# The Virginia Tech – U.S. Forest Service
# December 2017
# Housing Commentary: Section I


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This report is a free monthly service of Virginia Tech. Past issues can be found at: http://woodproducts.sbio.vt.edu/housing-report. To request the report, please email: buehlmann@gmail.com

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# Opening Remarks

December's housing data can be best described as "reversion to the mean". Several data series declined substantially on a month-to-month basis. Regionally, data were mixed across all sectors. The February 14th Atlanta Fed GDPNow™ aggregate residential investment spending model projects a -0.6% decrease for Quarter One 2018. New private permanent site expenditures were estimated at a 2.8% rise; the improvement spending forecast was a -1.3% decrease; and the manufactured/mobile housing forecast was a 41.9% increase (all: seasonally adjusted annual rate).[1]

"Builders will continue to struggle to overcome supply constraints in 2018, again falling short of meeting pent-up demand. The low level of construction is limiting new homes available for upgrade, thereby contributing to the tight supply of existing homes for sale and putting significant upward pressure on home rents and sales prices. Rising interest rates may help moderate increases in home prices but are unlikely to reverse them."[2] – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

This month's commentary also contains 2018 forecasts, applicable housing data; multifamily outlooks; remodeling projections; and demographic information. Section I contains data and commentary and Section II includes Federal Reserve analysis, private indicators, and demographic and economic commentary.

Sources: [1] https://www.frbatlanta.org/-/media/Documents/cqer/researchcq/gdpnow/GDPTrackingModelDataAndForecasts.xlsx; 2/14/18;
[2] https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# December 2017
# Housing Scorecard

| | M/M | | Y/Y | |
|---|---|---|---|---|
| Housing Starts | ∇ | 8.2% | ∇ | 6.0% |
| Single-Family Starts | ∇ | 11.8% | Δ | 3.5% |
| Housing Permits | ∇ | 0.1% | Δ | 2.8% |
| Single-Family Permits | Δ | 1.8% | Δ | 6.1% |
| Housing Completions | Δ | 2.2% | Δ | 7.4% |
| Single-Family Completions | Δ | 4.3% | Δ | 6.9% |
| New Single-Family House Sales | ∇ | 9.3% | Δ | 14.1% |
| Private Residential Construction Spending | Δ | 0.5% | Δ | 6.2% |
| Single-Family Construction Spending | Δ | 0.4% | Δ | 8.7% |
| Existing House Sales[1] | ∇ | 3.6% | Δ | 1.1% |

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

Sources: U.S. Department of Commerce-Construction; [1]National Association of Realtors® (NAR®)

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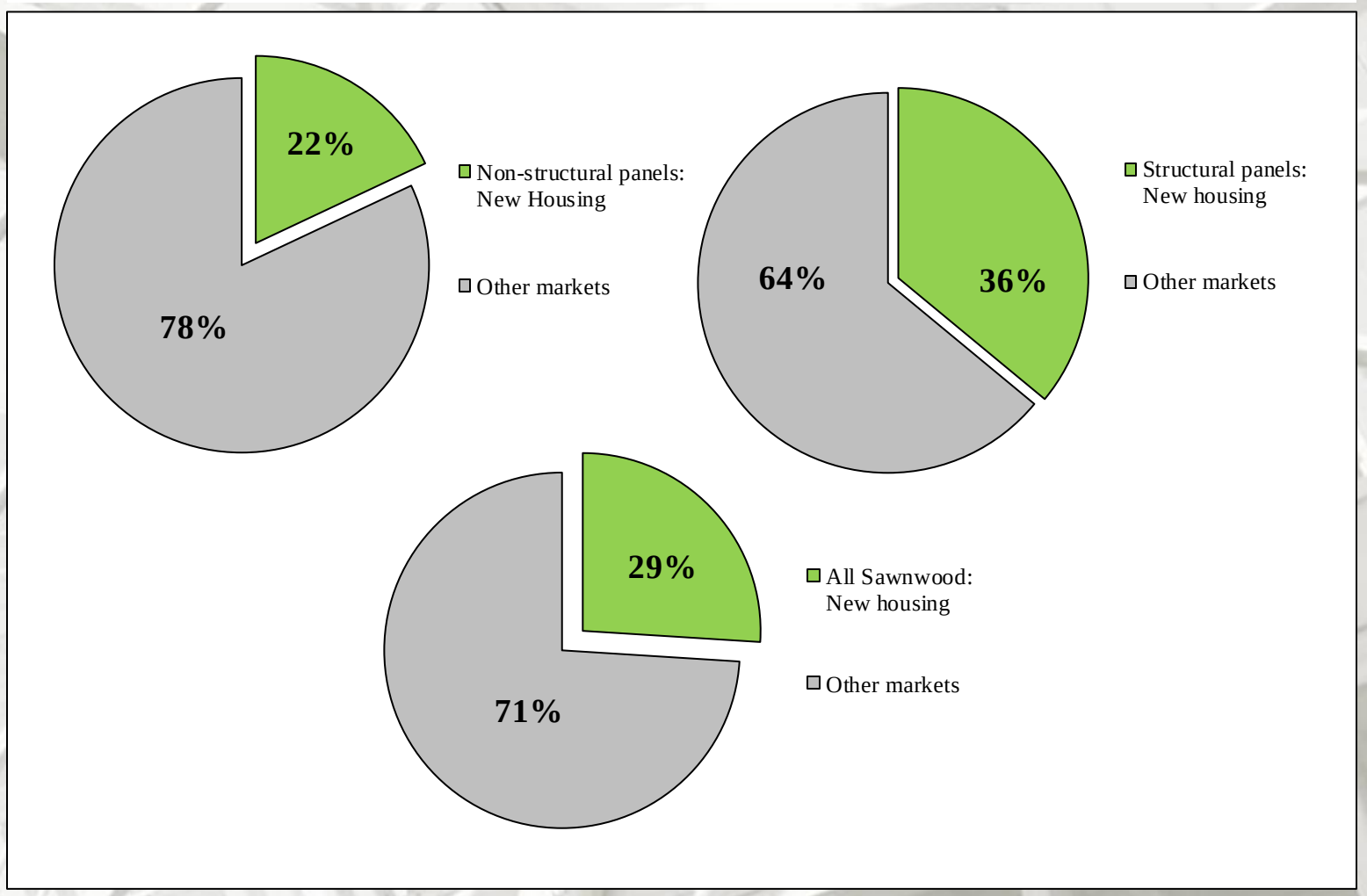
# New Construction's Percentage of Wood Products Consumption




Source: U.S. Forest Service. Howard, J. and D. McKeever. 2015. U.S. Forest Products Annual Market Review and Prospects, 2010-2015

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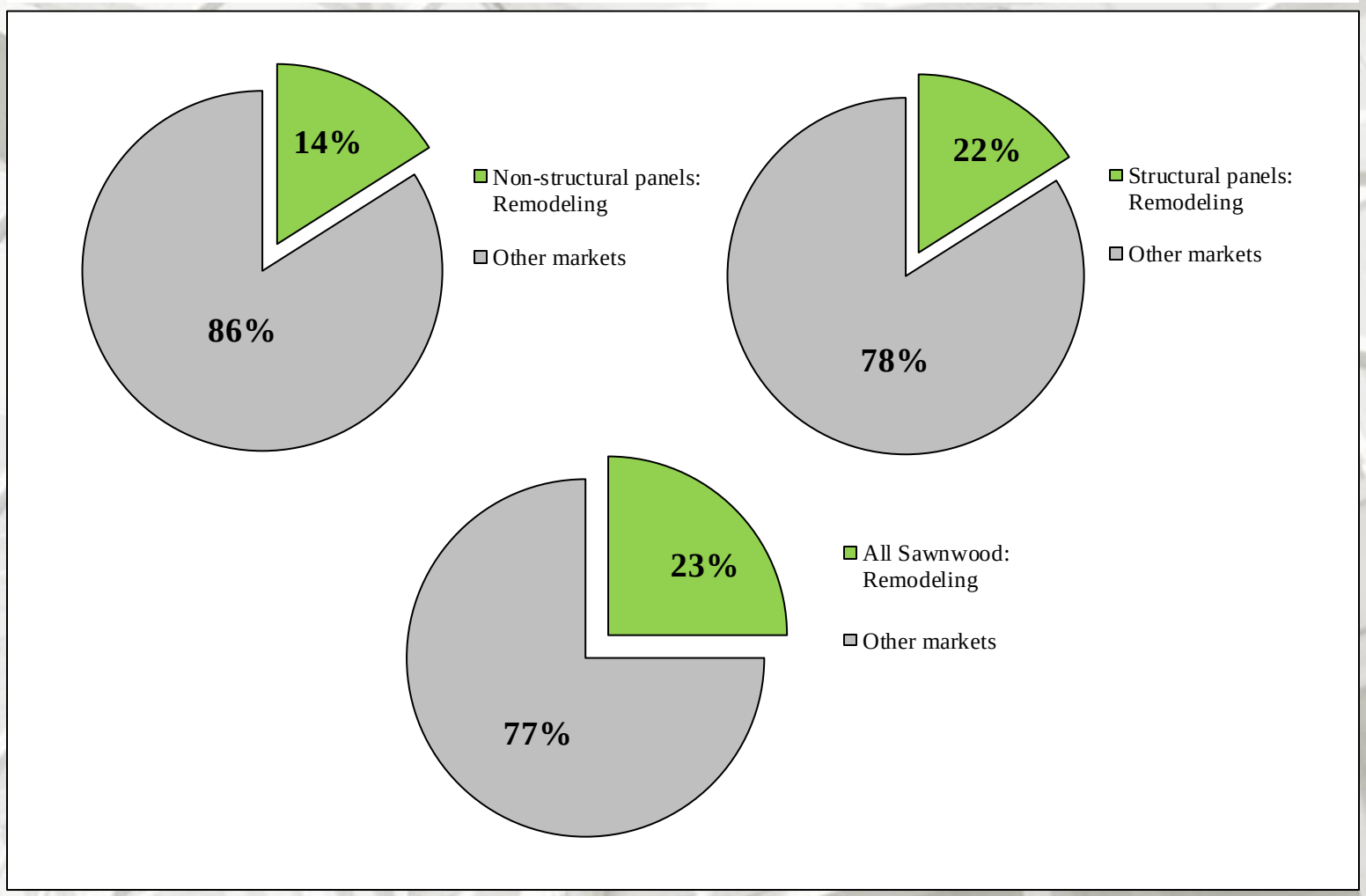
# Repair and Remodeling's Percentage of Wood Products Consumption




Source: U.S. Forest Service. Howard, J. and D. McKeever. 2015. U.S. Forest Products Annual Market Review and Prospects, 2010-2015

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# 2018 Housing Forecasts*

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

| Organization | Total Starts | Single-Family Starts | New House Sales |
|---|---|---|---|
| APA - The Engineered Wood Association[a] | 1,248 | 896 | |
| Bank of Montreal[b] | 1,280 | | |
| Deloitte[c] | 1,300 | | |
| Dodge Data & Analytics[d] | | 850 | |
| Fannie Mae[e] | 1,276 | 928 | 669 |
| Freddie Mac[f] | 1,300 | | |
| Forest Economic Advisors[g] | 1,311 | 850 | |
| Forest2Market[h] | 1,260 | 910 | |
| Forisk[i] | 1.280 | | |
| Home Advisor[j] | 1,320 | 981 | 653 |

* All in thousands of units

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# 2018 Housing Forecasts*

| Organization | Total Starts | Single-Family Starts | New House Sales |
|---|---|---|---|
| Merrill Lynch[k] | 1,275 | | 680 |
| Metrostudy[l] | 1,278 | | |
| Mortgage Bankers Association[m] | 1,289 | 914 | 695 |
| National Association of Homebuilders[n] | 1,248 | 896 | 653 |
| National Association of Realtors[o] | | | 700 |
| Old Castle[p] | 1,309 | 926 | |
| PNC Financial Services Group[q] | 1,289 | | 654 |
| Royal Bank of Canada[r] | 1,294 | | |
| Scotia Bank[s] | 1,300 | | |
| TD Economics[t] | 1,280 | | |
| The Federal Reserve Bank of Chicago[u] | 1,260 | | |
| Urban Institute[v] | 1,300 | | |
| Wells Fargo[w] | 1,280 | 940 | 675 |

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# References


a-*Random Lengths*, Volume 73, Issue 49 (11/29/17)

b-https://economics.bmocapitalmarkets.com/economics/outlook/20180103/nao.pdf

c-https://www2.deloitte.com/insights/us/en/economy/us-economic-forecast/2017-q4.html

d-https://www.construction.com/news/new-construction-starts-2018-increase-3-percent-765-billion-dollars-nov-2017

e-http://www.fanniemae.com/resources/file/research/emma/pdf/Housing_Forecast_012218.pdf

f-http://www.freddiemac.com/research/pdf/201711-Outlook.pdf

g-*Random Lengths*, Volume 73, Issue 49 (11/29/17)

h-http://conta.cc/2qqVIrU

i-http://forisk.com/blog/2018/01/22/forisk-forecast-us-housing-starts-outlook-q1-2018-update/

j-http://www.calculatedriskblog.com/2017/12/2018-housing-forecasts.html

k-http://www.calculatedriskblog.com/2017/12/2018-housing-forecasts.html

l-http://www.metrostudy.com/go/webinarq42017

m-https://www.mba.org/news-research-and-resources/research-and-economics/forecasts-and-commentary

n-https://www.nahb.org/en/research/housing-economics/economic-and-housing-forecasts.aspx

o-https://www.nar.realtor/presentations/november-2017-economic-housing-outlook-lawrence-yuns-presentation-slides

p-https://info.buildingsolutions.com/hubfs/2018%20North%20American%20Construction%20Forecast%20Report.pdf

q-https://www.pnc.com/content/dam/pnc-com/pdf/aboutpnc/EconomicReports/NEO%20Reports/NEO_Jan2018.pdf?WT.mc_id=CIB_Email_Ideas

r-http://www.rbc.com/economics/economic-data/index.html

s-http://www.gbm.scotiabank.com/scpt/gbm/scotiaeconomics63/forecast.pdf

t-https://economics.td.com/us-long-term-forecast

u- https://www.chicagofed.org/~/media/others/...outlook.../eos-press-release-pdf

v-https://www.urban.org/sites/all/libraries/pdf.js/web/viewer.html

w-http://image.mail1.wf.com/lib/fe8d13727664027a7c/m/2/tax-reform-and-housing-20180117.pdf


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# 2018 Housing Forecasts*

| | | |
|---|---|---|
| **Total starts, range:** | **1,248 to 1,320** | **Median: 1,280** |
| **Single-family starts, range:** | **850 to 981** | **Median: 912** |
| **New 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 house sales, range:** | **610 to 680** | **Median: 642** |

* All in thousands of units

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# New Housing Starts

| | Total Starts* | SF Starts | MF 2-4 Starts** | MF ≥5 Starts |
|---|---|---|---|---|
| December | 1,192,000 | 836,000 | 4,000 | 352,000 |
| November | 1,299,000 | 948,000 | 8,000 | 343,000 |
| 2016 | 1,268,000 | 808,000 | 11,000 | 449,000 |
| M/M change | -8.2% | -11.8% | -50.0% | 2.6% |
| Y/Y change | -6.0% | 3.5% | -63.6% | -21.6% |

* 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; 1/18/18

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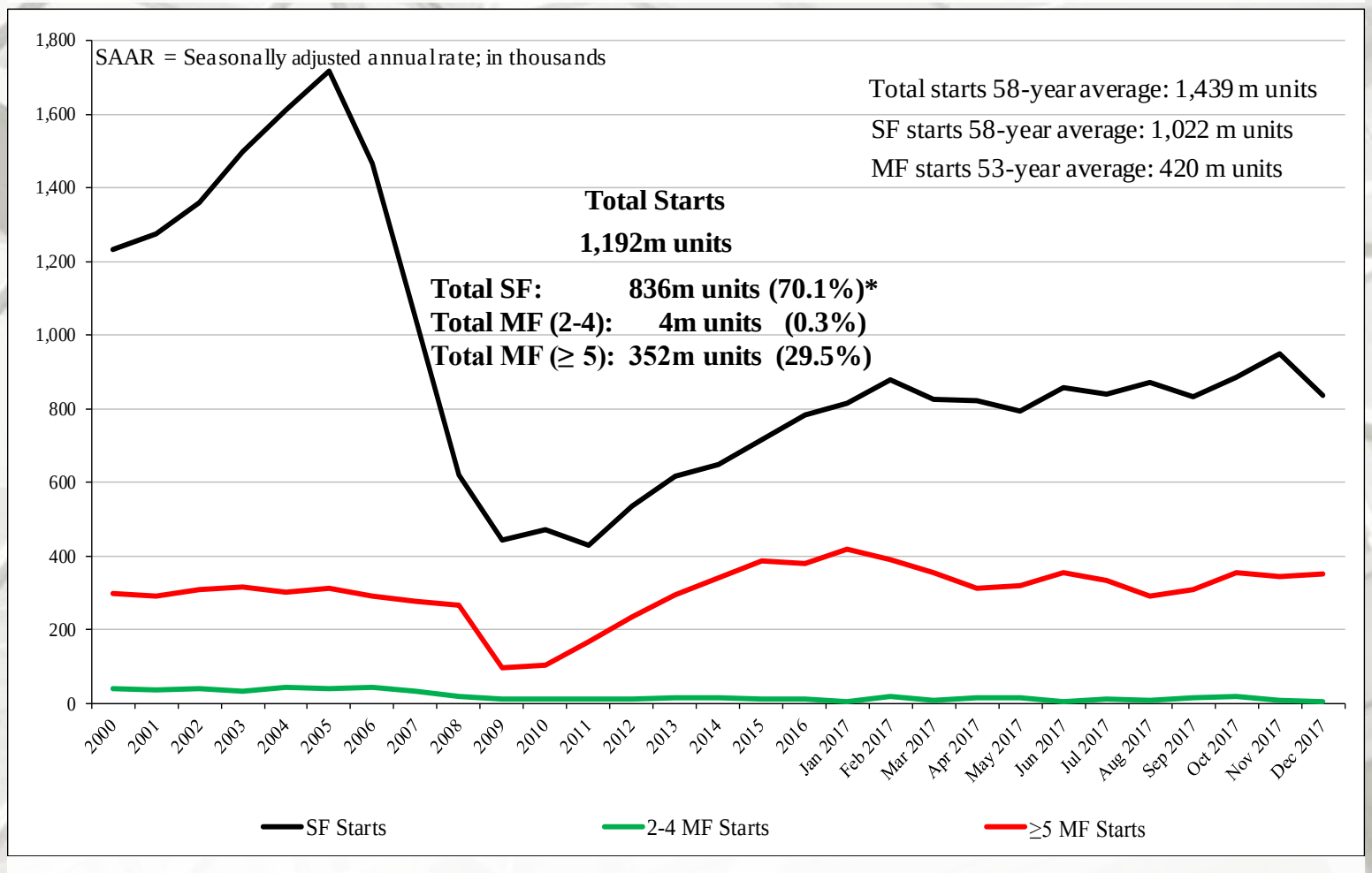
# Total Housing Starts




* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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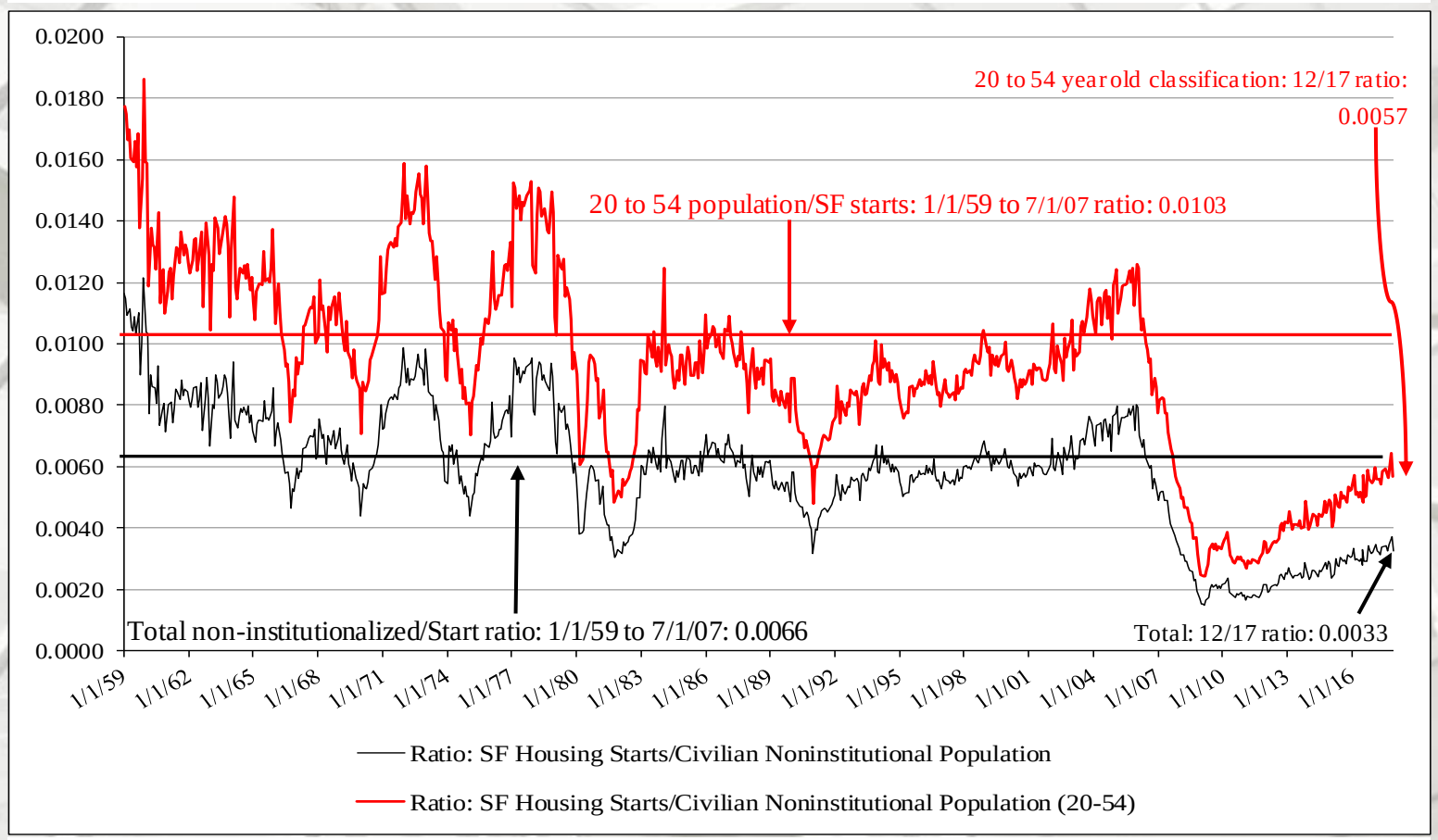
# New SF Starts




## New SF starts adjusted for the US population

From January 1959 to July 2007, the long-term ratio of new SF starts to the total US non-institutionalized population was 0.0066; in December 2017 it was 0.00336 – a decrease from November (0.0037). The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in December 2017 it was 0.0057 – also a decrease from November (0.0064). From a population worldview, construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrs/xls/newressales.xls and The Federal Reserve Bank of St. Louis; 1/18/18

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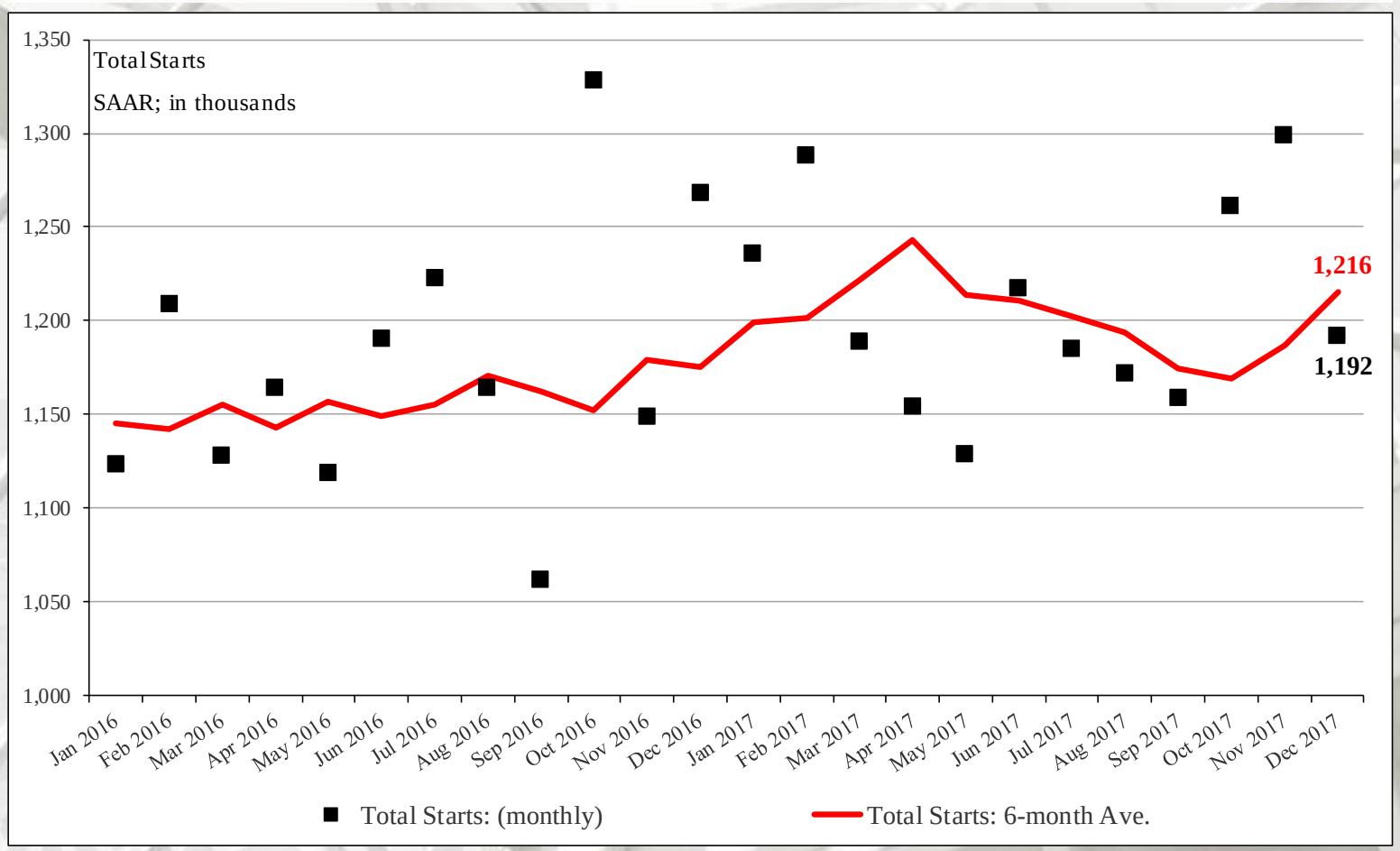
# Total Housing Starts: Six-Month Average




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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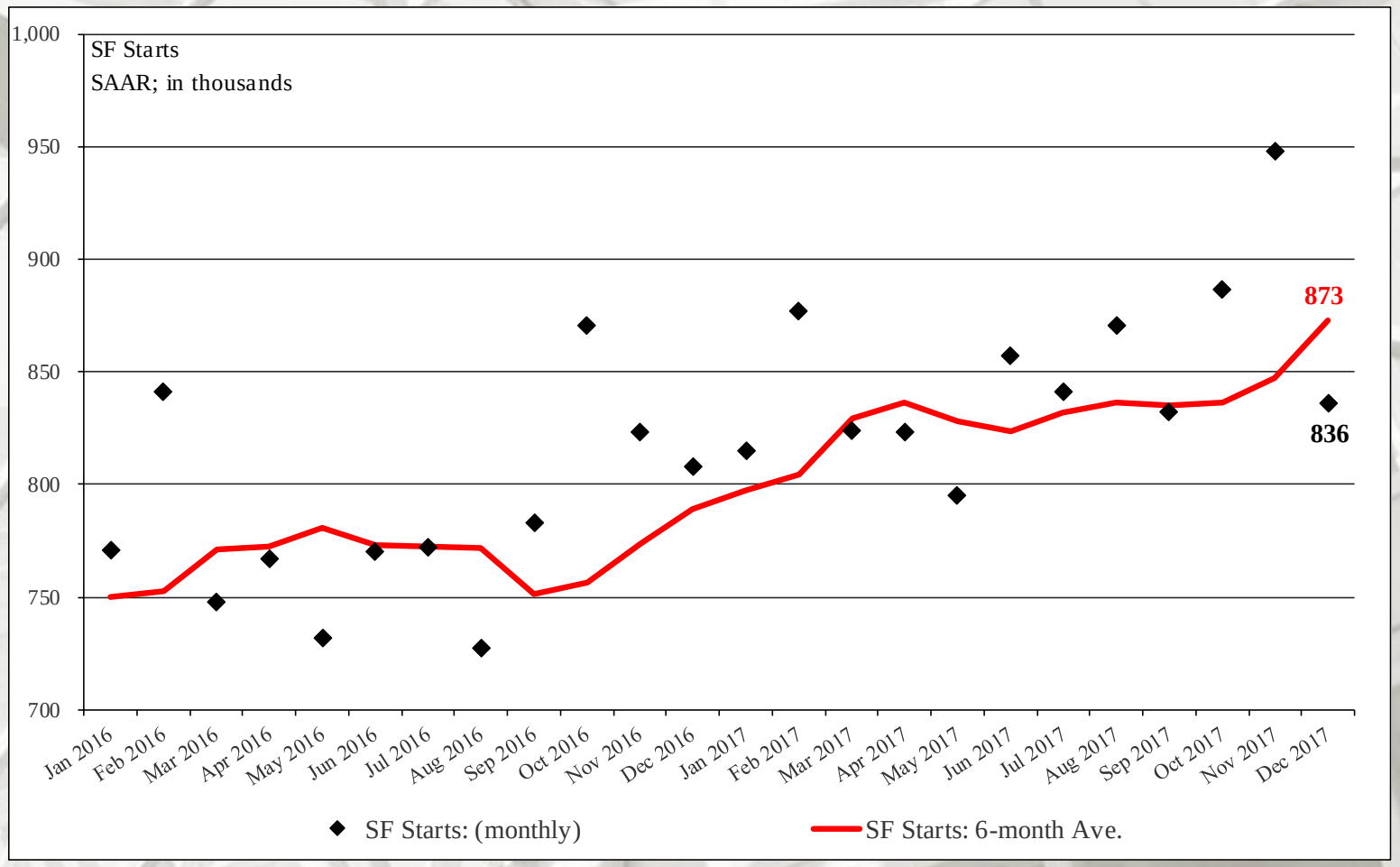
# SF Housing Starts: Six-Month Average




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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# New Housing Starts by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 88,000 | 47,000 | 41,000 |
| November | 92,000 | 62,000 | 30,000 |
| 2016 | 89,000 | 58,000 | 31,000 |
| M/M change | -4.3% | -24.2% | 36.7% |
| Y/Y change | -1.1% | -19.0% | 32.3% |

| | MW Total | MW SF | MW MF |
|---|---|---|---|
| December | 178,000 | 130,000 | 48,000 |
| November | 182,000 | 142,000 | 40,000 |
| 2016 | 222,000 | 128,000 | 94,000 |
| M/M change | -2.2% | -8.5% | 20.0% |
| Y/Y change | -19.8% | 1.6% | -48.9% |

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; 1/18/18

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# New Housing Starts by Region

| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 582,000 | 427,000 | 155,000 |
| November | 678,000 | 512,000 | 166,000 |
| 2016 | 566,000 | 418,000 | 148,000 |
| M/M change | -14.2% | -16.6% | -6.6% |
| Y/Y change | 2.8% | 2.2% | 4.7% |

| | W Total | W SF | W MF |
|---|---|---|---|
| December | 344,000 | 232,000 | 112,000 |
| November | 347,000 | 232,000 | 115,000 |
| 2016 | 391,000 | 204,000 | 187,000 |
| M/M change | -0.9% | 0.0% | -2.6% |
| Y/Y change | -12.0% | 13.7% | -40.1% |

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; 1/18/18

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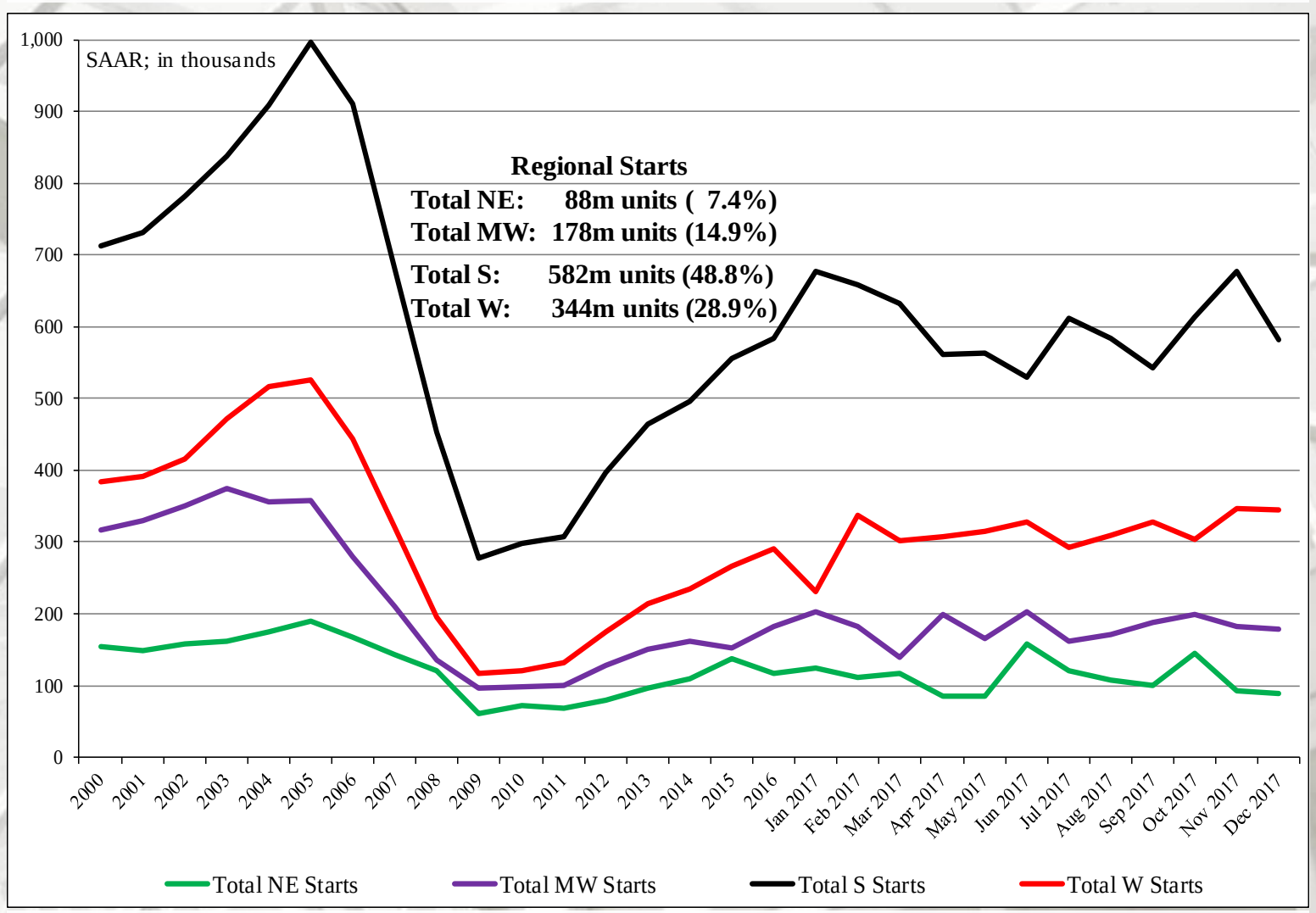
# Total Housing Starts by Region




* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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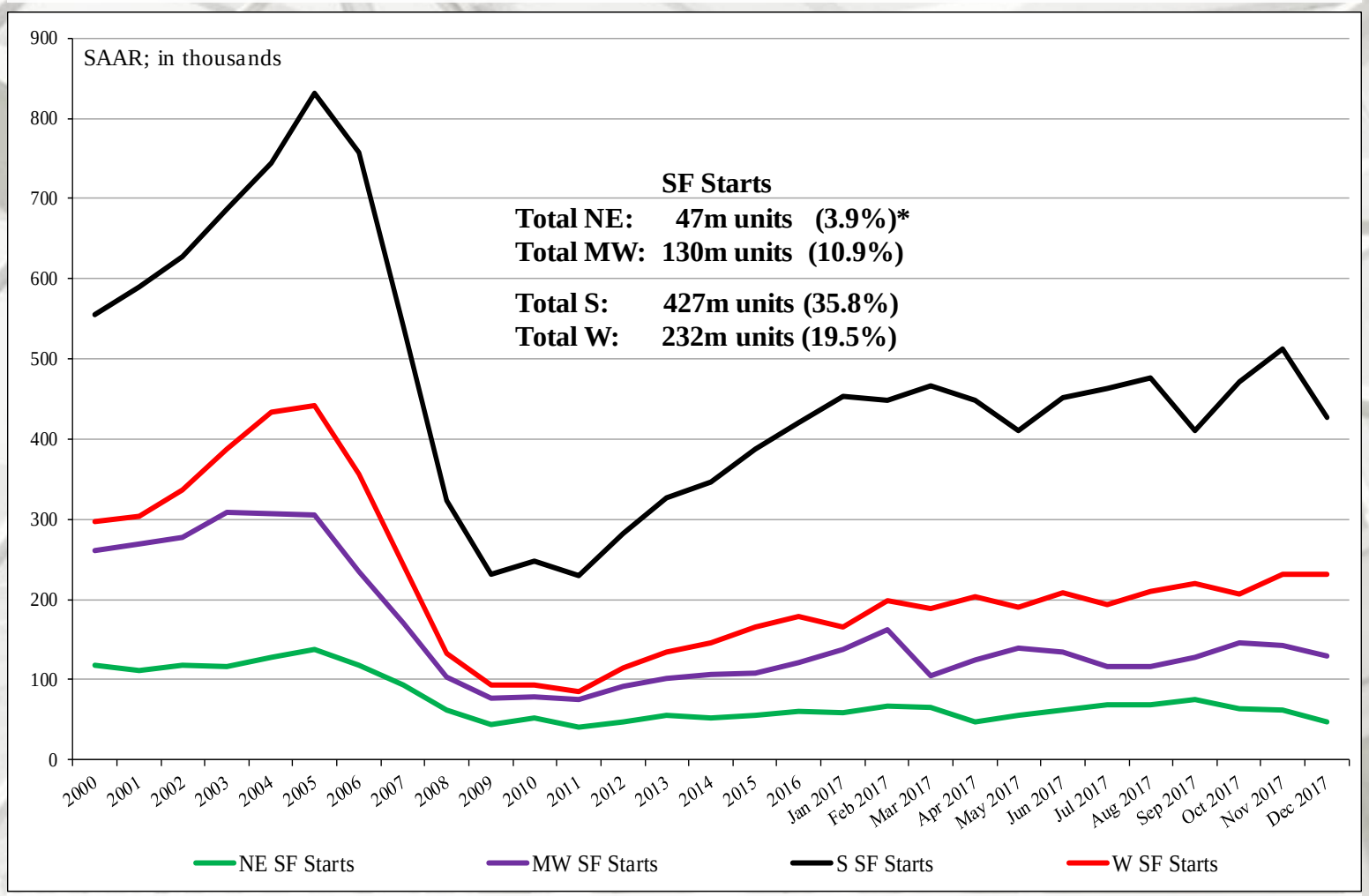
# SF Housing Starts by Region




* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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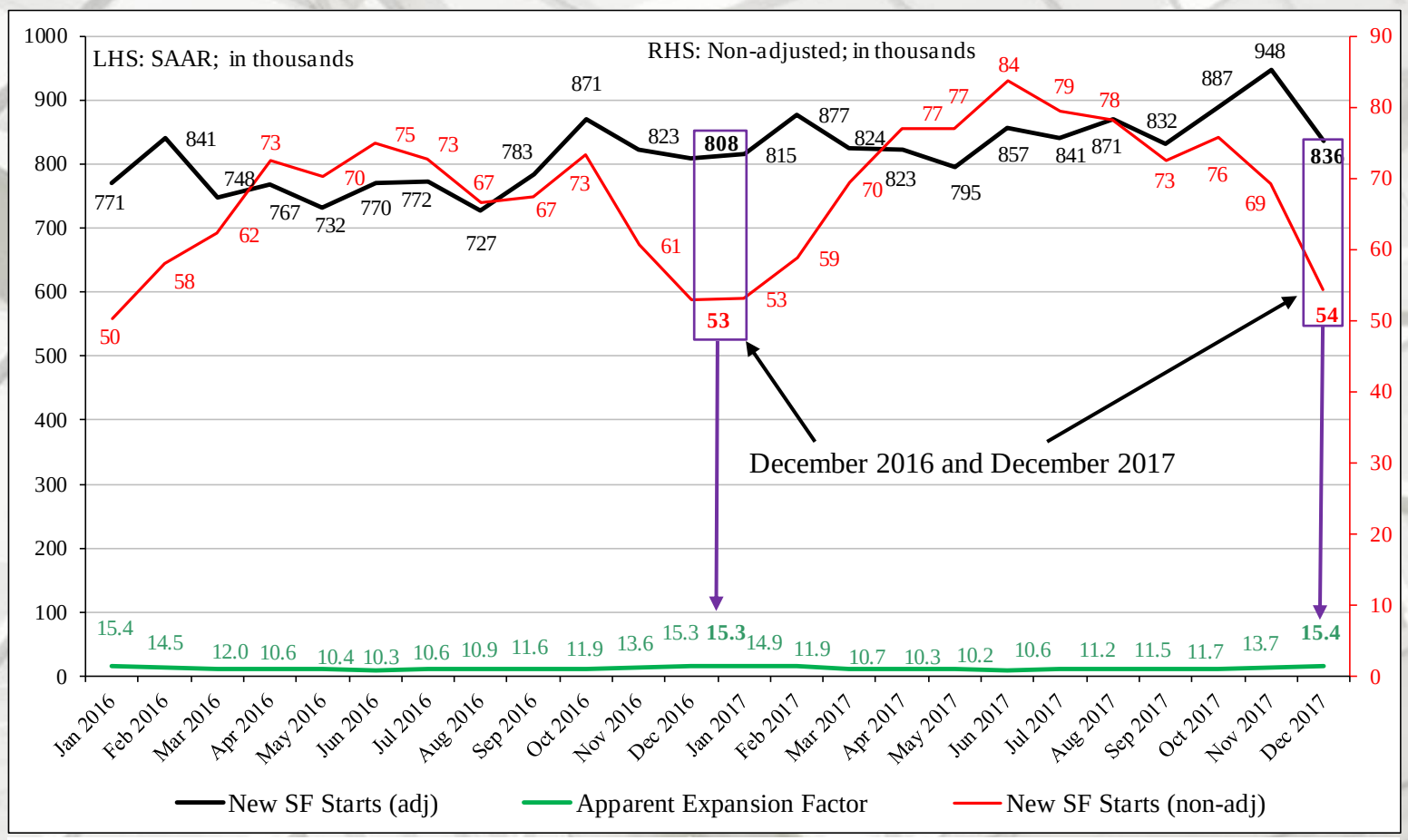
# Nominal & SAAR SF Starts




## 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; 1/18/18

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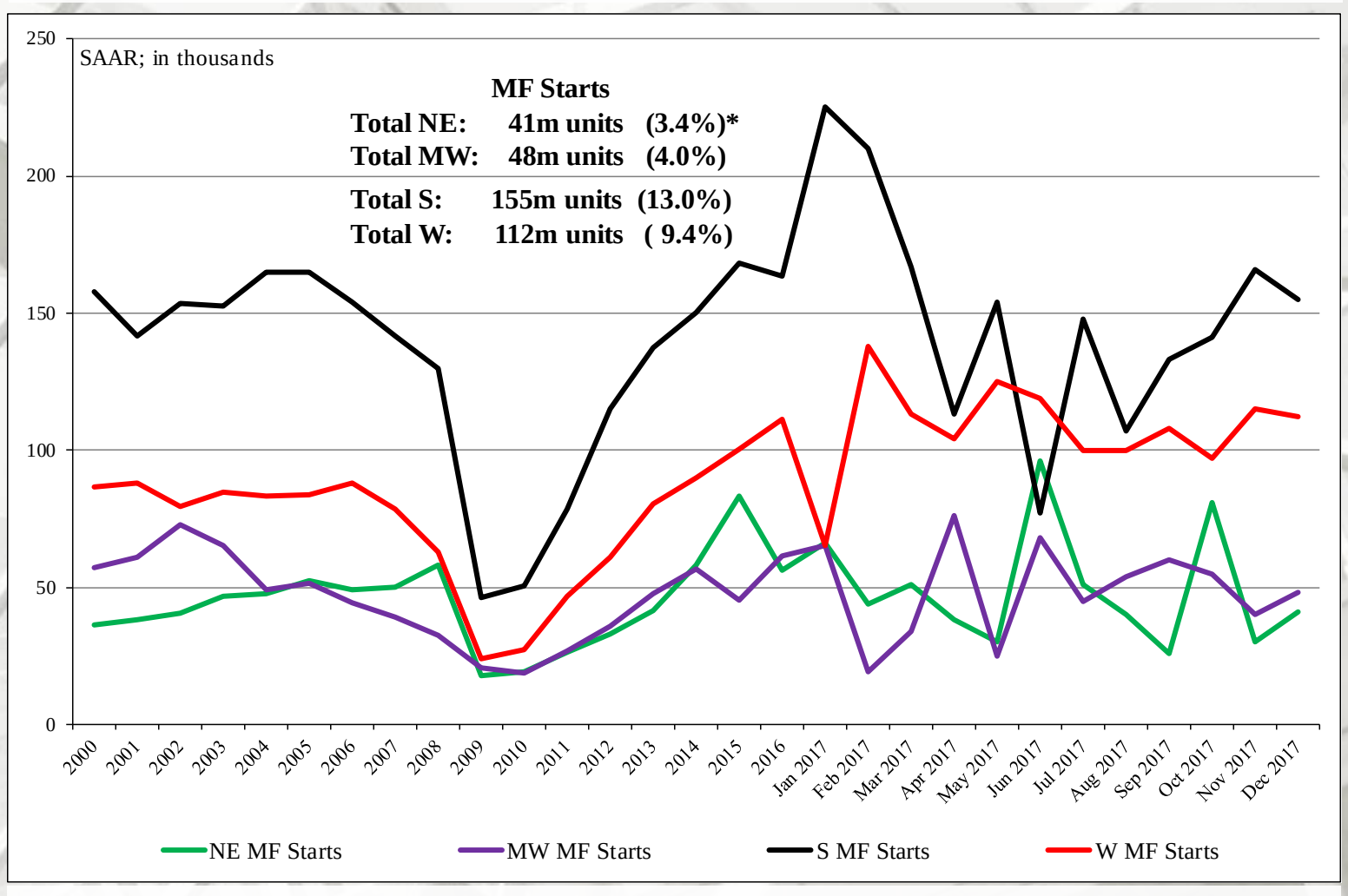
# MF Housing Starts by Region




* Percentage of total starts.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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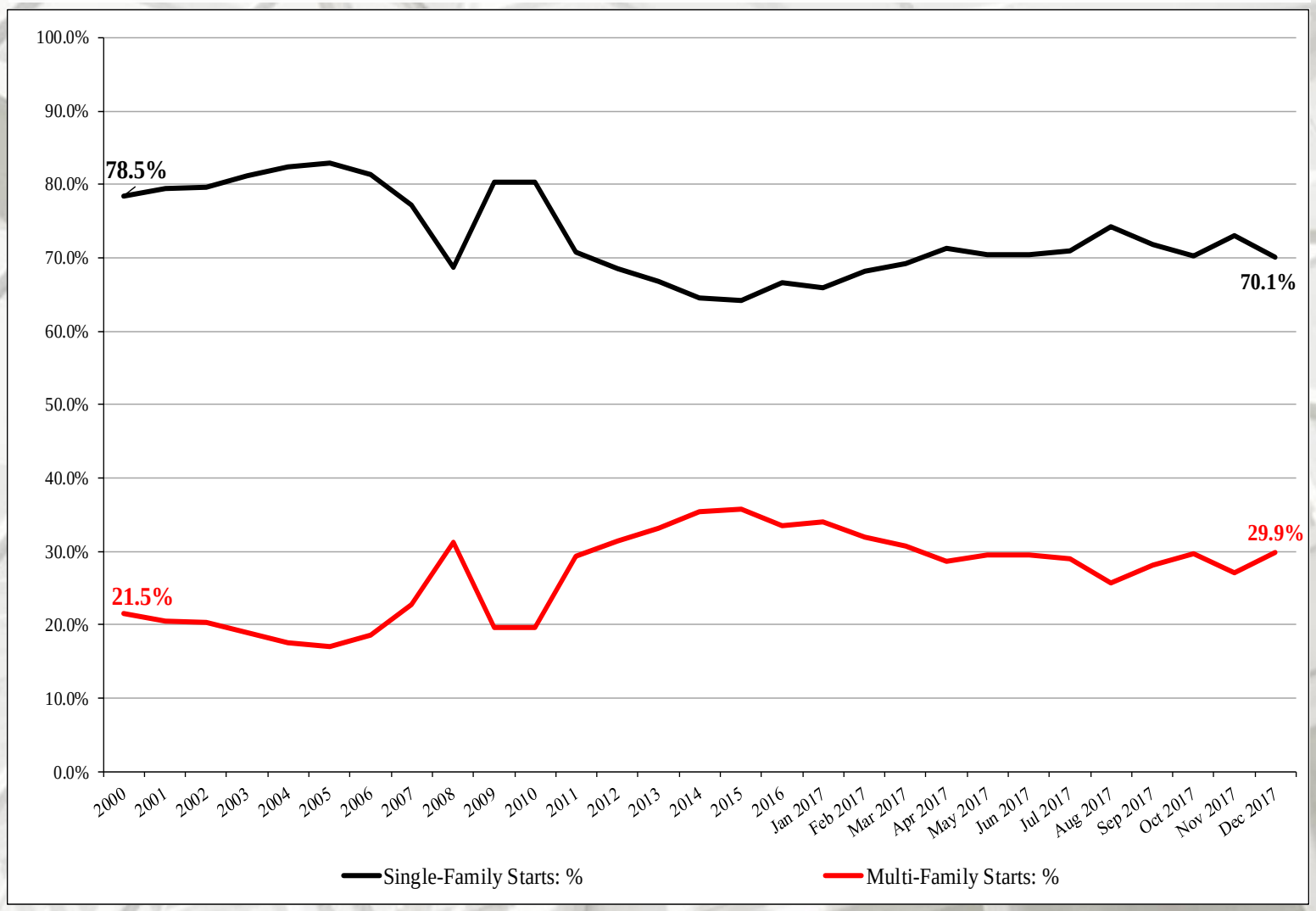
# SF & MF Housing Starts (%)




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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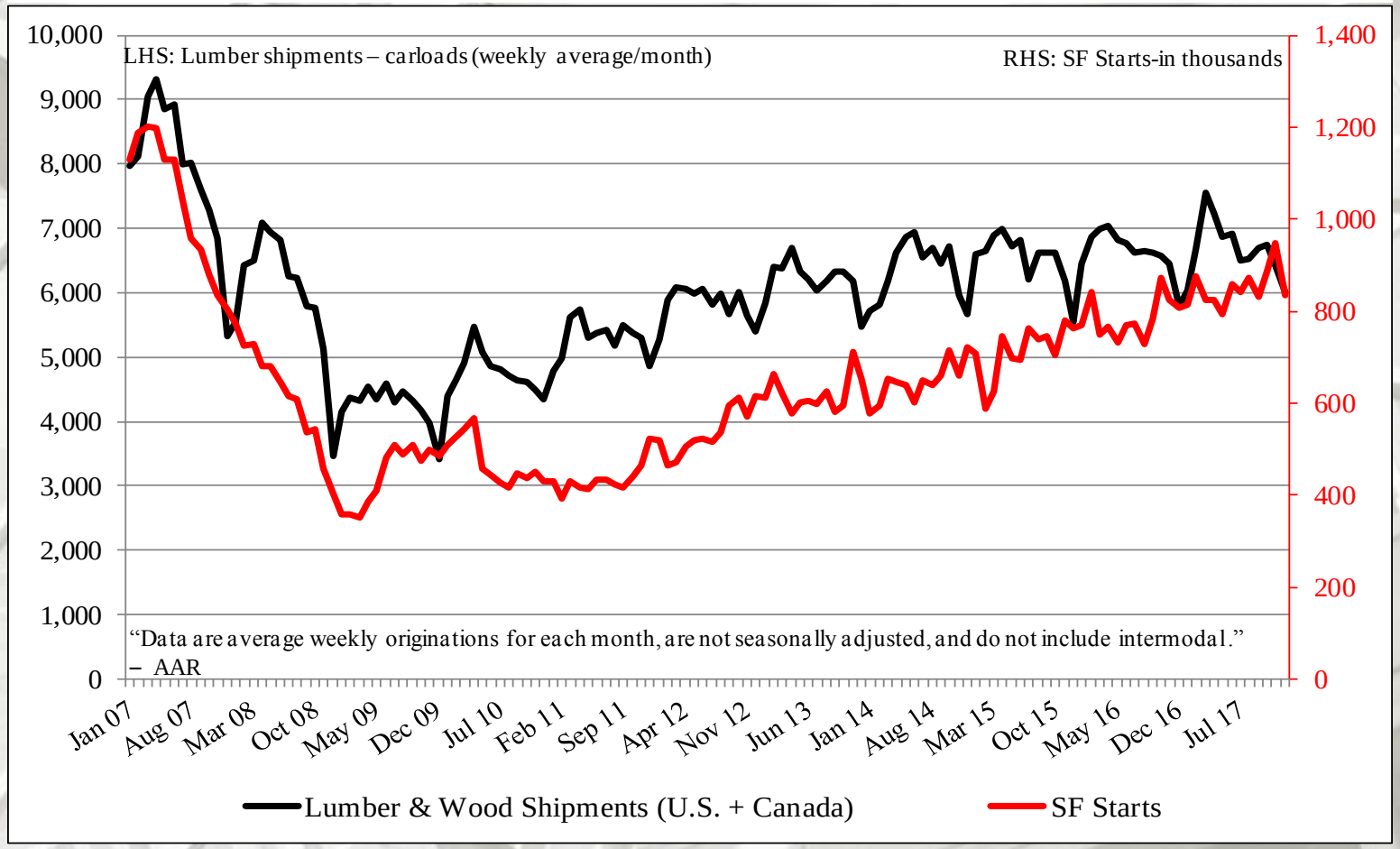
# Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts




Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/18/18

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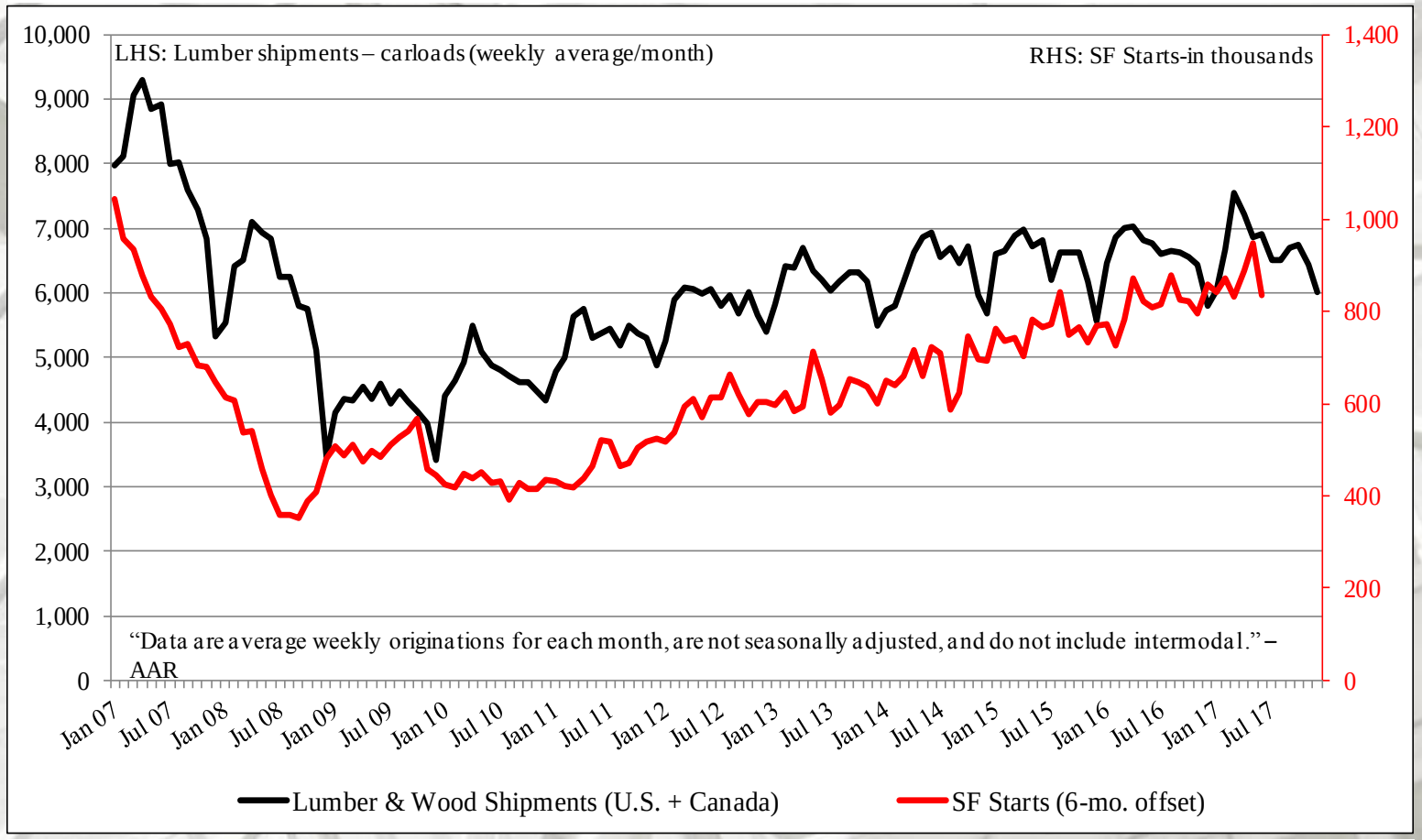
# Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts: 6-month Offset




In this graph, January 2007 lumber shipments are contrasted with July 2007 SF starts, and continuing through December 2017 SF starts. The purpose is to discover if lumber shipments relate to future single-family starts. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/18/18

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# New Housing Permits

| | Total Permits* | SF Permits | MF 2-4 unit Permits | MF ≥ 5 unit Permits |
|---|---|---|---|---|
| December | 1,302,000 | 881,000 | 39,000 | 382,000 |
| November | 1,303,000 | 865,000 | 39,000 | 399,000 |
| 2016 | 1,266,000 | 830,000 | 39,000 | 397,000 |
| M/M change | -0.1% | 1.8% | 0.0% | -4.3% |
| Y/Y change | 2.8% | 6.1% | 0.0% | -3.8% |

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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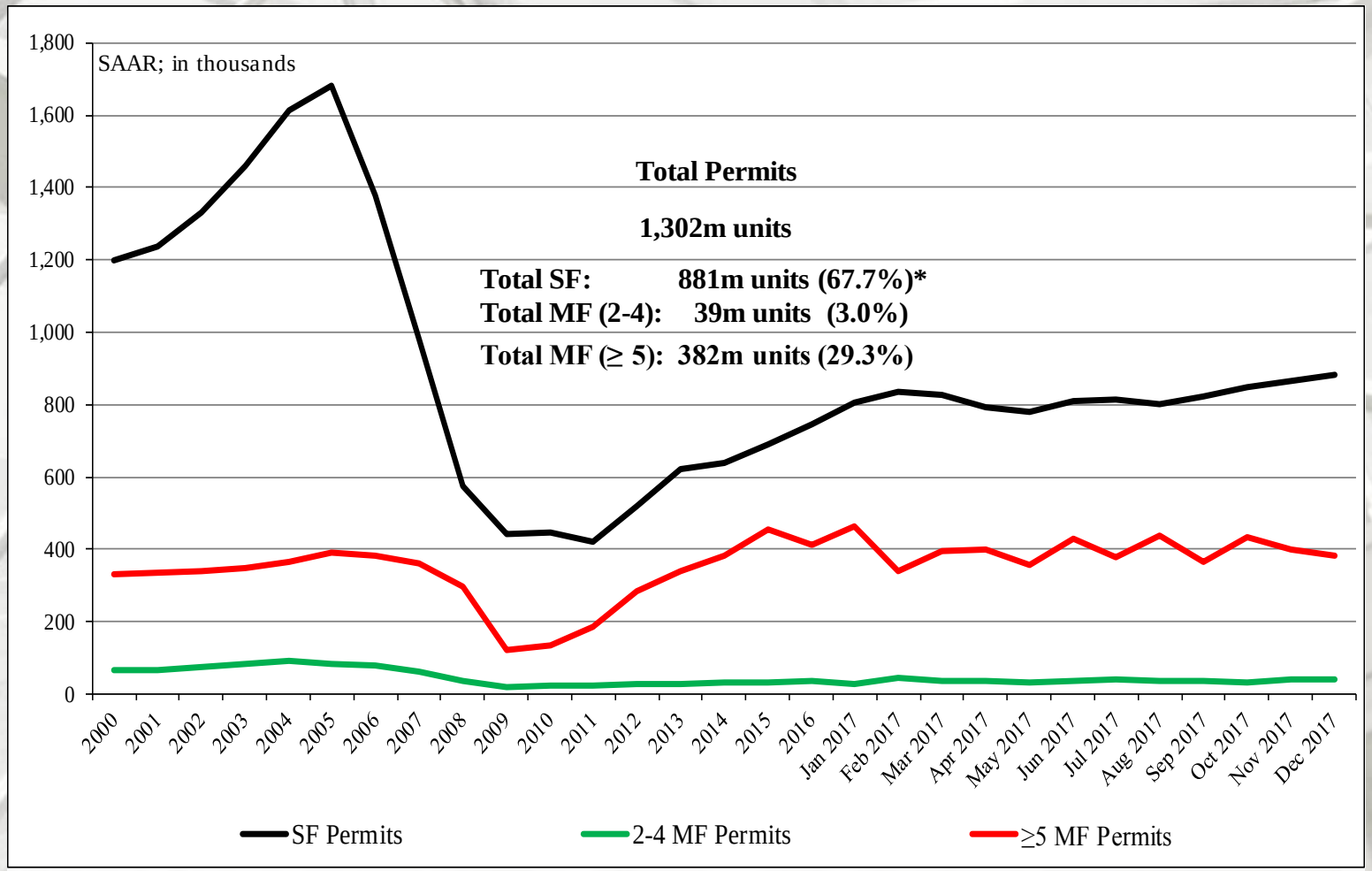
# Total New Housing Permits




* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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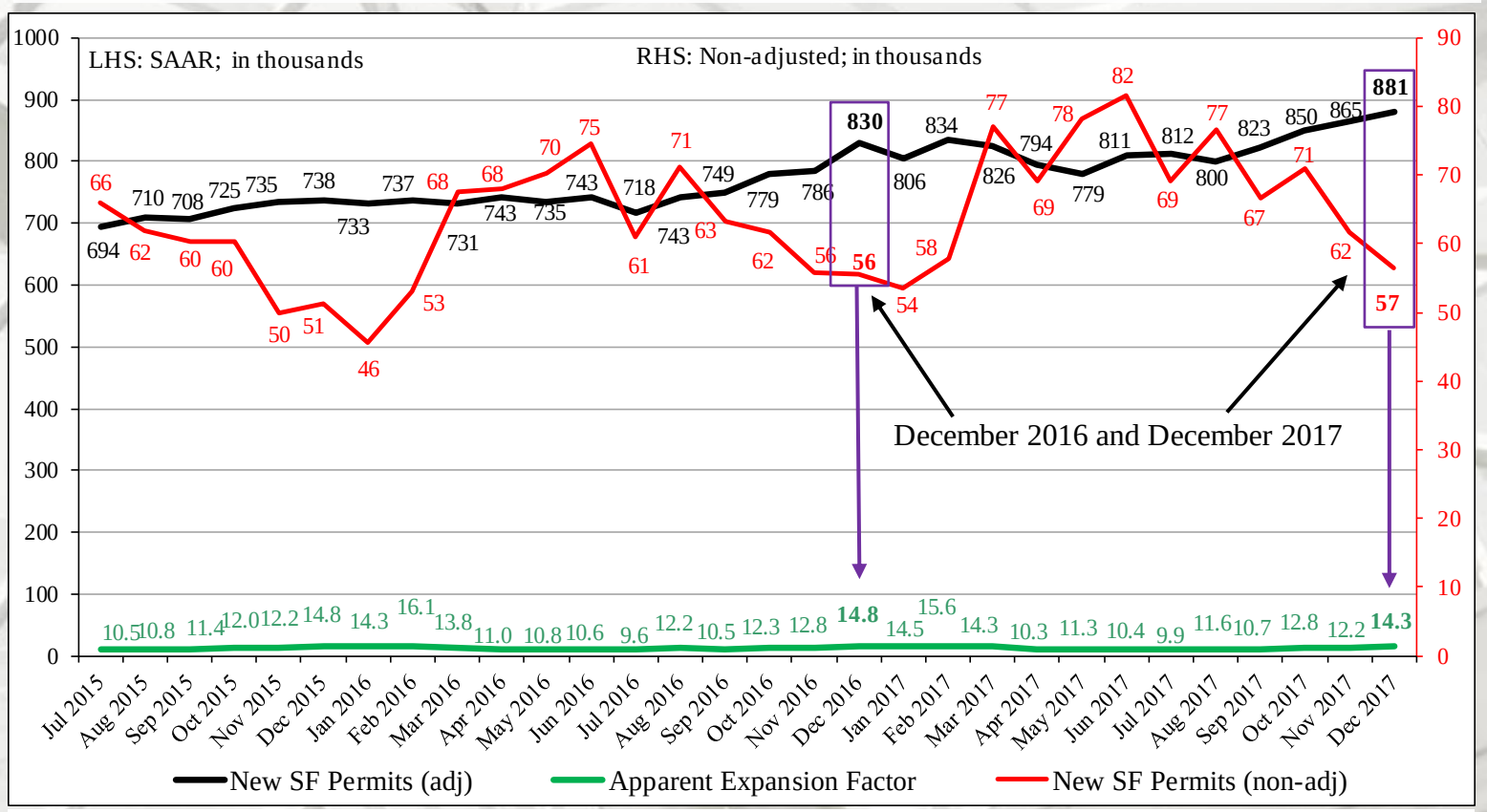
# Nominal & SAAR SF Permits




## 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; 1/18/18

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# New Housing Permits by Region

| | NE Total* | NE SF | NE MF** |
|---|---|---|---|
| December | 163,000 | 56,000 | 107,000 |
| November | 114,000 | 55,000 | 59,000 |
| 2016 | 131,000 | 54,000 | 77,000 |
| M/M change | 43.0% | 1.8% | 81.4% |
| Y/Y change | 24.4% | 3.7% | 39.0% |

| | MW Total* | MW SF | MW MF** |
|---|---|---|---|
| December | 199,000 | 133,000 | 66,000 |
| November | 183,000 | 130,000 | 53,000 |
| 2016 | 187,000 | 119,000 | 98,000 |
| M/M change | 8.7% | 2.3% | 24.5% |
| Y/Y change | 6.4% | 11.8% | -32.7% |

- All data are SAAR
- ** 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; 1/18/18

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# New Housing Permits by Region

| | S Total* | S SF | S MF** |
|---|---|---|---|
| December | 579,000 | 462,000 | 117,000 |
| November | 651,000 | 469,000 | 182,000 |
| 2016 | 604,000 | 452,000 | 236,000 |
| M/M change | -11.1% | -1.5% | -35.7% |
| Y/Y change | -4.1% | 2.2% | -50.4% |

| | W Total* | W SF | W MF** |
|---|---|---|---|
| December | 361,000 | 230,000 | 131,000 |
| November | 355,000 | 211,000 | 144,000 |
| 2016 | 344,000 | 205,000 | 146,000 |
| M/M change | 1.7% | 9.0% | -9.0% |
| Y/Y change | 4.9% | 12.2% | -10.3% |

- All data are SAAR
- ** 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; 1/18/18

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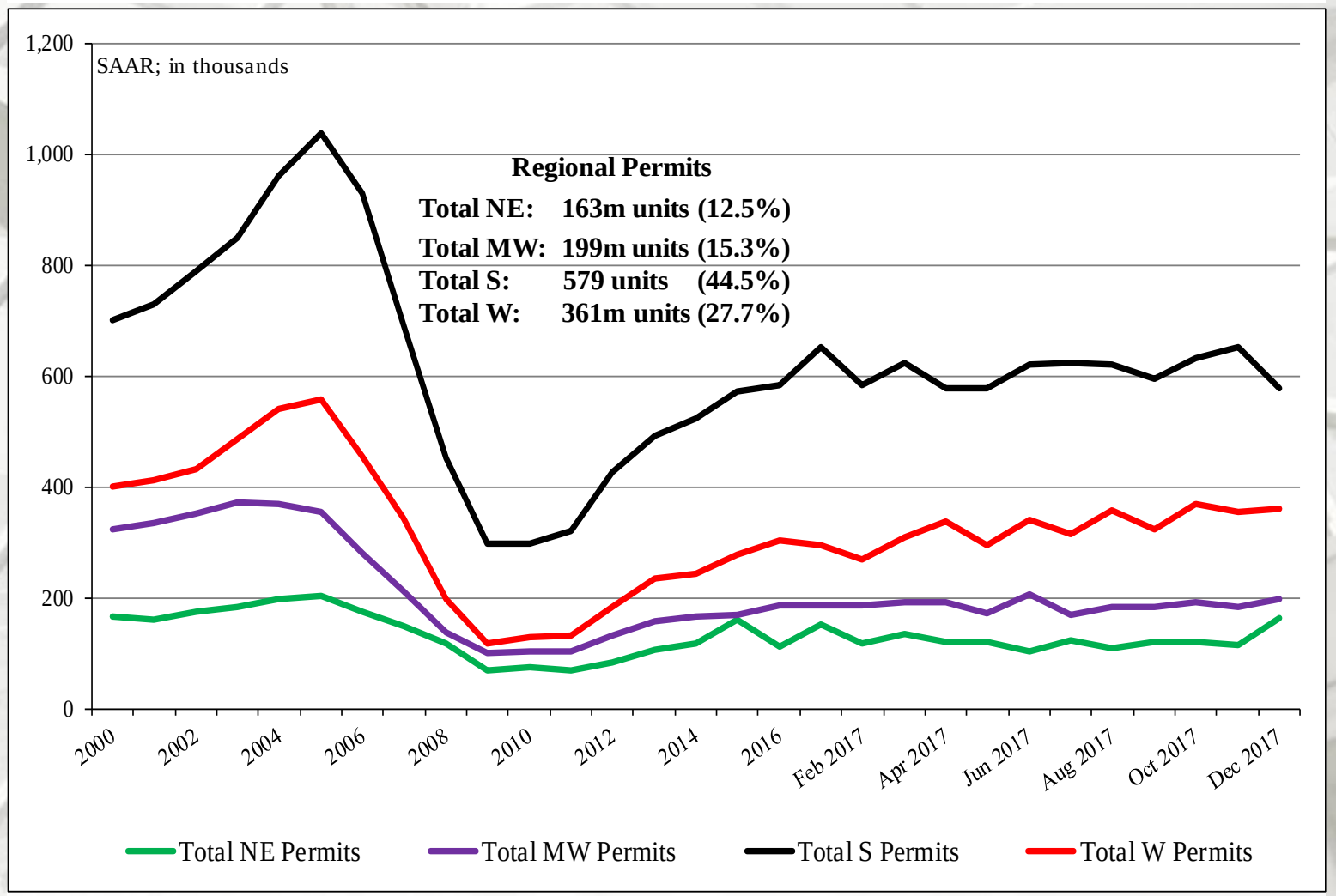
# Total Housing Permits by Region




* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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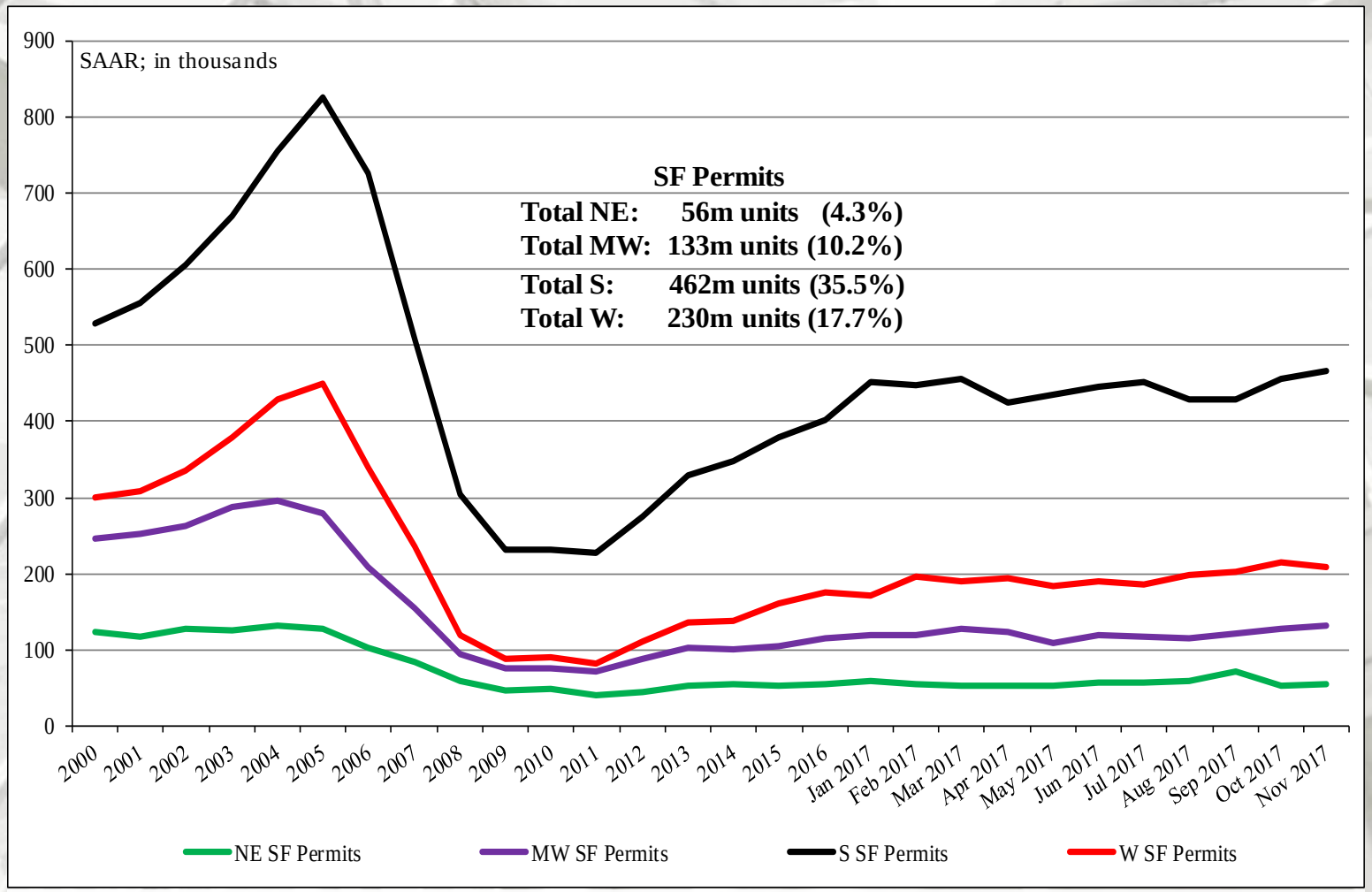
# SF Housing Permits by Region

