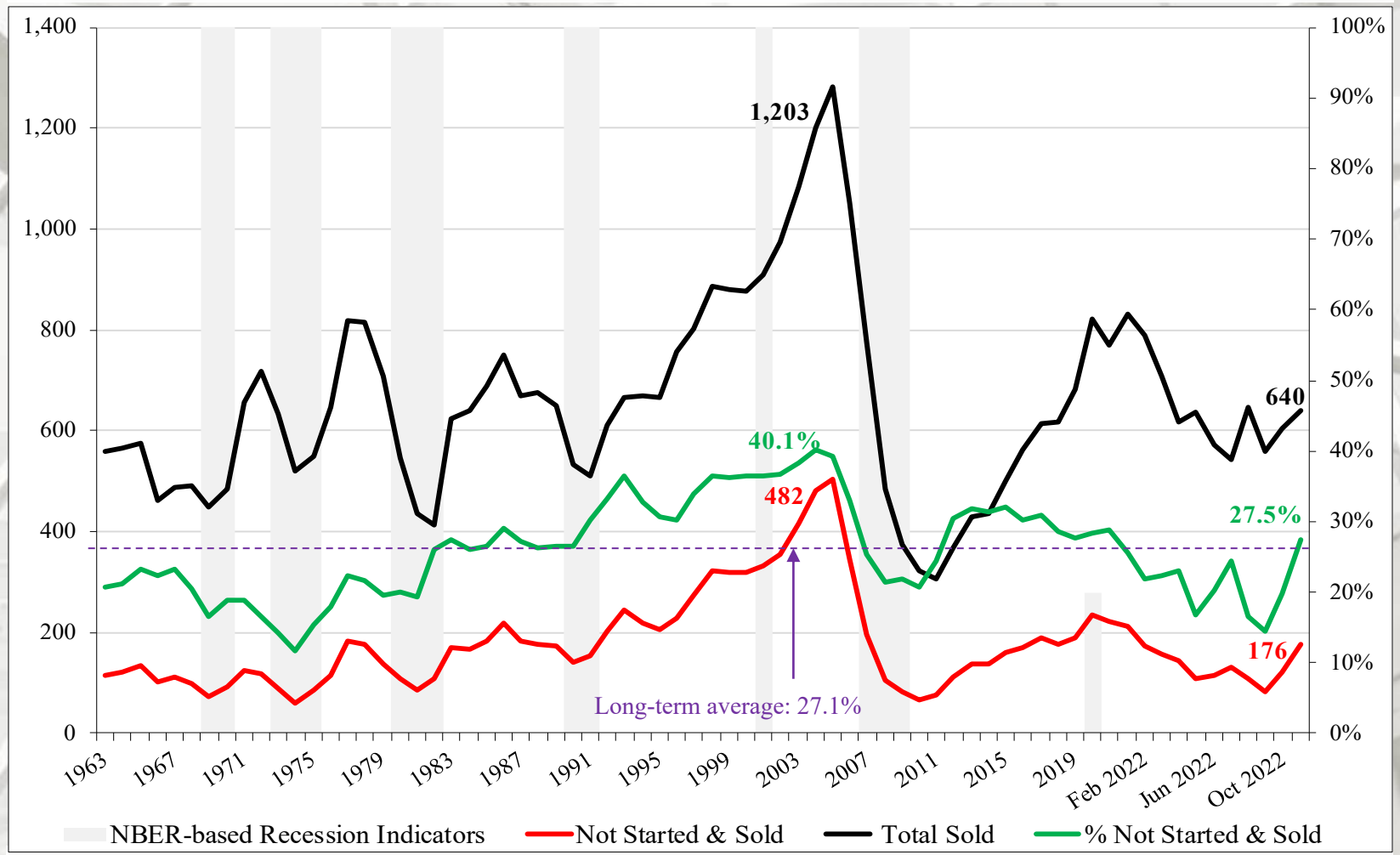
, not-SAAR

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



Of the new houses sold in November (640 m), 28.7% (184 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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

Return TOC

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
November	461,000	107,000	290,000	64,000
October	469,000	108,000	302,000	59,000
2021	390,000	95,000	261,000	34,000
M/M change	-1.7%	-0.9%	-4.0%	8.5%
Y/Y change	18.2%	12.6%	11.1%	88.2%
Total percentage		23.2%	62.9%	13.9%

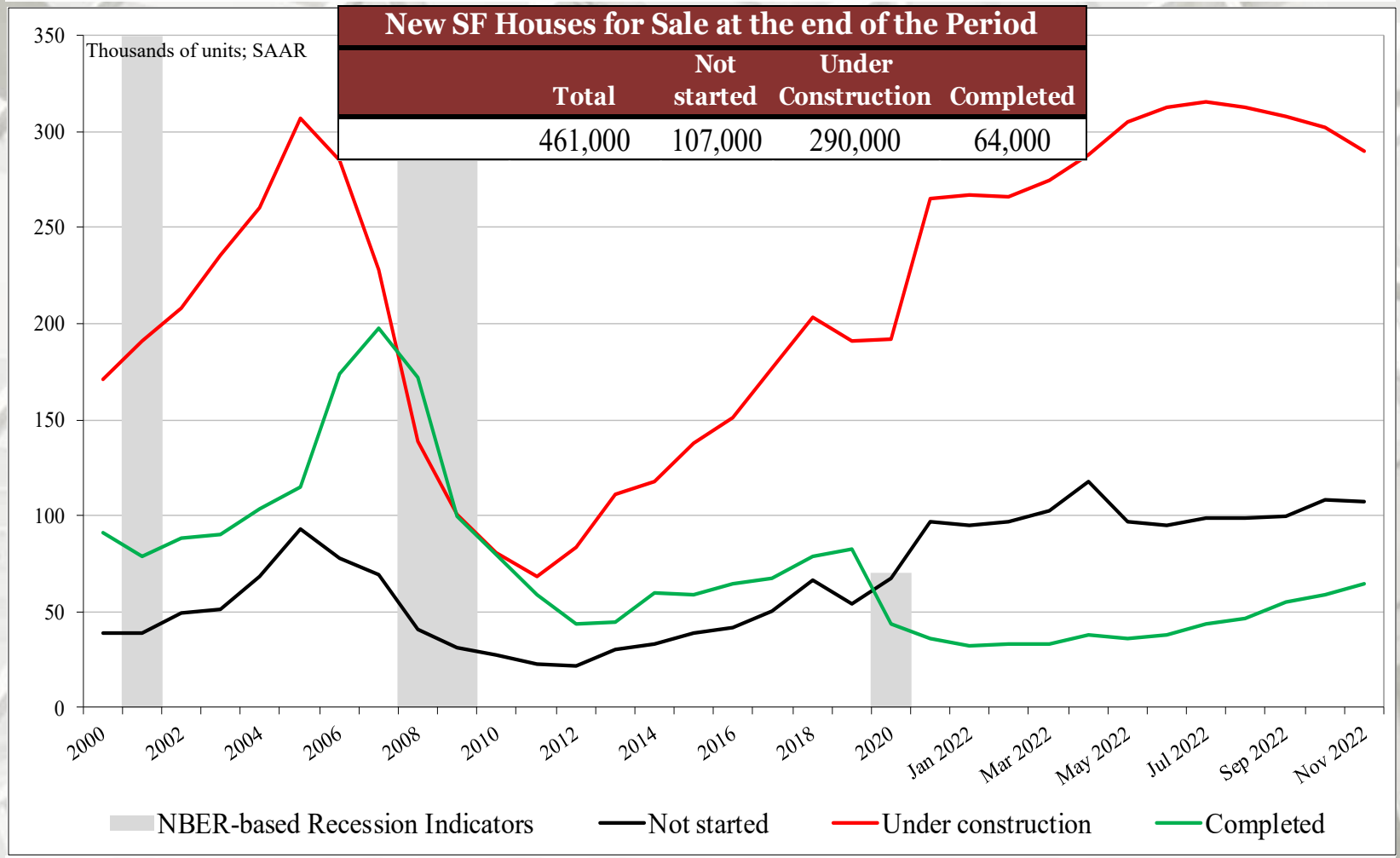
Not SAAR

Of houses listed for sale (461 m) in November, 13.8% (64 m) have been built. In the 'ground had not been broken for construction' or 'not started' category, 107 m (23.2%) were sold.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

Return TOC

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).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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New SF House Sales

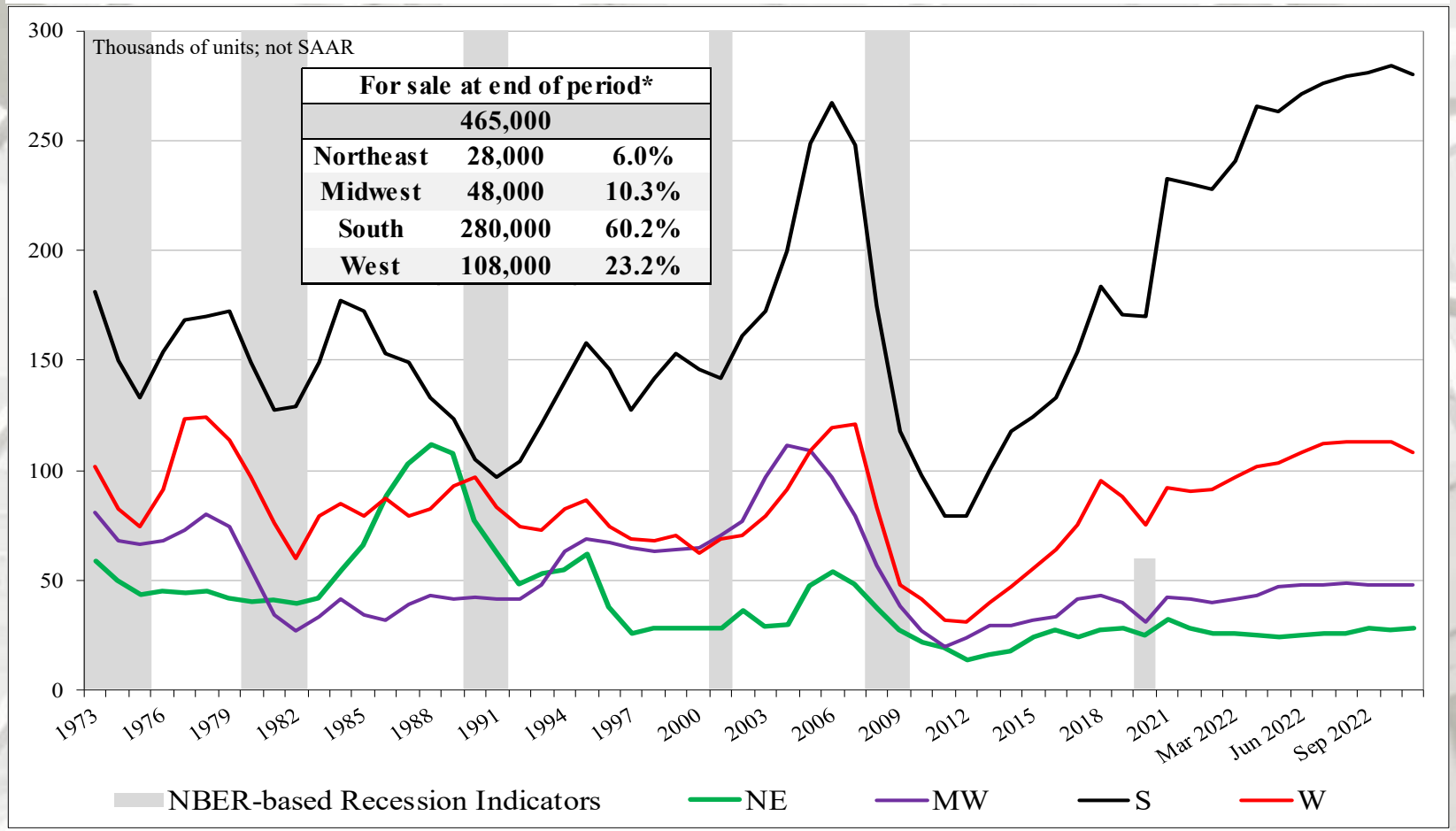
New SF Houses for Sale at the end of the Period by Region*					
	Total	NE	MW	S	W
November	465,000	28,000	48,000	280,000	108,000
October	473,000	27,000	48,000	284,000	113,000
2021	394,000	29,000	40,000	230,000	95,000
M/M change	-1.7%	3.7%	0.0%	-1.4%	-4.4%
Y/Y change	18.0%	-3.4%	20.0%	21.7%	13.7%

* Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

Return TOC

New SF Houses for Sale at End of Period by Region

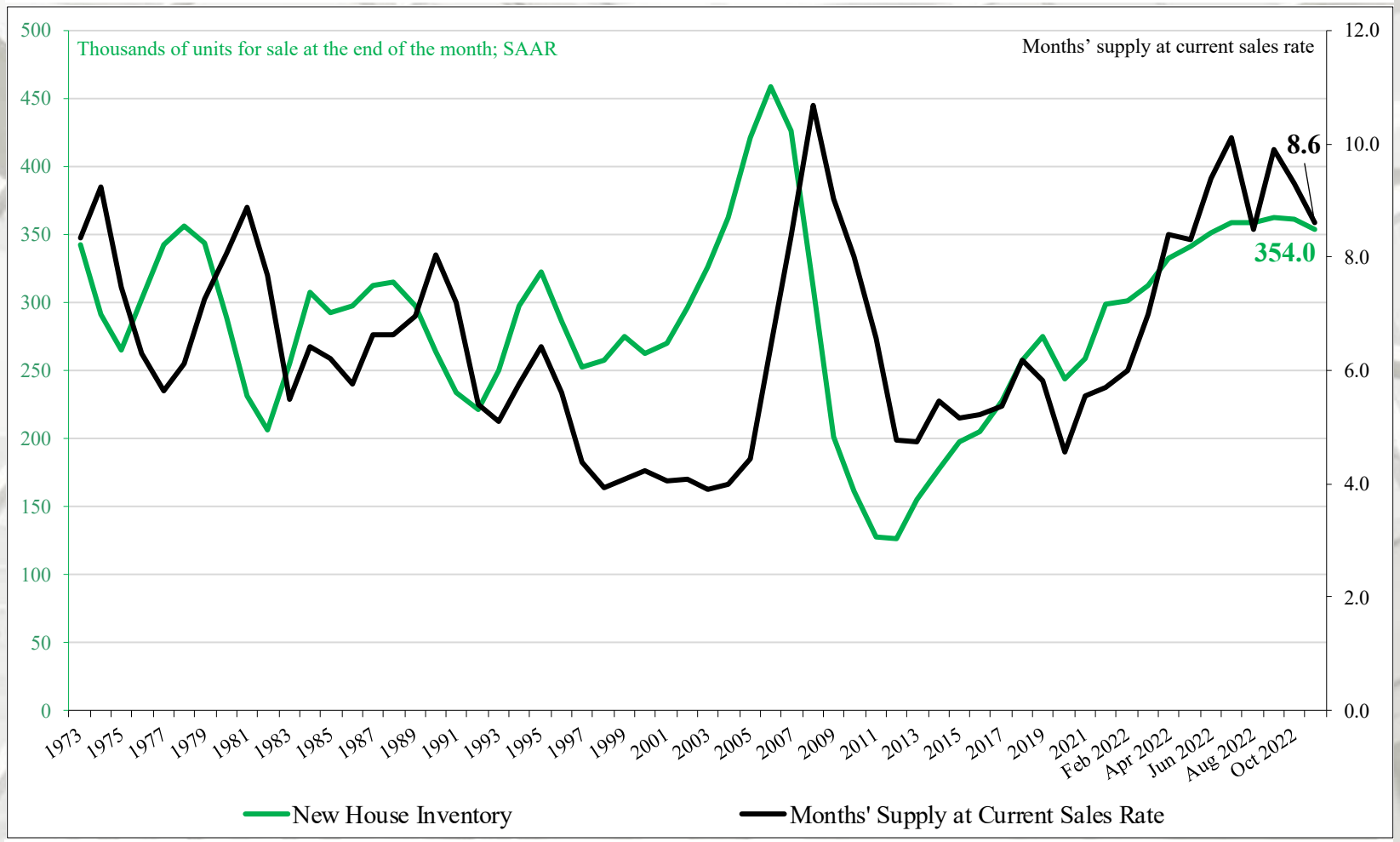


NE = Northeast; MW = Midwest; S = South; W = West
* Percentage of new SF sales.
NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

