# The Virginia Tech – U.S. Forest Service December 2019 Housing Commentary: Section I


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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

Total starts were reported at 1,608 million units in December 2019 – this is the greatest number reported since December 2006 (1,649 million units). Further, single-family starts were 1,055 million units, the first-time single-family starts have exceed one-million units since July 2006 (1,042 million units). Two factors may be behind this upsurge: 1) a mild December and 2) a large increase in the Midwest region's starts. Winter seasonal adjustments for the Midwest typically are greater than the other regions (Slide 18). Total-, single-, and multi-family permits and new single-family sales declined month-over-month. With the exception of single-family under construction, all housing metrics were positive on a year-over-year basis.

The February 7th Atlanta Fed GDPNow™ model forecasts an aggregate 7.2% increase for residential investment spending. New private permanent site expenditures were projected at a 9.0% increase; the improvement spending forecast was a 3.3% increase; and the manufactured/mobile housing projection was a 3.8% increase (all: quarterly log change and seasonally adjusted annual rate).[1]

"With momentum expected to build through 2019, we continue to underwrite solid growth in single-family starts in 2020, increasing 8% to 990,000, below our prior growth forecast of 11%. We still expect a demographic tailwind, significant pent-up demand and still-favorable absolute levels of affordability. However, the recent choppiness in demand is likely to stall incremental investment in land development, which could limit future new construction supply on the margin. Importantly, we still expect cyclical upside beyond our explicit forecasts, as our 2020 estimate sits 10-20% below our view of normalized demand."[2] – Ivy Zelman, CEO, Zelman & Associates

This month's commentary contains applicable housing data. Section I contains updated housing forecasts, data and commentary. Section II includes regional Federal Reserve analysis, private indicators, and demographic and economic commentary.

Sources: [1] www.frbatlanta.org/cqer/research/gdpnow.aspx; 2/10/20;
[2] https://www.builderonline.com/builder-100/strategy/zelman-on-2019-get-ready-for-flat-to-down_o; 1/4/20

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# December 2019
# Housing Scorecard

| | M/M | Y/Y |
|---|---|---|
| Housing Starts | ▲ 16.9% | ▲ 40.8% |
| Single-Family (SF) Starts | ▲ 11.2% | ▲ 29.6% |
| Multi-Family (MF) Starts* | ▲ 29.8% | ▲ 68.6% |
| Housing Permits | ▼ 3.9% | ▲ 5.8% |
| SF Permits | ▼ 0.5% | ▲ 10.8% |
| MF Permits* | ▼ 9.6% | ▼ 2.3% |
| Housing Under Construction | ▲ 2.0% | ▲ 3.3% |
| SF Under Construction | ▲ 1.9% | ▼ 1.1% |
| Housing Completions | ▲ 5.1% | ▲ 19.6% |
| SF Completions | ▲ 0.7% | ▲ 17.8% |
| New SF House Sales | ▼ 0.4% | ▲ 23.0% |
| Private Residential Construction Spending | ▲ 1.4% | ▲ 5.5% |
| SF Construction Spending | ▲ 2.7% | ▲ 5.2% |
| Existing House Sales[1] | ▲ 3.6% | ▲ 10.8% |

* 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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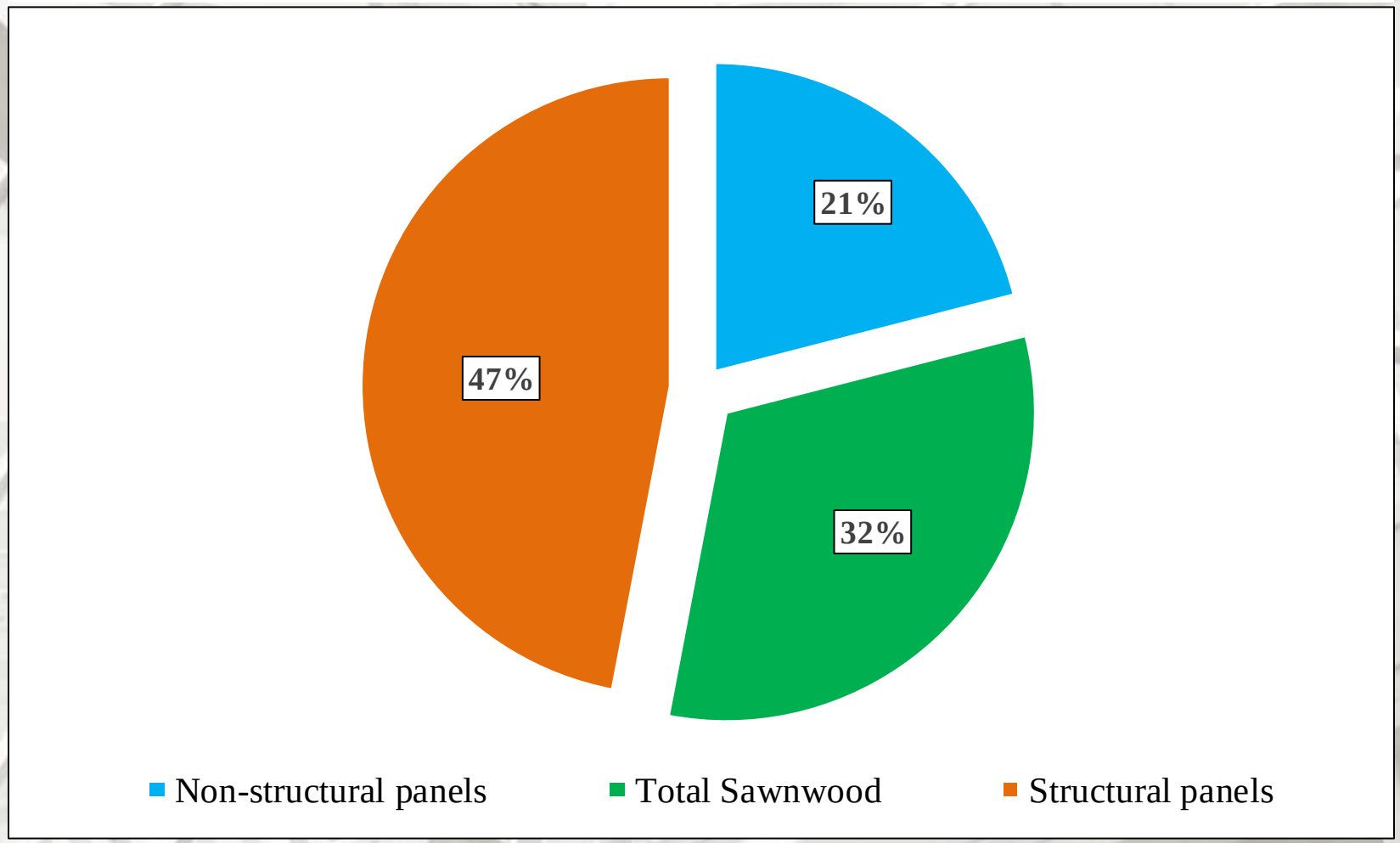
# New Construction's Percentage of Wood Products Consumption




Source: USDA Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

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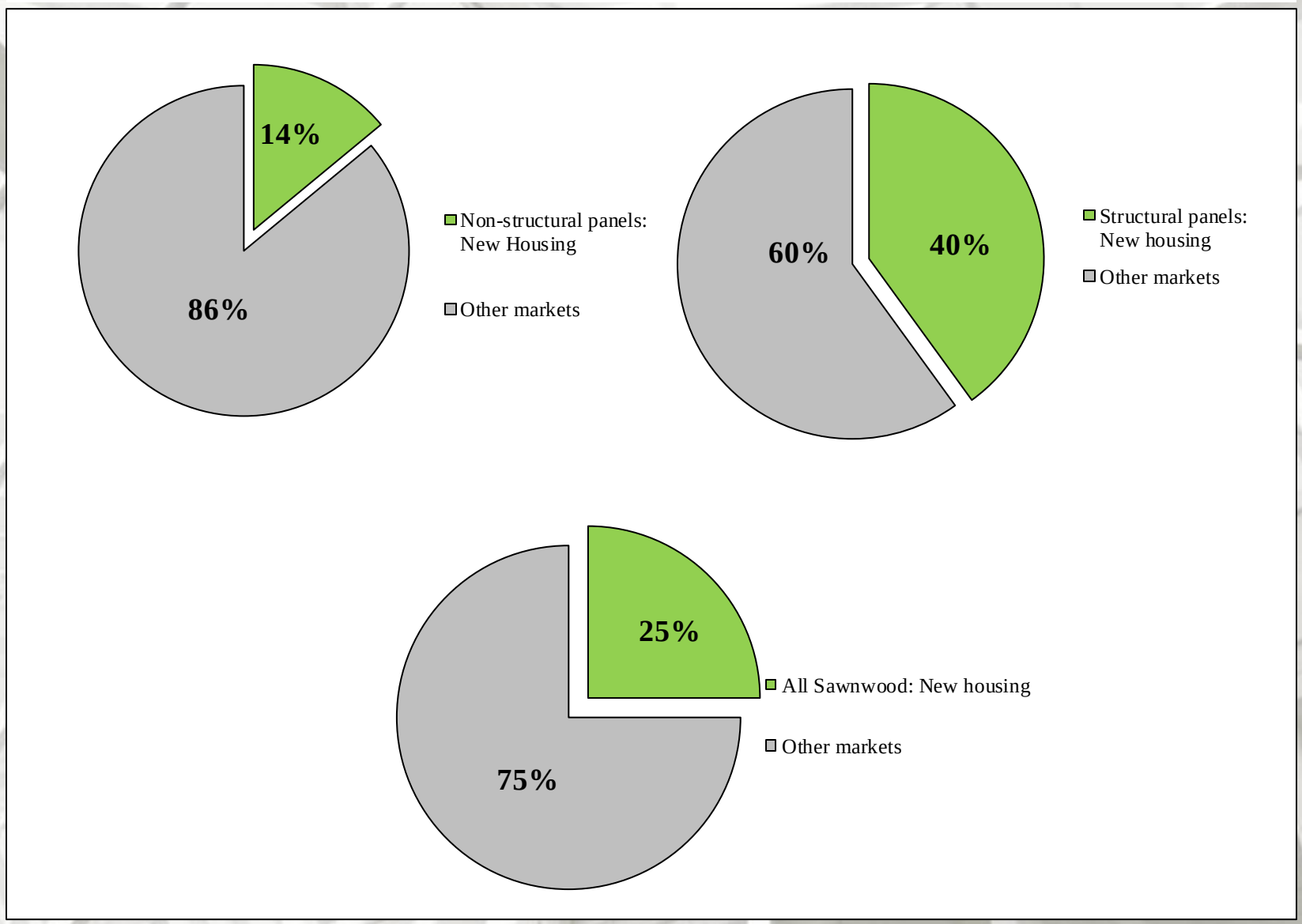
# New SF Construction Percentage of Wood Products Consumption




Source: USDA Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

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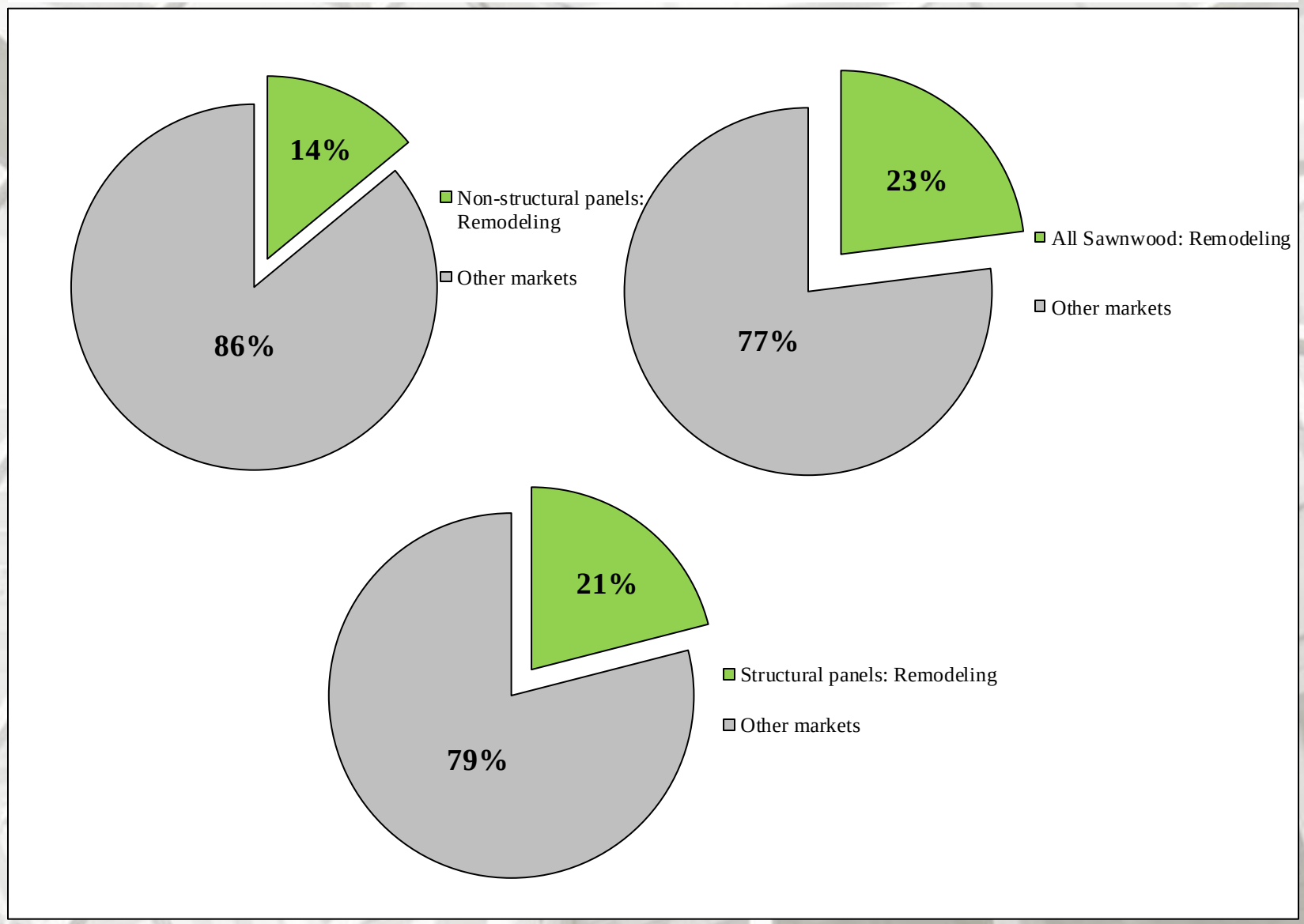
# Repair and Remodeling's Percentage of Wood Products Consumption




Source: USDA Forest Service. Howard, J. and D. McKeever. 2017. U.S. Forest Products Annual Market Review and Prospects, 2013-2017

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# 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** |

| Organization | Total Starts | SF Starts | New SF House Sales |
|---|---|---|---|
| APA - *The Engineered Wood Association* [a] | 1,335 | 915 | |
| Bank of Montreal (BMO)[b] | 1,350 | | |
| Deloitte[c] | 1,213 | | |
| Fannie Mae[d] | 1,360 | 975 | 726 |
| Freddie Mac[e] | 1,280 | | |
| Goldman Sachs[f] | 1,381 | | 708 |
| Grant Thornton LLP[g] | 1,330 | | |
| John Burns Real Estate LLC[h] | 1,200 | | |
| Mortgage Bankers Association (MBA)[i] | 1,305 | 920 | 726 |
| National Association of Homebuilders[j] | 1,303 | 920 | 708 |
| National Association of Realtors[k] | 1,310 | | 750 |

* All in thousands of units

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# 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** |

| Organization | Total Starts | SF Starts | New SF House Sales |
|---|---|---|---|
| PNC Financial Services Group[l] | 1,423 | | 747 |
| Fastmarkets RISI[m] | 1,275 | 890 | |
| Raymond James[n] | 1,350 | 925 | 695 |
| Royal Bank of Canada (RBC)[o] | 1,305 | | |
| Scotiabank[p] | 1,260 | | |
| TD Economics[q] | 1,330 | | |
| The Federal Reserve Bank of Chicago[r] | 1,280 | | |
| UCLA Ziman Center for Real Estate[s] | 1,250 to 1,300 | | |
| Urban Land Institute[t] | | 810 | |
| U.S. Energy Information Administration[u] | 1,290 | | |
| Wells Fargo LLC[v] | 1,330 | 935 | 730 |
| Zelman & Associates[w] | | 990 | |

* All in thousands of units

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# References


a- APA – *The Engineered Wood Association*. Housing Starts December 2019. 1/17/20. Tacoma, WA. 42 pps.

b- https://economics.bmo.com/media/filer_public/56/3f/563fbe0f-83d5-4aee-81d7-3464c6bcd947/usmodel.pdf

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

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e- https://www.urban.org/sites/default/files/publication/101476/housing_finance_at_a_glance_a_monthly_chartbook_december_2019.pdf

f- https://www.goldmansachs.com/insights/pages/outlook-2020-f/US/report.pdf

g-https://www.grantthornton.com/-/media/content-page-files/economic-analysis/economic-update/economic-update-january-2020/economic-currents-january-2020-v2.ashx

h- *SBC Magazine*, Will we see housing's hiccup next year? SBC Magazine, Madison, WI. December 2019, p. 17.

i- https://www.mba.org/news-research-and-resources/research-and-economics/forecasts-and-commentary/mortgage-finance-forecast-archives

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v- https://www08.wellsfargomedia.com/assets/pdf/commercial/insights/economics/real-estate-and-housing/housing-chartbook-20200109.pdf

w- https://www.builderonline.com/builder-100/strategy/zelman-on-2019-get-ready-for-flat-to-down_o


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# 2019# Housing Forecasts*

| | | |
|---|---|---|
| **Total starts, range:** | **1,134 to 1,400** | **Median: 1,280** |
| **Single-family starts, range:** | **815 to 920** | **Median: 900** |
| **New SF house sales, range:** | **618 to 688** | **Median: 638** |

# 2018# Housing Forecasts*

| | | |
|---|---|---|
| **Total starts, range:** | **1,248 to 1,320** | **Median: 1,280** |
| **Single-family starts, range:** | **850 to 981** | **Median: 912** |
| **New SF house sales, range:** | **653 to 700** | **Median: 672** |

# 2017# Housing Forecasts*

| | | |
|---|---|---|
| **Total starts, range:** | **1,170 to 1,500** | **Median: 1,271** |
| **Single-family starts, range:** | **795 to 893** | **Median: 856** |
| **New SF house sales, range:** | **610 to 680** | **Median: 642** |

# The Virginia Tech-USDA Forest Service Housing Commentary, December 2018

* All in thousands of units.

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# New Housing Starts

| | Total Starts* | SF Starts | MF 2-4 Starts** | MF ≥5 Starts |
|---|---|---|---|---|
| December | 1,608,000 | 1,055,000 | 17,000 | 536,000 |
| November | 1,375,000 | 949,000 | 20,000 | 406,000 |
| 2018 | 1,142,000 | 814,000 | 21,000 | 307,000 |
| M/M change | 16.9% | 11.2% | -15.0% | 32.0% |
| Y/Y change | 40.8% | 29.6% | -19.0% | 74.6% |

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

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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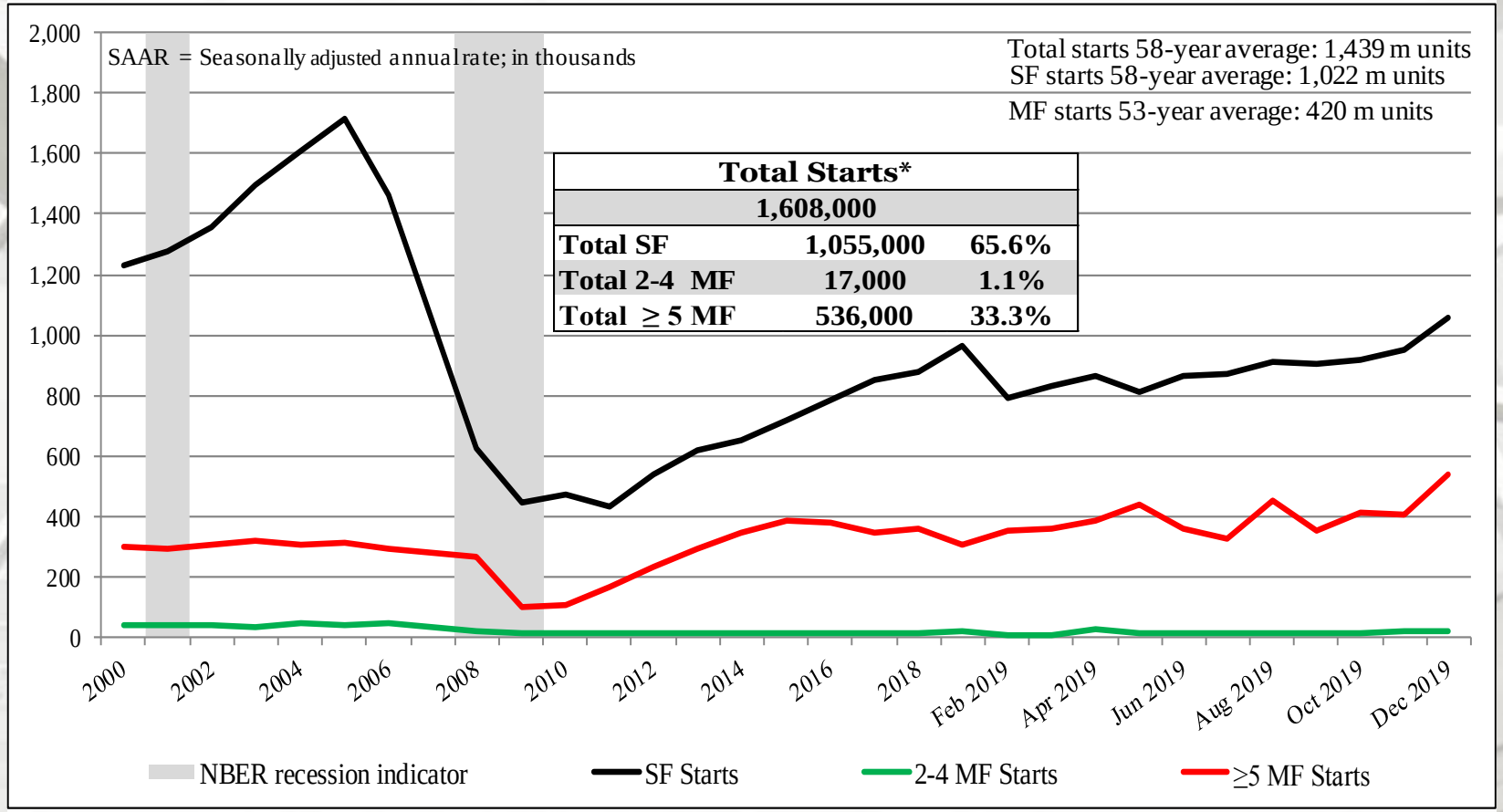
# Total Housing Starts




US DOC does not report 2 to 4 multifamily 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, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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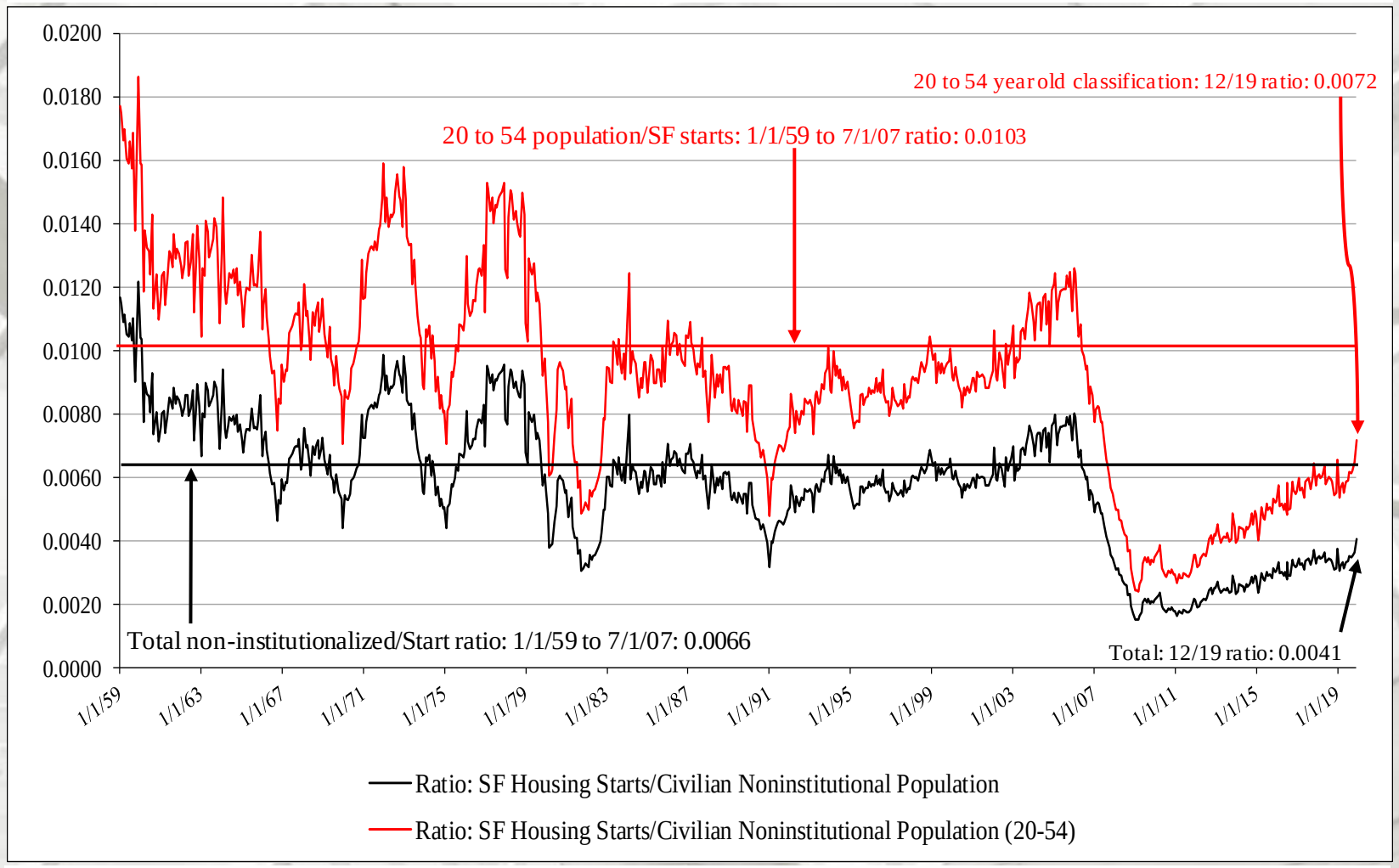
# New SF Starts




## New SF starts adjusted for the US population

From December 1959 to December 2007, the long-term ratio of new SF starts to the total US non-institutionalized population was 0.0066; in December 2019 it was 0.0041 – a large increase from November (0.0036). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in December 2019 was 0.0072 – also an increase from November (0.0065). From a population worldview, new SF construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrc/pdf/newresconst.pdff and The Federal Reserve Bank of St. Louis; 1/17/20

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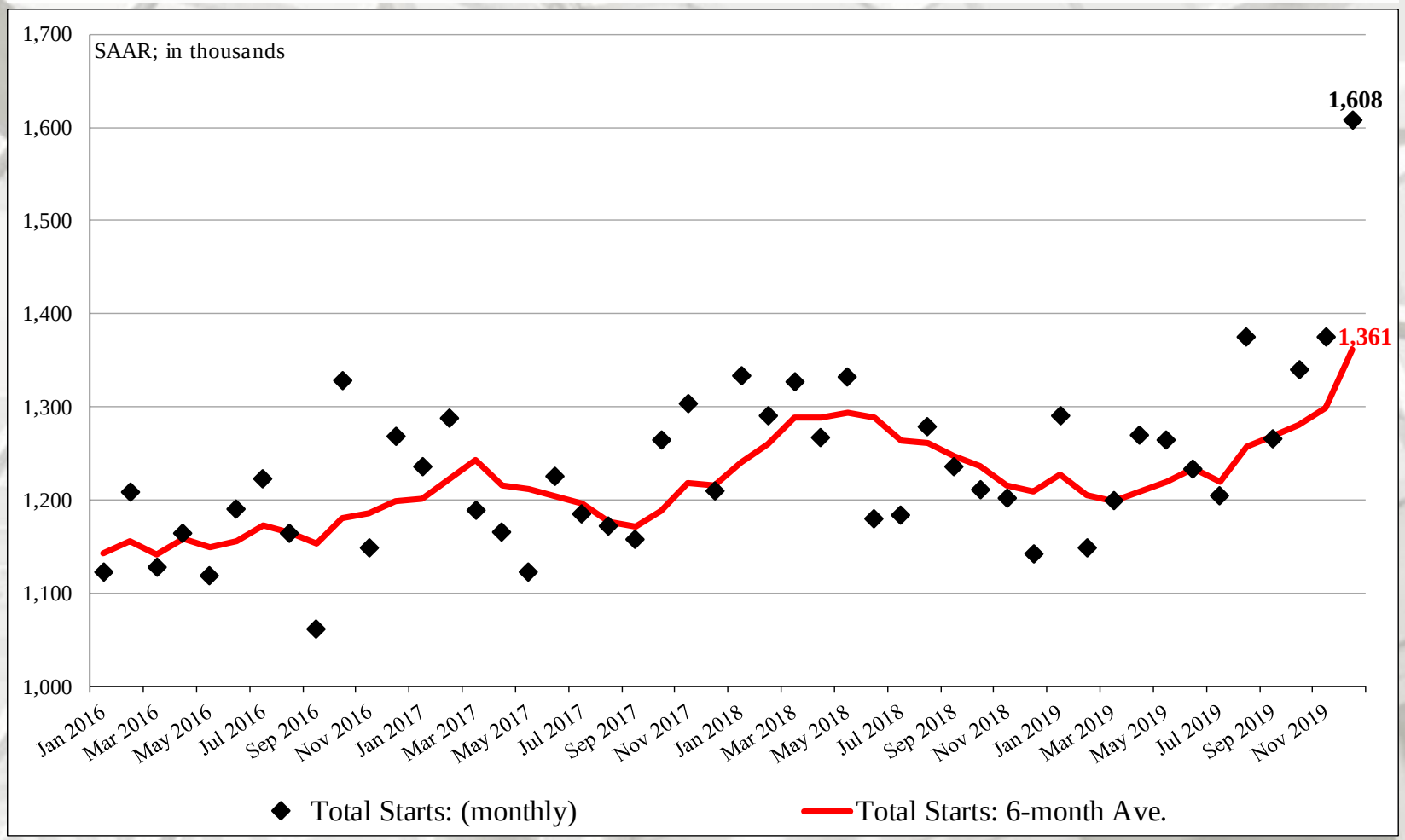
# Total Housing Starts: Six-Month Average