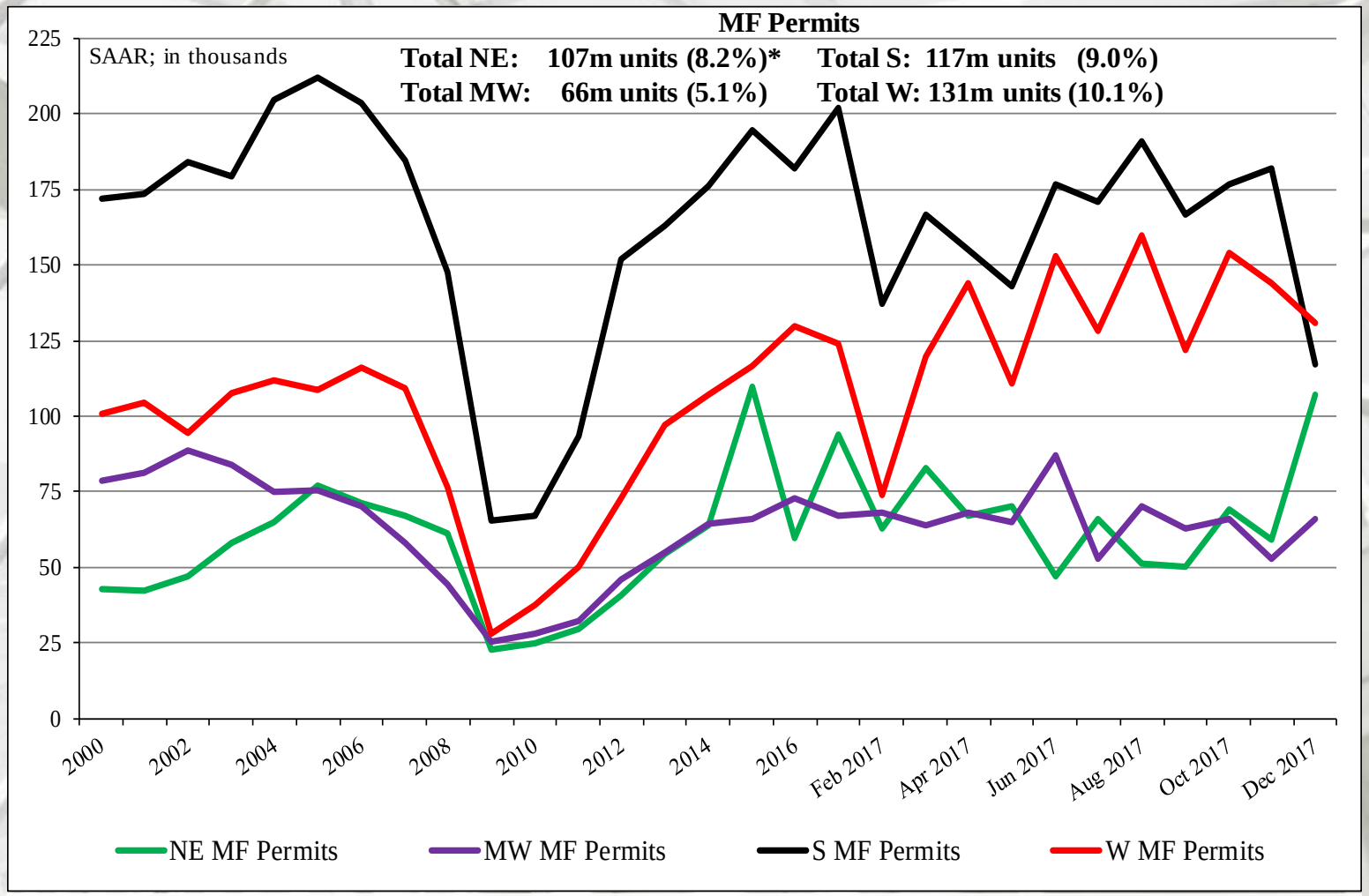



* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

# MF Housing Permits by Region




* Percentage of total permits.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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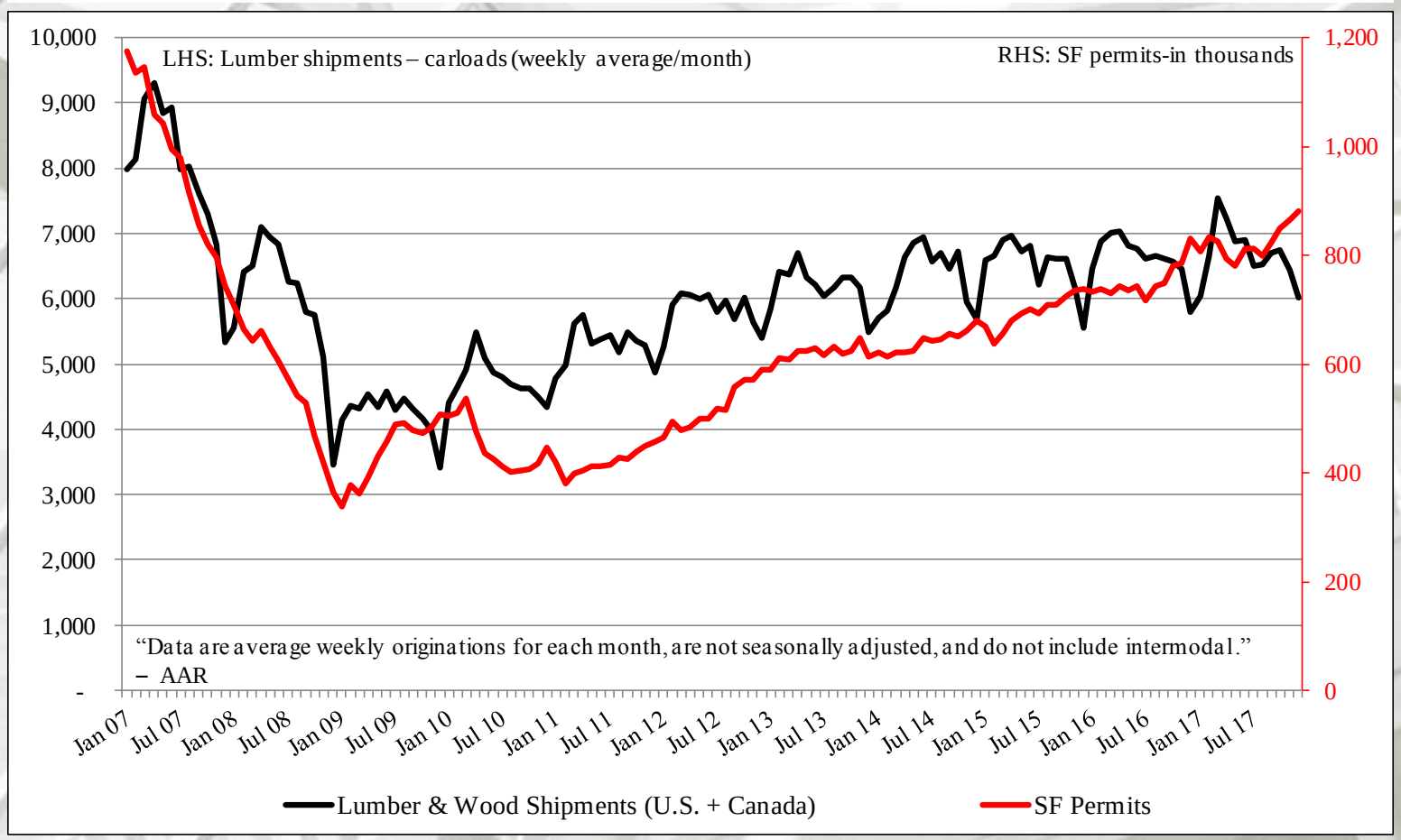
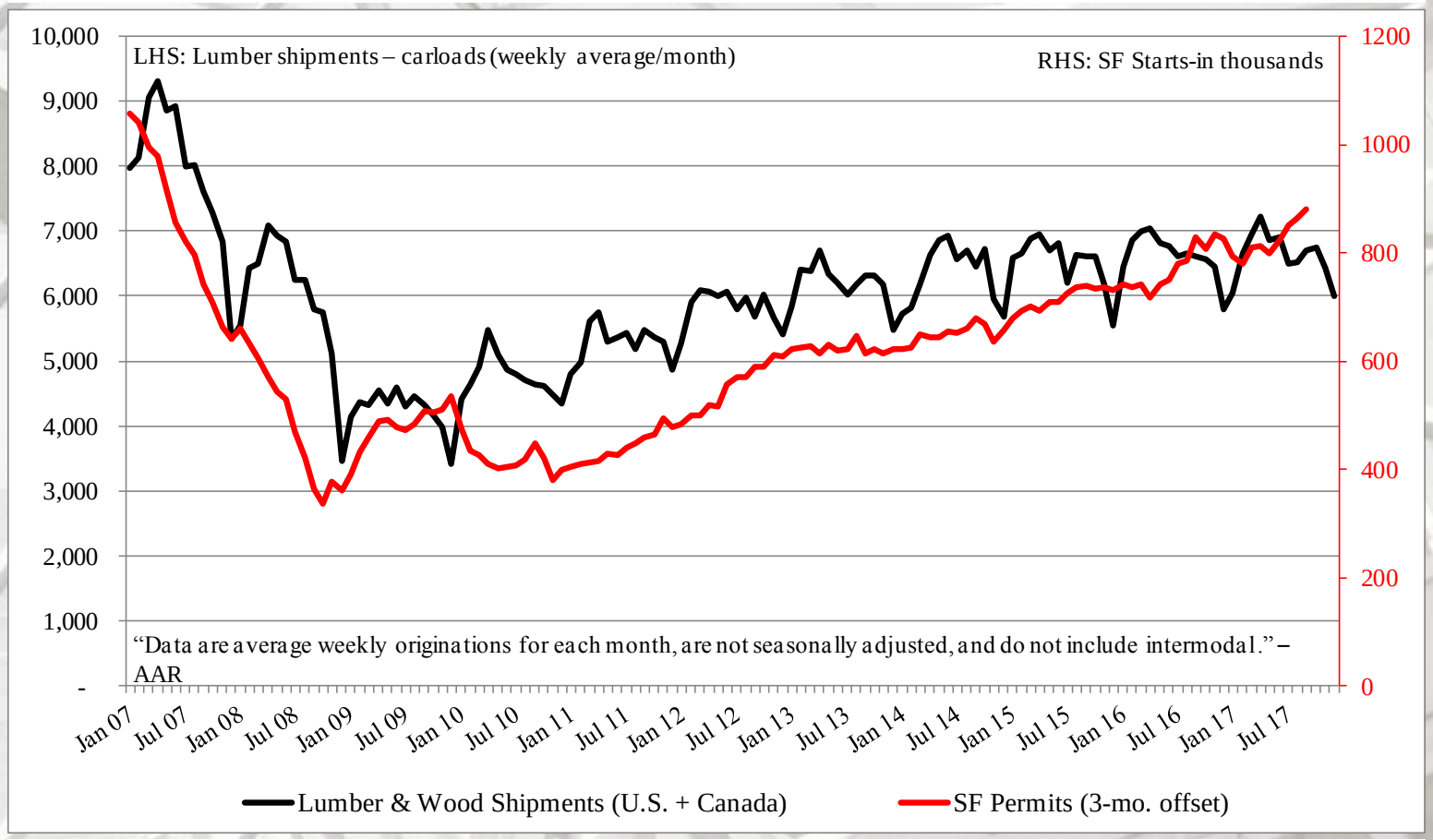
# Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits




Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/18/18

Return to TOC

# Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits: 3-month Offset




In this graph, January 2007 lumber shipments are contrasted with April 2007 SF permits, continuing through December 2017. The purpose is to discover if lumber shipments relate to future single-family permits. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/18/18

Return to TOC

# New Housing Under Construction

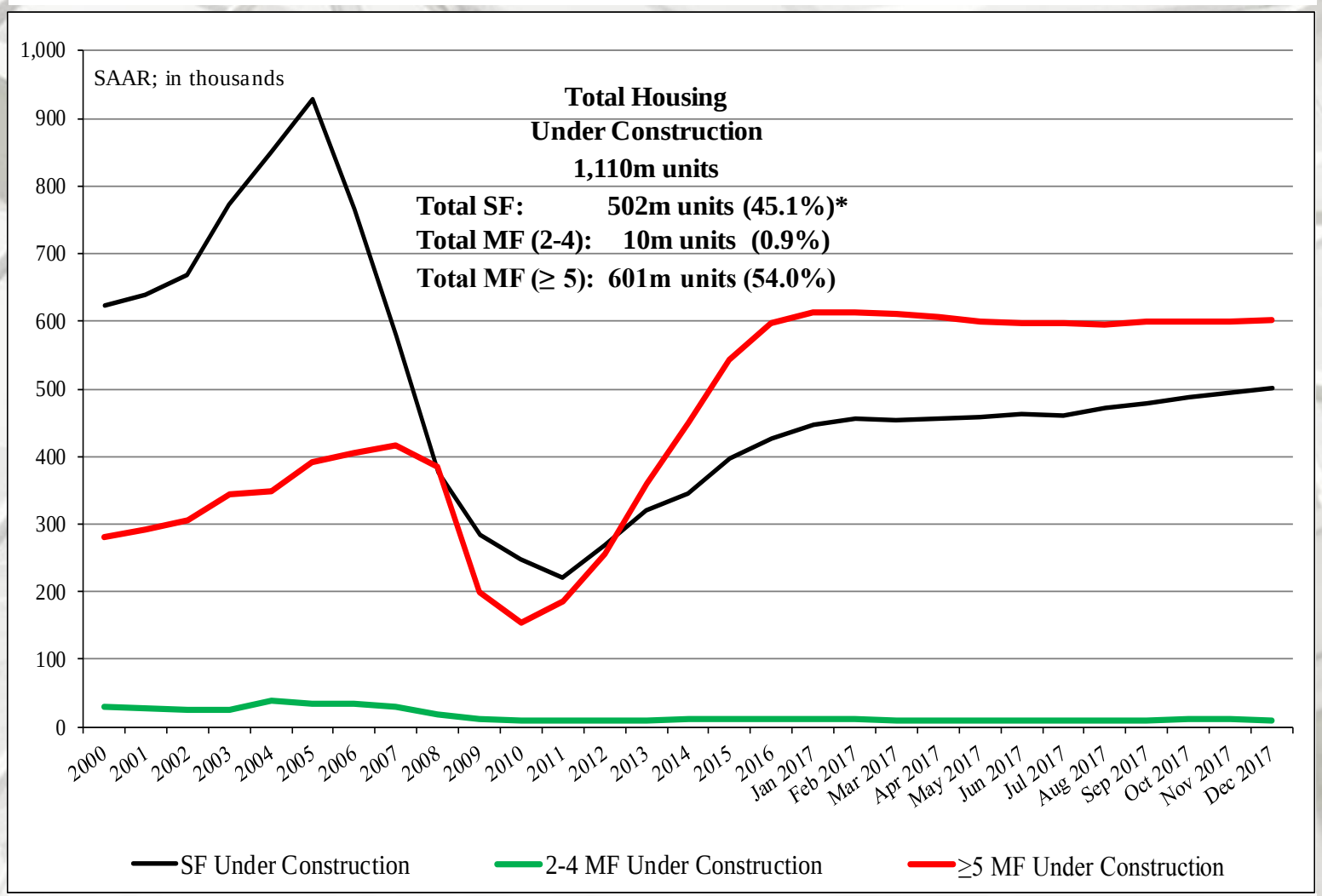
| | Total Under Construction* | SF Under Construction | MF 2-4 unit** Under Construction | MF ≥ 5 unit Under Construction |
|---|---|---|---|---|
| December | 1,113,000 | 502,000 | 10,000 | 601,000 |
| November | 1,105,000 | 495,000 | 11,000 | 599,000 |
| 2016 | 1,062,000 | 449,000 | 11,000 | 602,000 |
| M/M change | 0.7% | 1.4% | -9.1% | 0.3% |
| Y/Y change | 4.8% | 11.8% | -9.1% | -0.2% |

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; 1/18/18

Return TOC

# Total Housing Under Construction




* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

# New Housing Under Construction by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 187,000 | 53,000 | 134,000 |
| November | 188,000 | 53,000 | 135,000 |
| 2016 | 191,000 | 53,000 | 138,000 |
| M/M change | -0.5% | 0.0% | -0.7% |
| Y/Y change | -2.1% | 0.0% | -2.9% |

| | MW Total | MW SF | MW MF |
|---|---|---|---|
| December | 158,000 | 84,000 | 74,000 |
| November | 155,000 | 82,000 | 73,000 |
| 2016 | 144,000 | 73,000 | 71,000 |
| M/M change | 1.9% | 2.4% | 1.4% |
| Y/Y change | 9.7% | 15.1% | 4.2% |

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; 1/18/18

Return TOC

# New Housing Under Construction by Region

| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 447,000 | 231,000 | 216,000 |
| November | 446,000 | 231,000 | 215,000 |
| 2016 | 448,000 | 214,000 | 234,000 |
| M/M change | 0.2% | 0.0% | 0.5% |
| Y/Y change | -0.2% | 7.9% | -7.7% |
| | **W Total** | **W SF** | **W MF** |
| December | 321,000 | 134,000 | 187,000 |
| November | 316,000 | 129,000 | 187,000 |
| 2016 | 279,000 | 109,000 | 170,000 |
| M/M change | 1.6% | 3.9% | 0.0% |
| Y/Y change | 15.1% | 22.9% | 10.0% |

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; 1/18/18

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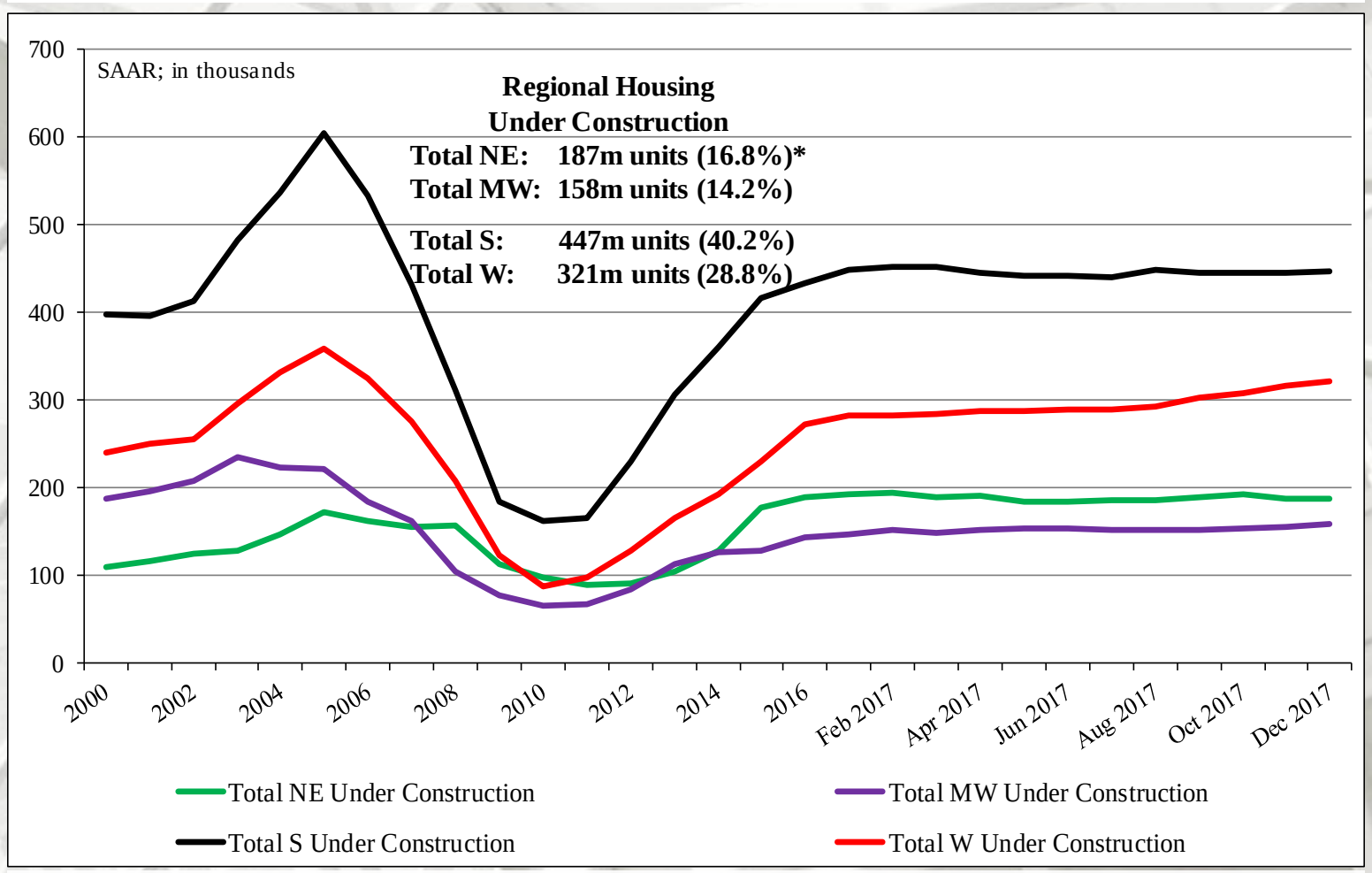
# Total Housing Under Construction by Region

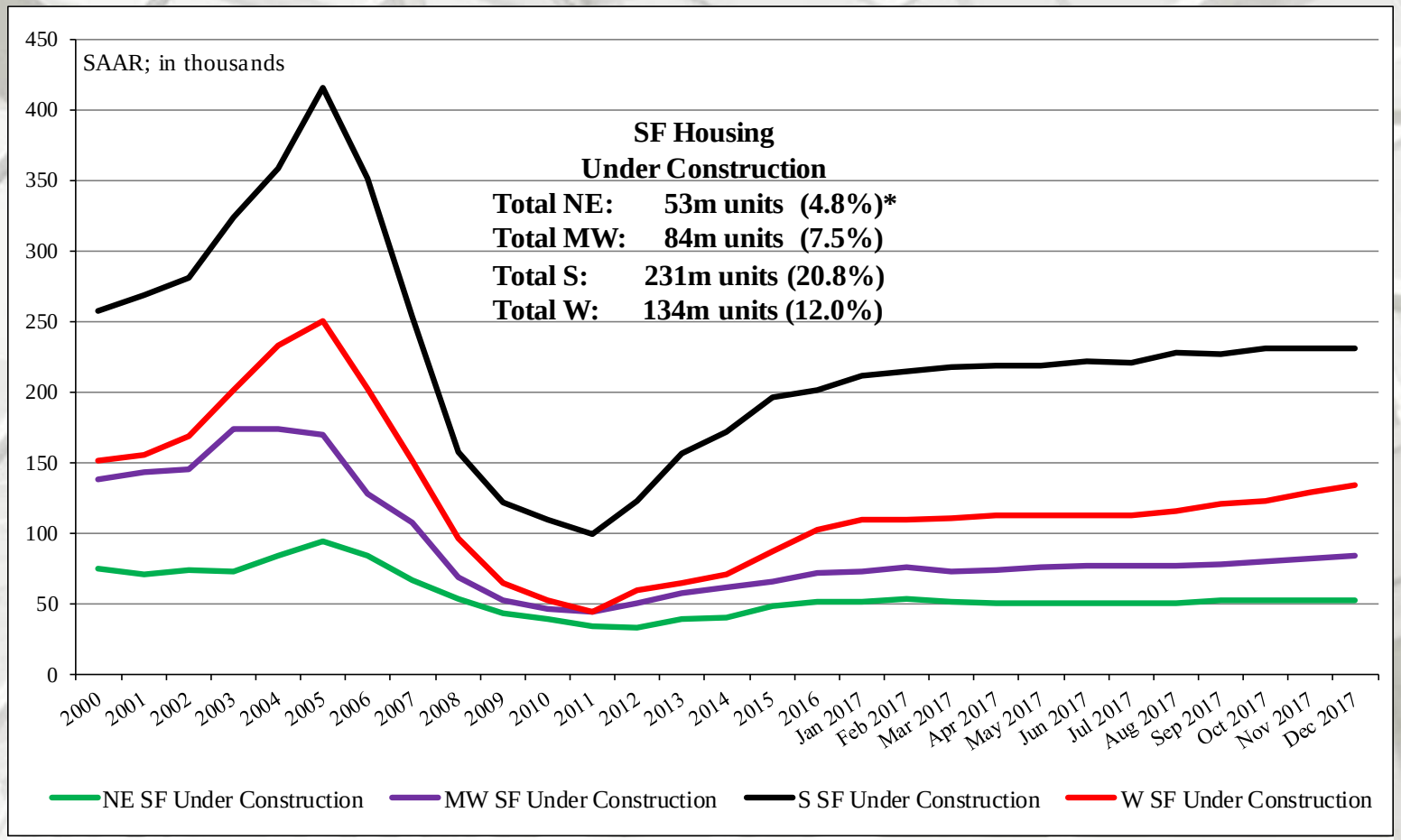



* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

# SF Housing Under Construction by Region

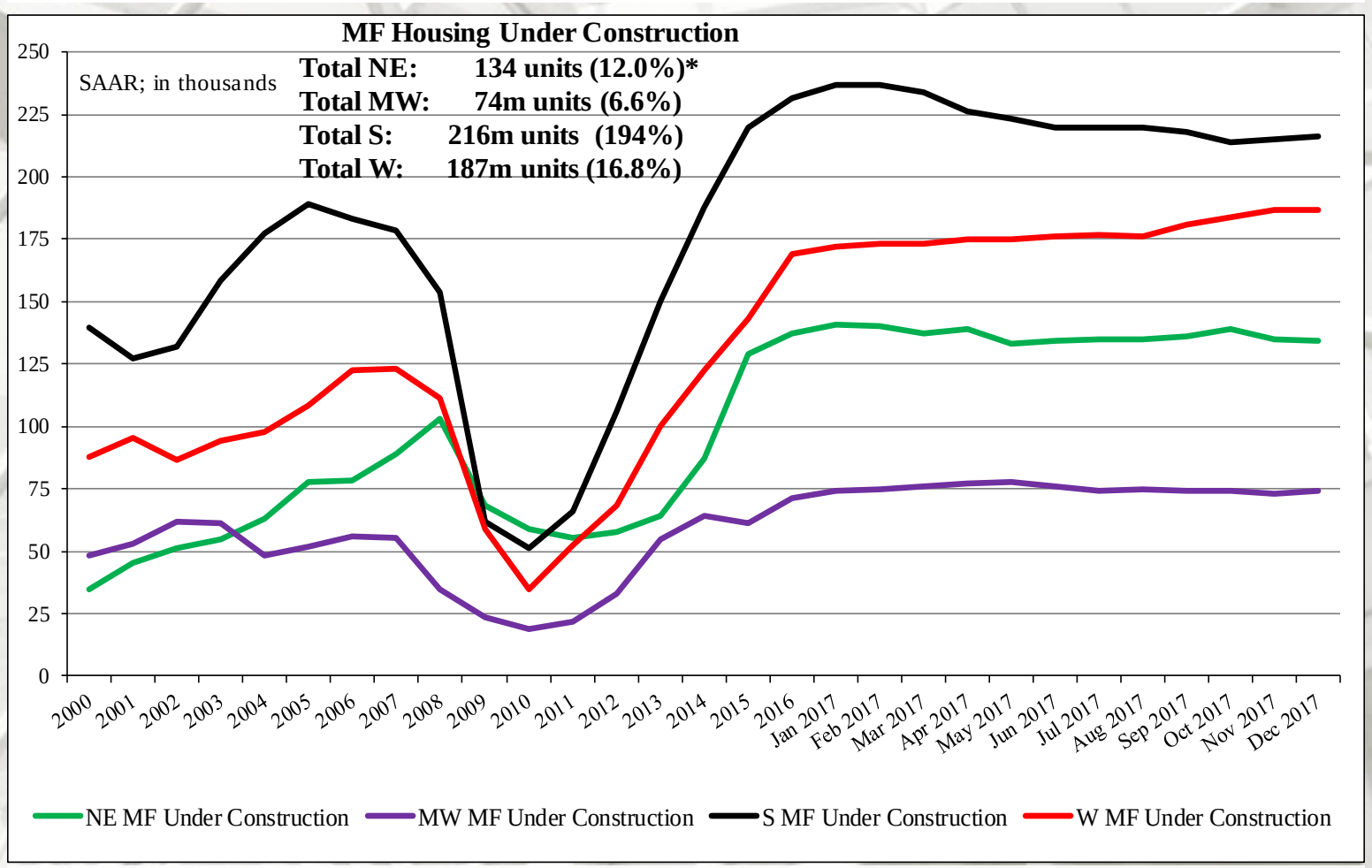



* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

# MF Housing Under Construction by Region




* Percentage of total housing under construction units.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

Return TOC

# New Housing Completions

| | Total Completions* | SF Completions | MF 2-4 unit** Completions | MF ≥ 5 unit Completions |
|---|---|---|---|---|
| December | 1,177,000 | 818,000 | 13,000 | 346,000 |
| November | 1,152,000 | 784,000 | 15,000 | 353,000 |
| 2016 | 1,096,000 | 765,000 | 8,000 | 323,000 |
| M/M change | 2.2% | 4.3% | -13.3% | -2.0% |
| Y/Y change | 7.4% | 6.9% | 62.5% | 7.1% |

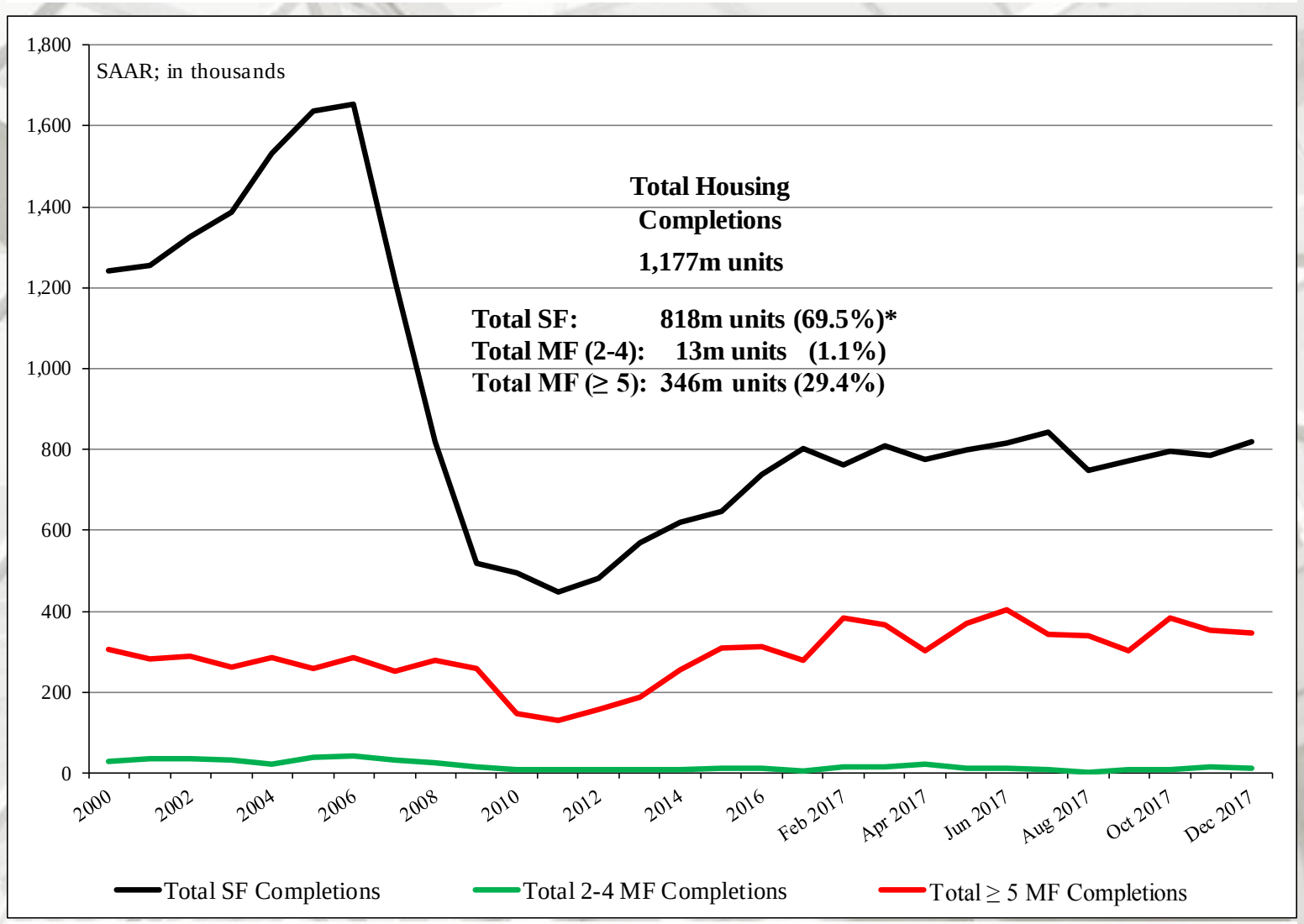
* All completion data are presented at a seasonally adjusted annual rate (SAAR).

