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

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Return TOC

Table of Contents

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

Return TOC

Summary

In January 2017, in aggregate, monthly housing data were mostly positive. Total permits rebounded; single-family permits declined month-over-month; completions declined month-over-month basis and year-over-year basis; and new single-family sales improved. New single-family house construction spending also increased minimally month-over-month. The March 8th Atlanta Fed GDPNow™ model projects aggregate residential investment spending to increase at a 13.5 percent seasonally adjusted annual rate in Quarter 1; new residential investment spending was estimated at 15.3 percent; and improvements were projected 4.8 percent.[1] Regionally, data were mixed across all sectors. The South remains the driver for the housing market. The common meme from housing analysts that the lack of inventory (new and existing), regulations (land use and financial), and the dearth of building lots are a hindrance on the overall housing market.

"The industry is sending a strong signal that nonresidential construction will be positive in 2017. While expectations for nonresidential construction have increased, expectations for residential construction have remained relatively flat when compared to 2016, with 45% of companies expecting increased activity versus 46% who said they expected an increase in last year's report." – John Crum, National Sales Manager, Construction Group, Wells Fargo Equipment Finance

In this month's issue, we present 2017 new housing forecasts. In aggregate, these projections have decreased minimally from 2016 forecasts. This month's commentary also contains relevant housing data; data exploration; new single- and multifamily and existing housing data; economic information; and demographics. Lastly, a video presentation of 3D house printing is included. Will it be successful? The jury is still out – obviously. Section I contains data and commentary and Section II includes Federal Reserve analysis; private indicators; and demographic commentary. We hope you find this commentary beneficial.

Sources: [1] https://www.frbatlanta.org/-/media/Documents/cqer/researchcq/gdpnow/GDPTrackingModelDataAndForecasts.xlsx; 3/8/17;
[2] https://digital.wf.com/constructionforecast/; 3/8/17

Return TOC

January 2017
Housing Scorecard

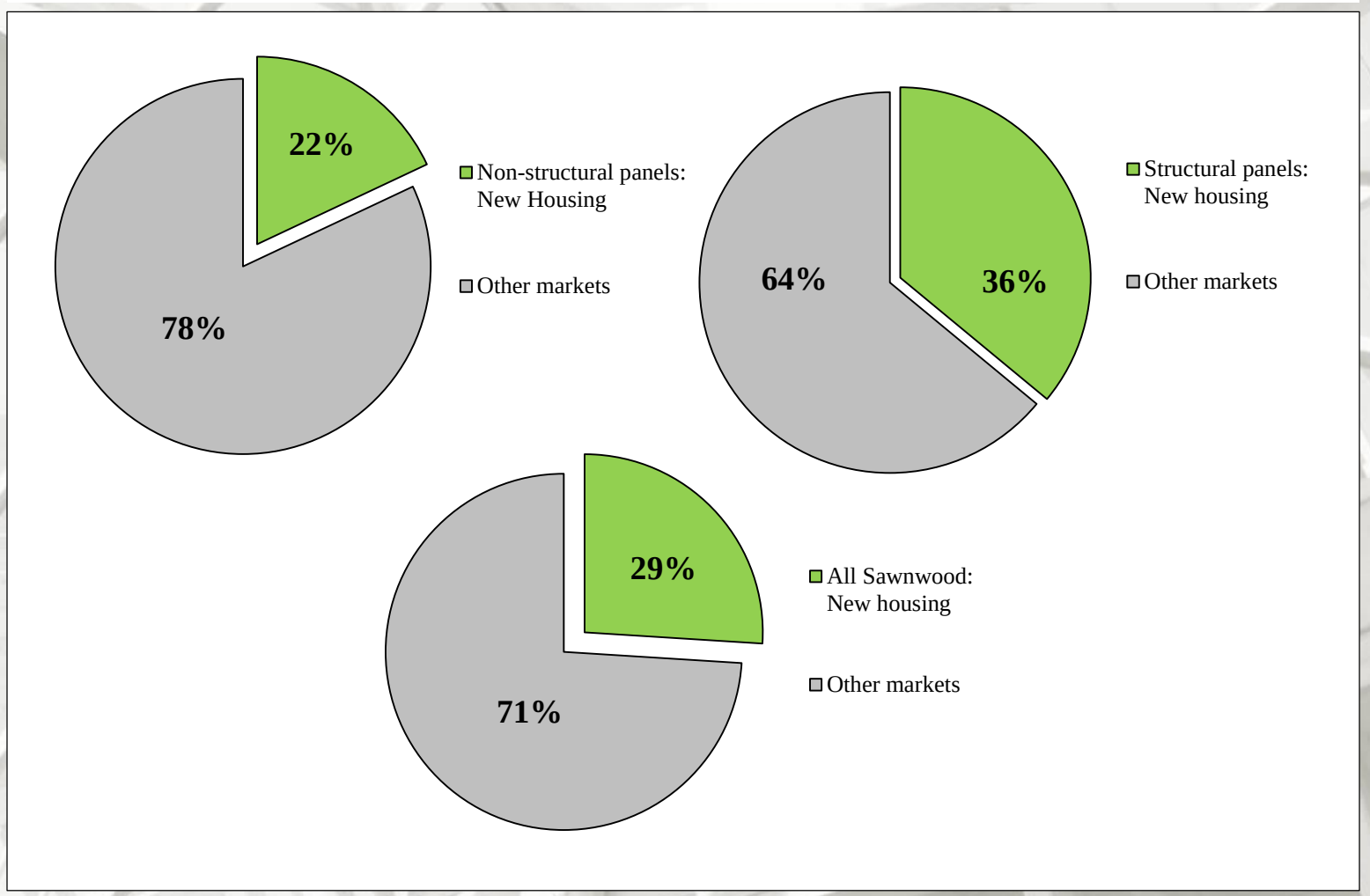
	M/M		Y/Y	
Housing Starts	∇	2.6%	Δ	10.5%
Single-Family Starts	Δ	1.9%	Δ	6.2%
Housing Permits	Δ	4.6%	Δ	8.2%
Single-Family Permits	∇	2.7%	Δ	11.1%
Housing Completions	∇	5.6%	∇	0.9%
New Single-Family House Sales	Δ	3.7%	Δ	5.5%
Private Residential Construction Spending	Δ	0.5%	Δ	5.9%
Single-Family Construction Spending	Δ	1.1%	Δ	2.3%
Existing House Sales[1]	Δ	3.3%	Δ	3.8%

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

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

Return TOC

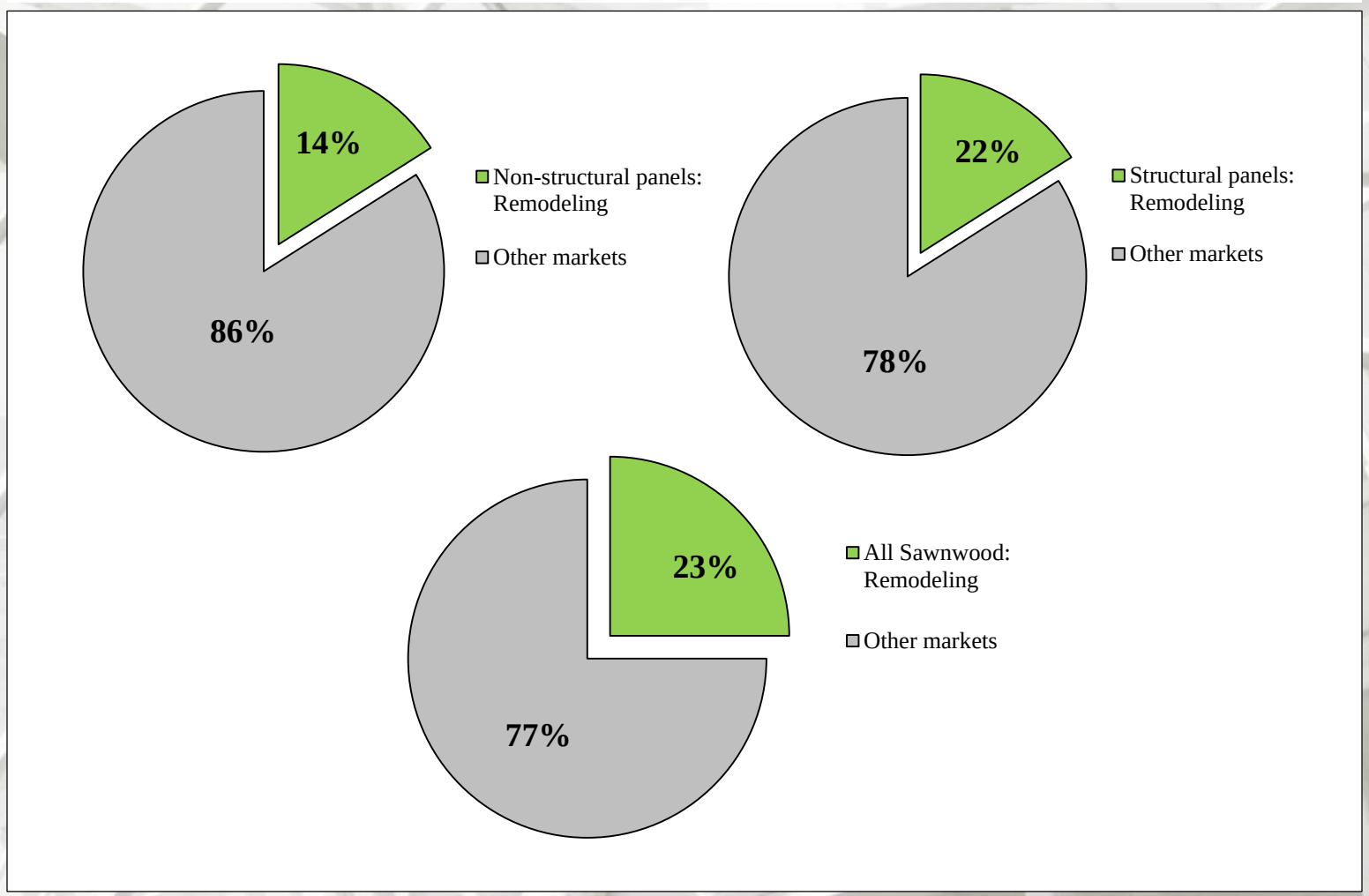
New Construction's Percentage of Wood Products Consumption



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

Return TOC

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

Return TOC

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**

Organization	Total Starts	Single-Family Starts	New House Sales
APA - The Engineered Wood Association[a]	1,285	835	
Bank of Montreal[b]	1,320		
Bloomberg[c]	1,250		
Blue Chip[d]	1,260		
Capitol Economics[e]	1,500		
The Conference Board[f]	1,280		
Deloitte[g]	1,270		
Dodge Data & Analytics[h]	1,230	795	
Export Development Canada[i]	+13 %		
Fannie Mae[j]	1,308	883	671
Freddie Mac[k]	1,360		
Forest Economic Advisors[l]	1,285	855	

* All in thousands of units

Return TOC

2017 Housing Forecasts*

Organization	Total Starts	Single-Family Starts	New House Sales
Forisk[m]	1,250		
Home Advisor[n]	1,236	893	614
Goldman Sachs[o]	1,333	893	648
Merrill Lynch[p]	1,225	825	625
Metrostudy[q]	1,256		
Mortgage Bankers Association[r]	1,265	860	644
National Association of Homebuilders[s]	1,256	863	
National Association of Realtors[t]	1,220		620
PiperJaffray[u]	1,242	855	630
Royal Bank of Canada (RBC)[v]	1,212		
Scotia Bank[w]	1,300		
TD Economics[x]	1,240		
The Federal Reserve Bank of Chicago[y]	1,200		
UCLA Ziman Center for Real Estate[z]	1,200 to 1,250		
Wells Fargo[aa]	1,240	860	680

* All in thousands of units

Return TOC

2017 Housing Forecasts

References

a-Random Lengths, Volume 73, Issue 1 (1/6/17)

b-http://economics.bmocapitalmarkets.com/economics/outlook/20170104/nao.pdf

c-http://www.calculatedriskblog.com/2016/12/2017-housing-forecasts.html

d-http://www.calculatedriskblog.com/2016/12/2017-housing-forecasts.html

e-https://research.cdn.capitaleconomics.com/cb5157/will-homebuilding-ever-return-to-the-highs-of-2006.pdf

f-https://www.conference-board.org/pdf_free/economics/2017_01_11.pdf

g-https://dupress.deloitte.com/dup-us-en/economy/us-economic-forecast/2016-q4.html

h-http://www.constructiondive.com/news/inside-the-dodge-2017-construction-outlook-commercial-and-residential-pred/428821/

i-http://www.edc.ca/EN/Knowledge-Centre/Economic-Analysis-and-Research/Documents/gef-fall-2016.pdf

j-http://www.fanniemae.com/resources/file/research/emma/pdf/Housing_Forecast_122016.pdf

k-http://www.freddiemac.com/finance/pdf/201612-Outlook-12%2021%2016.pdf

l-Random Lengths, Volume 73, Issue 1 (1/6/17)

m-http://forisk.com/blog/2017/01/23/forisk-forecast-us-housing-starts-outlook-q1-2017-update/

n-http://image.mail1.wf.com/lib/fe8d13727664027a7c/m/1/housing-chartbook-20170214.pdf

Return TOC

2017 Housing Forecasts

References

o-http://www.goldmansachs.com/our-thinking/pages/outlook-2017/?videoId=147308

p-http://www.calculatedriskblog.com/2016/12/2017-housing-forecasts.html

q-http://www.metrostudy.com/go/webinarq42016

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

s-http://hbapdx.org/wp-content/uploads/2016/10/Robert-Dietz-v-2.pdf

t-http://narnewsline.blogs.realtor.org/2016/11/04/nars-2017-housing-forecast-sales-first-time-buyers-on-the-rise/

u-http://www.piperjaffray.com/private/pdf/November_2016_Building_Products_Newsletter.pdf

v-http://www.rbc.com/economics/economic-reports/pdf/other-reports/Econoscope.pdf

w-http://www.gbm.scotiabank.com/scpt/gbm/scotiaeconomics63/retrends.pdf

x-https://www.td.com/document/PDF/economics/qef/long_term_dec2016.pdf

y-http://app.frbcommunications.org/e/es.aspx

z-http://www.anderson.ucla.edu/Documents/areas/ctr/ziman/UCLA_Economic_Letter_Shulman_12.06.16.pdf

aa-http://image.mail1.wf.com/lib/fe8d13727664027a7c/m/1/five-housing-questions-20170104.pdf

Return TOC

New Housing Starts

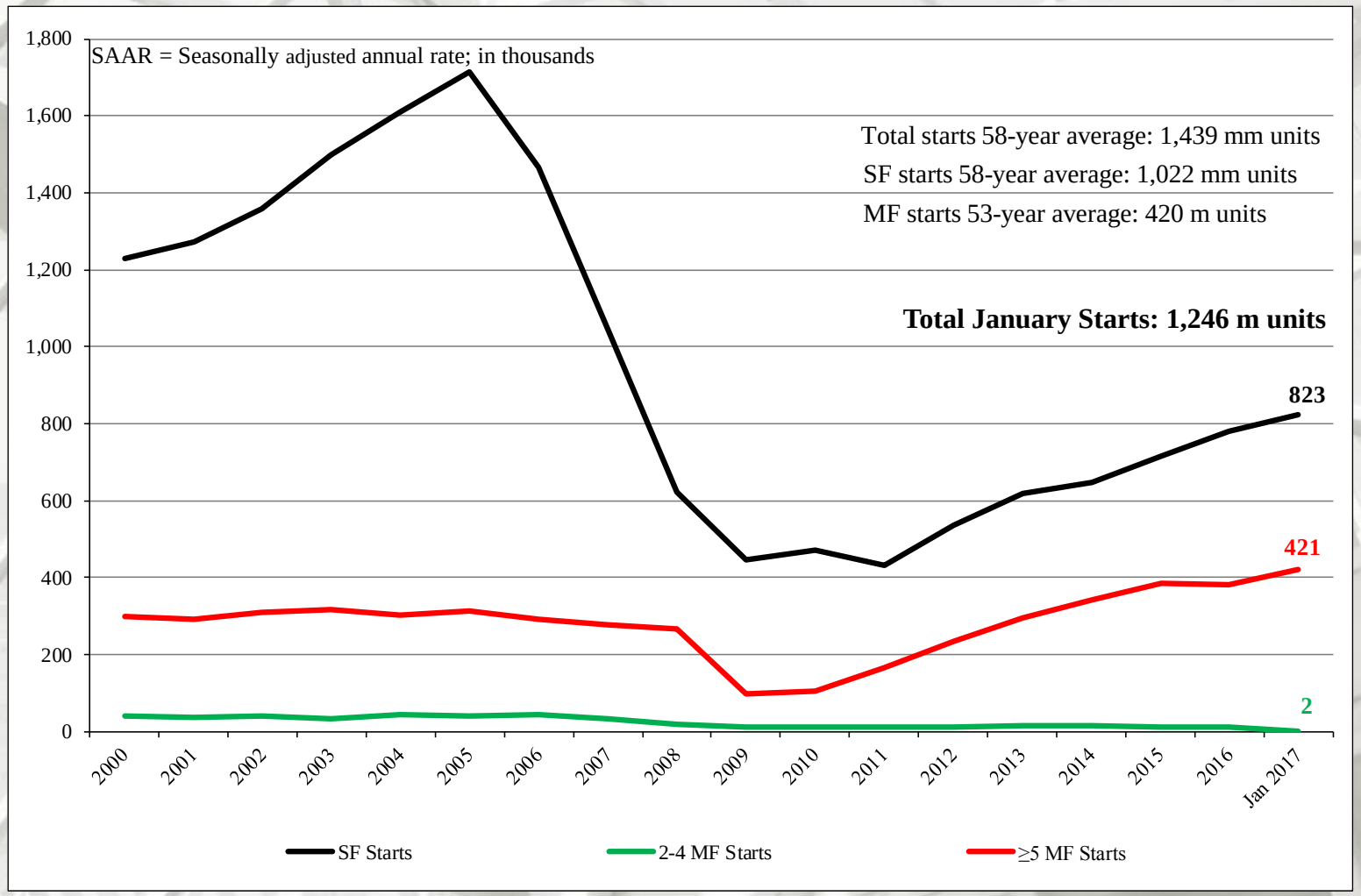
	Total Starts	SF Starts	MF 2-4 Starts	MF ≥5 Starts
January	1,246,000	823,000	2,000	421,000
December	1,279,000	808,000	14,000	457,000
2016	1,128,000	775,000	18,000	335,000
M/M change	-2.6%	1.9%	-85.7%	-7.9%
Y/Y change	10.5%	6.2%	-88.9%	25.7%