Return TOC

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 8.9 at the end of November 2022 (SAAR).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 12/23/22

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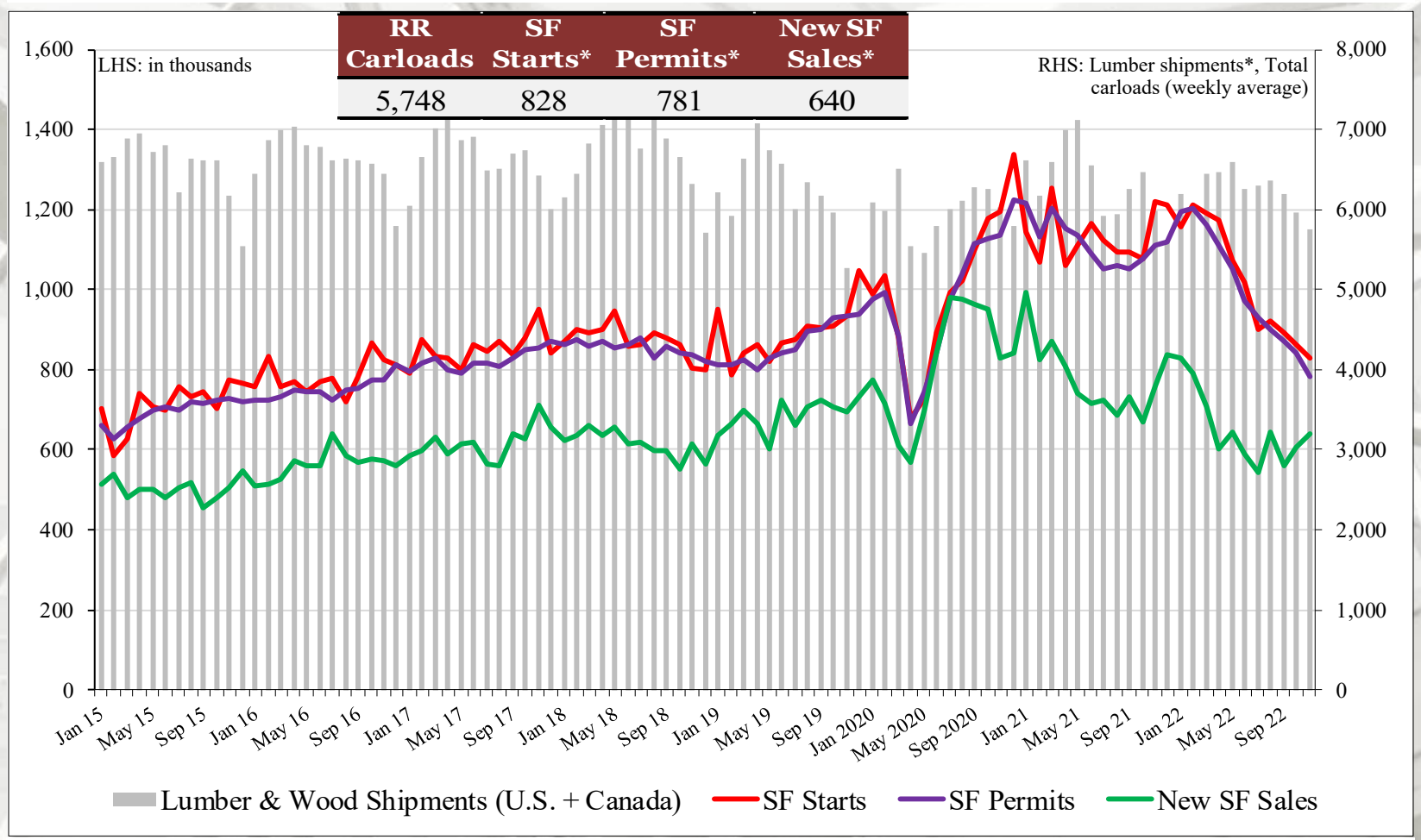
U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



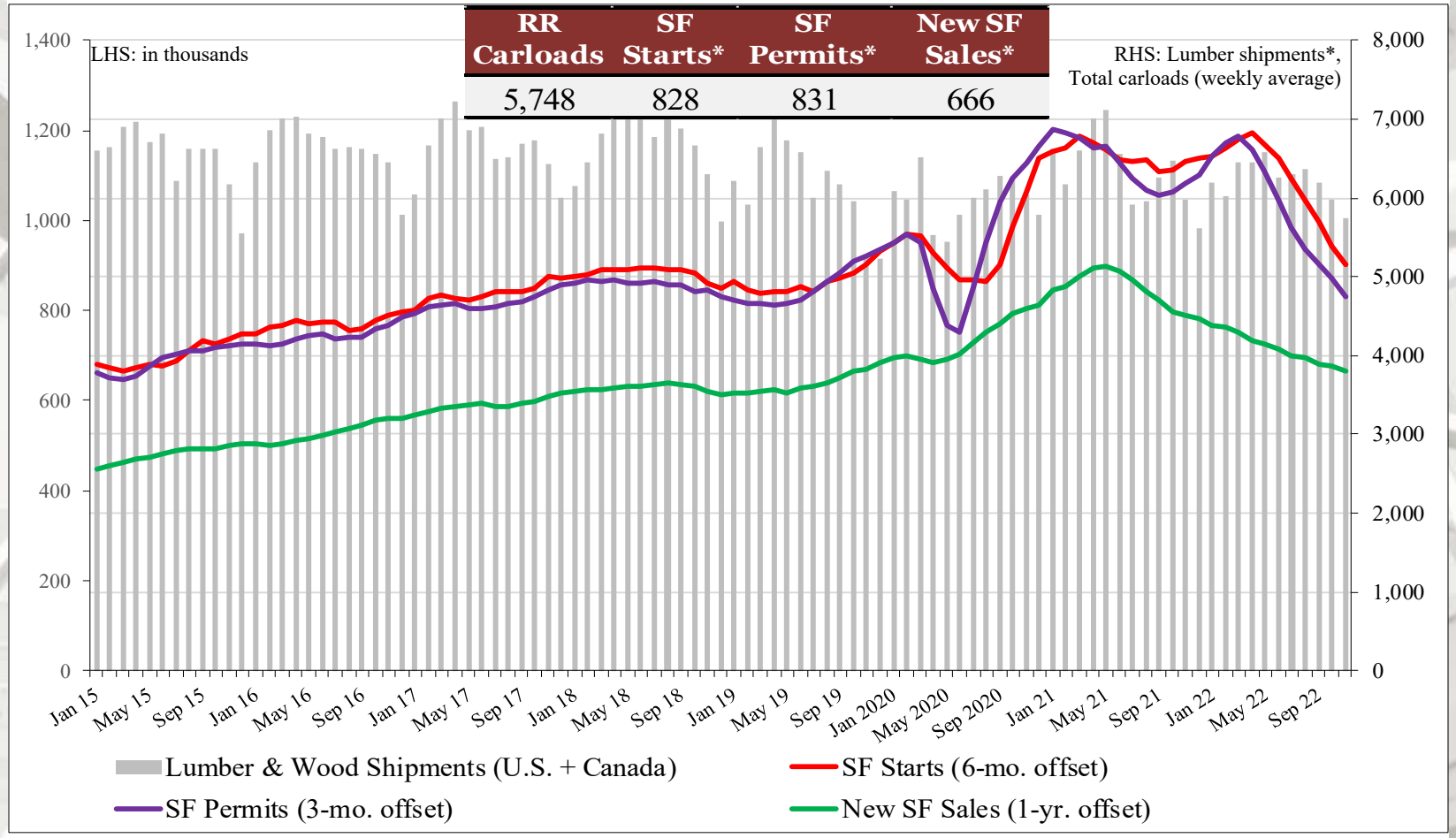
Carloads of Canadian + U.S. lumber and wood shipments to the U.S. are contrasted above to U.S. housing metrics. Annual SF starts, SF Permits, and New sales are compared to total carload lumber and wood shipments. The intent is to discern if lumber shipments relate to future SF starts, SF permits, and 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

Sources: *Association of American Railroads, *Rail Time Indicators* report-November 2022; http://www.census.gov/construction/; 12/20/22 & 12/23/22

Return TOC

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.

Sources: *Association of American Railroads, *Rail Time Indicators* report-November 2022; http://www.census.gov/construction/; 12/20/22; & 12/23/22

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November 2022 Construction Spending

	Total Private Residential*	SF	MF	Improvement**
September	$868,039	$394,929	$110,155	$362,955
October	$872,444	$406,684	$107,617	$358,143
2021	$824,006	$439,999	$99,486	$284,521
M/M change	-0.5%	-2.9%	2.4%	1.3%
Y/Y change	5.3%	-10.2%	10.7%	27.6%

* 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.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/23

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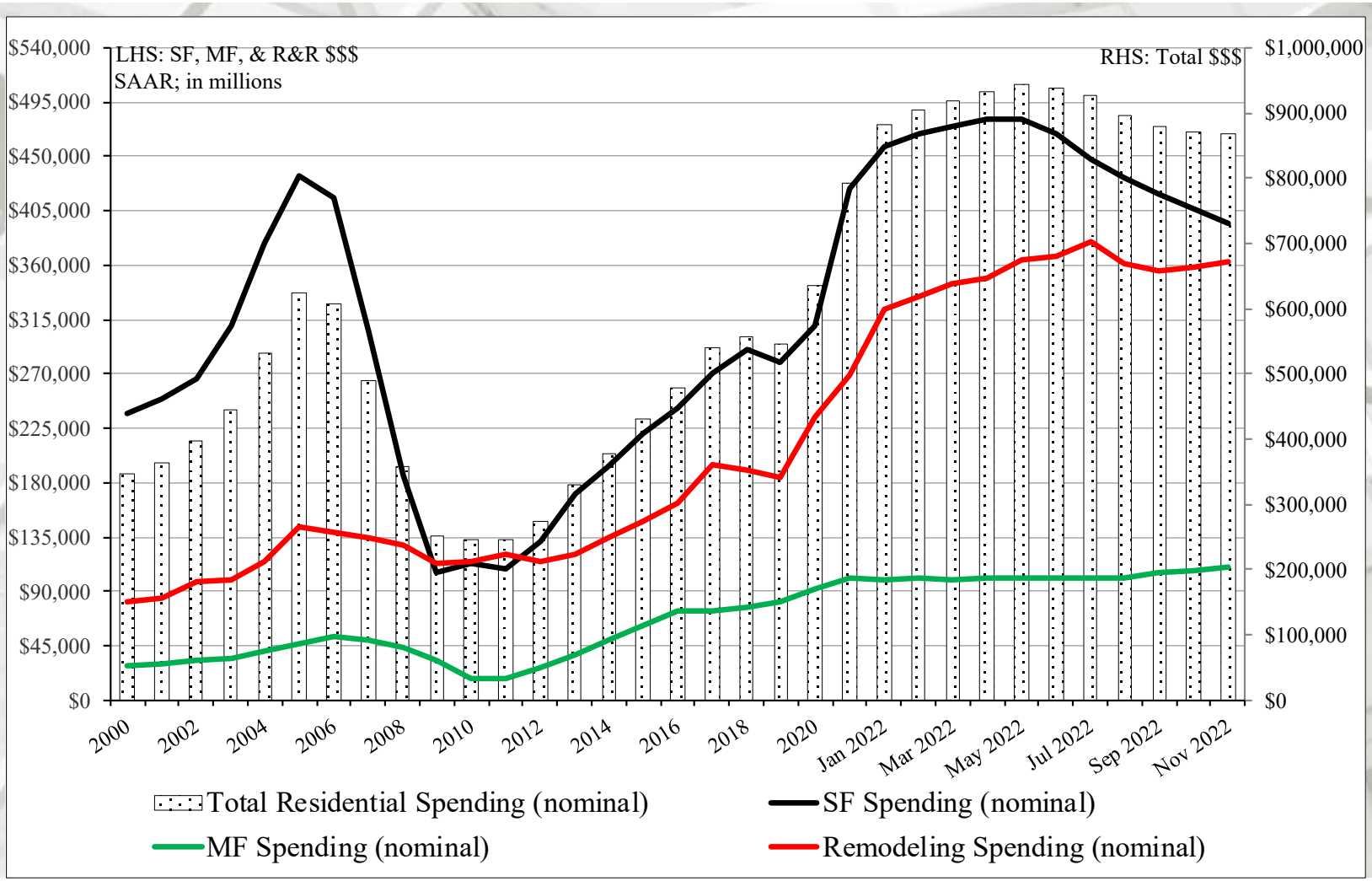
Total Construction Spending (nominal): 2000 – November 2022



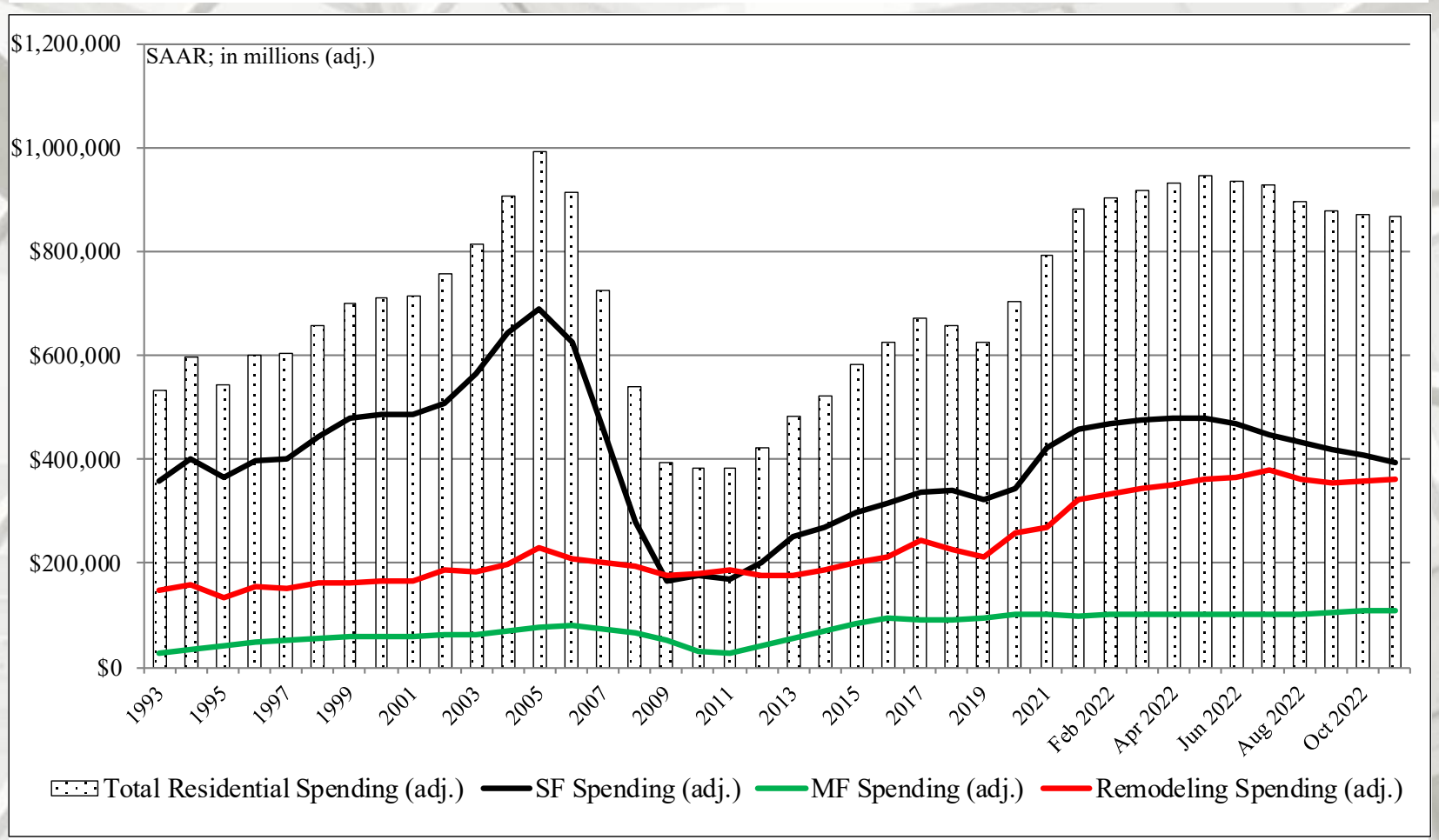
Reported in nominal US$.