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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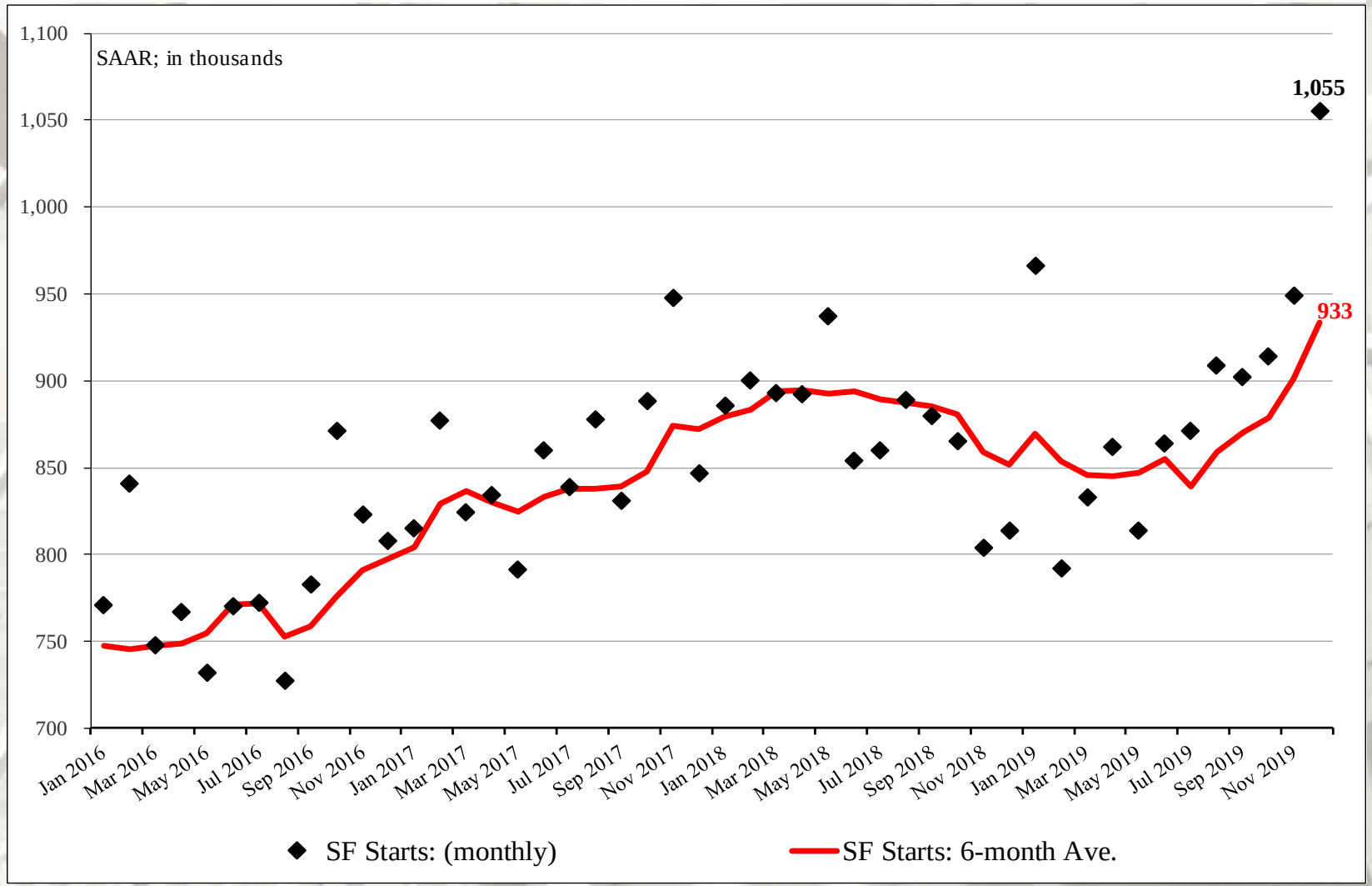
# SF Housing Starts: Six-Month Average




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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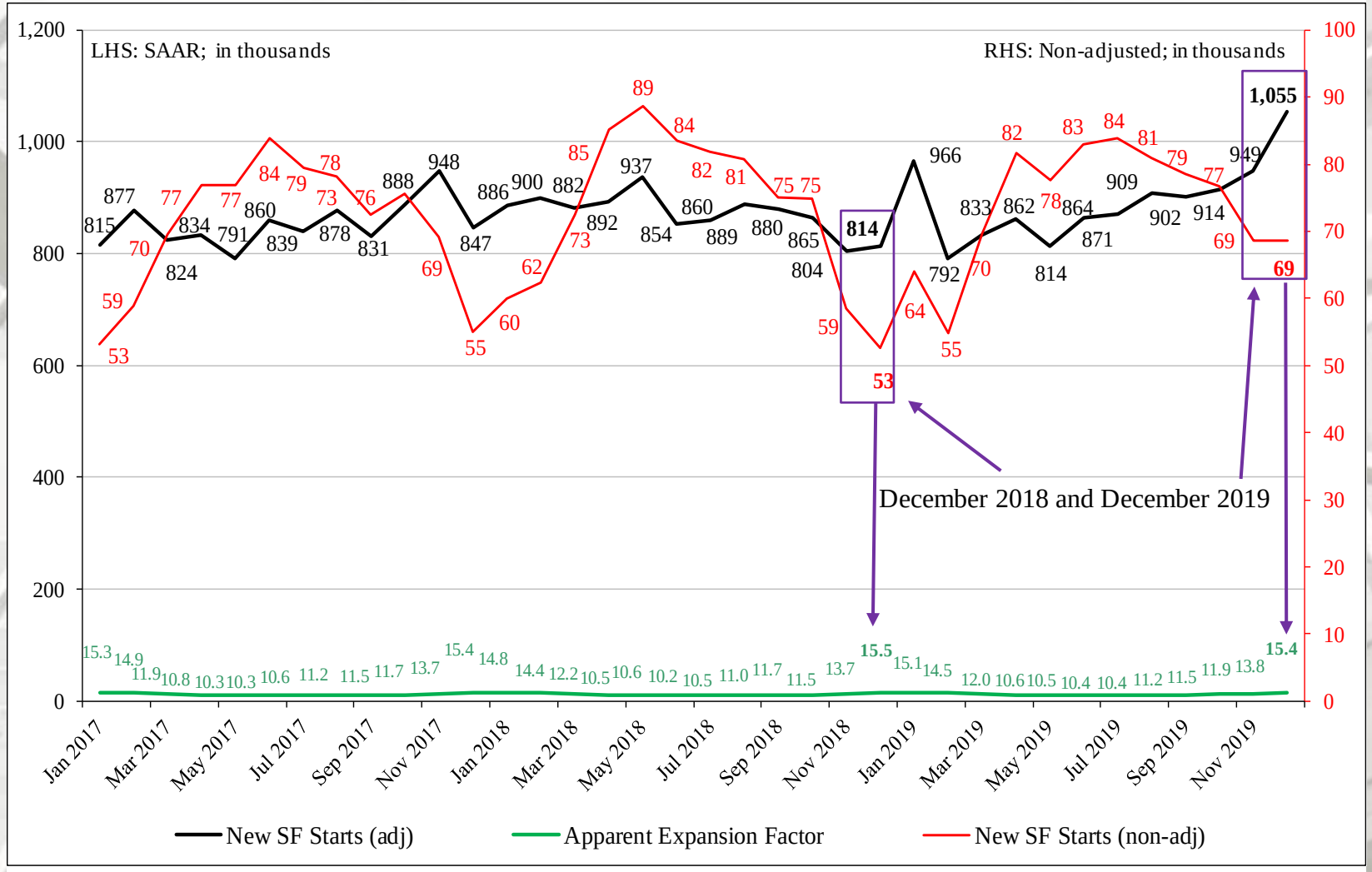
# Nominal & SAAR SF Starts




## 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; 1/17/20

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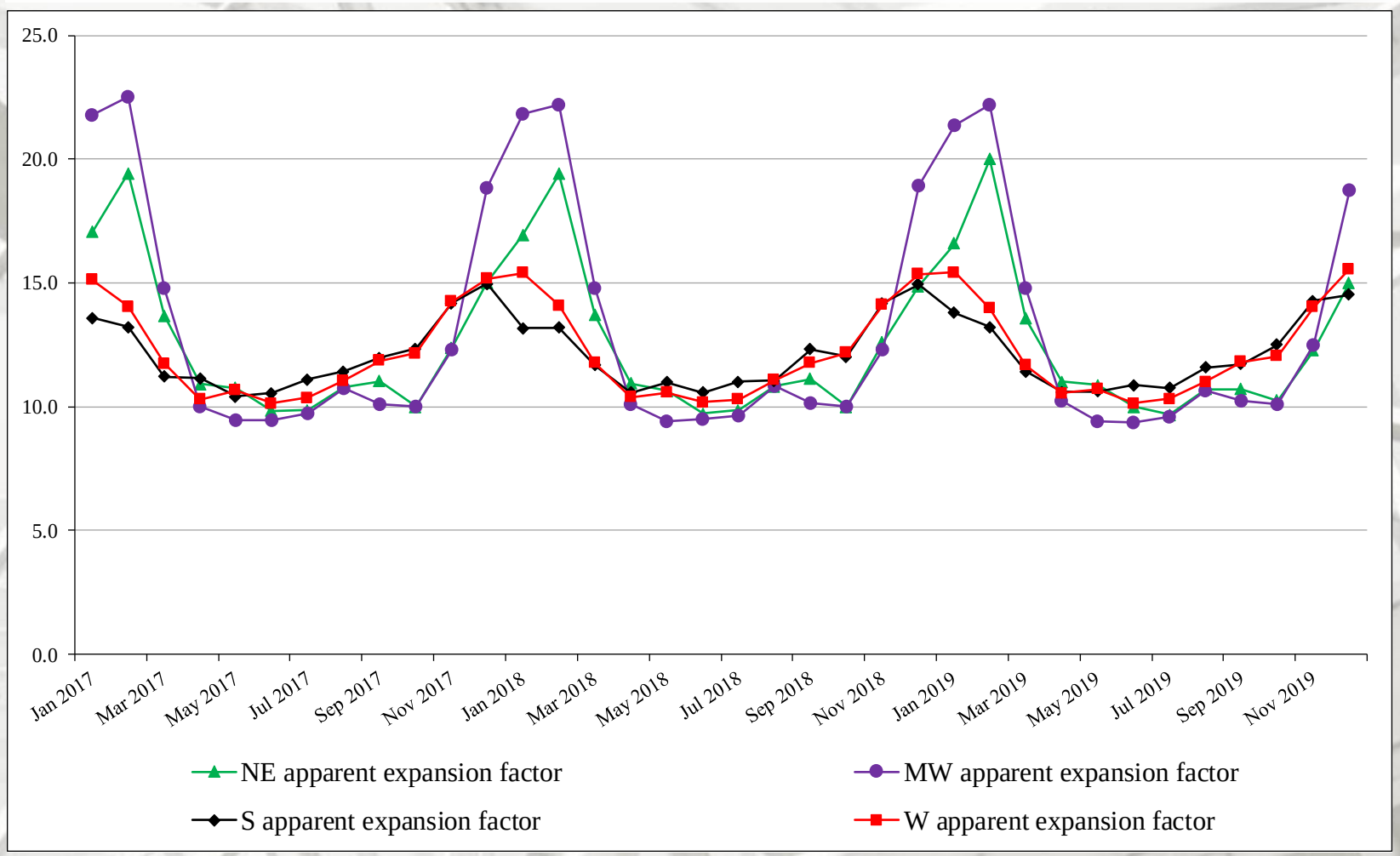
# Regional Starts: Apparent Expansion Factors




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Starts by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 133,000 | 60,000 | 73,000 |
| November | 106,000 | 65,000 | 41,000 |
| 2018 | 112,000 | 58,000 | 54,000 |
| M/M change | 25.5% | -7.7% | 78.0% |
| Y/Y change | 18.8% | 3.4% | 35.2% |
| | **MW Total** | **MW SF** | **MW MF** |
| December | 254,000 | 180,000 | 74,000 |
| November | 185,000 | 115,000 | 70,000 |
| 2018 | 137,000 | 104,000 | 33,000 |
| M/M change | 37.3% | 56.5% | 5.7% |
| Y/Y change | 85.4% | 73.1% | 124.2% |

All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Starts by Region

| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 810,000 | 580,000 | 230,000 |
| November | 741,000 | 521,000 | 220,000 |
| 2017 | 655,000 | 480,000 | 175,000 |
| M/M change | 9.3% | 11.3% | 4.5% |
| Y/Y change | 23.7% | 20.8% | 31.4% |
| | **W Total** | **W SF** | **W MF** |
| December | 411,000 | 235,000 | 176,000 |
| November | 343,000 | 248,000 | 95,000 |
| 2018 | 238,000 | 172,000 | 66,000 |
| M/M change | 19.8% | -5.2% | 85.3% |
| Y/Y change | 72.7% | 36.6% | 166.7% |

All data are SAAR; S = South and W = West.
** US DOC does not report multifamily starts directly, this is an estimation (Total starts – SF starts).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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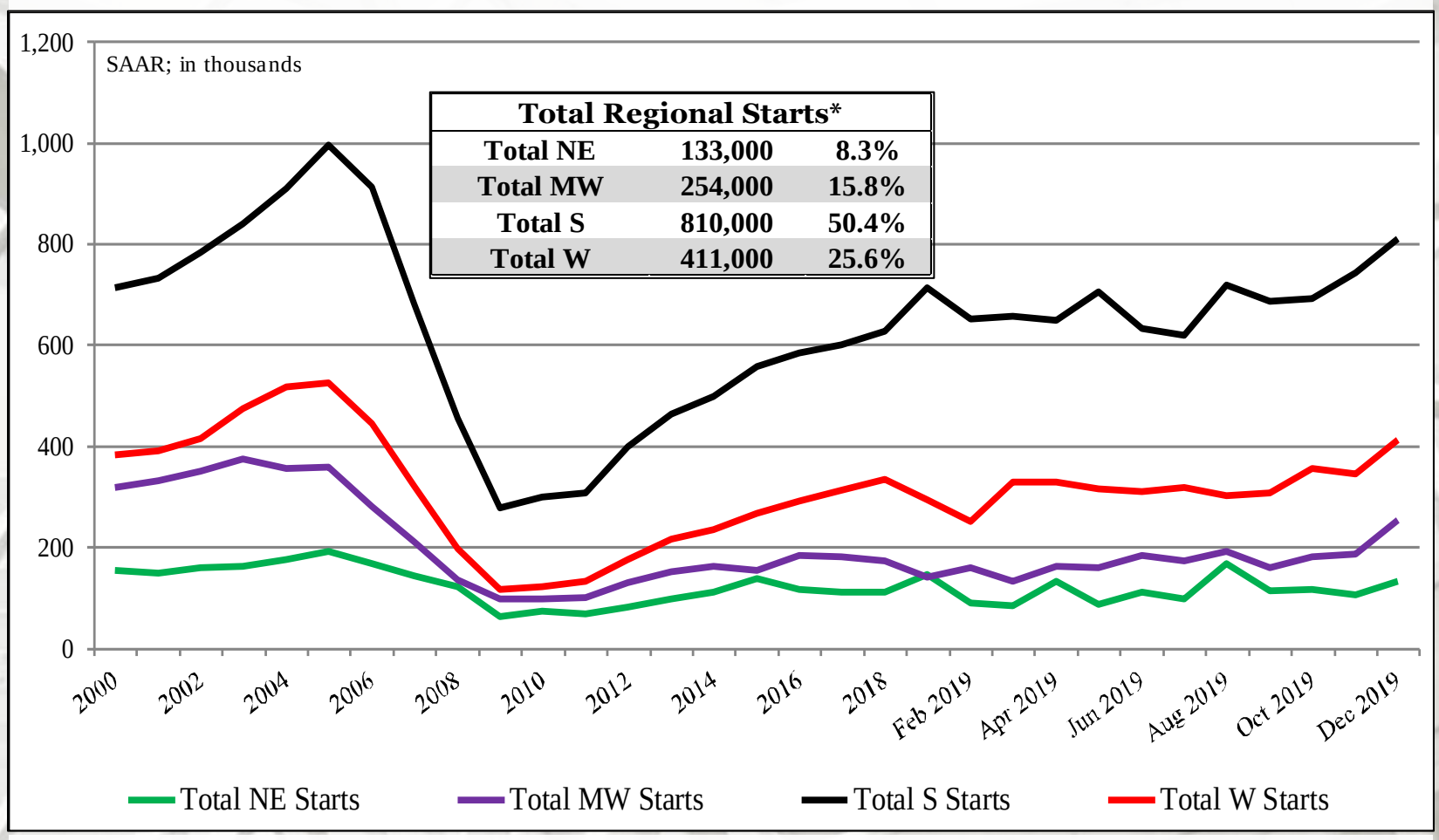
# New Housing Starts by Region




| Total Regional Starts* | | |
|---|---|---|
| Total NE | 133,000 | 8.3% |
| Total MW | 254,000 | 15.8% |
| Total S | 810,000 | 50.4% |
| Total W | 411,000 | 25.6% |

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; 1/17/20

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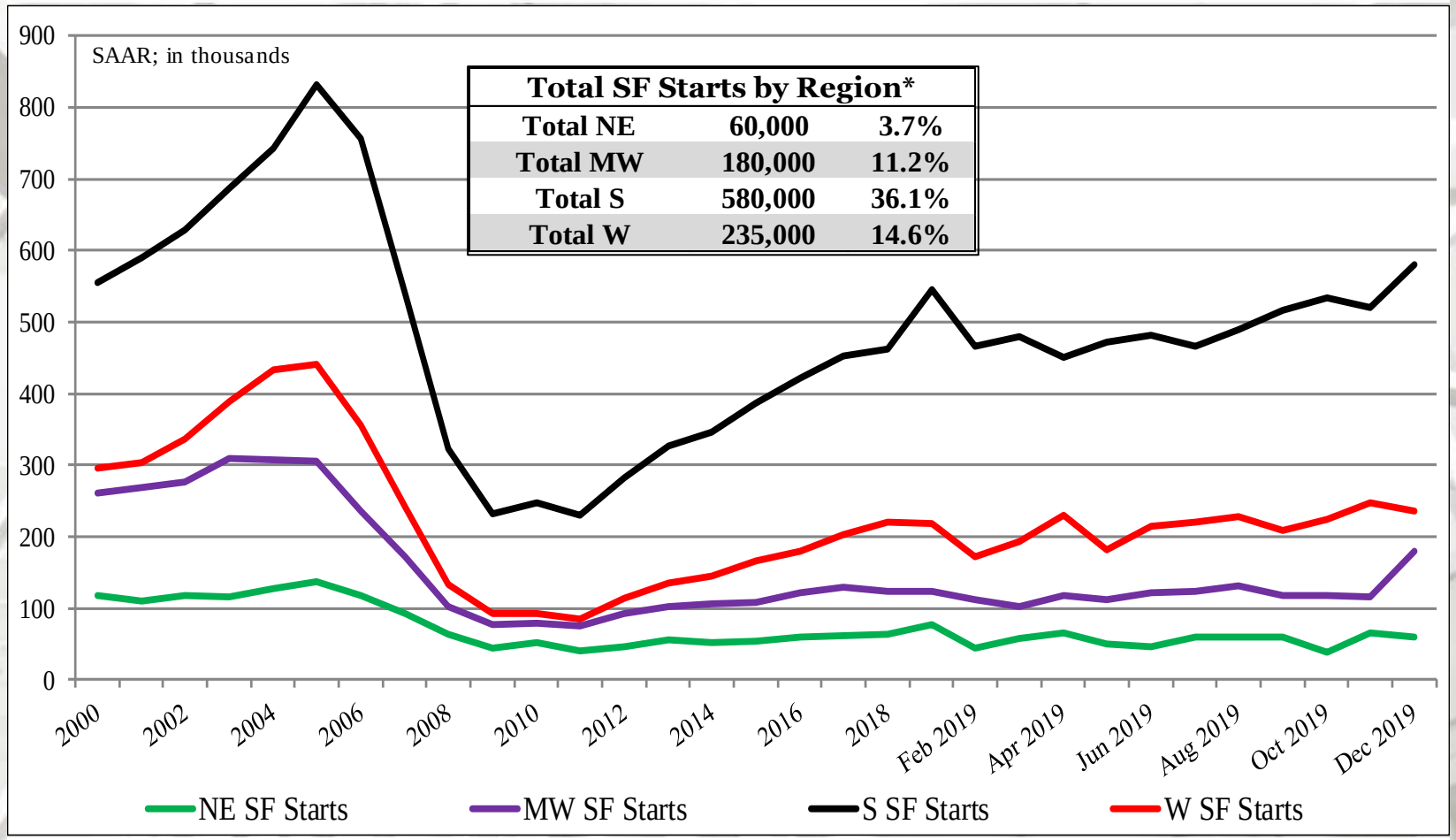
# Total SF Housing Starts by Region




| Total SF Starts by Region* | | |
|---|---|---|
| Total NE | 60,000 | 3.7% |
| Total MW | 180,000 | 11.2% |
| Total S | 580,000 | 36.1% |
| Total W | 235,000 | 14.6% |

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; 1/17/20

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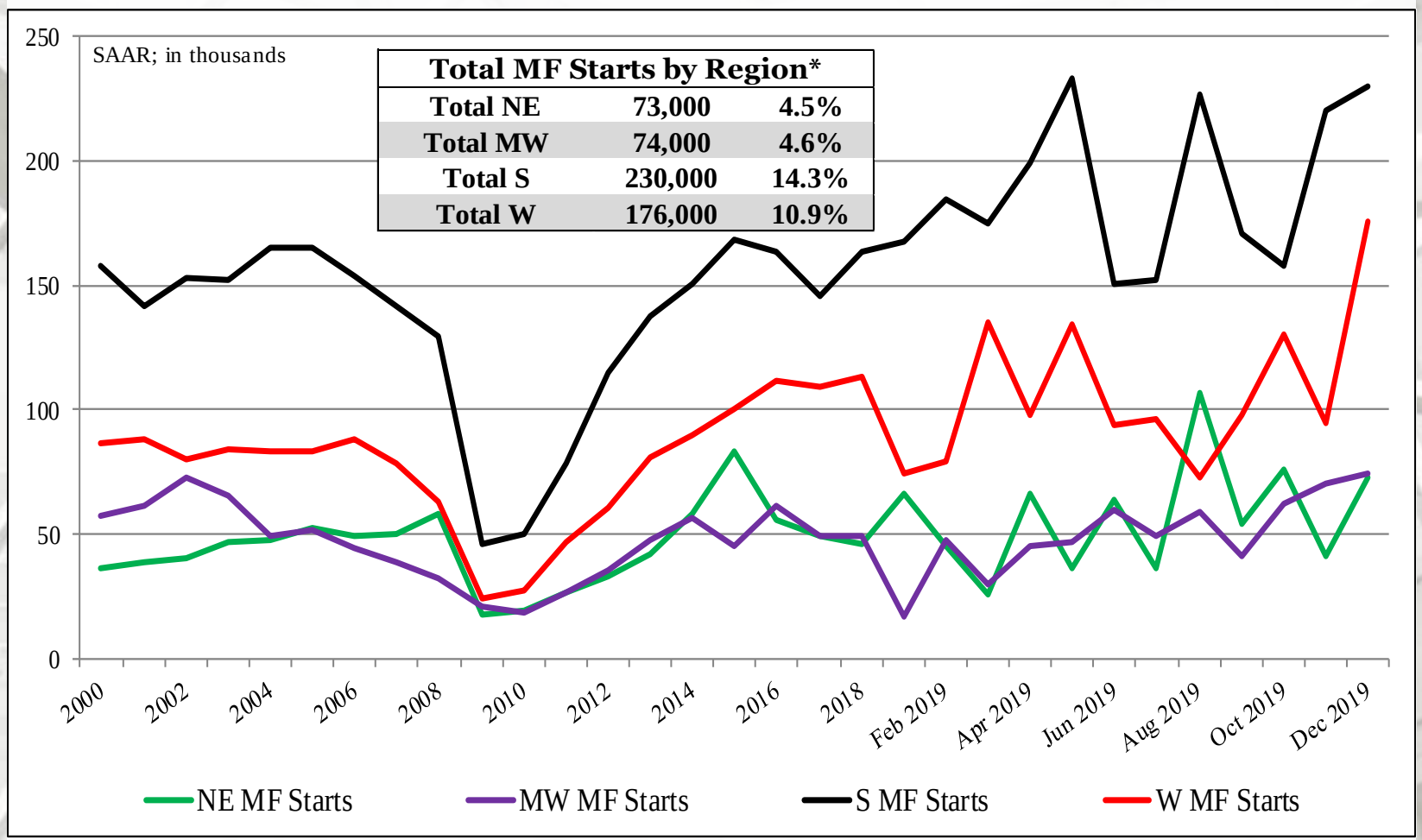
# MF Housing Starts by Region




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.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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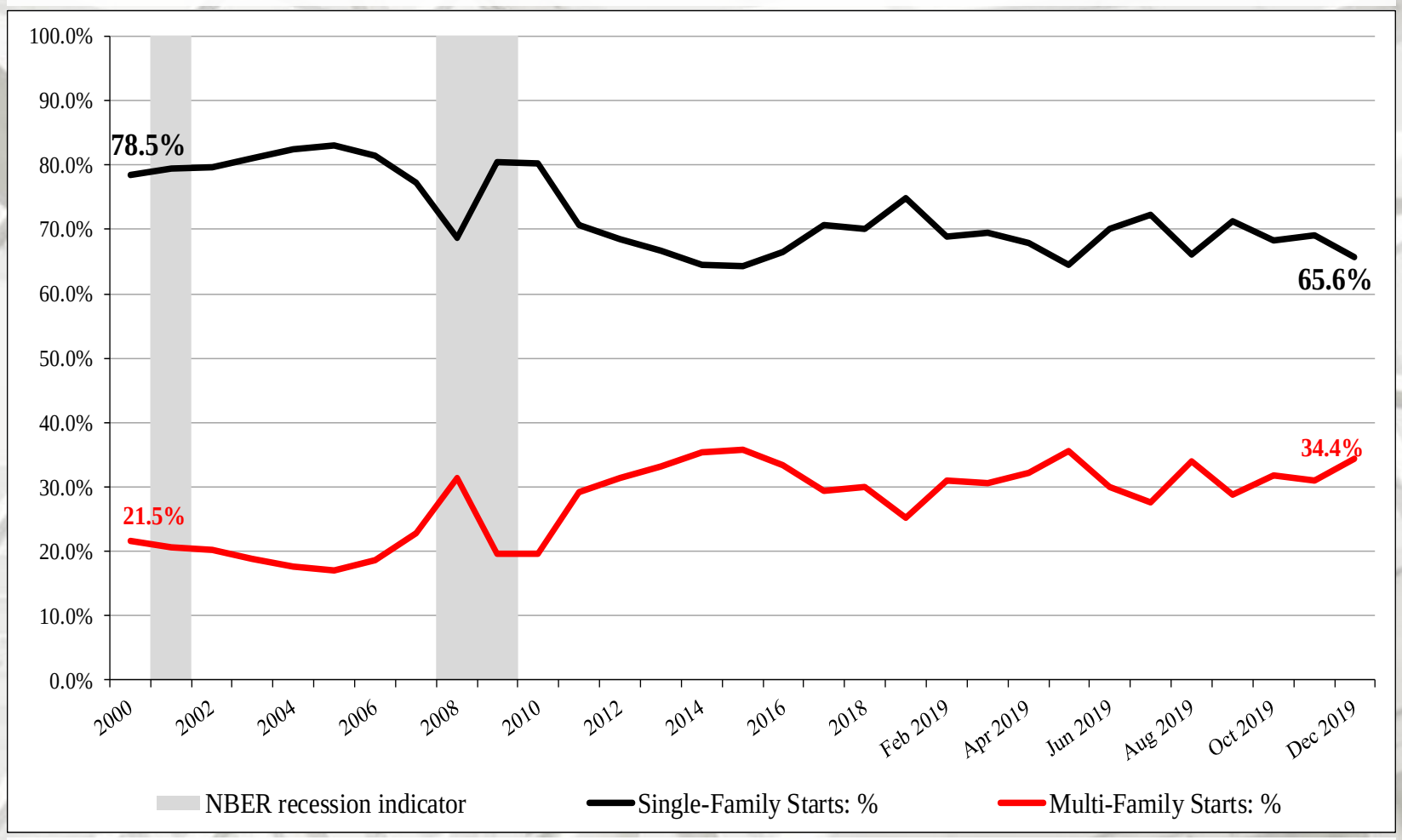
# SF vs. MF Housing Starts (%)




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, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Permits

| | Total Permits* | SF Permits | MF 2-4 unit Permits | MF ≥ 5 unit Permits |
|---|---|---|---|---|
| December | 1,416,000 | 916,000 | 42,000 | 458,000 |
| November | 1,474,000 | 921,000 | 38,000 | 515,000 |
| 2018 | 1,339,000 | 827,000 | 40,000 | 472,000 |
| M/M change | -3.9% | -0.5% | 10.5% | -11.1% |
| Y/Y change | 5.8% | 10.8% | 5.0% | -3.0% |

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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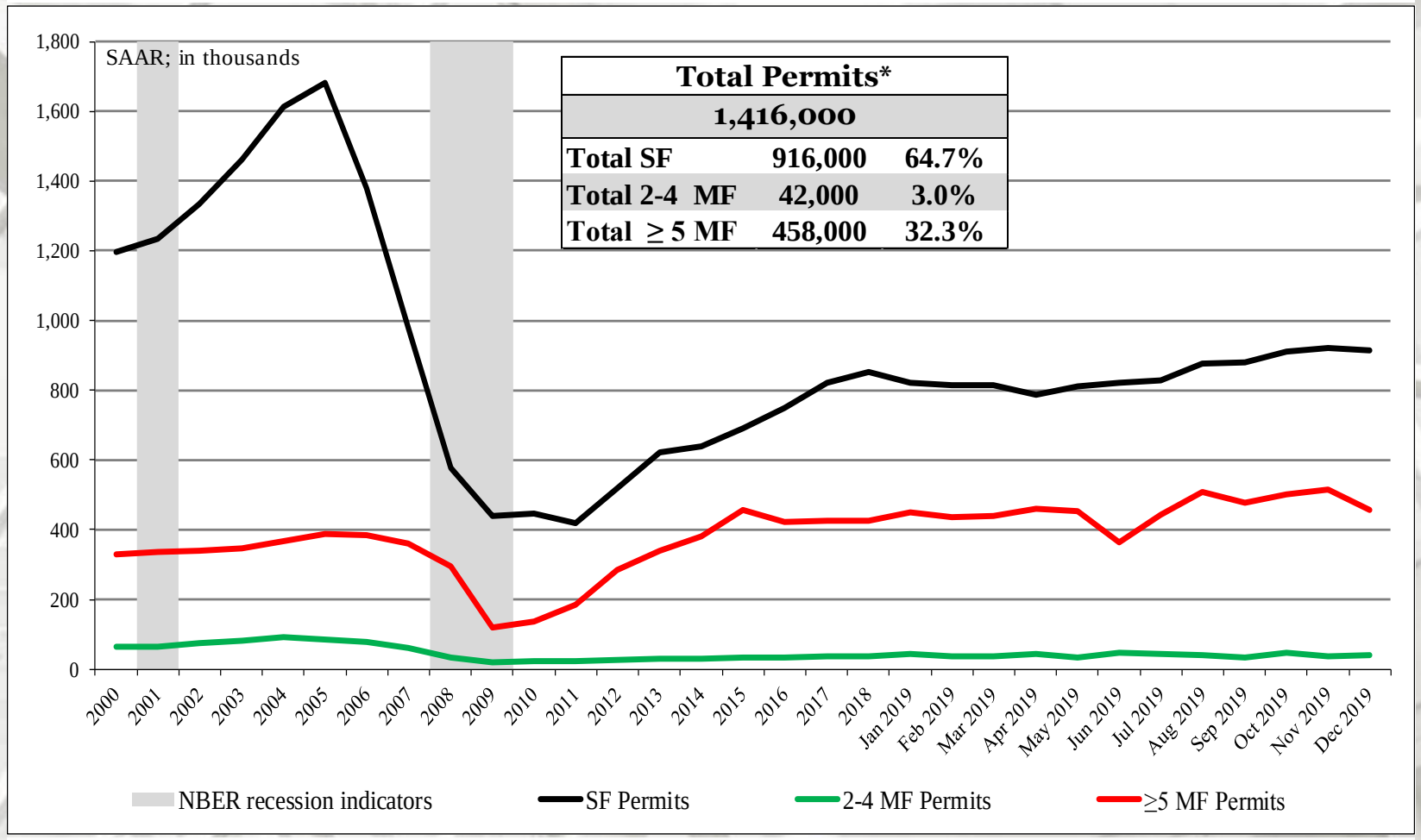
# Total New Housing Permits