* 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; 2/16/17

Return TOC

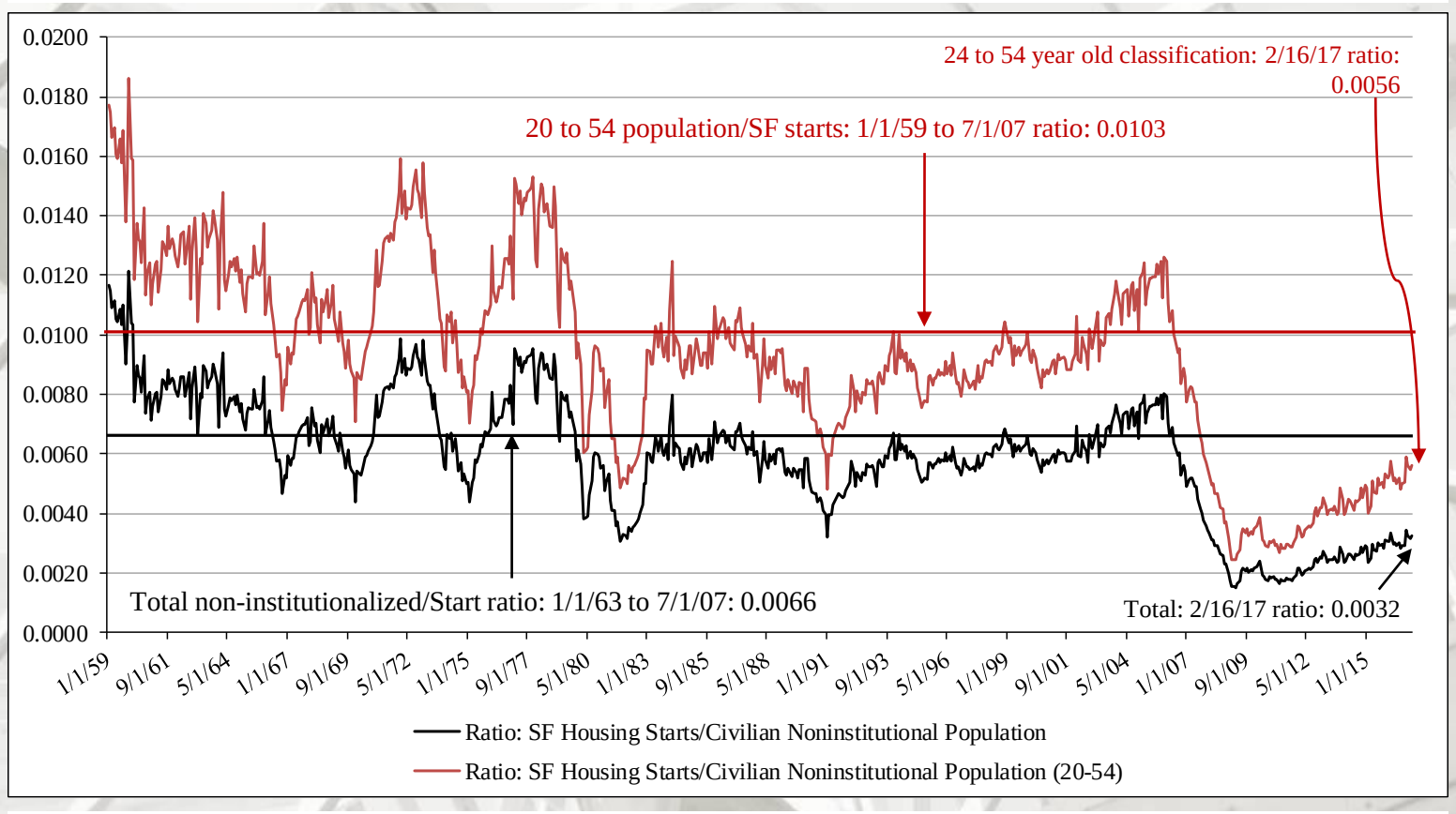
Total Housing Starts



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New SF Starts



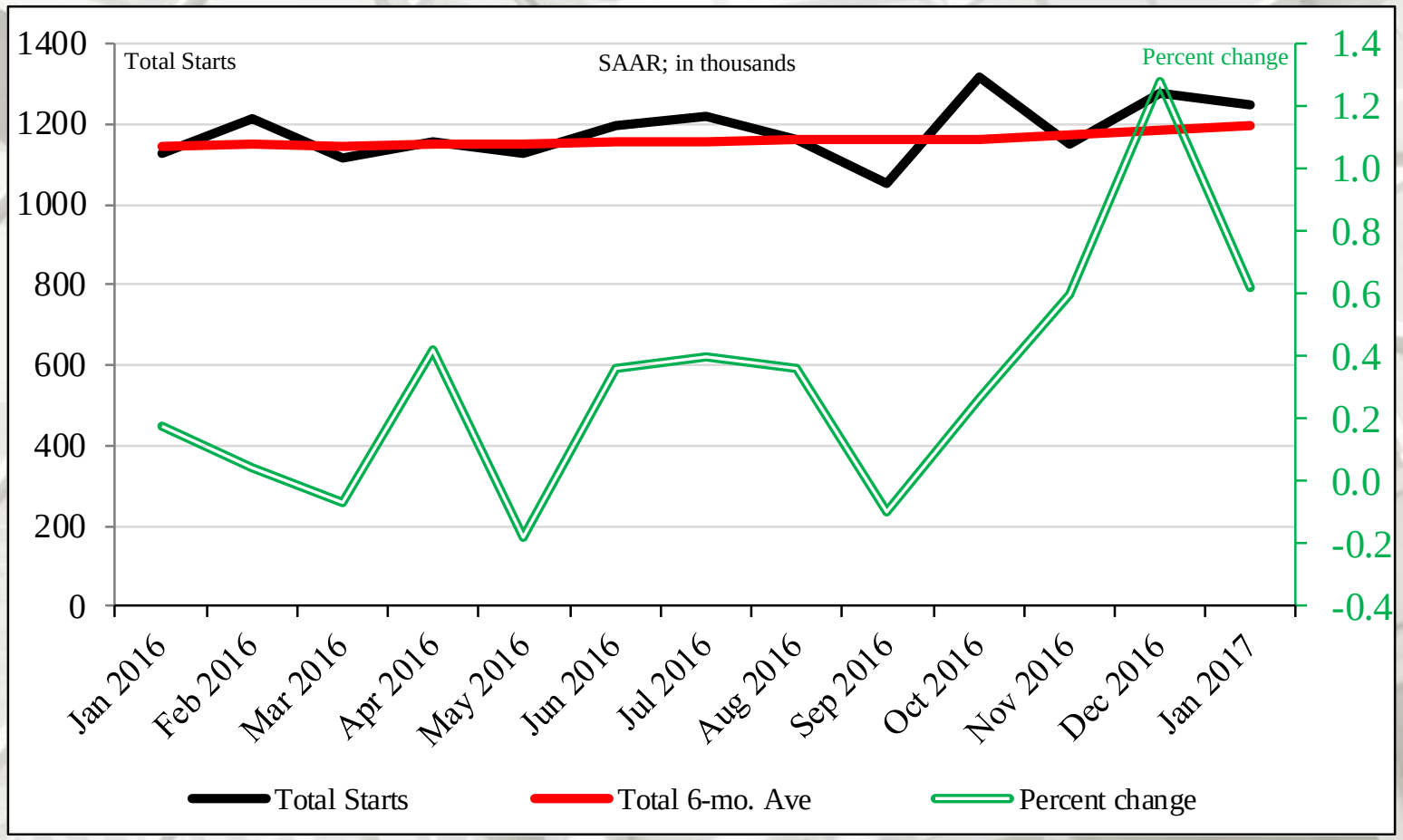
New SF starts adjusted for the US population

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 January 2017 it was 0.0032 – no change from December. The long-term ratio of non-institutionalized population, aged 24 to 54 is 0.0103; in January 2017 it was 0.0056 – an increase from December (0.0055). 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; 2/16/17

Return TOC

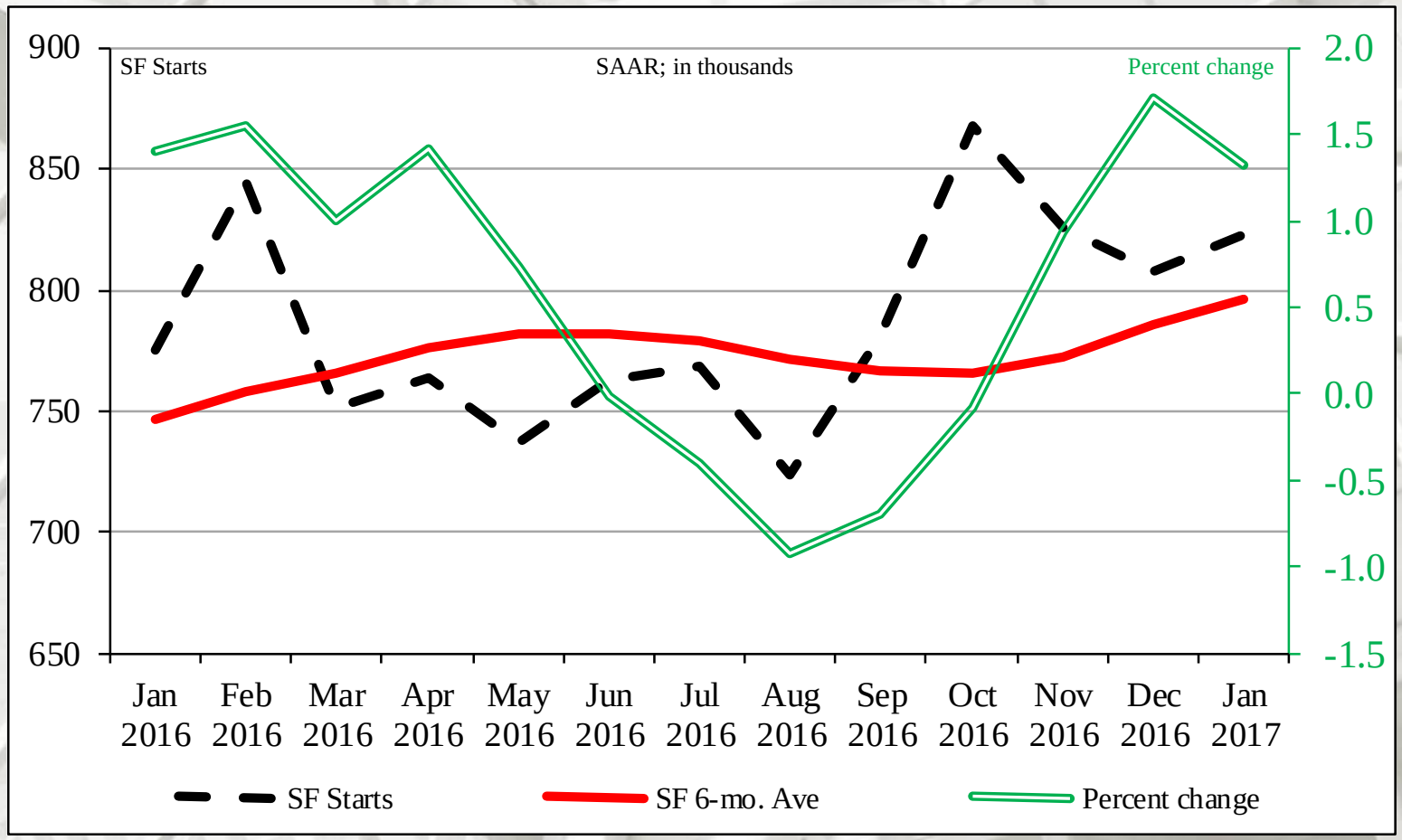
Total Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

SF Housing Starts: Six-Month Average



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Housing Starts by Region

	NE Total	NE SF	NE MF**
Jamuary	143,000	63,000	80,000
December	92,000	58,000	34,000
2016	148,000	64,000	84,000
M/M change	55.4%	8.6%	135.3%
Y/Y change	-3.4%	-1.6%	-4.8%

	MW Total	MW SF	MW MF
Jamuary	188,000	136,000	52,000
December	229,000	128,000	101,000
2016	155,000	129,000	26,000
M/M change	-17.9%	6.3%	-48.5%
Y/Y change	21.3%	5.4%	100.0%

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; 2/16/17

Return TOC

New Housing Starts by Region

	S Total	S SF	S MF**
Jamuary	690,000	458,000	232,000
December	575,000	418,000	157,000
2016	579,000	425,000	154,000
M/M change	20.0%	9.6%	47.8%
Y/Y change	19.2%	7.8%	50.6%

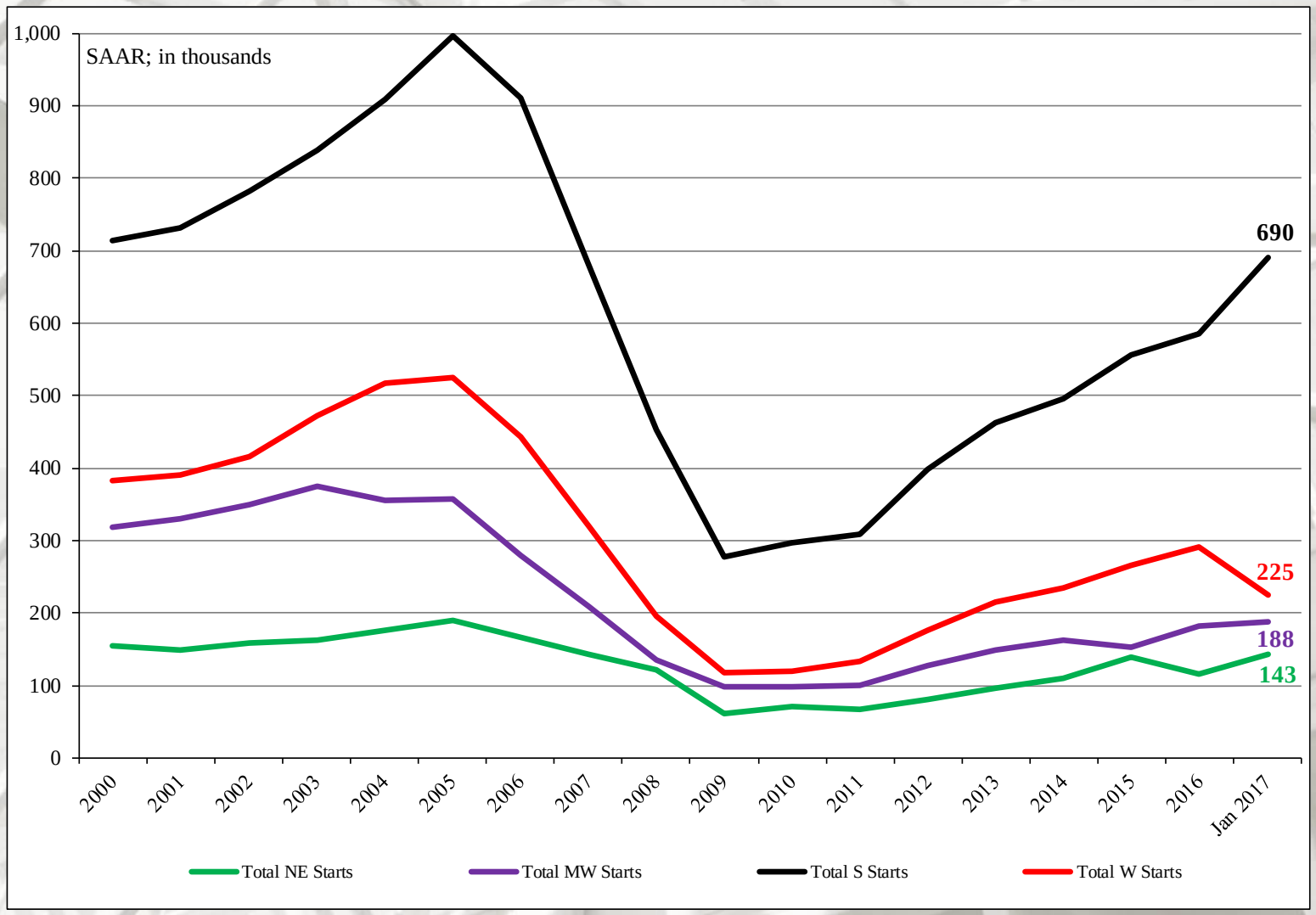
	W Total	W SF	W MF
Jamuary	225,000	166,000	59,000
December	383,000	204,000	179,000
2016	246,000	157,000	89,000
M/M change	-41.3%	-18.6%	-67.0%
Y/Y change	-8.5%	5.7%	-33.7%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

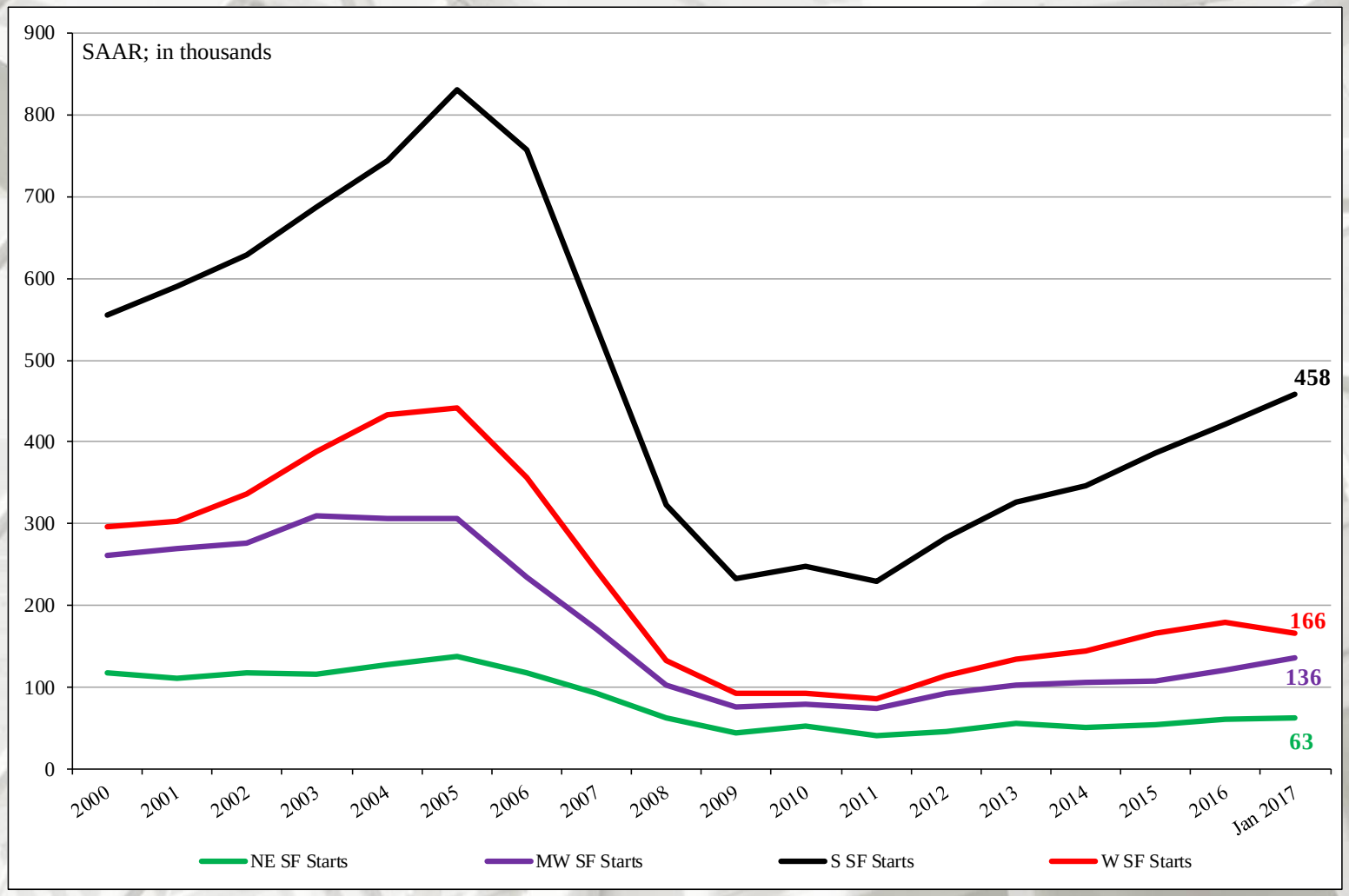
Total Housing Starts by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