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

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/23

Return TOC

Total Construction Spending (adjusted): 1993 – November 2022



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

Sources: * http://www.bea.gov/iTable/iTable.cfm; 9/30/22; http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/23

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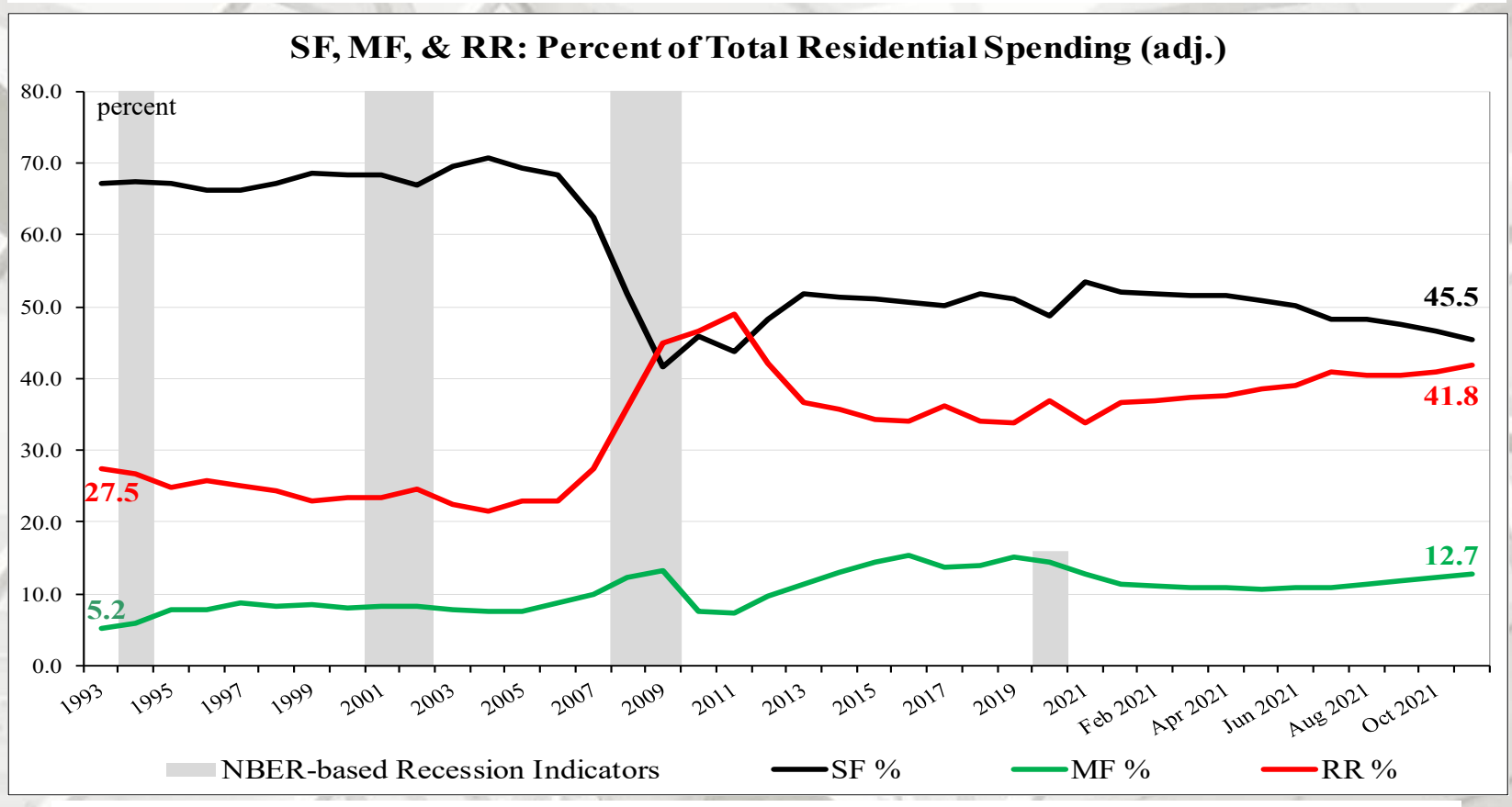
Construction Spending Shares: 1993 – November 2022



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); November 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; 1/3/23 and http://www.bea.gov/iTable/iTable.cfm; 9/30/22

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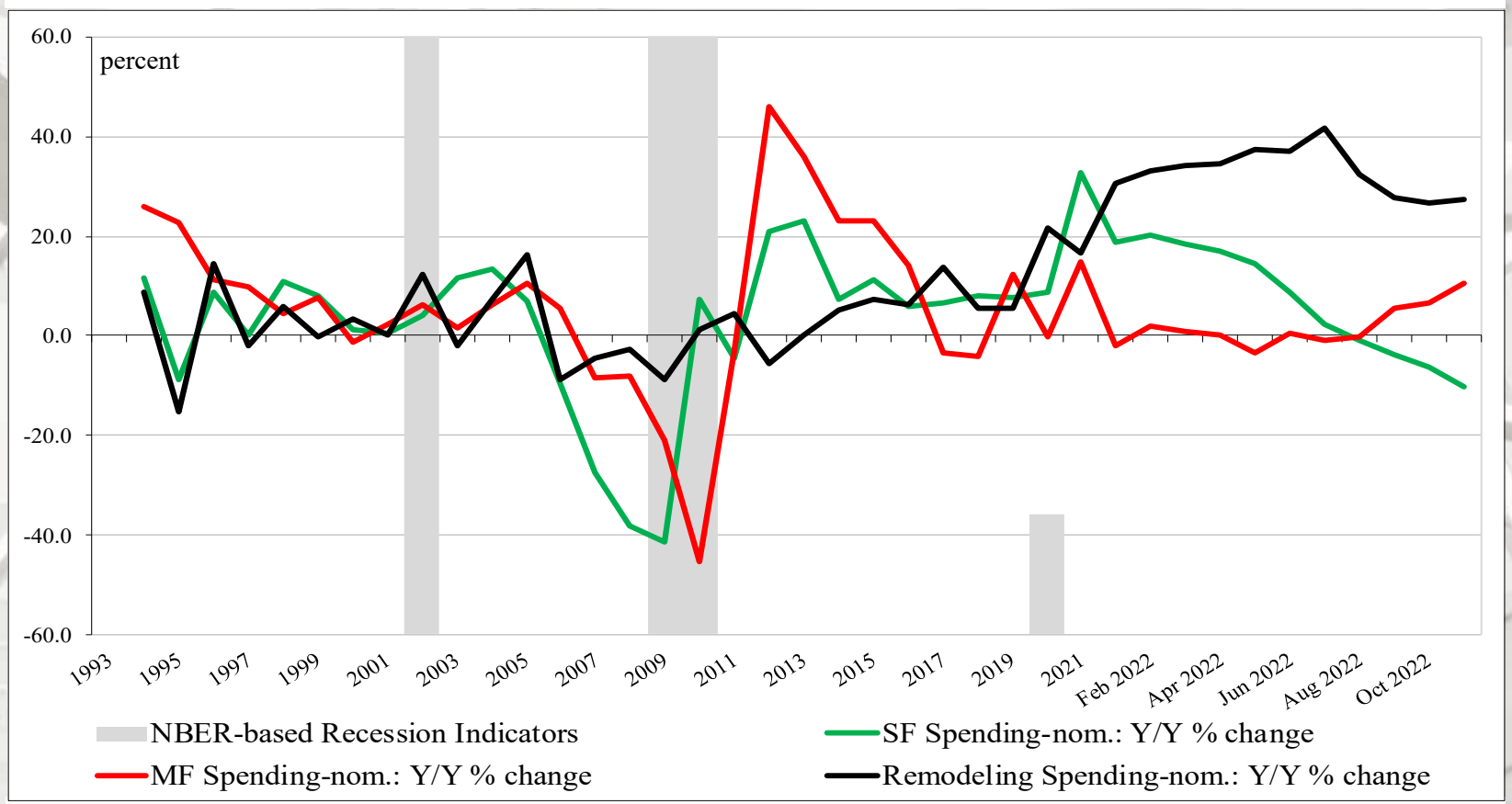
Adjusted Construction Spending: Y/Y Percentage Change, 1993 – November 2022



Nominal Residential Construction Spending: Y/Y percentage change, 1993 to November 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 (November 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; 1/3/23 and http://www.bea.gov/iTable/iTable.cfm; 9/30/22

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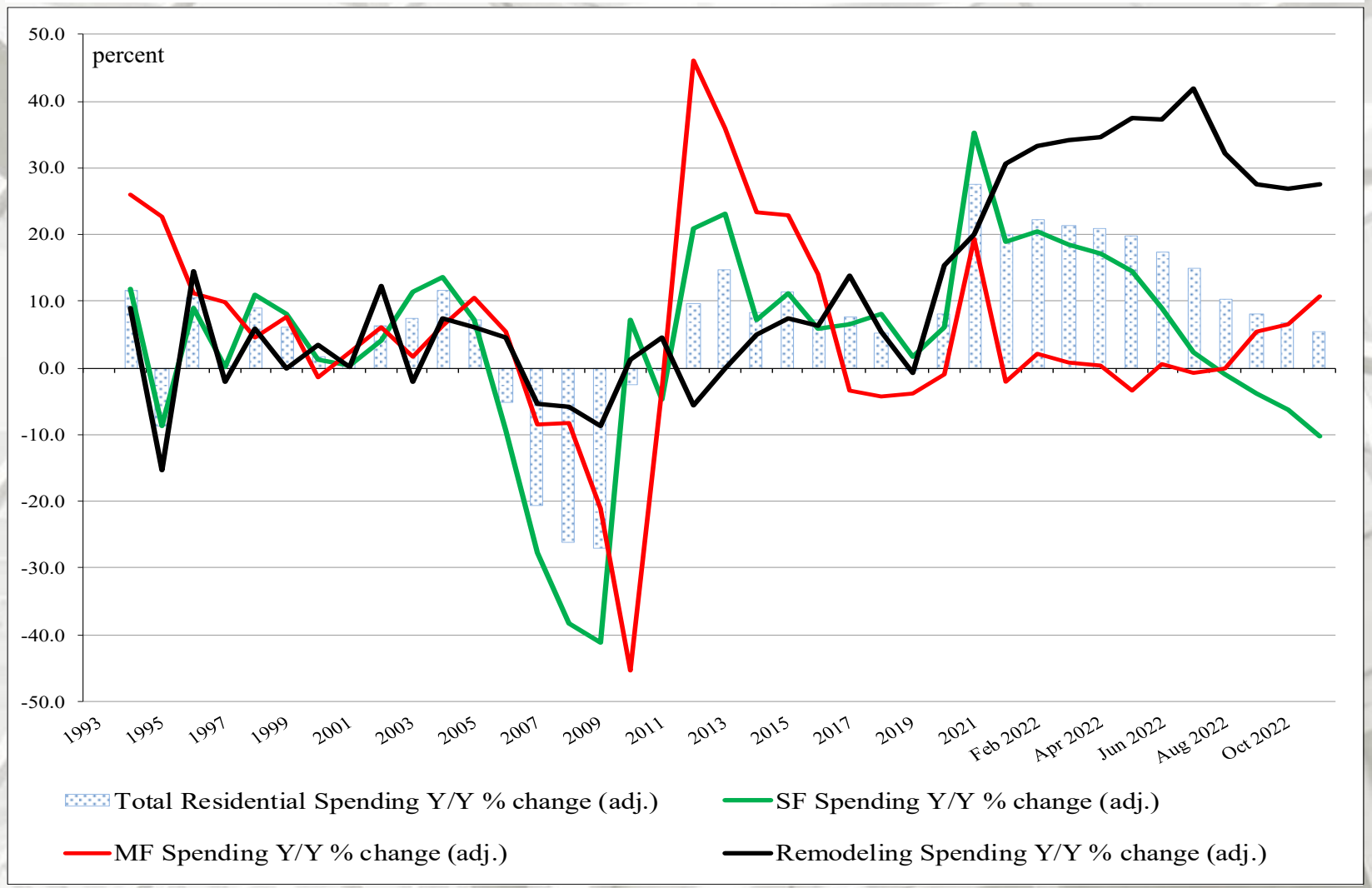
Adjusted Construction Spending: Y/Y Percentage Change, 1993 – November 2022



Sources: http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/23 and http://www.bea.gov/iTable/iTable.cfm; 9/30/22