** 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; 1/18/18

Return TOC

# Total Housing Completions




* Percentage of total housing completions

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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# Total Housing Completions by Region

| | NE Total | NE SF | NE MF** |
|---|---|---|---|
| December | 112,000 | 62,000 | 50,000 |
| November | 145,000 | 55,000 | 90,000 |
| 2016 | 102,000 | 50,000 | 52,000 |
| M/M change | -22.8% | 12.7% | -44.4% |
| Y/Y change | 9.8% | 24.0% | -3.8% |
| | **MW Total** | **MW SF** | **MW MF** |
| December | 166,000 | 119,000 | 47,000 |
| November | 176,000 | 112,000 | 64,000 |
| 2016 | 184,000 | 120,000 | 64,000 |
| M/M change | -5.7% | 6.3% | -26.6% |
| Y/Y change | -9.8% | -0.8% | -26.6% |

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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# Total Housing Completions by Region

| | S Total | S SF | S MF** |
|---|---|---|---|
| December | 601,000 | 451,000 | 150,000 |
| November | 602,000 | 464,000 | 138,000 |
| 2016 | 574,000 | 414,000 | 160,000 |
| M/M change | -0.2% | -2.8% | 8.7% |
| Y/Y change | 4.7% | 8.9% | -6.3% |

| | W Total | W SF | W MF |
|---|---|---|---|
| December | 298,000 | 186,000 | 112,000 |
| November | 229,000 | 153,000 | 76,000 |
| 2016 | 236,000 | 181,000 | 55,000 |
| M/M change | 30.1% | 21.6% | 47.4% |
| Y/Y change | 26.3% | 2.8% | 103.6% |

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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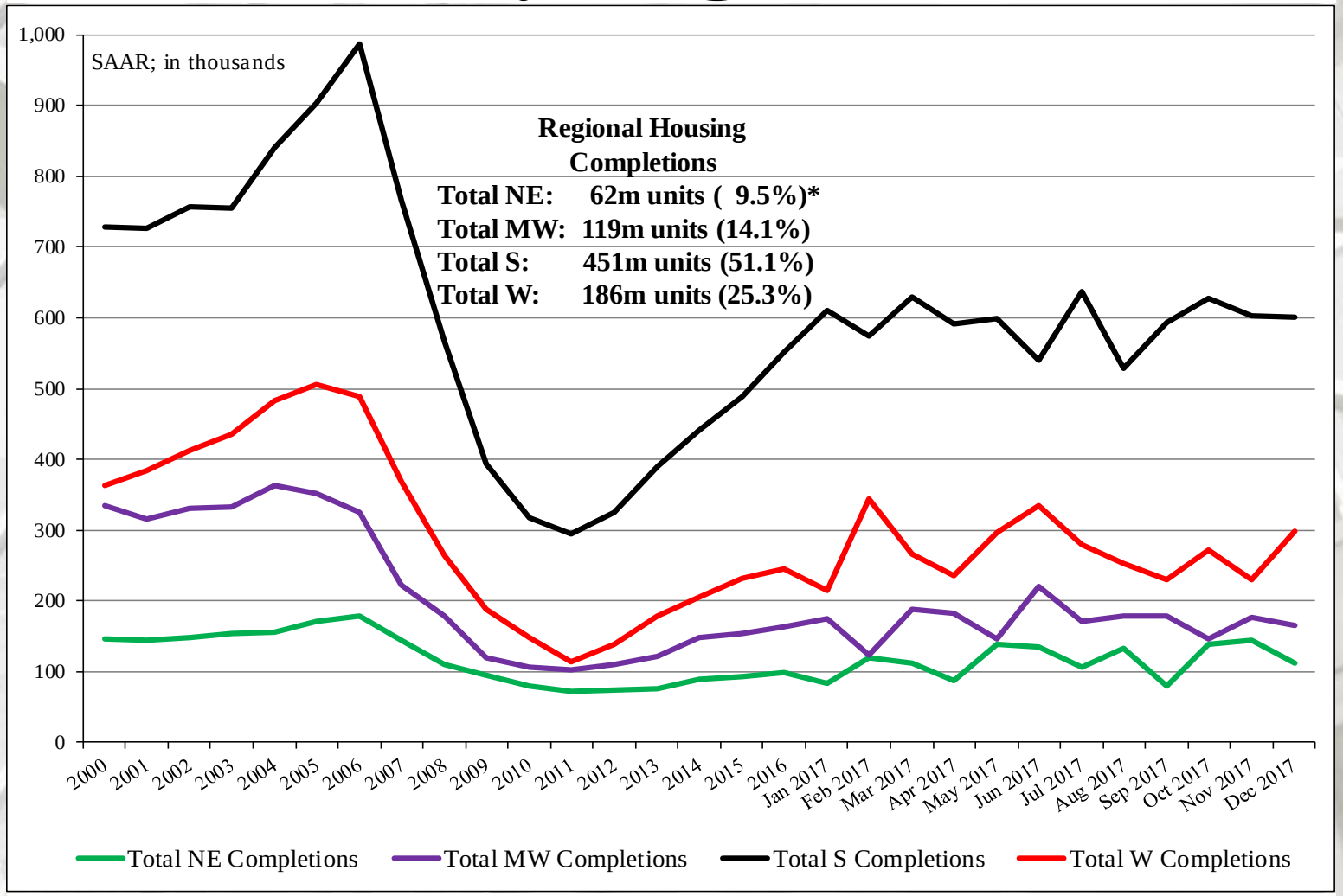
# New Housing Completions by Region




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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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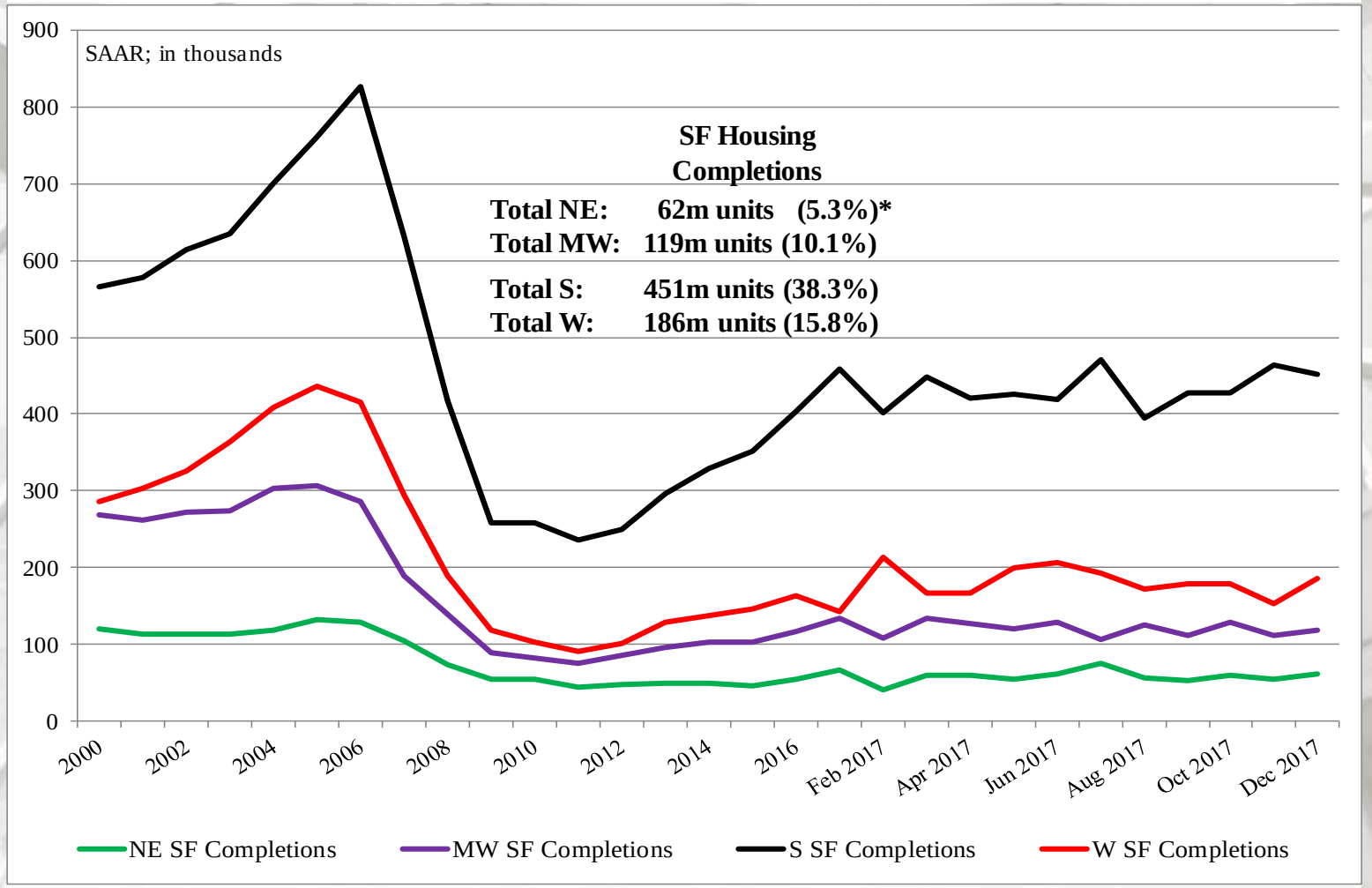
# SF Housing Completions by Region




* Percentage of total housing completions.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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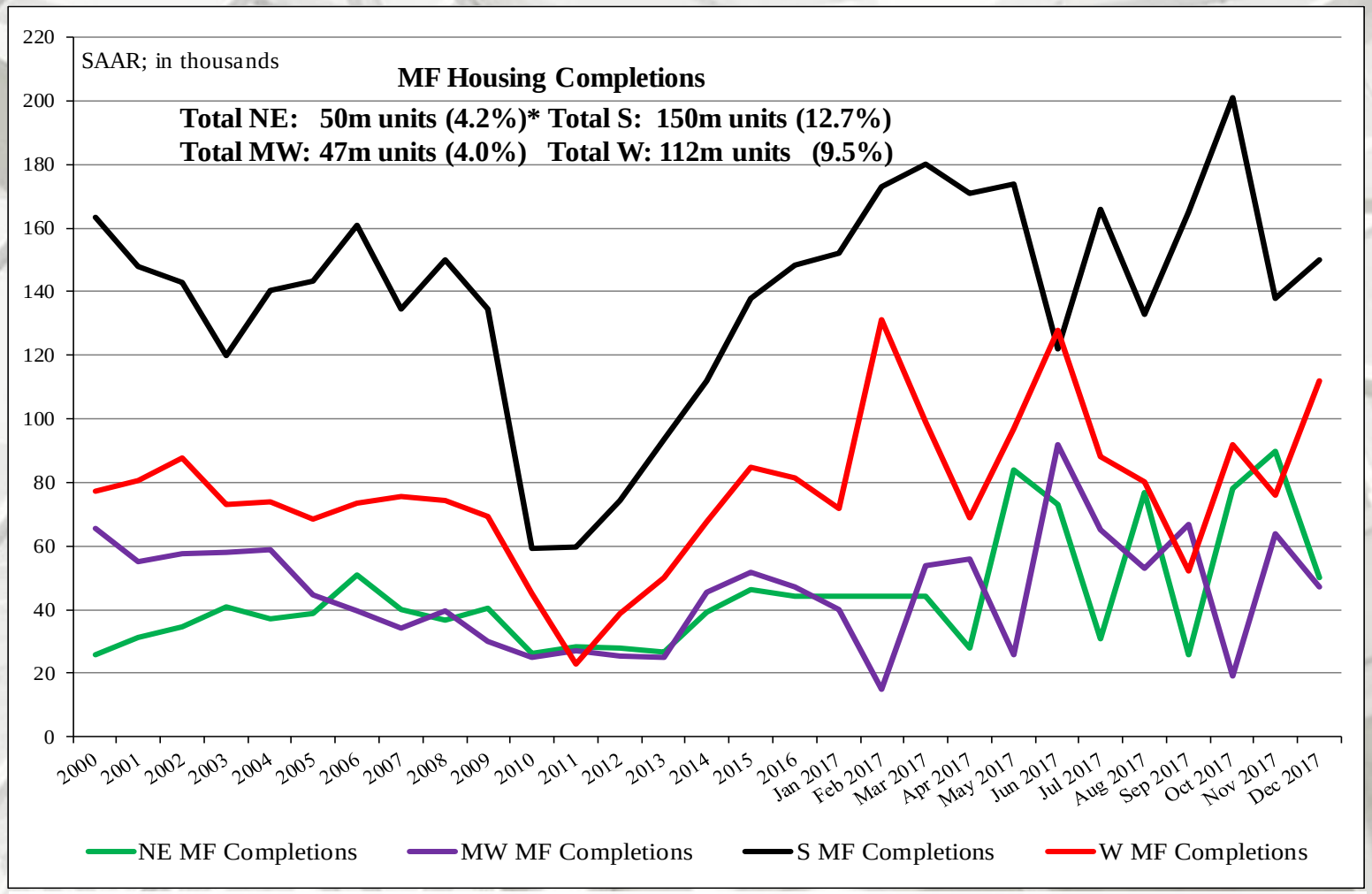
# MF Housing Completions by Region




* Percentage of total housing completions.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/18/18

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# New Single-Family House Sales

| | New SF Sales* | Median Price | Mean Price | Month's Supply |
|---|---|---|---|---|
| December | 625,000 | $335,400 | $398,900 | 5.7 |
| November | 689,000 | $334,900 | $383,600 | 4.9 |
| 2016 | 548,000 | $327,000 | $382,500 | 5.6 |
| M/M change | -9.3% | 0.1% | 4.0% | 16.3% |
| Y/Y change | 14.1% | 2.6% | 4.3% | 1.8% |

* 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 considerably less than the consensus forecast (680 m)[3], due to subpar sales in all four regions. The past three month's new SF sales data were revised substantially downward:

| | |
|---|---|
| September initial: | 667 m revised to 639 m; |
| October initial: | 685 m revised to 599 m; |
| November initial: | 733 m revised to 689 m. |

Sources: [1]http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf
[3] http://mam.econoday.com/byshoweventfull.asp; 1/25/18

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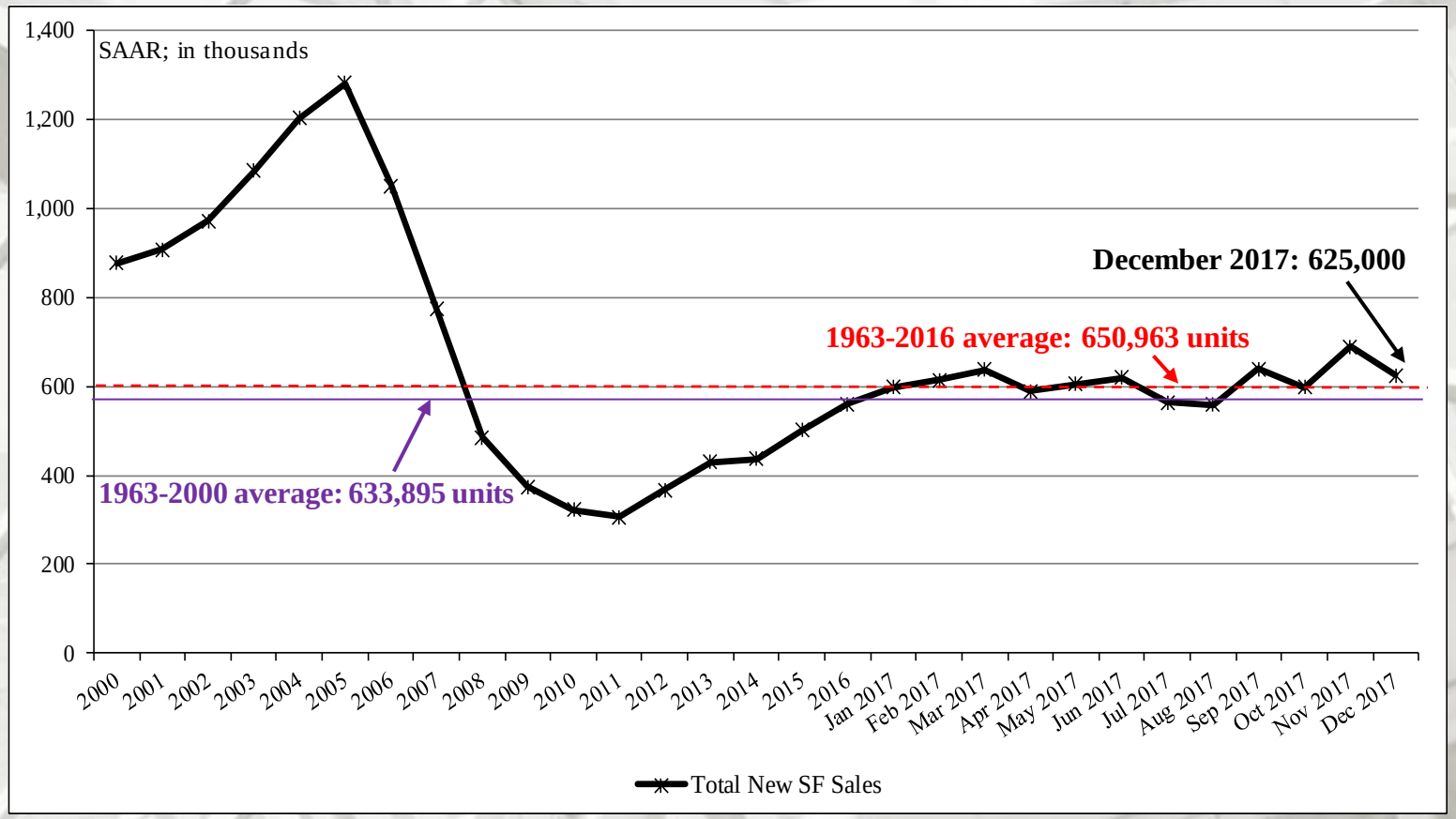
# New SF House Sales




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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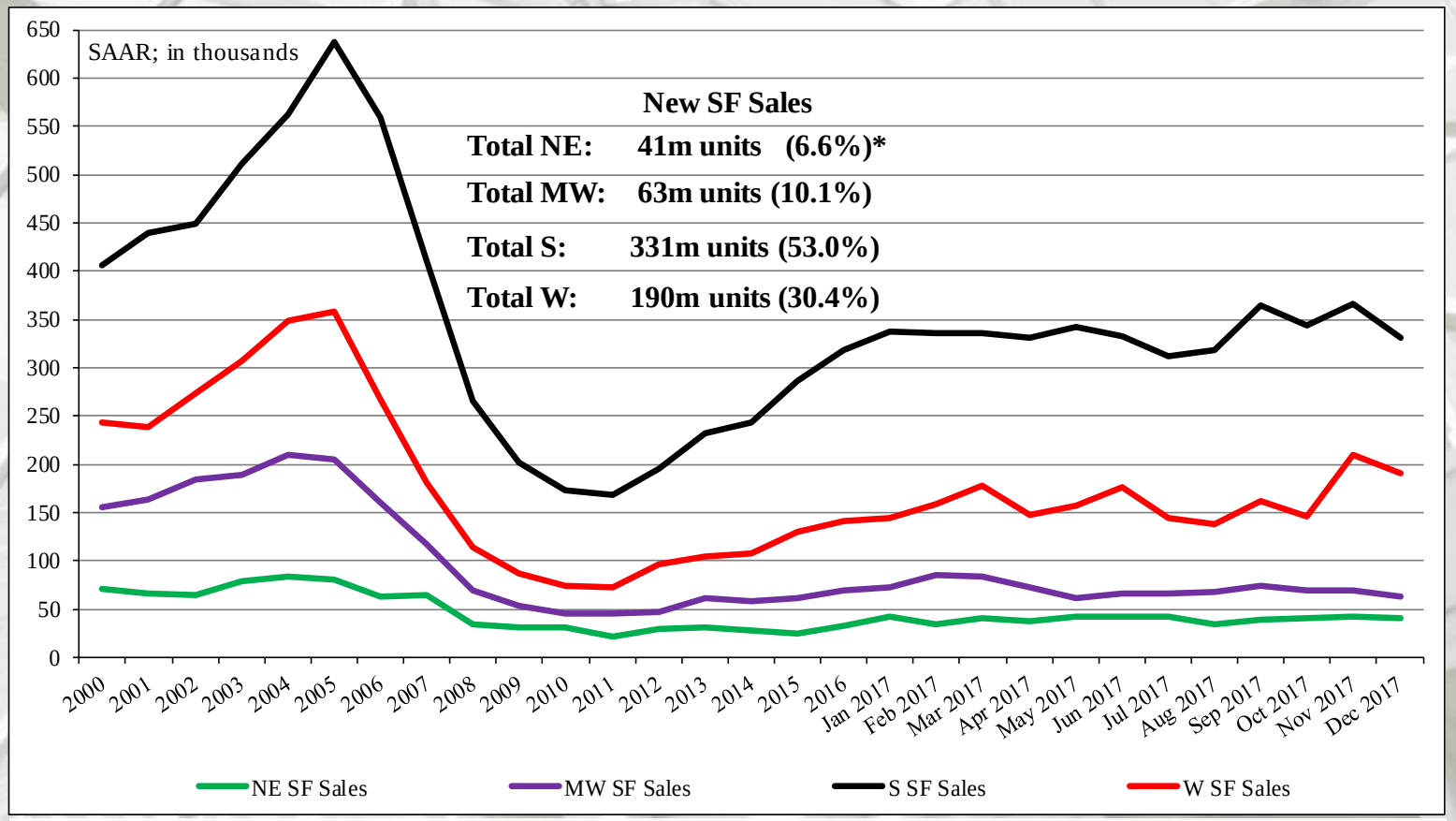
# New SF House Sales by Region




* Percentage of total new sales.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/22/18

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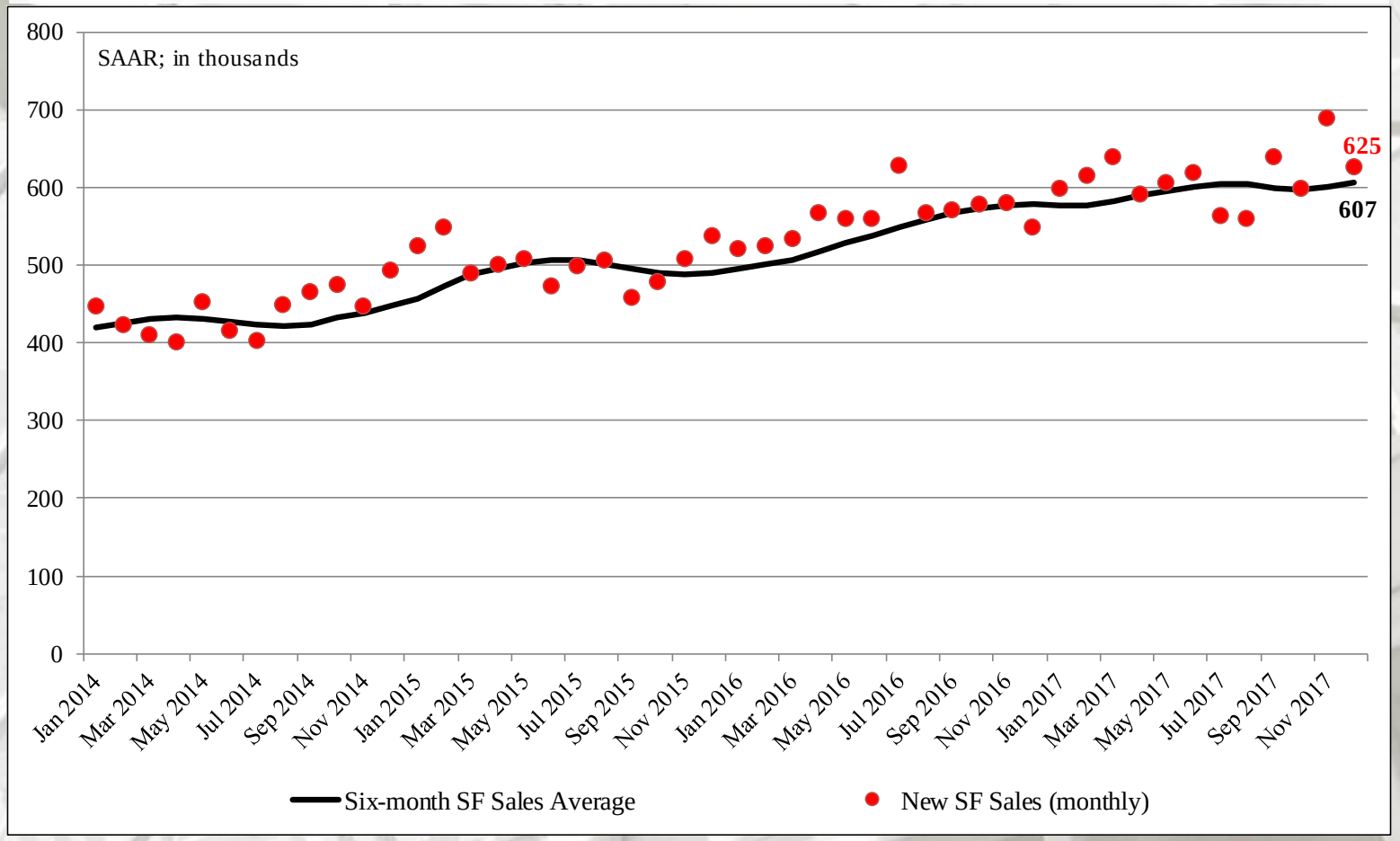
# New SF Housing Sales: Six-month average & monthly




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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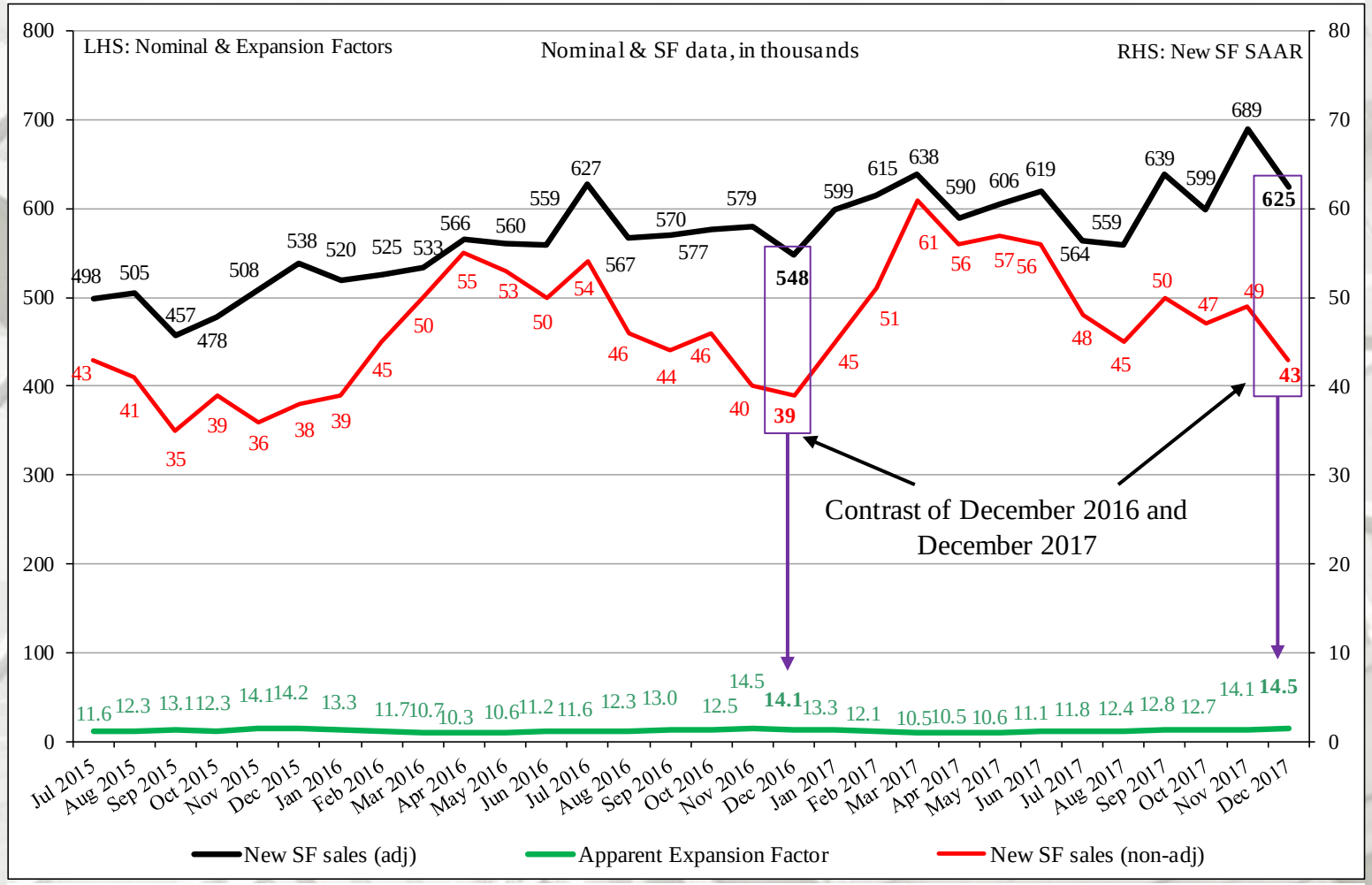
# Nominal vs. SAAR New SF House Sales




## 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; 1/25/18

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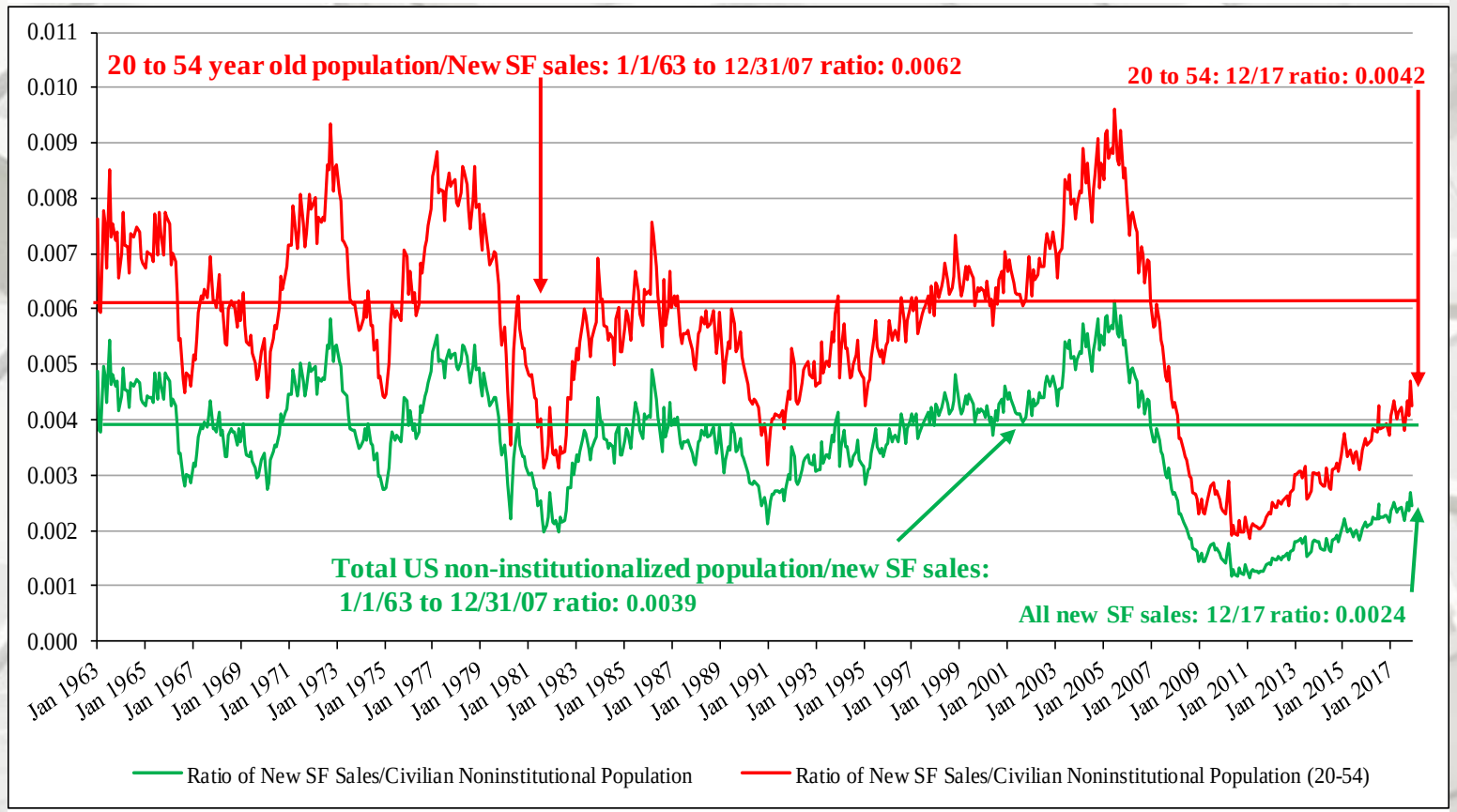
# New SF House Sales




## New SF sales adjusted for the US population

From January 1963 to November 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in December 2017 it was 0.0024 – a decrease from November (0.0025). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in December 2017 it was 0.0042 – also a decrease from November (0.0047). All are non-adjusted data. From a population viewpoint, construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrs/xls/newressales.xls and The Federal Reserve Bank of St. Louis; 1/25/18

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# New SF House Sales by Region and Price Category

| | NE SF Sales | MW SF Sales | S SF Sales | W SF Sales |
|---|---|---|---|---|
| December | 41,000 | 63,000 | 331,000 | 190,000 |
| November | 42,000 | 70,000 | 367,000 | 210,000 |
| 2016 | 37,000 | 65,000 | 286,000 | 160,000 |
| M/M change | -2.4% | -10.0% | -9.8% | -9.5% |
| Y/Y change | 10.8% | -3.1% | 15.7% | 18.8% |

| | ≤ $150m | $150 - $199.9m | $200 - 299.9m | $300 - $399.9m | $400 - $499.9m | $500 - $749.9m | ≥ $750m |
|---|---|---|---|---|---|---|---|
| December[1,2,3,4] | 2,000 | 6,000 | 11,000 | 10,000 | 5,000 | 7,000 | 4,000 |
| November | 1,000 | 3,000 | 16,000 | 14,000 | 6,000 | 5,000 | 3,000 |
| 2016 | 1,000 | 4,000 | 11,000 | 10,000 | 6,000 | 5,000 | 2,000 |
| M/M change | 100.0% | 100.0% | -31.3% | -28.6% | -16.7% | 40.0% | 33.3% |
| Y/Y change | 100.0% | 50.0% | 0.0% | 0.0% | -16.7% | 40.0% | 100.0% |

[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 may not add to total because of rounding.
[4] Housing prices are adjusted at irregular intervals.

Sources: [1,2,3] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18; [4] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf

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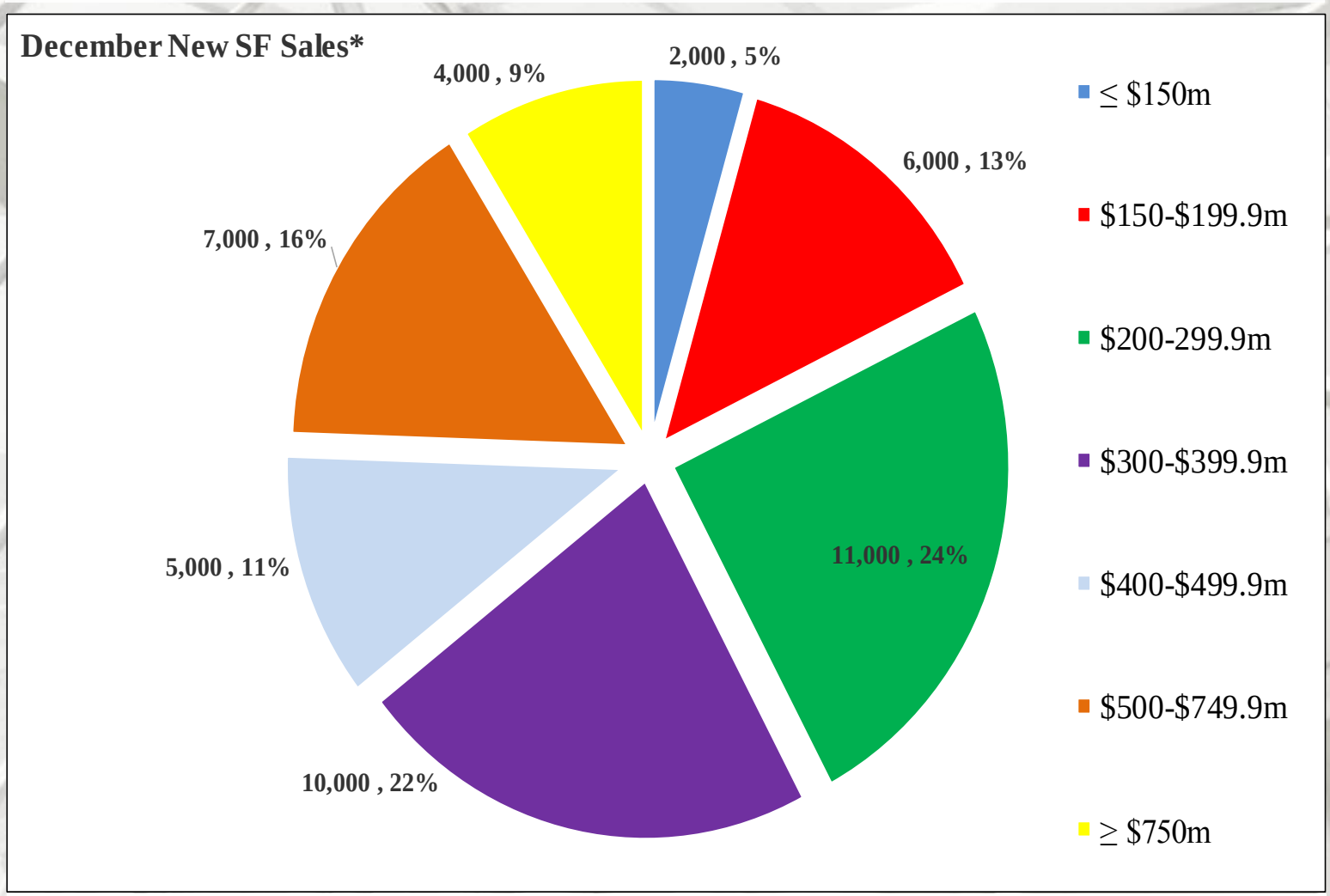
# New SF House Sales

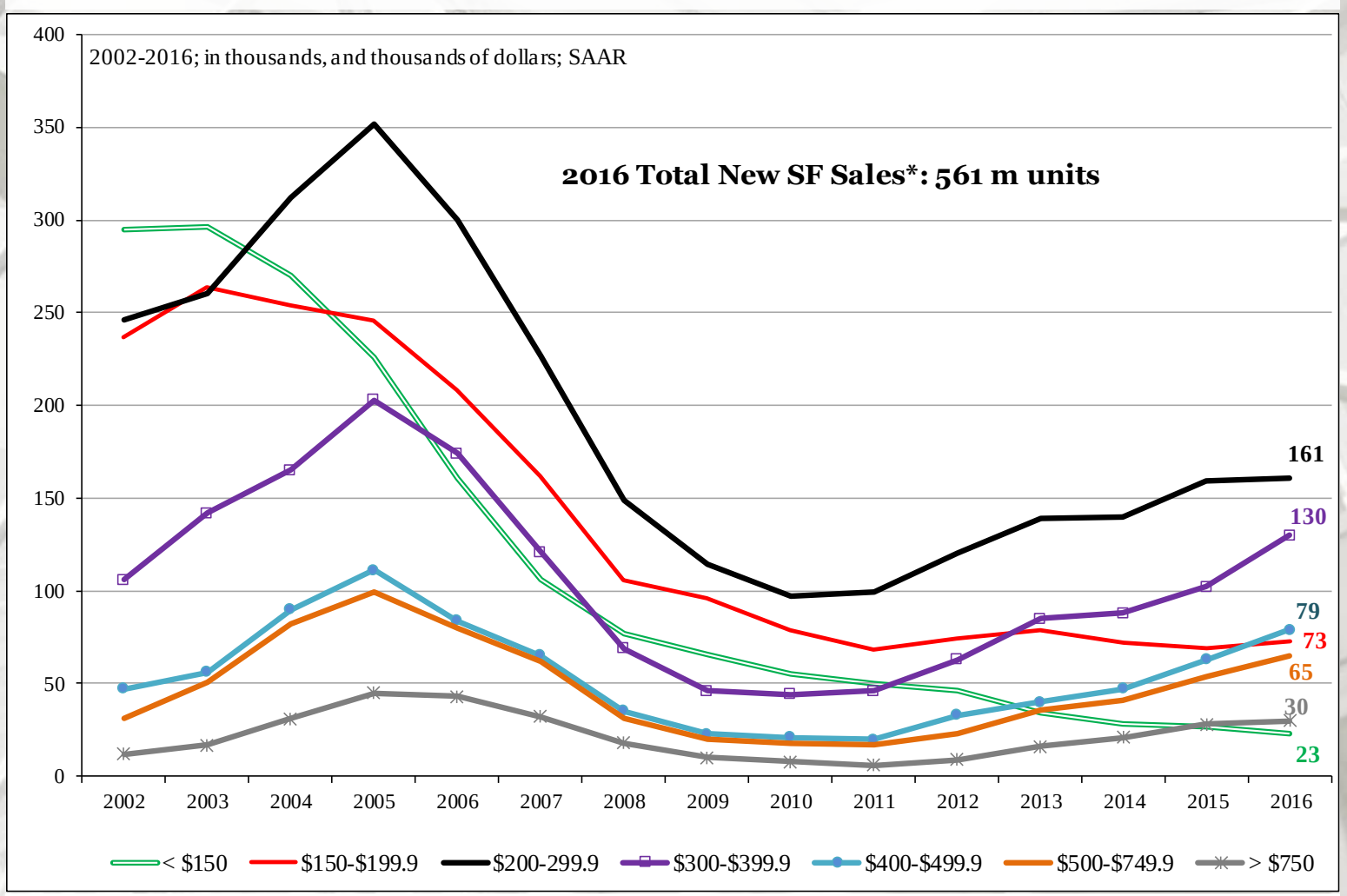



* Total and percent of new sales by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

Return TOC

# New SF House Sales by Price Category




* Sales tallied by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 7/26/17

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# New SF House Sales

| New SF Houses Sold During Period | | | | |
|---|---|---|---|---|
| | Total | Not started | Under Construction | Completed |
| December | 625,000 | 202,000 | 206,000 | 217,000 |
| November | 689,000 | 212,000 | 245,000 | 232,000 |
| 2016 | 548,000 | 166,000 | 200,000 | 182,000 |
| M/M change | -9.3% | -4.7% | -15.9% | -6.5% |
| Y/Y change | 14.1% | 21.7% | 3.0% | 19.2% |
| Total percentage | | 32.3% | 33.0% | 34.7% |