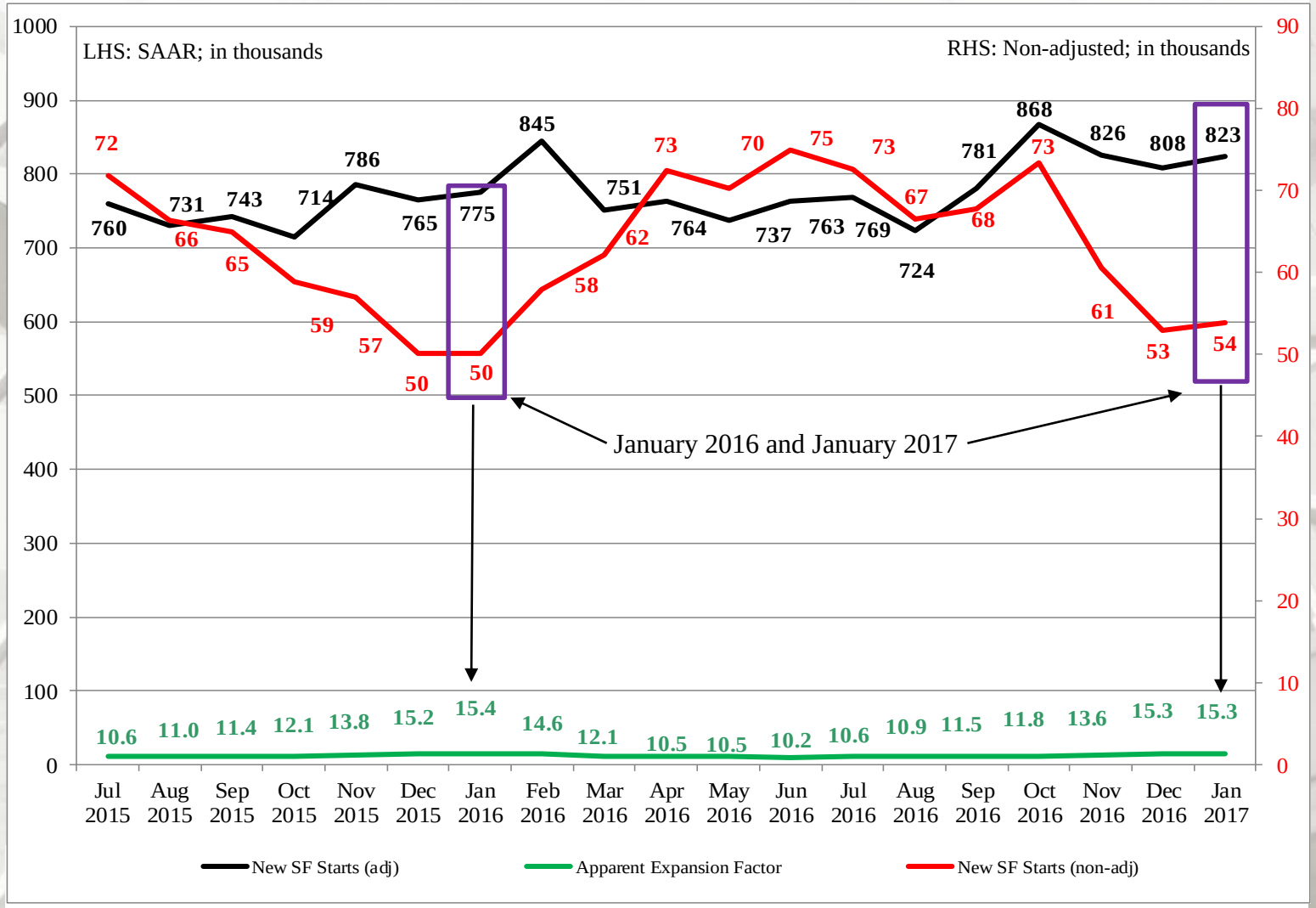
SF Housing Starts by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

Nominal & SAAR SF Starts



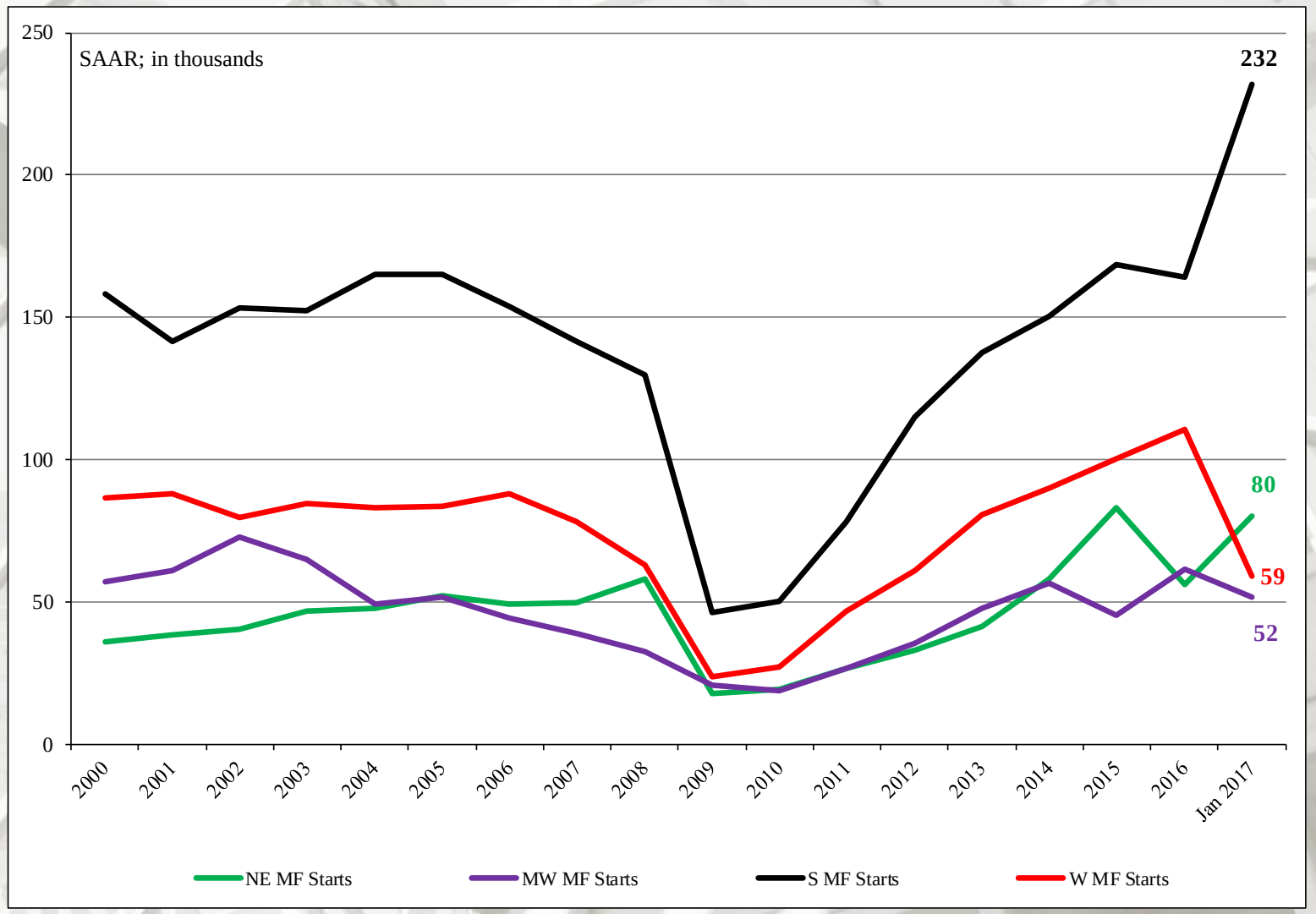
Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

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; 2/16/17

Return TOC

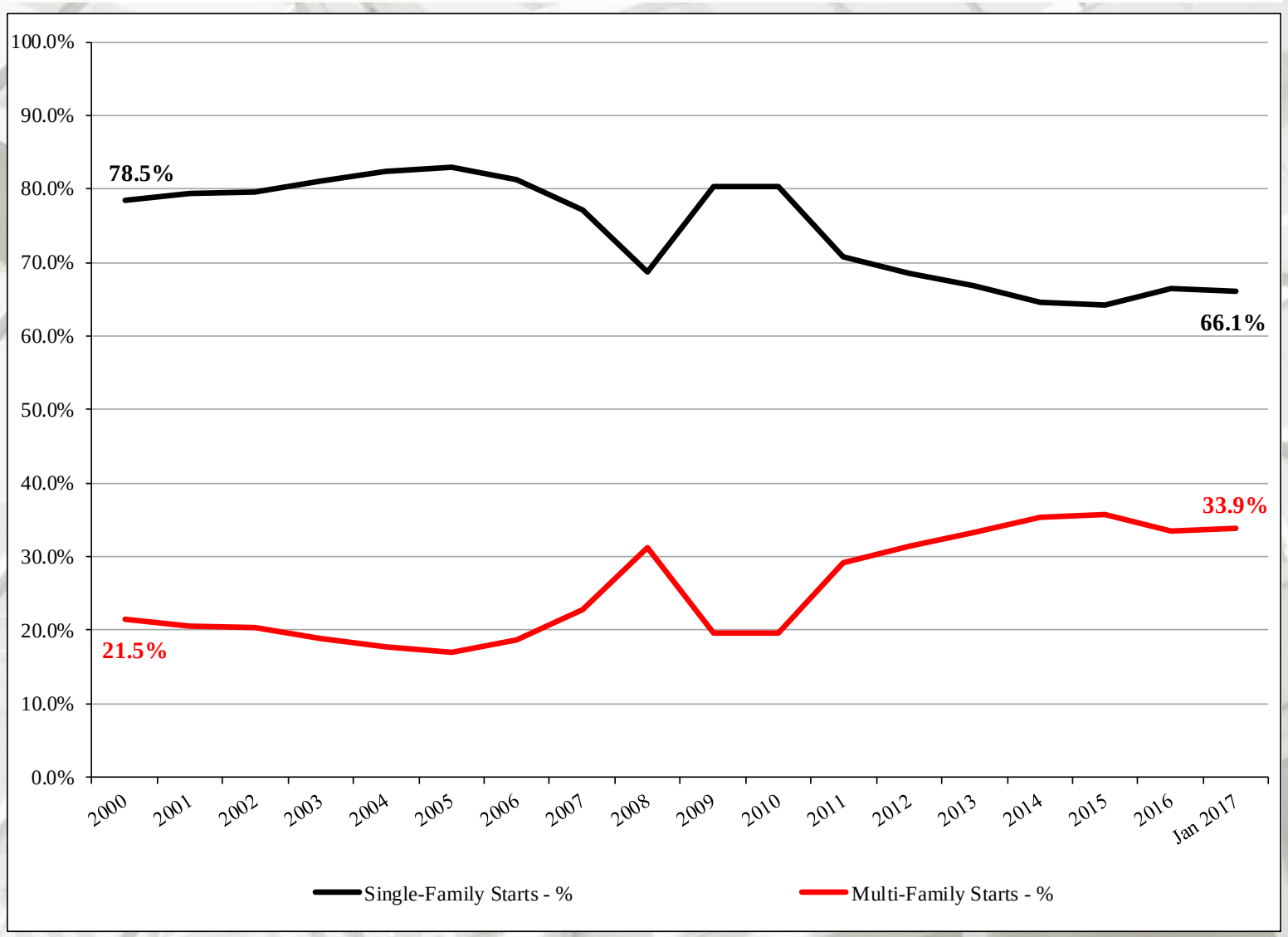
MF Housing Starts by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

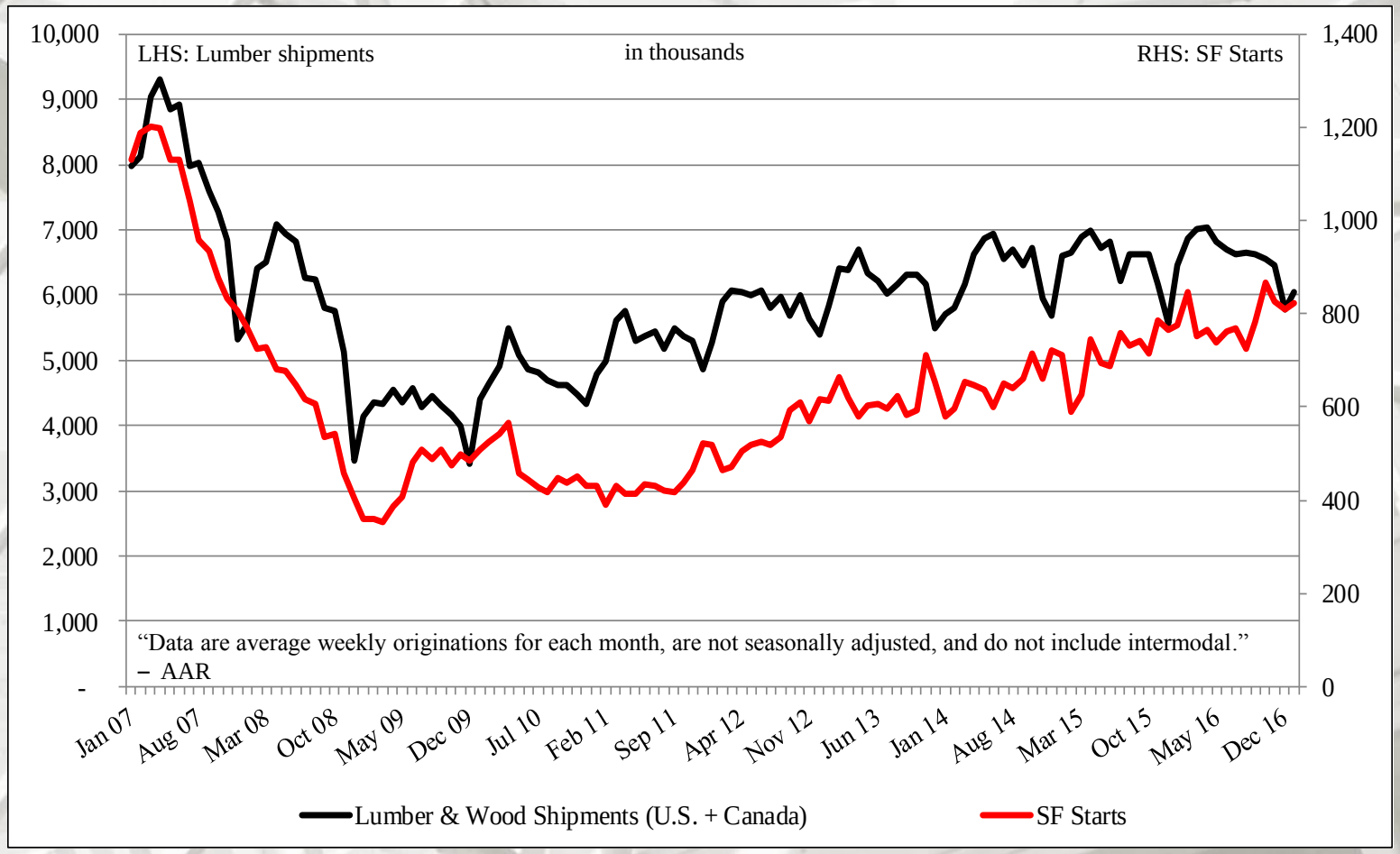
Housing Starts by Percent



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

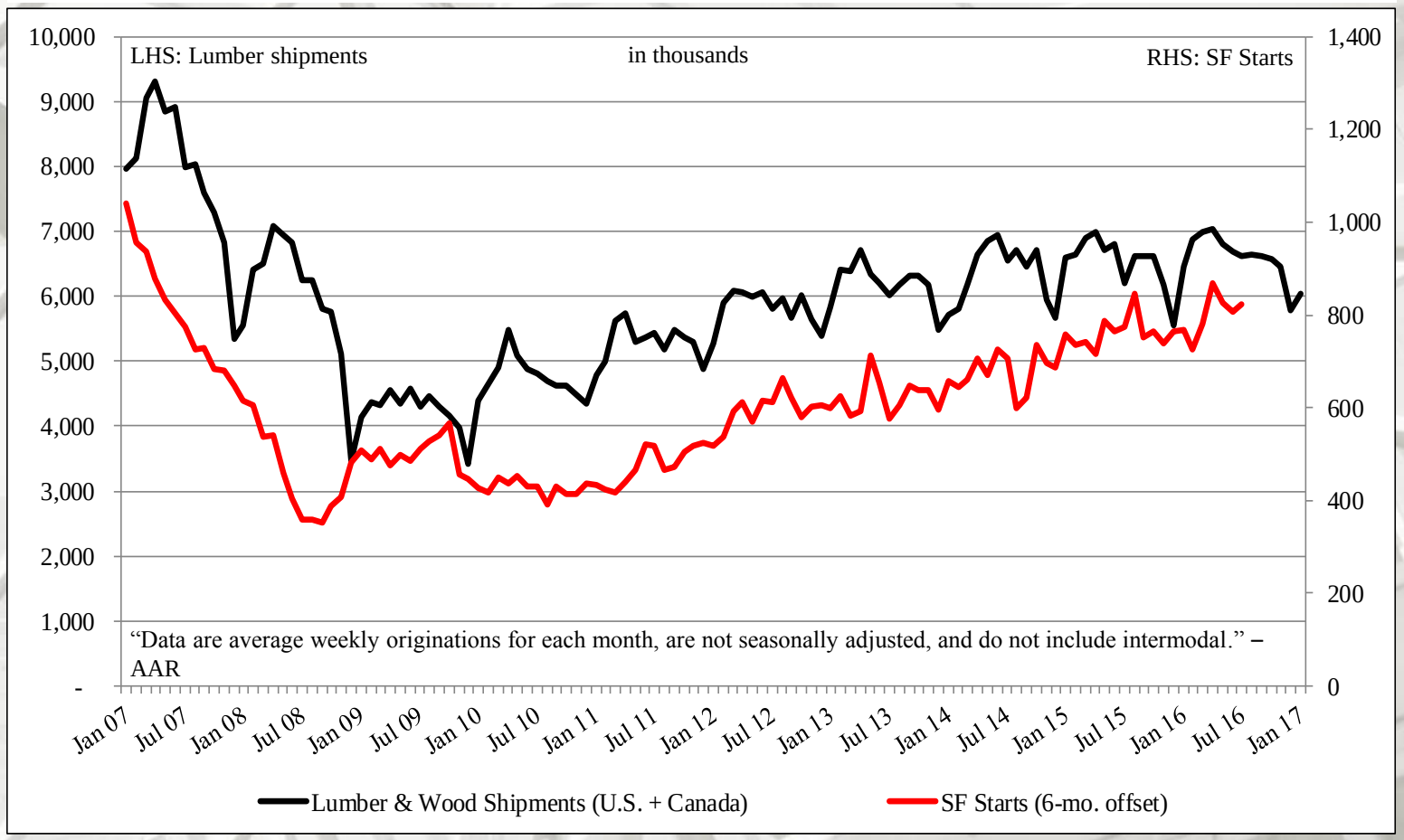
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Starts