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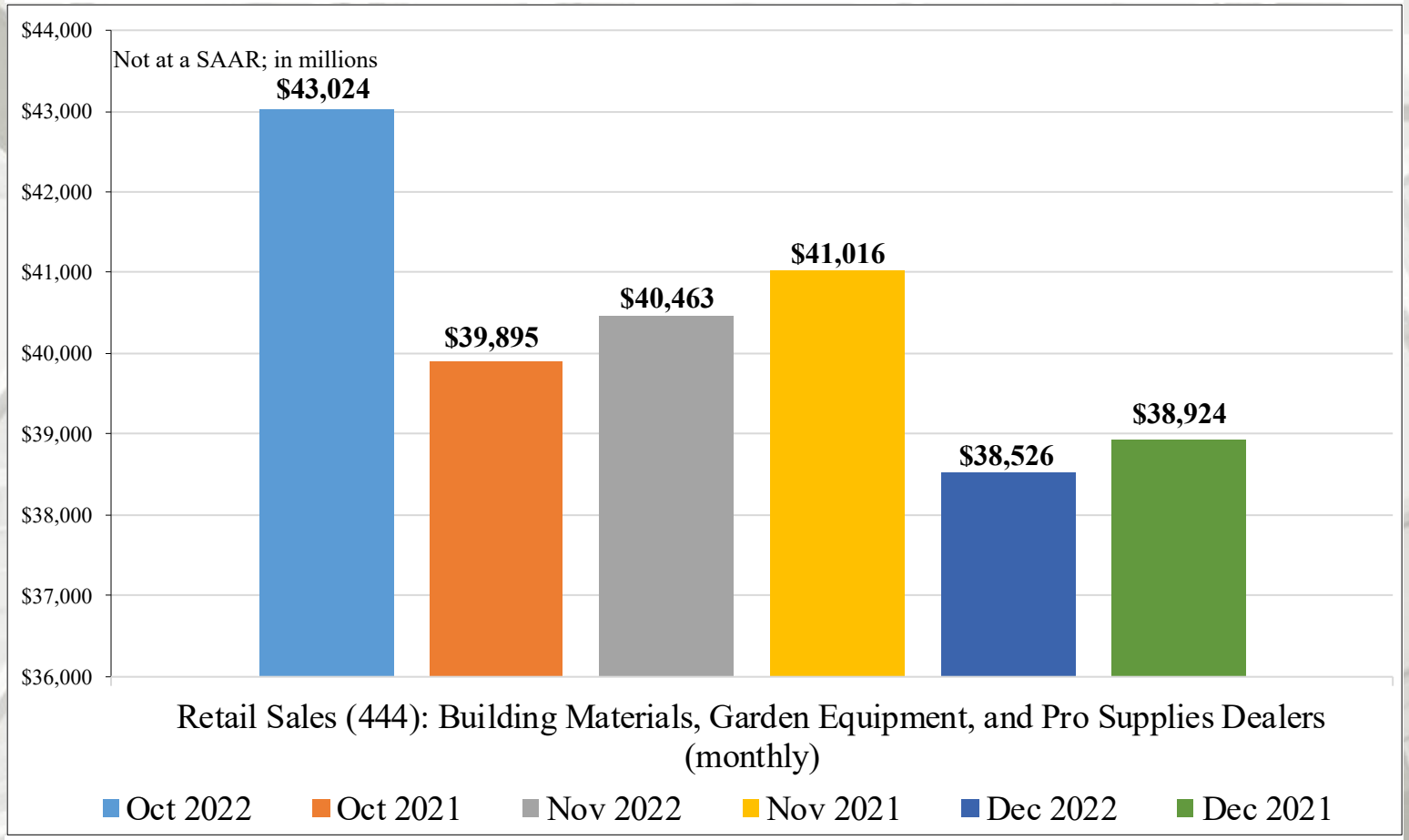
Remodeling

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



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

NAICS 444 sales decreased 4.8% in December 2022 from November 2022 and increased 0.6% Y/Y (on a non-adjusted basis).

Source: https://www.census.gov/retail/index.html; 1/18/23

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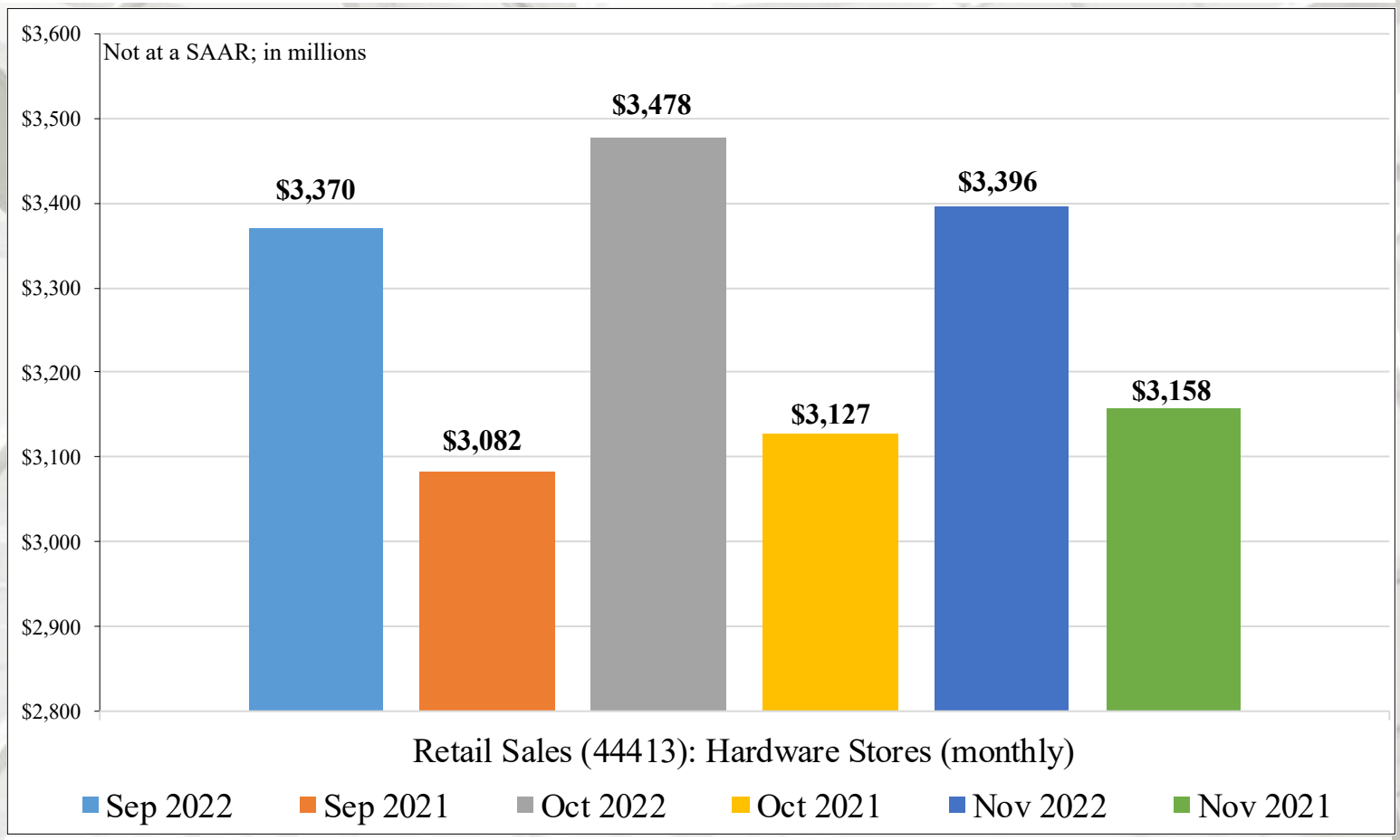
Remodeling

Retail Sales: Hardware Stores



Hardware Stores: NAICS 44413

NAICS 44413 retail sales decreased 2.4% in November 2022 from September 2022 and increased 7.5% in November 2022 from November 2021 (on a non-adjusted basis).

Source: https://www.census.gov/retail/index.html; 1/18/23

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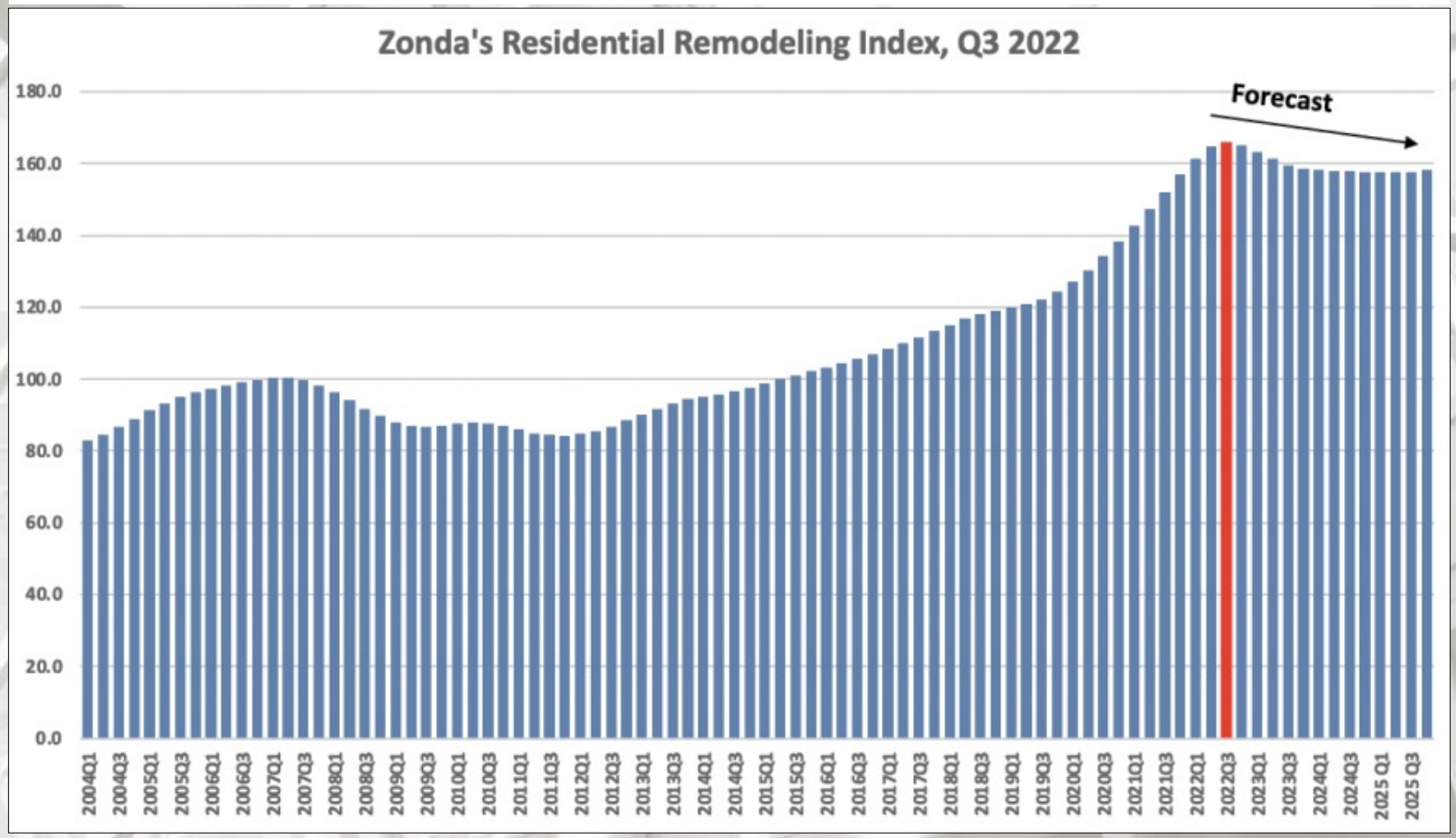
Remodeling

Zonda

Remodeling Activity Likely to Drop in 2023

Zonda estimates the Residential Remodeling Index will post annual decreases through 2025, reflecting the rapidly slowing housing market and a high probability for recession.



Source: https://www.remodeling.hw.net/benchmarks/economic-outlook-rri/remodeling-activity-likely-to-drop-in-2023_o; 12/18/22

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Remodeling

Zonda

Remodeling Activity Likely to Drop in 2023

Zonda estimates the Residential Remodeling Index will post annual decreases through 2025, reflecting the rapidly slowing housing market and a high probability for recession.

"Zonda's Residential Remodeling Index (RRI) posted a reading of 165.9 in the third quarter of 2022, a 0.7% increase from the second quarter and a 9.1% increase on a year-over-year (YOY) basis. According to Zonda, the national RRI is estimated to grow 9.7% for all of 2022, but is expected to see quarter-to-quarter decreases beginning in the fourth quarter.

The latest reading indicates remodeling activity in the U.S. is currently 65.9% higher than the baseline year of 2007, the peak of remodeling in the 2000s. However, Zonda estimates the RRI will see year-over-year decreases starting in the second quarter of 2023 and continue through the next few years.

Zonda estimates the RRI will decrease 2.3% in 2023, decrease 1.7% in 2024, and decrease by 0.1% in 2025. The change in future estimates for the RRI reflect how rapidly the housing market has slowed and the probability of an economic recession in 2023, according to Zonda." – Vincent Salandro, Associate Editor, *Builder*

Source: https://www.remodeling.hw.net/benchmarks/economic-outlook-rri/remodeling-activity-likely-to-drop-in-2023_o; 12/18/22

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Remodeling

Zonda

Remodeling Activity Likely to Drop in 2023

"The slowdown in existing home sales over the last nine months has been three times faster than the slowdown in the mid-2000s, according to Zonda. Remodeling is forecast to take a cut from lower housing turnover via lower sales, but the more important factor for the downgraded remodeling outlook is home values. Home prices, which hold the heaviest weight in the RRI model, are projected to fall in every U.S. state in 2023. Moody's Analytics, which provides the forecast for the variables that are used in the RRI model, underscores that the expected decrease in home prices will be a correction rather than a crash as deep as the aftermath of 2008. Moody's projects the odds of a recession in 2023 at 50%. Projections of declines in real incomes indicate some homeowners will be forced to defer remodeling over the short-term. Homeowners that defer are more likely to be on the lower side of the income scale (below $60,000) and have most of their spending (80%) dedicated to non-discretionary items such as food, shelter, medical, and transportation.

Zonda said the home improvement industry still has tailwinds and mitigating factors, such as high levels of homeowner equity and excess savings, that will sustain remodeling activity, according to Zonda. Remodeling spend will also be supported moving forward by a large number of homes built in the early 2000s that are due for replacement projects or have finishes that need upgrading.

The RRI estimates the number of pro-worthy remodeling projects undertaken in 2021 was 16.1 million. Zonda projects the number of projects will increase to 17.7 million projects in 2022, followed by decreases to 17.3 million in 2023 and 17.0 million in 2024.

As part of the RRI estimation, Zonda that only 32 metropolitan statistical areas are expected to see growth in annual project volume. Among these markets, the average growth rate is expected to be 0.9%." – Vincent Salandro, Associate Editor, *Builder*

Source: https://www.remodeling.hw.net/benchmarks/economic-outlook-rri/remodeling-activity-likely-to-drop-in-2023_o; 12/18/22

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Remodeling

Qualified Remodeler and John Burns Real Estate Consulting

U.S. Remodeler Index Cools to 'Normal' Levels in Fourth Quarter

Remodelers expect to grow 2 to 7 percent in 2023

"After two years of running hot — registering eight consecutive quarters of 'strong' sentiment in the home improvement market — the U.S. Remodeler Index (USRI) cooled to 'normal' levels of growth during the fourth quarter of 2022. The reading is another piece of evidence pointing to a slowdown in the remodeling market.

The USRI recorded an aggregate reading of 58.3 for the quarter. The 'current activity' gauge of market sentiment among remodelers and home improvement pros was 59.0 and the 'near-term' or three-month outlook for remodeling activity was slightly lower, coming in at 57.3.

The USRI is a diffusion index where any reading over 50 is indicative of growth in the market. The less bullish sentiment reading from remodelers in Q4 is significant because despite a slew of well-known negative factors weighing on the market: higher interest rates, higher prices for building products and a stubbornly tight labor market — remodelers had consistently returned 'strong' readings.