**New SF Houses Sold During Period**

In December 2017, a substantial portion of new sales – 32.3% – had not been started.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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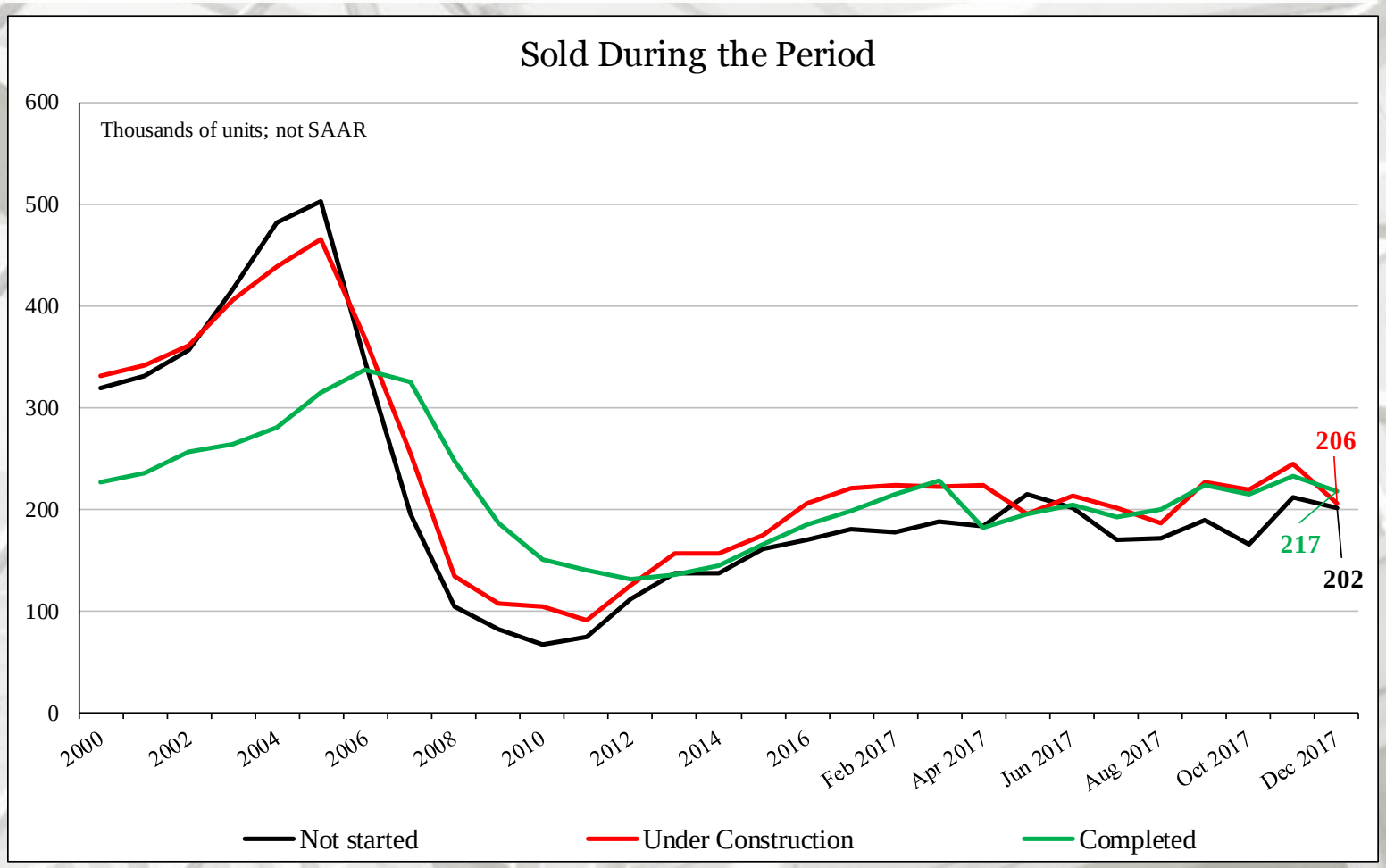
# New SF House Sales




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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# New SF House Sales

| New SF Houses for Sale at the end of the Period | | | | |
|---|---|---|---|---|
| | Total | Not started | Under Construction | Completed |
| December | 295,000 | 57,000 | 174,000 | 64,000 |
| November | 284,000 | 47,000 | 174,000 | 63,000 |
| 2016 | 256,000 | 42,000 | 154,000 | 60,000 |
| M/M change | 3.9% | 21.3% | 0.0% | 1.6% |
| Y/Y change | 15.2% | 35.7% | 13.0% | 6.7% |
| Total percentage | | 19.3% | 59.0% | 21.7% |

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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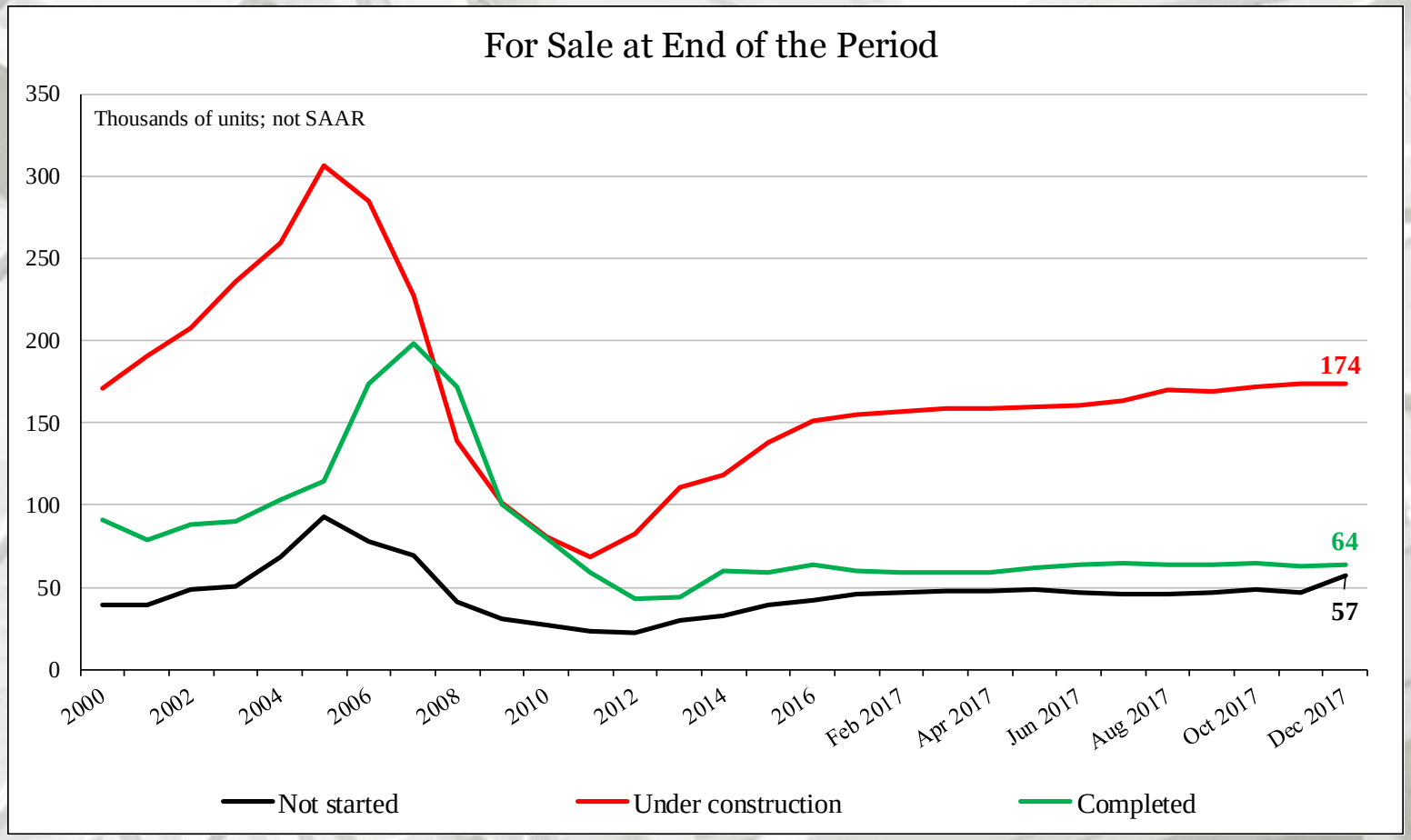
# New SF House Sales




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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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 | 288,000 | 25,000 | 42,000 | 147,000 | 75,000 |
| October | 287,000 | 25,000 | 39,000 | 149,000 | 74,000 |
| 2016 | 252,000 | 27,000 | 33,000 | 131,000 | 62,000 |
| M/M change | 0.3% | 0.0% | 7.7% | -1.3% | 1.4% |
| Y/Y change | 14.3% | -7.4% | 27.3% | 12.2% | 21.0% |

* Not SAAR

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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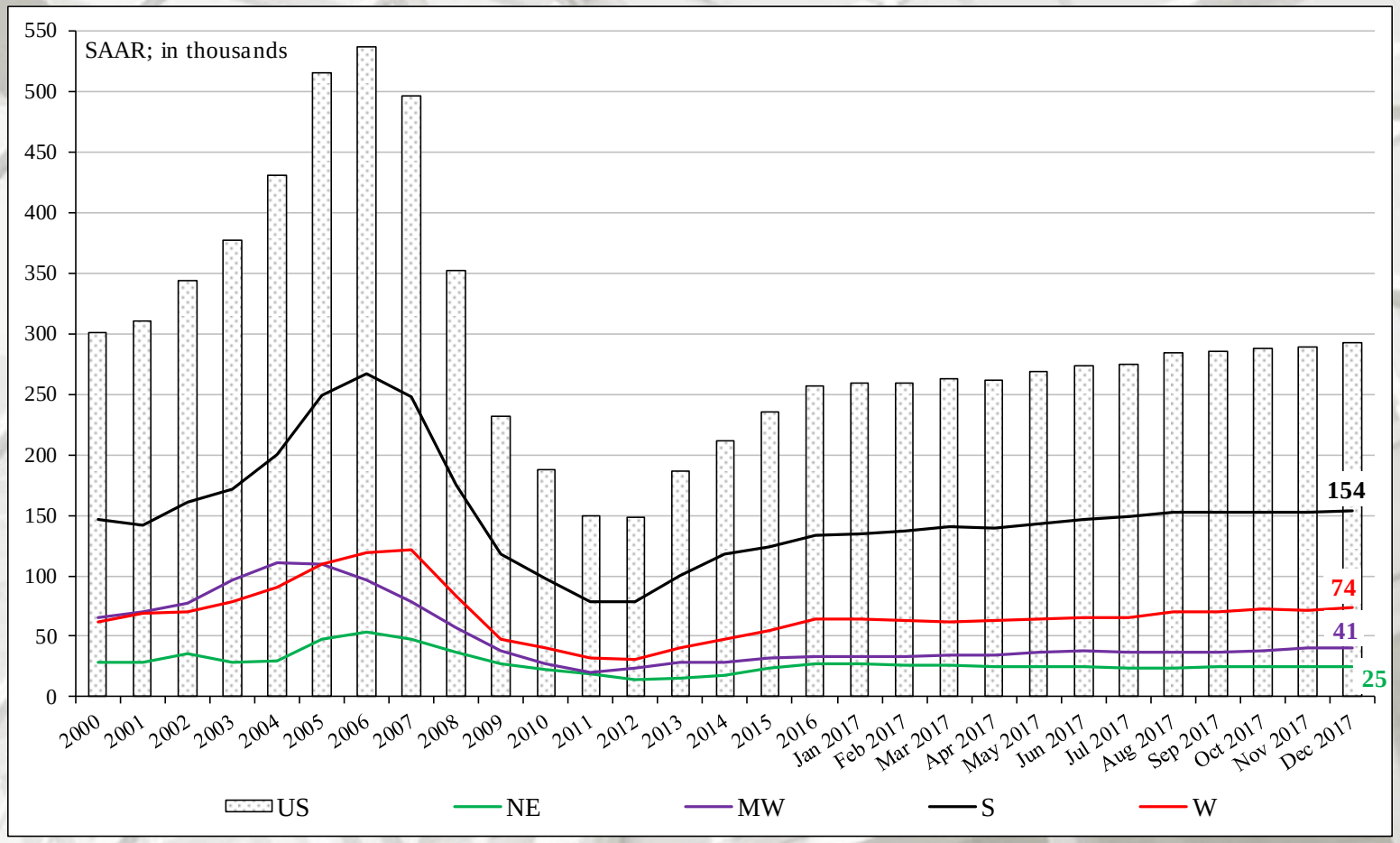
# New SF Houses Sale at End of Period by Region




Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 1/25/18

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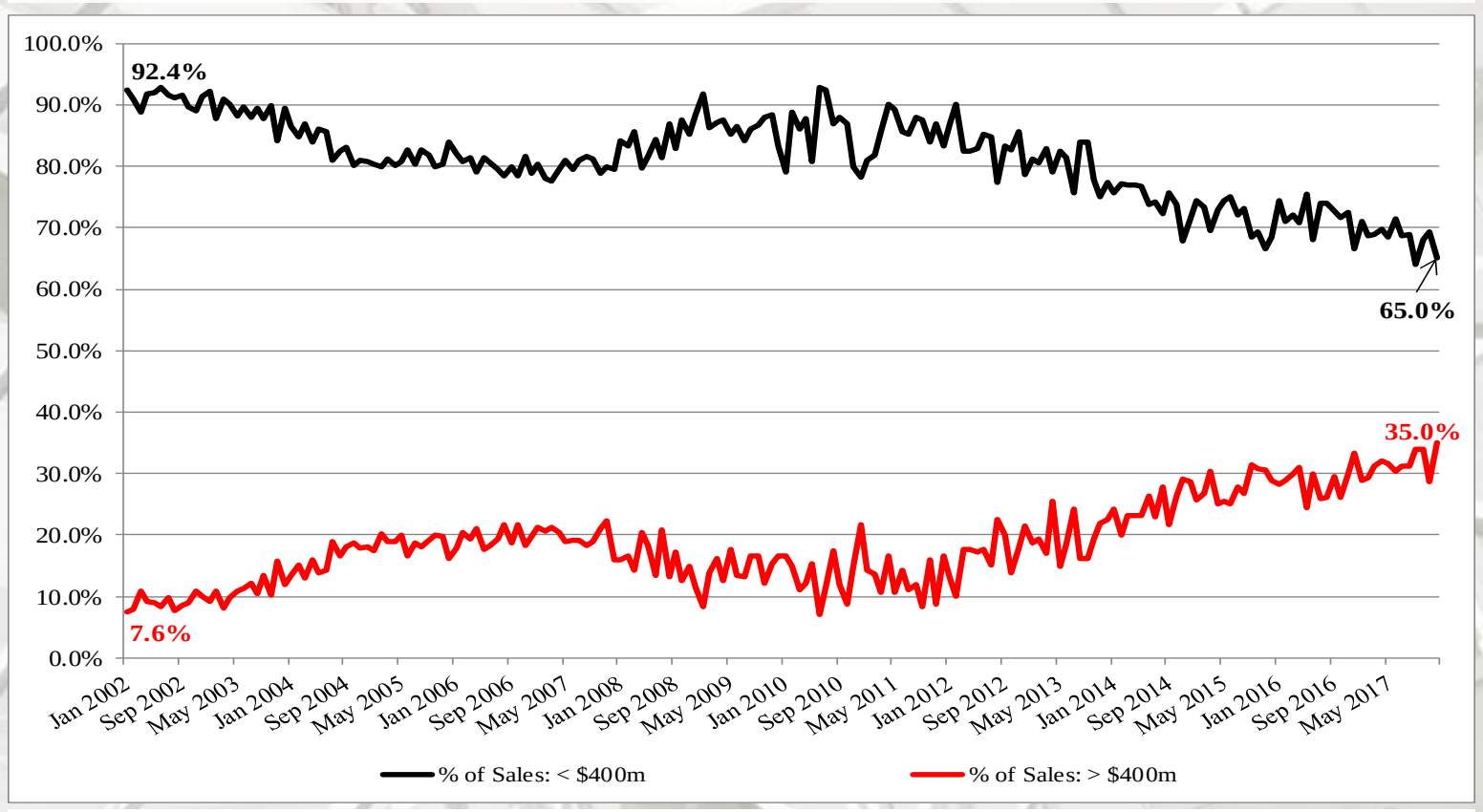
# New SF House Sales




## New SF Sales: 2002 – December 2017

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] http://www.census.gov/construction/nrc/pdf/newresconst.pdf; [2] https://www.census.gov/construction/cpi/pdf/descpi_sold.pdf 1'25/18

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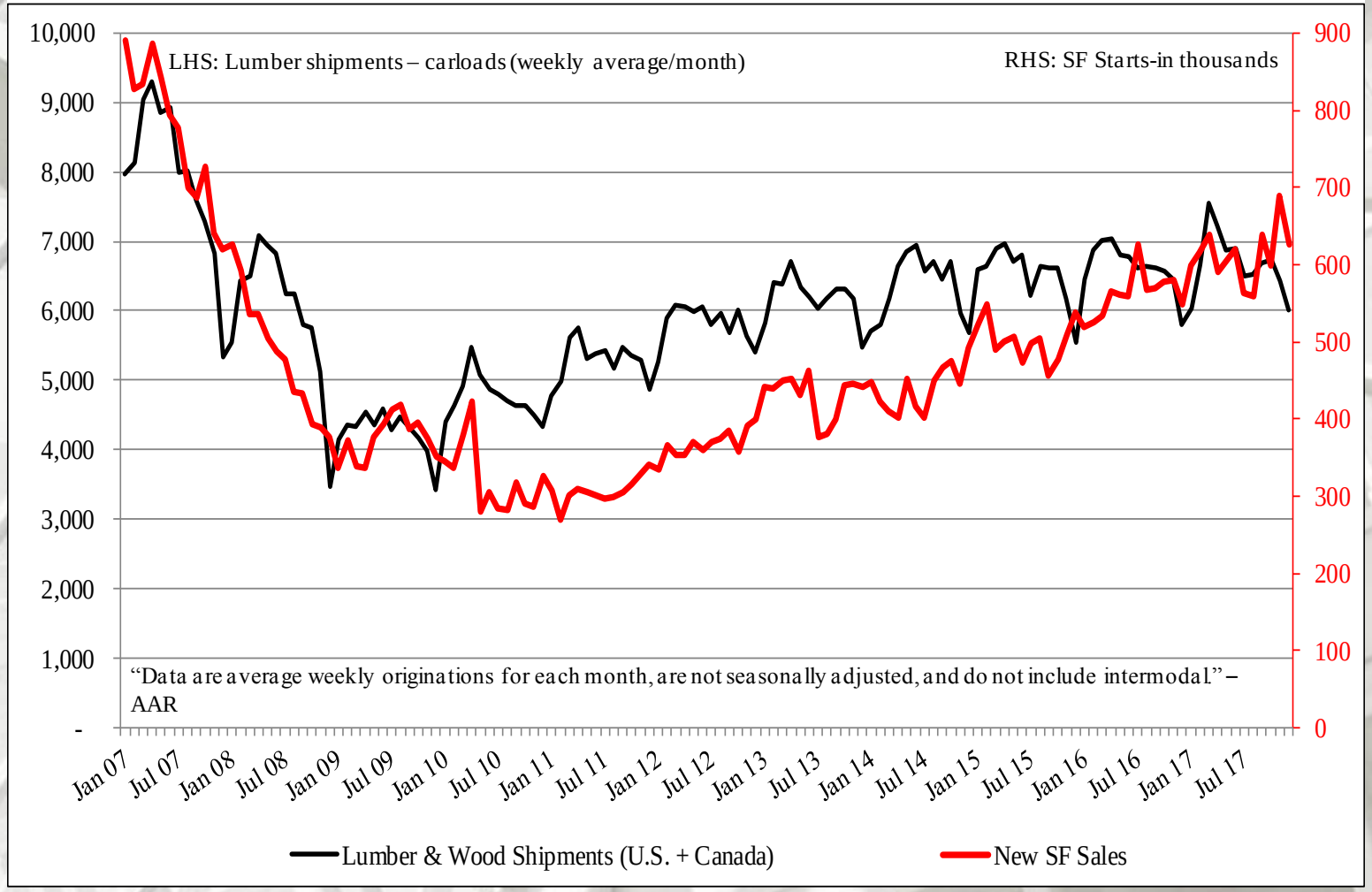
# Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales




Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/25/18

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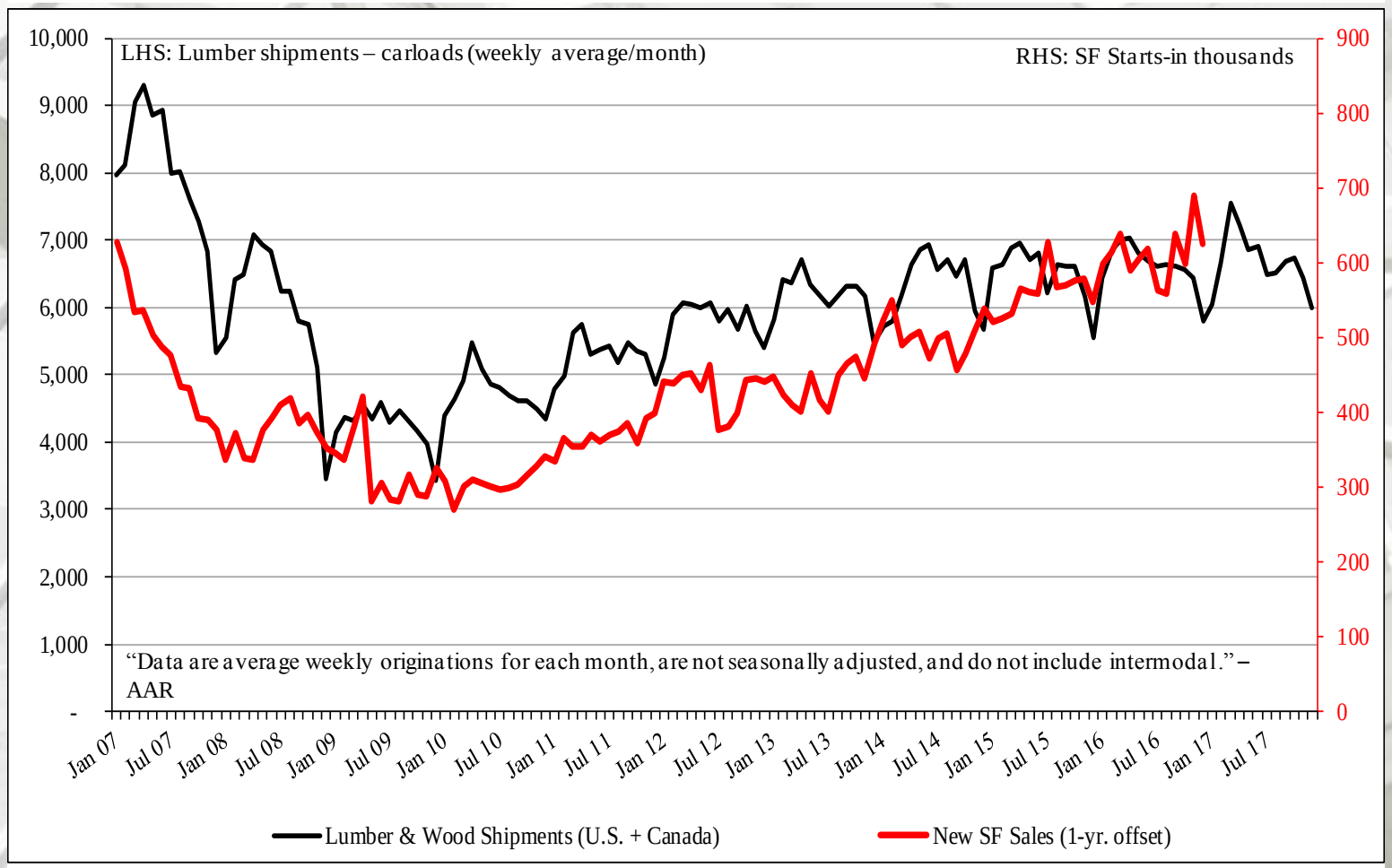
# Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales: 1-year offset




In this graph, initially January 2007 lumber shipments are contrasted with January 2008 new SF sales through December 2017 new SF sales. The purpose is to discover if lumber shipments relate to future new SF house sales. Also, it is realized that lumber and wood products are trucked; however, to our knowledge comprehensive trucking data is not available.

Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 1/5/18; U.S. DOC-Construction; 1/25/18

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# December 2017 Construction Spending

| | Total Private Residential* | SF | MF | Improvement** |
|---|---|---|---|---|
| December | $526,134 | $275,636 | $64,021 | $186,477 |
| November | $523,767 | $274,444 | $62,391 | $186,932 |
| 2016 | $495,435 | $253,601 | $61,190 | $180,644 |
| M/M change | 0.5% | 0.4% | 2.6% | -0.2% |
| Y/Y change | 6.2% | 8.7% | 4.6% | 3.2% |

* Millions

** The US DOC does not report improvement spending directly, this is a monthly estimation for 2017: ((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; 2/1/18

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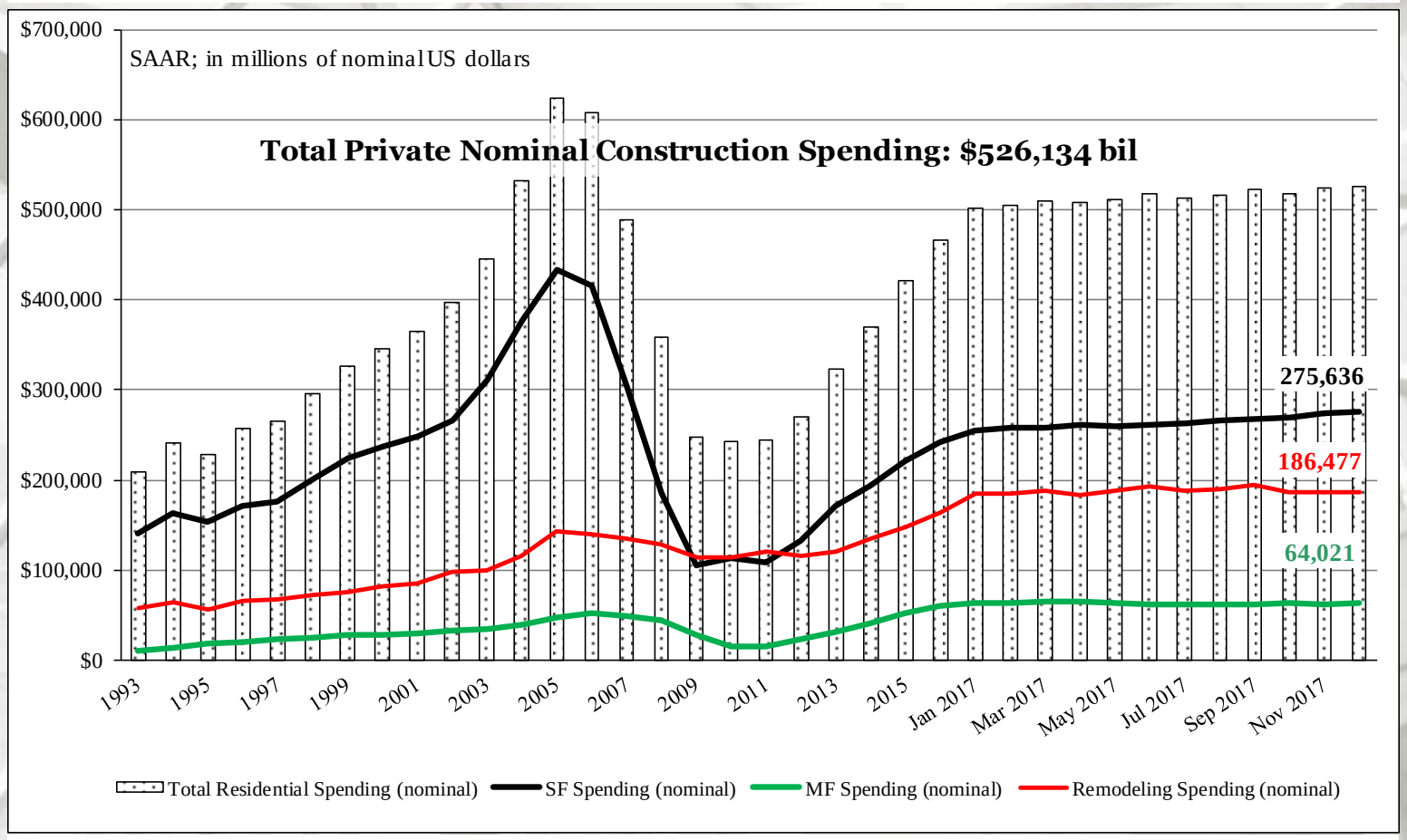
# Total Construction Spending (nominal): 1993 – December 2017




Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2017.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 2/1/18

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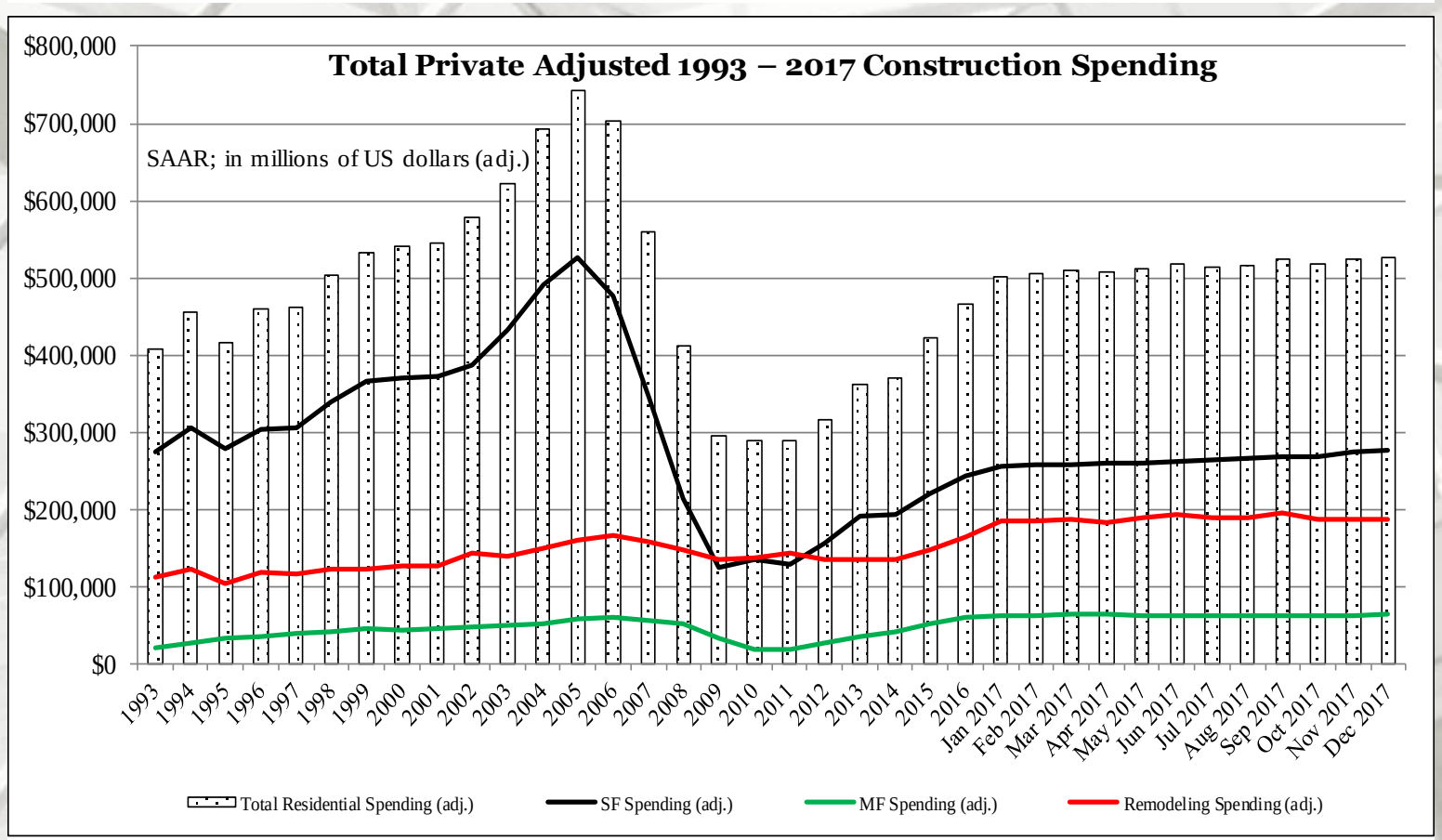
# Total Construction Spending (adjusted): 1993-2017*




Reported in adjusted US$: 1993 – 2016 (adjusted for inflation, BEA Table 1.1.9); *January-December 2017 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 2/1/18

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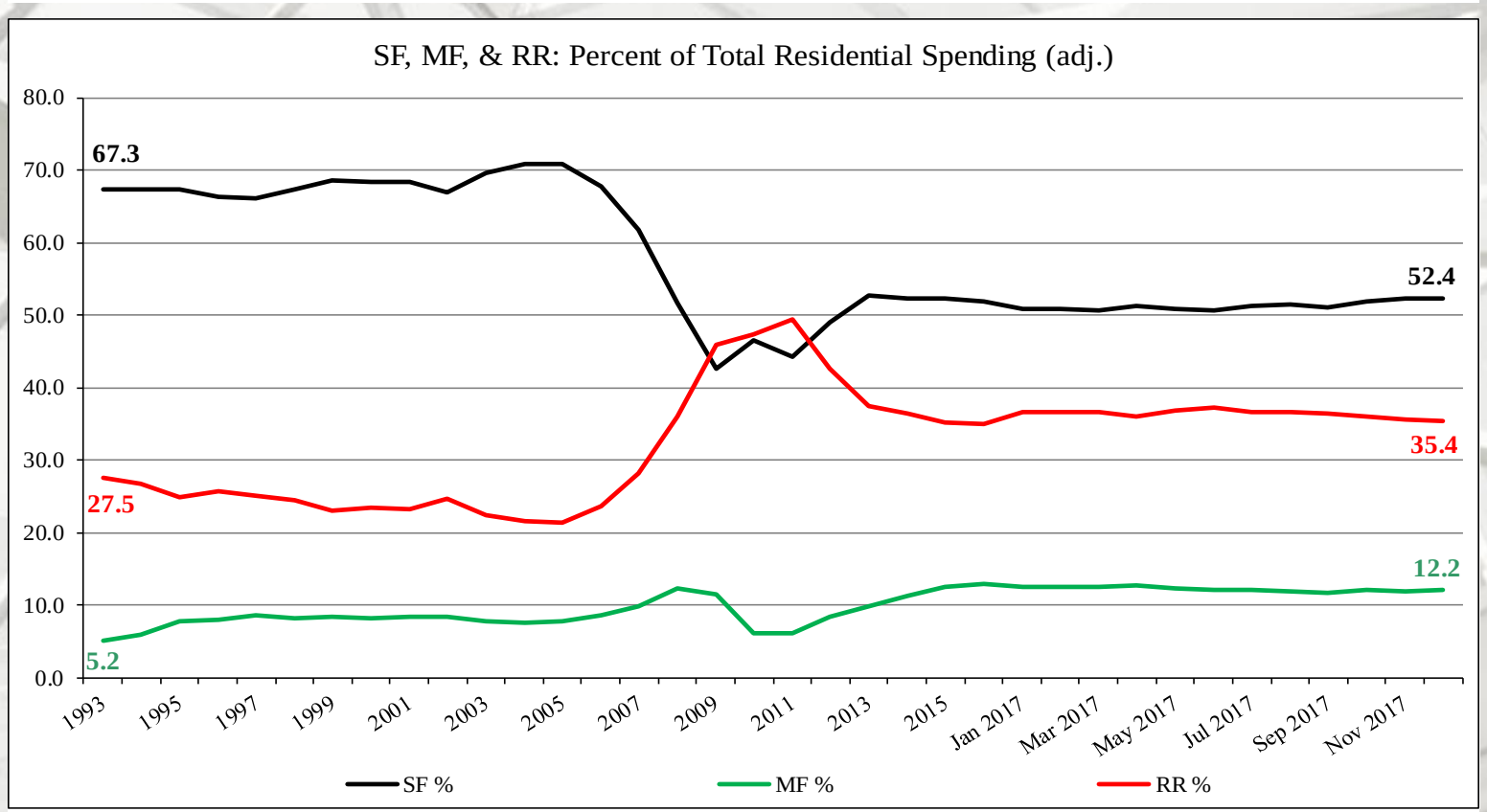
# Construction Spending Shares: 1993 to December 2017




**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 2016 (adjusted for inflation, BEA Table 1.1.9); January-December 2017 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 2/1/18

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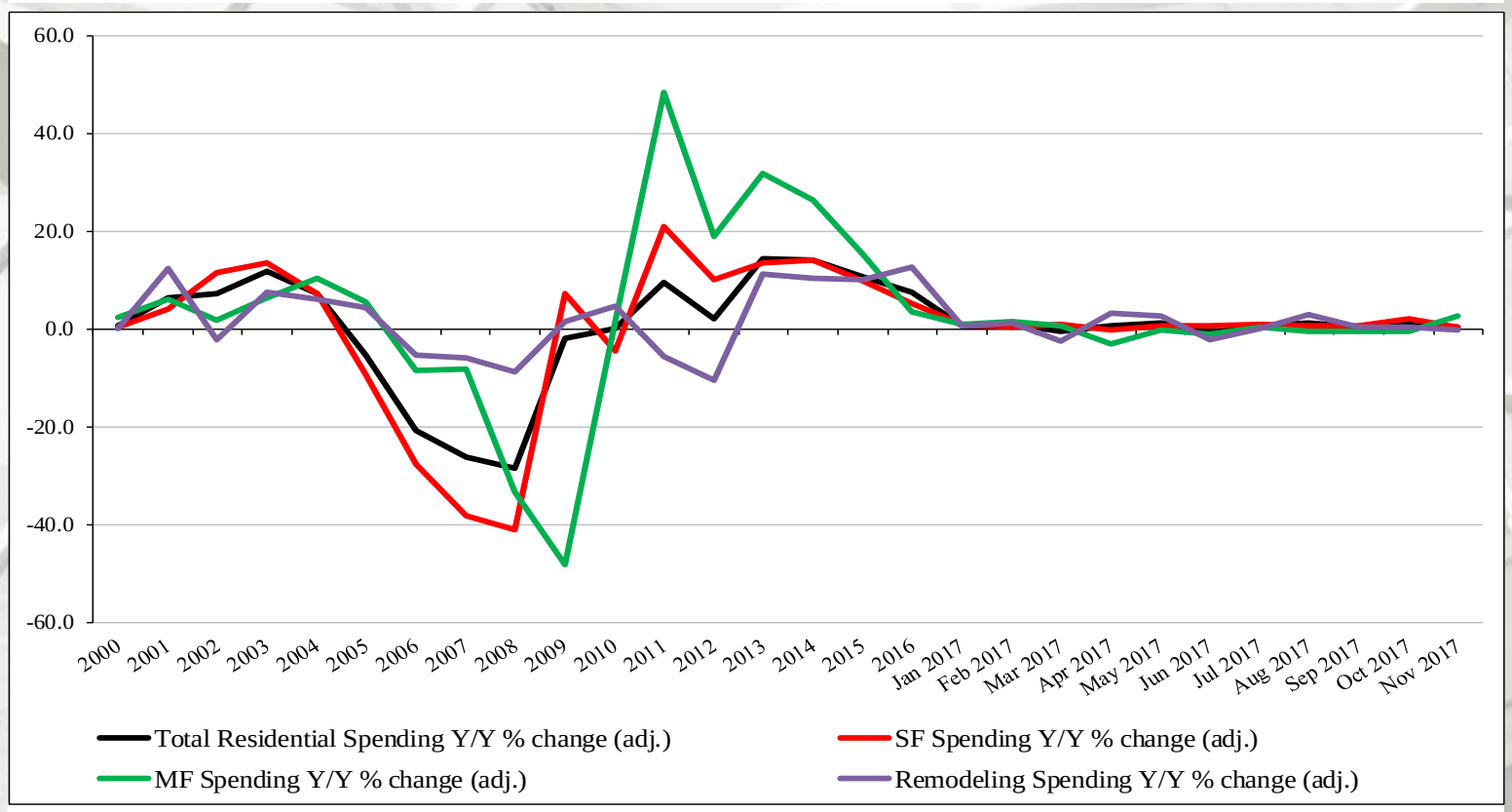
# Adjusted Construction Spending: Y/Y Percentage Change, 1993 to December 2017