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/3/17; U.S. DOC-Construction; 2/16/17

Return to TOC

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 January 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 2/3/17; U.S. DOC-Construction; 2/16/17

Return to TOC

New Housing Permits

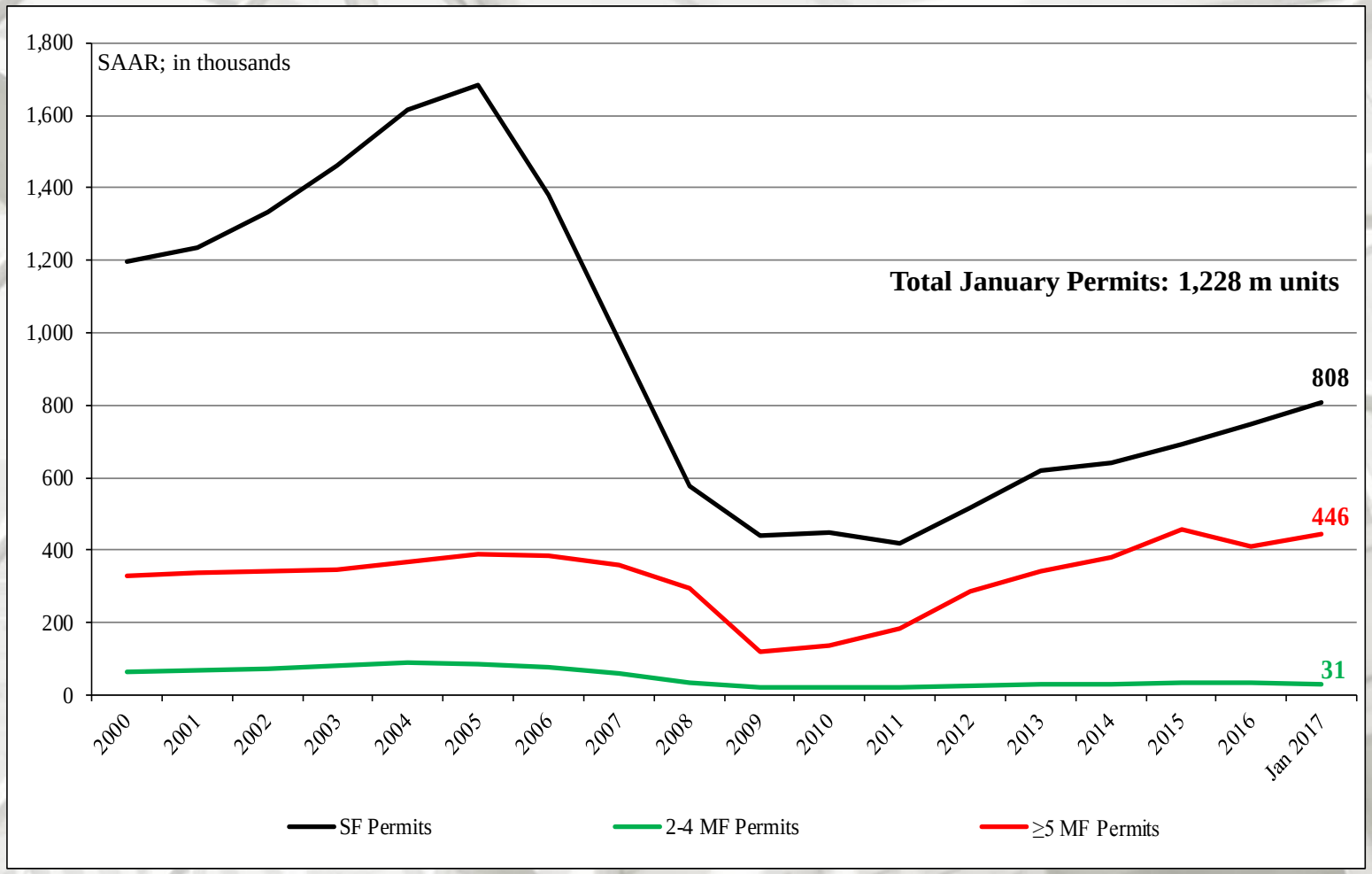
	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
January	1,285,000	808,000	31,000	446,000
December	1,228,000	830,000	37,000	361,000
2016	1,188,000	727,000	35,000	426,000
M/M change	4.6	-2.7	-16.2	23.5
Y/Y change	8.2	11.1	-11.4	4.7

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

Total New Housing Permits



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Housing Permits by Region

	NE Total	NE SF	NE MF
January	149,000	59,000	90,000
December	115,000	55,000	60,000
2016	87,000	54,000	33,000
M/M change	29.6	7.3	50.0
Y/Y change	71.3	9.3	172.7
	MW Total	**MW SF**	**MW MF**
January	198,000	123,000	75,000
December	188,000	121,000	98,000
2016	208,000	113,000	95,000
M/M change	5.3	1.7	-23.5
Y/Y change	-4.8	8.8	-21.1

* All data are SAAR.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Housing Permits by Region

	S Total	S SF	S MF
January	642,000	458,000	184,000
December	584,000	451,000	236,000
2016	576,000	390,000	186,000
M/M change	9.9	1.6	-22.0
Y/Y change	11.5	17.4	-1.1

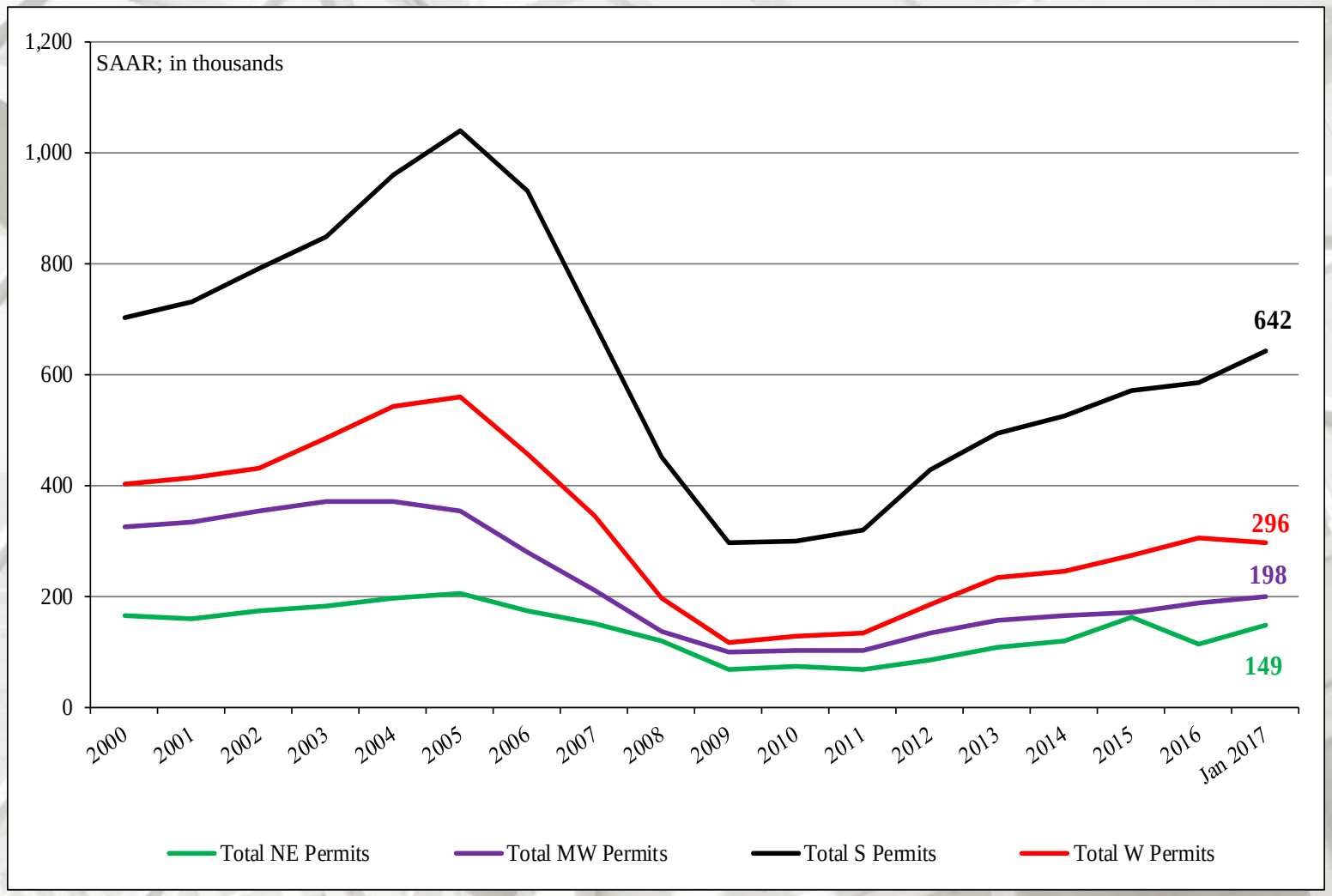
	W Total	W SF	W MF
January	296,000	168,000	128,000
December	341,000	203,000	146,000
2016	317,000	170,000	147,000
M/M change	-13.2	-17.2	-12.3
Y/Y change	-6.6	-1.2	-12.9

* All data are SAAR.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

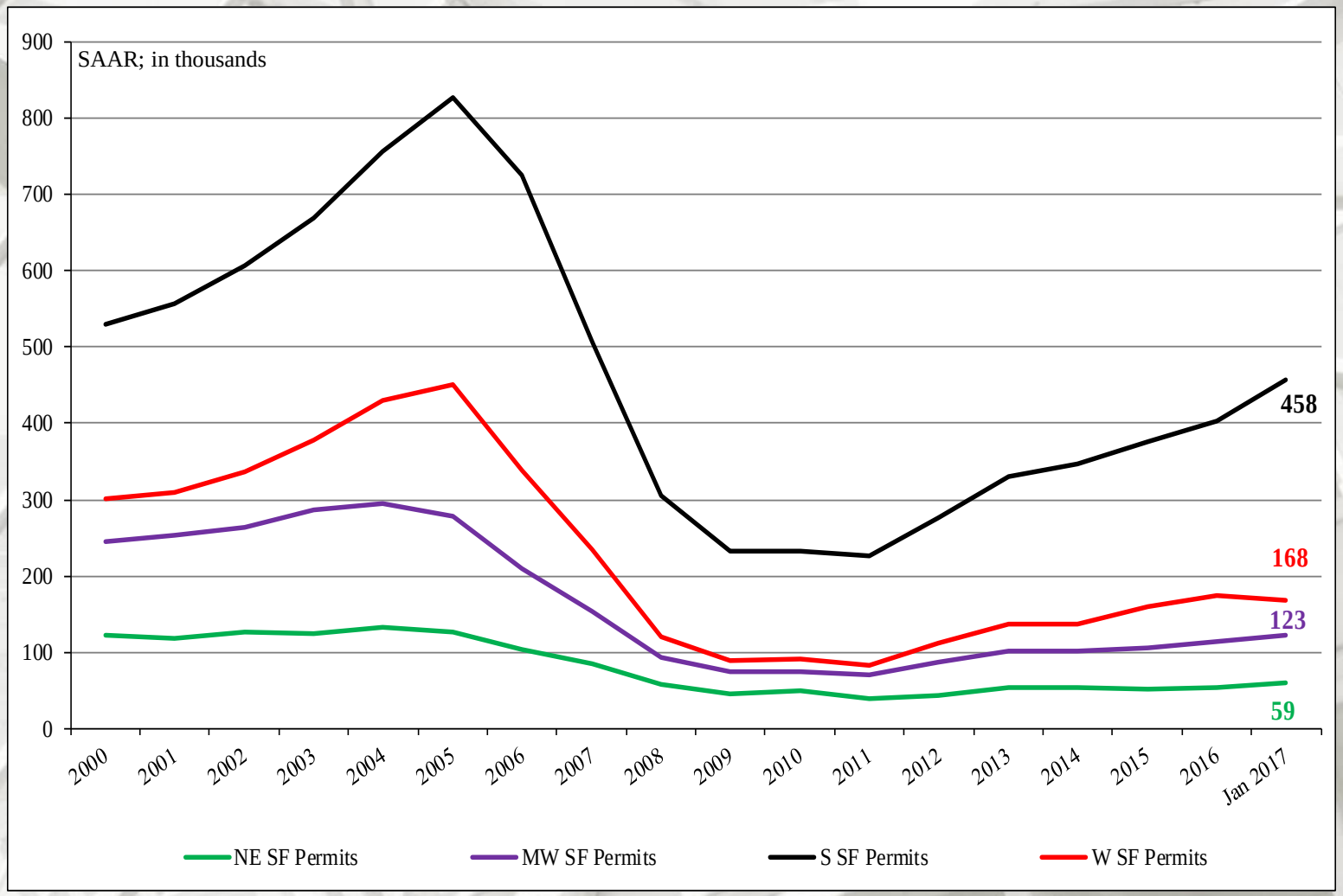
Total Housing Permits by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

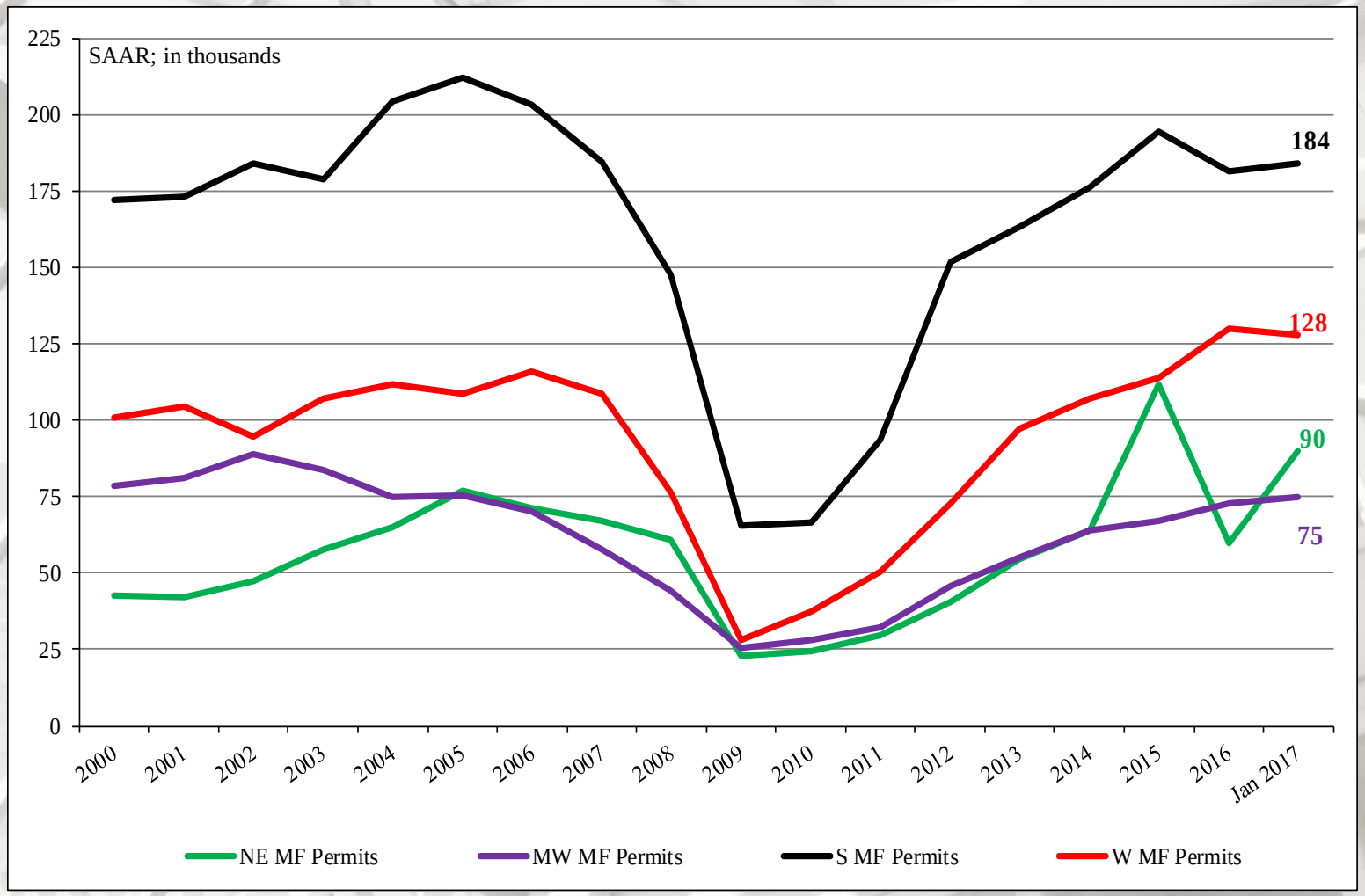
SF Housing Permits by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