The index, which is a collaboration between Qualified Remodeler magazine and John Burns Real Estate Consulting, has offered nine quarterly readings to date. The peak reading came in Q1 2021 when remodeler and home pro sentiment was a very robust 75.2." – QR Staff

Source: https://www.qualifiedremodeler.com/u-s-remodeler-index-cools-to-normal-levels-in-fourth-quarter; 1/17/23

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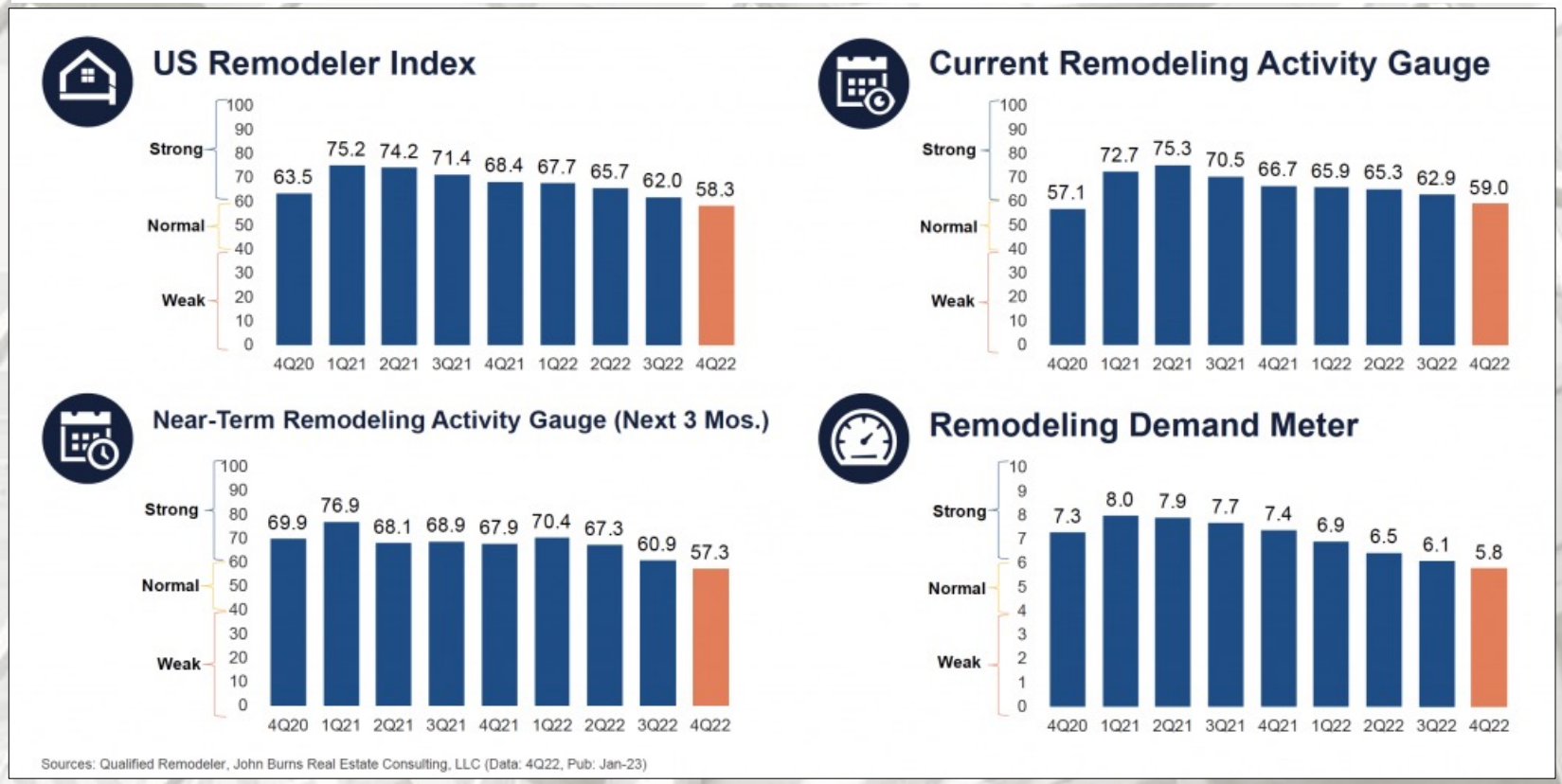
Remodeling

Qualified Remodeler and John Burns Real Estate Consulting

U.S. Remodeler Index Cools to 'Normal' Levels in Fourth Quarter



Source: https://www.qualifiedremodeler.com/u-s-remodeler-index-cools-to-normal-levels-in-fourth-quarter; 1/17/23

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Remodeling

Qualified Remodeler and John Burns Real Estate Consulting

"In its analysis of the fourth quarter 2022 results, the Burns team said strong project backlogs were keeping remodeling sentiment in positive territory. Their analysis also placed much of its forward-looking guidance on the mood of homeowners. "Hesitancy from homeowners in the face of sharply rising project prices will weigh on project activity going forward," the Q4 USRI report said.

The Burns report offered four takeaways.

1. **Extensive project backlogs are keeping remodelers busy**. Remodelers' project backlogs averaged 5.1 months in 4Q22, roughly equal to 5.0 and 5.2 in 3Q22 and 2Q22, respectively. Industry sentiment, however, has clearly shifted through 4Q22. Nearly every subcomponent of the US Remodeler Index touched the lowest levels since the survey's inception in 2020.
2. **Fewer homeowners are inquiring about new projects**. Despite the extensive backlog of projects planned and in progress, homeowners have grown more cautious about starting new remodeling projects. Forty-one percent of professional remodelers indicate new project inquiries are lower than normal for this time of year while only 15 percent report higher-than-normal new project inquiries.
3. **Remodelers are still pushing prices due to higher product and raw material costs**. Frequent price increases from vendors have forced professional remodelers to push higher costs onto customers. The average remodeler pushed through 17 percent price increases in 2022 and expects to raise prices another 15 percent in 2023." – QR Staff

Source: https://www.qualifiedremodeler.com/u-s-remodeler-index-cools-to-normal-levels-in-fourth-quarter; 1/17/23

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Remodeling

Qualified Remodeler and John Burns Real Estate Consulting

4. "**Remodelers expect 2023 revenue to grow 2 to 7 percent, a slowdown from 2022**. Remodelers expect more moderate revenue growth in 2023 as the industry adjusts to what they expect to be a more normal year after a two-year remodeling boom. Additionally, there are a growing set of risk factors that could cause remodeling to decline, Burns analysis of the Q4 USRI found.

Among the three primary segments in the home improvement industry, the outlook was varied. Home improvement or specialty-replacement contracting firms remained the most bullish for 2023. As a group, they expect a 7 percent full-year 2023 level of revenue growth.

Following behind them are design-build remodelers who specialize in major, high-budget projects like room additions, whole-house renovations, as well as kitchens and baths. This group indicated that they expect a 4 percent level of revenue growth on average for the coming year.

Full-service remodelers were more tepid in their outlook. These firms are general contractors who are involved in a range of project types from handyman work on up to major projects. This group indicated a 2 percent revenue growth for the year on average." – QR Staff

Source: https://www.qualifiedremodeler.com/u-s-remodeler-index-cools-to-normal-levels-in-fourth-quarter; 1/17/23

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Existing House Sales

National Association of Realtors®

	Existing Sales	Median Price	Month's Supply
November	4,090,000	$370,700	3.3
October	4,430,000	$378,800	3.3
2021	6,330,000	$358,200	2.1
M/M change	-7.7%	-2.1%	0.0%
Y/Y change	-35.4%	3.5%	57.1%

All sales data: SAAR

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 12/21/22

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Existing House Sales

	NE	MW	S	W
November	530,000	1,020,000	1,840,000	700,000
October	570,000	1,080,000	1,980,000	800,000
2021	740,000	1,470,000	2,830,000	1,290,000
M/M change	-7.0%	-5.6%	-7.1%	-12.5%
Y/Y change	-28.4%	-30.6%	-35.0%	-45.7%

	Existing SF Sales	SF Median Price
November	3,650,000	$376,700
October	3,950,000	$384,600
2021	5,630,000	$365,000
M/M change	-7.6%	-2.1%
Y/Y change	-35.2%	3.2%

All sales data: SAAR.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 12/21/22

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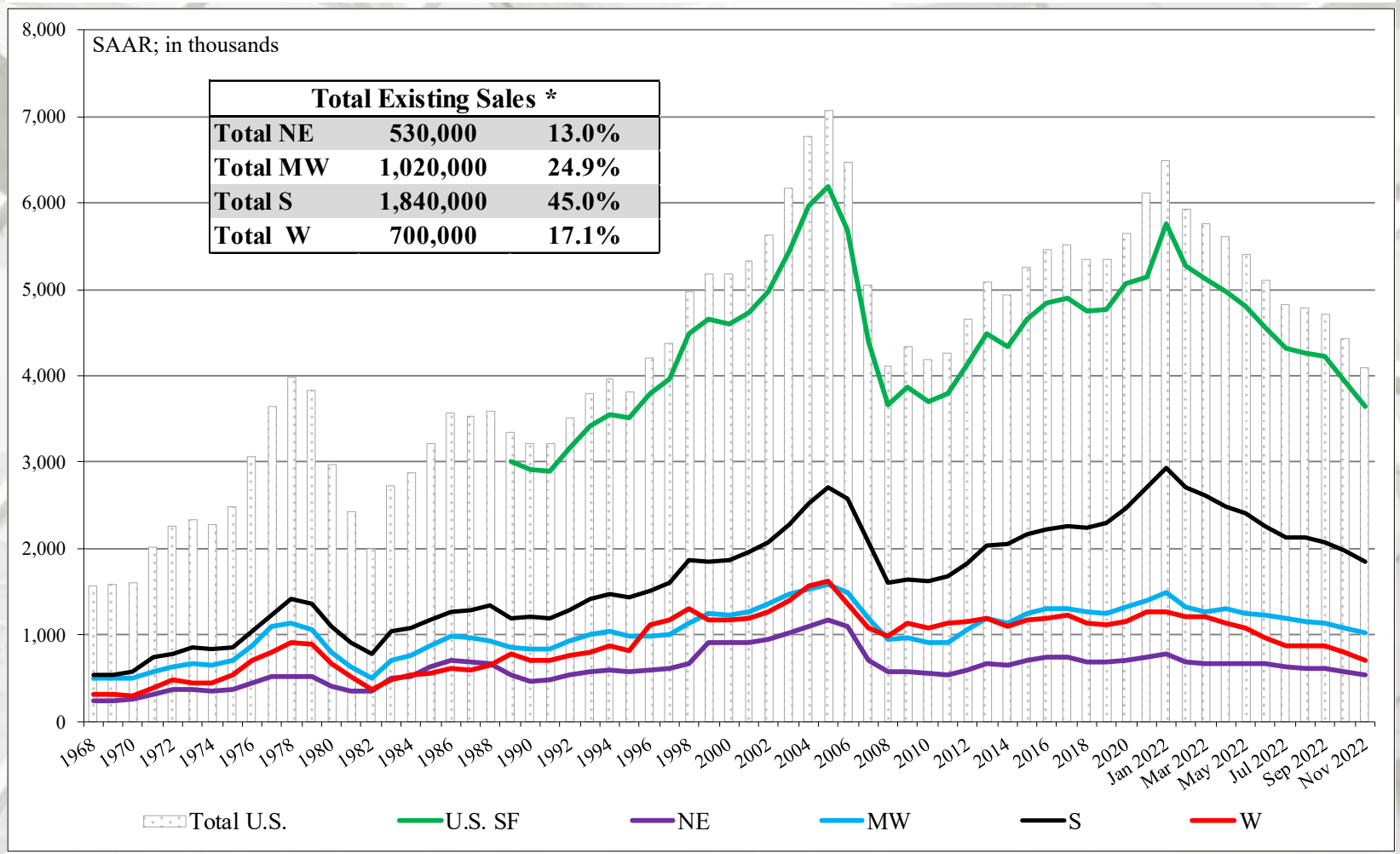
Existing House Sales



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

* Percentage of total existing sales.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 12/21/22

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U.S. Housing Prices

Federal Housing Finance Agency

U.S. House Price Index

UFHFA House Price Index 0.0 Percent in October; Up 9.8 Percent from Last Year

Significant Findings

"House prices were flat nationwide in October, experiencing a 0.0 percent change from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI®). House prices rose 9.8 percent from October 2021 to October 2022. The previously reported 0.1 percent price increase in September 2022 remained unchanged.

For the nine census divisions, seasonally adjusted monthly house price changes from September to October 2022 ranged from **-0.9 percent** in the Pacific division to **+1.4 percent** in the New England division. The 12-month changes were all positive, ranging from **+4.5 percent** in the Pacific division to **+14.1 percent** in the South Atlantic division."– Raffi Williams and Adam Russell, FHFA

"U.S. house prices have seen two consecutive months of near-zero appreciation. Higher mortgage rates continued to put downward pressure on demand, weakening house price growth. The U.S. house price index growth decelerated as it posted the first 12-month growth rate below 10 percent after 24 consecutive months of double-digit appreciation rates." – Nataliya Polkovnichenko, Ph.D., Supervisory Economist, Division of Research and Statistics, FHFA

Source: https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-House-Price-Index-0pt0-Percent-in-October-Up-9pt8-Percent-from-Last-Year.aspx; 12/27/22