* 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, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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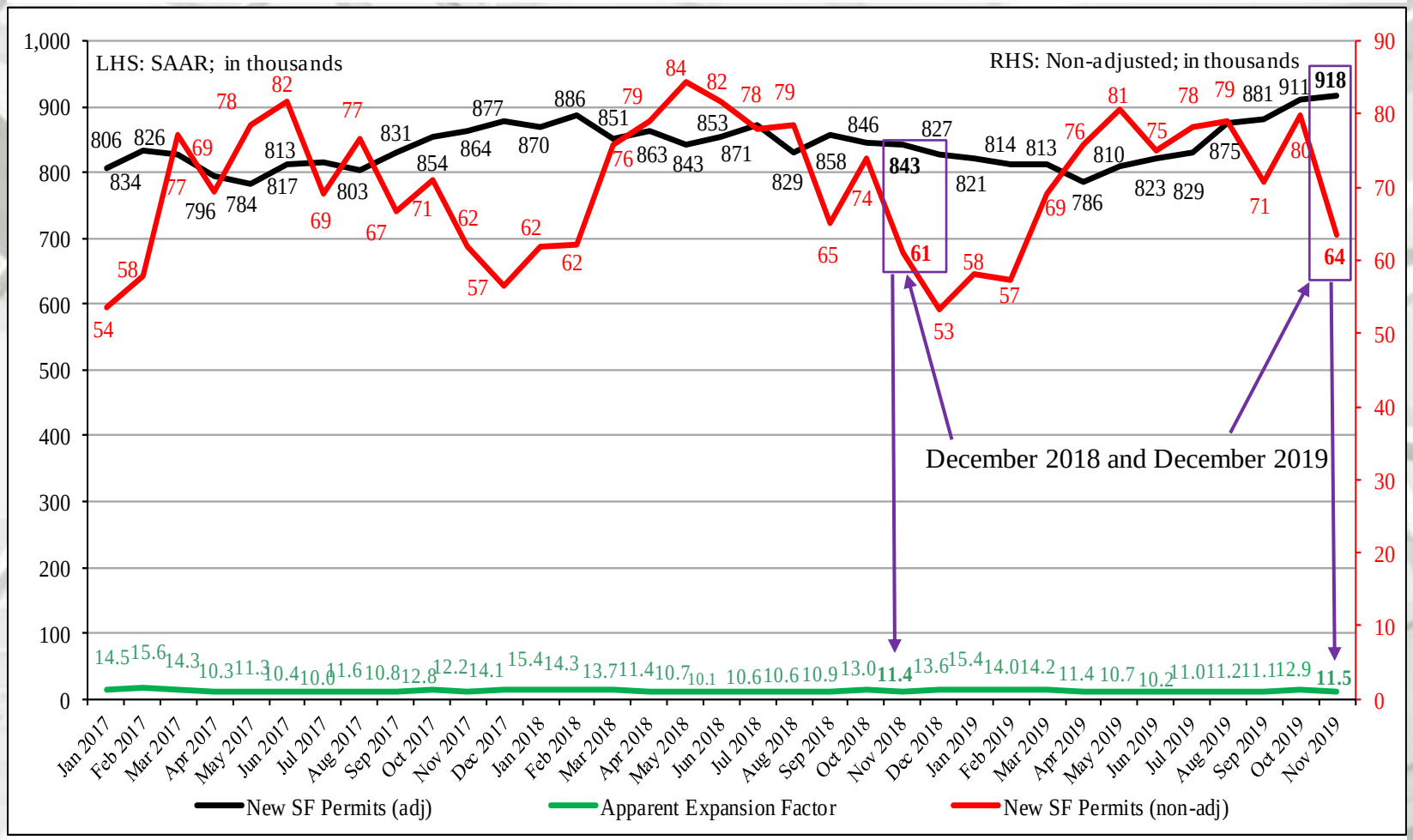
# Nominal & SAAR SF Permits




## Nominal and Adjusted New SF Monthly Permits

Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

The apparent expansion factor "…is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Permits by Region

| | NE Total* | NE SF | NE MF** |
|---|---|---|---|
| December | 134,000 | 47,000 | 87,000 |
| November | 159,000 | 56,000 | 103,000 |
| 2018 | 120,000 | 55,000 | 65,000 |
| M/M change | -15.7% | -16.1% | -15.5% |
| Y/Y change | 11.7% | -14.5% | 33.8% |
| | **MW Total*** | **MW SF** | **MW MF**** |
| December | 207,000 | 129,000 | 78,000 |
| November | 206,000 | 113,000 | 93,000 |
| 2018 | 145,000 | 110,000 | 35,000 |
| M/M change | 0.5% | 14.2% | -16.1% |
| Y/Y change | 42.8% | 17.3% | 122.9% |

NE = Northeast; ME = Midwest
* All data are SAAR
** US DOC does not report multifamily permits directly, this is an estimation (Total permits – SF permits).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Permits by Region

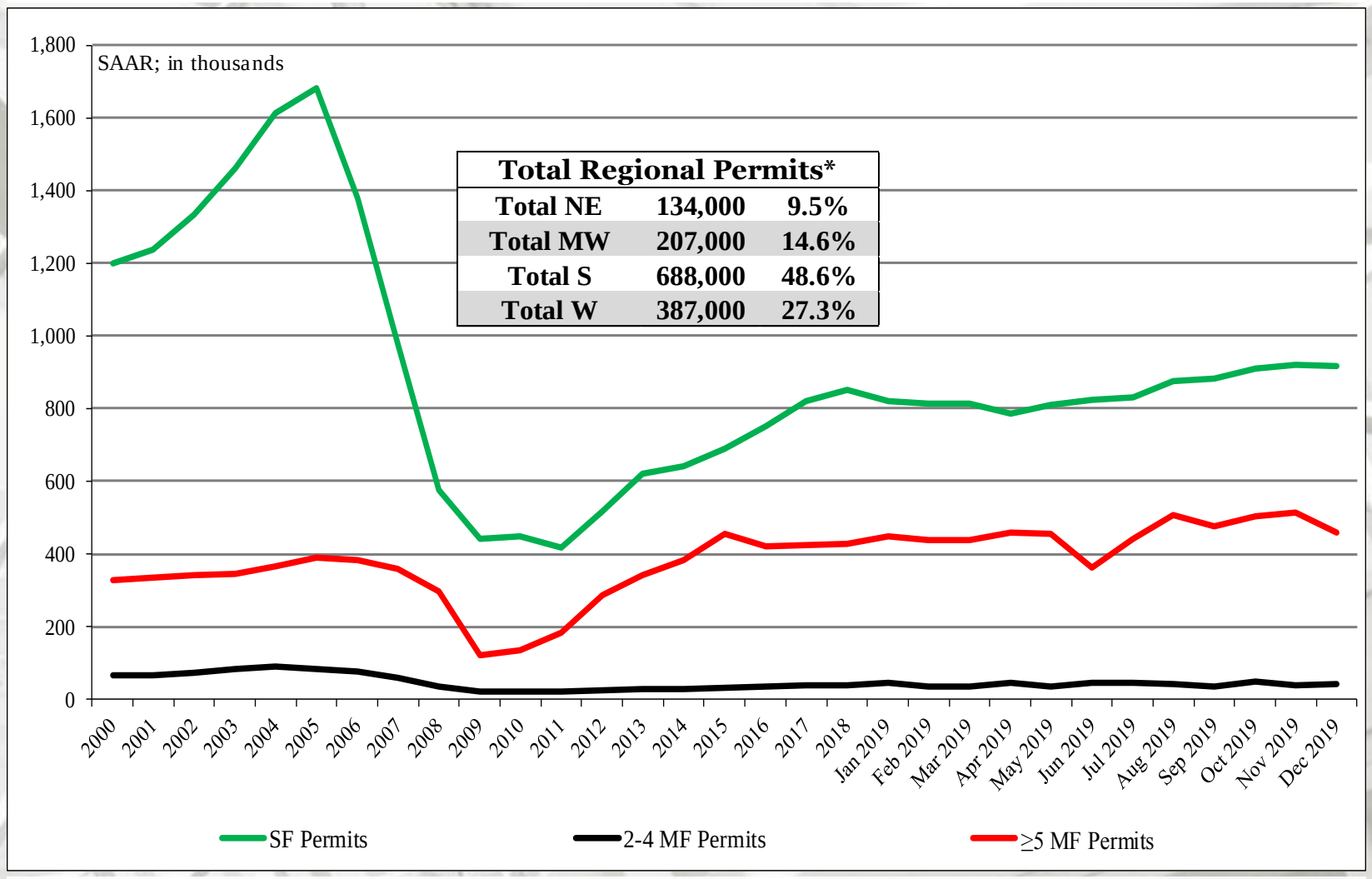
| | S Total* | S SF | S MF** |
|---|---|---|---|
| December | 688,000 | 515,000 | 173,000 |
| November | 736,000 | 517,000 | 219,000 |
| 2018 | 689,000 | 460,000 | 229,000 |
| M/M change | -6.5% | -0.4% | -21.0% |
| Y/Y change | -0.1% | 12.0% | -24.5% |
| | **W Total*** | **W SF** | **W MF**** |
| December | 387,000 | 225,000 | 162,000 |
| November | 373,000 | 235,000 | 138,000 |
| 2018 | 385,000 | 202,000 | 183,000 |
| M/M change | 3.8% | -4.3% | 17.4% |
| Y/Y change | 0.5% | 11.4% | -11.5% |

S = South; W = West
* All data are SAAR
** US DOC does not report multifamily permits directly, this is an estimation (Total permits – SF permits).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# Total Housing Permits by Region




| Total Regional Permits* | | |
|---|---|---|
| Total NE | 134,000 | 9.5% |
| Total MW | 207,000 | 14.6% |
| Total S | 688,000 | 48.6% |
| Total W | 387,000 | 27.3% |

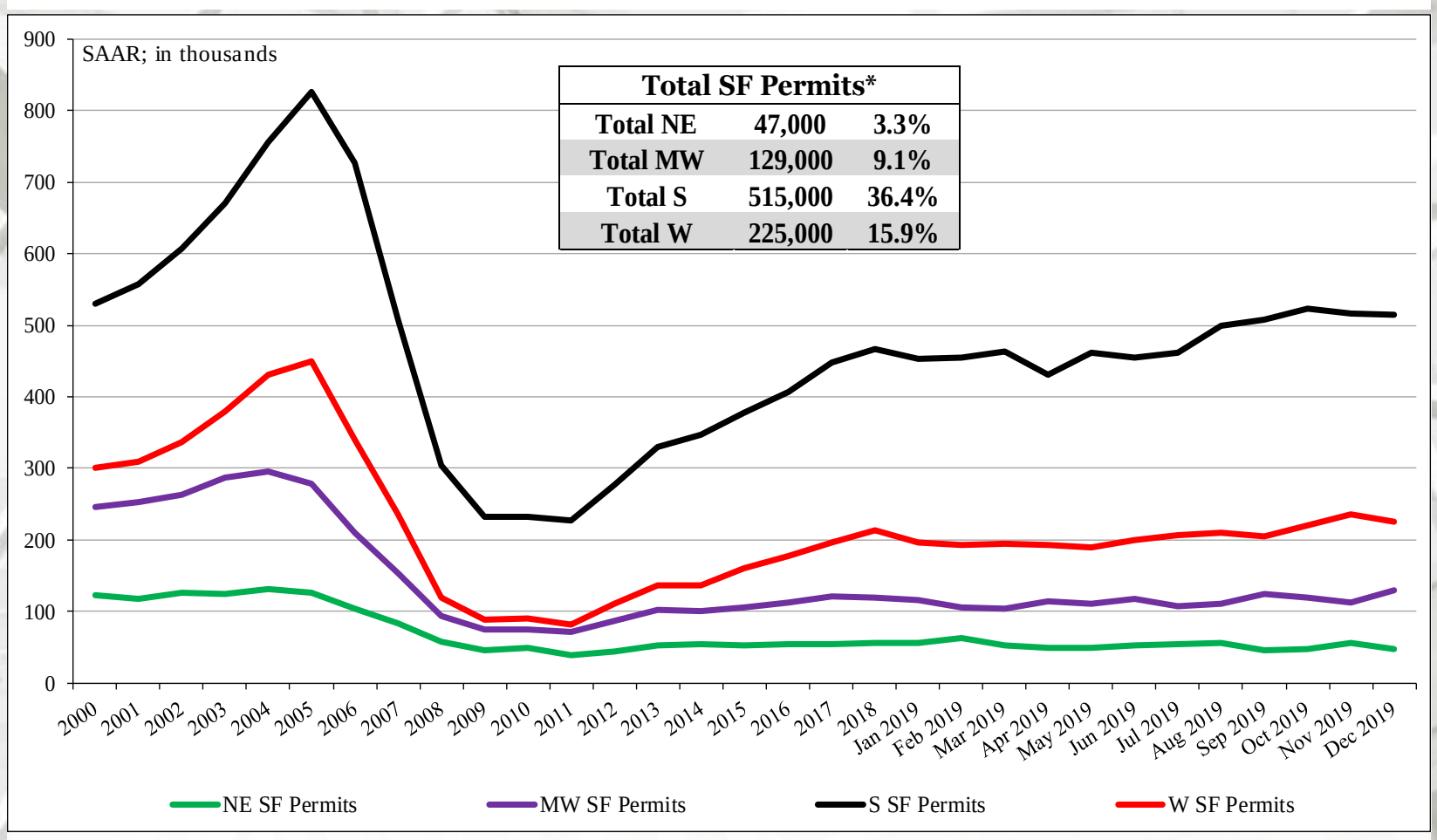
NE = Northeast, MW = Midwest, S = South, W = West

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# SF Housing Permits by Region




| Total SF Permits* | | |
|---|---|---|
| Total NE | 47,000 | 3.3% |
| Total MW | 129,000 | 9.1% |
| Total S | 515,000 | 36.4% |
| Total W | 225,000 | 15.9% |

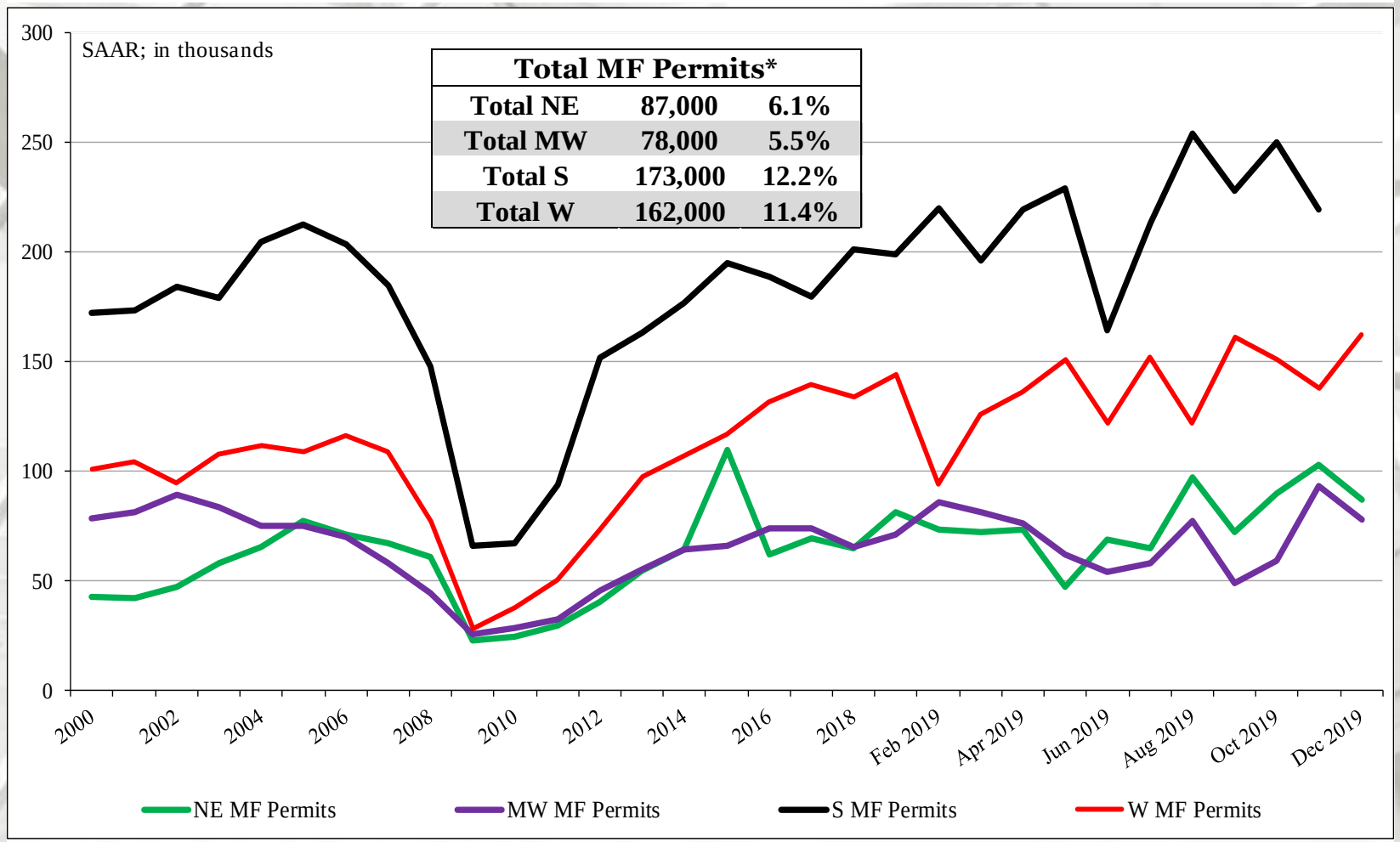
NE = Northeast, MW = Midwest, S = South, W = West

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# MF Housing Permits by Region




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

* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# New Housing Under Construction (HUC)

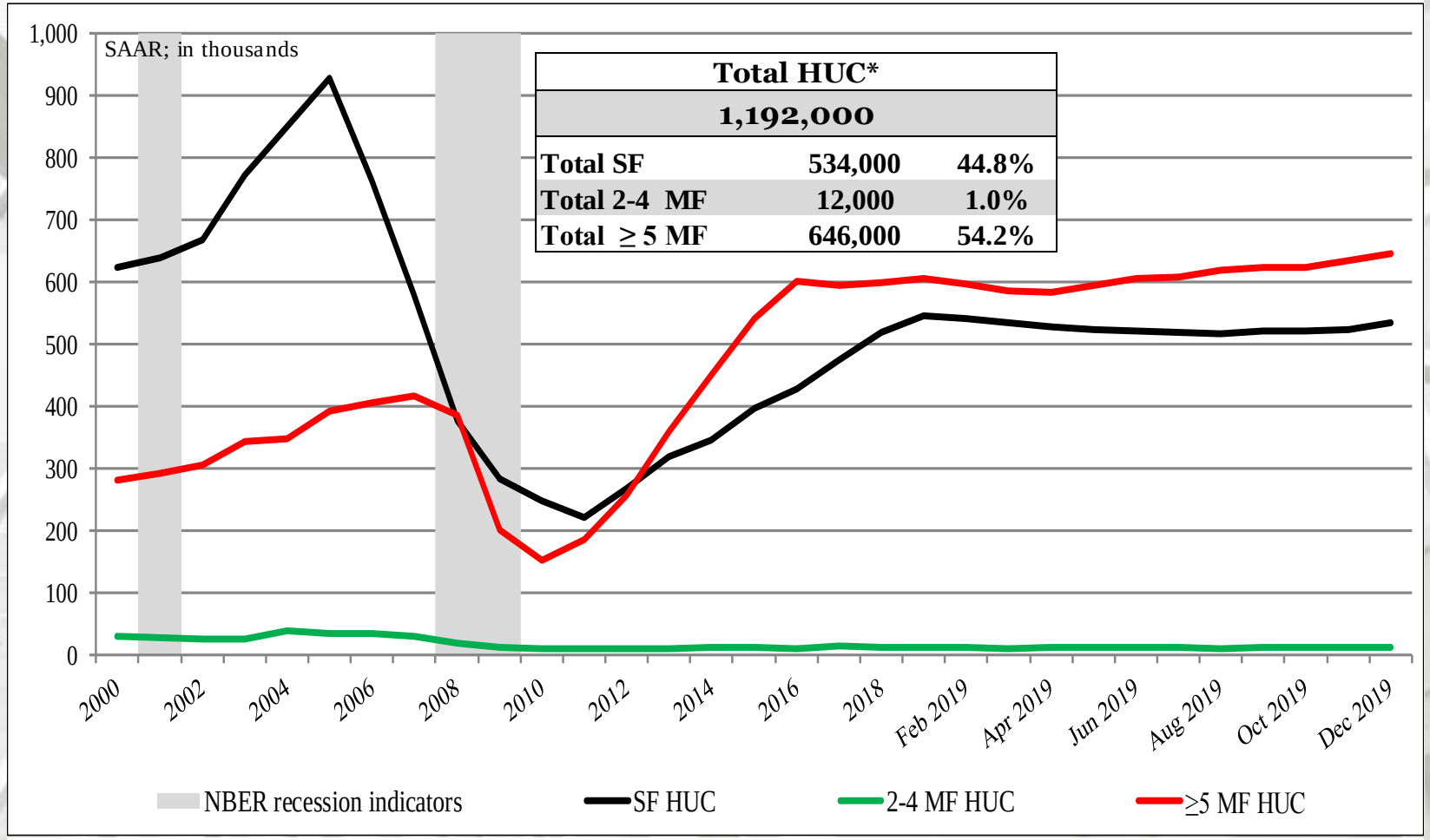
| | Total Under Construction* | SF Under Construction | MF 2-4 unit** Under Construction | MF ≥ 5 unit Under Construction |
|---|---|---|---|---|
| December | 1,192,000 | 534,000 | 12,000 | 646,000 |
| November | 1,169,000 | 524,000 | 11,000 | 634,000 |
| 2018 | 1,154,000 | 540,000 | 12,000 | 602,000 |
| M/M change | 2.0% | 1.9% | 9.1% | 1.9% |
| Y/Y change | 3.3% | -1.1% | 0.0% | 7.3% |

All housing under construction data are presented at a seasonally adjusted annual rate (SAAR).
** US DOC does not report 2-4 multifamily 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; 1/17/20

Return TOC

# Total Housing Under Construction




| Total HUC* | | |
|---|---|---|
| 1,192,000 | | |
| Total SF | 534,000 | 44.8% |
| Total 2-4 MF | 12,000 | 1.0% |
| Total ≥ 5 MF | 646,000 | 54.2% |

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

* Percentage of total housing under construction units.

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

Sources: https://fred.stlouisfed.org/series/USREC, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# New Housing Under Construction by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 177,000 | 57,000 | 120,000 |
| November | 179,000 | 57,000 | 122,000 |
| 2018 | 188,000 | 63,000 | 125,000 |
| M/M change | -1.1% | 0.0% | -1.6% |
| Y/Y change | -5.9% | -9.5% | -4.0% |

| | MW Total | MW SF | MW MF |
|---|---|---|---|
| December | 156,000 | 80,000 | 76,000 |
| November | 149,000 | 76,000 | 73,000 |
| 2018 | 155,000 | 82,000 | 73,000 |
| M/M change | 4.7% | 5.3% | 4.1% |
| Y/Y change | 0.6% | -2.4% | 4.1% |

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# New Housing Under Construction by Region

| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 518,000 | 255,000 | 263,000 |
| November | 506,000 | 250,000 | 256,000 |
| 2018 | 478,000 | 251,000 | 227,000 |
| M/M change | 2.4% | 2.0% | 2.7% |
| Y/Y change | 8.4% | 1.6% | 15.9% |
| | **W Total** | **W SF** | **W MF** |
| December | 341,000 | 142,000 | 199,000 |
| November | 335,000 | 141,000 | 194,000 |
| 2018 | 333,000 | 144,000 | 189,000 |
| M/M change | 1.8% | 0.7% | 2.6% |
| Y/Y change | 2.4% | -1.4% | 5.3% |

All data are SAAR; S = South and W = West.

** US DOC does not report multifamily units under construction directly, this is an estimation (Total under construction – SF under construction).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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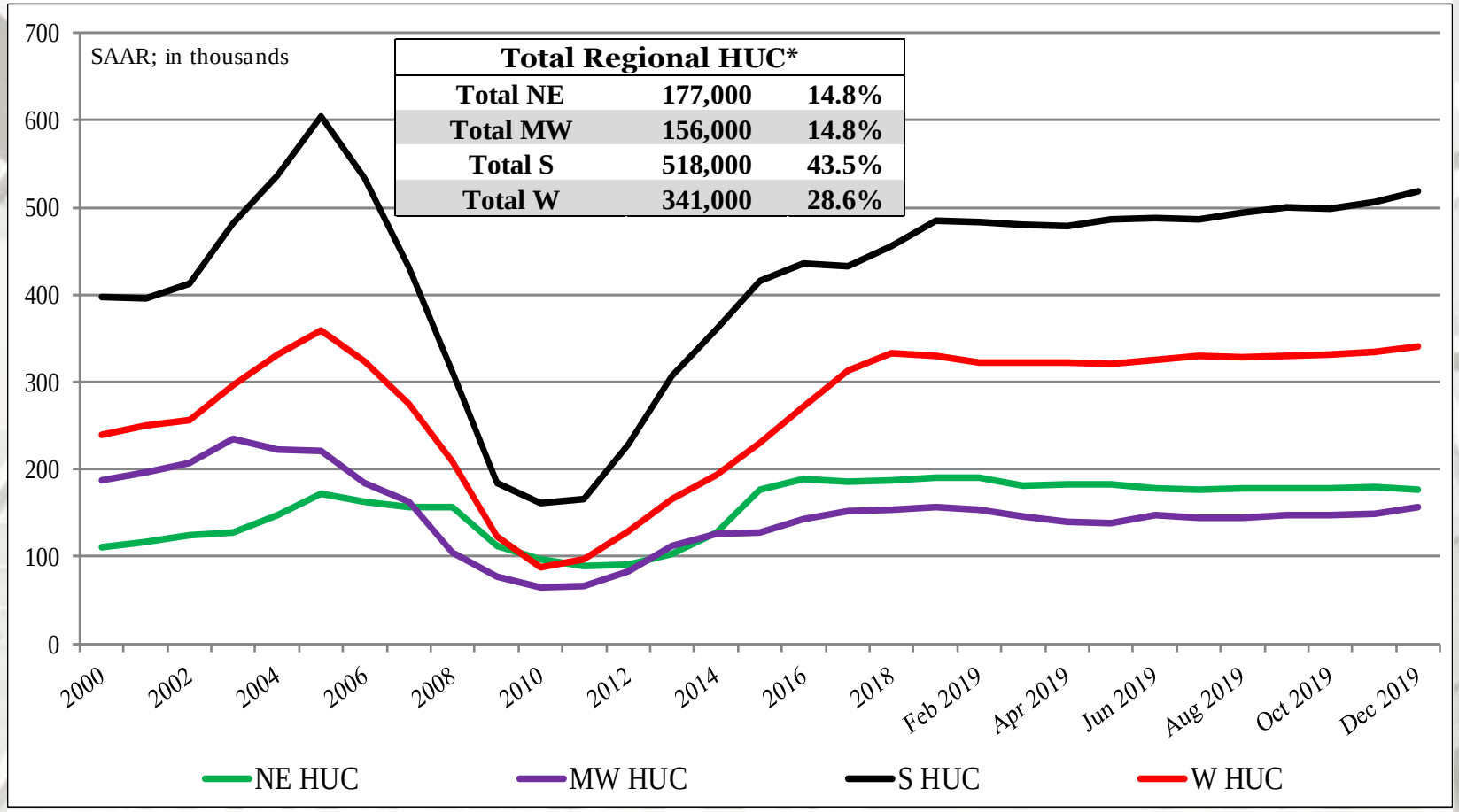
# Total Housing Under Construction by Region




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

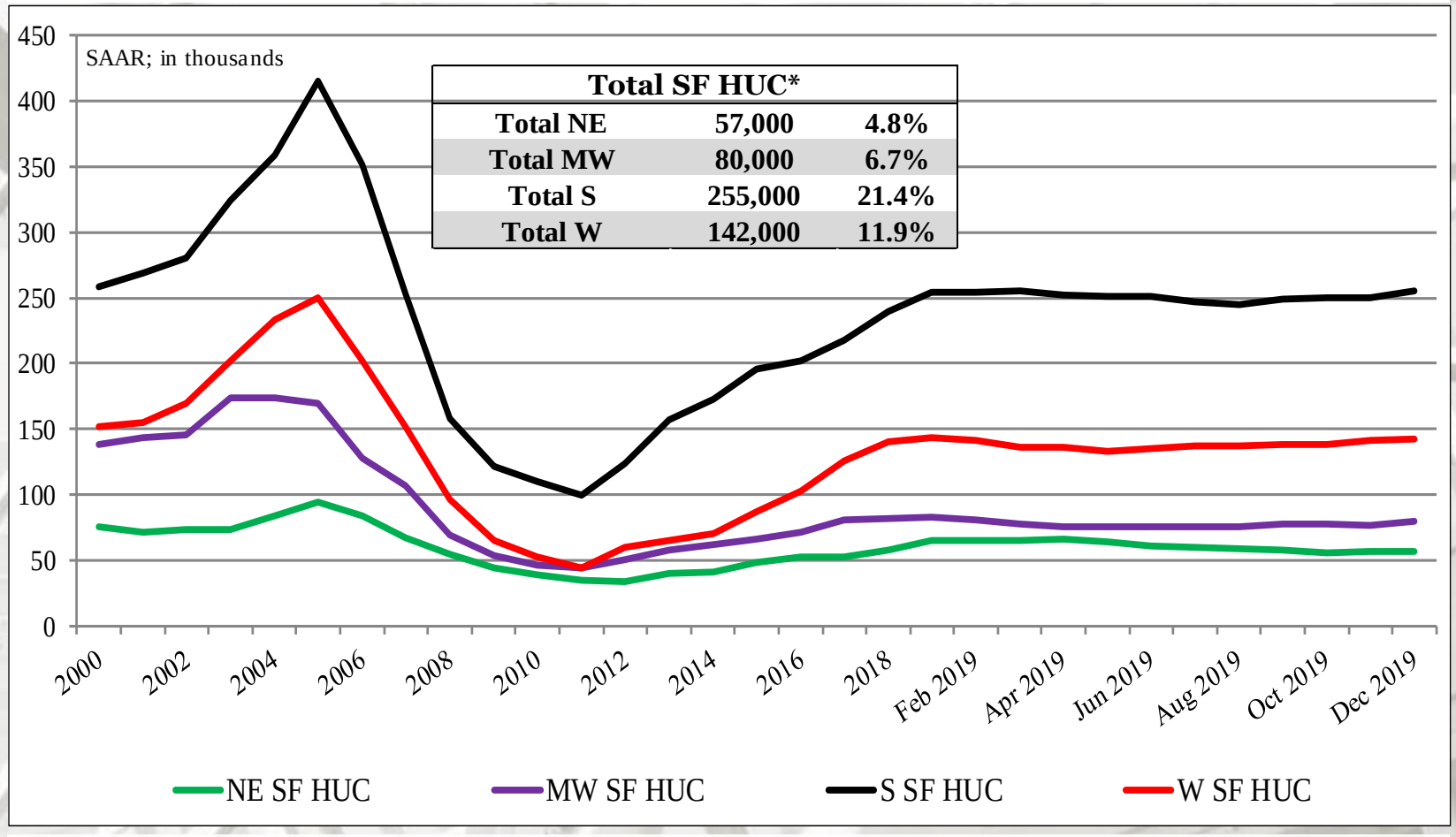
US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# 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 constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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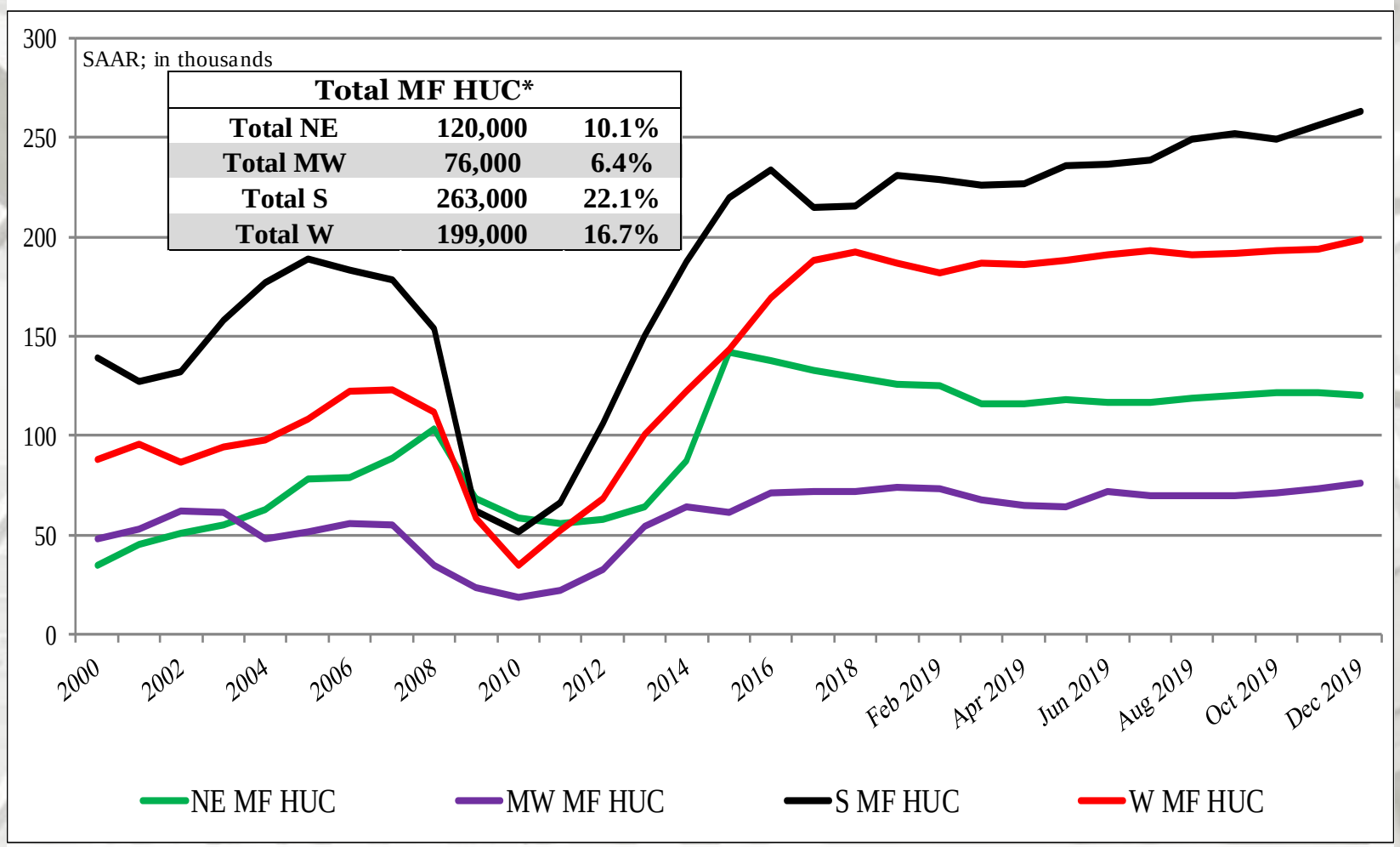
# MF Housing Under Construction by Region




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 constructions – (SF + ≥ 5 MF under construction).

* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Completions

| | Total Completions* | SF Completions | MF 2-4 unit** Completions | MF ≥ 5 unit Completions |
|---|---|---|---|---|
| December | 1,277,000 | 912,000 | 8,000 | 357,000 |
| November | 1,215,000 | 906,000 | 10,000 | 299,000 |
| 2018 | 1,068,000 | 774,000 | 11,000 | 283,000 |
| M/M change | 5.1% | 0.7% | -20.0% | 19.4% |
| Y/Y change | 19.6% | 17.8% | -27.3% | 26.1% |

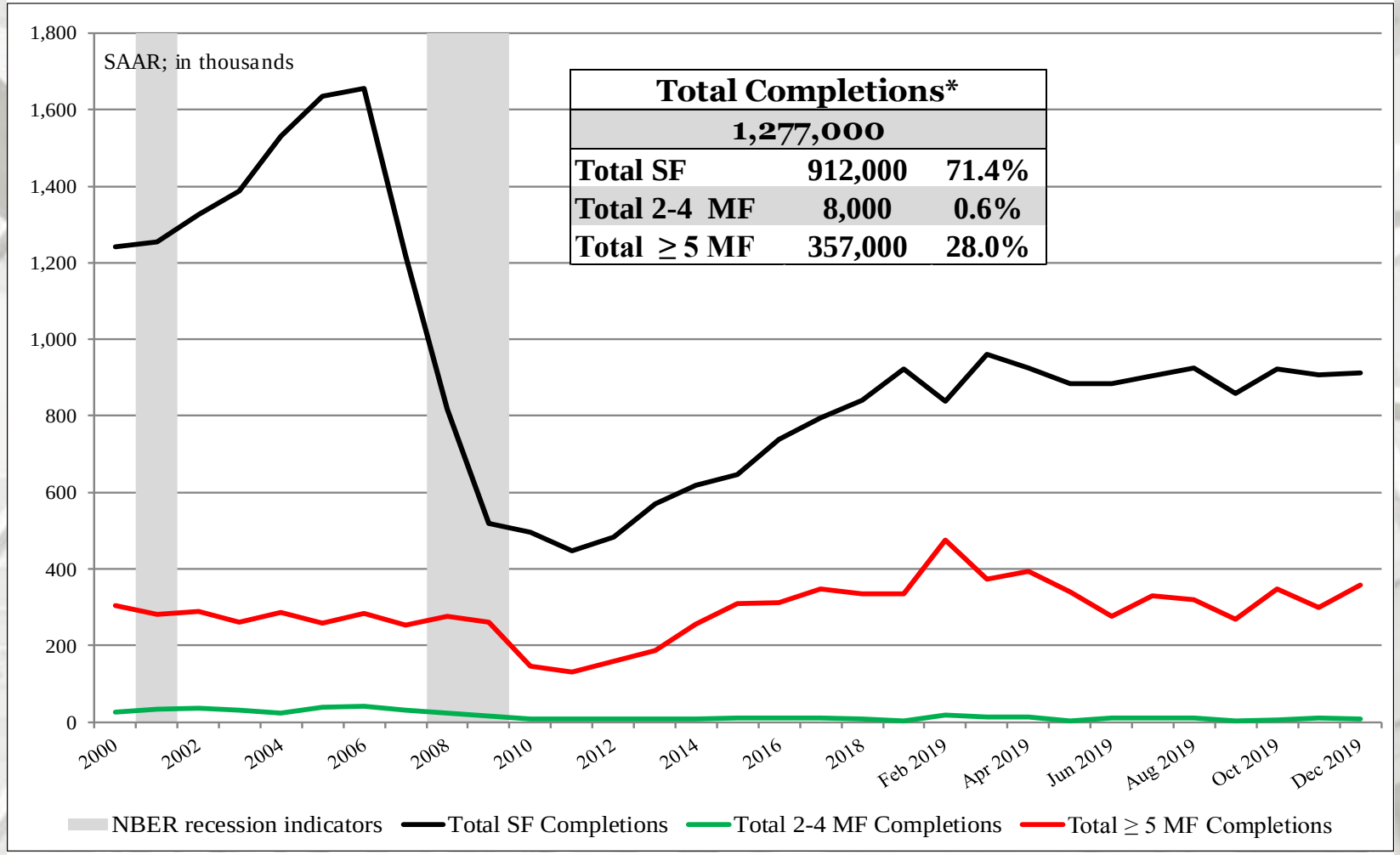
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

** US DOC does not report multifamily completions directly, this is an estimation ((Total completions – (SF + ≥ 5 unit MF)).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# Total Housing Completions




| Total Completions* | | |
|---|---|---|
| 1,277,000 | | |
| Total SF | 912,000 | 71.4% |
| Total 2-4 MF | 8,000 | 0.6% |
| Total ≥ 5 MF | 357,000 | 28.0% |

** 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, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Completions by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 158,000 | 58,000 | 100,000 |
| November | 107,000 | 52,000 | 55,000 |
| 2018 | 78,000 | 47,000 | 31,000 |
| M/M change | 47.7% | 11.5% | 81.8% |
| Y/Y change | 102.6% | 23.4% | 222.6% |
| | **MW Total** | **MW SF** | **MW MF** |
| December | 144,000 | 111,000 | 33,000 |
| November | 158,000 | 113,000 | 45,000 |
| 2018 | 131,000 | 106,000 | 25,000 |
| M/M change | -8.9% | -1.8% | -26.7% |
| Y/Y change | 9.9% | 4.7% | 32.0% |

All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multifamily units completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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# New Housing Completions by Region

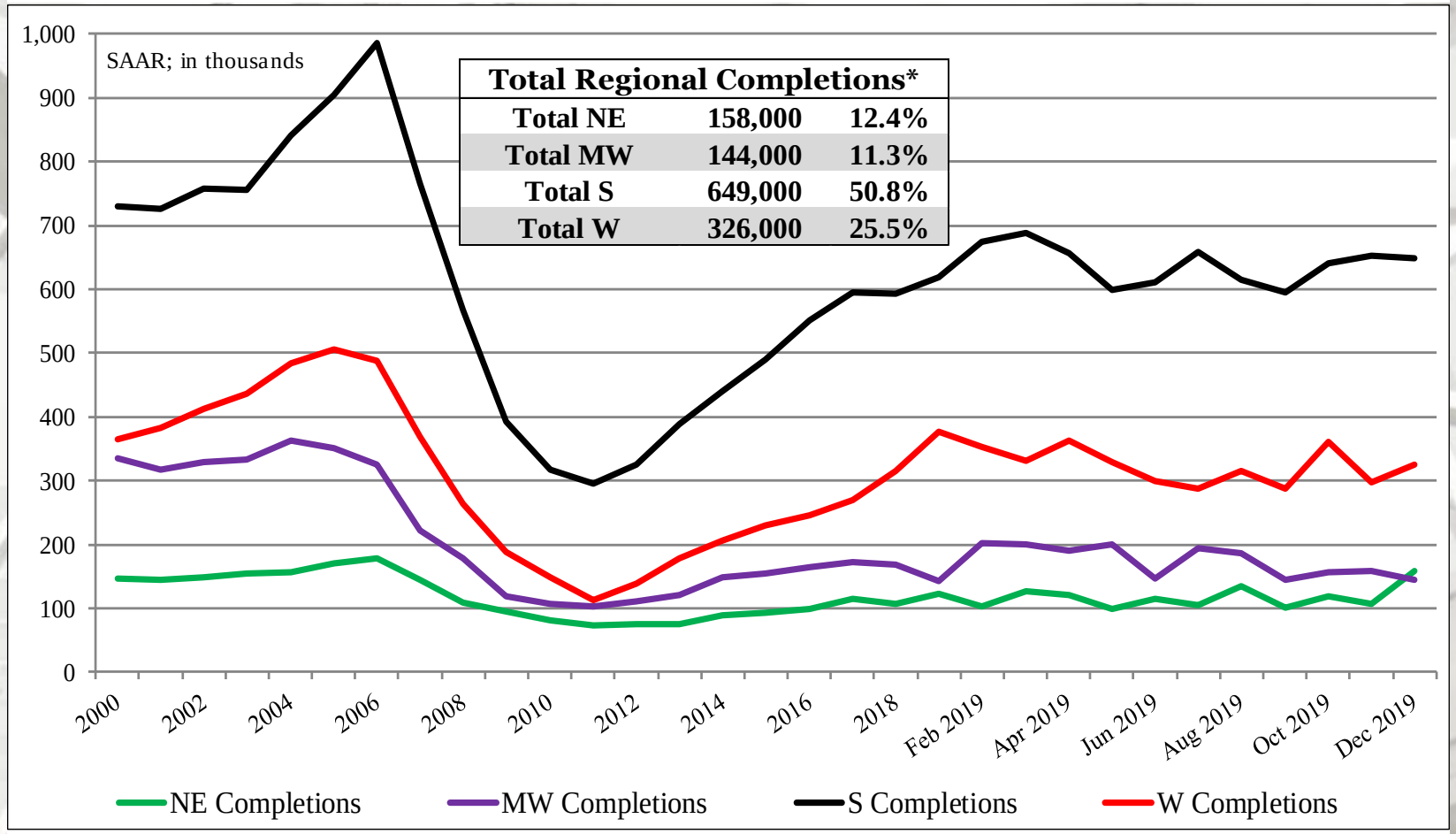
| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 649,000 | 516,000 | 133,000 |
| November | 652,000 | 526,000 | 126,000 |
| 2018 | 546,000 | 408,000 | 138,000 |
| M/M change | -0.5% | -1.9% | 5.6% |
| Y/Y change | 18.9% | 26.5% | -3.6% |
| | **W Total** | **W SF** | **W MF** |
| December | 326,000 | 227,000 | 99,000 |
| November | 298,000 | 215,000 | 83,000 |
| 2018 | 313,000 | 213,000 | 100,000 |
| M/M change | 9.4% | 5.6% | 19.3% |
| Y/Y change | 4.2% | 6.6% | -1.0% |

All data are SAAR; S = South and W = West.
** US DOC does not report multifamily units completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

Return TOC

# Total Housing Completions by Region




| Total Regional Completions* | | |
|---|---|---|
| Total NE | 158,000 | 12.4% |
| Total MW | 144,000 | 11.3% |
| Total S | 649,000 | 50.8% |
| Total W | 326,000 | 25.5% |

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; 1/17/20

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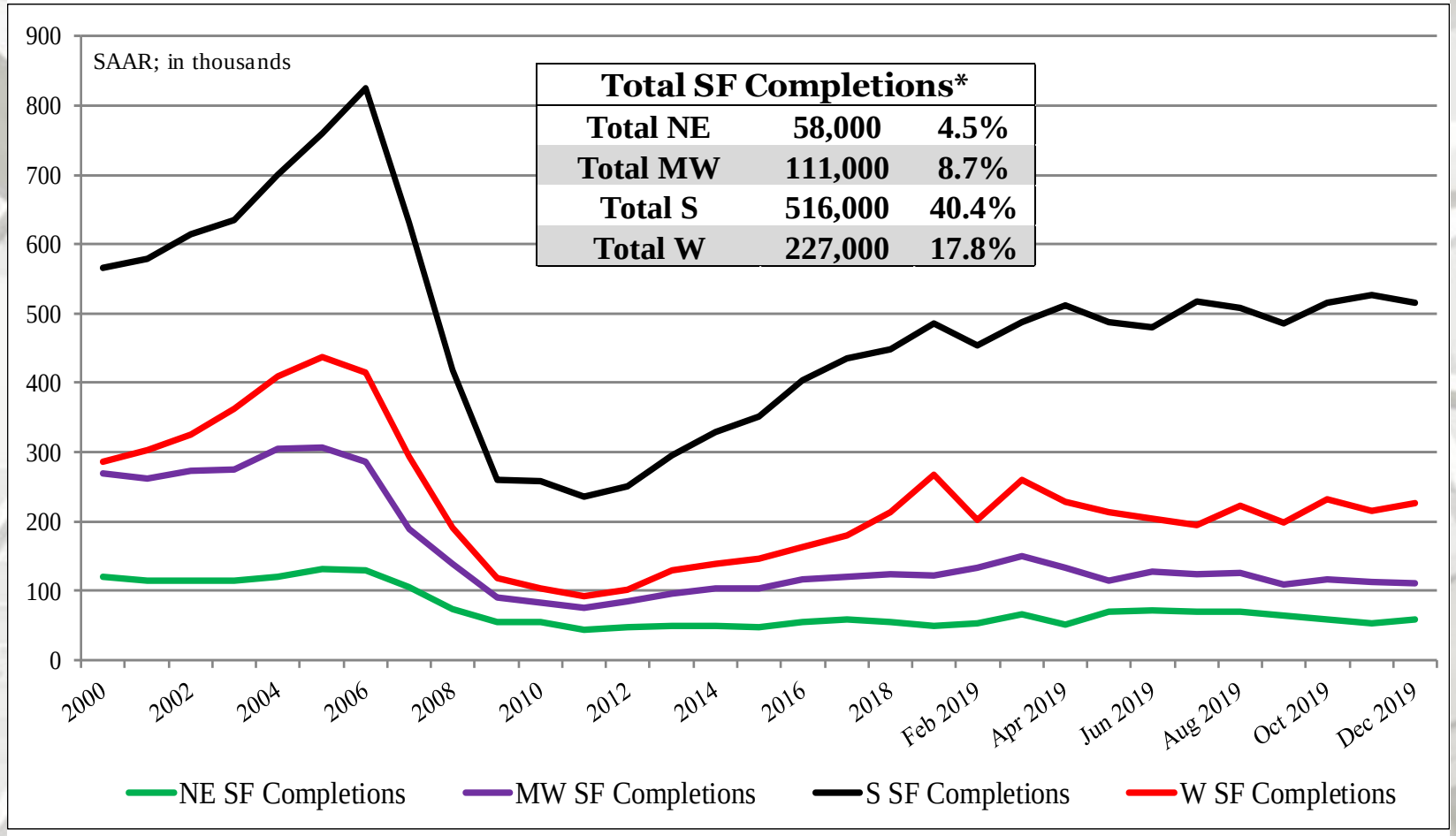
# SF Housing Completions by Region




| Total SF Completions* | | |
|---|---|---|
| Total NE | 58,000 | 4.5% |
| Total MW | 111,000 | 8.7% |
| Total S | 516,000 | 40.4% |
| Total W | 227,000 | 17.8% |

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

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

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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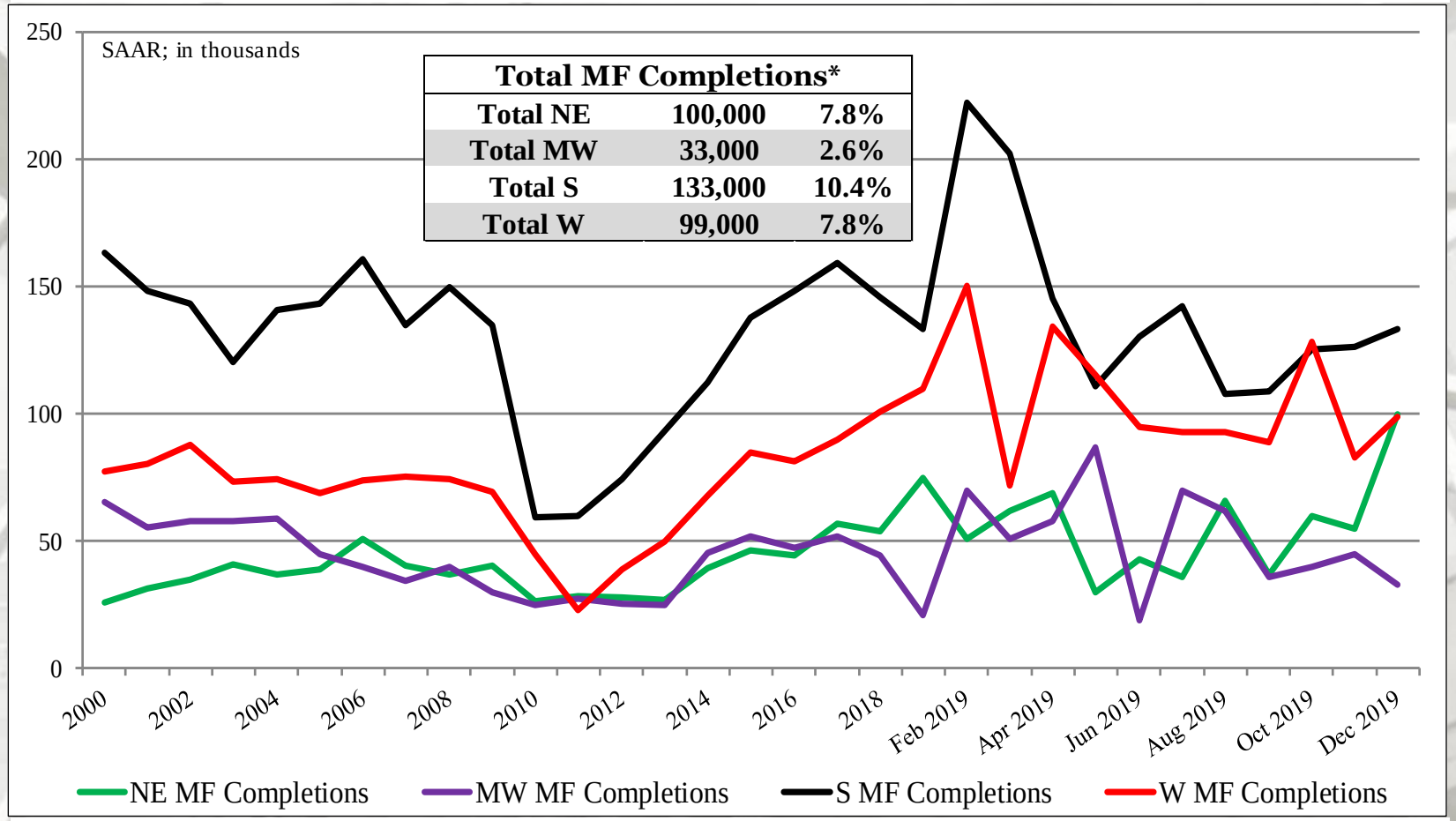
# MF Housing Completions by Region




| Total MF Completions* | | |
|---|---|---|
| Total NE | 100,000 | 7.8% |
| Total MW | 33,000 | 2.6% |
| Total S | 133,000 | 10.4% |
| Total W | 99,000 | 7.8% |

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

* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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# New Single-Family House Sales

| | New SF Sales* | Median Price | Mean Price | Month's Supply |
|---|---|---|---|---|
| December | 694,000 | $331,400 | $384,500 | 5.7 |
| November | 697,000 | $320,900 | $377,600 | 5.5 |
| 2018 | 564,000 | $329,700 | $381,800 | 7.4 |
| M/M change | -0.4% | 3.3% | 1.8% | 3.6% |
| Y/Y change | 23.0% | 0.5% | 0.7% | -23.0% |

* 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 far less than the consensus forecast[3] of 728 m (range: 719 m to 745 m). The past three month's new SF sales data also were revised:

| | |
|---|---|
| September initial: | 701 m revised to 725 m; |
| October initial: | 733 m revised to 705 m; |
| November initial: | 719 m revised to 697 m. |

Sources: [1] https://www.census.gov/construction/nrs/index.html; 1/27/20; [2] https://www.census.gov/construction/nrs/pdf/newressales.pdf
[3] http://us.econoday.com/; 1/27/20

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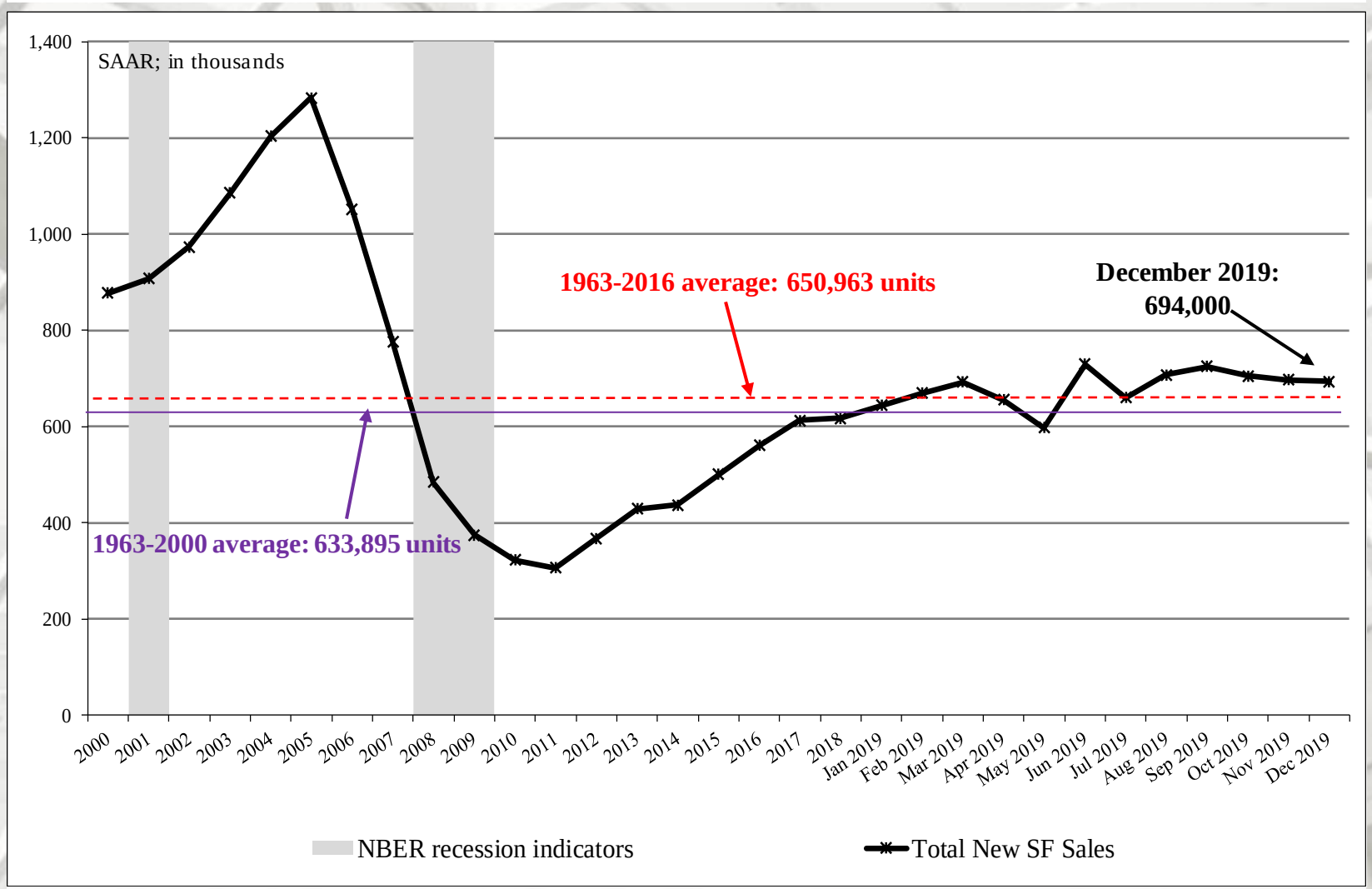
# New SF House Sales




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, 2/3/20; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/17/20

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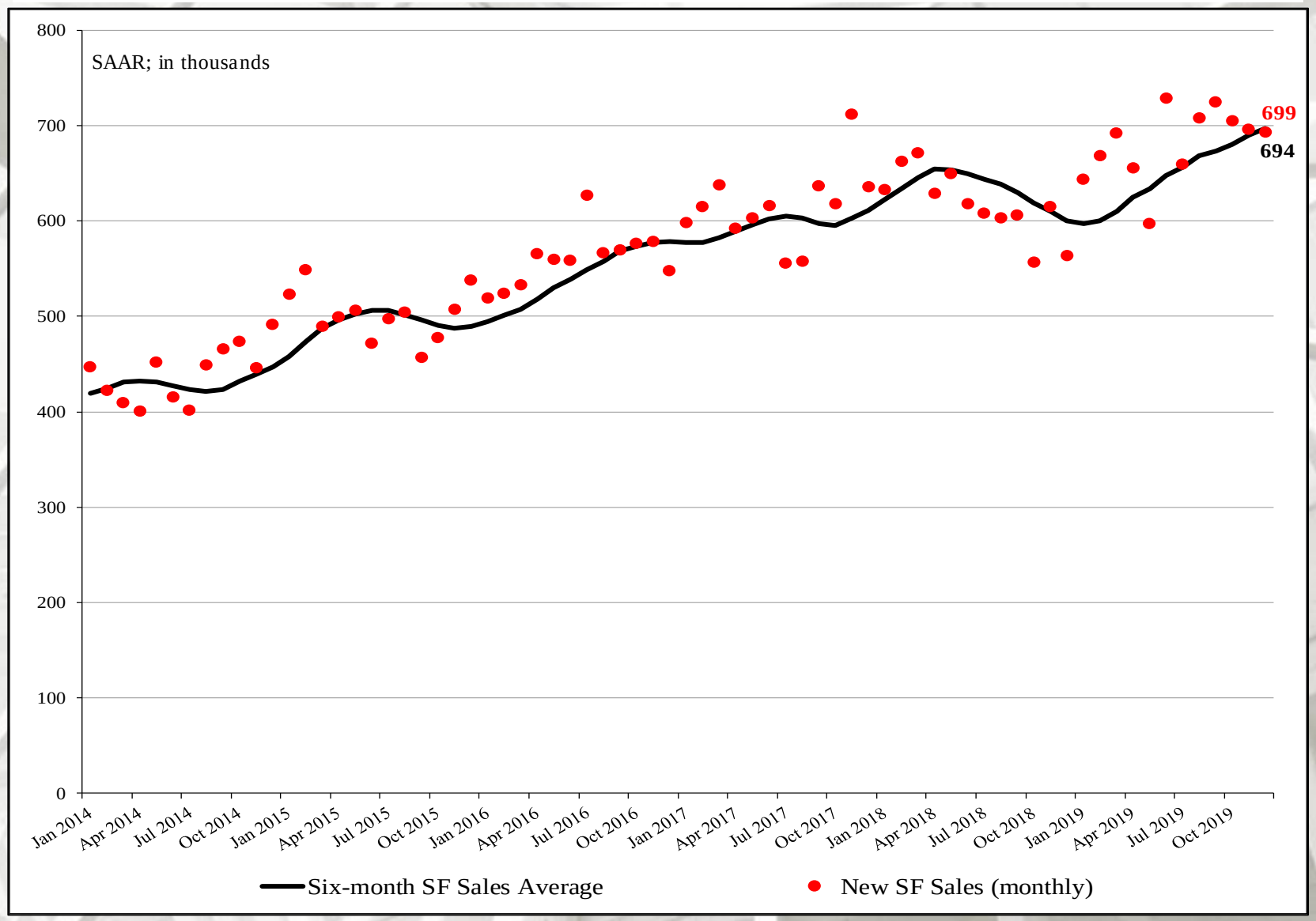
# New SF Housing Sales: Six-month average & monthly




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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# New SF House Sales by Region and Price Category

| | NE | MW | S | W |
|---|---|---|---|---|
| December | 30,000 | 76,000 | 347,000 | 241,000 |
| November | 34,000 | 69,000 | 410,000 | 184,000 |
| 2018 | 27,000 | 65,000 | 351,000 | 121,000 |
| M/M change | -11.8% | 10.1% | -15.4% | 31.0% |
| Y/Y change | 11.1% | 16.9% | -1.1% | 99.2% |

| | ≤ $150m | $150 - $199.9m | $200 - 299.9m | $300 - $399.9m | $400 - $499.9m | $500 - $749.9m | ≥ $750m |
|---|---|---|---|---|---|---|---|
| December[1,2,3,4] | 1,000 | 4,000 | 14,000 | 13,000 | 6,000 | 7,000 | 2,000 |
| November | 1,000 | 4,000 | 17,000 | 13,000 | 8,000 | 6,000 | 3,000 |
| 2018 | 2,000 | 3,000 | 11,000 | 9,000 | 6,000 | 6,000 | 1,000 |
| M/M change | 0.0% | 0.0% | -10.5% | 0.0% | 14.3% | -25.0% | 0.0% |
| Y/Y change | 0.0% | 0.0% | 6.3% | 30.0% | 33.3% | 20.0% | 50.0% |
| New SF sales: % | 2.1% | 8.5% | 29.8% | 27.7% | 12.8% | 14.9% | 4.3% |

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

[1] All data are SAAR

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

[3] Detail December 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; 1/27/20;
[4]https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