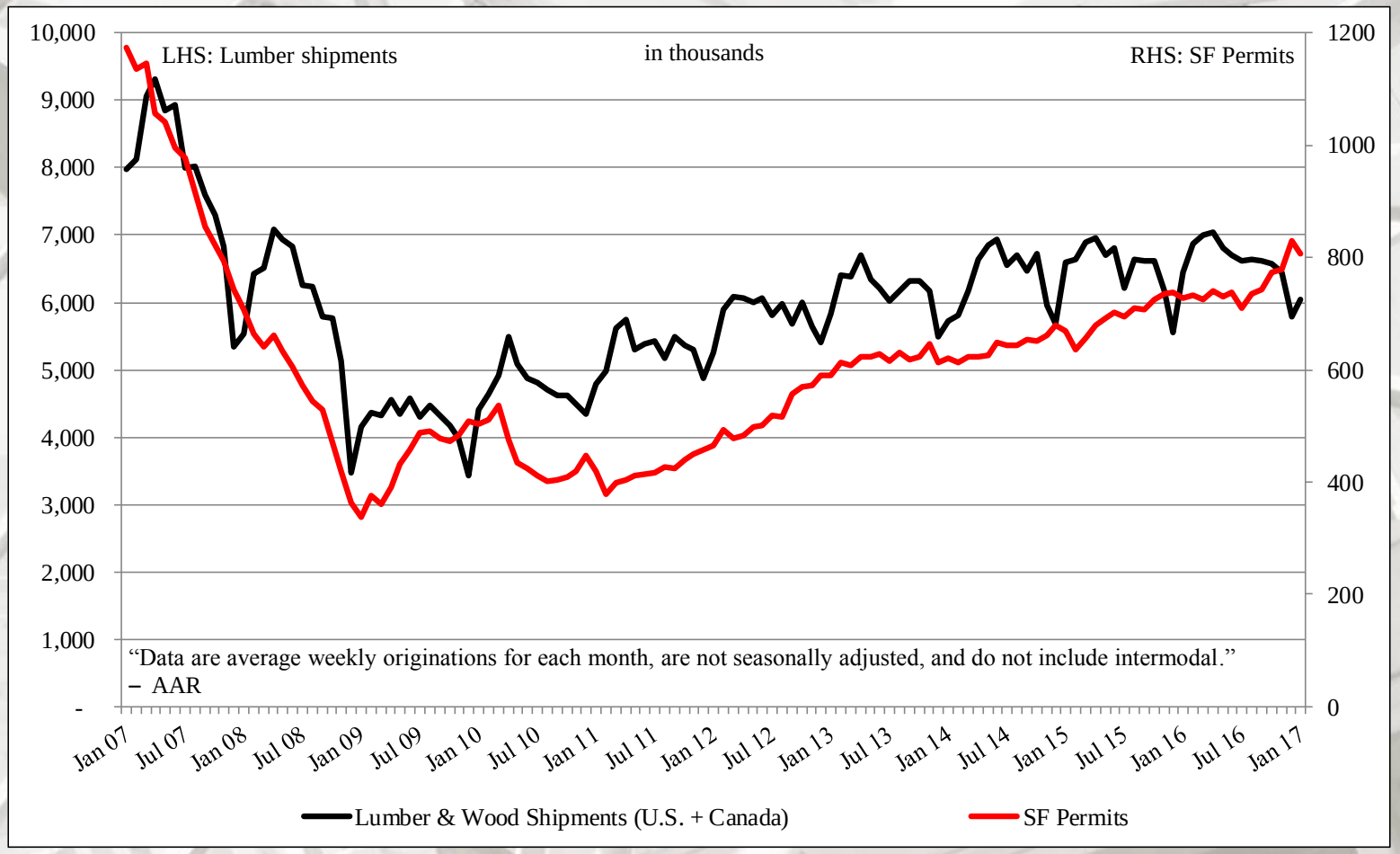
MF Housing Permits by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

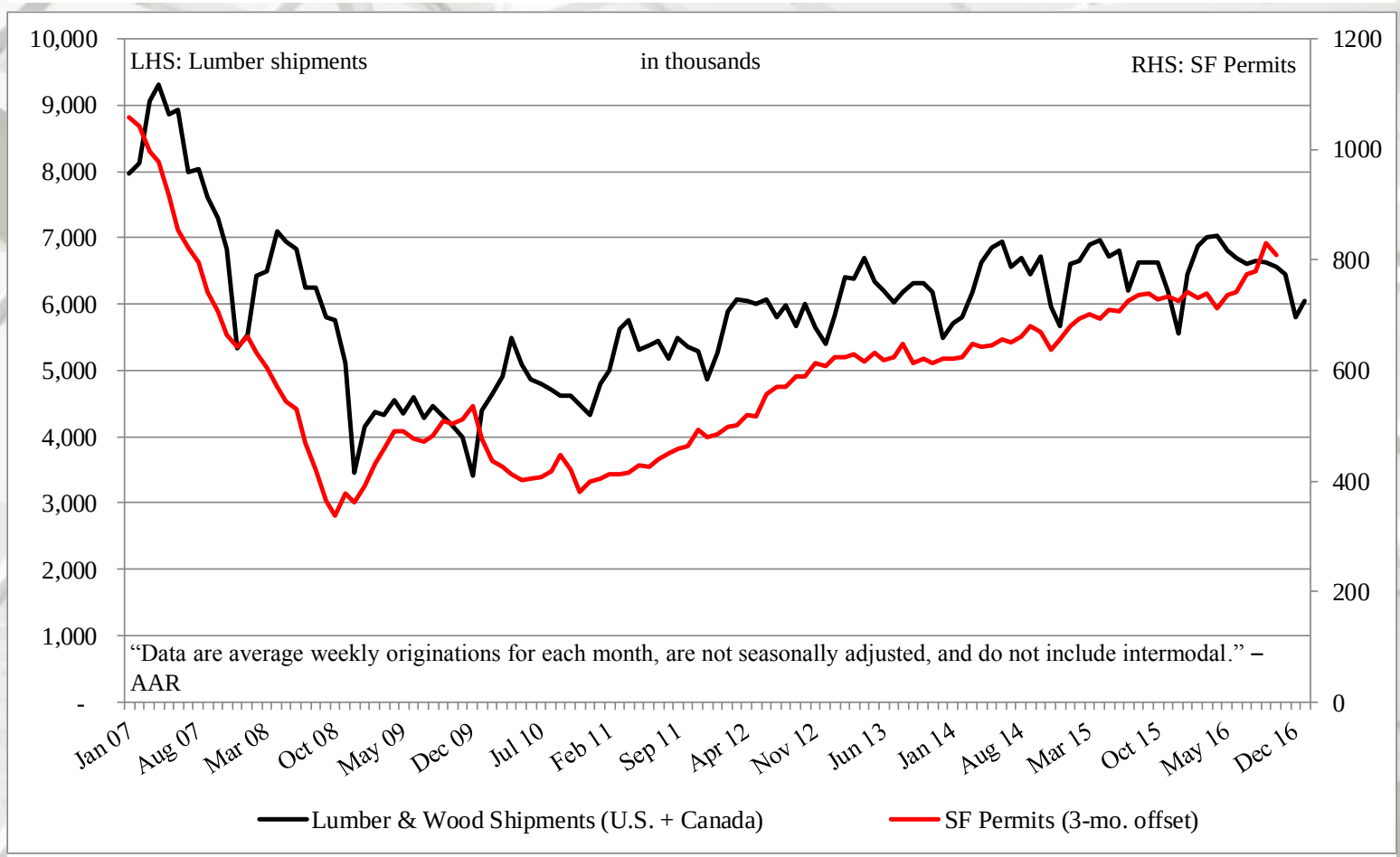
Railroad Lumber & Wood Shipments vs. U.S. SF Housing Permits



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/3/17; U.S. DOC-Construction; 2/16/17

Return to TOC

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



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Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/3/17; U.S. DOC-Construction; 2/16/17

Return to TOC

New Housing Under Construction

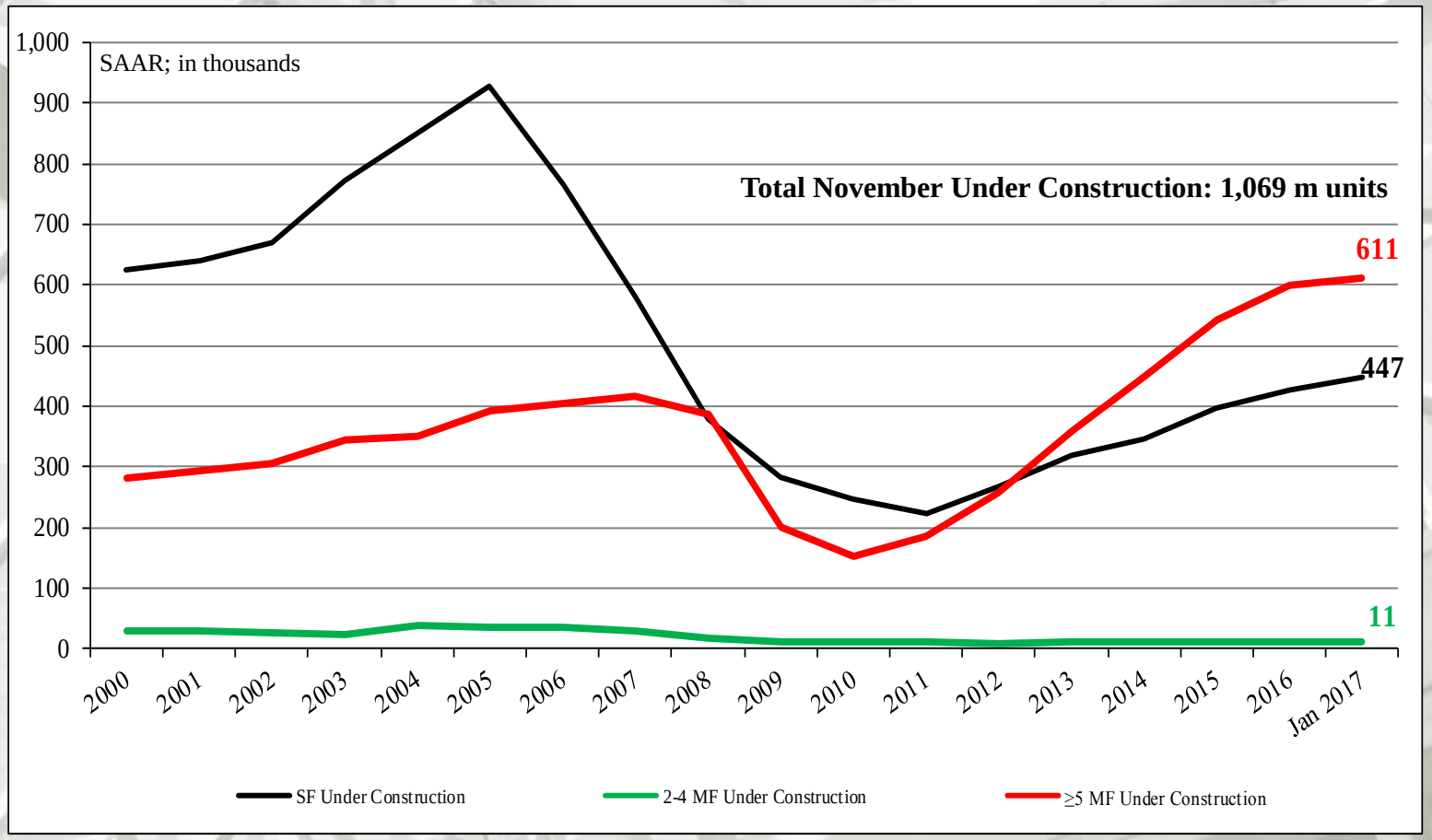
	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
January	1,069,000	447,000	11,000	611,000
December	1,063,000	450,000	11,000	602,000
2016	976,000	421,000	11,000	544,000
M/M change	0.6%	-0.7%	0.0%	1.5%
Y/Y change	9.5%	6.2%	0.0%	12.3%

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

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

Total Housing Under Construction



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
January	193,000	52,000	132,000
December	191,000	53,000	138,000
2016	181,000	49,000	132,000
M/M change	1.0%	-1.9%	-4.3%
Y/Y change	6.6%	6.1%	0.0%

	MW Total	MW SF	MW MF
January	147,000	74,000	60,000
December	146,000	74,000	72,000
2016	130,000	70,000	60,000
M/M change	0.7%	0.0%	-16.7%
Y/Y change	13.1%	5.7%	0.0%

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; 2/16/17

Return TOC

New Housing Under Construction by Region

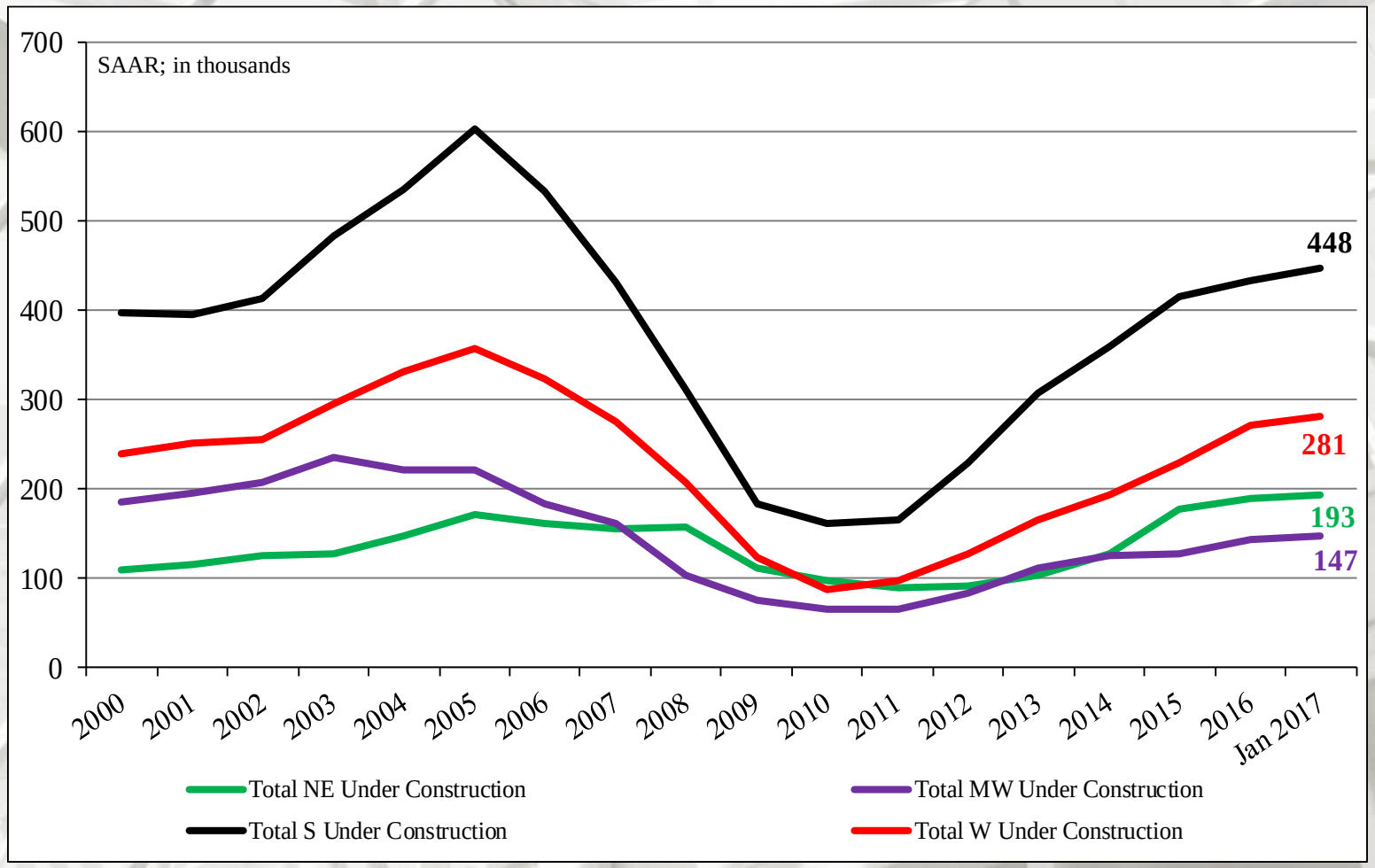
	S Total	S SF	S MF**
January	448,000	211,000	219,000
December	446,000	213,000	233,000
2016	428,000	209,000	219,000
M/M change	0.4%	-0.9%	-6.0%
Y/Y change	4.7%	1.0%	0.0%
	W Total	**W SF**	**W MF**
January	281,000	110,000	144,000
December	280,000	110,000	170,000
2016	237,000	93,000	144,000
M/M change	0.4%	0.0%	-15.3%
Y/Y change	18.6%	18.3%	0.0%

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; 2/16/17

Return TOC

Total Housing Under Construction by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

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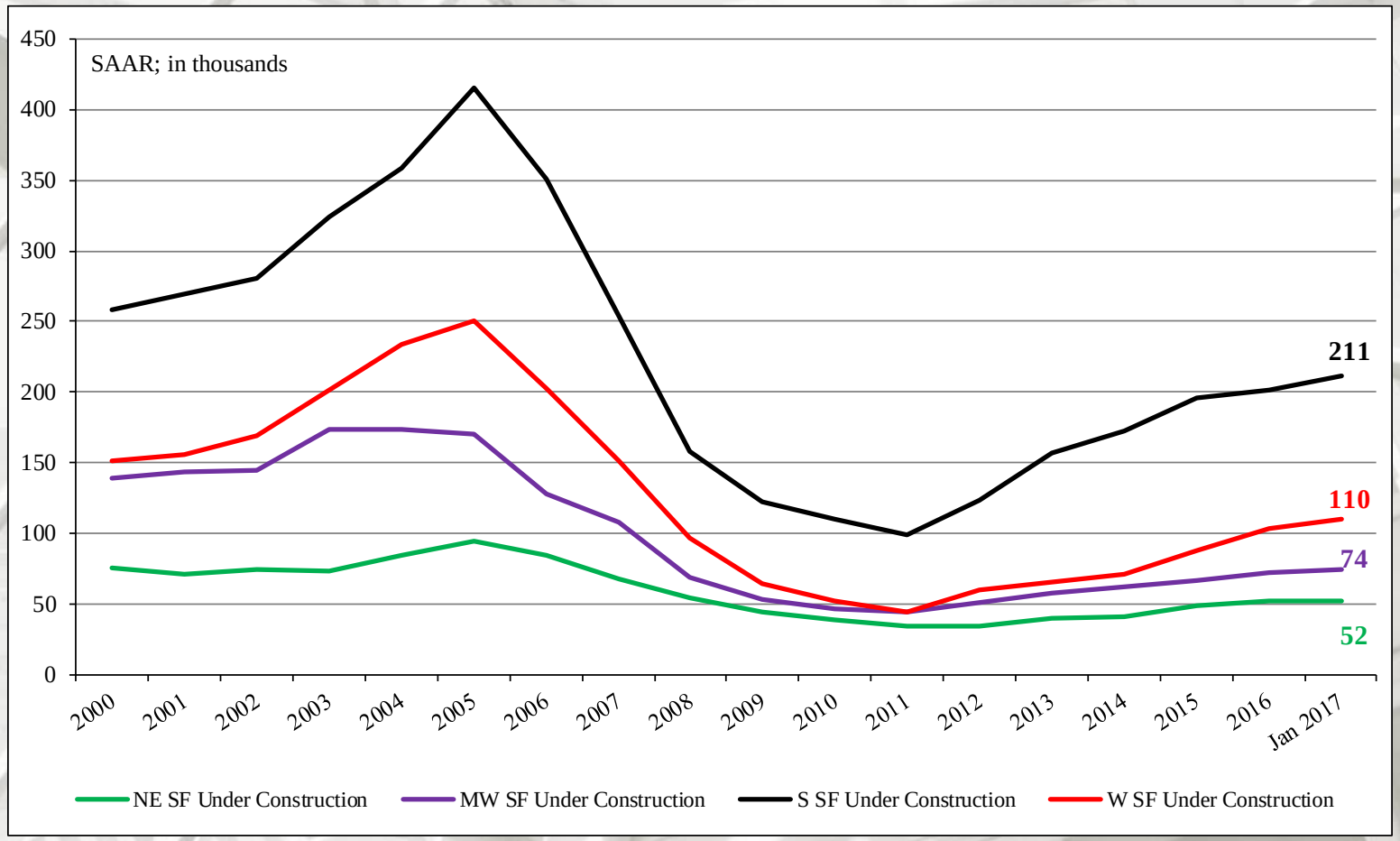
SF Housing Under Construction by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