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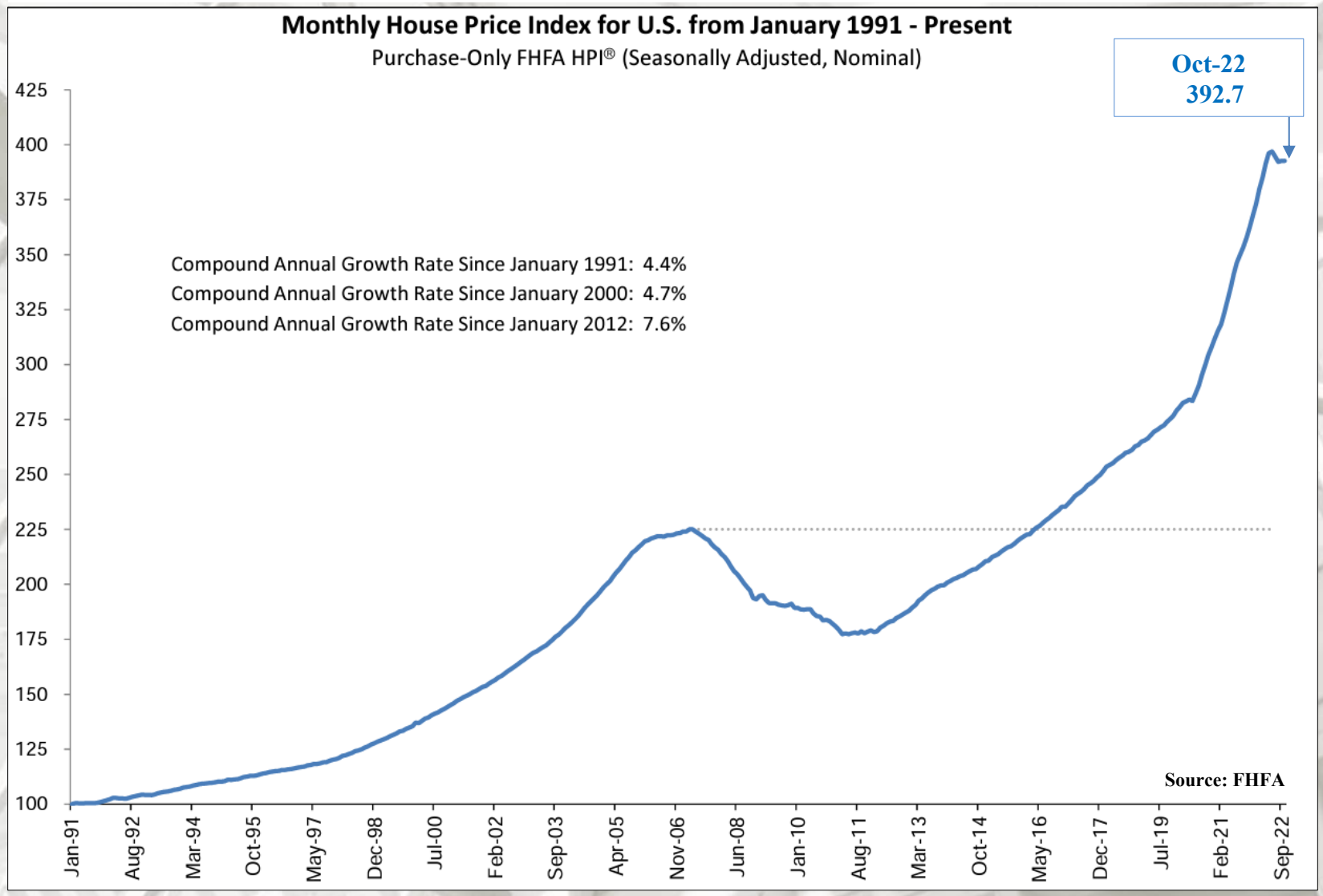
U.S. Housing Prices



Source: https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-House-Price-Index-0pt0-Percent-in-October-Up-9pt8-Percent-from-Last-Year.aspx; 12/27/22

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U.S. Housing Prices

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

"… Data for October 2022 show that home price gains declined 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 9.2% annual gain in October, down from 10.7% in the previous month. The 10-City Composite annual increase came in at 8.0%, down from 9.6% in the previous month. The 20-City Composite posted a 8.6% year-over-year gain, down from 10.4% in the previous month.

Miami, Tampa, and Charlotte reported the highest year-over-year gains among the 20 cities in October. Miami led the way with a 21% year-over-year price increase, followed by Tampa in second with a 20.5% increase, and Charlotte in third with a 15% increase. All 20 cities reported lower price increases in the year ending October 2022 versus the year ending September 2022.

Month-Over-Month

Before seasonal adjustment, the U.S. National Index posted a -0.5% month-over-month decrease in October, while the 10-City and 20-City Composites posted decreases of -0.7% and -0.8%, respectively.

After seasonal adjustment, the U.S. National Index posted a month-over-month decrease of -0.3%, and the 10-City and 20-City Composites both posted decreases of -0.5%. In October, 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

Source: https://www.spglobal.com/spdji/en/index-family/indicators/sp-corelogic-case-shiller/#overview/; 12/27/22

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U.S. Housing Prices

S&P CoreLogic Case-Shiller Index

Analysis

"October 2022 marked the fourth consecutive month of declining home prices in the U.S. For example, the National Composite Index fell -0.5% for the month, reflecting a -3.0% decline since the market peaked in June 2022. We saw comparable patterns in our 10- and 20-City Composites, both of which stand -4.6% below their June peaks after October declines of -0.7% and -0.8%, respectively. These declines, of course, came after very strong price increases in late 2021 and the first half of 2022. Despite its recent weakness, on a year-over-year basis the National Composite gained 9.2%, which is in the top quintile of historical performance levels.

Despite considerable regional differences, all 20 cities in our October report reflect these trends of short-term decline and medium-term deceleration. Prices declined in every city in October, with a median change of -0.9%. Year-over-year price gains in all 20 cities were lower in October than they had been in September; the median year-over-year increase across the 20 cities was 8.3%.

October's best-performing cities were Miami (+21.0% year-over-year) and Tampa (+20.5%), with Charlotte (+15.0%) edging Atlanta (+14.9%) for third place. The Southeast (+17.9%) and South (+17.0%) were the strongest regions by far, with gains more than double those of the Northeast, Midwest, and West. The two weakest performers were San Francisco (up only +0.6% year-over-year) and Seattle (+4.5%). San Francisco and Seattle peaked in May 2022, and both have declined by more than -10% since then.

"As the Federal Reserve continues to move interest rates higher, mortgage financing continues to be a headwind for home prices. Given the continuing prospects for a challenging macroeconomic environment, prices may well continue to weaken." – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

Source: https://www.spglobal.com/spdji/en/index-family/indicators/sp-corelogic-case-shiller/#overview/; 12/27/22

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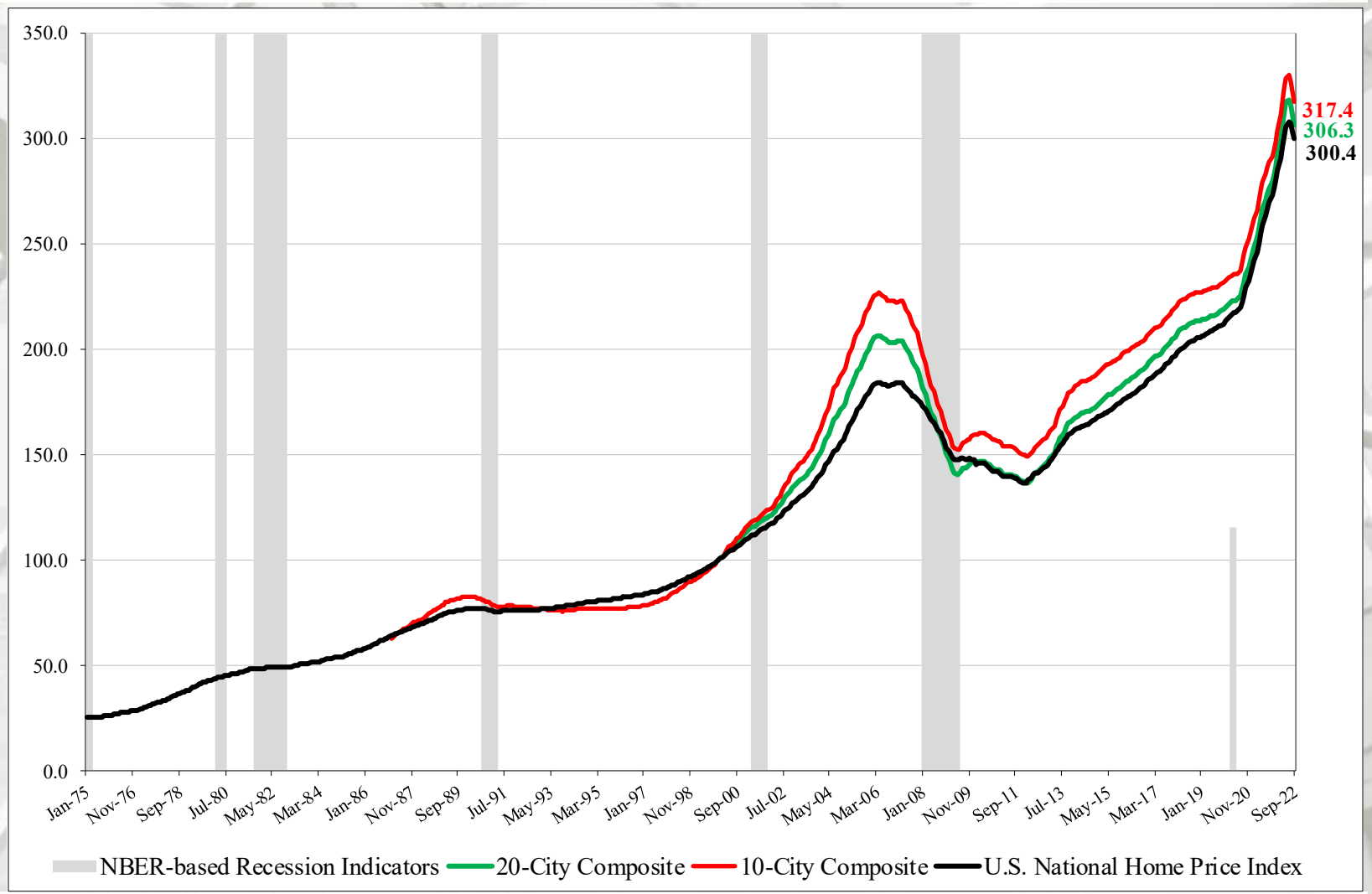
S&P/Case-Shiller Home Price Indices



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

Source: https://www.spglobal.com/spdji/en/index-family/indicators/sp-corelogic-case-shiller/#overview/; 12/27/22

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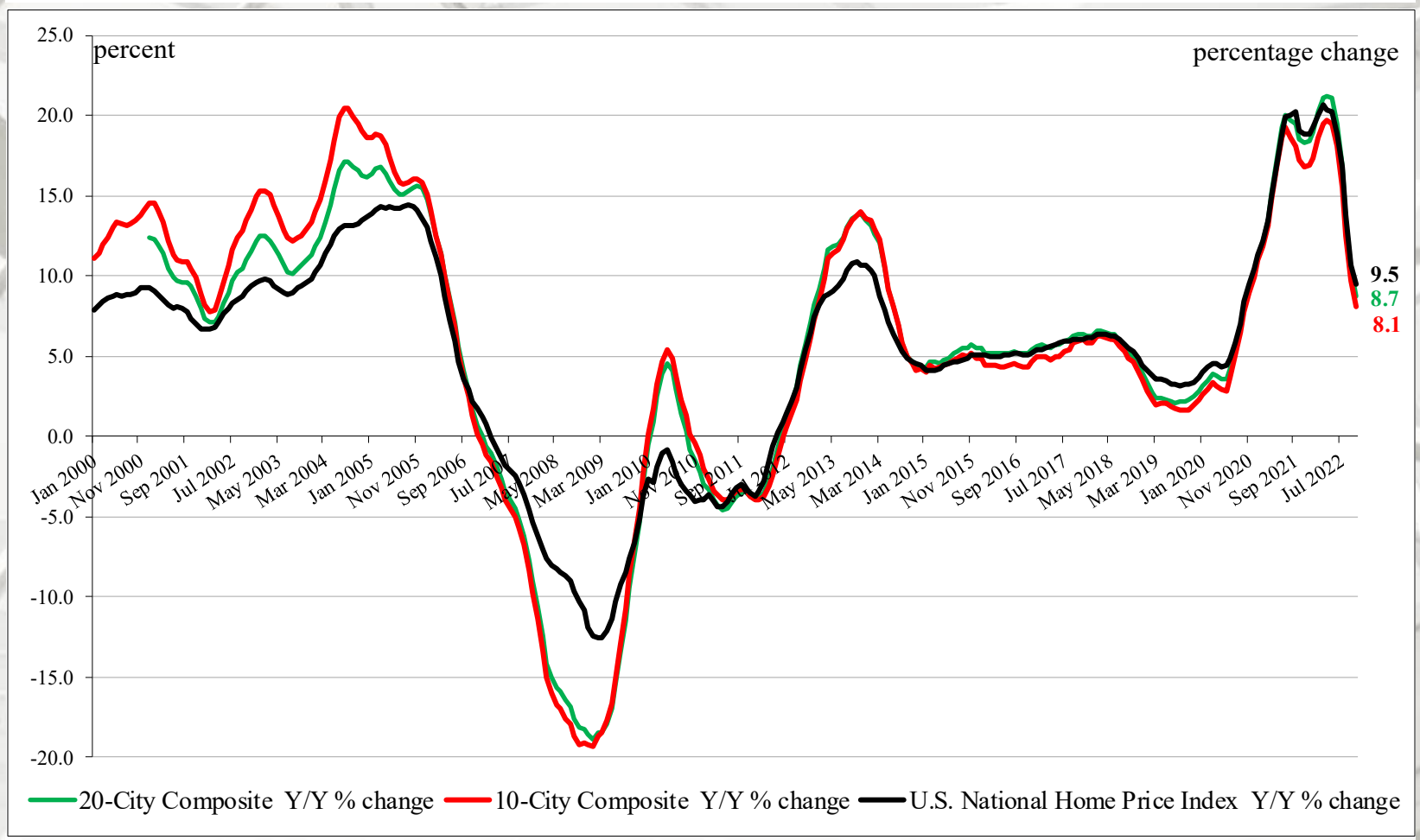
S&P/Case-Shiller Home Price Indices



* 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 October 2021 to October 2022, the National Index decreased 9.5%; the Ten-City by 8.1%, and the Twenty-City by 8.4%.

Source: https://www.spglobal.com/spdji/en/index-family/indicators/sp-corelogic-case-shiller/#overview/; 12/27/22

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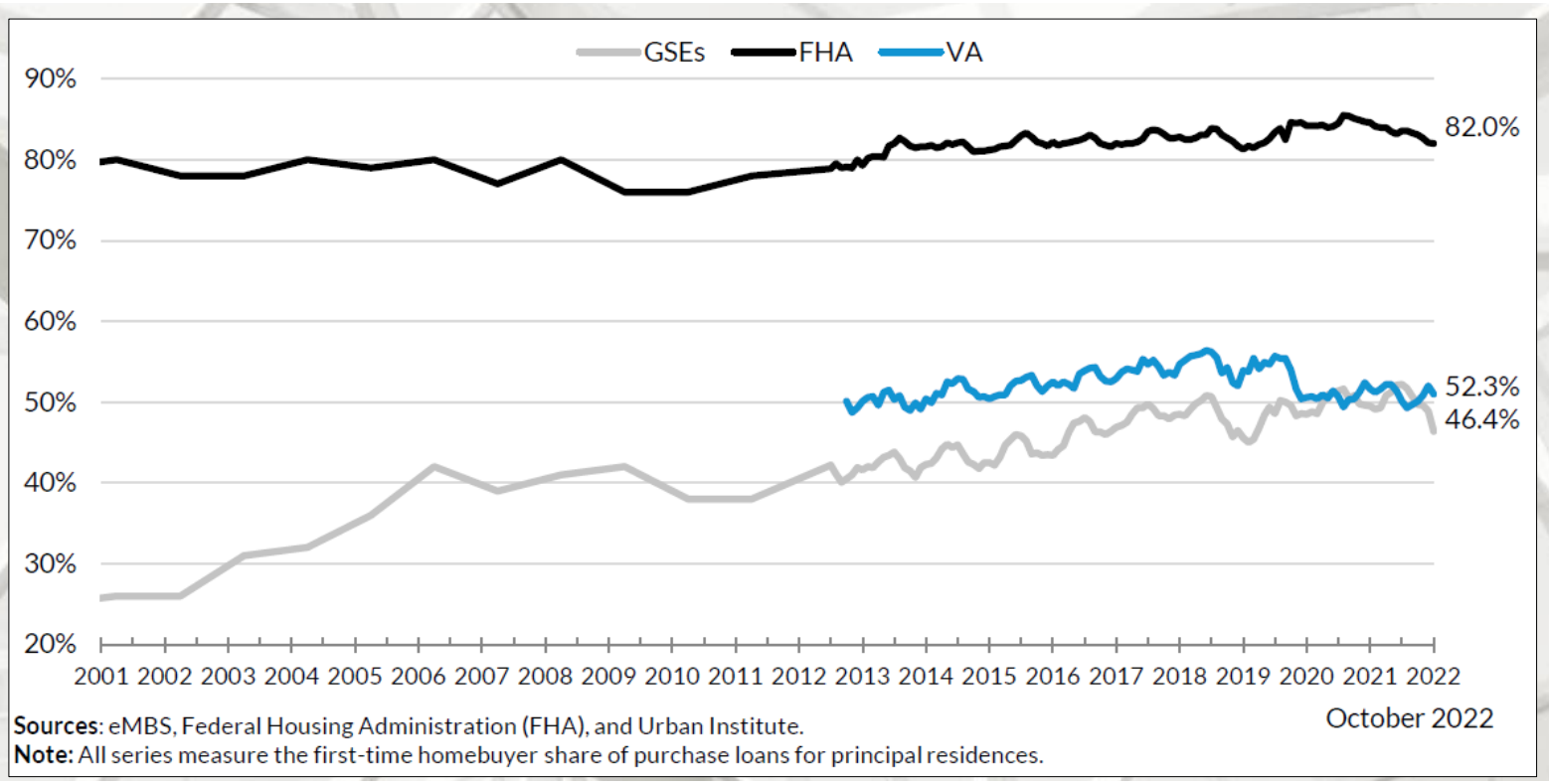
U.S. Housing Affordability