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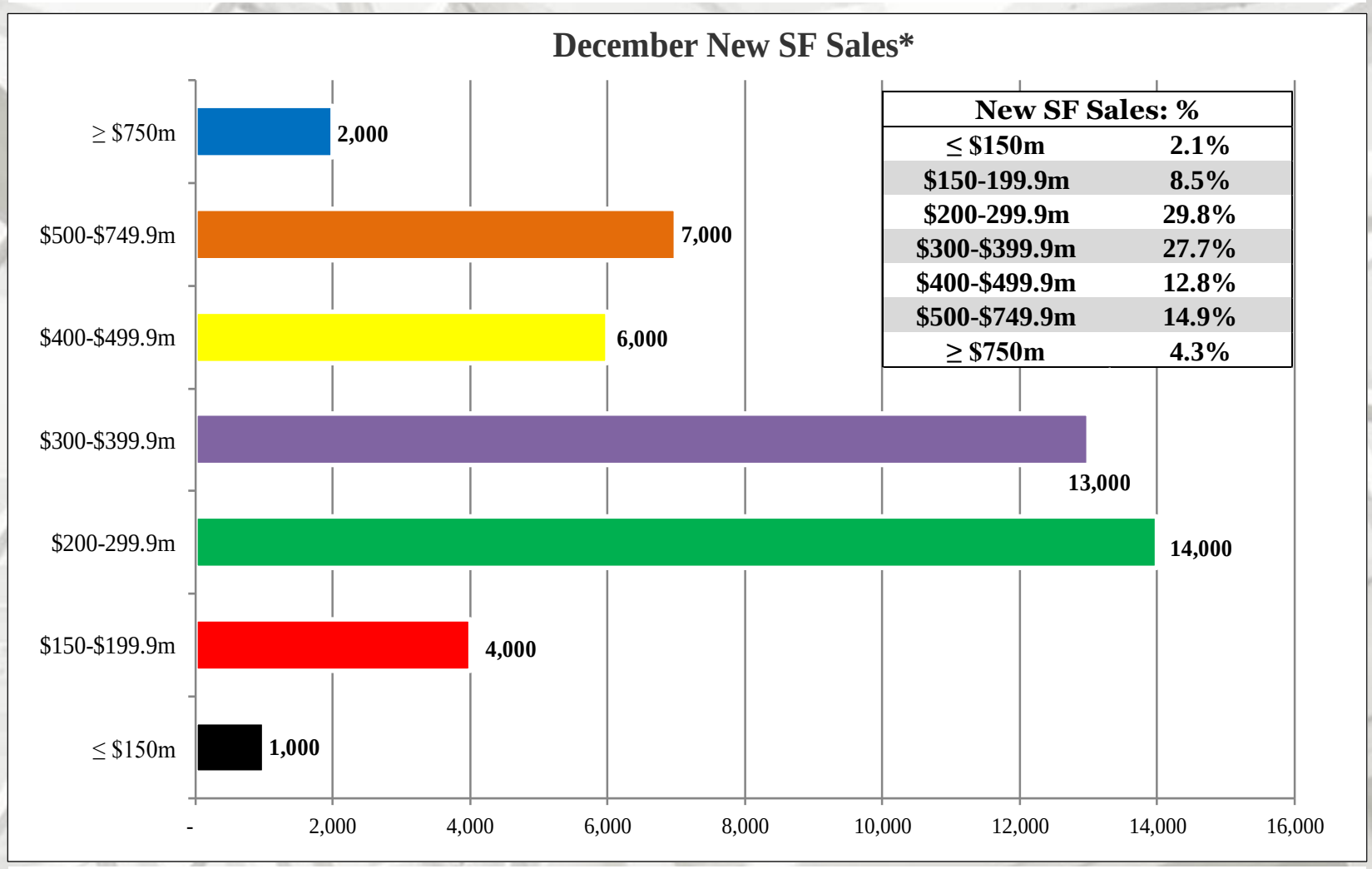
# New SF House Sales




| New SF Sales: % | |
|---|---|
| ≤ $150m | 2.1% |
| $150-199.9m | 8.5% |
| $200-299.9m | 29.8% |
| $300-$399.9m | 27.7% |
| $400-$499.9m | 12.8% |
| $500-$749.9m | 14.9% |
| ≥ $750m | 4.3% |

- Total new sales by price category and percent.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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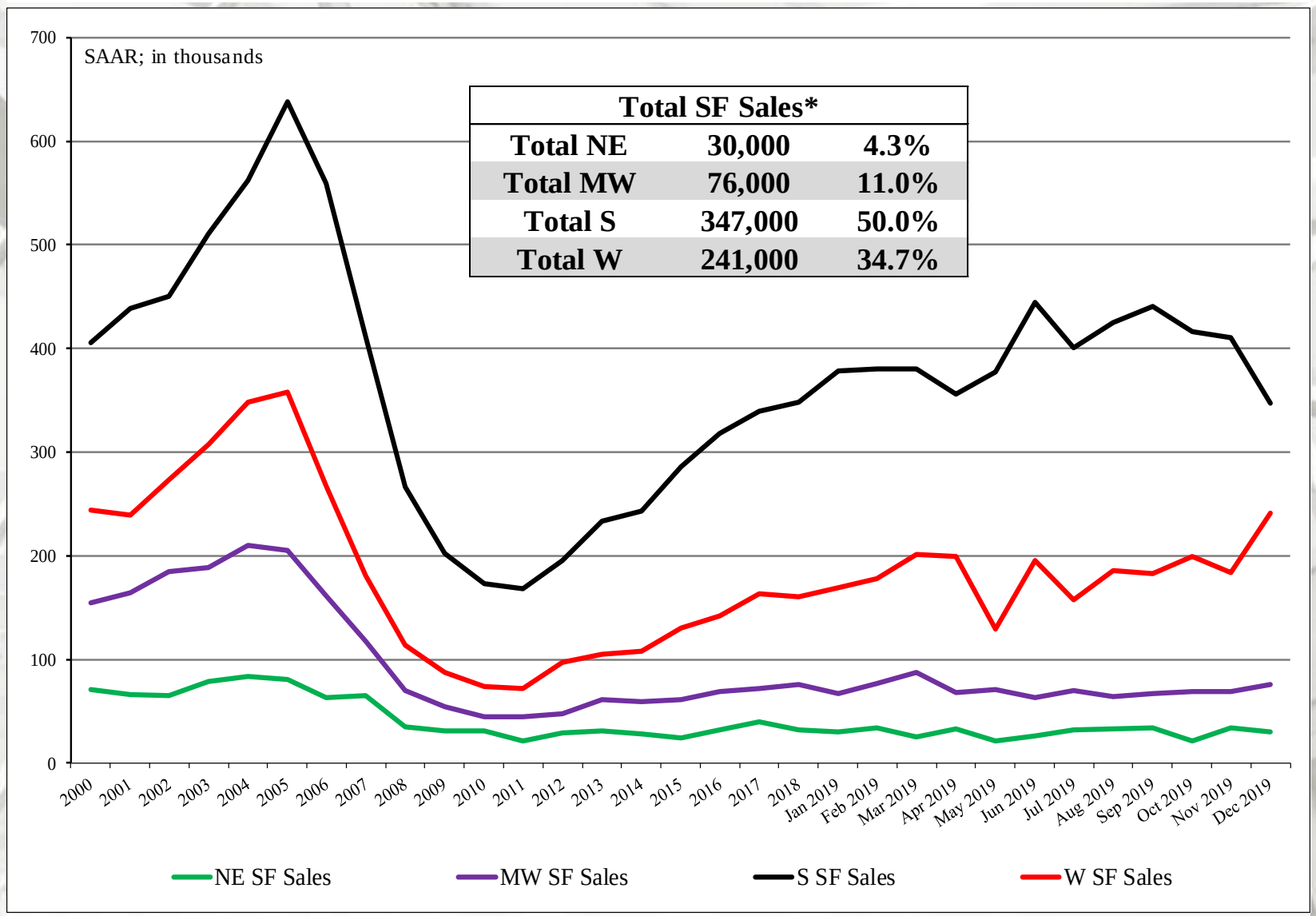
# New SF House Sales by Region




NE = Northeast; MW = Midwest; S = South; W = West
* Percentage of total new sales.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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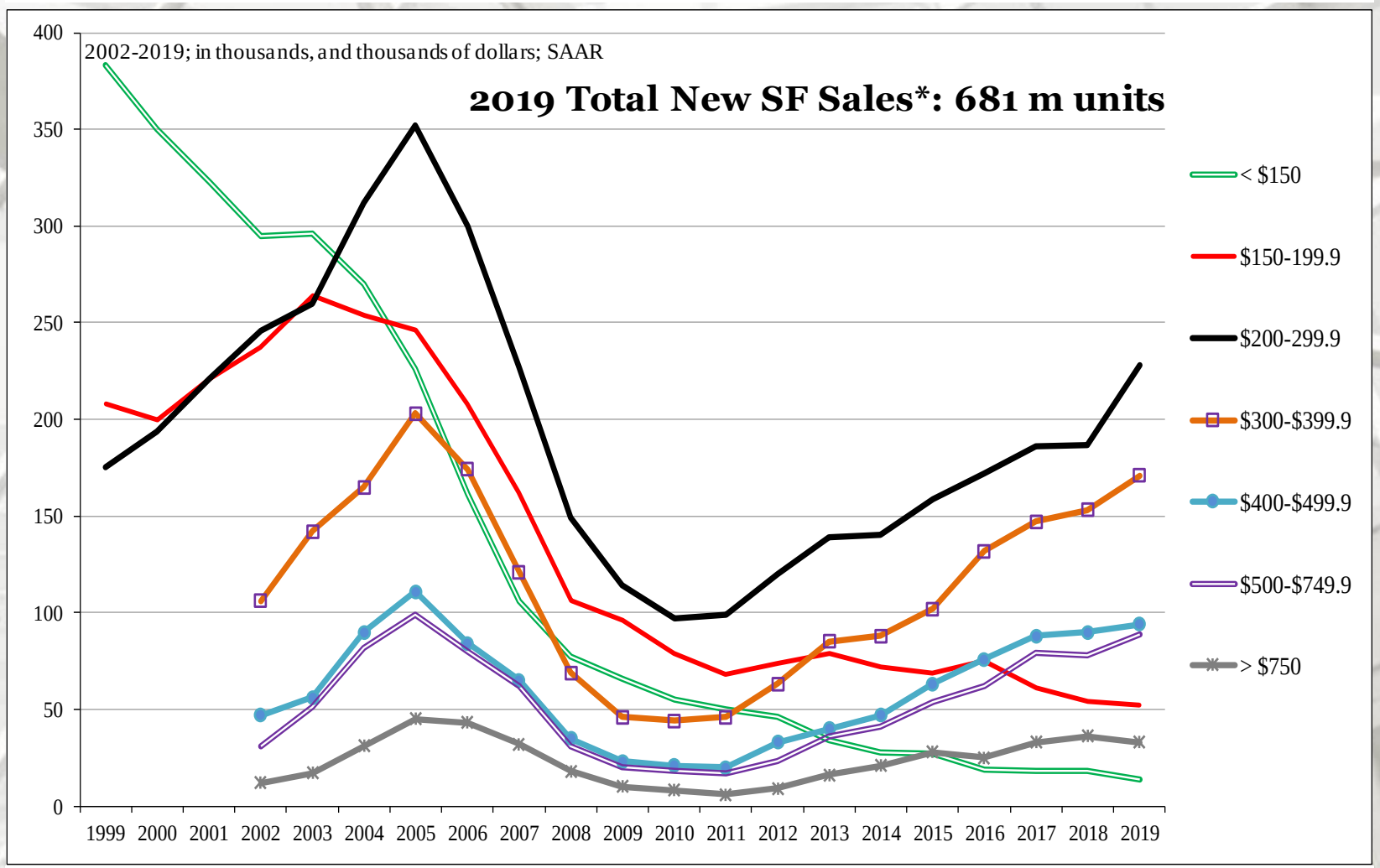
# New SF House Sales by Price Category




* Sales tallied by price category.

Source: https://www.census.gov/construction/nrs/index.html; 1/27/20

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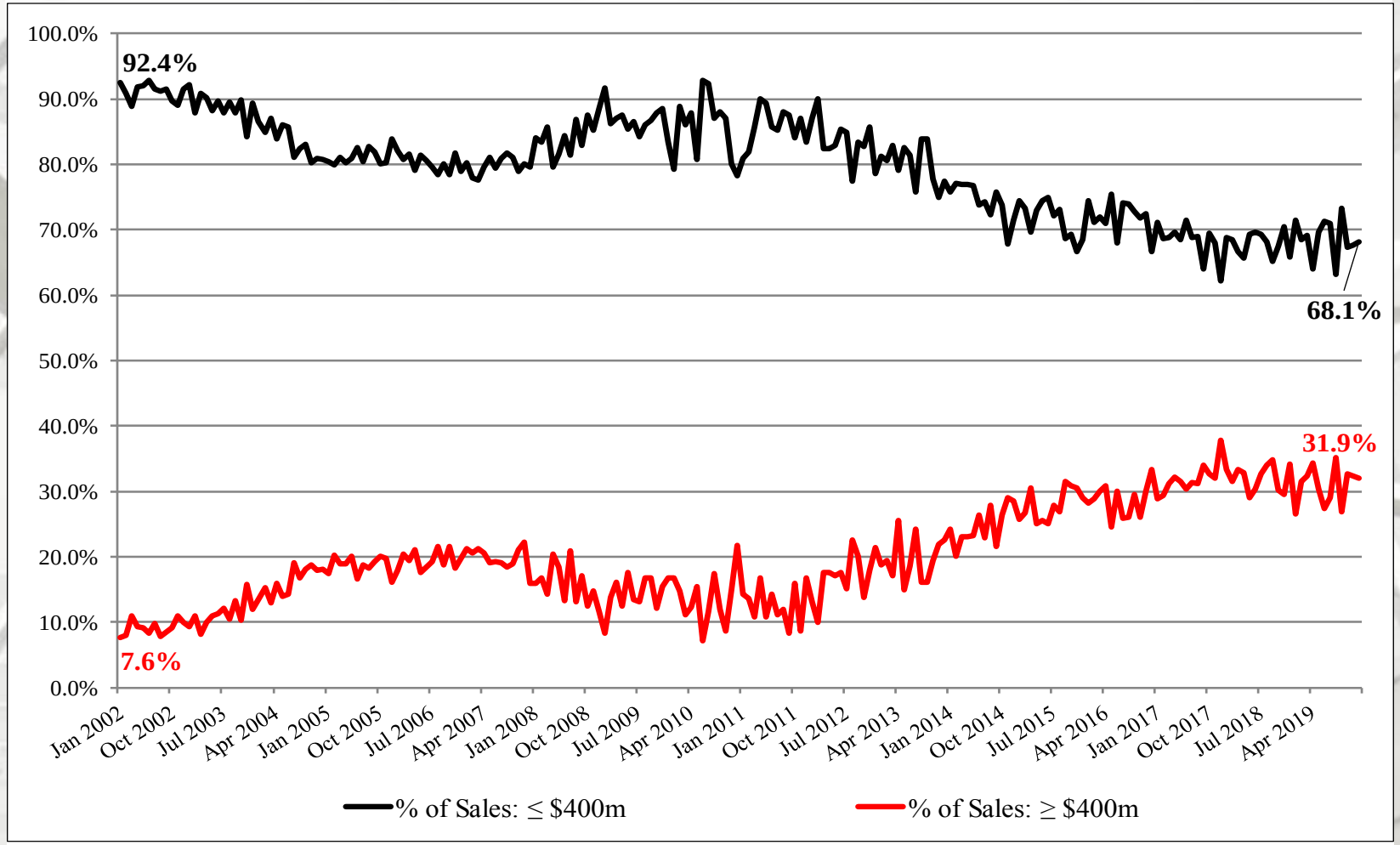
# New SF House Sales




**New SF Sales $400m houses: 2002 – December 2019**

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 1/27/20

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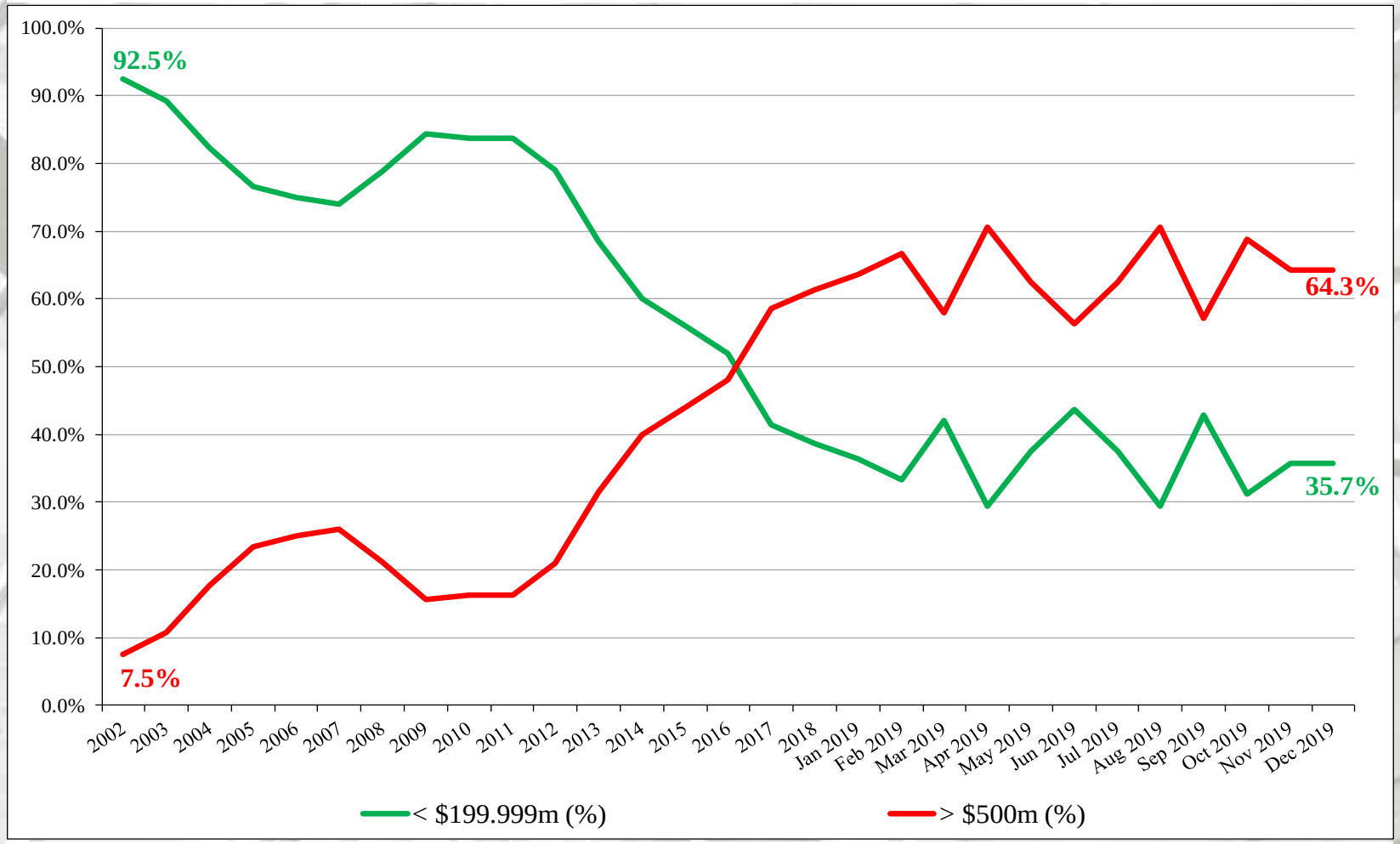
# New SF House Sales




**New SF Sales: ≤ $ 200m and ≥ $500m: 2002 to December 2019**

The number of ≤ $200 thousand plus SF houses has declined dramatically since 2002 [1, 2]. Subsequently, from 2012 onward, the ≥ $500 thousand class has soared (on a percentage basis) in contrast to the ≤ $200m class. One of the most oft mentioned reasons for this occurrence is builder net margins.

Note: Sales values are not adjusted for inflation.

Source: [1] https://www.census.gov/construction/nrs/index.html; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 1/27/20

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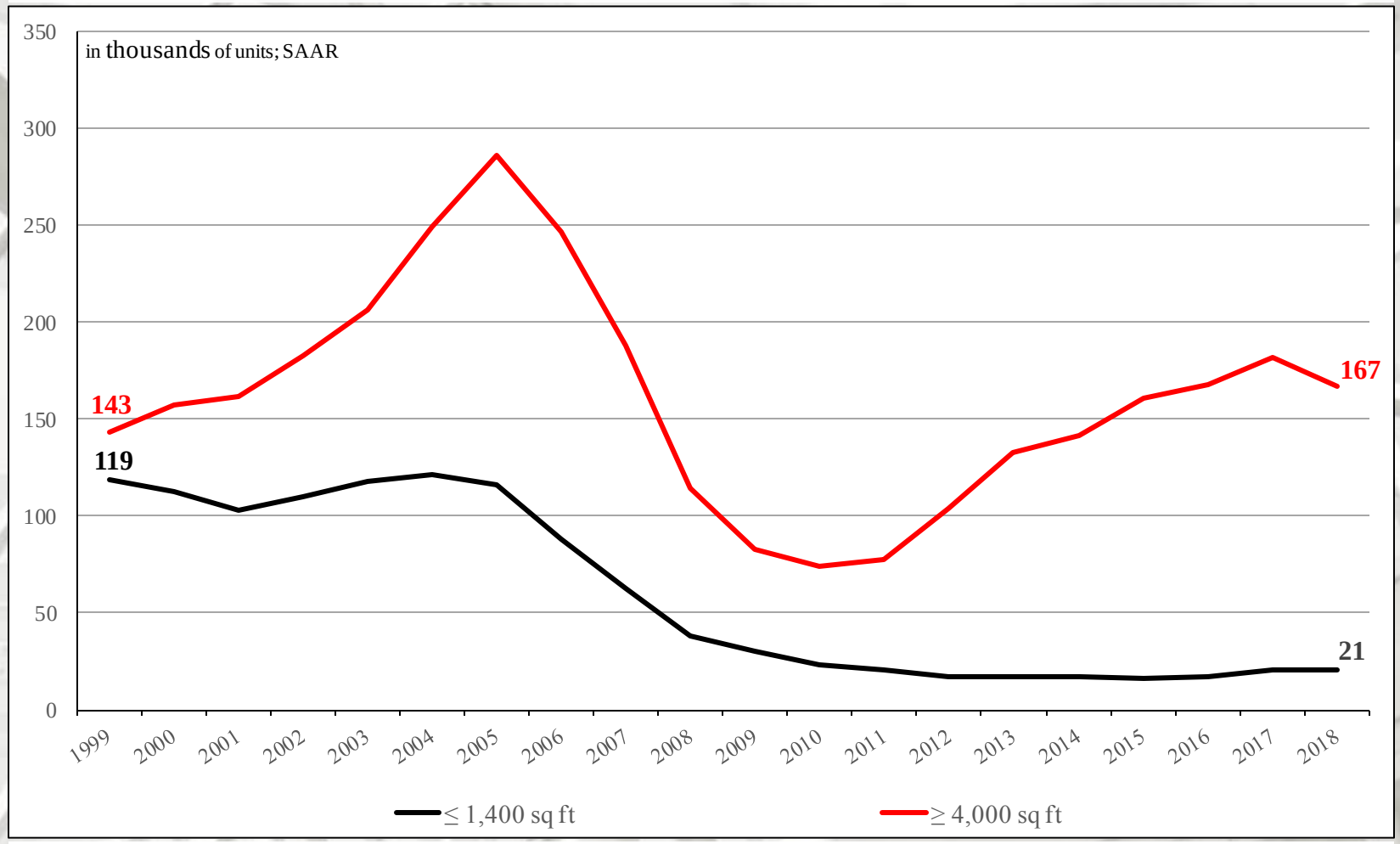
# Total New SF House Sales by Square Feet of Floor Area




**Total new SF Sales: ≤ 1,400 square feet and ≥ 4,000 square feet: 1999 to 2018**

The number of SF houses sold (≥4,000 sq ft) has risen dramatically since 2010 in comparison to the ≤ 1,400 sq ft houses. Some of the most oft mentioned reasons for this is builder net margins and regulation.

Source: https://www.census.gov/construction/nrs/index.html; 8/23/19

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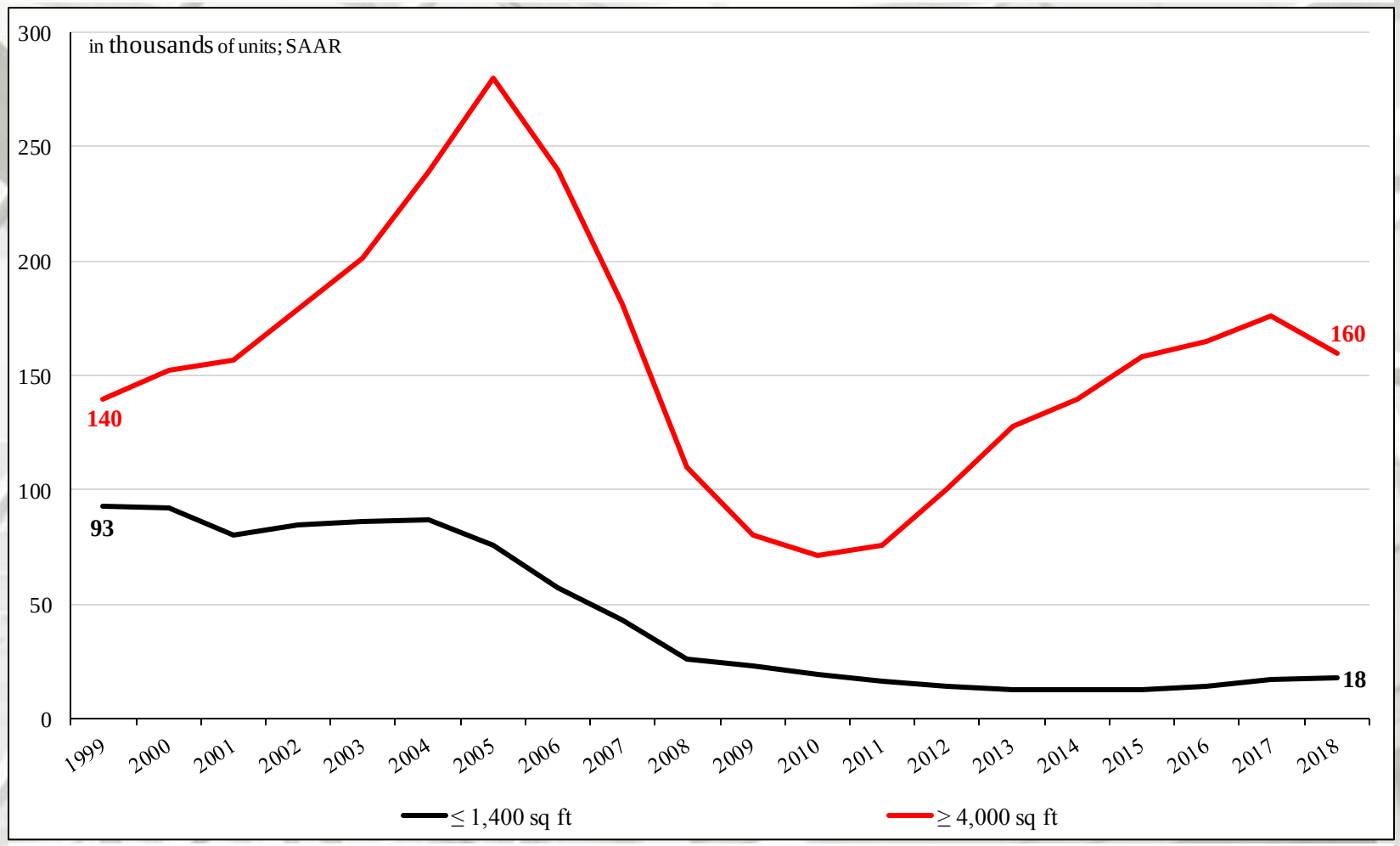
# New Detached SF House Sales by Square Feet of Floor Area




**New Detached SF Sales: ≤ 1,400 square feet and ≥ 4,000 square feet: 1999 to 2018**

Source: https://www.census.gov/construction/nrs/index.html; 8/23/19

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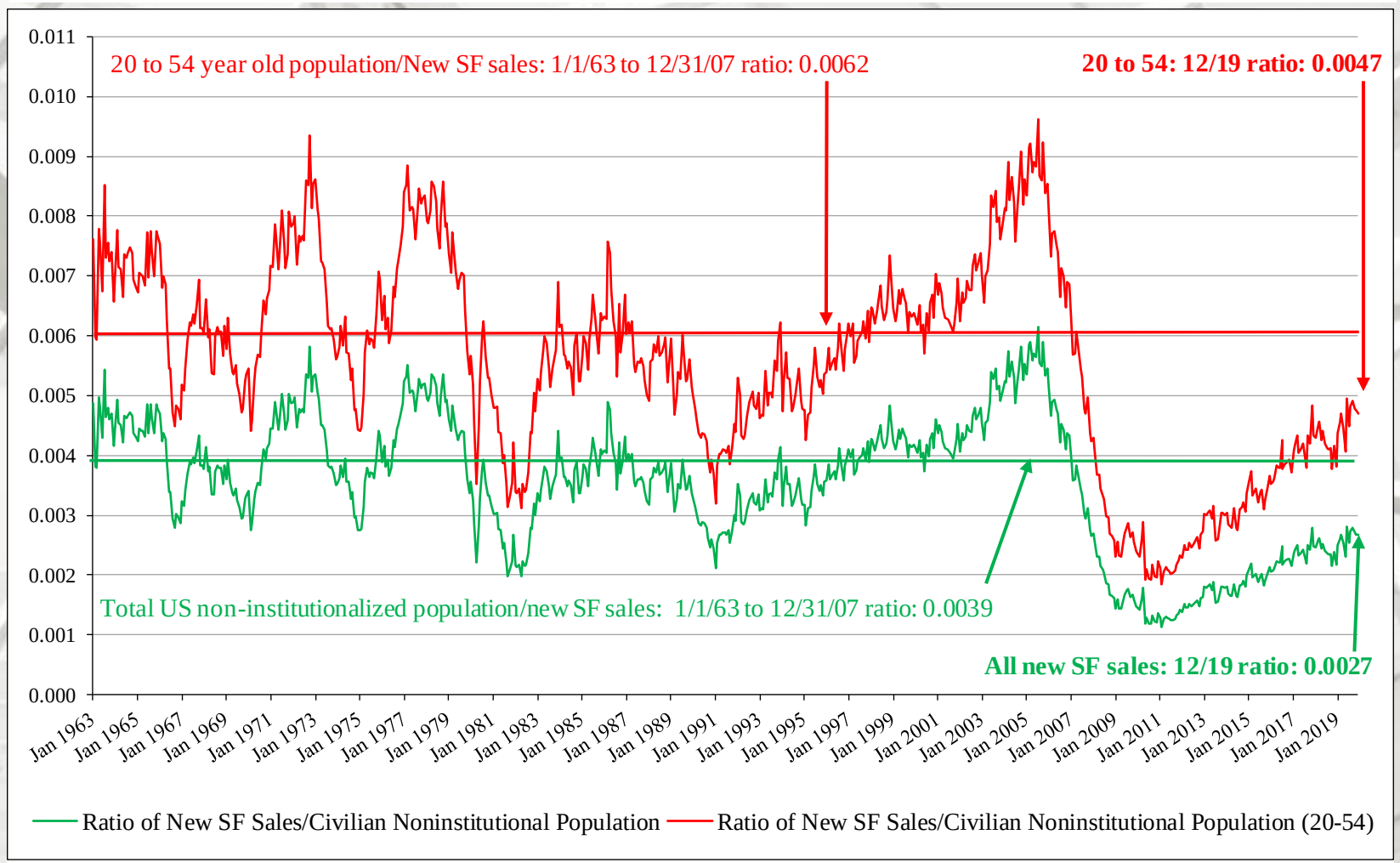
# New SF House Sales




## New SF sales adjusted for the US population

From December 1963 to December 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in December 2019 it was 0.0027 – no change from November. The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in December 2019 it was 0.0047 – a slight decrease from November. All are non-adjusted data. From a population viewpoint, construction is less than what is necessary for changes in the population (i.e., under-building).