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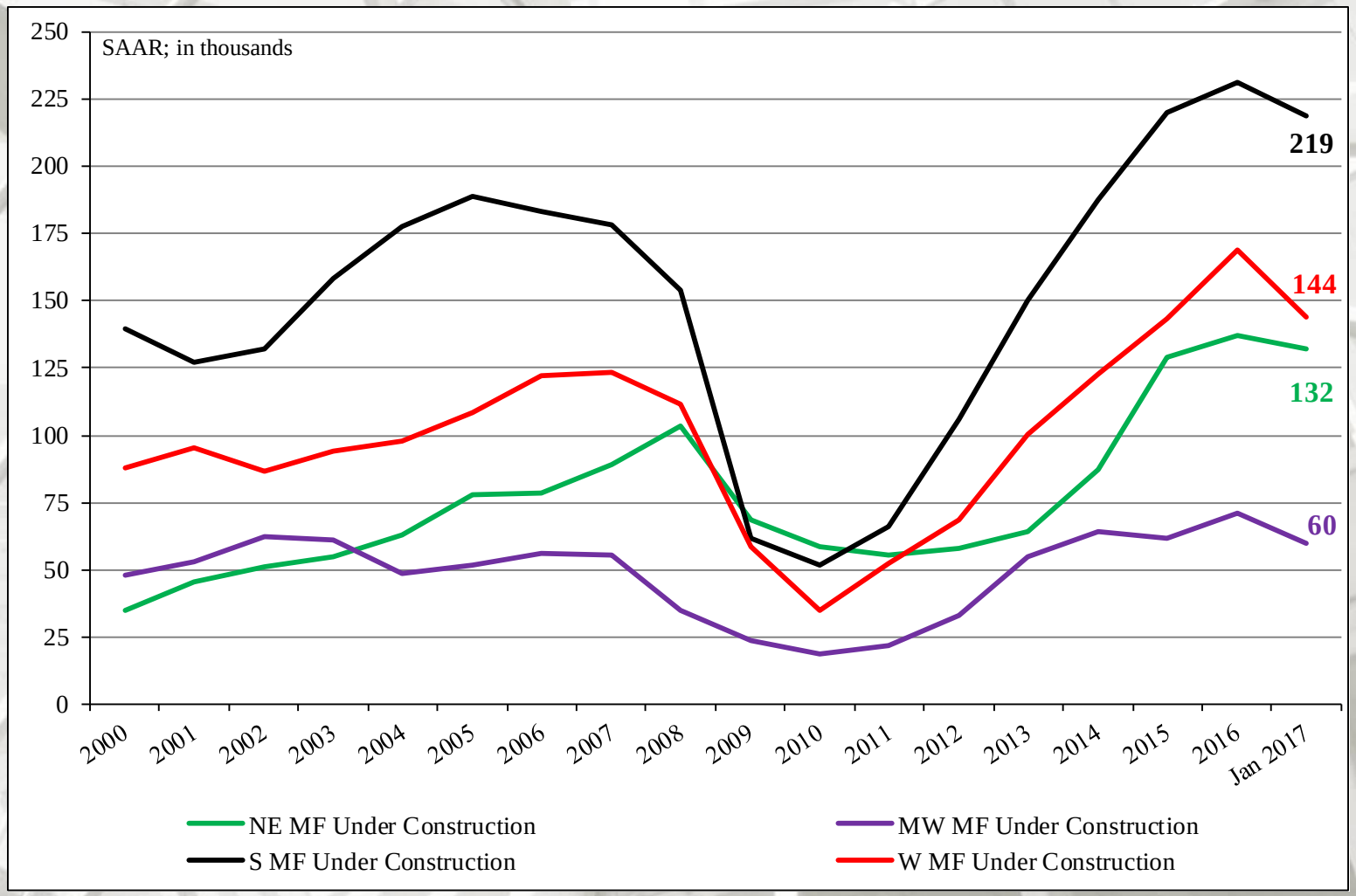
MF Housing Under Construction by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Housing Completions

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
January	1,047,000	800,000	3,000	244,000
December	1,109,000	767,000	8,000	334,000
2016	1,056,000	691,000	17,000	348,000
M/M change	-5.6%	4.3%	-62.5%	-26.9%
Y/Y change	-0.9%	15.8%	-82.4%	-29.9%

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; 2/16/17

Return TOC

Total Housing Completions by Region

	NE Total	NE SF	NE MF**
January	81,000	67,000	14,000
December	104,000	50,000	54,000
2016	98,000	60,000	38,000
M/M change	-22.1%	34.0%	-74.1%
Y/Y change	-17.3%	11.7%	-63.2%
	MW Total	**MW SF**	**MW MF**
January	160,000	124,000	36,000
December	184,000	118,000	66,000
2016	144,000	103,000	41,000
M/M change	-13.0%	5.1%	-45.5%
Y/Y change	11.1%	20.4%	-12.2%

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; 2/16/17

Return TOC

Total Housing Completions by Region

	S Total	S SF	S MF**
January	612,000	464,000	148,000
December	587,000	421,000	166,000
2016	539,000	383,000	156,000
M/M change	4.3%	10.2%	-10.8%
Y/Y change	13.5%	21.1%	-5.1%
	W Total	**W SF**	**W MF**
January	194,000	145,000	49,000
December	234,000	178,000	56,000
2016	275,000	145,000	130,000
M/M change	-17.1%	-18.5%	-12.5%
Y/Y change	-29.5%	0.0%	-62.3%

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; 2/16/17

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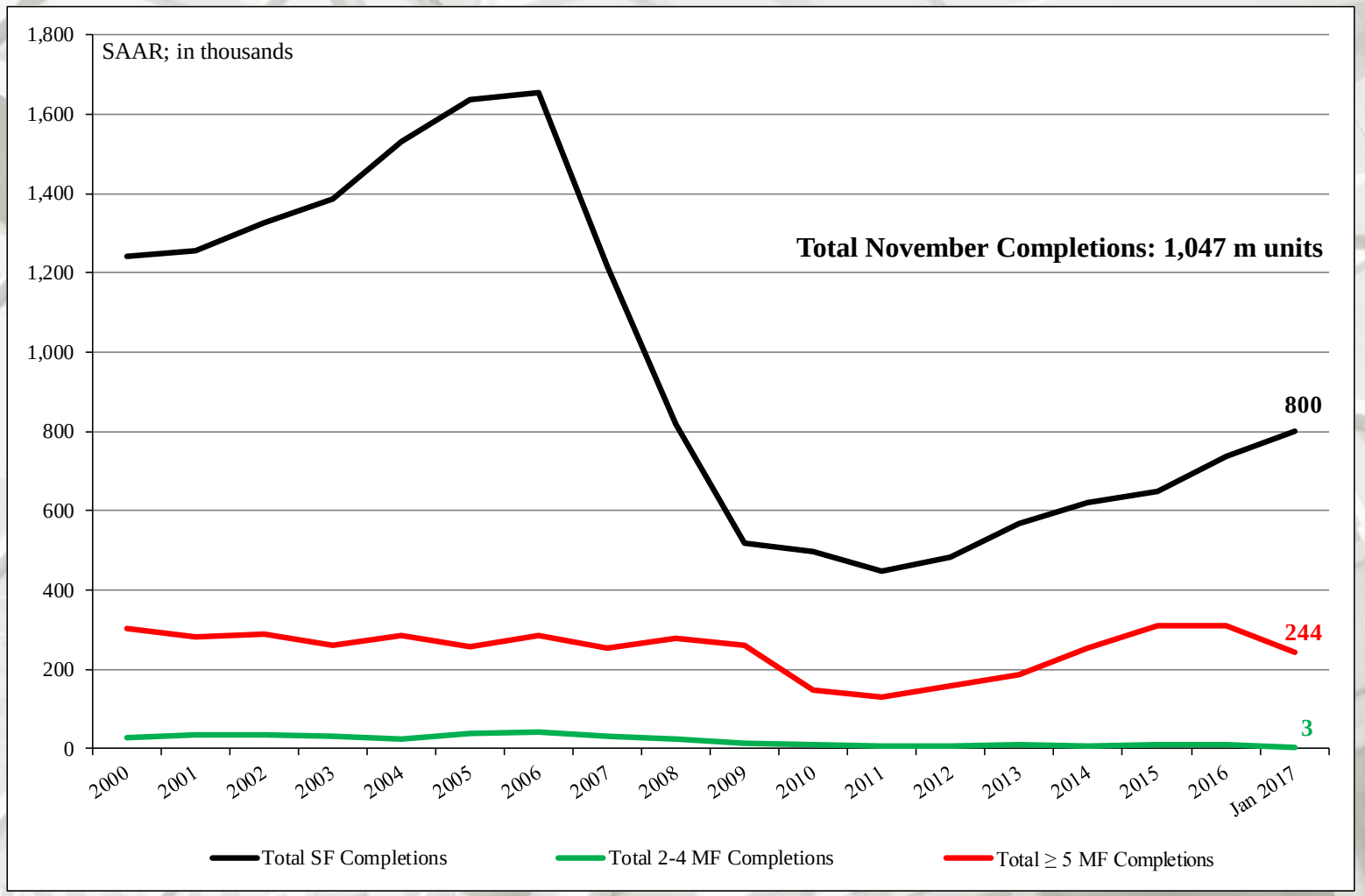
Total Housing Completions



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

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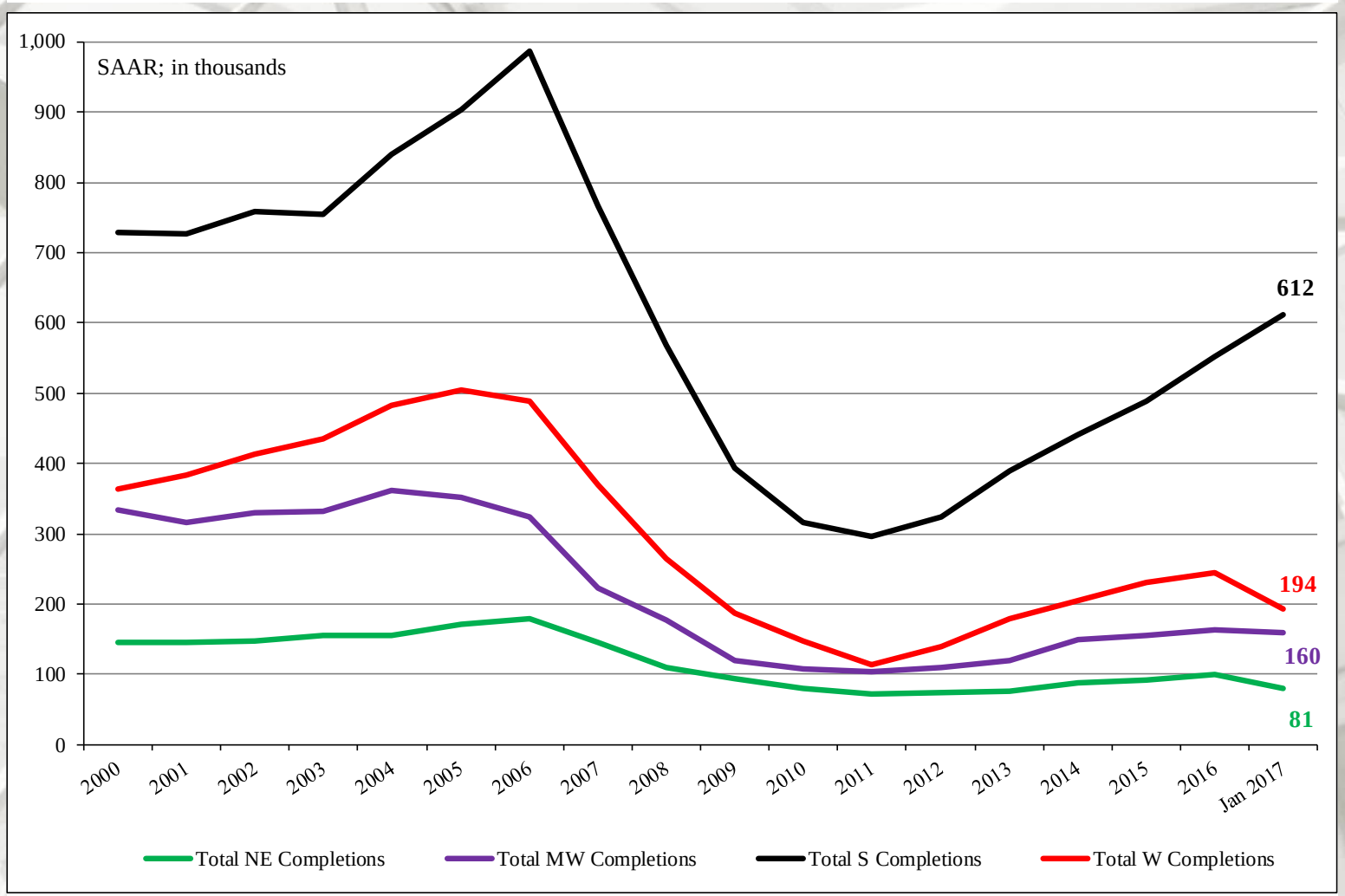
New Housing Completions by Region

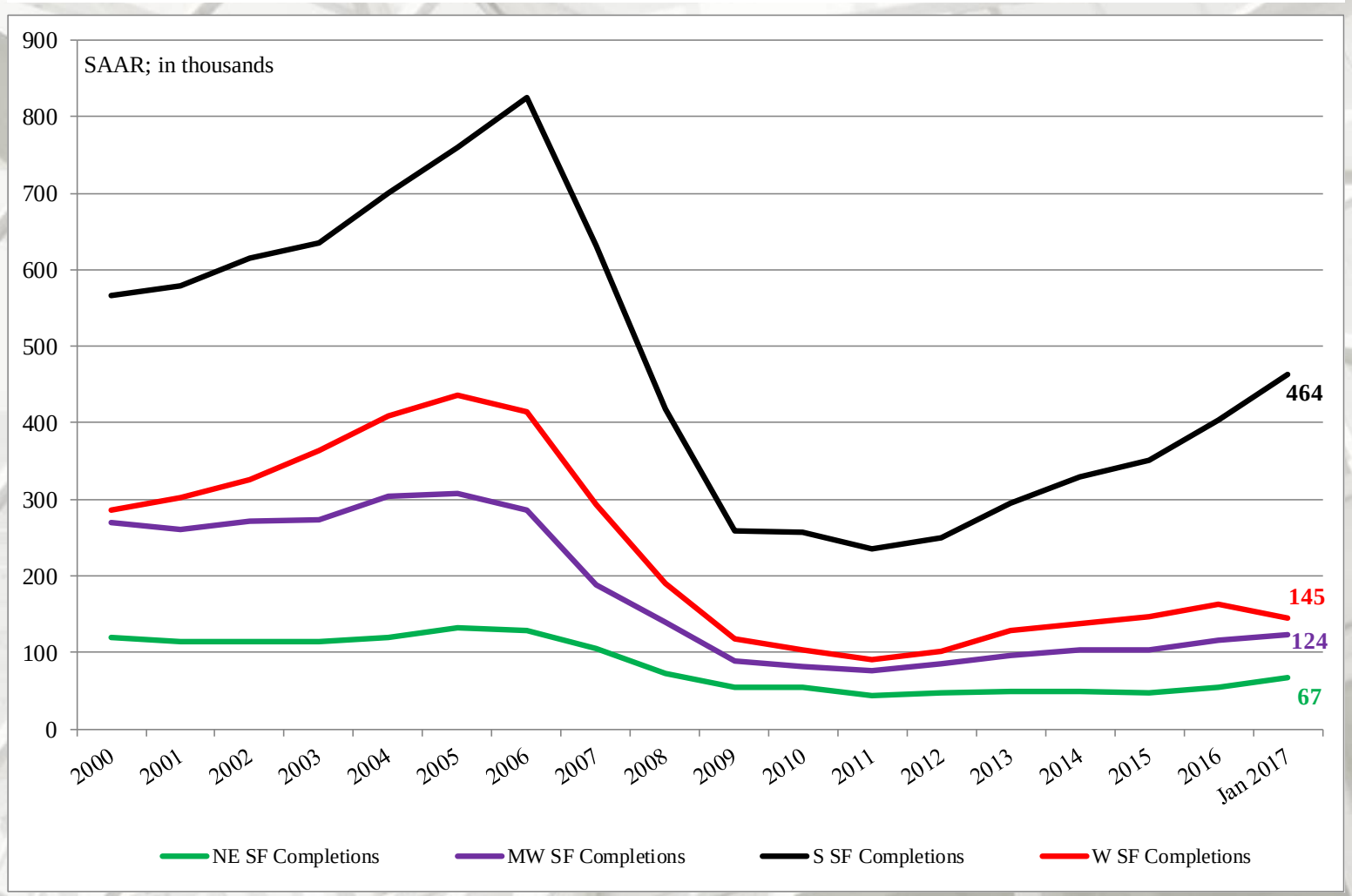


All data are SAAR; NE = Northeast and MW = Midwest.
** US DOC does not report multifamily completions directly, this is an estimation (Total completions – SF completions).

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

SF Housing Completions by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

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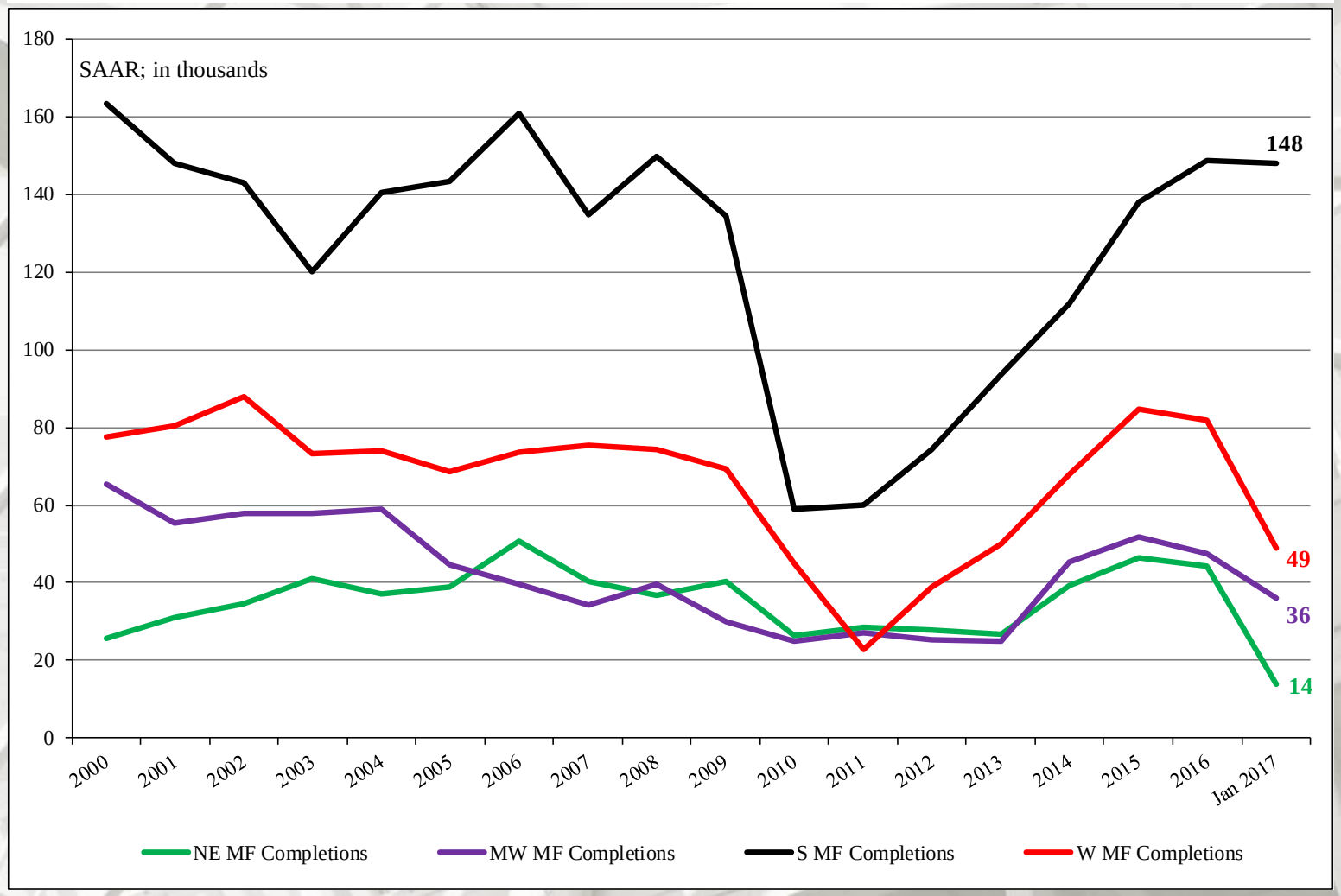
MF Housing Completions by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17

Return TOC

New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
January	555,000	$312,900	$360,900	5.7
December	535,000	$312,900	$360,900	5.7
2016	526,000	$291,100	$365,600	5.5
M/M change	3.7	-1.0	-4.8	0.0
Y/Y change	5.5	7.5	-1.3	3.6

* All sales data are presented at a seasonally adjusted annual rate (SAAR) [1].