Urban Institute

First-time Homebuyers

"In October 2022, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 82.0 percent. The FTHB share of GSE lending in October was 46.4 percent; the VA share was 52.3 percent. The bottom table shows that based on mortgages originated in October 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

Source: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-december-2022; 12/30/22

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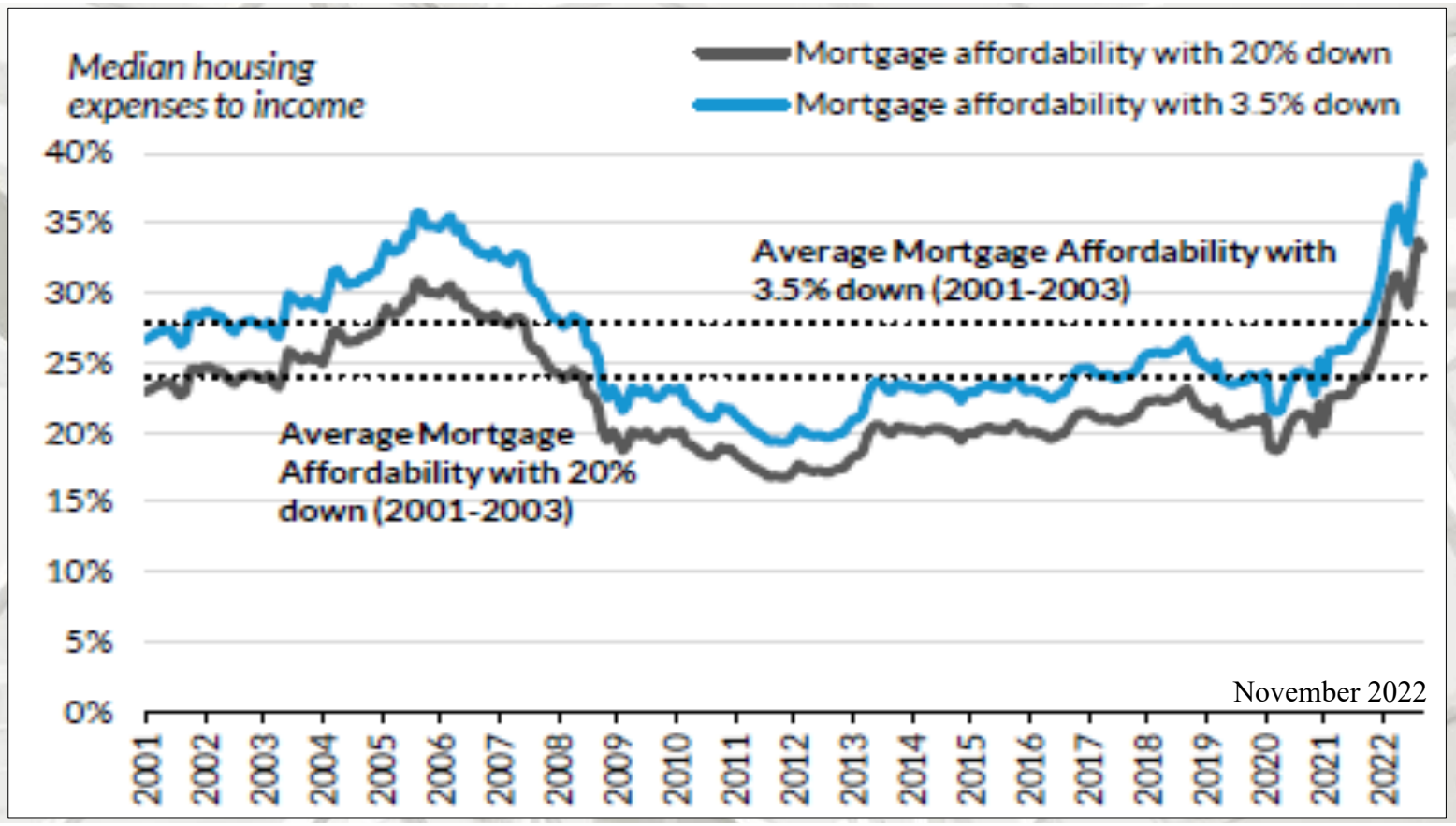
U.S. Housing Affordability



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 November 2022, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 33.2 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 38.5 percent, also 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

Source: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-december-2022; 12/30/22

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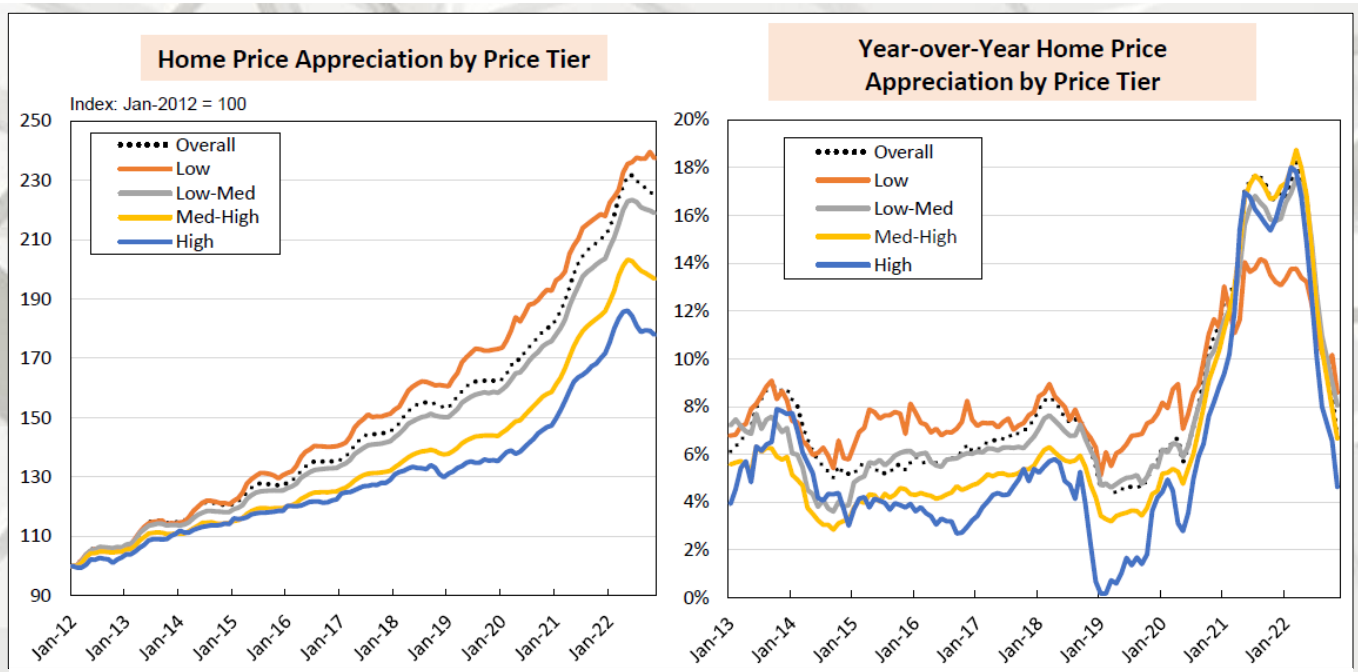
U.S. Housing Affordability



Note: Data are for the entire country. Data for November 2022 are preliminary .

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 November 2022 indicate that home prices were down for all price tiers, but the low price tier had the smallest decline (left
  - The med high and high price tiers, being more dependent on the Fed's monetary punchbowl , are showing the largest declines as the Fed hikes rates (right panel)" – Edward Pinto, Senior Fellow and Director and Tobias PeterResearch Fellow and Assistant Director, AEI Housing Center

Source: https://www.aei.org/research-products/report/aei-housing-market-indicators-december-2022/; 1/3/23

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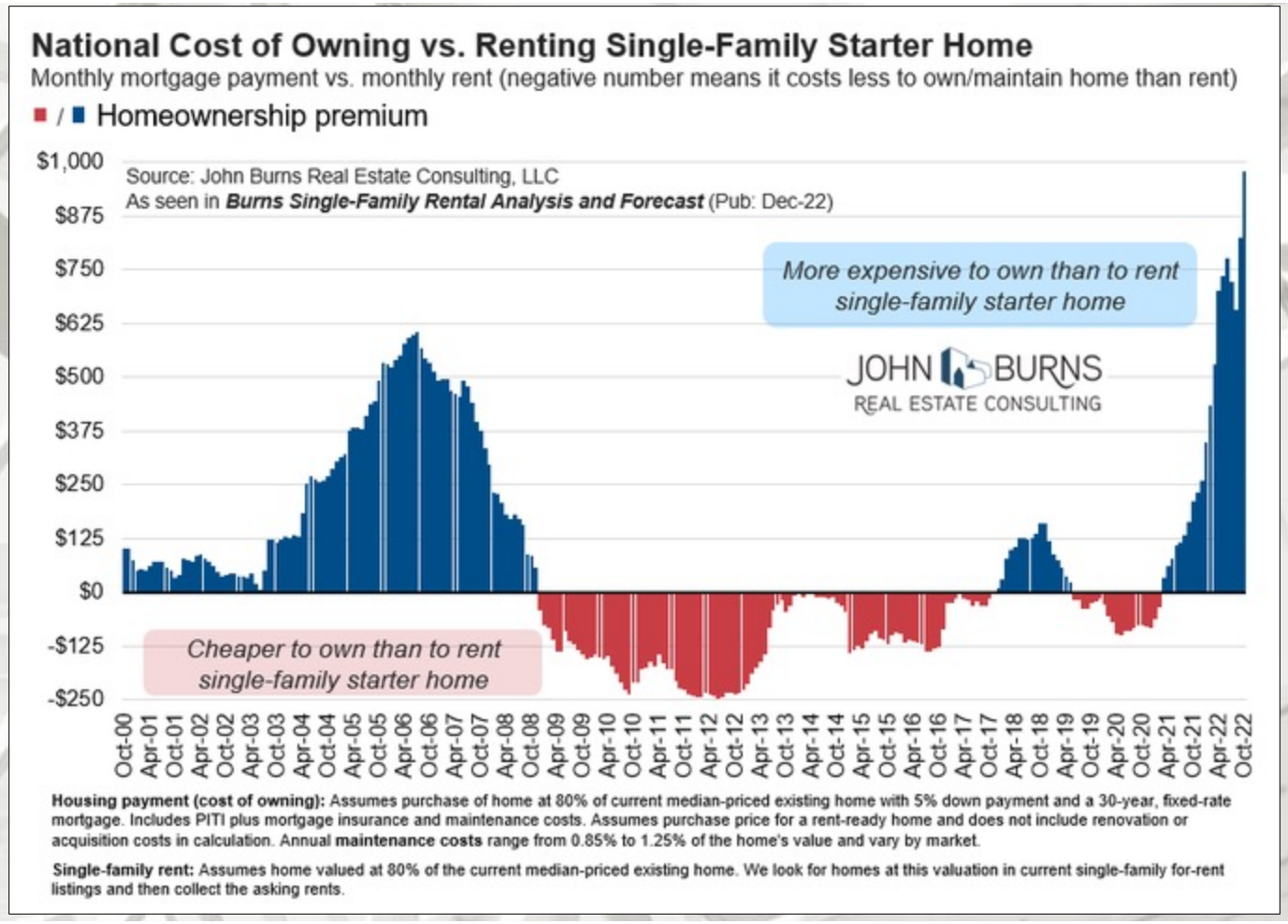
U.S. Housing



John Burns Real Estate Consulting LLC

"Cost of owning vs. renting a home became focal point in our housing coverage throughout 2022. Home prices historically need a reset when the premium of owning explodes this high, this quickly." – Rick Palacios Jr, Director of Research, John Burns Real Estate Consulting LLC

Source: https://twitter.com/RickPalaciosJr/status/1609259823262224384; 12/31/22

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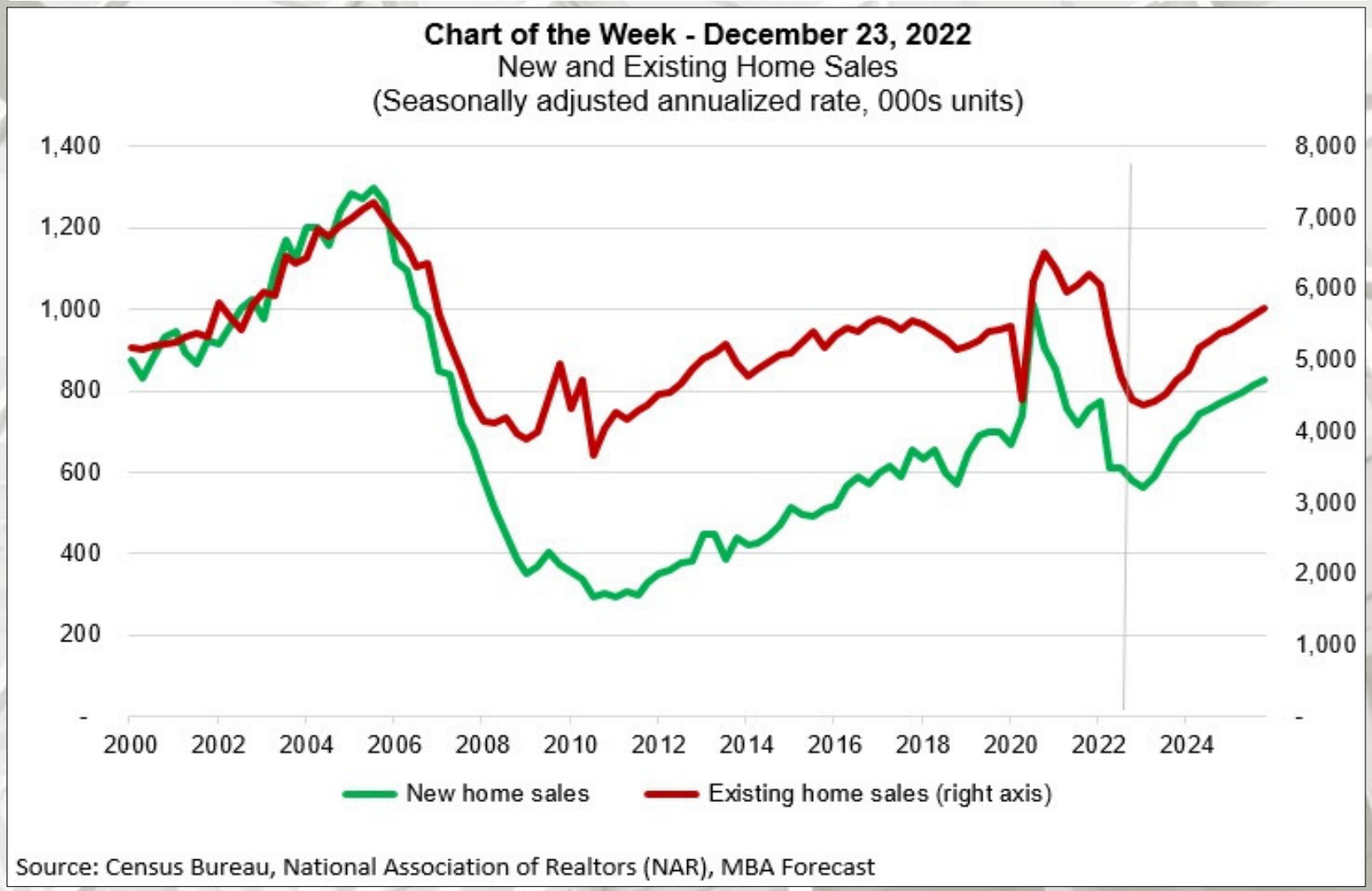
U.S. Housing