Sources: https://www.census.gov/construction/nrs/index.html and The Federal Reserve Bank of St. Louis; 1/27/20

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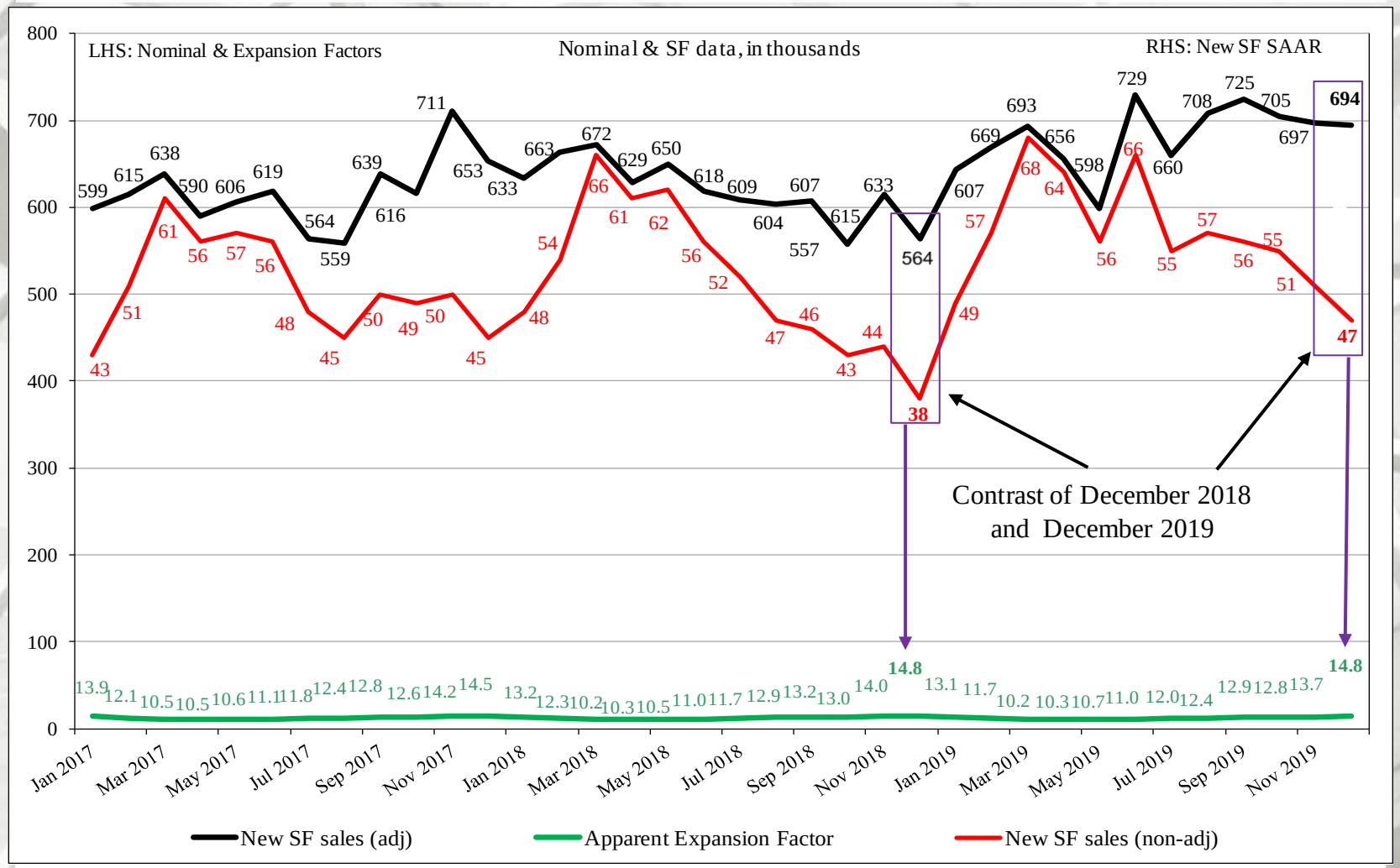
# Nominal vs. SAAR New SF House Sales




## 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; 1/27/20

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# New SF House Sales

| New SF Houses Sold During Period | | | | |
|---|---|---|---|---|
| | Total | Not started | Under Construction | Completed |
| December | 694,000 | 214,000 | 238,000 | 242,000 |
| November | 697,000 | 172,000 | 249,000 | 276,000 |
| 2018 | 564,000 | 172,000 | 170,000 | 222,000 |
| M/M change | -0.4% | 24.4% | -4.4% | -12.3% |
| Y/Y change | 23.0% | 24.4% | 40.0% | 9.0% |
| Total percentage | | 30.8% | 34.3% | 34.9% |

Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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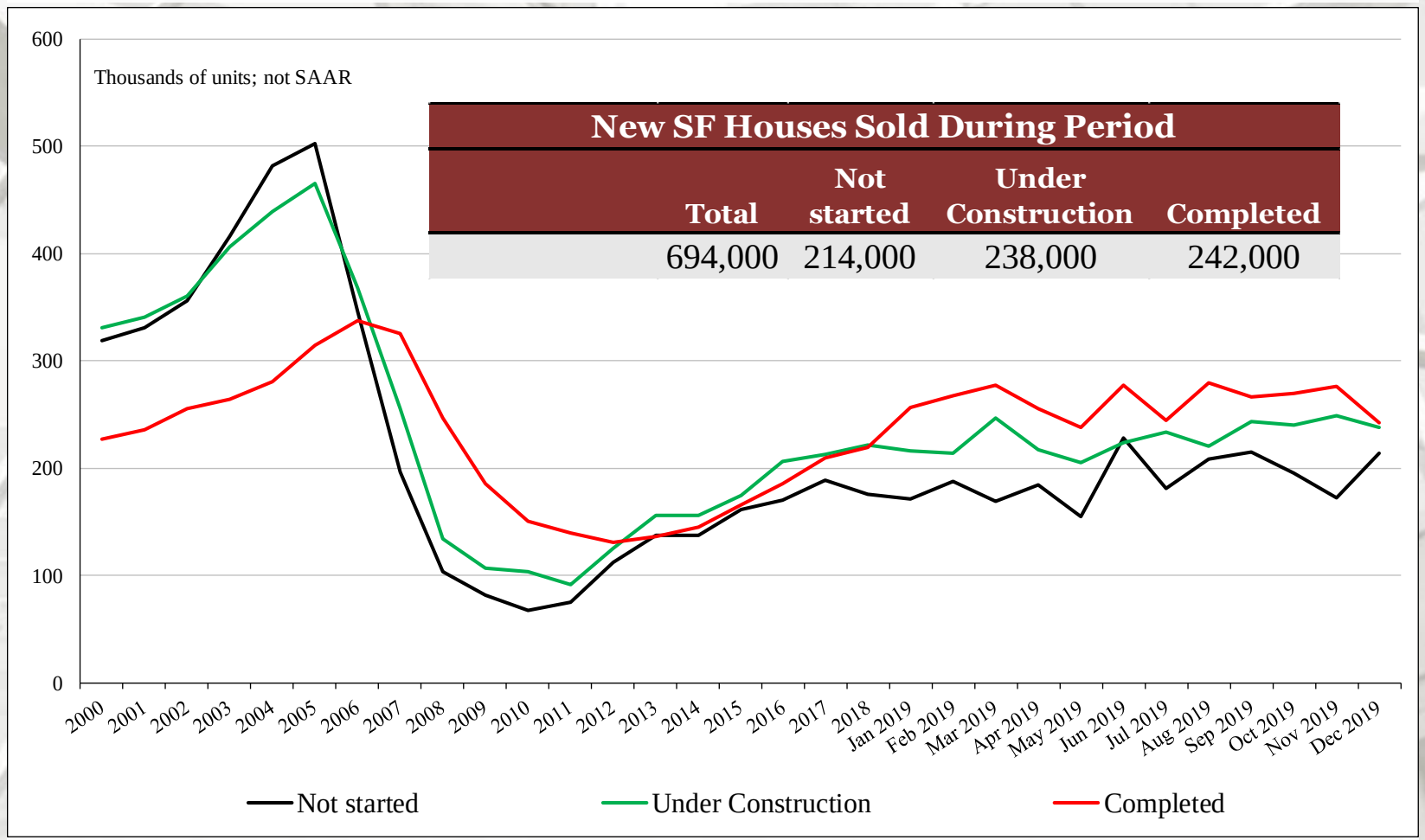
# New SF House Sales: Sold During Period




| New SF Houses Sold During Period | | | |
|---|---|---|---|
| Total | Not started | Under Construction | Completed |
| 694,000 | 214,000 | 238,000 | 242,000 |

Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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# New SF House Sales: For Sale at End of Period

| New SF Houses for Sale at the end of the Period | | | | |
|---|---|---|---|---|
| | Total | Not started | Under Construction | Completed |
| December | 327,000 | 58,000 | 191,000 | 78,000 |
| November | 322,000 | 56,000 | 190,000 | 76,000 |
| 2018 | 346,000 | 67,000 | 205,000 | 74,000 |
| M/M change | 1.6% | 3.6% | 0.5% | 2.6% |
| Y/Y change | -5.5% | -13.4% | -6.8% | 5.4% |
| Total percentage | | 17.7% | 58.4% | 23.9% |

Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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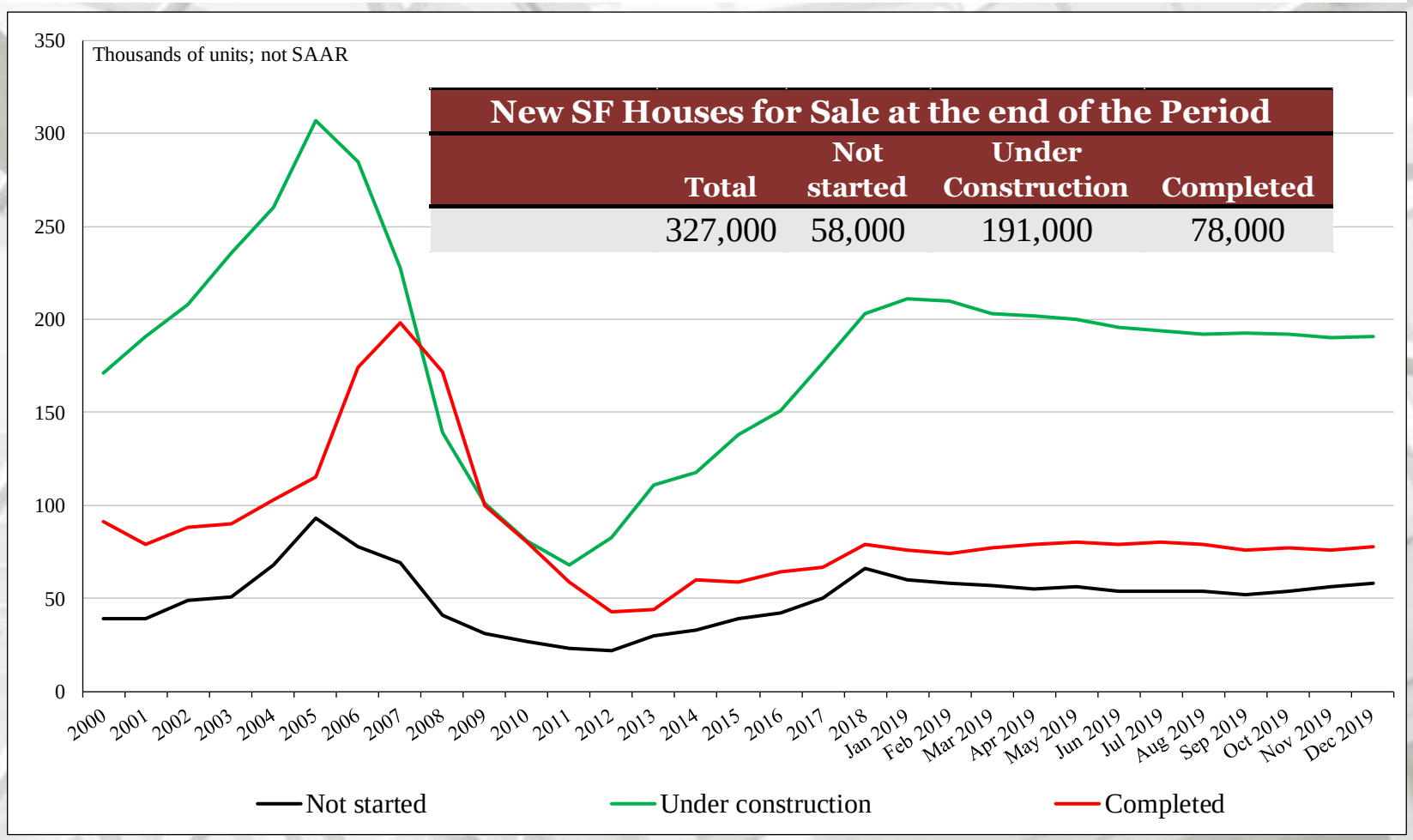
# New SF Houses for Sale at End of Period




| New SF Houses for Sale at the end of the Period | | | |
|---|---|---|---|
| Total | Not started | Under Construction | Completed |
| 327,000 | 58,000 | 191,000 | 78,000 |

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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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 |
| December | 331,000 | 29,000 | 40,000 | 175,000 | 86,000 |
| November | 325,000 | 30,000 | 39,000 | 169,000 | 87,000 |
| 2018 | 348,000 | 27,000 | 43,000 | 184,000 | 95,000 |
| M/M change | 1.8% | -3.3% | 2.6% | 3.6% | -1.1% |
| Y/Y change | -4.9% | 7.4% | -7.0% | -4.9% | -9.5% |

Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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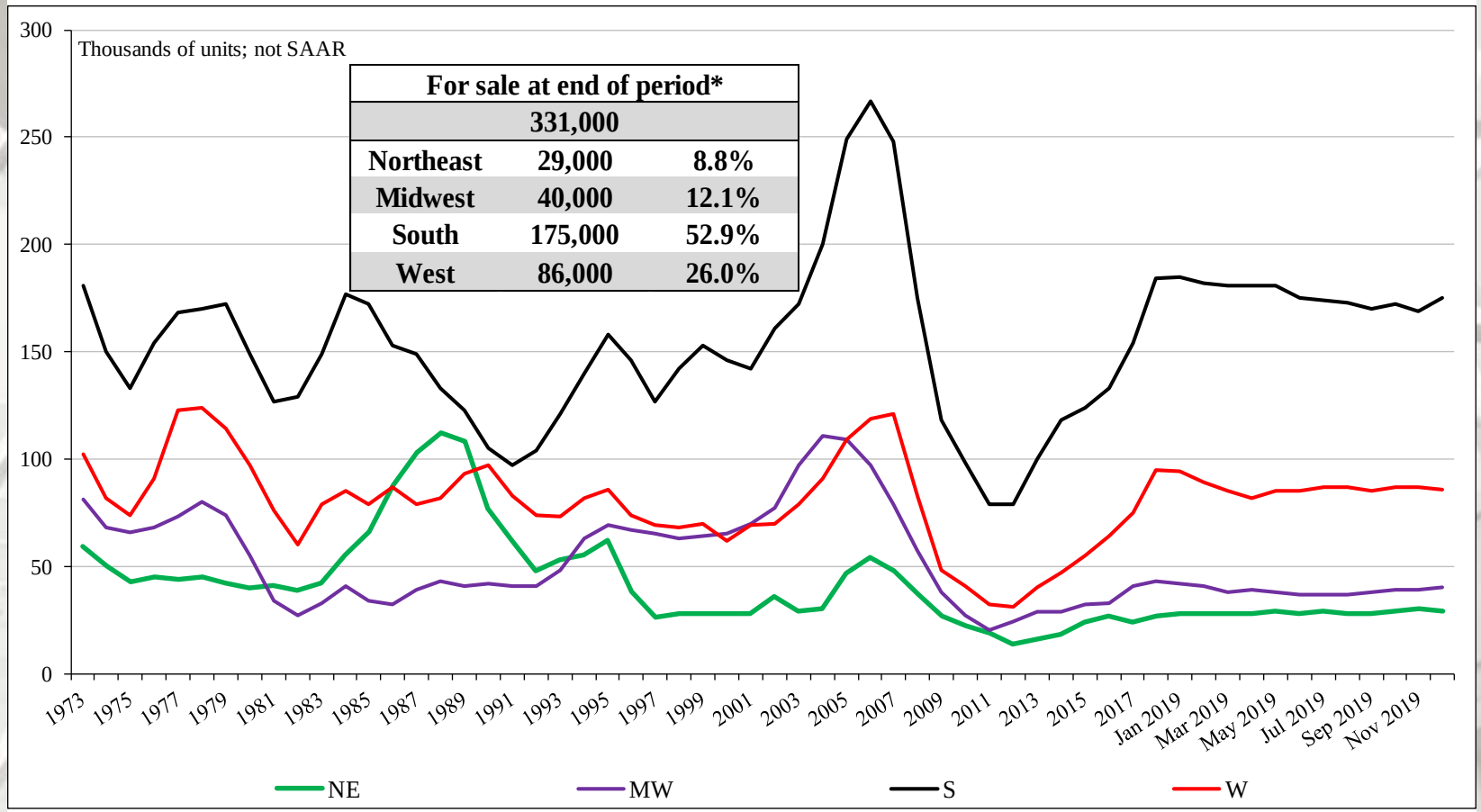
# New SF Houses for Sale at End of Period by Region




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

* Percentage of new SF sales.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/27/20

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# December 2019 Construction Spending

| | Total Private Residential* | SF | MF | Improvement** |
|---|---|---|---|---|
| December | $540,734 | $289,295 | $57,711 | $193,728 |
| November | $533,330 | $281,806 | $58,758 | $192,766 |
| 2018 | $512,324 | $274,923 | $62,146 | $175,255 |
| M/M change | 1.4% | 2.7% | -1.8% | 0.5% |
| Y/Y change | 5.5% | 5.2% | -7.1% | 10.5% |

* billion.

** 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$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 2/3/20

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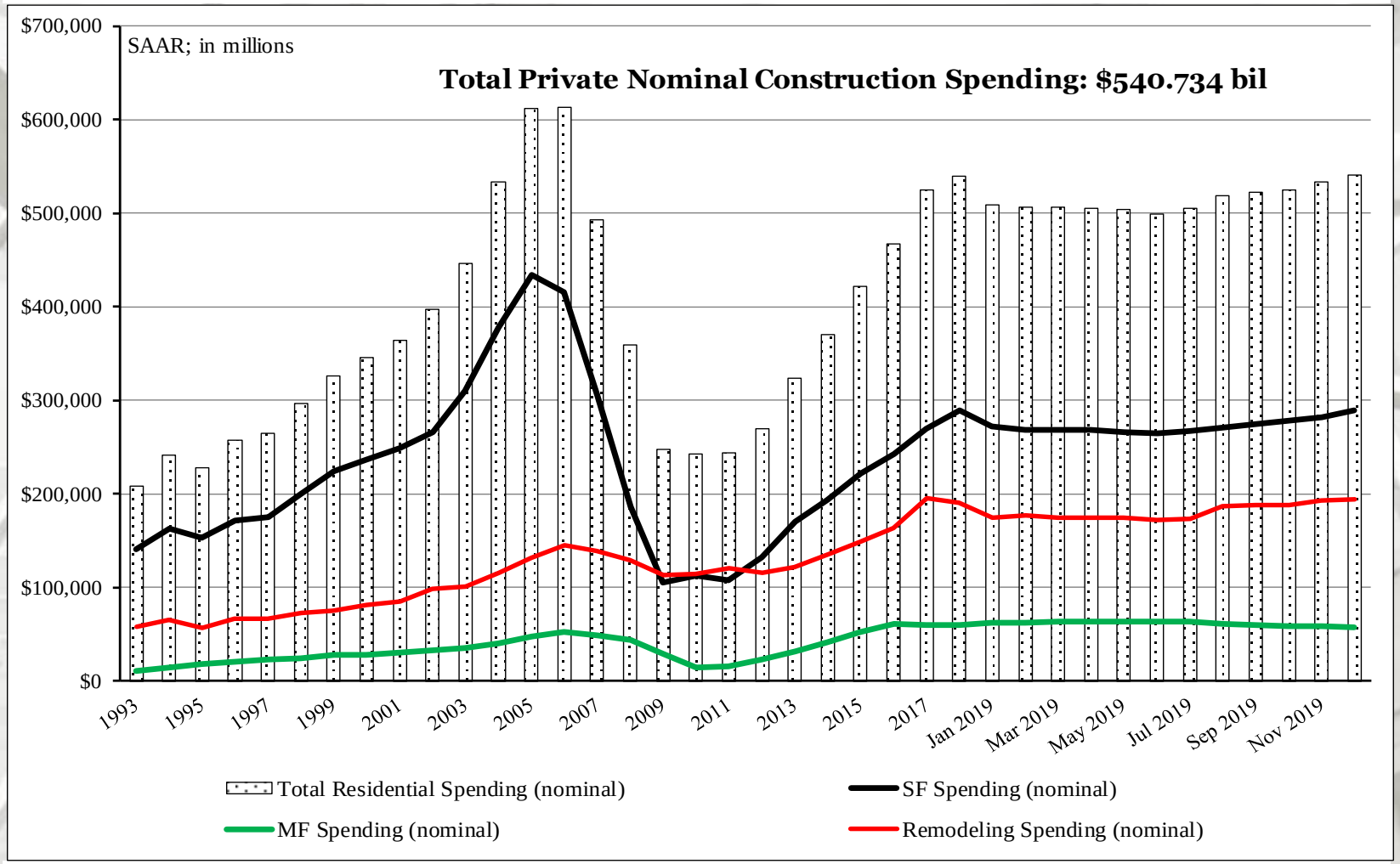
# Total Construction Spending (nominal): 1993 – December 2019




Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2019.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/20

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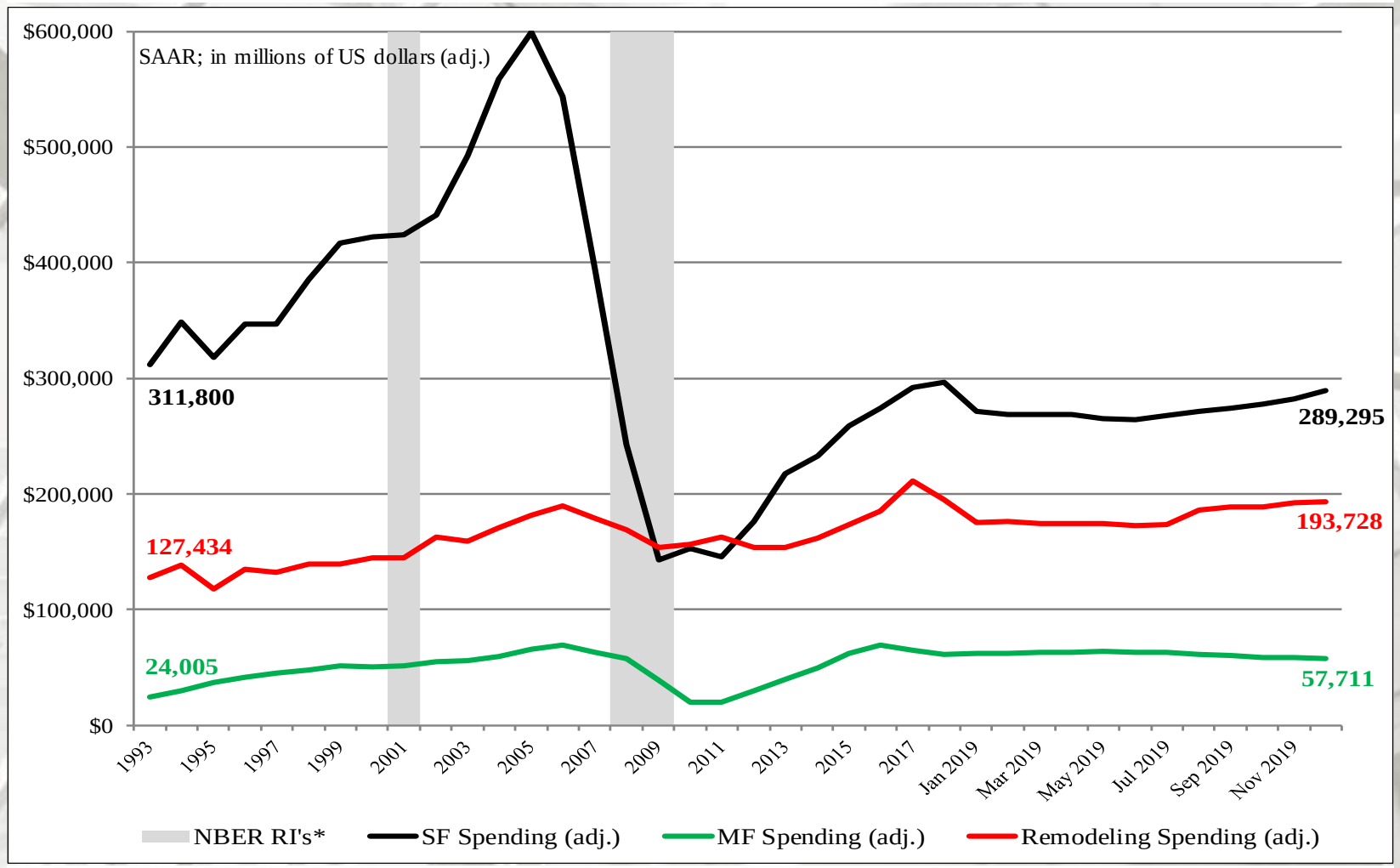
# Total Construction Spending (adjusted): 1993-2019^




Reported in adjusted US$: 1993 – 2018 (adjusted for inflation, BEA Table 1.1.9); ^January to December 2019 reported in nominal US$.
* 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, 2/3/20; http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/20

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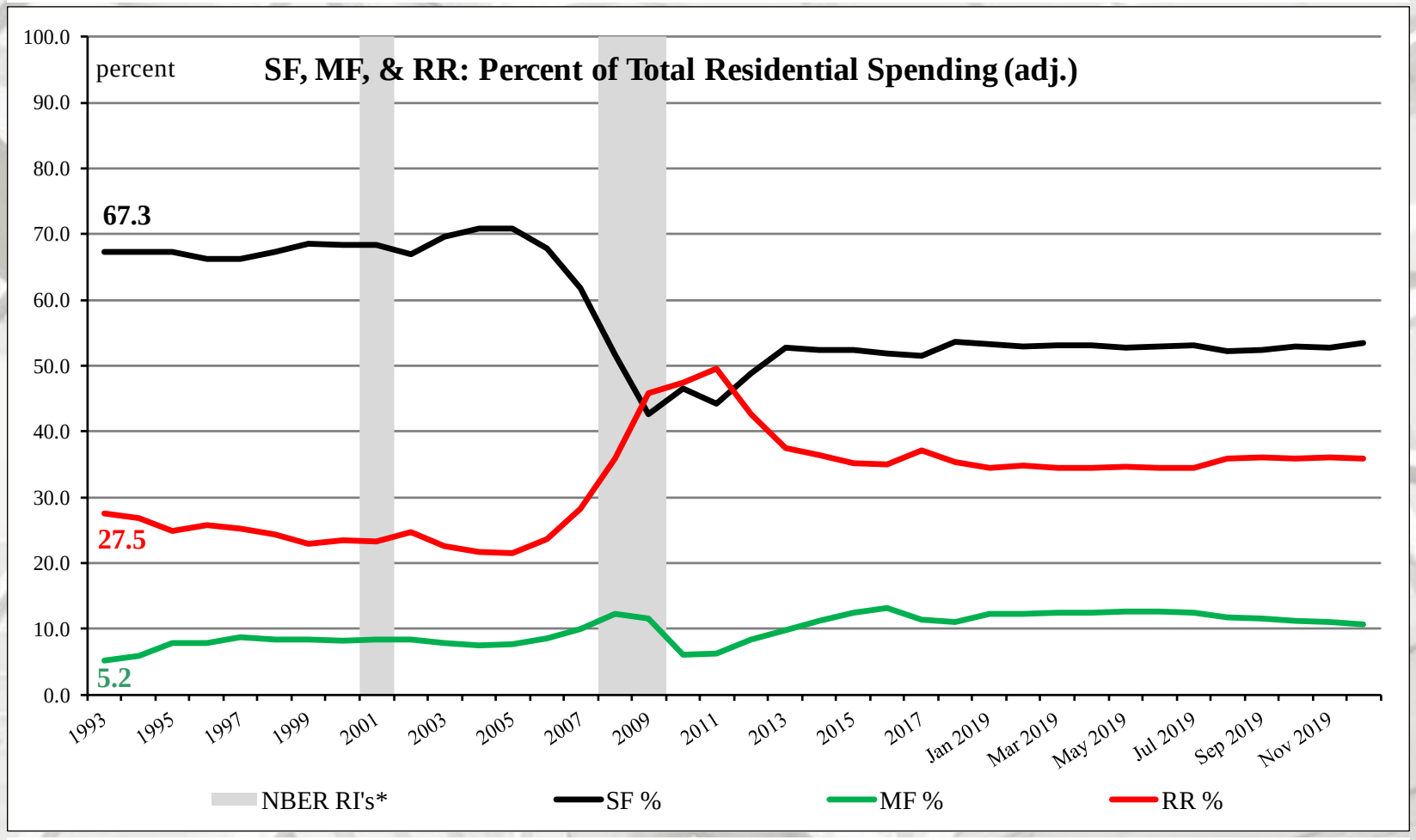
# Construction Spending Shares: 1993 to December 2019




**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 2018 (adjusted for inflation, BEA Table 1.1.9); Jan-December 2019 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, 2/3/20; http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 1/3/20

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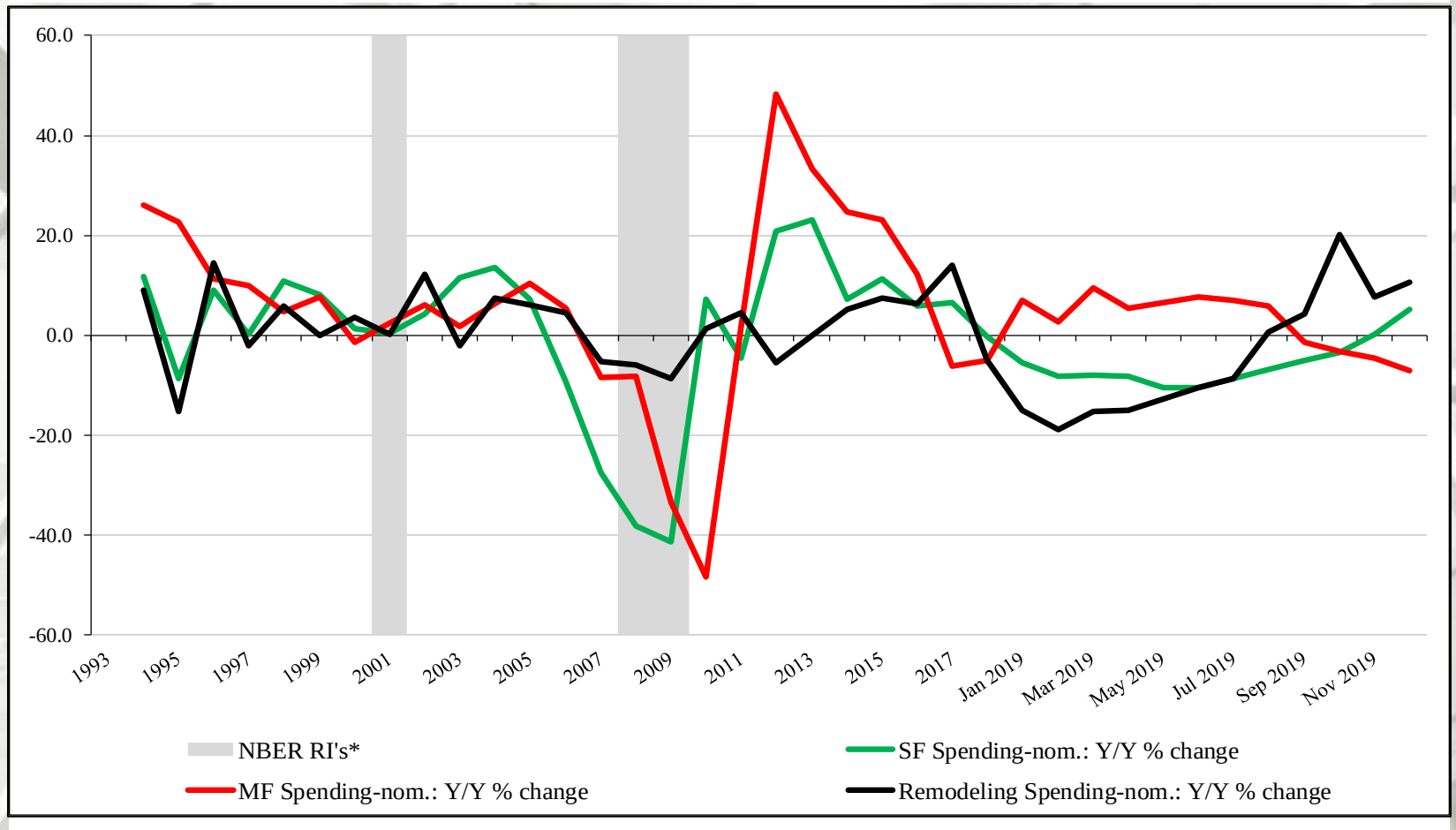
# Adjusted Construction Spending: Y/Y Percentage Change, 1993 to December 2019




## Nominal Residential Construction Spending: Y/Y percentage change, 1993 to December 2019

Presented above is the percentage change of inflation adjusted Y/Y construction spending. RR expenditures were positive on a percentage basis, year-over-year (2019 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, 2/3/20; http://www.census.gov/construction/c30/pdf/privsa.pdf; 1/3/20

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# Remodeling

## Harvard Joint Center for Housing Studies

## Slight Gains In 2020 Outlook For Residential Remodeling

"National spending for improvements and repairs on owner-occupied homes is expected to rise only modestly this year, according to our latest Leading Indicator of Remodeling Activity (LIRA). The LIRA projects that home remodeling expenditures will increase by just 1.5-percent in 2020 compared with annual gains of 5–7-percent in recent years.