New SF sales were substantially less than the consensus forecast (576m)[2]. And for the past two month's new SF sales data were revised lower:

November initial: 592m revised to 575m;
December initial: 536m revised to 535m.

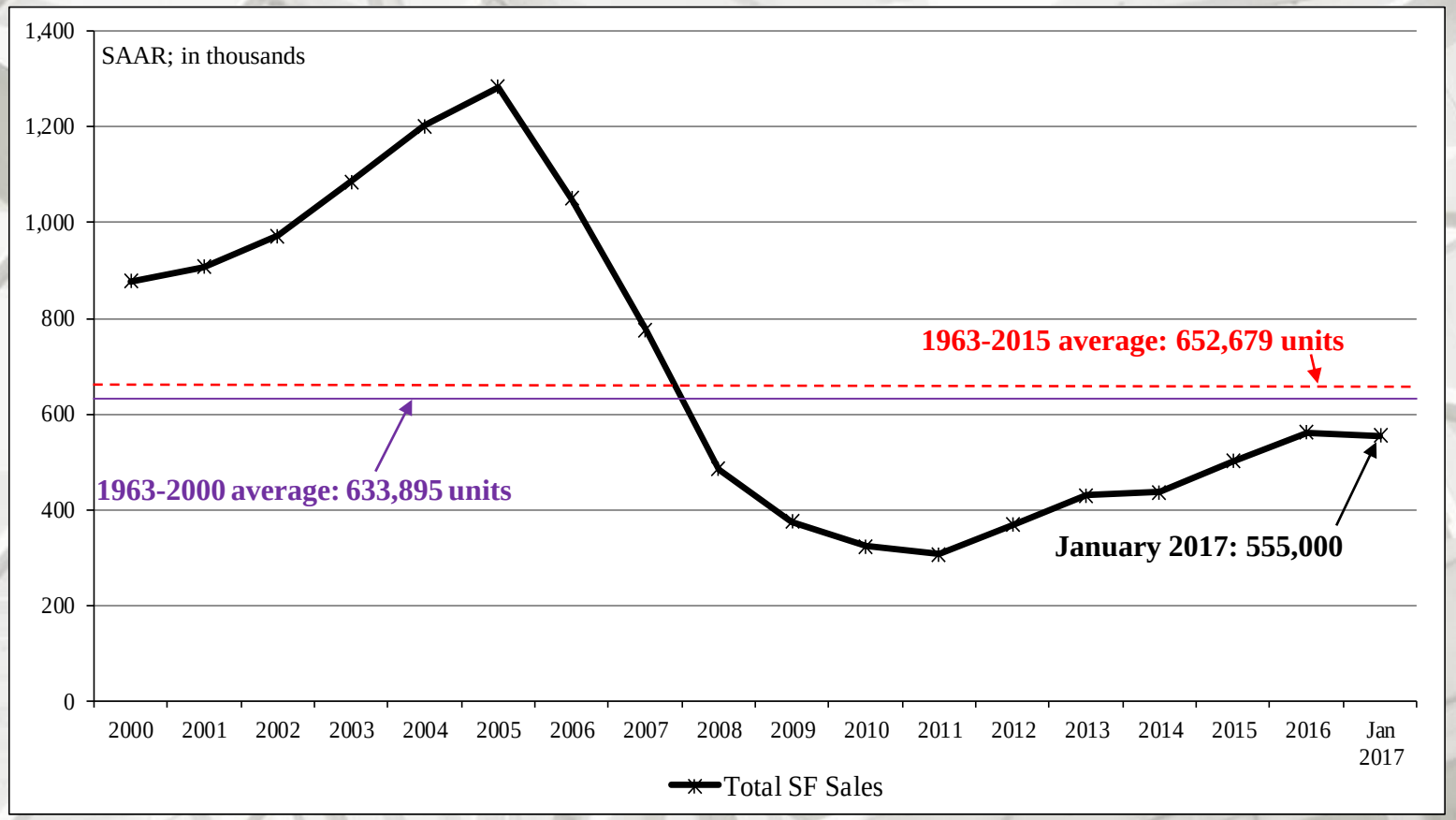
Since January 2016, seven of the past12 months new SF sales data were revised lower from the initial estimates.

New inventory or supply: 6.4 months; greater for all January's since 2011.

Source: [1]http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/24/17; [2]http://www.alhambrapartners.com/2017/02/27/bi-weekly-economic-review-29/; 2/27/17

Return TOC

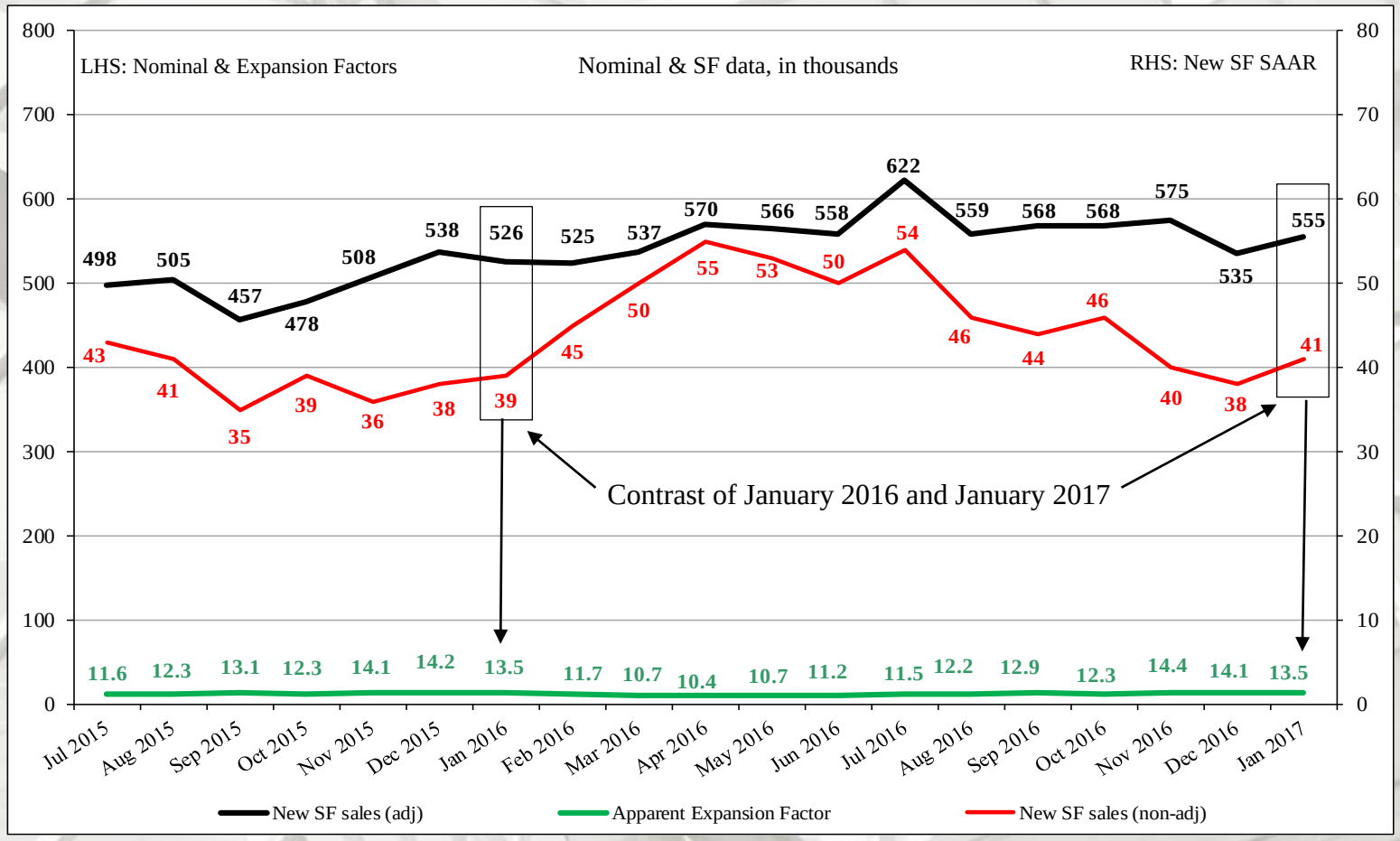
New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

Return TOC

Nominal vs. SAAR New SF House Sales



Nominal and Adjusted New SF Monthly Sales

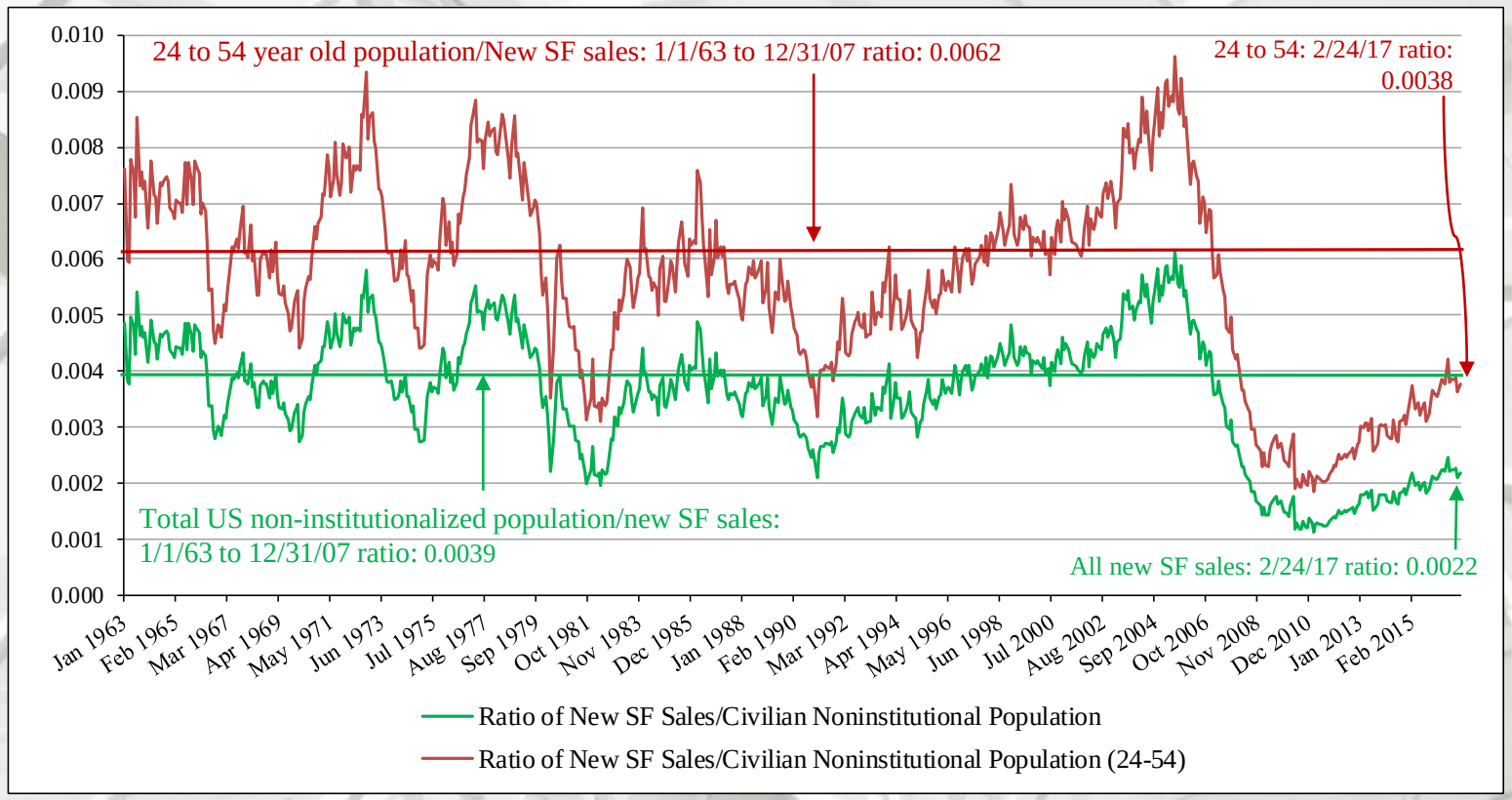
Presented above is nominal (non-adjusted) new SF sales data contrasted against SAAR data.

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; 2/23/17

Return TOC

New SF House Sales



New SF sales adjusted for the US population

From January 1963 to January 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in January 2017 it was 0.0022 – a minimal increase from December (0.0021). The non-institutionalized population, aged 24 to 54 long-term ratio is 0.0062; in January 2017 it was 0.0038 – an increase from December (0.0036). 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; 2/24/17

Return TOC

New SF House Sales by Region and Price Category

	NE SF Sales	MW SF Sales	S SF Sales	W SF Sales
January	44,000	70,000	290,000	151,000
December	38,000	61,000	278,000	158,000
2016	36,000	67,000	293,000	130,000
M/M change	15.8	14.8	4.3	-4.4
Y/Y change	22.2	4.5	-1.0	16.2

	≤ $150m	$150 - $199.9m	$200 - 299.9m	$300 - $399.9m	$400 - $499.9m	$500 - $749.9m	≥ $750m
January[1,2]	2,000	4,000	12,000	11,000	4,000	6,000	2,000
December	1,000	4,000	11,000	10,000	6,000	4,000	2,000
2016	1,000	8,000	12,000	8,000	5,000	4,000	2,000
M/M	100.0%	0.0%	9.1%	10.0%	-33.3%	50.0%	0.0%
Y/Y change	100.0%	-50.0%	0.0%	37.5%	-20.0%	50.0%	0.0%

All data are SAAR.

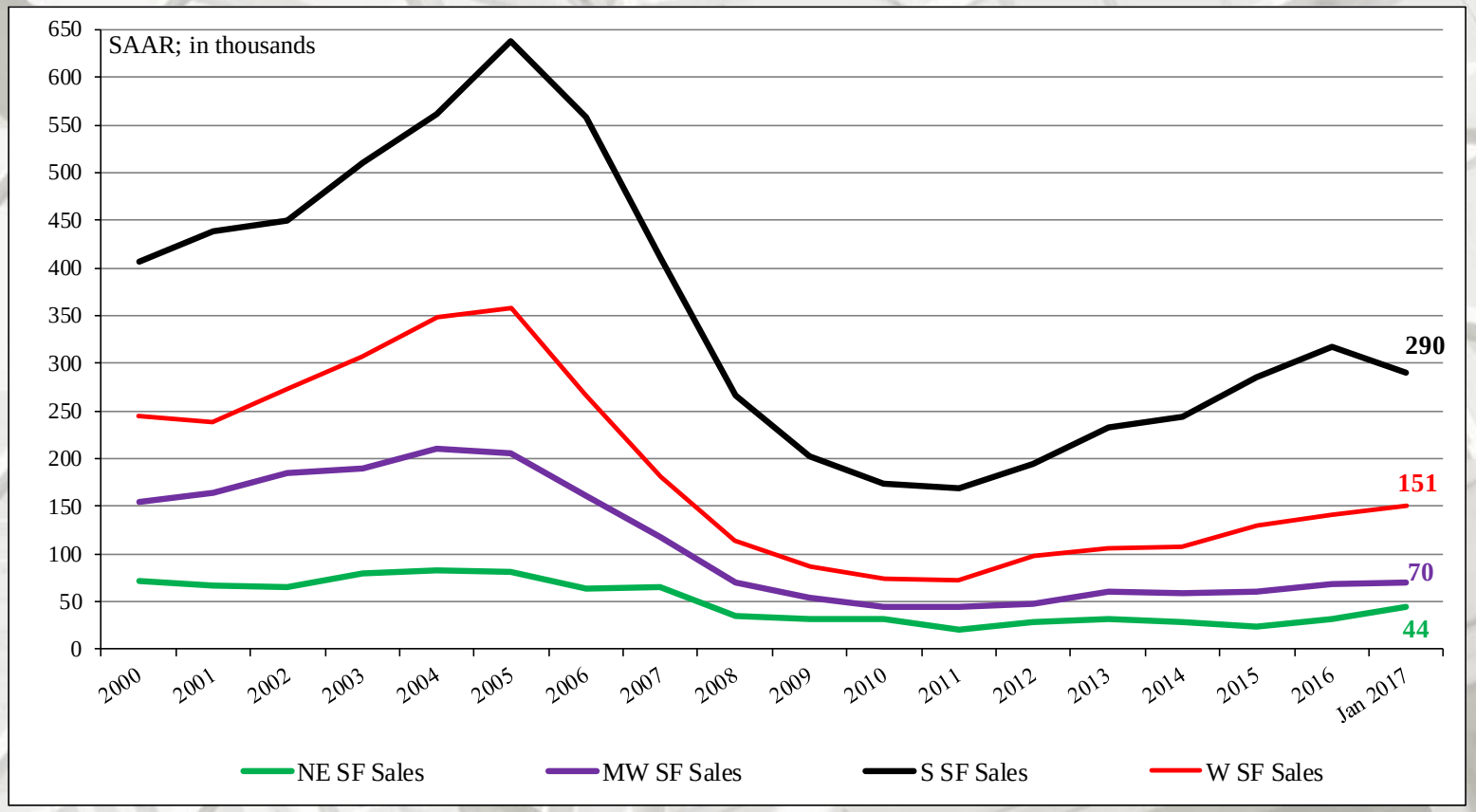
[1] Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;

[2] Detail June not add to total because of rounding.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