Mortgage Bankers Association (MBA)

MBA Chart of the Week



Source: https://s3141176.t.en25.com/e/es?s; 12/23/22

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U.S. Housing

Mortgage Bankers Association (MBA)

MBA Chart of the Week

"Recent data from NAR showed that the annualized pace of existing home sales in November 2022 was 4.09 million units – a 35% drop compared to November 2021. This decrease was consistent with the pace of home purchase applications, which have been running around 40% behind last year's pace over the past few months, based on data from MBA's Weekly Applications Survey. Additionally, the National Association of Homebuilders' (NAHB) index of builder sentiment has recorded declines in every month of 2022, citing slower buyer traffic and reduced sales expectations. The impact of that sentiment has shown up in Census data on single-family housing starts, weakening in all but two months so far this year, and MBA's estimate of new home sales, which has declined in eight out of the past 11 months. One of the main drivers of these trends was the rapid doubling of mortgage rates over the course of 2022 — from around 3% to over 7%, which pushed many buyers out of the market. The median purchase mortgage payment remained close to $2,000 in November, an increase of $594 over the first 11 months of the year, equal to a 42.9% increase, which has severely reduced homebuyer purchasing power.

Taking all this into account, we are forecasting a weak start to 2023 for the housing market. Driven by a recession in the first half of the year and a continuation of the trends outlined above, we expect a 13% drop in existing home sales and a 4% decrease in new home sales for 2023, following 16% decreases in both segments in 2022. Additionally, even though third quarter 2022 data still showed a 12% year-over-year increase in home prices, recent monthly changes have been negative, and the declines in some parts of the country have been quite large. We expect that the low inventory of existing homes and lack of distressed properties on the market will prevent a deeper decline in national home prices, but we do expect more quarters of negative year-over-year price changes." – Mike Fratantoni, Chief Economist and Senior Vice President of Research and Joel Kan, Industry Technology and Associate Vice President, Industry Surveys and Forecasts, MBA

Source: https://s3141176.t.en25.com/e/es?s; 12/23/22

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U.S. Housing

Mortgage Bankers Association (MBA)

MBA Chart of the Week

"However, we remain bullish on housing demand in the medium term: there are 50 million 28-38 year-olds in the US population right now. Household formation should remain robust for the coming years, and many of these young people are at or approaching peak first-time homebuyer age. The first-time homebuyer share is currently 28% after averaging around 40% before rates spiked and that is expected to rebound. The end of the recession, supportive demographic drivers, along with the moderation in home prices and lower mortgage rates that will ease some of the affordability hurdles, will support a 15% increase in existing home sales and a 21% increase in new home sales for 2024.

We do expect that the housing market will lead the U.S. out of this recession, just as it has led the way into one." – Mike Fratantoni, Chief Economist and Senior Vice President of Research and Joel Kan, Industry Technology and Associate Vice President, Industry Surveys and Forecasts, MBA

Source: https://s3141176.t.en25.com/e/es?s; 12/23/22

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U.S. Housing Finance

Mortgage Bankers Association (MBA)

Mortgage Credit Availability Decreased in December

"Mortgage credit availability decreased in December 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 0.1 percent to 103.3 in December. 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 0.1 percent, while the Government MCAI decreased by 0.1 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI decreased by 0.2 percent, and the Conforming MCAI was unchanged.

Mortgage credit availability was mostly unchanged in December as mortgage rates remained significantly higher than the prior two years and both refinance and purchase activity slowed dramatically. The doubling of mortgage rates over the past year caused credit availability to shrink 18 percent during the same period. This pivot in the market resulted in lenders exiting certain origination channels to manage their operational costs or stop lending altogether, which was a main driver in the decrease in credit supply. Additionally, investors stopped offering many streamlined refinance programs as rates increased and the refinance market shrank. The segment of the market which showed the sharpest decline in credit availability was FHA and VA lending –which saw a 23 percent decline over 12 months." – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

Source: https://www.mba.org/news-and-research/newsroom/news/2023/01/10/mortgage-credit-availability-decreased-in-december; 1/10/23

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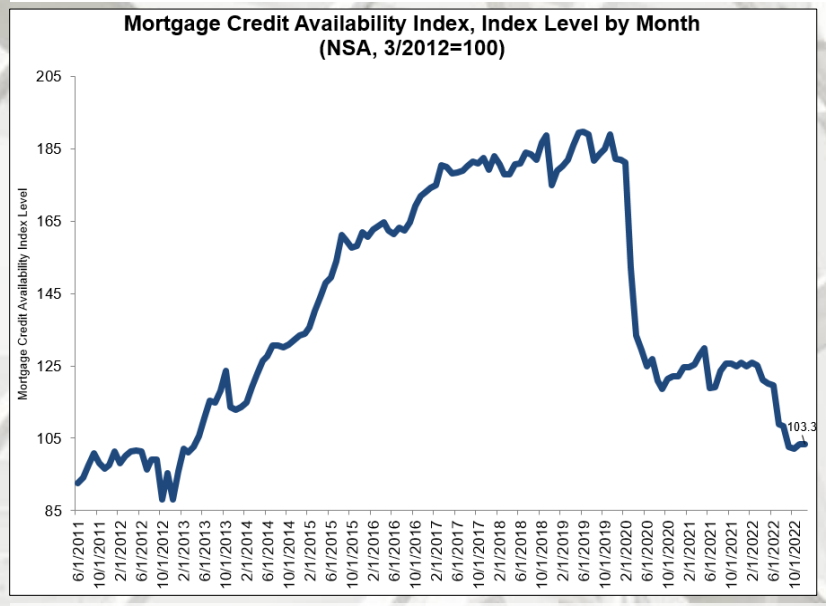
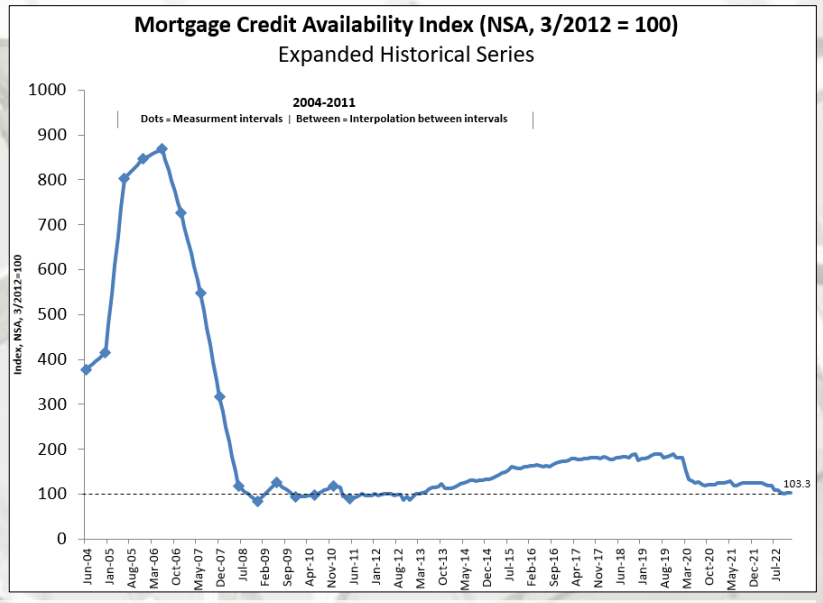
U.S. Housing Finance
Mortgage Credit Availability (MBA)





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

Source: https://www.mba.org/news-and-research/newsroom/news/2023/01/10/mortgage-credit-availability-decreased-in-december; 1/10/23

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MBA Mortgage Finance Forecast

MBA Mortgage Finance Forecast

December 19, 2022

	2022				2023				2024								
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023	2024	2025
Housing Measures																	
Housing Starts (SAAR, Thous)	1,720	1,647	1,458	1,424	1,404	1,405	1,413	1,427	1,460	1,535	1,572	1,597	1,605	1,562	1,412	1,541	1,657
Single-Family	1,187	1,086	911	872	883	901	935	974	1,019	1,103	1,146	1,179	1,131	1,014	923	1,112	1,227
Two or More	533	561	546	552	521	504	478	453	441	432	426	418	474	548	489	429	430
Home Sales (SAAR, Thous)																	
Total Existing Homes	6,057	5,373	4,770	4,445	4,380	4,419	4,529	4,725	4,858	5,183	5,270	5,385	6,127	5,161	4,513	5,174	5,585
New Homes	776	612	610	580	561	589	637	679	703	743	758	770	769	644	616	744	806
FHFA US House Price Index (YOY % Change)	18.8	17.9	14.2	8.2	4.1	2.4	0.9	-0.6	-2.5	-2.5	-1.9	-1.2	17.6	8.2	-0.6	-1.2	2.1
Median Price of Total Existing Homes (Thous $)	365.8	405.9	391.5	375.2	369.4	365.6	374.1	376.4	380.3	380.3	379.8	380.0	347.9	384.6	371.4	380.1	387.2
Median Price of New Homes (Thous $)	431.3	447.0	462.0	471.3	447.3	436.6	436.0	440.6	433.4	436.4	440.2	443.4	394.0	452.9	440.1	438.4	449.8
Interest Rates																	
30-Year Fixed Rate Mortgage (%)	3.9	5.3	5.7	6.6	6.2	5.6	5.4	5.2	5.0	4.7	4.4	4.4	3.2	6.6	5.2	4.4	4.4
10-Year Treasury Yield (%)	1.9	2.9	3.1	3.8	3.5	3.3	3.2	3.0	2.9	2.7	2.5	2.5	1.5	3.8	3.0	2.5	2.5
Mortgage Originations																	
Total 1- to 4-Family (Bil $)	689	678	480	398	345	510	519	525	470	628	595	586	4,436	2,245	1,899	2,279	2,468
Purchase	381	477	388	332	270	400	393	387	324	474	428	418	1,863	1,578	1,450	1,644	1,783
Refinance	308	201	92	66	75	110	126	138	146	154	167	168	2,574	667	449	635	685
Refinance Share (%)	45	30	19	17	22	22	24	26	31	25	28	29	58	30	24	28	28
FHA Originations (Bil $)													337	158	129	139	139
Total 1- to 4-Family (000s loans)	1,939	1,789	1,206	973	842	1,237	1,259	1,274	1,196	1,534	1,461	1,439	13,549	5,907	4,613	5,631	5,986
Purchase	1,000	1,202	946	790	637	938	917	901	802	1,117	1,009	983	5,204	3,938	3,394	3,911	4,140
Refinance	938	588	260	182	205	299	342	372	395	417	453	455	8,346	1,969	1,219	1,720	1,846
Refinance Share (%)	48	33	22	19	24	24	27	29	33	27	31	32	62	33	26	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.

MBa

MORTGAGE BANKERS ASSOCIATION

Source: https://s3141176.t.en25.com/e/er; 12/19/22

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MBA Economic Forecast

MBA Economic Forecast

December 19, 2022

	2022				2023				2024								
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023	2024	2025
Percent Change, SAAR																	
Real Gross Domestic Product	-1.6	-0.6	2.9	0.7	-1.3	-1.0	1.3	1.5	1.9	1.8	1.9	1.8	5.7	0.3	0.1	1.8	1.6
Personal Consumption Expenditures	1.3	2.0	1.7	3.1	0.5	0.3	1.0	1.2	1.8	1.7	2.1	2.1	7.2	2.1	0.8	1.9	2.2
Business Fixed Investment	7.9	0.1	5.1	2.1	-2.5	-2.8	-0.6	0.1	1.2	0.9	1.4	1.3	5.0	3.8	-1.4	1.2	1.3
Residential Investment	-3.1	-17.8	-26.8	-22.0	-9.7	-0.1	7.4	9.3	11.2	14.0	13.8	11.0	-0.3	-17.9	1.4	12.5	4.5
Govt. Consumption & Investment	-2.3	-1.6	3.0	1.5	3.5	1.0	0.9	0.8	0.8	0.8	0.7	0.8	0.5	0.1	1.5	0.8	0.8
Net Exports (Bil. Chain 2012$)	-1260.3	-1207.6	-1060.2	-1151.3	-1180.4	-1168.2	-1170.4	-1182.4	-1209.1	-1243.2	-1283.4	-1325.4	-1037.4	-1169.9	-1175.3	-1265.3	-1403.4
Inventory Investment (Bil. Chain 2012$)	182.4	93.7	42.1	75.4	32.3	-21.3	-11.3	2.4	15.3	29.7	39.6	48.5	-16.5	98.4	0.5	33.3	56.2
Consumer Prices (YOY)	8.0	8.6	8.3	7.0	5.7	3.6	2.9	3.0	2.6	2.5	2.4	2.3	5.6	7.0	3.0	2.3	2.1
Percent																	
Unemployment Rate	3.8	3.6	3.5	3.7	4.0	4.6	5.1	5.5	5.3	5.0	4.6	4.4	5.4	3.7	4.8	4.8	4.2
Federal Funds Rate	0.375	1.625	3.125	4.375	4.875	4.875	4.875	4.875	4.875	4.375	3.875	3.375	0.125	4.375	4.875	3.375	2.375
10-Year Treasury Yield	1.9	2.9	3.1	3.8	3.5	3.3	3.2	3.0	2.9	2.7	2.5	2.5	1.5	3.8	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

MBa
MORTGAGE BANKERS ASSOCIATION

Source: https://s3141176.t.en25.com/e/er; 12/19/22

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Summary

In conclusion:

Housing completions, in November, was the "bright" spot for housing construction. Year-over-year and month-over-month were mostly negative. Increasing borrowing costs, slow income growth combined with elevated house prices have resulted in a major obstacle for new and existing house sales.

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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