While homebuilding and sales activity are now firming, softness from earlier last year will continue to pull on remodeling spending growth in 2020. However, the slowdown should begin to moderate by year-end as today's healthier housing market indicators will ultimately lead to more home renovation and repair.

A 2020 growth projection of less than 2-percent is certainly lackluster for the remodeling market, especially given historical average annual growth of about 5-percent. Even so, homeowner improvement and repair expenditures are still set to expand this year to over $330 billion." – Abbe Will, Research Associate & Associate Project Director, Remodeling Futures; Harvard Joint Center for Housing Studies

Source: https://www.jchs.harvard.edu/blog/slight-gains-in-2020-outlook-for-residential-remodeling/; 1/16/20

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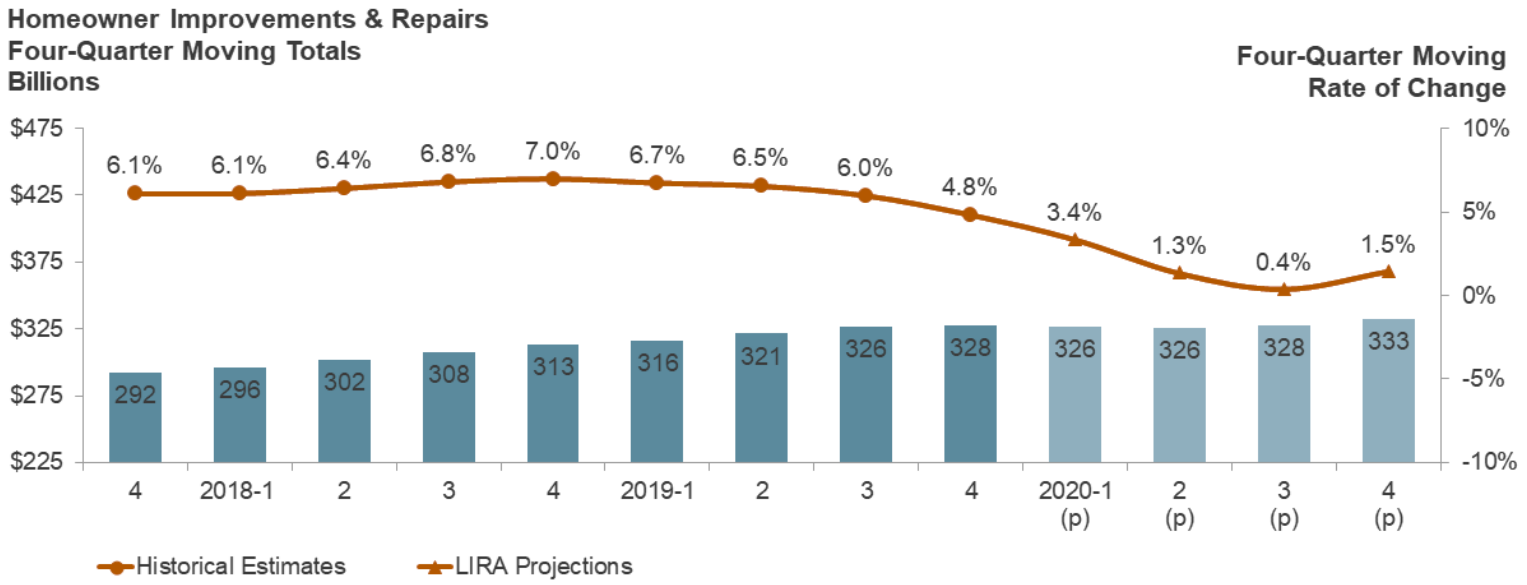
# Remodeling

## Leading Indicator of Remodeling Activity – Fourth Quarter 2019




Note: Historical estimates since 2017 are produced using the LIRA model until American Housing Survey benchmark data become available.



Joint Center for Housing Studies of Harvard University JCHS

Source: https://www.jchs.harvard.edu/blog/slight-gains-in-2020-outlook-for-residential-remodeling/; 1/16/20

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# Remodeling

## Houzz Research

## 2020Q1 Renovation Barometer – Construction Sector

"Findings from the Q1 2020 Houzz Renovation Barometer, which tracks residential renovation market expectations, project backlogs and recent activity among businesses in the construction sector.

**The Expected Business Activity Indicator related to project inquiries and new committed projects remained steady at 74 in Q1**: This is a result of both expectations for project inquiries and expectations for new committed projects remaining steady at 78 and 70, respectively. Among the two reporting business groups, expectations declined slightly among build-only remodelers to 72 (down one point in Q1 relative to Q4). Expectations of design and build remodelers remained steady at 75 in Q1 (relative to Q4).

**The Project Backlog Indicator increased to 5.4 weeks nationally at the start of Q1 (up 0.2 weeks relative to Q4)**: The overall backlog for the construction sector is 1.3 weeks below year-over-year levels. Among the two reporting business groups, backlogs increased for build-only remodelers, up to 5.0 weeks (from 4.2 weeks in Q4) and declined among design and build remodelers, down to 5.9 weeks (from 6.3 weeks in Q4). Backlogs vary significantly from 3.4 (East South Central division) weeks to 6.6 (Pacific division) weeks across the nine Census divisions." – Houzz Research

Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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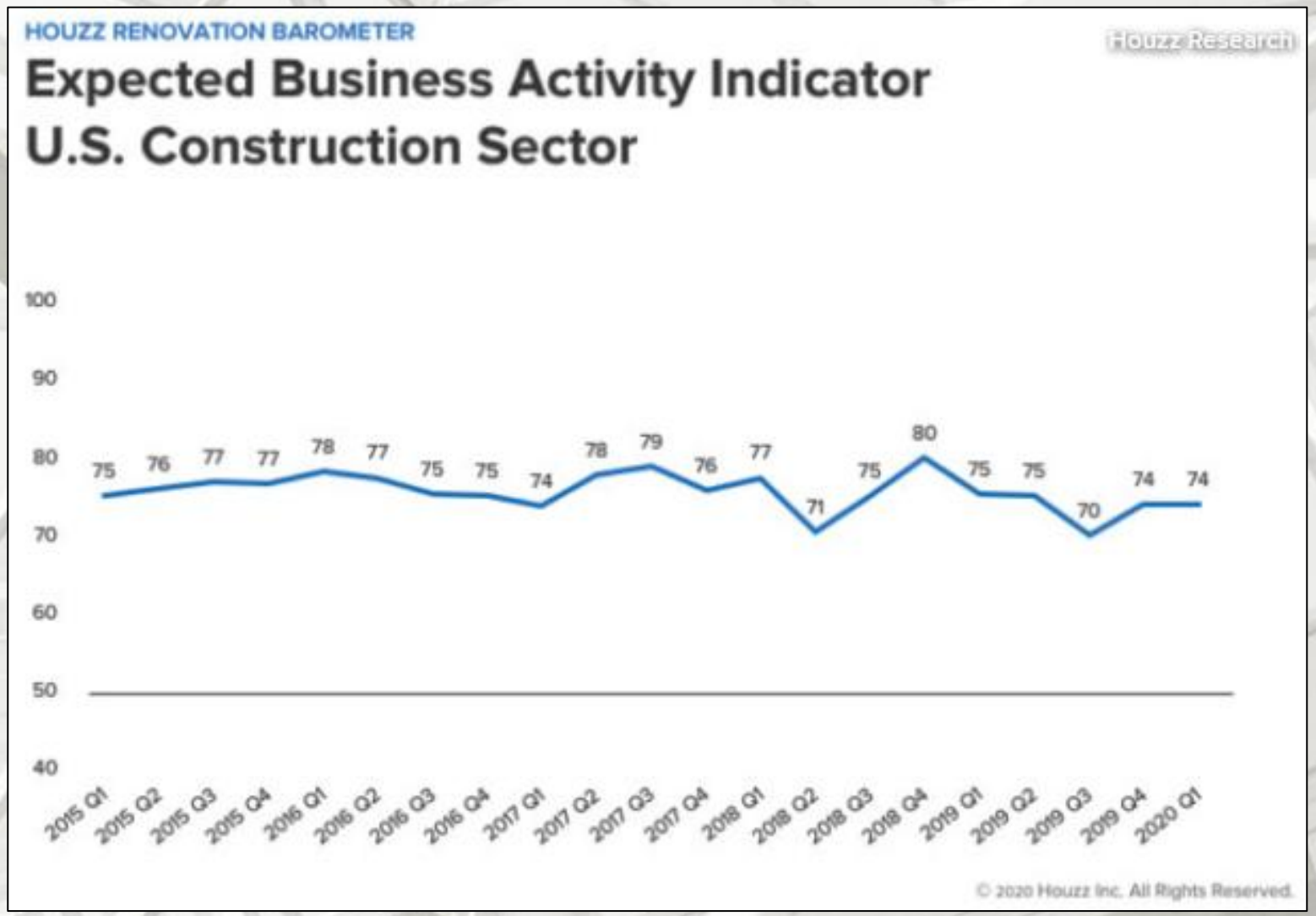
# Remodeling




Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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# Remodeling


Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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# Remodeling

## Houzz Research

## 2020Q1 Renovation Barometer – Construction Sector

"**The Recent Business Activity Indicator related to project inquiries and new committed projects increased to 65 in Q4 (up two points relative to Q3):** This follows project inquiry activity, which remained steady at 67 in Q4 and an increase in new committed projects to 62 (up two points). The overall recent activity indicator was mixed among the two business groups, with build-only remodelers reporting a decrease in recent activity (down two points to 64 in Q4 relative to Q3) and an increase reported by design and build remodelers to 65 (up four points relative to Q3).

The Q1 2020 Barometer garnered responses from 218 build-only remodelers and 529 design and build remodelers. n=747 in the construction sector." – Houzz Research

Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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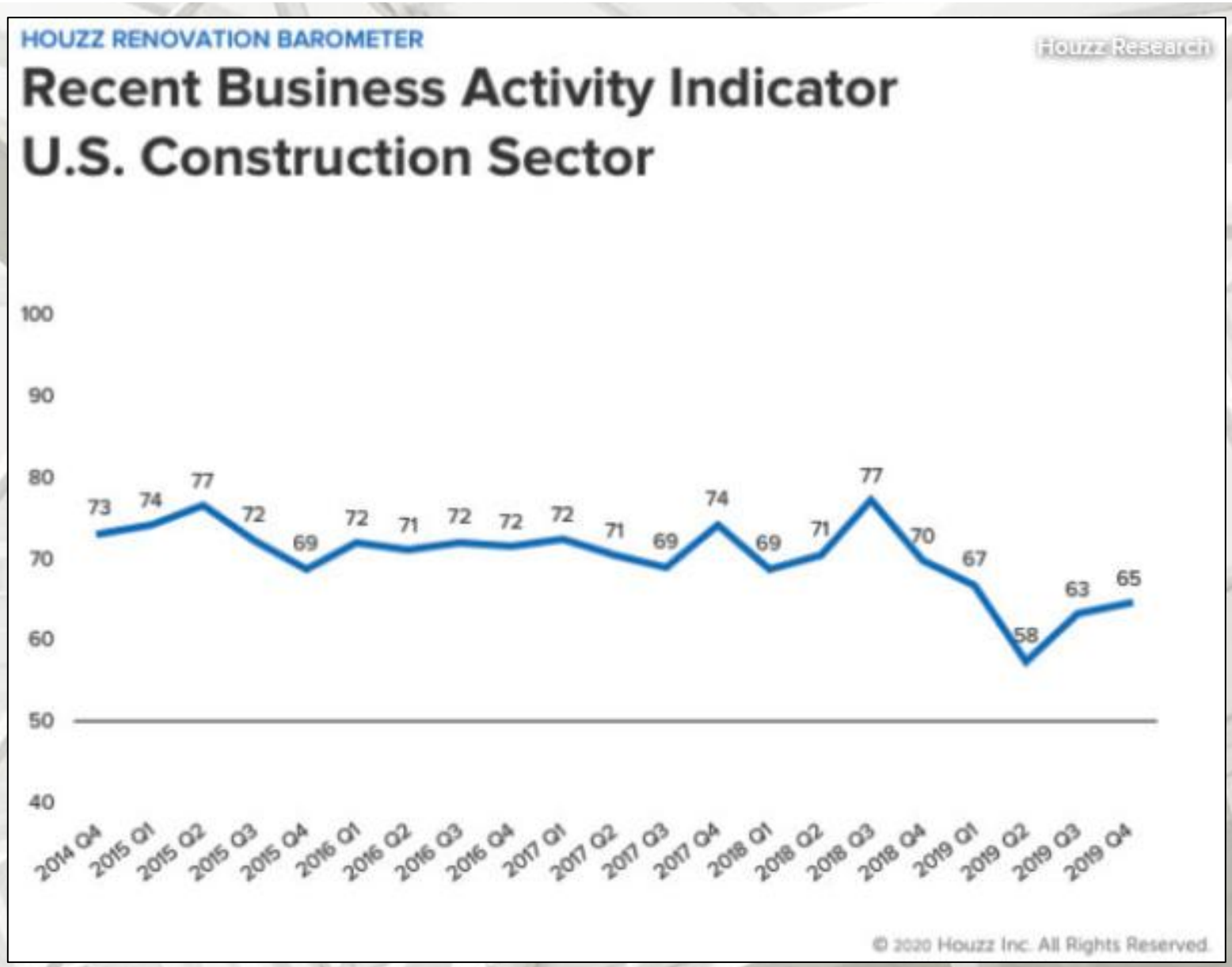
# Remodeling




Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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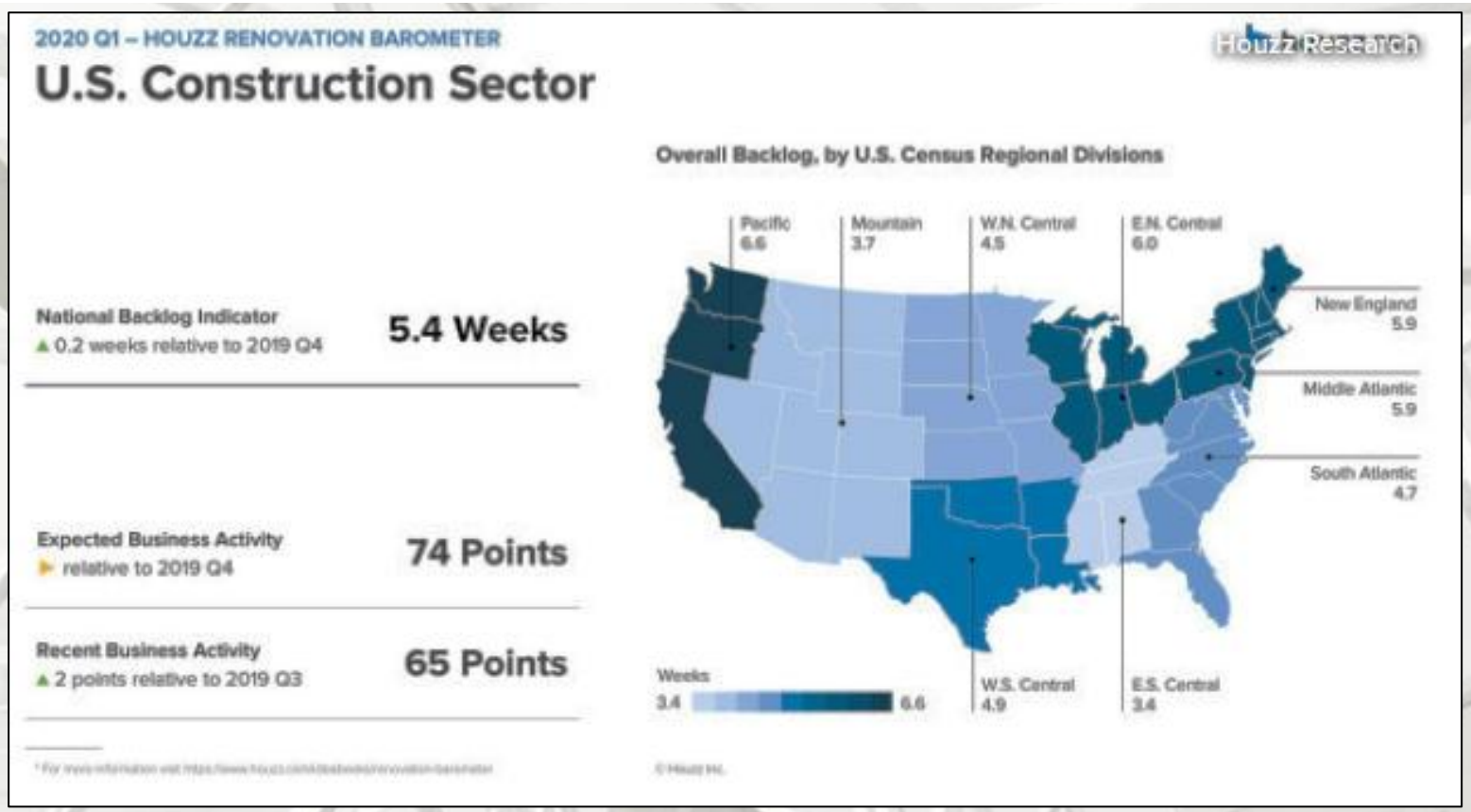
# Remodeling




Source: https://www.houzz.com/magazine/2020q1-renovation-barometer-construction-sector-stsetivw-vs~130722742/; 1/14/20

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# Existing House Sales

## National Association of Realtors

### December 2019 sales: 5.350 thousand

| | Existing Sales | Median Price | Mean Price | Month's Supply |
|---|---|---|---|---|
| December | 5,540,000 | $274,500 | $311,200 | 3.0 |
| November | 5,350,000 | $271,300 | $308,000 | 3.7 |
| 2018 | 5,000,000 | $254,700 | $293,800 | 3.7 |
| M/M change | 3.6% | 1.2% | 1.0% | -18.9% |
| Y/Y change | 10.8% | 7.8% | 5.9% | -18.9% |

All sales data: SAAR

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 1/22/20

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# Existing House Sales

| | Existing SF Sales | SF Median Price | SF Mean Price |
|---|---|---|---|
| December | 4,920,000 | 276,900 | 312,500 |
| November | 4,790,000 | 274,100 | 309,800 |
| 2018 | 4,450,000 | 256,400 | 294,600 |
| M/M change | 2.7% | 1.2% | 0.9% |
| Y/Y change | 10.6% | 8.0% | 6.1% |

| | NE | MW | S | W |
|---|---|---|---|---|
| December | 740,000 | 1,300,000 | 2,360,000 | 1,140,000 |
| November | 700,000 | 1,320,000 | 2,240,000 | 1,090,000 |
| 2018 | 680,000 | 1,190,000 | 2,100,000 | 1,030,000 |
| M/M change | 5.7% | -1.5% | 5.4% | 4.6% |
| Y/Y change | 8.8% | 9.2% | 12.4% | 10.7% |

All sales data: SAAR.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 1/22/20

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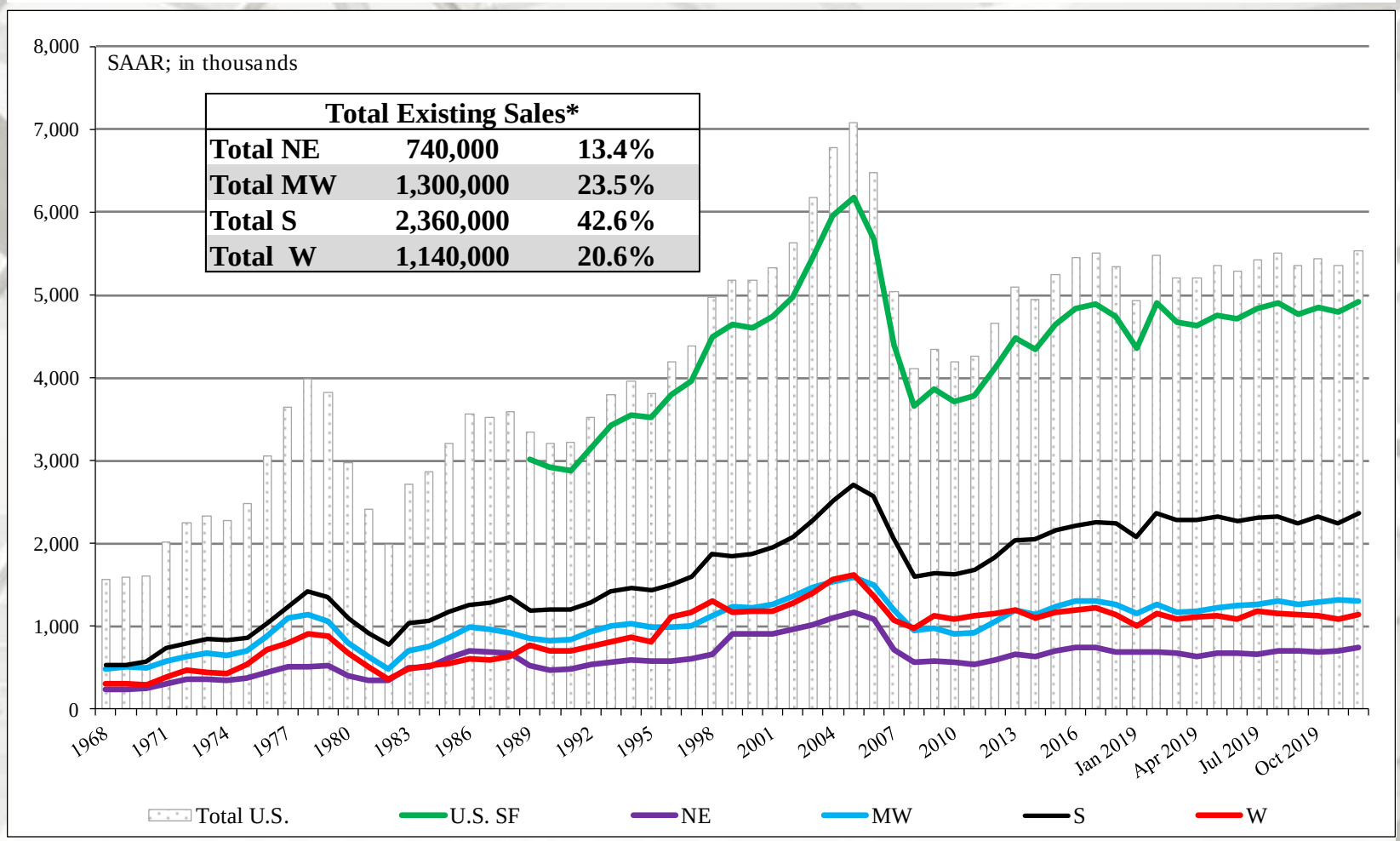
# Existing House Sales




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

* Percentage of existing sales.

Source: https://fred.stlouisfed.org/series/EXHOSLUSM495S; 1/22/20

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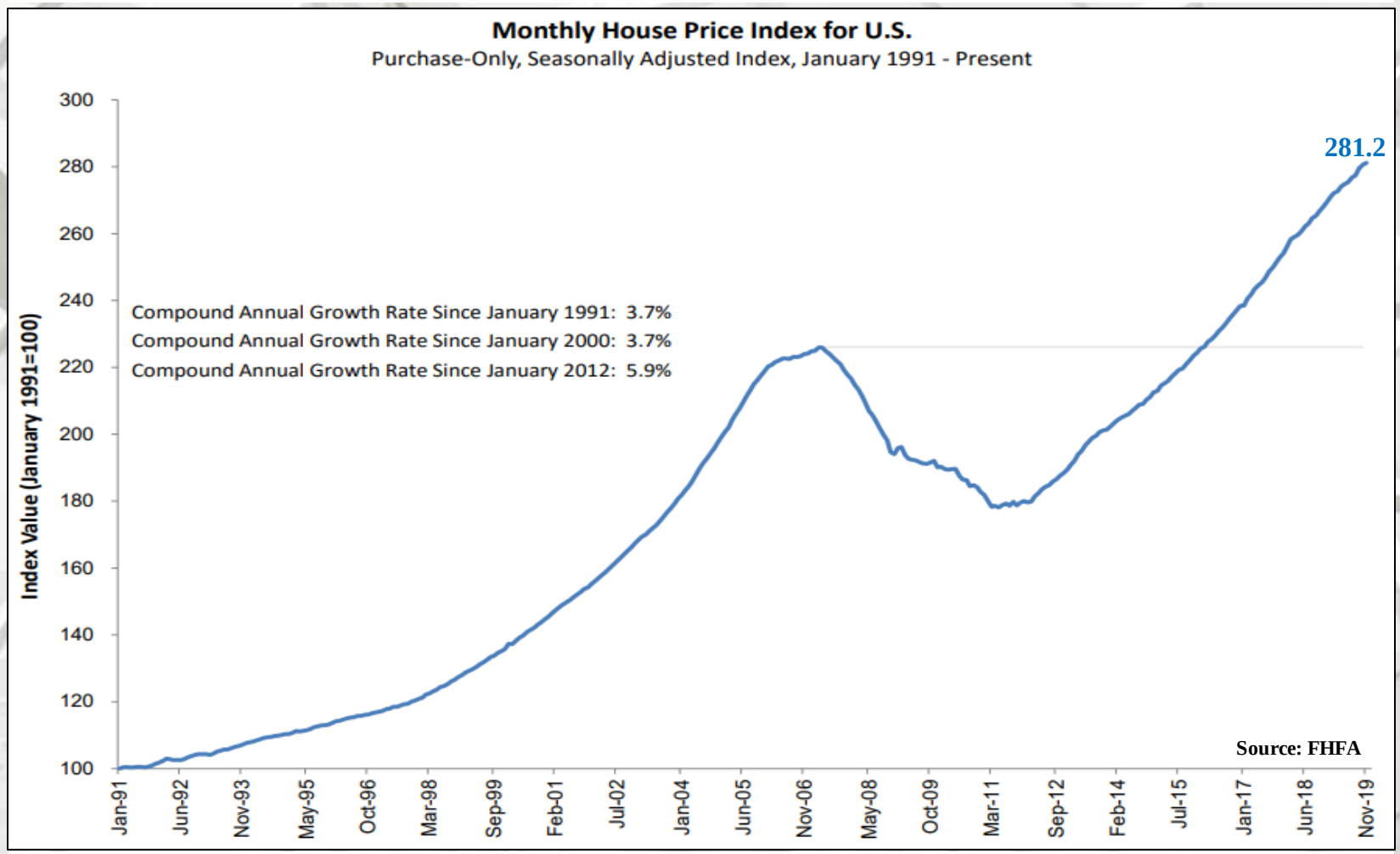
# U.S. Housing Prices




## FHFA House Price Index Up 0.2 Percent in November; Up 4.9 Percent from Last Year

"U.S. house prices rose in November, up **0.2 percent** from the previous month, according to the Federal Housing Finance Agency (FHFA) House Price Index (HPI). House prices rose **4.9 percent** from November 2018 to November 2019. The previously reported 0.2 percent increase for October 2019 was revised upward to 0.4 percent." – Corinne Russell and Raffi Williams, FHFA

Source: https://www.fhfa.gov//AboutUs/Reports/Pages/US-House-Price-Index-Report-November-2019.aspx; 1/22/20

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# U.S. Housing Prices

## S&P CoreLogic Case-Shiller Index Continues Upward Trend For Annual Home Price Gains

### Data released for November 2019 show that home prices continue to increase at a modest rate across the U.S.

"The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported a 3.5% annual gain in November, up from 3.2% in the previous month. The 10-City Composite annual increase came in at 2.0%, up from 1.7% in the previous month. The 20-City Composite posted a 2.6% year-over-year gain, up from 2.2% in the previous month.

Phoenix, Charlotte and Tampa reported the highest year-over-year gains among the 20 cities. In November, Phoenix led the way with a 5.9% year-over-year price increase, followed by Charlotte with a 5.2% increase and Tampa with a 5.0% increase. Fifteen of the 20 cities reported greater price increases in the year ending November 2019 versus the year ending October 2019.