**Residential Construction Spending: Percentage Change, 1993 to November 2017**

Presented above is the percentage change of inflation adjusted Y/Y construction spending (1993-2016). Since mid-2015 MF spending has been declining and RR expenditures are in an apparent flat-line trend.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 2/1/18

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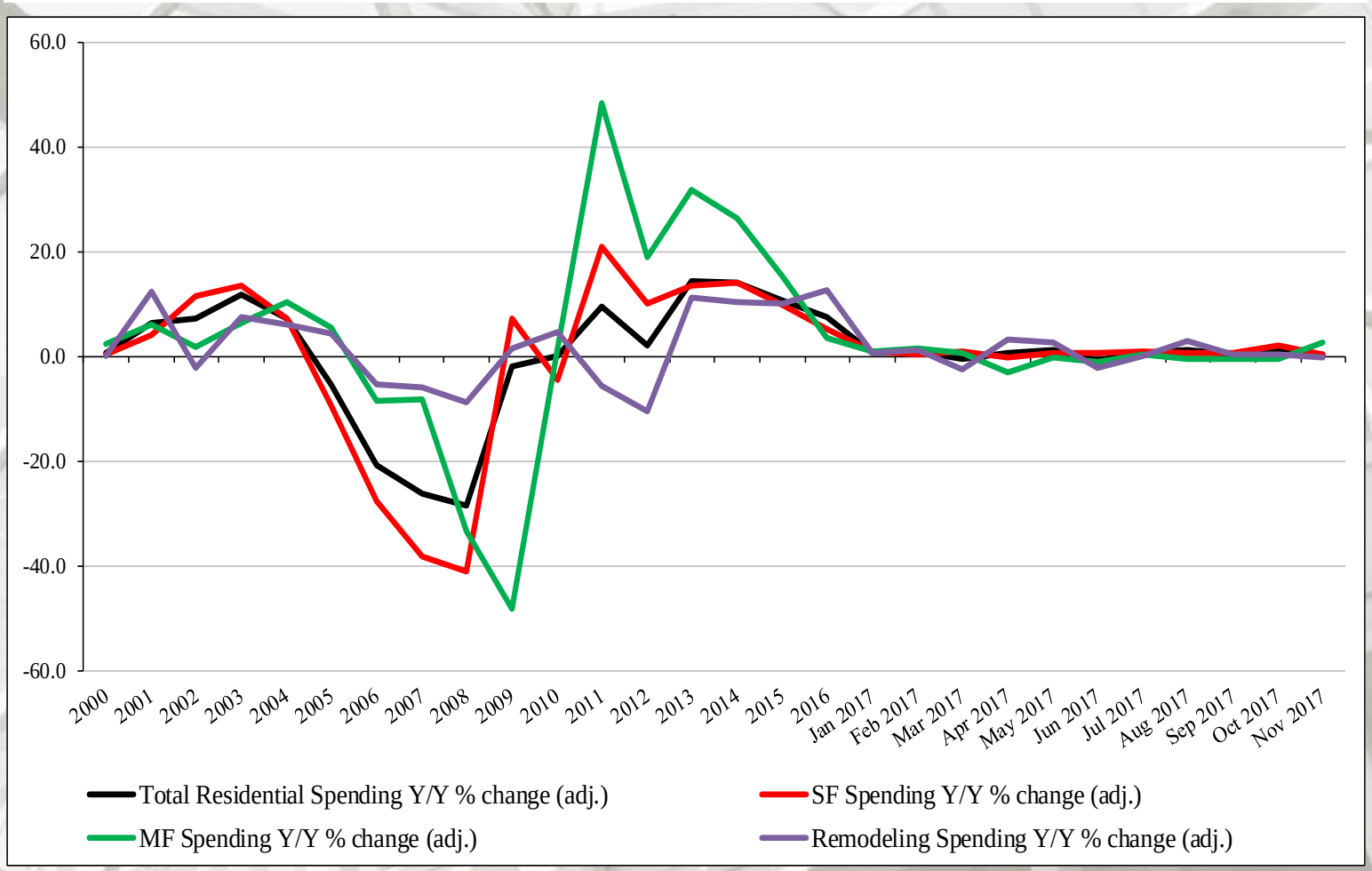
# Adjusted Construction Spending: Y/Y Percentage Change, 2000 to December 2017




Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 2/1/18

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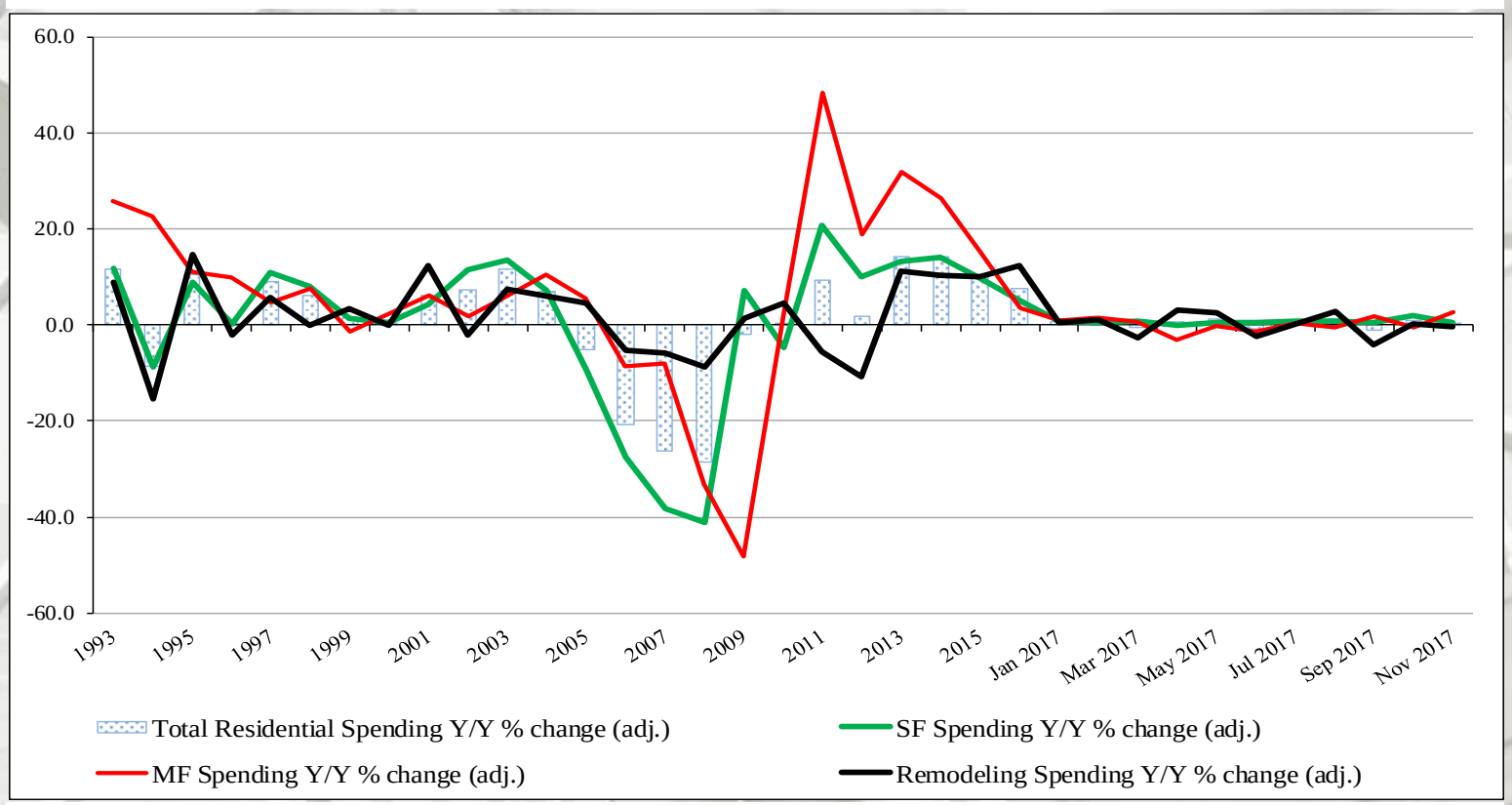
# Total Adjusted Construction Spending: Y/Y Percentage Change, 1993 to December 2017




**Residential Construction Spending: Percentage Change, 1993 to December 2017**

The questions remain: Is construction spending normalizing? Has housing stalled? Or, are there alternative explanations? The percentage change in construction spending has been minimally positive since the beginning of 2017.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 2/1/18

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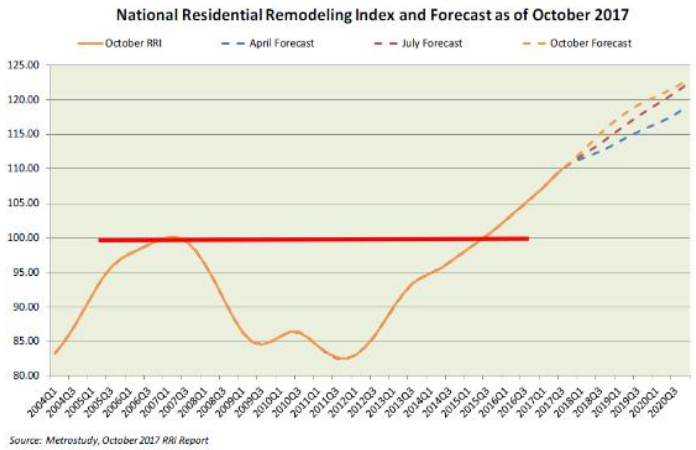
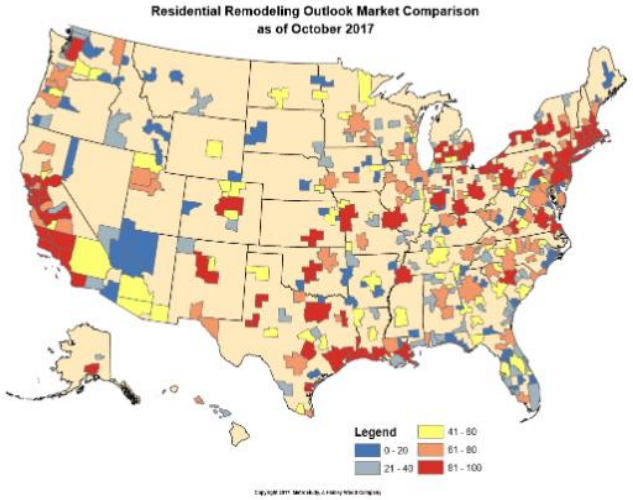
# Remodeling

metrostudy Builder

## Remodeling activity continues to surge




metrostudy Builder

Source: http://www.metrostudy.com/wp-content/uploads/2018/01/Metrostudy_2018_Outlook_Breakfast_Economic_Forecast.pdf; 1/16/18

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# Remodeling

## Harvard Joint Center for Housing Studies

### Remodeling Market to March Higher in 2018

"The coming year is expected to be another robust one for residential renovations and repairs with growth accelerating as the year progresses, according to our latest Leading Indicator of Remodeling Activity (LIRA). The LIRA projects that homeowner spending on improvements and repairs will approach $340 billion in 2018, an increase of 7.5 percent from estimated 2017 spending.

Steady gains in the broader economy, and in home sales and prices, are supporting growing demand for home improvements. We expect the remodeling market will also get a boost this year from ongoing restoration efforts in many areas of the country impacted by last year's record-setting natural disasters.

Despite continuing challenges of low for-sale housing inventories and contractor labor availability, 2018 could post the strongest gains for home remodeling in more than a decade. Annual growth rates have not exceeded 6.8 percent since early 2007, before the Great Recession hit." – Abbe Will, Research Associate, Harvard Joint Center for Housing Studies

Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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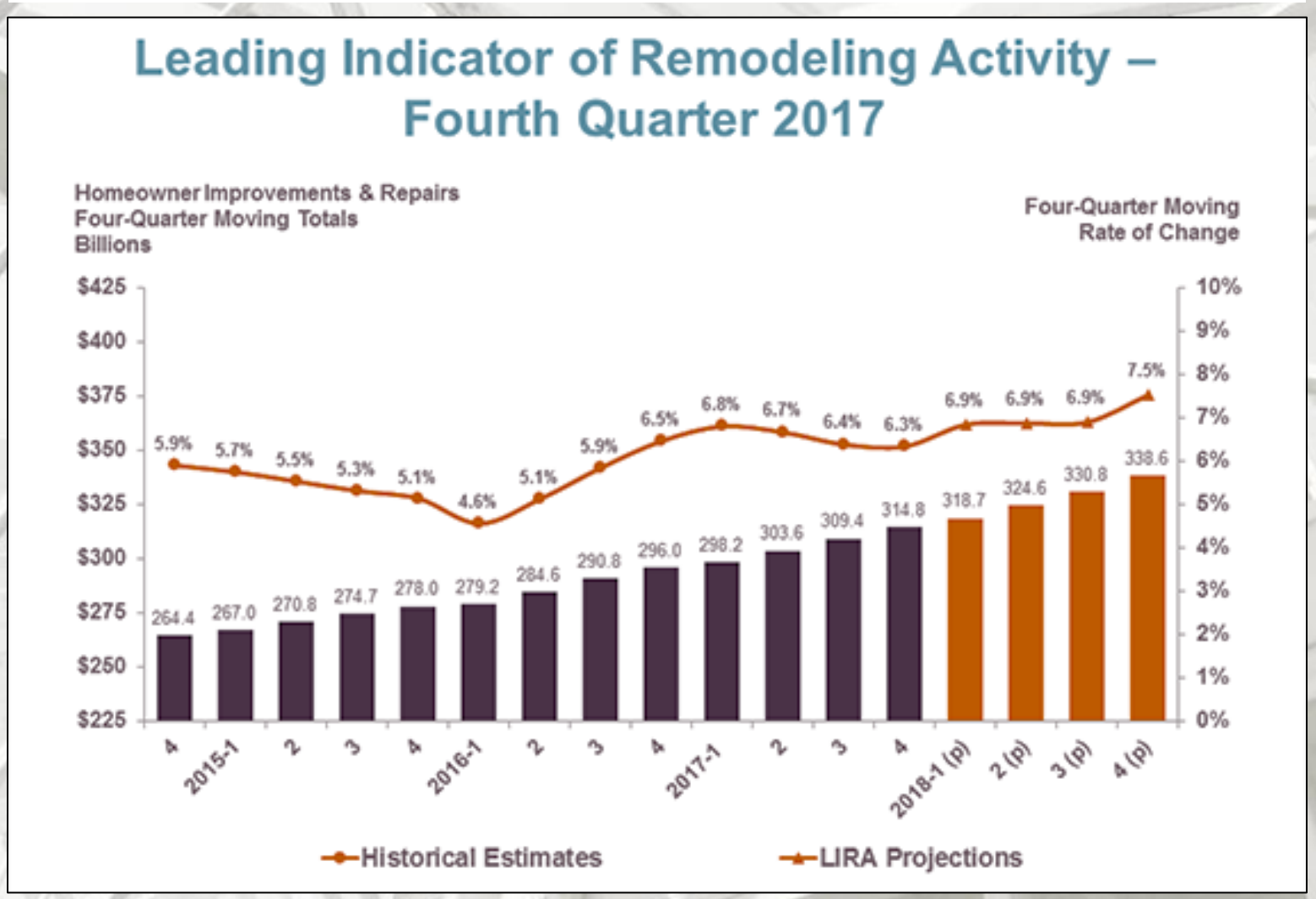
# Remodeling




Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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# Remodeling

## National Association of Home Builders

### The Remodeling Market Index Hits 60 in Fourth Quarter

"The Remodeling Market Index (RMI) increased three points to 60 in the fourth quarter of 2017, according to the National Association of Home Builders (NAHB). This quarter marks the second time in the RMI's history (dating back to 2001) in which the index reached 60 (Figure 1) (next slide).

For 19 consecutive quarters, the RMI has been at or above 50, which indicates that more remodelers report market activity is higher (compared to the prior quarter) than report it is lower. The RMI is an average of two sub-indices, one that measures current market conditions and another that measures future remodeling activity.

The current market conditions sub-index increased four points to 60 in the fourth quarter of 2017. Among its components, major additions and alterations jumped seven points to 60, minor additions and alterations increased three points to 59, and the home maintenance and repair component rose three points to 61 (Figure 2) (slide 79)." – Carmel Ford, Economist, NAHB

Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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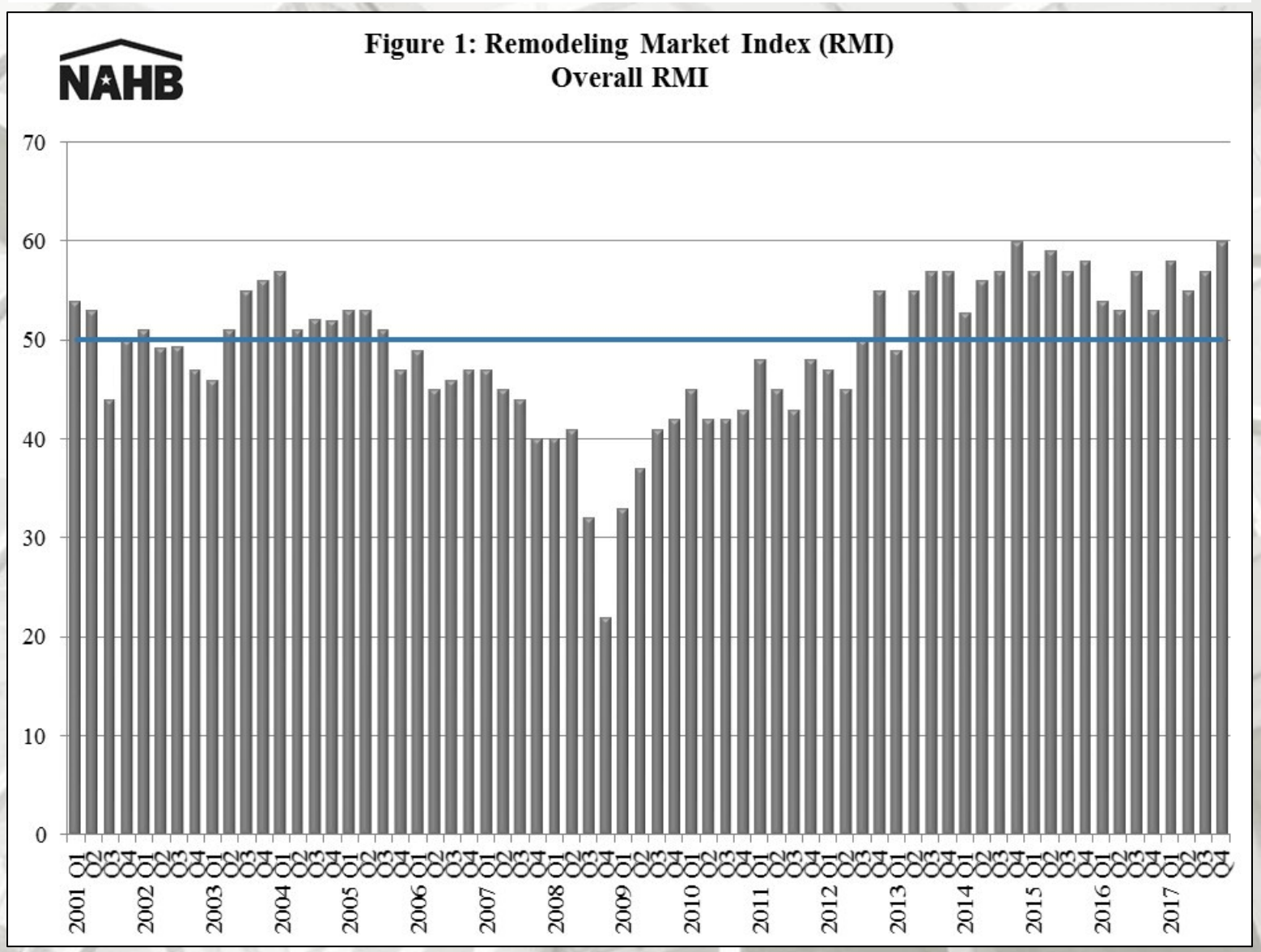
# Remodeling




Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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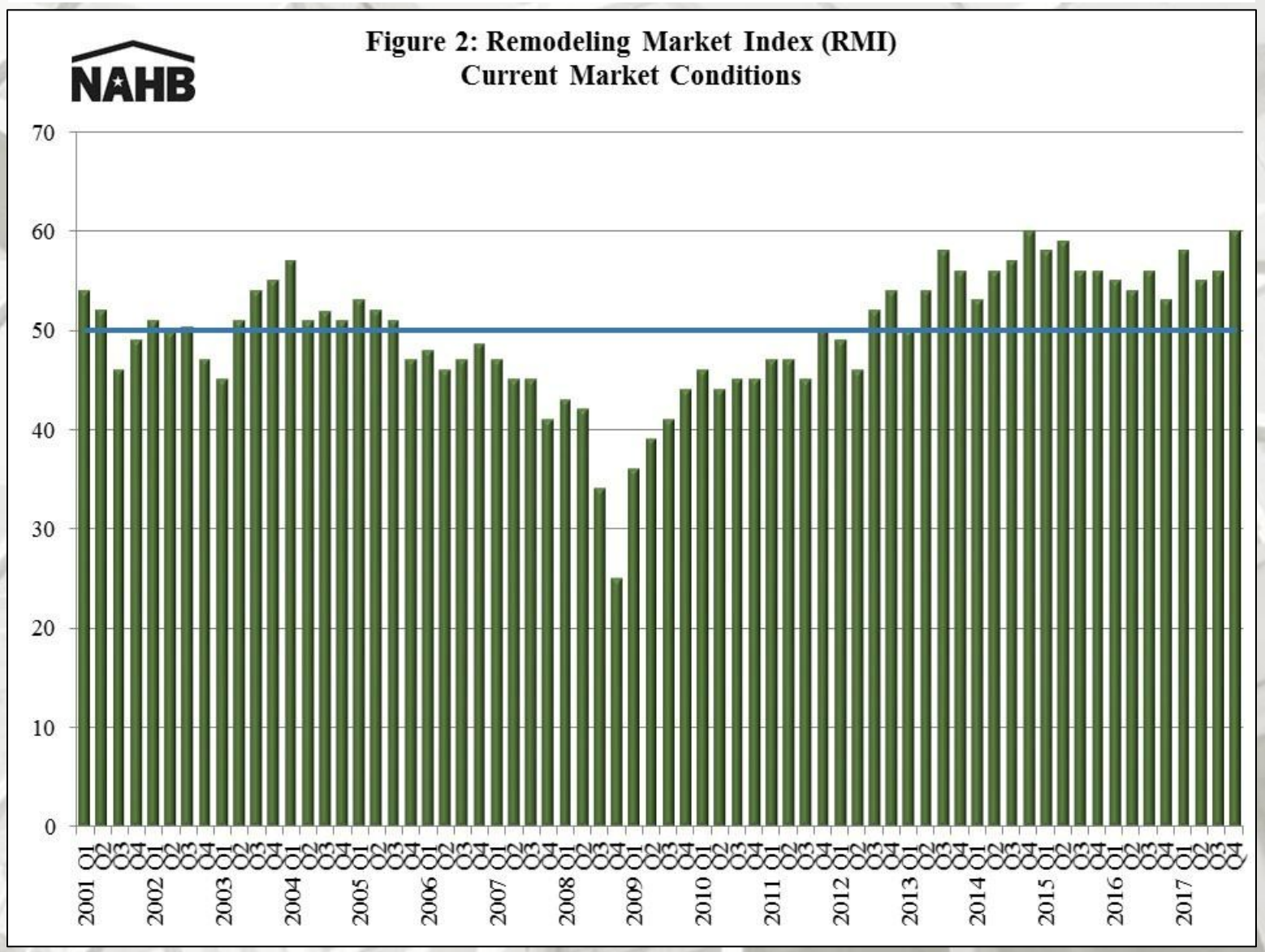
# Remodeling




Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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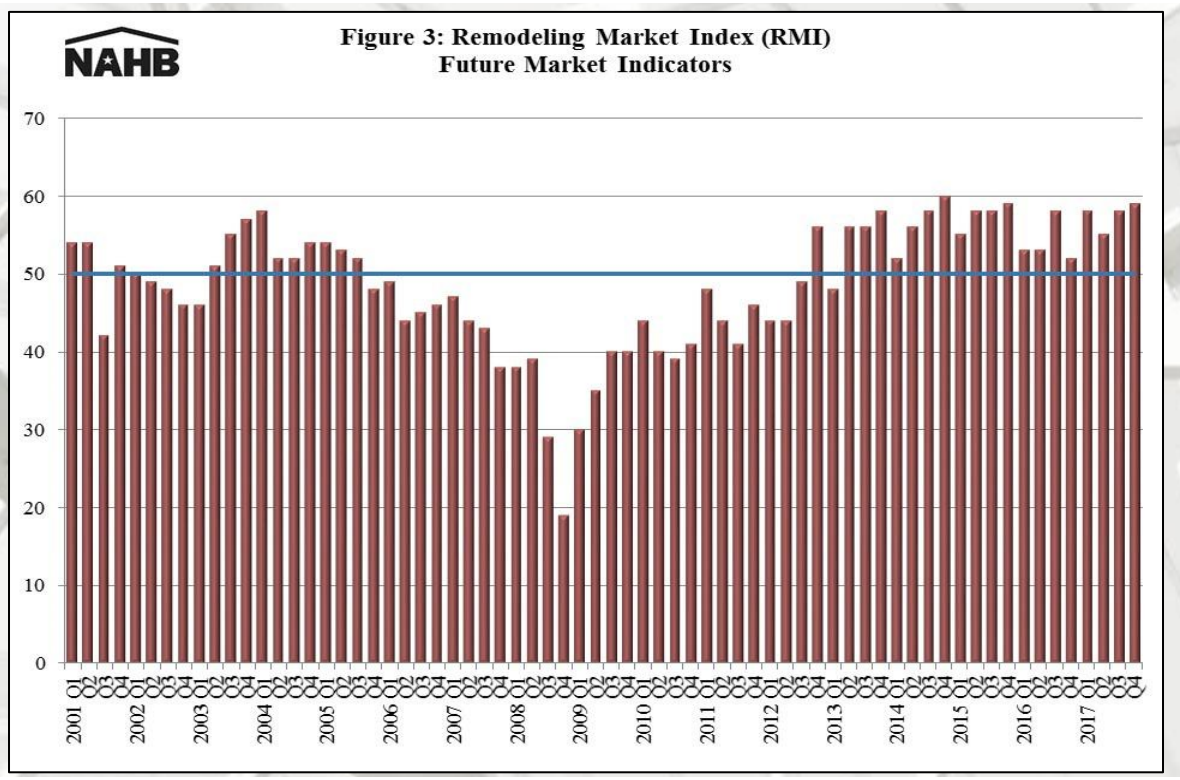
# Remodeling




## National Association of Home Builders

"The future market indicators sub-index rose one point to 59 in the fourth quarter of 2017. The backlog of remodeling jobs gained six points to 66 and the amount of work committed for the next three months increased two points to 58. Meanwhile, appointments for proposals and calls for bids both dropped two points to 57 and 56, respectively (Figure 3).

The fourth quarter RMI reading is consistent with recent growth in improvement spending. However, the jump in the backlog of remodeling jobs sub-index serves as an indication that remodelers still face significant supply-side challenges, such as the lack of skilled labor and high material prices." – Carmel Ford, Economist, NAHB

Source: http://housingperspectives.blogspot.com/2018/01/remodeling-market-to-march-higher-in.html; 1/18/18

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# Existing House Sales

## National Association of Realtors (NAR®)

December 2017 sales: 5.570 million (SAAR)

| | Existing Sales* | Median Price | Mean Price | Month's Supply |
|---|---|---|---|---|
| December | 5,570,000 | $246,800 | $288,200 | 3.2 |
| November | 5,780,000 | $247,200 | $289,500 | 3.5 |
| 2016 | 5,510,000 | $233,300 | $274,900 | 3.6 |
| M/M change | -3.6% | -0.2% | -0.4% | -8.6% |
| Y/Y change | 1.1% | 5.8% | 4.8% | -11.1% |

* All sales data: SAAR

Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-fade-in-december-2017-sales-up-11-percent; 1/24/18

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# Existing House Sales

| | NE Sales | MW Sales | S Sales | W Sales |
|---|---|---|---|---|
| December | 740,000 | 1,330,000 | 2,300,000 | 1,200,000 |
| November | 800,000 | 1,420,000 | 2,340,000 | 1,220,000 |
| 2016 | 760,000 | 1,310,000 | 2,230,000 | 1,210,000 |
| M/M change | -7.5% | -6.3% | -1.7% | -1.6% |
| Y/Y change | -2.6% | 1.5% | 3.1% | -0.8% |

| | Distressed House Sales | Foreclosures | Short-Sales | All-Cash Sales | Individual Investor Purchases |
|---|---|---|---|---|---|
| December | 4% | 3% | 1% | 22% | 14% |
| November | 4% | 3% | 1% | 20% | 13% |
| 2016 | 7% | 5% | 2% | 21% | 13% |

Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-fade-in-december-2017-sales-up-11-percent; 1/24/18

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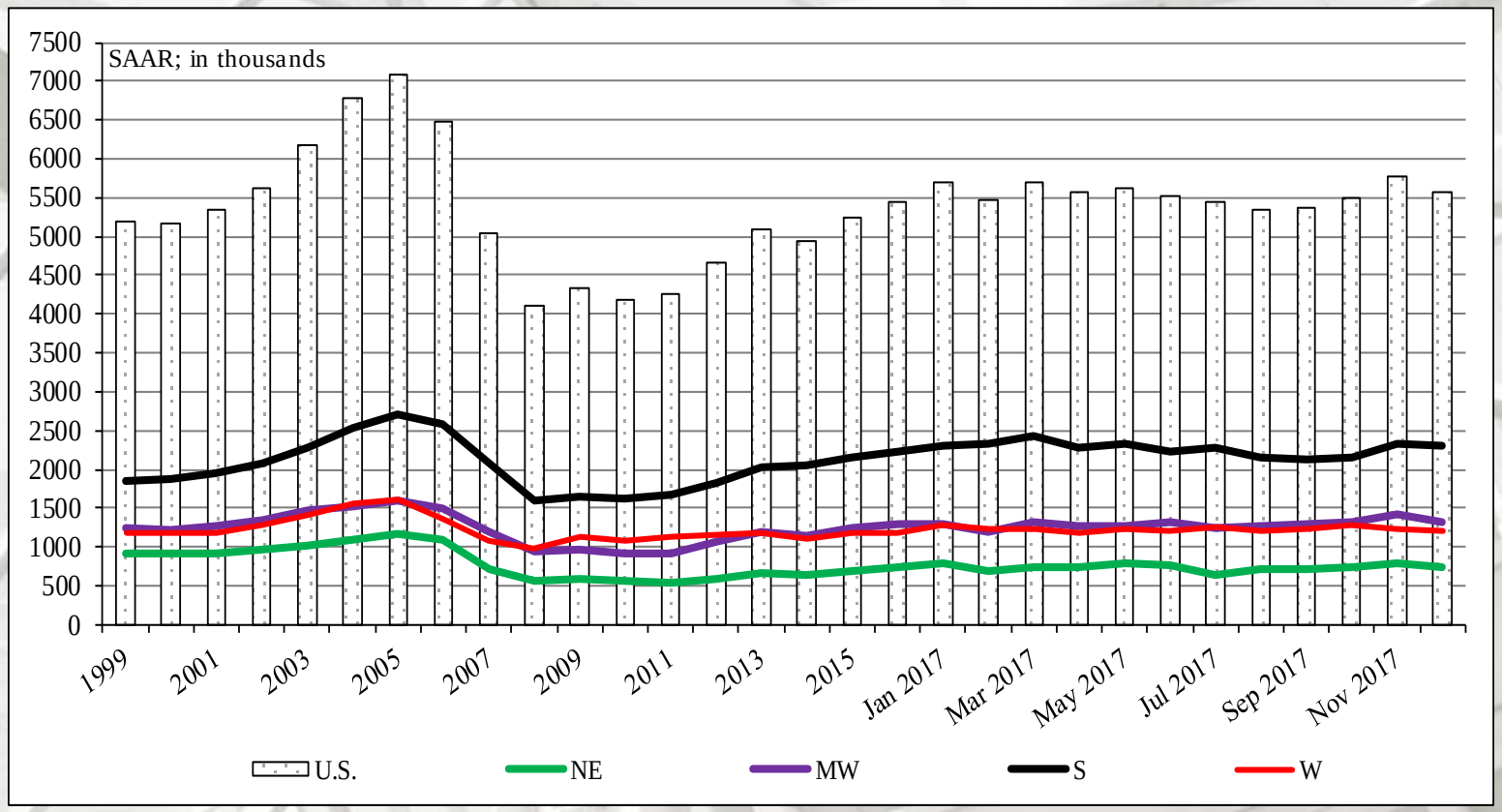
# Total Existing House Sales




Source: NAR® https://www.nar.realtor/newsroom/existing-home-sales-fade-in-december-2017-sales-up-11-percent; 1/24/18

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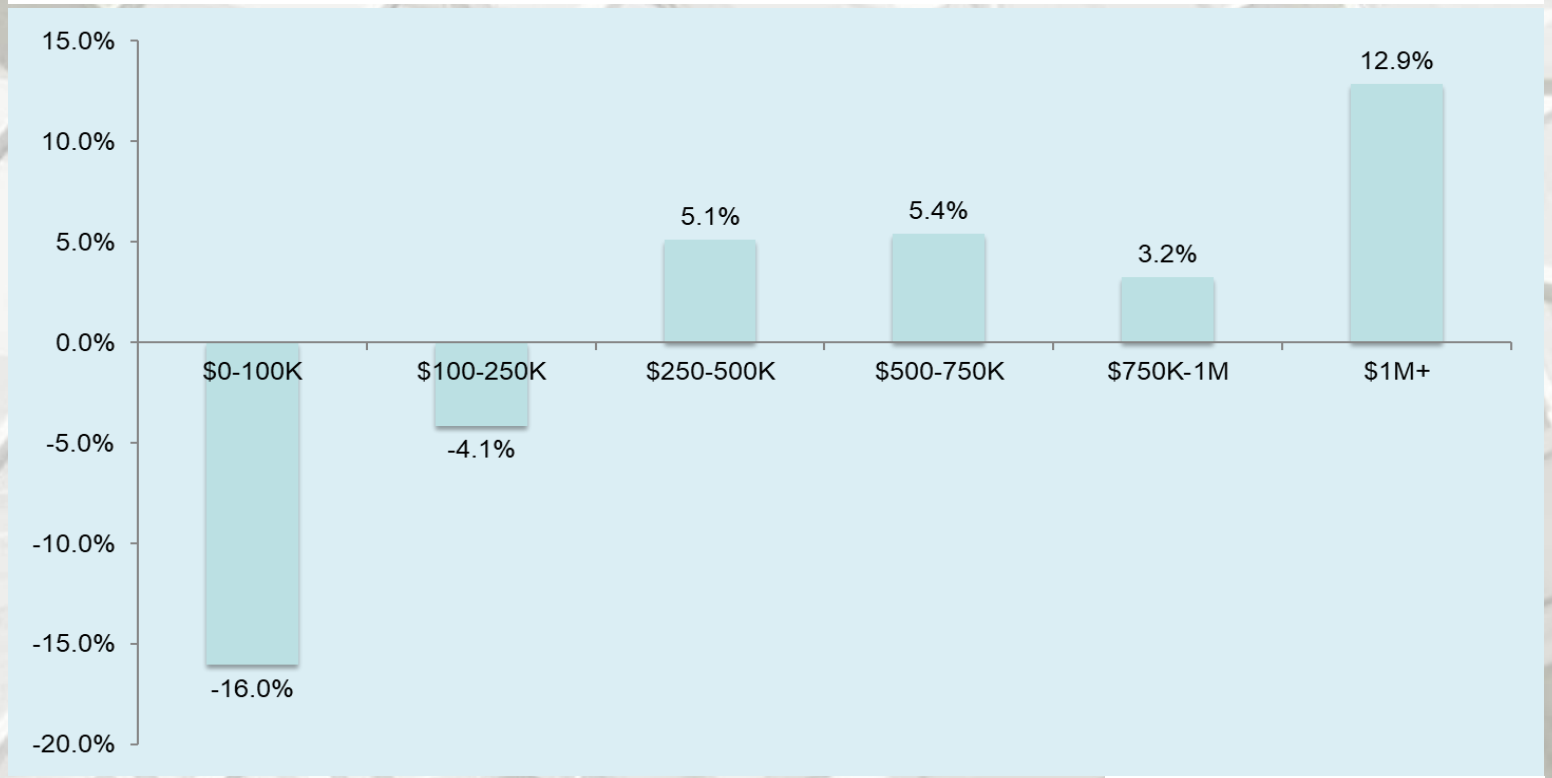
# Changes in Existing House Sales

## Percent Change in Sales From a Year Ago by Price Range




NATIONAL ASSOCIATION of REALTORS®

Source: NAR® https://www.nar.realtor/sites/default/files/documents/ehs-12-2017-summary-2018-01-24.ppt; 1/24/18

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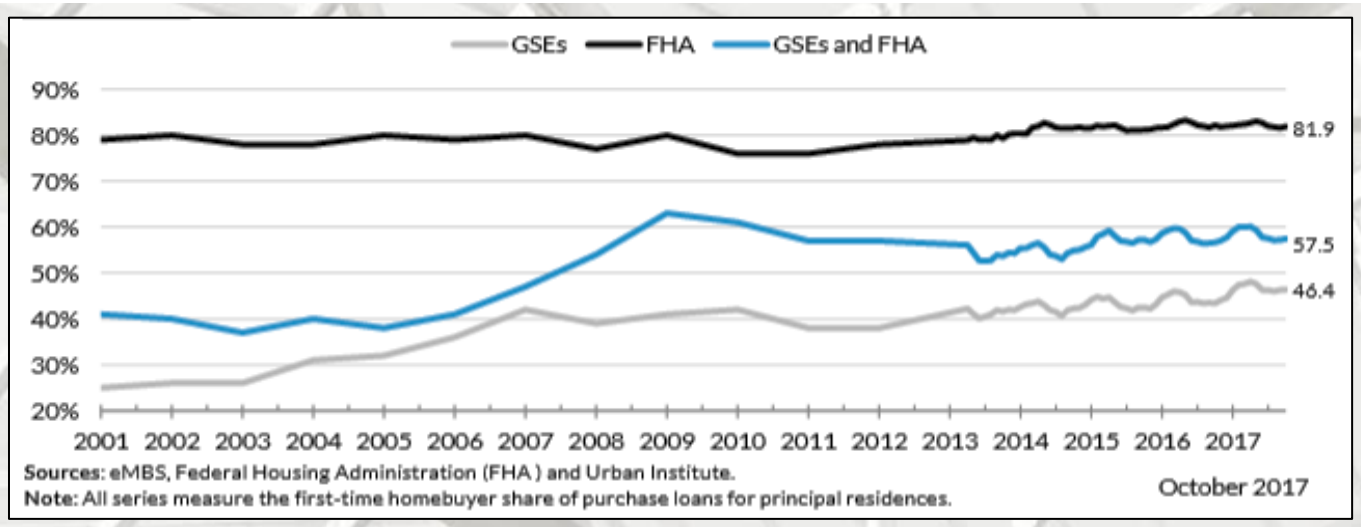
# First-Time Purchasers

## National Association of Realtors (NAR®)

32% of sales in December 2017; 29% in November 2017, and 32% in December 2016[1]




## Urban Institute

"In October 2017, the first-time homebuyer share of government-sponsored enterprise (GSE) purchase loans was 46.4 percent, just off the highest level in recent history of 48.1 percent, achieved in April 2017. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent; it stood at 81.9 percent in October 2017. The bottom table shows that based on mortgages originated in October 2017, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan and have a lower credit score and higher LTV and DTI, thus requiring a higher interest rate."[2] – Laurie Goodman, *et al.*, Co-director, Housing Finance Policy Center

Sources: [1] https://www.nar.realtor/newsroom/existing-home-sales-fade-in-december-2017-sales-up-11-percent; 1/24/18;
[2] https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-january-2018/view/full_report; 1/23/18

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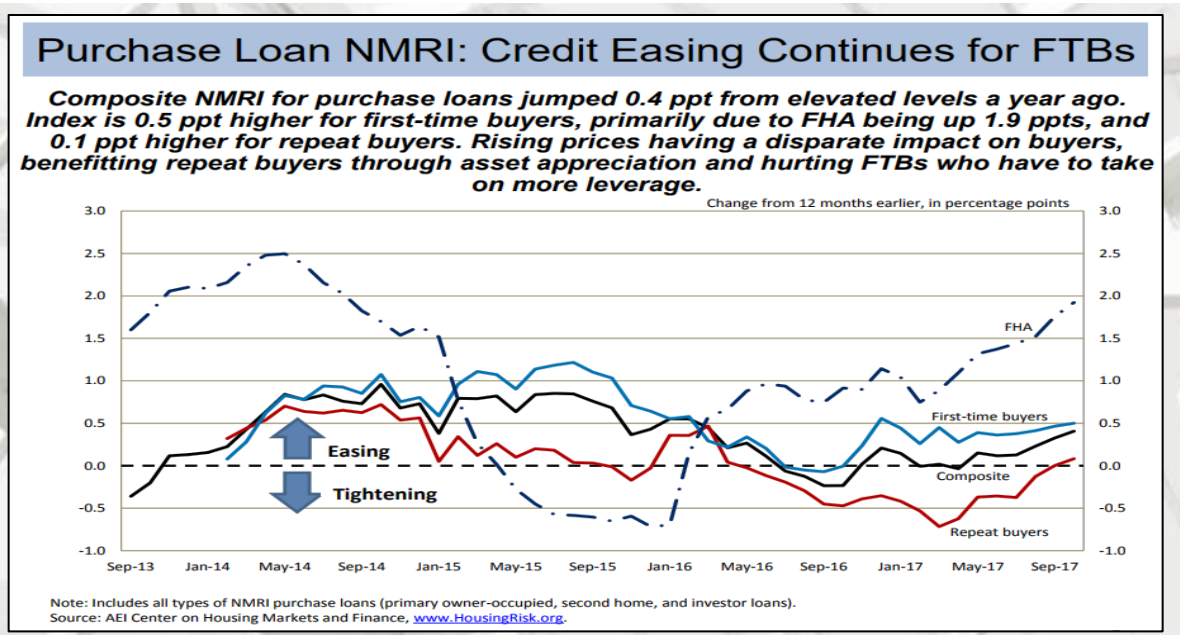
# First-Time Purchasers




**AEI International Center on Housing Risk**

"Purchase origination data for October 2017 showed both increased credit risk and mortgage demand. Growth in demand continues to be too reliant on further agency credit easing, which is seen as needed to offset headwinds from a slightly less accommodative monetary policy and accelerating home price increases.

A greater presence of first-time buyers (FTBs); FTBs MRI now almost twice as high as Repeat Buyer MRI and rapidly rising. This is driven by rapidly rising house prices and enabled by looser lending." – Edward Pinto and Tobias Peter, AEI International Center on Housing Risk

Source: http://www.housingrisk.org/housing-market-index-release-for-third-quarter-2017, 1/29//18

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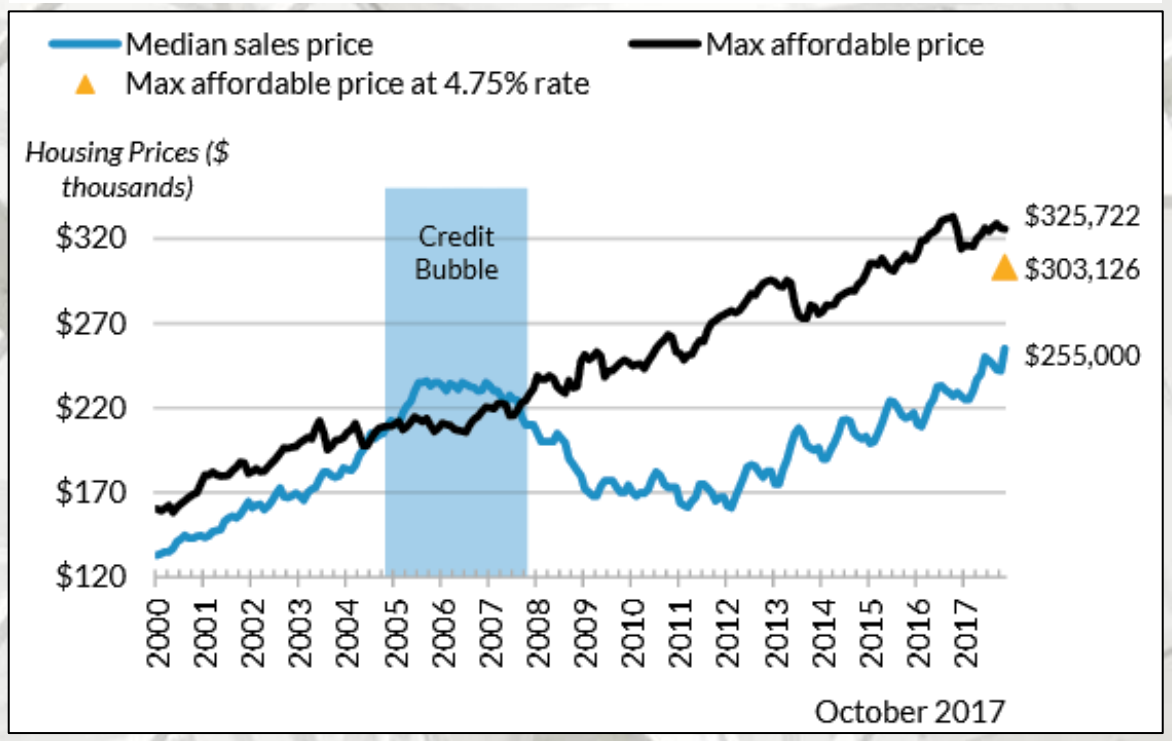
# Housing Affordability

## National Housing Affordability Over Time




## Urban Institute

"Home prices are still very affordable by historic standards, despite increases over the last four years and the recent interest rate hike. Even if interest rates rise to 4.75 percent, affordability would still be at the long term historical average." – Bing Lai, Research Associate, Housing Finance Policy Center

Source: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-january-2018/view/full_report; 1/23/18

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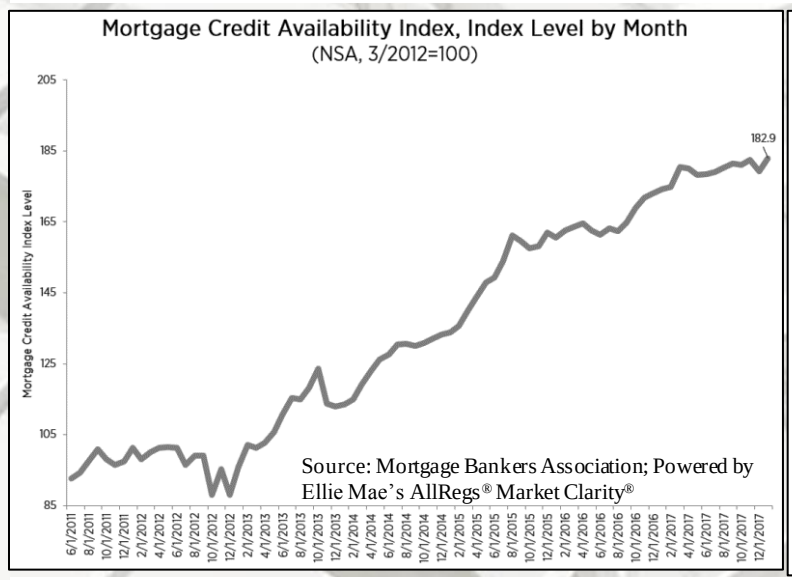
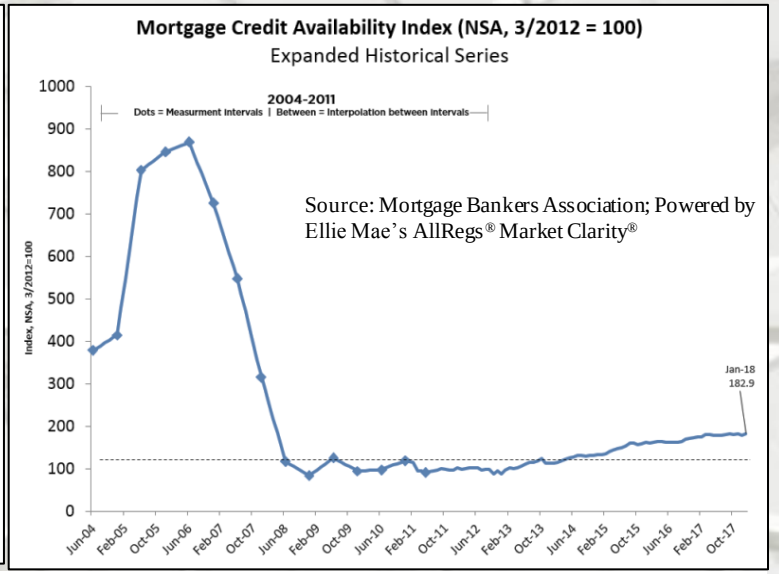
# Mortgage Credit Availability




## Mortgage Credit Availability Increases in January

"Mortgage credit availability increased in January according to the Mortgage Credit Availability Index (MCAI), … . The MCAI increased 2.1 percent to 182.9 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 rose by more (up 3.6 percent) than the Government MCAI (up 0.9 percent). The component indices of the Conventional MCAI both increased from the month prior, with the Jumbo MCAI gaining more (up 6.1 percent) than the Conforming MCAI (up 1.1 percent).

Credit availability increased across the board in January, more than reversing December declines in almost all component indices. Jumbo credit programs rebounded most strongly and reached a new series high, driven by an increase in the number of programs with reduced documentation requirements. In government lending programs, credit availability remains somewhat lower than the rest of 2017" – Lynn Fisher, Vice President of Research and Economics, MBA

Source: https://mba.informz.net/informzdataservice/onlineversion/ind/bWFpbGluZ2luc3RhbmNlaWQ9NjY1NjI3OCZzdWJzY3JpYmVyaWQ9ODUwODE4Nzcz; 2/6/18

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# Current Housing Market

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"Consumption of goods and services other than housing has increased vigorously during recent years, growing at an average annual rate of more than 3.5 percent (adjusted for inflation) from 2014 to 2017. In contrast, consumption of housing – the estimated aggregate rent of all occupied housing units – has increased sluggishly, growing only slightly above 1.5 percent annually over the same period. The comparatively slow growth of housing consumption even as employment and income rise briskly suggests pent-up demand for housing may be increasing, both among existing households wishing to move into larger apartments or houses and among individuals wishing to leave their roommates and parents behind and form their own, new households by moving into vacant apartments or houses.

Consistent with increasing pent-up demand, the actual number of U.S. households has been falling increasingly below a benchmark projection based on the composition of households by age and sex in 2000 and changes in U.S. demographics since then (Rappaport 2013). Attributing half of this shortfall to long-run factors, such as rising student debt and the increasingly later age at which adults first marry, the actual number of households at the end of 2017 was probably about 3.5 million below its trend level (Rappaport 2015, 2017). Correspondingly, the headship rate – the ratio of the number of households to the population – has yet to start rebounding from the recession. The share of adults living with their parents has likewise failed to break from its recessionary behavior. For example, the share of adults age 30–34 living with their parents increased from 9.5 percent in 2006 to 13 percent in 2012 to 15 percent in 2016." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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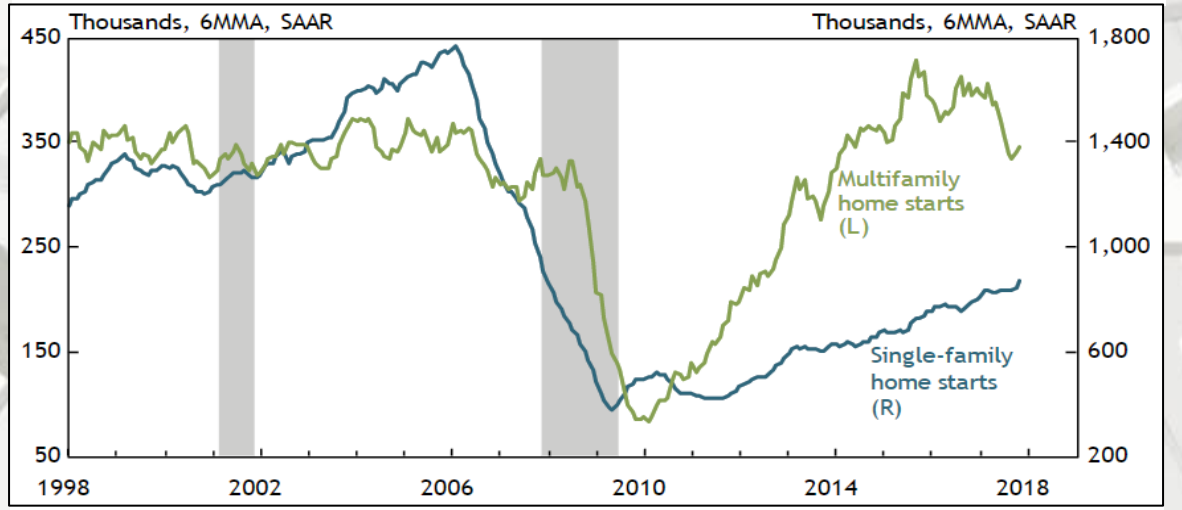
# Current Housing Market

**Chart 1: Home starts**




Notes: Data are through November. Gray bars denote National Bureau of Economic Research (NBER)-defined recessions.

Sources: Census Bureau (Haver Analytics) and NBER (Haver Analytics).

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"Meeting this pent-up demand for housing would require a large ramp up in construction. Single-family construction, which has historically accounted for about four-fifths of new units, has only partly rebounded from its crash during the last recession and remains very low by historical standards (Chart 1, blue line). In contrast, multifamily construction rebounded strongly following the recession but has since fallen off (green line), largely reflecting rising vacancy rates in luxury buildings, many near metropolitan downtowns. Vacancy rates for more moderately priced apartments remain very low." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# Current Housing Market

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"One factor constraining home construction is a shortage of qualified workers. Annualized growth in construction employment, both residential and nonresidential, slowed from 5 percent throughout much of 2014 and 2015 to less than 3 percent during 2017. Maintaining even this slower employment growth rate will be a challenge: the unemployment rate is already near its lowest in almost 50 years, and the U.S. working age population is expected to grow less than one-half percent in 2018.

Another factor constraining home construction is the limited availability of undeveloped land in desired locations. From before World War II through the housing boom of the early 2000s, single-family homes were primarily constructed in large subdivisions near metropolitan peripheries, which gradually pushed those peripheries farther from metropolitan downtowns. In many metros, this outward movement may have reached its geographical limit, as households are reluctant to take on increasingly long and congested commutes. Shifting single-family construction inward from the periphery will limit projects to a smaller scale. And the higher price of this land – as well as the cost of tearing down existing structures – has encouraged builders to focus on constructing higher-end homes to make a profit.

A third factor constraining home construction is land use regulation. In urban areas, builders face maximum density restrictions, caps on permits, and lengthy approval processes. And in suburban areas, minimum lot size and other requirements tightly restrict multifamily and high-density single-family construction.

Despite these constraints, single-family construction will likely continue to grow at about a 10 percent trend rate over the next few years. However, this growth is likely to oscillate significantly from quarter to quarter. Multifamily construction will likely stabilize in 2018 as the boom in downtown luxury projects unwinds." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# Current Housing Market

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"The low rate of residential construction has been contributing to the tight supply of existing homes listed for sale. New construction provides liquidity to local housing markets, where households are often both buyers and sellers. With fewer new homes from which to choose, many homeowners considering upgrading have instead chosen to remain in their current homes and so have not listed them for sale. As a result, the number of existing homes for sale has decreased as well, dissuading other homeowners from upgrading and further dampening sales listings. This "vicious circle" has limited the efficacy of rising sales prices in eliciting more listings. Since early 2015, the number of single-family homes listed for sale has steadily declined (Chart 2, blue line). Correspondingly, the ratio of listed homes to monthly sales, also known as "months supply," fell to 3.8 in November, its lowest value since 1982, the earliest date for which data are available (green line)." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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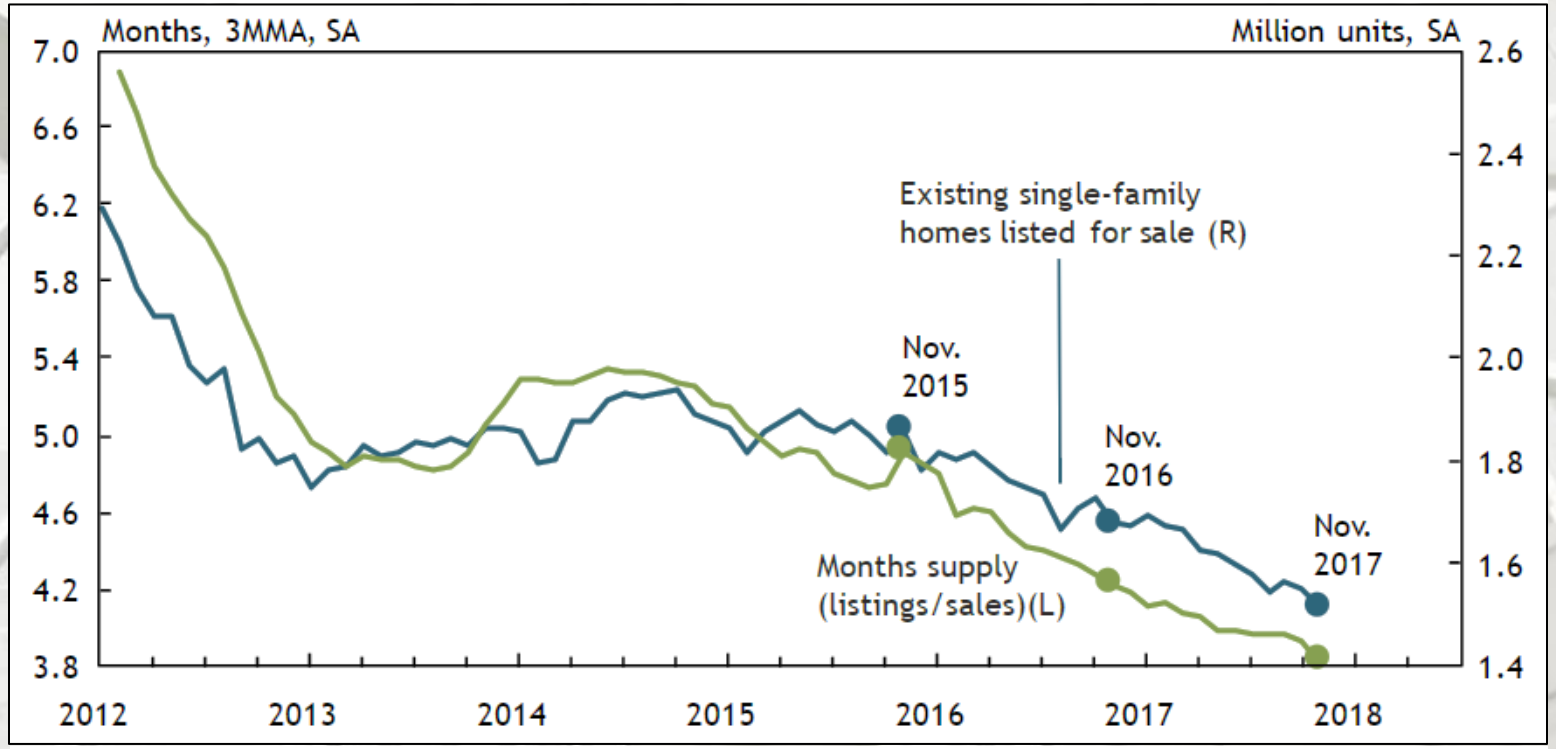
# Current Housing Market

**Chart 2: Sales listings of existing single-family homes**




Note: Months supply shown above differs from the value released by the National Association of Realtors because of seasonal adjustment and smoothing.

Source: National Association of Realtors (Haver Analytics).

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# Current Housing Market

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"Limited new construction and sales listings of low-end single-family homes have similarly dissuaded many younger households from leaving their apartments to purchase homes, thereby depressing the number of vacant apartments available for potential new households.

The pent-up demand for housing has put strong upward pressure on both rents and sales prices, which are likely to continue rising throughout 2018. Multifamily rents have been rising at more than a 4 percent annual rate since mid-2014 (Chart 3, blue line). Single-family rent increased at a slightly slower rate in 2017 than in the previous year, but its annual growth rate nevertheless remains above 3 percent (orange line), significantly higher than the rate at which prices for most other goods and services increased. Growth of single-family sales prices accelerated from an annual rate of 5.5 percent at the start of 2017 to 7 percent by year-end (green line)." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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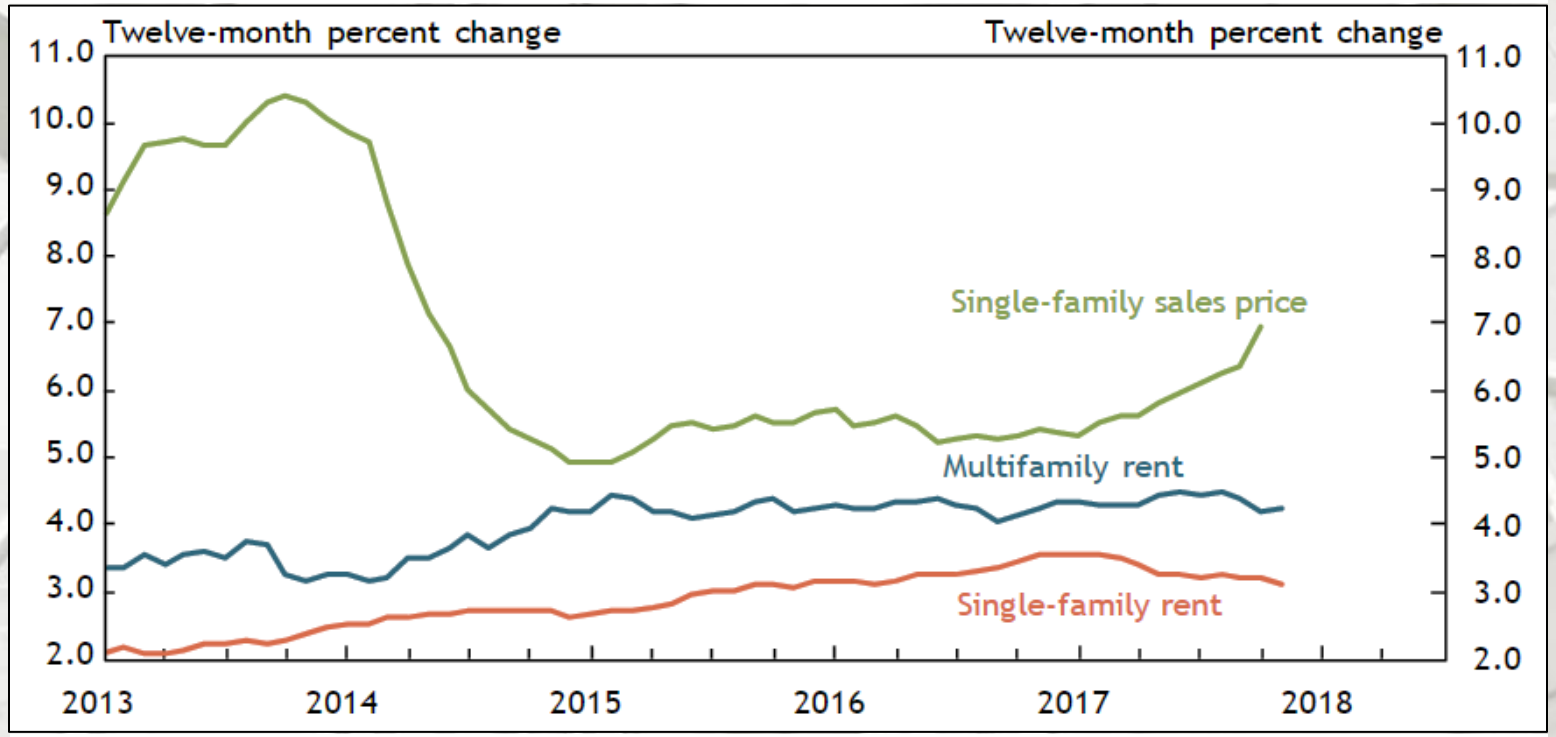
# Current Housing Market

**Chart 3: Rents and sales prices**




Notes: Data are through November. Single-family rent is measured by owner-equivalent rent. Multifamily rent is inferred from owner-equivalent rent and rent of primary residence.

Sources: CoreLogic (Haver Analytics) and Bureau of Labor Statistics (Haver Analytics).

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# Current Housing Market

## Pent-Up Demand and Continuing Price Increases: The Outlook for Housing in 2018

"Despite these elevated price increases, single-family homes on average do not appear to be significantly overvalued. To be sure, the national level of single-family home prices has risen back up to its peak prior to the housing crisis (Chart 4, blue line). But relative to single-family rents, national home prices remain only moderately higher than their average during the 1990s (orange line). Relative to capitalized rents – a benchmark valuation constructed by dividing the estimated annual rent for a home by the mortgage interest rate plus a 3 percent cost that captures ownership expenses – national home prices are below their average during the 1990s (green line), allowing some buffer to absorb increases in mortgage interest rates and modest downward pressure from recently enacted tax changes without reversing the upward price trend.

Looking beyond 2018, multifamily construction, which requires far less land and only half the labor input per unit as single-family construction, may be able to meet a large portion of pent-up demand as aging baby boomers increasingly downsize into multifamily units. This downsizing appears to be just now getting underway, as the leading edge of the baby boom, those born from 1946 to 1950, recently entered their late sixties. From 2010 to 2015, the share of these boomer households living in multifamily units increased by 1 percentage point, freeing up almost 100,000 single-family homes. The doubling of the standard tax deduction will likely accelerate this shift by significantly lowering the tax penalty of switching from homeownership to renting.

However, land-use regulations – especially in the suburbs – will considerably limit the ability of multifamily construction to meet pent-up demand. Numerous anecdotes suggest that downsizing baby boomers wish to continue to live near their current single-family homes, close to family and friends. Suburban municipalities that modify regulations to allow for more flexible land use are likely to benefit existing residents, both aging baby boomers and their adult children, as single-family homes turn over to younger households." – Jordan Rappaport, Senior Economist, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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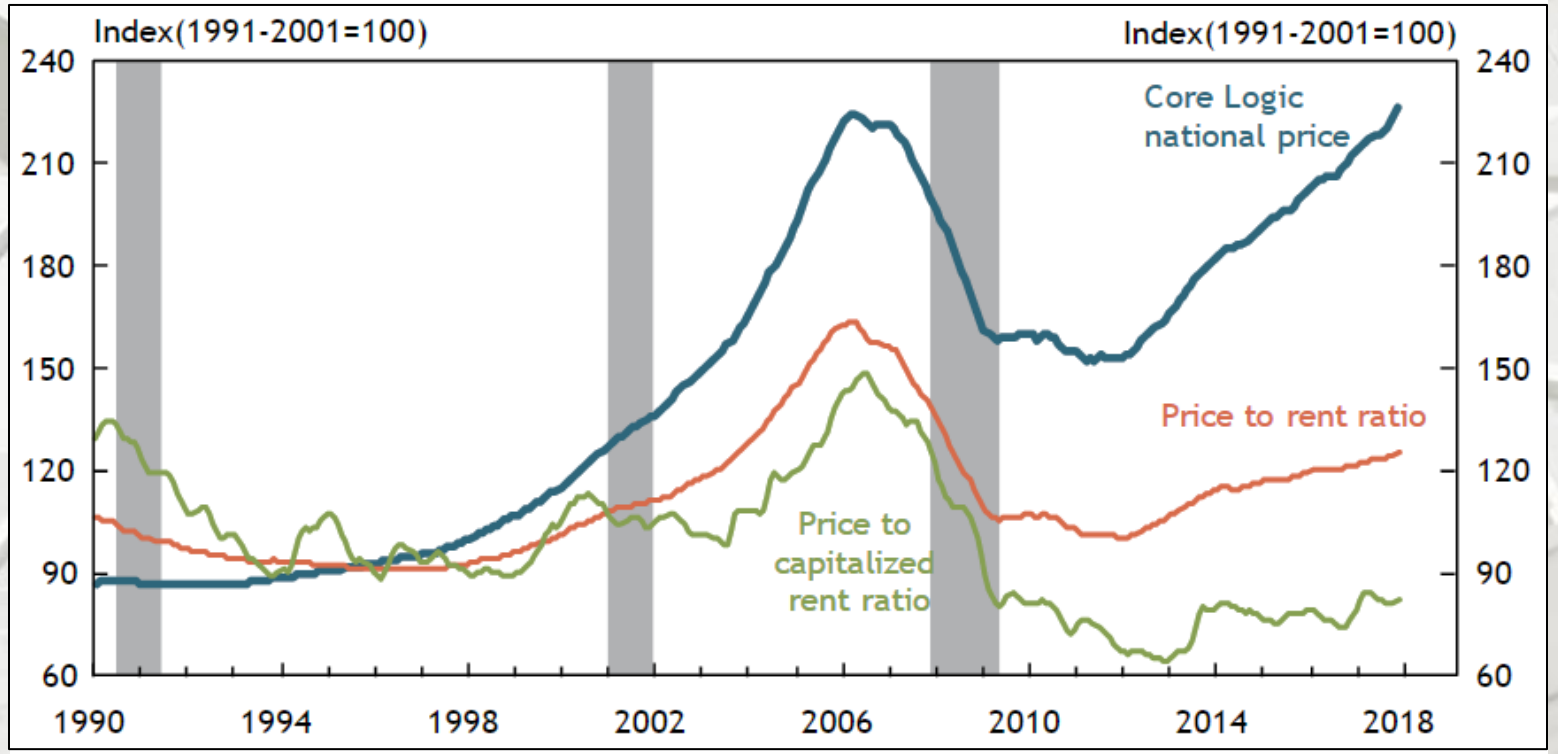
# Current Housing Market

**Chart 4: Single-family sales prices**




Notes: Data are through November. Capitalized rent is calculated as owner equivalent rent divided by the 30-year mortgage interest rate plus a 3 percent cost that captures ownership expenses.

Sources: CoreLogic (Haver Analytics), BLS (Haver Analytics), and Freddie Mac (Haver Analytics).

Source: https://www.kansascityfed.org/en/publications/research/mb/articles/2018/pent-up-demand-continuing-price-increases; 1/10/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook

### 2017 in Review: Growth Continued with Slow Moderation

"Although the multifamily market has been moderating since the cyclical peak in 2015, it remained strong in 2017. Vacancy rates continued their upward trend throughout the year, but less sharply than originally anticipated, which allowed for stronger-than-expected rent growth. Construction delays over the last few years have slowed unit completions, generally giving demand time to absorb most of the new supply. The slower the new supply is released to the market, the less dramatic the impact to vacancy rates and rent growth. Because dynamics vary across individual metros, new units have been entering some markets faster than demand can absorb them.

…

With the economy adding jobs at a good pace and moderate wage growth, household formations are growing, but more slowly than in the previous few years. As of the third quarter 2017, 620,000 new households were formed over the past year. While full year data is not yet available, owner household formations outpaced renter household formations so far in 2017. If the trend holds for the full year, it will be the first time since 2006 that more owner households than renter households formed. In fact, total renter households – including single-family and multifamily – saw a reduction over the past year by 150,000, while owner households were up 770,000. As a result, the homeownership rate rose to 63.9 percent in third quarter, increasing 20 bps over the last quarter and 40 bps over the last year.." – Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook

"While total renter households are a proxy for multifamily absorptions, multifamily-specific data from RealPage shows a slightly different story. Annualized absorptions remained positive so far this year, but slowed in the third quarter compared to the prior few years, as shown in Exhibit 1. Annualized absorptions were reported at 150,000 units in the third quarter, compared to an annual average of 250,000 going back to 2010. But one off quarter is not enough to know whether this is a turning point or a blip and, with the second-quarter absorption rate in line with the prior few years, we do not see it as a sign of multifamily demand drivers weakening. In fact, due to strong absorptions in the prior few quarters, the four-quarter moving average remains robust at 240,000 units. The current demographic drivers for multifamily demand remain strong, given the size of the Millennial and Baby Boom cohorts, an increasingly ethnically diverse population, and household preferences for rental housing.

Completions increased this year after flat growth in 2016, as shown in Exhibit 2. For the 12 months ending November 2017, 350,000 units were delivered, an increase of 12.3 percent compared to the 12 months ending November 2016. New construction continues to slow compared to the prior few years; multifamily permits and starts are down 11.4 percent and 9.8 percent, respectively, since 2015.