The U.S. housing market was stable in November. With the month's 3.5% increase in the national composite index, home prices are currently 59% above the trough reached in February 2012, and 15% above their pre-financial crisis peak. November's results were broad-based, with gains in every city in our 20-city composite. At a regional level, Phoenix retains the top spot for the sixth consecutive month, with a gain of 5.9% for November. Charlotte and Tampa rose by 5.2% and 5.0% respectively, leading the Southeast region. The Southeast has led all regions since January 2019. As was the case last month, after a long period of decelerating price increases, the National, 10-city, and 20-city Composites all rose at a modestly faster rate in November than they had done in October. This increase was broad-based, reflecting data in 15 of 20 cities. It is, of course, still too soon to say whether this marks an end to the deceleration or is merely a pause in the longer-term trend." – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

Source:; https://us.spindices.com/documents/indexnews/announcements/20200128-1080159/1080159_CSHomePrice_Release_0128.pdf1; 1 /28/20

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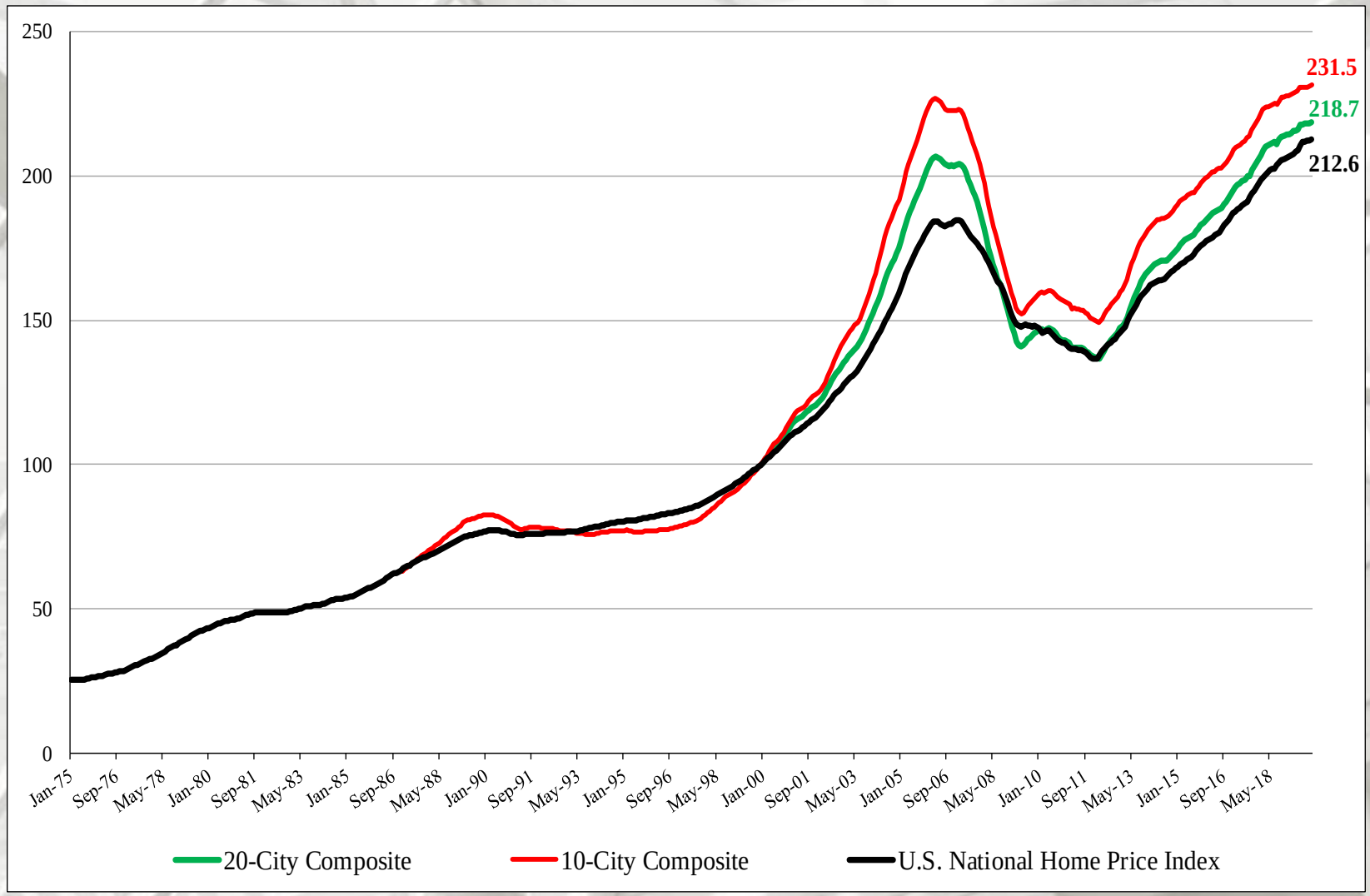
# S&P/Case-Shiller Home Price Indices




Source:; https://us.spindices.com/documents/indexnews/announcements/20200128-1080159/1080159_CSHomePrice_Release_0128.pdf1; 1 /28/20

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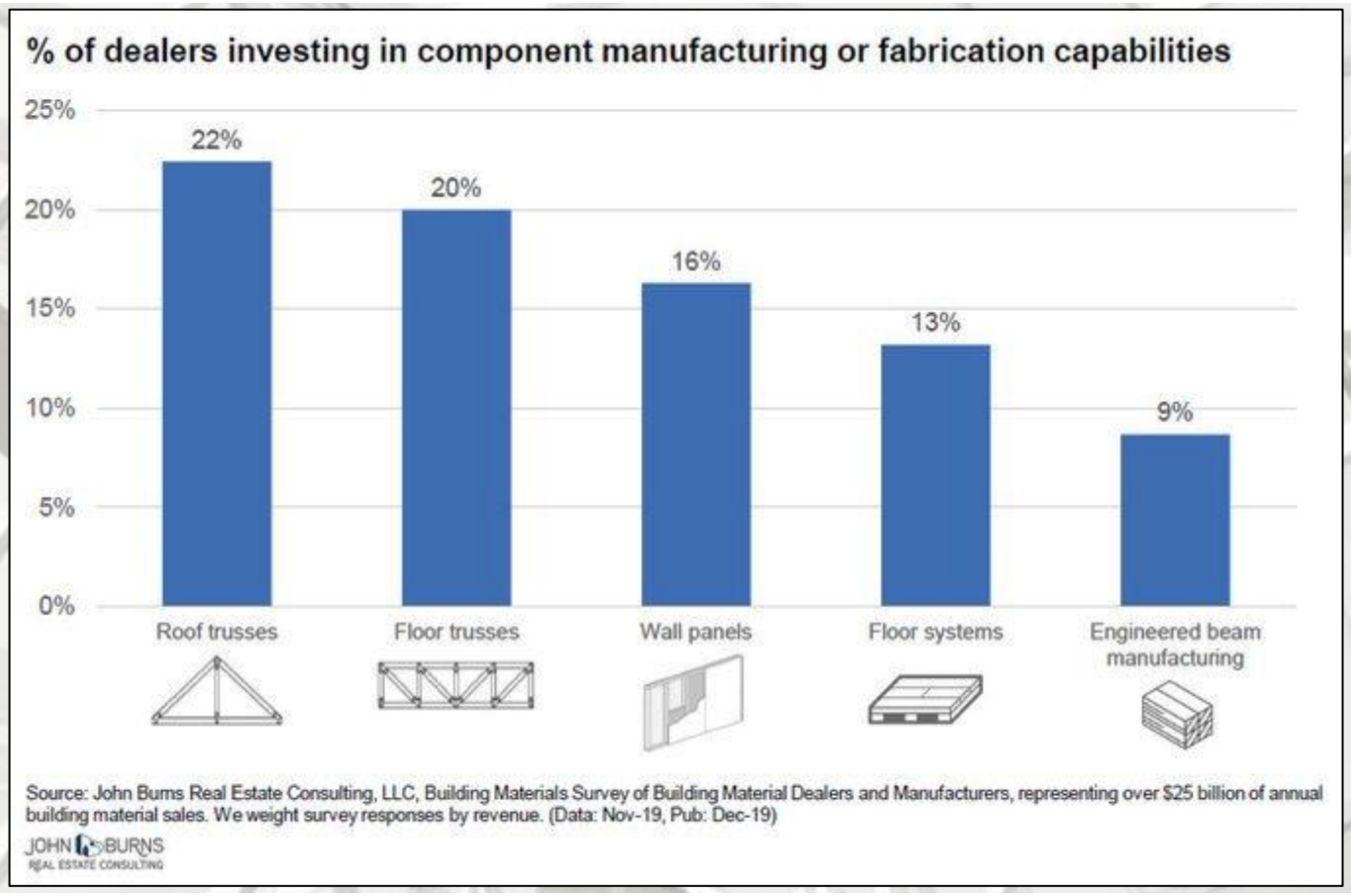
# U.S. Housing Market




## John Burns Real Estate Consulting

### Building products business models of yesteryear are changing

"The building products business models of yesteryear are changing. Dealers are investing in component manufacturing and everyone in the space is looking for ways to offer more value through bundling (labor + materials for example). #JBRECDailyInsight @JBREC" – Jacob Belk, Manager, Forecasting and Analytics; John Burns Real Estate Consulting LLC

Source:; https://twitter.com/i/status/1217868520727334913; 1/16/20

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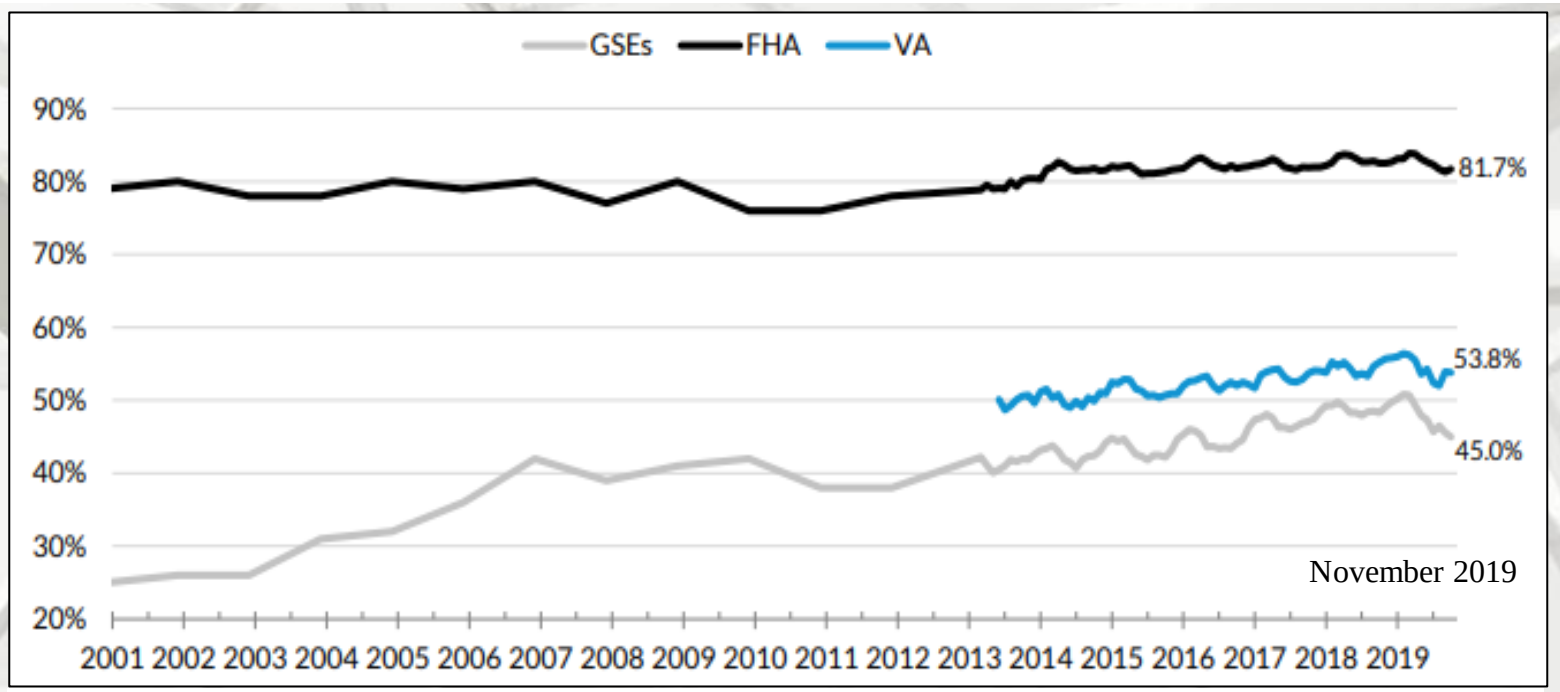
# First-Time House Buyers




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

## Urban Institute

"In November 2019, the FTHB share for FHA, which has always been more focused on first time homebuyers, rose very slightly to 81.7 percent. The FTHB share of VA lending decreased slightly in November, to 53.8 percent. The GSE FTHB share in November was 45.0 percent. The bottom table shows that based on mortgages originated in November 2019, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and higher LTV and higher DTI, thus paying a higher interest rate." – Bing Lai, Research Associate, Housing Finance Policy Center

Sources: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-january-2020; 1/24/20

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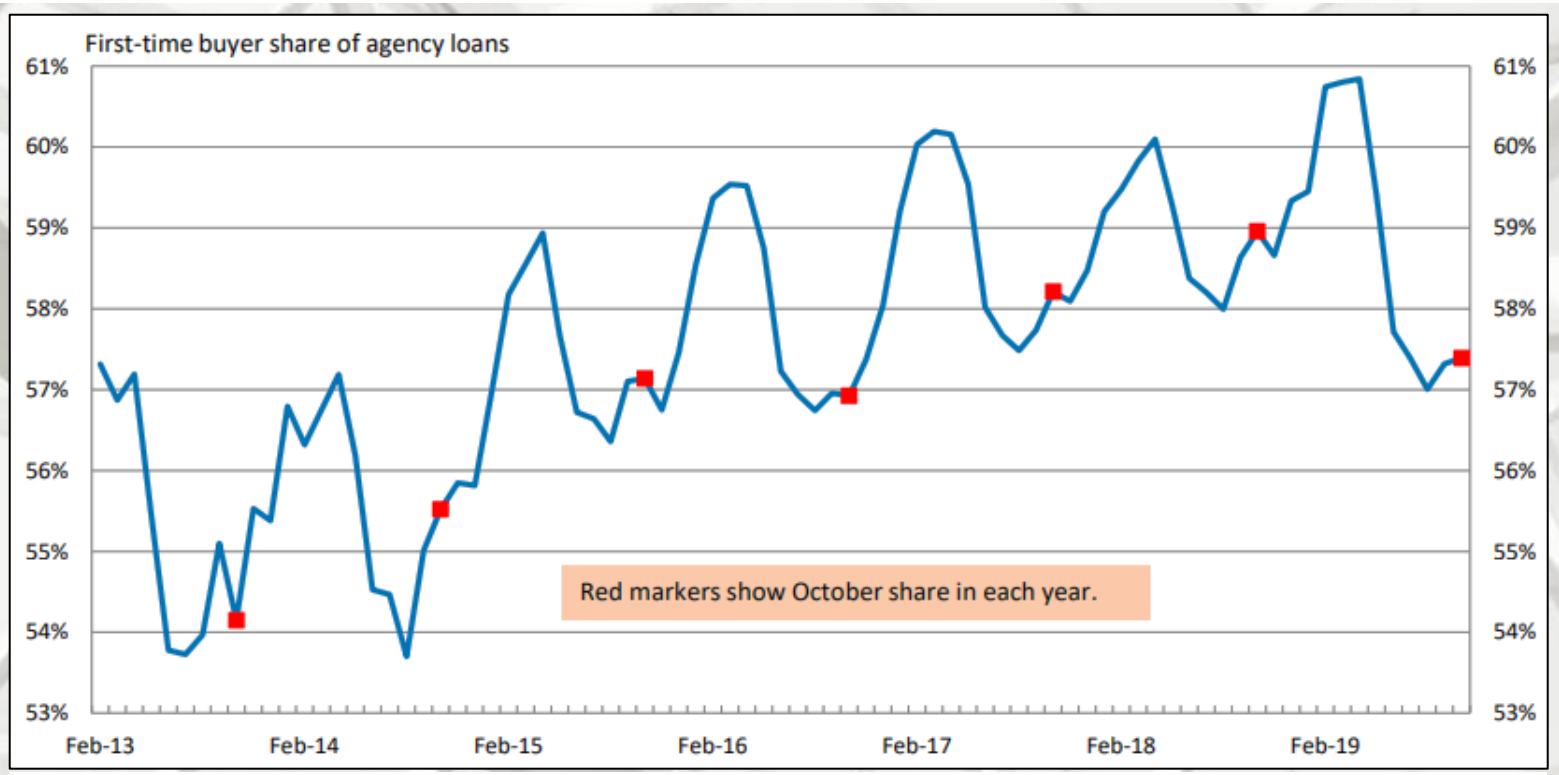
# First-Time House Buyers




Note: Data are for primary owner-occupied agency purchase loans.

## AEI Housing Center

## Agency First-time Buyer (FTB) Loan Share

"The Agency FTB loan share was 57.4% in October 2019. This is down from 59.0% in October 2018 and represents a significant trend reversal from the last 5 years, during which the FTB share continuously marched up. The decline in FTB volume has helped reduce the overall level of mortgage risk. This is evidence of counter-cyclical policies, especially appropriate at this point in the 8-year long home price boom." – Edward Pinto and Tobias Peter, AEI Housing Center

Sources: https://hello.aei.org/rs/475-PBQ-971/images/HMI-Briefing-presentation-01-27-20-FINAL.pdf; 2/7/20

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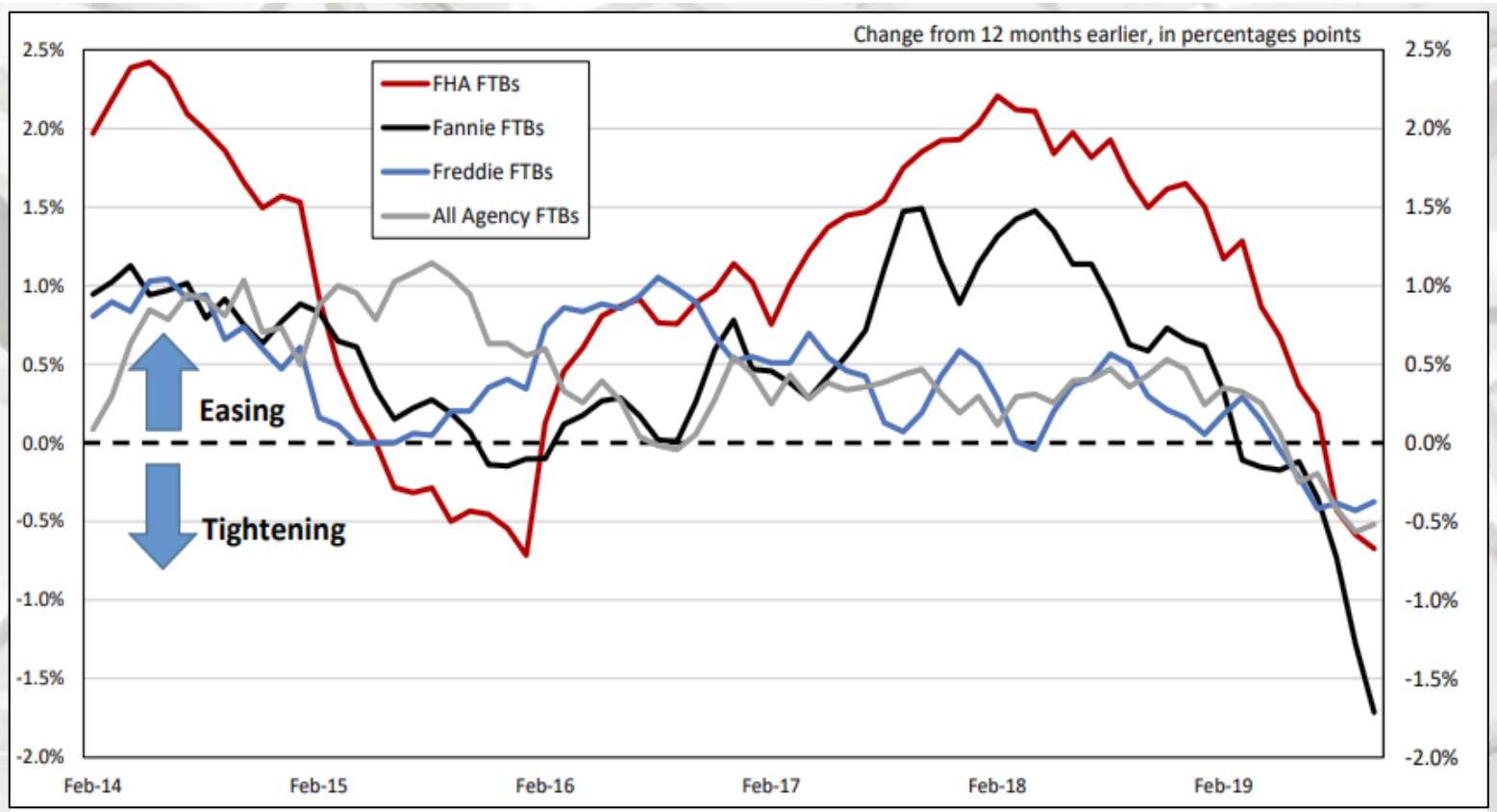
# First-Time House Buyers




Note: Includes all types of NMRI purchase loans (primary owner-occupied, second home, and investor loans).

## AEI Housing Center

## FTB Purchase Loan NMRI: Credit Tightening Continues

"The First-time Buyer (FTB) MRI continued to decrease led by Fannie, which has been tightening since March 2019. FHA's First-time Buyer MRI stood at 27.8% in October, down 0.7 ppt from a year earlier. While this change is encouraging, the decrease is coming off of very high risk levels and more needs to be done." – Edward Pinto and Tobias Peter, AEI Housing Center

Sources: https://hello.aei.org/rs/475-PBQ-971/images/HMI-Briefing-presentation-01-27-20-FINAL.pdf; 2/7/20

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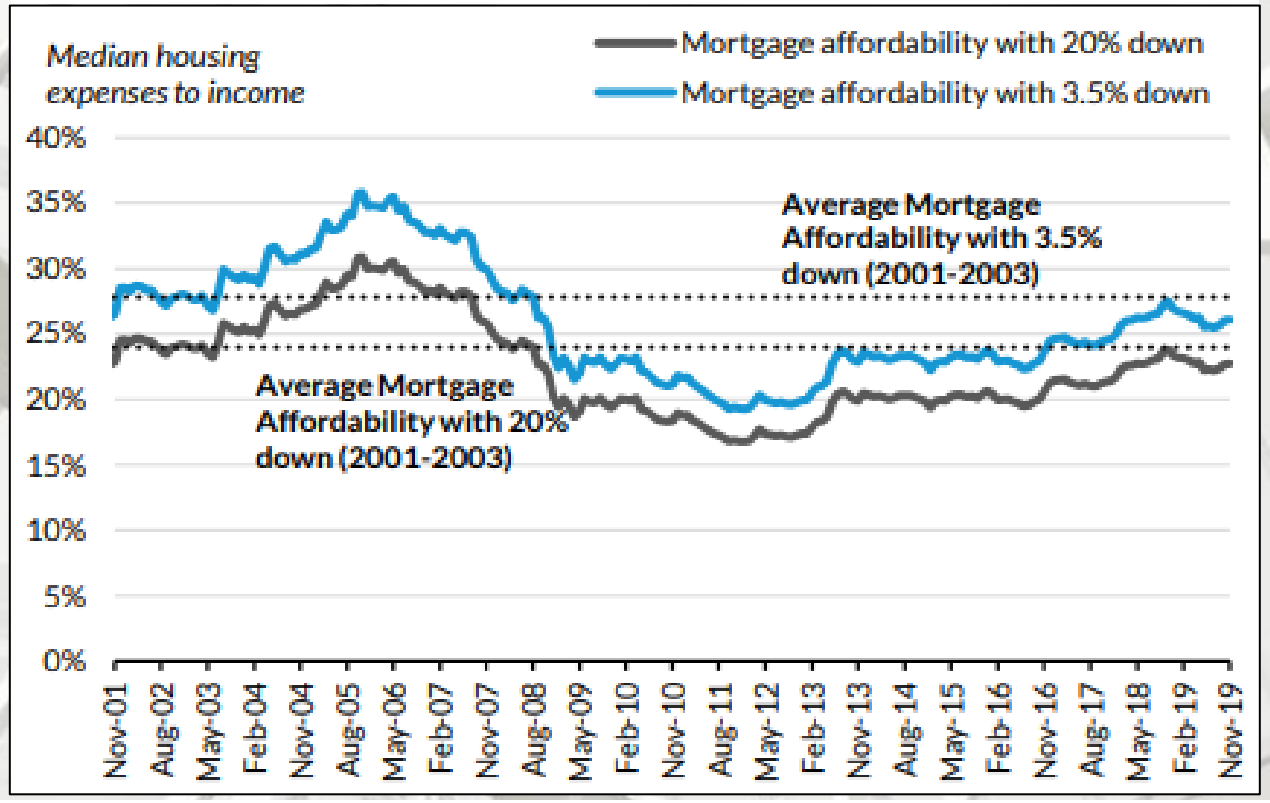
# Housing Affordability

## National Housing Affordability Over Time




## Urban Institute

"Home prices remain affordable by historic standards, despite price increases over the last 7 years, as interest rates remain relatively low in an historic context. As of November 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 23.9 percent; with 3.5 down, it is 27.8 percent. Since February, the median housing expenses to income ratio has been slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA." – Laurie Goodman, VP, Housing Finance Policy Center

Sources: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-january-2020; 1/24/20

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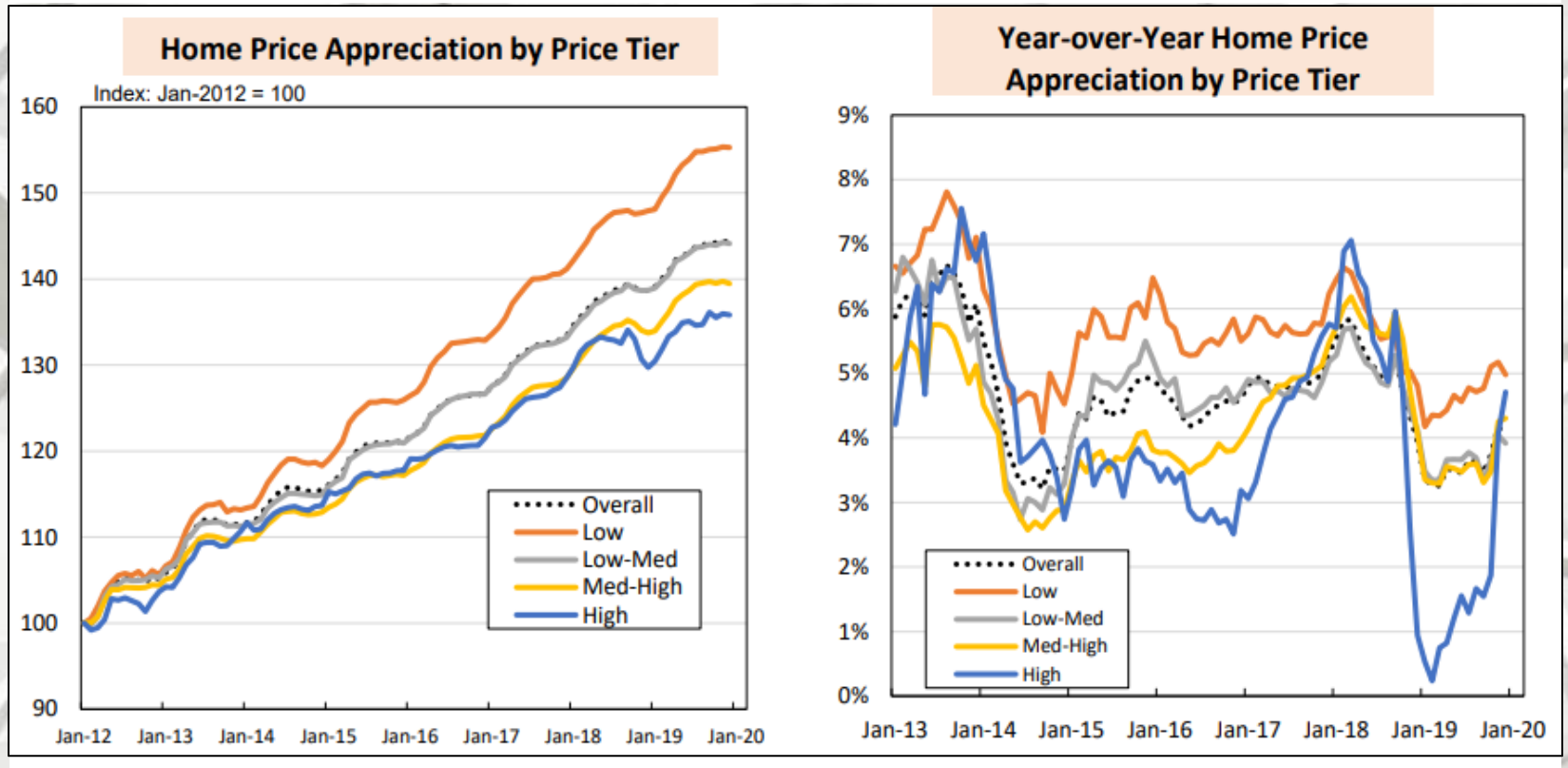
# Housing Affordability




Note: Data for December 2019 are preliminary. Price tiers are set at the metro level and are defined as follows: Low: all sales at or below the 40th percentile of FHA sales prices; Low-Medium: all sales at or below the 80th percentile of FHA sales prices; Medium-High: all sales at or below the 125% of the GSE loan limit; and High: all other sales. HPAs are smoothed around the times of FHFA loan limit changes.

## AEI Housing Center

### National House Price Appreciation (HPA) by Price Tier

"In December 2019, overheating of the low price tier continued (right panel). HPA in the low price tier was 5.0% year-over-year. In the low-medium and medium-high tiers, HPA was 3.9% and 4.3%, respectively. HPA in the high tier (about 7% share) increased significantly to 4.7% compared to a year ago. This tier was first hit by the Fed's tightening and is now buoyed by the Fed's loosening." – Edward Pinto and Tobias Peter, AEI Housing Center

Sources: https://hello.aei.org/rs/475-PBQ-971/images/HMI-Briefing-presentation-01-27-20-FINAL.pdf; 2/7/20

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# Mortgage Credit Availability

## Mortgage Credit Availability Decreased in January

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

The MCAI fell by 0.2 percent to 181.9 in January. 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 0.5 percent, while the Government MCAI increased by 0.4 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI decreased by 0.3 percent, and the Conforming MCAI fell by 0.9 percent.

Mortgage credit availability was mostly unchanged to start 2020, decreasing 0.2 percent in January. Similar to December of 2019, the decline came from the reduction of low credit score, high-LTV programs. Furthermore, there continues to be movement with both adds and drops in the government program space, with the net result last month showing small growth in the government index. Although credit supply has flattened these last two years, the meaningful increase seen overall since the Great Recession has been helpful to the growing share of first-time homebuyers, as well as refinance borrowers looking to act on lower mortgage rates. Ongoing housing supply constraints in the lower-price range continues to hold prospective buyers back the most." – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

Source: https://www.mba.org/news-research-and-resources/research-and-economics/single-family-research/mortgage-credit-availability-index; 2/6/20

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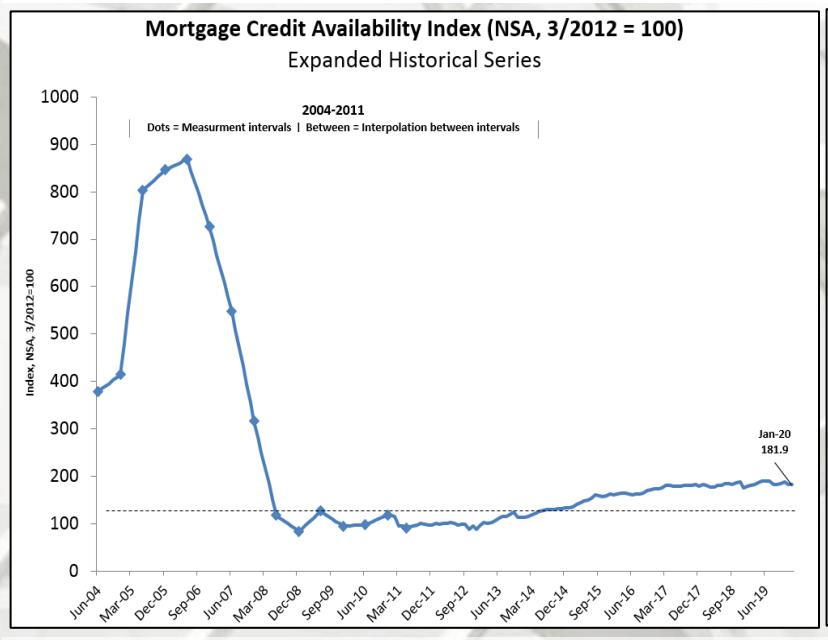
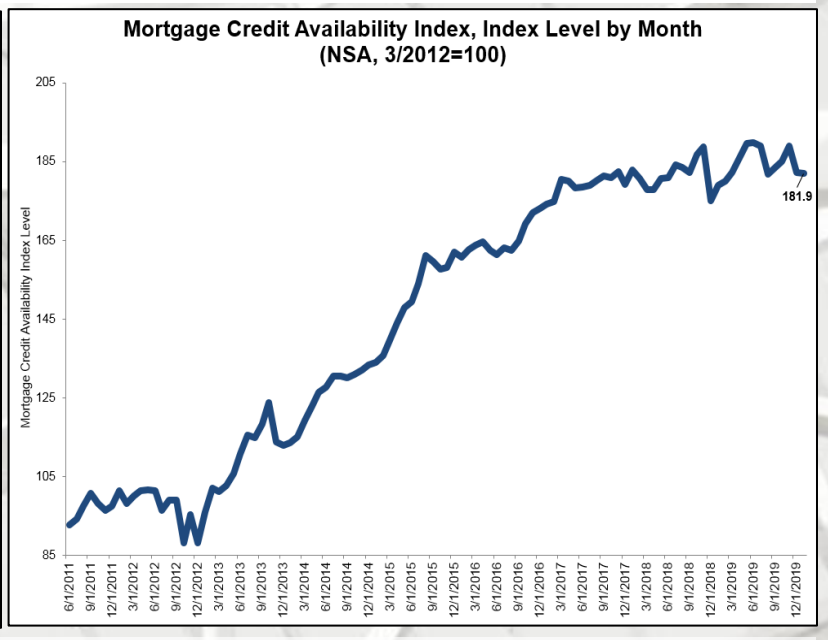
# Mortgage Credit Availability




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

Source: https://www.mba.org/news-research-and-resources/research-and-economics/single-family-research/mortgage-credit-availability-index; 2/6/20

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# Summary

**In conclusion:**

Total starts were reported at 1,608 million units in December 2019 – this is the greatest number reported since December 2006 (1,649 million units). Further, single-family starts were 1,055 million units, the first-time single-family starts have exceed one-million units since July 2006 (1,042 million units). Two factors may be behind this upsurge: 1) a mild December and 2) a large increase in the Midwest region's starts. Winter seasonal adjustments for the Midwest typically are greater than the other regions (Slide 18). Total-, single-, and multi-family permits and new single-family sales declined month-over-month. With the exception of single-family under construction, all housing metrics were positive on a year-over-year basis.

Housing, in the majority of categories, remains substantially less than their respective historical averages. The new SF housing construction sector is where the majority of value-added forest products are utilized and this housing sector has ample room for improvement.

**Pros:**

1) Historically low interest rates are still in place;
2) Select builders are beginning to focus on entry-level houses.

**Cons:**

1) Housing affordability indicates improvement;
2) Lot availability and building regulations (according to several sources);
3) Laborer shortages;
4) Household formations still lag historical averages;
5) Changing attitudes towards SF ownership;
6) Job creation is improving and consistent but some economists question the quantity and types of jobs being created;
7) Debt: Corporate, personal, government – United States and globally;
8) Other global uncertainties.

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