With all the new deliveries, supply slightly outpaced demand and vacancy rates increased marginally over the past few months. While the firms tracking the market all report vacancy rates trended higher, the level and change in vacancy varies a bit: We forecast a year-end vacancy rate of 4.8 percent in 2017, up 60 bps year-over-year. Meanwhile, preliminary fourth quarter reports show a more subdued increase in vacancy rates: Reis forecasts a year-end vacancy rate of 4.5 percent, up 30 bps year-over-year, while Axiometrics forecasts a higher rate of 5.5 percent, but remained flat over the past year." – Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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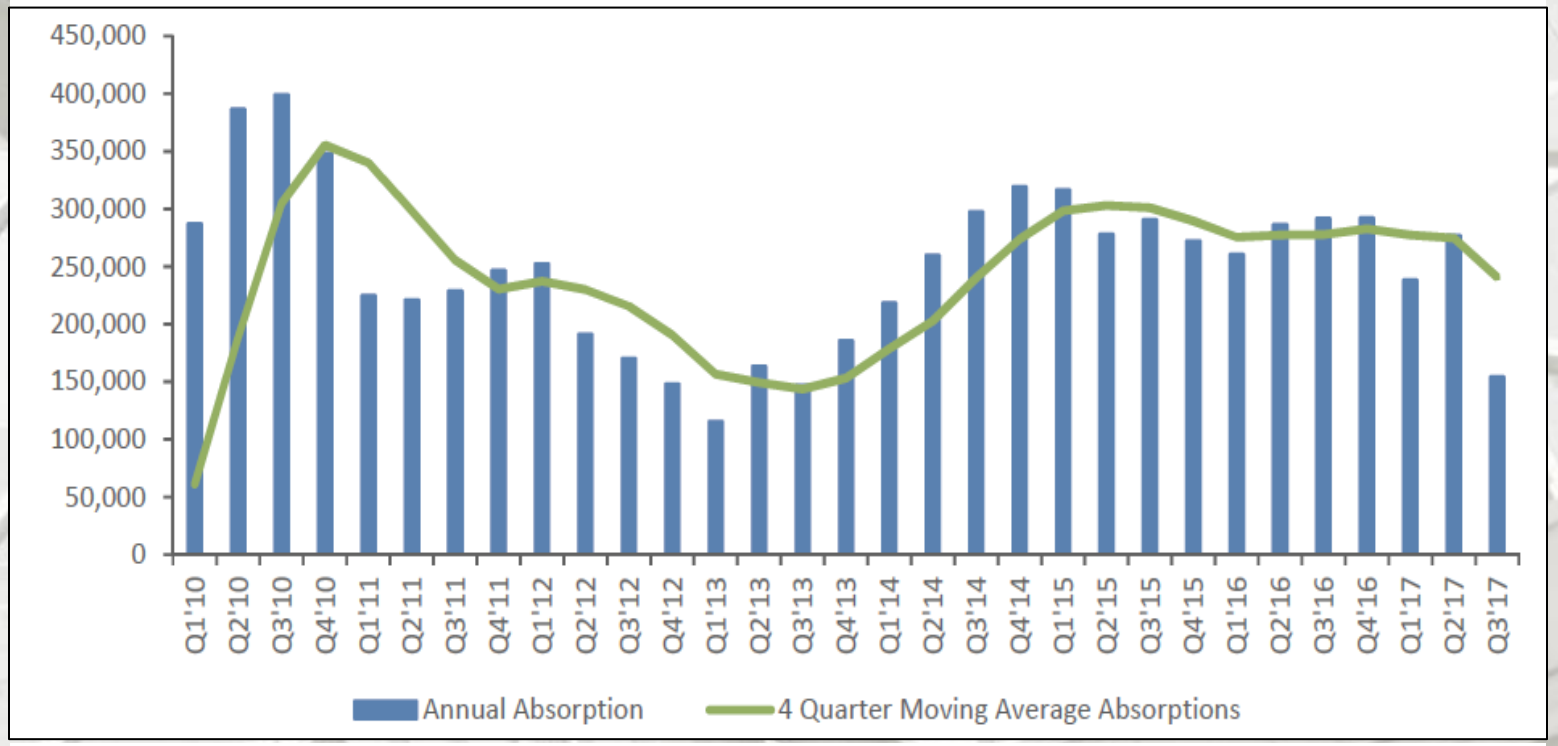
# Current Housing Market

**Exhibit 1: Annual Multifamily Absorptions**




Sources: RealPage, Freddie Mac

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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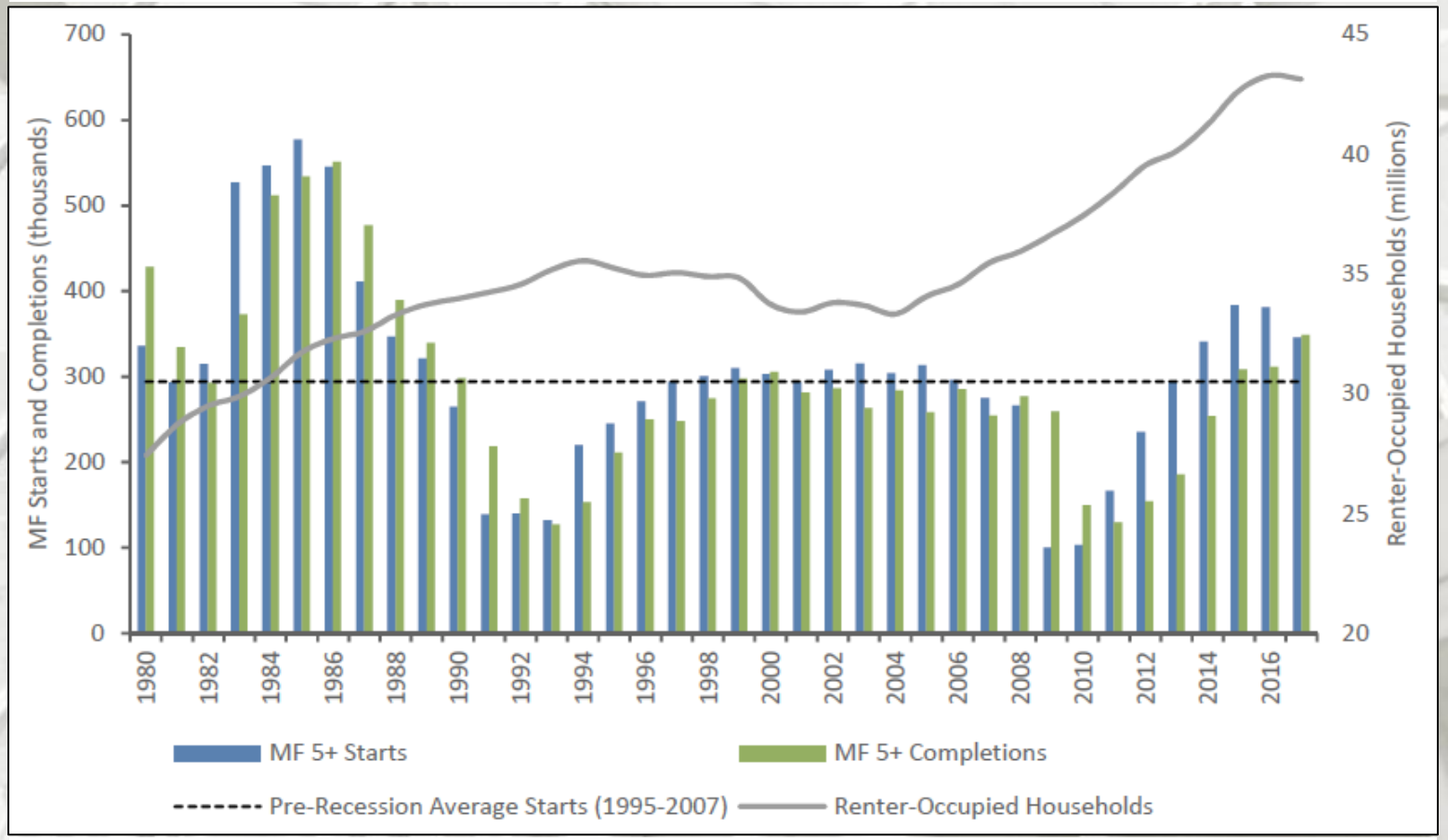
# Current Housing Market

**Exhibit 2: Multifamily Starts and Completions (5+ Units) and Renter Households**




Sources: Freddie Mac, U.S. Census Bureau, Moody's Analytics

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook

"In most markets, rent growth continued to moderate in 2017, but less severely than anticipated at the beginning of the year. We forecast asking rent growth of 3.8 percent through 2017, while Reis preliminary fourth quarter results forecasts annual asking rent at 3.9 percent and effective rent growth of 3.3 percent and Axiometrics expects slightly more subdued growth of 2.5 percent. Reis forecasts year-end asking rent growth in line with 2016 growth; however, increased concessions from new buildings could bring effective rent growth slightly below 2016 levels. Combined with vacancy rates, gross income is expected to come in around 3.1 percent in 2017, slightly below the long-run average going back to 1990. It continues to grow faster than inflation, though, and at a healthy rate, given the large influx of supply.

With rents increasing, it is intuitive that multifamily property prices would have also risen. In the past seven years, gross income growth has outpaced the long-run average, driving up investment returns and demand for multifamily investments. Property prices, in turn, have increased faster than the historical average. Despite a slow start to the year, property price growth remained strong through third quarter, averaging 10 percent annually, according to Real Capital Analytics (RCA), as shown in Exhibit 3. This compares favorably to the 6 percent annual average growth since 2000, but is less than the average of 12 percent since 2012. While moderating rents and vacancies had some impact on property prices, higher Treasury rates and overall market uncertainty in the first part of the year also tempered property prices." – Freddie Mac Multifamily Research Team

…

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook

## 2018 and Beyond: Status Quo

"Most measures suggest the multifamily market will continue to grow in line with the historical average through 2018. The labor market again will drive market growth. Employment growth in 2018 is expected to remain near 2017 levels, but this growth rate cannot be sustained much longer, given the very low unemployment rate and shrinking pool of available workers. With full employment also comes higher wage growth, which is expected to pick up during the year, encouraging more household formations. Furthermore, there are still pent-up households that may be formed with continued economic expansion. Demand for multifamily units is expected to stay strong because of these economic factors as well as lifestyle preferences and demographic trends – such as Millennials, Baby Boomers, and increasing diversity – that are fueling an increase in rentership.

Regarding supply, new completions are expected to peak through the end of 2017 and into the beginning of 2018. New completions are estimated to reach between 360,000 and 370,000 units nationally in 2017, and could go slightly higher in 2018 before leveling off near current start levels. The new supply is expected to outpace demand nationally in the short-term, causing vacancy rates to continue to increase. Despite lower absorption rates in the third quarter of 2017, RealPage forecasts that absorptions will pick up through 2018 but remain lower than new supply entering the market. Vacancy rates, therefore, will increase, but forecasts vary on the extent of the rise." – Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook

## 2018 and Beyond: Status Quo

"We forecast that vacancy rates could increase by as much as 40 to 60 bps in 2018 if supply increases and demand stays at current levels. The high end of the range would put the year-end level in line with its historical average of 5.3 percent. An increase of 60 bps would be an unlikely severe case where new supply increases but demand does not increase from current levels. We expect that demand will also increase as more available units entice household formations. Also, if 2017 vacancy rates come in lower than anticipated, we expect rates will have a better chance of remaining below the historical average through 2018. Other forecasts (Reis, Axiometrics, and Realpage) anticipate an increase in vacancy rates by only 20 to 30 bps. Expectations are for vacancy rates to increase to their long-run average over the next few years. Over the past several years, vacancy rates have remained lower than expected, despite higher levels of new supply and have taken longer to increase than anticipated. The same might happen again in 2018.

Despite higher vacancy rates, asking rents are expected to grow by 3.8 percent nationally – in line with 2016 and 2017 growth. This is above the long-run average going back to 1990 of 3.4 percent. Based on this rent growth, combined with the higher vacancy rate, gross income growth is expected to be in line with 2017 growth, just slightly below the long-run average, as shown in Exhibit 4, but remain above the 2 percent inflation target set by the Federal Open Market Committee (FOMC)." – Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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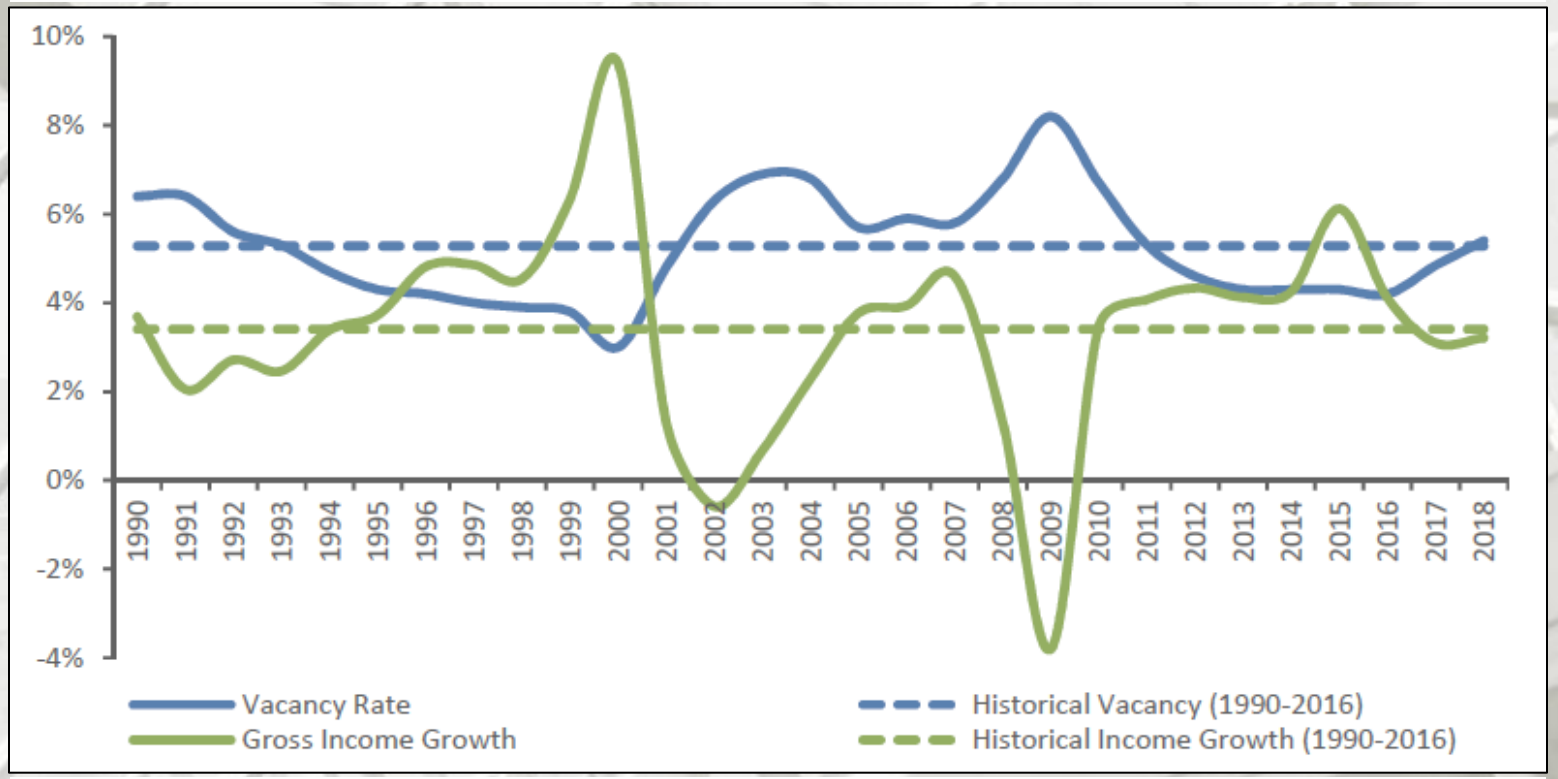
# Current Housing Market

**Exhibit 4: Vacancy Rate and Gross Income Growth, History and Forecast**




Sources: Sources: Reis, Freddie Mac projections for 2017 and 2018

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook
## 2018 and Beyond: Status Quo

"At the national level, performance is expected to remain in line with the historical average but, as always, performance across metros areas will vary. Construction starts in many markets are elevated compared to levels in the early 2000s and several metros have vacancy rates above their historical averages. … areas with below-historical-average vacancy rates (for example, Colorado Springs, Raleigh, and Tacoma) are better poised to absorb new supply without significantly disrupting multifamily performance. However, areas with increased new supply and above-historical-average vacancy rates (for example, San Francisco and Washington, D.C.) can expect slower absorption and potential negative impacts on multifamily fundamentals.

New construction starts have pulled back in several metros, most notably Nashville, Oklahoma City, Raleigh, and Washington, D.C. At the same time, construction has increased in several places: Denver, Oakland, San Jose, and Tacoma. For most metros, vacancy rates in 2018 are expected to increase but remain below their historical averages, implying there is room for more supply to be absorbed.

Rent growth in all metros is expected to remain above the FOMC's target inflationary rate of 2 percent, except for New York City and Washington, D.C. – two areas experiencing some of the highest levels of completions. Southern California (comprising San Diego, Los Angeles, Riverside, and Orange County) also will experience below-historical-average rent growth." – Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

## Freddie Mac Multifamily 2018 Outlook
## 2018 and Beyond: Status Quo

"Taking these factors into account, half of the top 10 metros based on gross income growth in 2018 will be in western states and the rest in secondary and tertiary markets in Florida and Ohio, as shown in Exhibit 7. The five western markets (the West Coast metros along with Colorado Springs) will see gross income moderate in 2018 from 2017 levels and vacancy rates increase slightly, but remain robust due to strong demand drivers for multifamily rentals in those areas. On the other hand, the metros in Florida and Ohio will see gross income increase in 2018 from 2017 levels and, in some cases, vacancy rates decline. Growth is expected to be strong in these secondary and tertiary markets because limited new supply will keep vacancy rates well below their respective historical averages. Meanwhile, strong employment and wage growth is expected, which will allow rents to rise above the national average.

Overall, the multifamily market outlook remains positive, even as it continues to moderate. Employment growth will stay above population growth, fueling demand for housing units, while demographic and lifestyle preferences continue to favor rental housing. New completions are expected to peak in late 2017 and into early 2018, pushing vacancy rates up but strong demand will keep rent growth above expected inflation. It will take longer to absorb new units in some areas than in prior years. Strong fundamentals and investor demand will boost property prices and market activity, leading to higher origination volume, which we predict it will hit another record in 2018."– Freddie Mac Multifamily Research Team

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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# Current Housing Market

**Exhibit 7: Top 10 Metros by Gross Income Growth for 2018**

| Metropolitan Area | 2017 Annualized Growth in Gross Income | 2017 Vacancy Rate | 2018 Annualized Growth in Gross Income | 2018 Vacancy Rate |
|---|---|---|---|---|
| Sacramento | 5.7% | 2.9% | 4.8% | 3.2% |
| Portland | 5.3% | 5.2% | 4.6% | 5.3% |
| Tacoma | 5.7% | 3.0% | 4.5% | 3.3% |
| Seattle | 6.6% | 5.0% | 4.3% | 5.6% |
| Cleveland | 3.7% | 3.0% | 4.2% | 3.1% |
| Ft. Lauderdale | 3.3% | 4.7% | 4.1% | 4.5% |
| Tampa | 3.4% | 5.0% | 4.0% | 5.6% |
| Cincinnati | 3.5% | 4.3% | 3.9% | 4.5% |
| Colorado Springs | 5.3% | 3.7% | 3.9% | 4.8% |
| West Palm Beach | 3.4% | 4.4% | 3.8% | 4.9% |
| United States (top 70 metros) | 3.1% | 4.8% | 3.2% | 5.4% |

Sources: Source: Freddie Mac projections

Source: http://www.freddiemac.com/multifamily/pdf/2018_year_outlook.pdf/; 1/23/18

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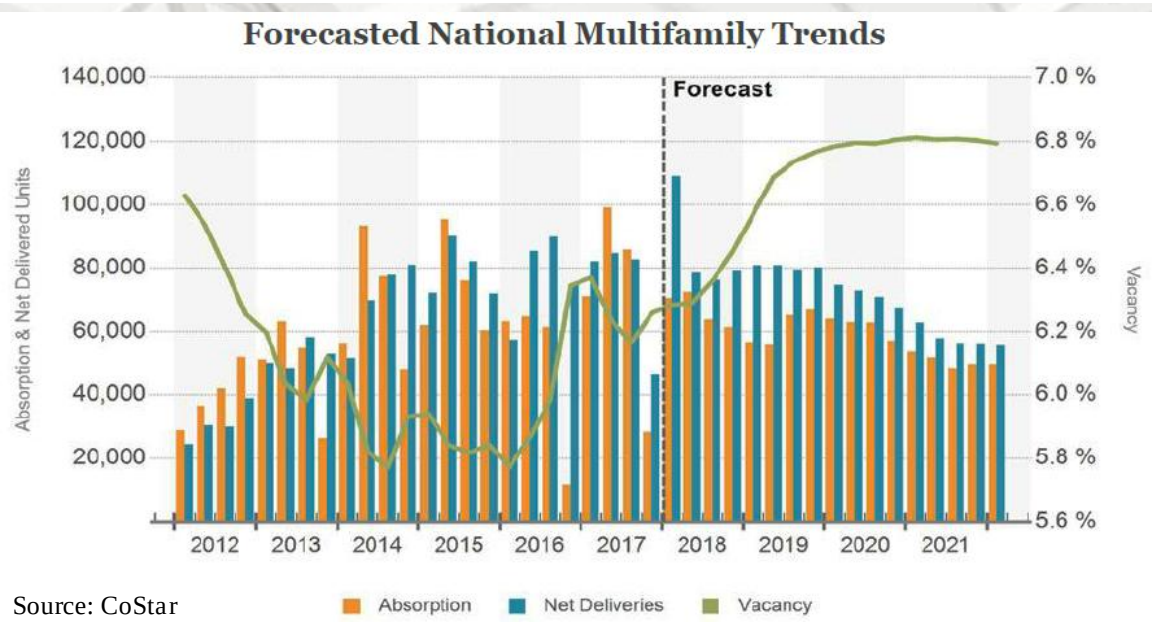
# Current Housing Market




Source: CoStar

## Fannie Mae Multifamily Market Commentary: January 2018

### Continued Demand, Just Not Everywhere

"The U.S. multifamily sector has had a solid run since 2010, with increasing rent growth and low vacancies. Key fundamentals have propelled the multifamily sector over the past few years: favorable demographic trends, continued job growth, and increasing renter household formations. There are more than 80 million Millennials, making them the nation's largest population cohort, according to the Census Bureau, and this is the cohort that is expected to continue driving demand for housing, including multifamily rental housing, over the next few years." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Current Housing Market

## Fannie Mae Multifamily Market Commentary: January 2018

"Demand remained positive in 2017, but that was not the case everywhere. Too much supply of Class A units in some of the nation's major metropolitan areas resulted in lower rent growth and rising vacancies. In 2018, the national vacancy rate is expected to increase slightly, and, while rent growth should remain positive, it is expected to grow at a more modest pace. Nevertheless, the outlook for the national multifamily sector is that it should remain fairly stable in 2018.

## Net Absorption – Continued Slowdown Expected

Demand for multifamily rental units remained positive throughout 2017. Net absorption likely totaled about +279,000 units absorbed, according to data from CoStar. CoStar expects net absorption in 2018 to remain positive, although at a lower level than last year, possibly falling to about +267,000 units absorbed. Net absorption is expected to improve beginning in mid-2019, as seen in the chart.

## Vacancy Level Expected to Keep Increasing

The national multifamily vacancy rate is expected to rise in 2018, primarily due to the onslaught of new supply expected to complete and come online over the next 12 to 18 months. Since most of this new supply is concentrated in a limited number of submarkets in only about 12 metros, supply is expected to continue outpacing demand in these metros, thereby pushing the national vacancy rate upward, as illustrated in the chart above. The vacancy rate is likely to return to more historical levels and then remain fairly stable further out into the forecast, due to ongoing favorable future job growth and demographic projections.

Indeed, the Fannie Mae Multifamily Economic and Market Research team is anticipating that the U.S. multifamily vacancy rate will remain in the 5.5 percent range during the early part of 2018, from 5.25 percent as of third quarter 2017, and could end the year in the 5.75 to 6.0 percent range. This would bring the national vacancy rate nearer its recent historical average of 6.0 percent." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Current Housing Market

## Fannie Mae Multifamily Market Commentary: January 2018

### Rent Growth Expected to Remain Fairly Stable

"Rent growth was positive but likely ended 2017 at about 2.5 percent, slightly ahead of the pace of inflation, which grew 2.2 percent year over year as of the end of November 2017. There has been above average rent growth since 2011, and 2017 was the first time since then that the national estimated rent growth was below 3.0 percent. The expectation for 2018 is that rent growth will once again be positive but is likely to moderate and range from 2.0 percent to 2.5 percent.

As seen in the chart below, multifamily concessions for all property classes remain at low levels, despite recent trends. Although it appears that Class C concessions have significantly increased, it appears to have been influenced by one metro in particular: Honolulu, with a Class C concession rate at nearly -11 percent.

In addition, national Class C rent growth in 2017 was at 2.2 percent according to Axiometrics, compared to just 1.7 percent for Class A, indicating that property owners are offering more generous concessions up front for Class C units to lock in higher rents.

As more new supply comes online this year, the national concession rate is expected to increase, and more dramatically in certain metros that are in the midst of an oversupply of Class A units. Yet, some property owners are already starting to forego offering larger concessions and are just dropping asking rents. For example, the New York metro concession rate is well above the national average at -1.3 percent as of December 2017, but its rent growth is also negative at -0.5 percent. And rent growth is even worse for its Class A segment, at -1.0 percent, according to data from Axiometrics." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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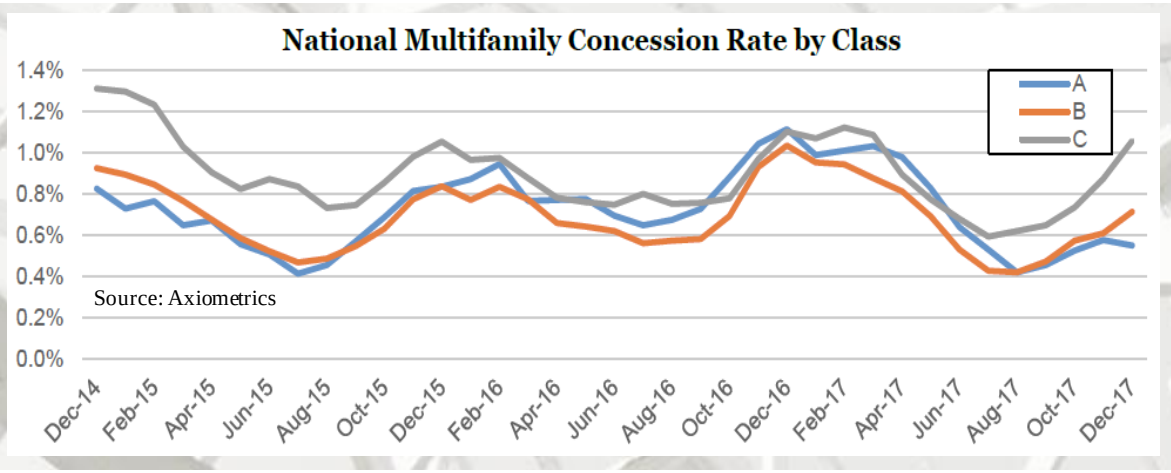
# Current Housing Market




## Fannie Mae Multifamily Market Commentary: January 2018

### Multifamily New Supply Expected to Peak in 2018

"As seen in the chart on the following page, the amount of multifamily new construction remains elevated, with deliveries expected to peak in 2018.

According to the Dodge Data & Analytics SupplyTrack data, which distinguishes between multifamily properties consisting of apartment and condo units, about 381,000 apartment units were completed in 2017, with another 443,000 units expected to come online in 2018. In comparison, only about 59,000 condo units came online in 2017 and there are only about 64,000 condo units expected in 2018. The biggest concern for the multifamily sector is that most of the new apartment rental supply underway is believed to consist of Class A units, which command the highest rent level. But in many metros, it is these Class A units that are already starting to experience declining rents."– Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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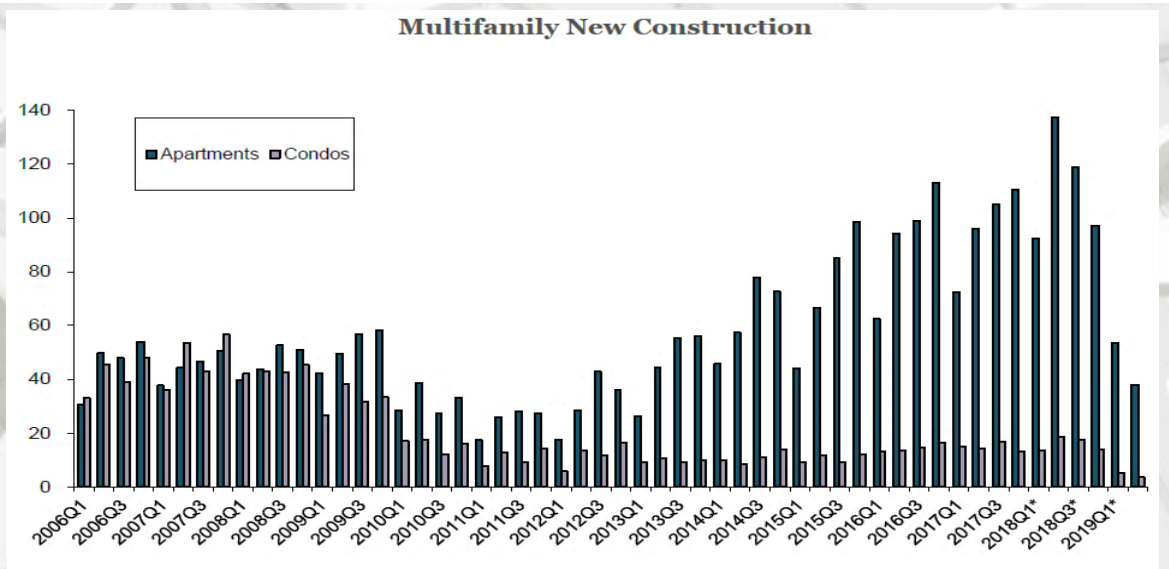
# Current Housing Market




NOTE: Pipeline data is not an actual forecast of activity; it is a monitor of activity reported to date. As more projects are planned and tracked, figures in future periods might go up.

Source: Dodge Data & Analytics, January 2017 – Metros with 5,000 or more units underway or completed.

*Anticipated delivery date.

## Fannie Mae Multifamily Market Commentary: January 2018

### Too Much Supply in Some Metros

"At a national level, that amount of new multifamily units being added to the existing stock is not that unreasonable. Job growth is expected to be at 1.5 percent in 2018, according to Fannie Mae's Economic and Strategic Research Group forecast, which would add about 2.3 million new jobs. Based on that amount, multifamily rental demand could range from 380,000 units to 460,000 units." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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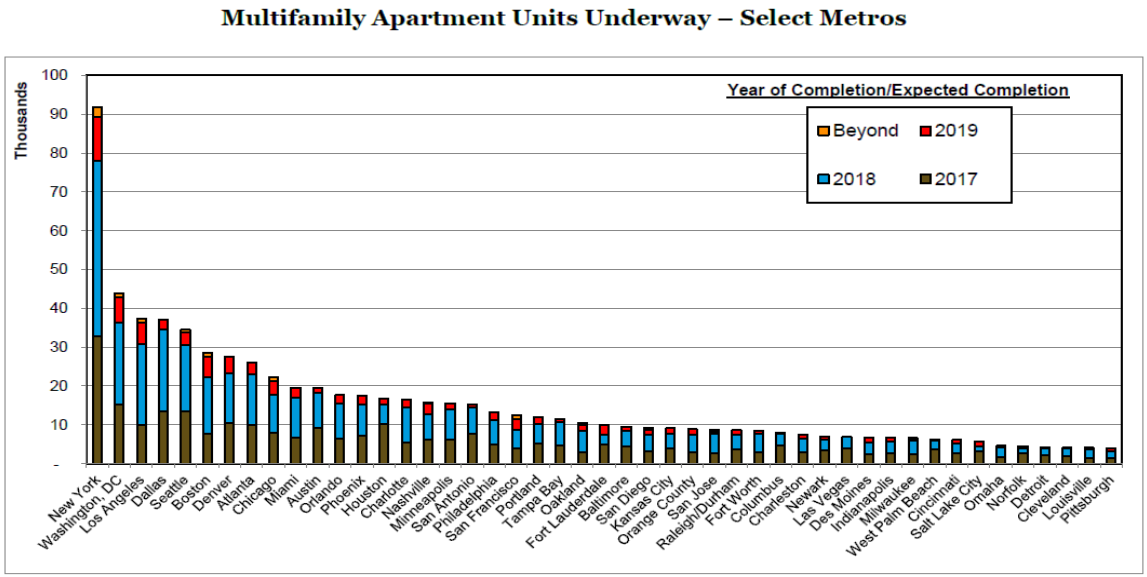
# Current Housing Market




NOTE: SupplyTrack data is not an actual forecast of activity, it is a monitor of activity reported on to-date. As more projects are planned and tracked, figures in future periods might go up.

Source: Dodge Data & Analytics, January 2017 – Metros with 5,000 or more units underway or completed.

## Fannie Mae Multifamily Market Commentary: January 2018

"The reason that level of multifamily rental demand is not likely to occur is because much of the new supply is primarily concentrated in about 10 to 12 metros, as seen in the chart below, and most of that is further concentrated in certain submarkets. And the estimated amount of national job growth, and its anticipated accompanying demand, is not going to be concentrated in just a handful of metros, which is why supply is expected to outpace demand in many of these metros over the next 12 to 18 months." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Current Housing Market

## Fannie Mae Multifamily Market Commentary: January 2018

### Job Growth Slowing in Some Metros with New Supply

"Although the nation is expected to see positive job growth this year, that doesn't mean that all metros will experience the same level of employment growth, as illustrated in the two charts below. Although Fannie Mae's Economic and Strategic Research Group forecast for 2018 anticipates national employment growth rate of 1.5 percent, there are a number of metros expected to have employment growth below the national estimate, including **Boston**, **New York**, and **Washington, DC**, all metros with a large amount of new multifamily rental supply on the horizon.

The **New York** metro is expecting the largest amount of new supply, with more than 59,000 units underway, of which 45,000 units are expected this year alone. Based on its lackluster anticipated job growth rate, at best the metro could produce demand for only about 23,000 multifamily rental units. **Boston** has nearly 21,000 units underway, of which nearly 15,000 units are expected to deliver in 2018. Based on an anticipated job growth rate of just 1.2 percent, potential multifamily demand of about 4,100 units will fall far short of upcoming supply. **Washington, DC** has more than 21,000 units expected to come online this year, yet anticipated job growth of 1.2 percent will at best produce demand for just 10,000 units. As a result, all three of these metros began experiencing negative rent growth during the latter part of 2017 and will likely continue to do so in 2018." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Current Housing Market

## Fannie Mae Multifamily Market Commentary: January 2018

### Other Metros Possibly Undersupplied

"Job growth in other metros is expected to fare better, as seen below. Some of the Florida metros, including **Jacksonville**, **Orlando**, **Tampa**, and **Miami**, are expected to far surpass the national average. **Dallas** and **Austin** are expected to see job growth of more than 2.0 percent due to continued expansion in the professional services, technology, healthcare, and transportation sectors.

At 3.2 percent, **Jacksonville** has one of the highest projected job growth rates in the nation. The metro could easily produce demand for a minimum of 3,600 units, yet fewer than 1,800 units are expected this year. **Las Vegas** is even more compelling. With expected job growth of nearly 3.0 percent, there could be demand for at least 6,000 units, yet only about 3,000 units are expected to come online in 2018. **Phoenix** is another "good news" story, with anticipated job growth of 2.6 percent. That could produce demand for at least 10,000 units, yet only about 8,000 units are expected this year." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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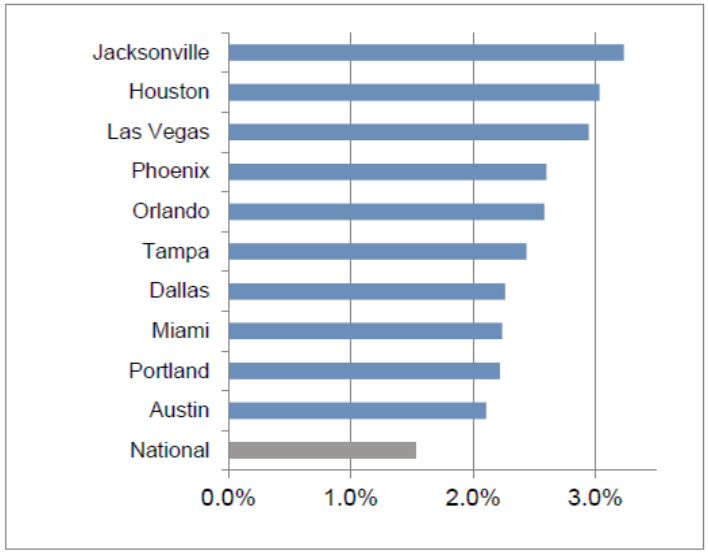
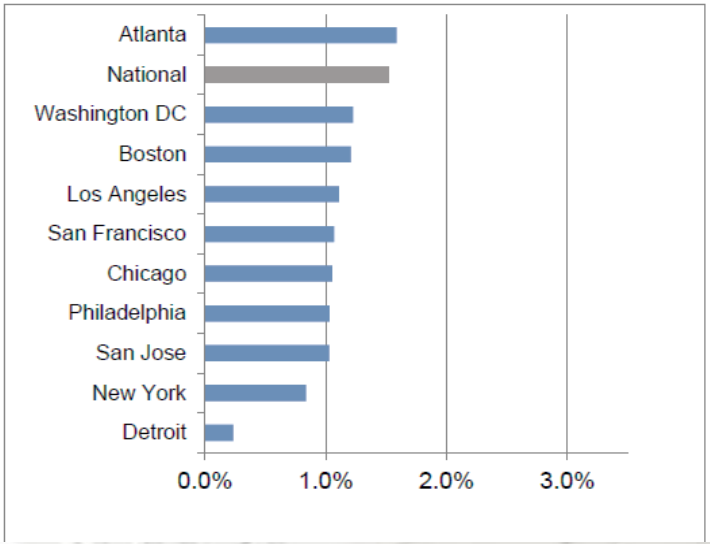
# Current Housing Market

Select Markets with Higher Expected 2018 Employment Growth




Select Markets with Lower Expected 2018 Employment Growth




Source: Moody's Analytics

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Current Housing Market

## Fannie Mae Multifamily Market Commentary: January 2018

### 2018 Outlook: More of the Same

"The outlook for the multifamily sector in 2018 remains positive but relatively stable. Multifamily mortgage origination volume levels are expected to remain similar to, or slightly lower than, 2017's activity levels. The Mortgage Bankers' Association anticipates multifamily originations volume to reach $258 billion, down compared to its estimated $271 billion for 2017.

The amount of new supply expected to come online this year is mostly located in about 10 to 12 metros, some of which are likely to experience a slow-down in demand due to upcoming oversupply. While there should be job growth spurring continued rental household formations, this concentrated amount of supply – consisting primarily of Class A units – will likely cause a disruption in underlying fundamentals in certain metros. Rising vacancy levels and reduced or negative rent growth could occur in certain submarkets, which in turn is likely to negatively affect overall trends in the nation's oversupplied metros.

It is important to keep in mind that this slowdown is expected to be short-lived, occurring over the next 12 to 18 months. After that time, we expect that the multifamily sector's underlying fundamentals will improve, as new supply slows and stable job growth and demographic trends continue, resulting in increased demand." – Kim Betancourt, Director of Economics and Tim Komosa, Economist Manager, Multifamily Economics and Market Research, Fannie Mae

Source: http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_012218.pdf; 1/18/18

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# Summary

**In summary:**

December's data indicated seasonal slowdowns and substantial revisions to previous month's data in discrete series. The U.S. housing market can be summed as in a steady, slow-growth mode. Monthly construction spending was lackluster, as SF and improvement expenditures were barely positive on a month-over-month basis – as the case for the past few months. One can also argue that this is typical for a winter month. Once more, new SF lower-priced tier house sales were well less than historical averages. It warrants repeating, the market needs consistent improvement in this category to influence the housing construction market upward.

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

**Pros:**

1) Historically low interest rates are still in effect, though in aggregate rates are incrementally rising (future Fed actions may indirectly cause *i*-rates to rise);
2) As a result, housing affordability is good for many in the U.S. – but not all of the U.S.;
3) Select builders are beginning to focus on entry-level houses.

**Cons:**

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

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