Return TOC

New SF House Sales by Region



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

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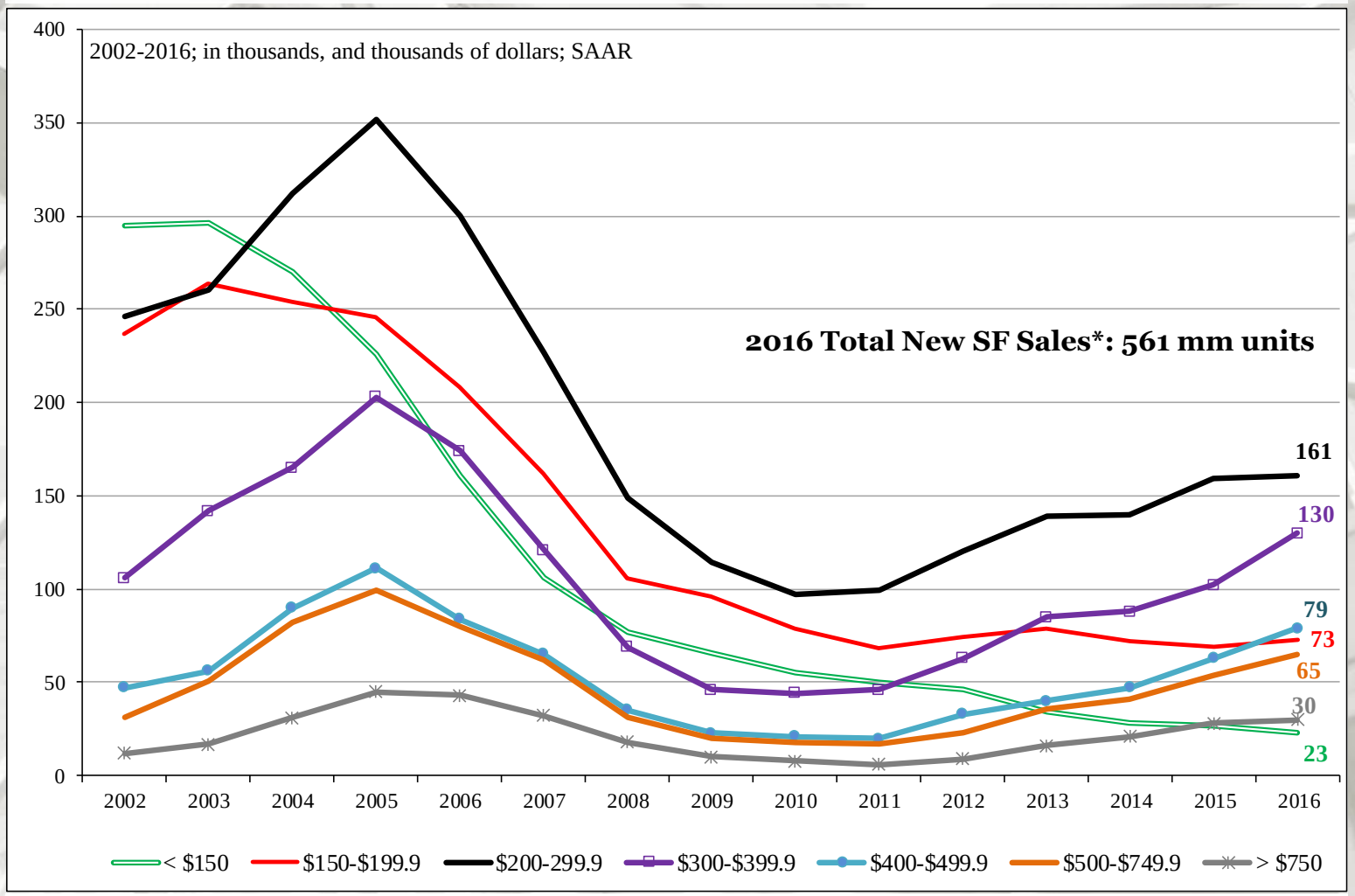
New SF House Sales by Price Category

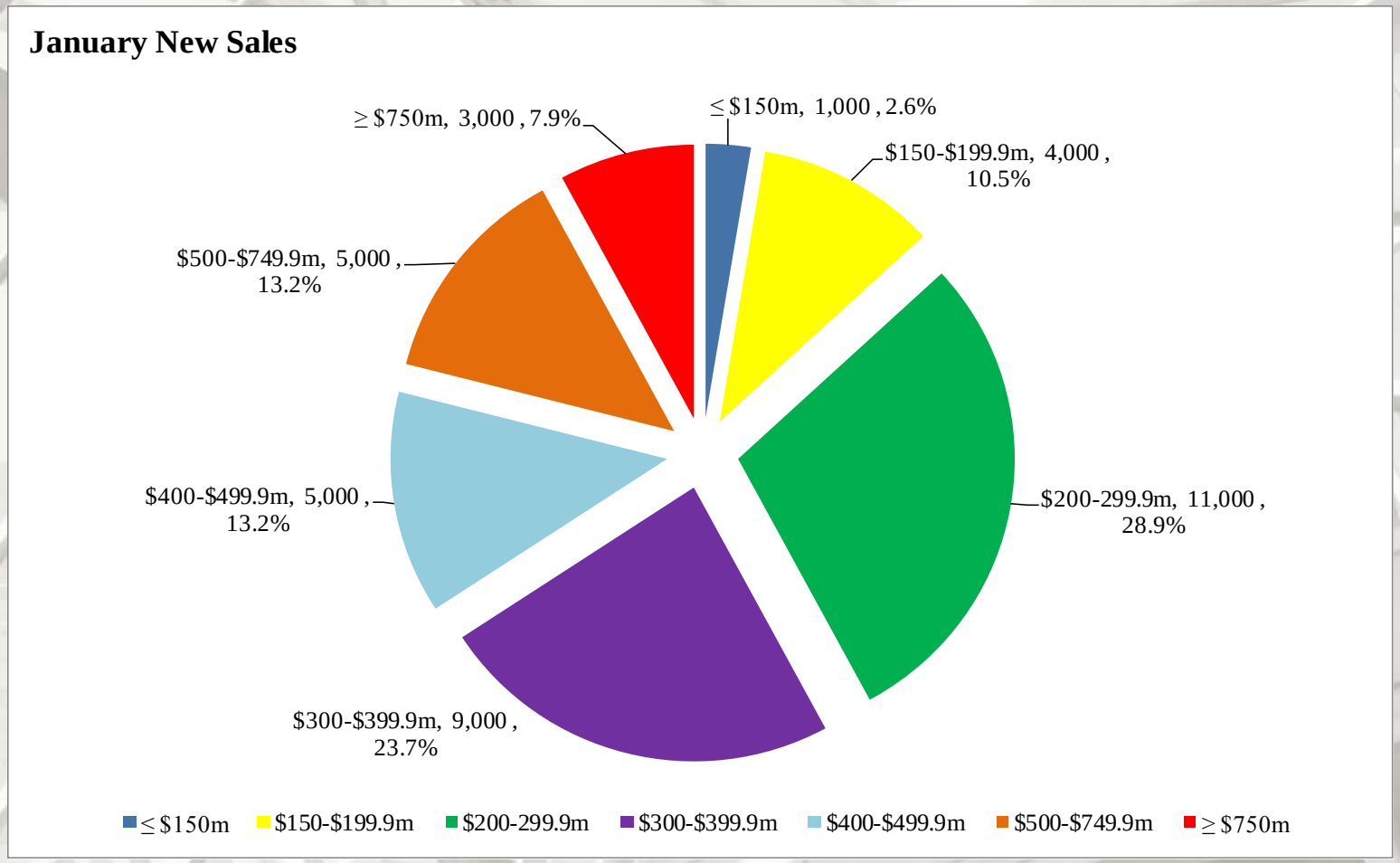


* Sales tallied by price category.

Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

Return TOC

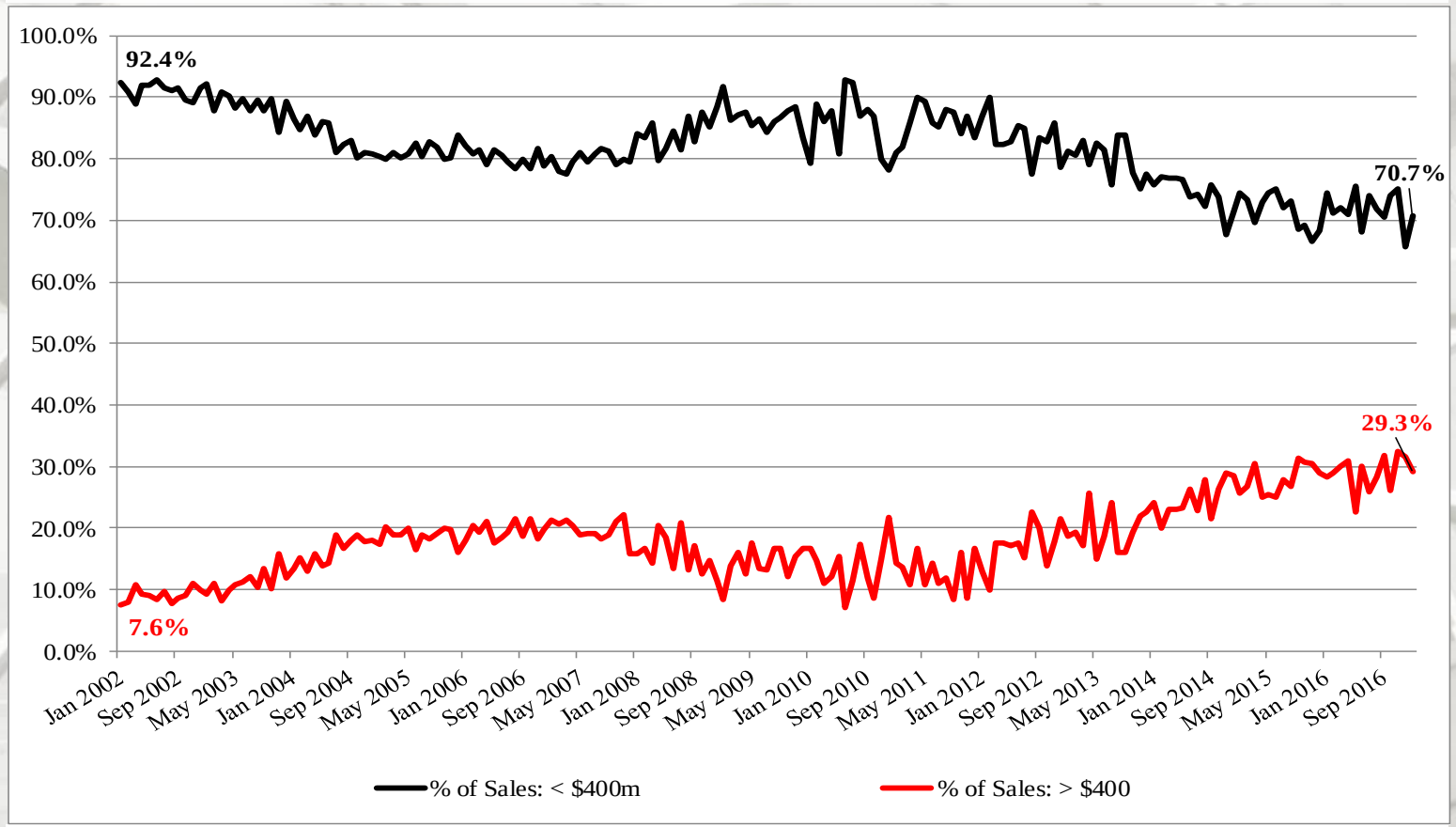
New SF House Sales



Source: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

Return TOC

New SF House Sales



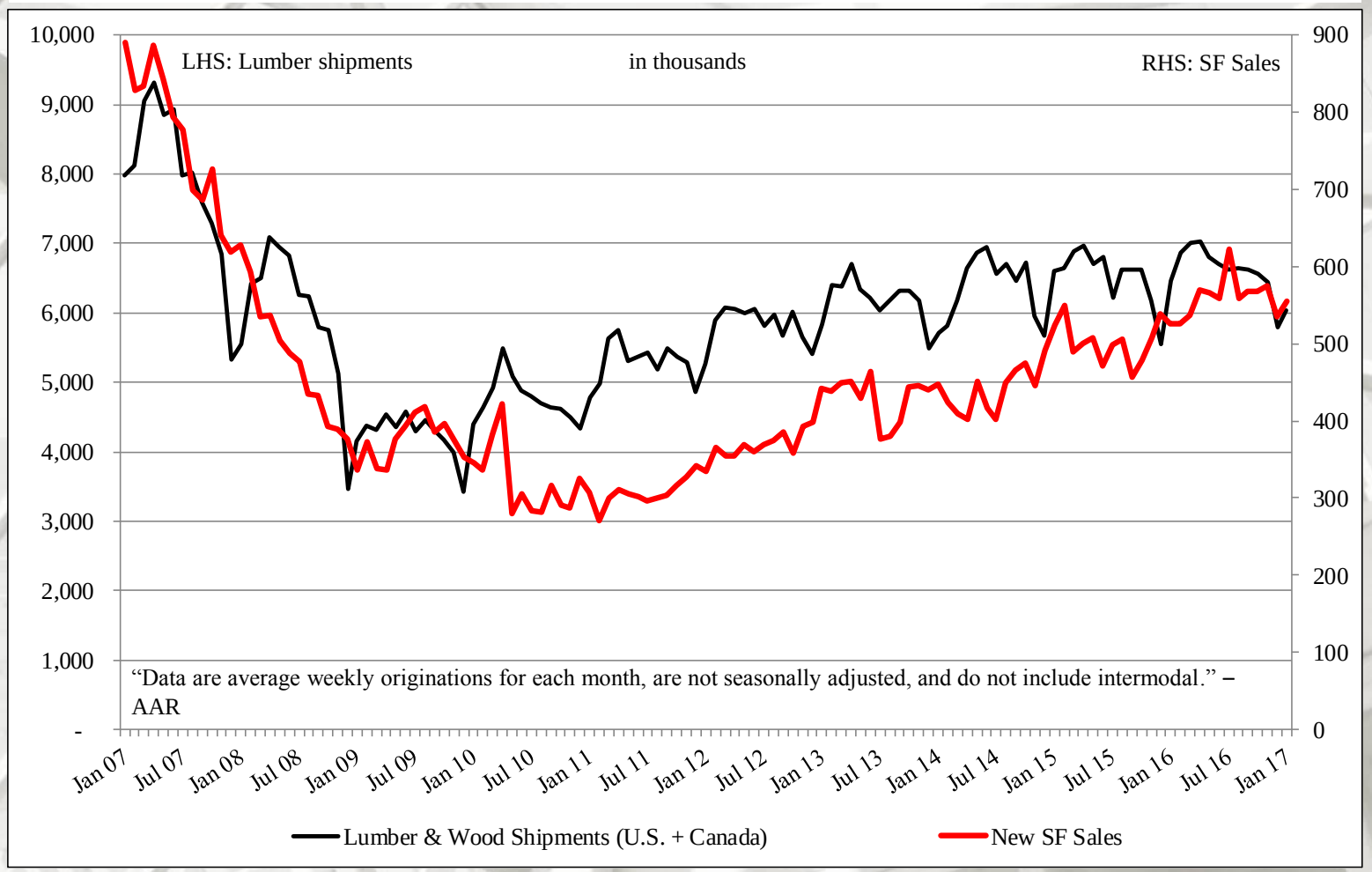
New SF Sales: 2002 – January 2016

The sales share of $400 thousand plus SF houses is presented above. Since the beginning of 2012, the upper priced houses have and are garnering a greater percentage of sales. 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: http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/23/17

Return TOC

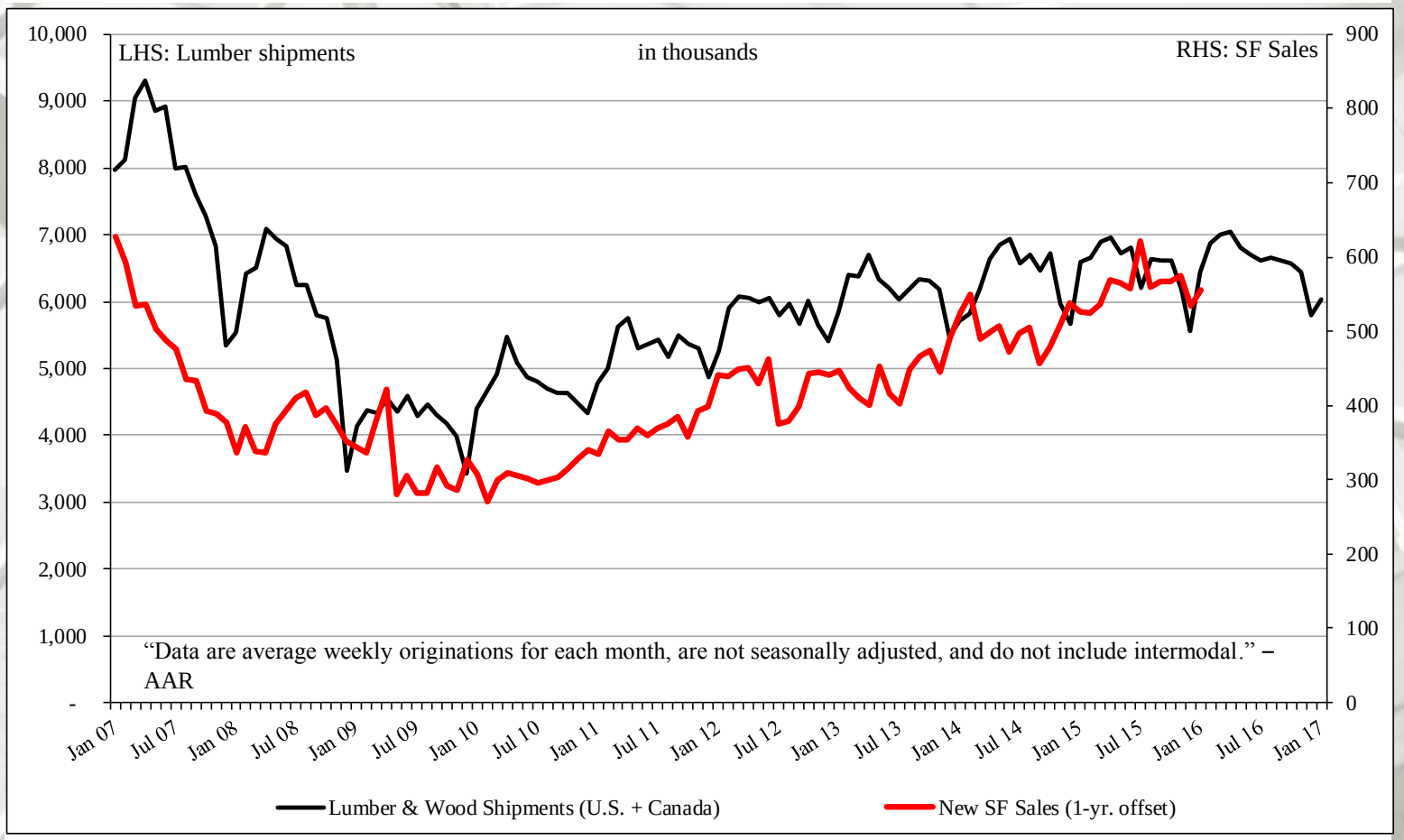
Railroad Lumber & Wood Shipments vs. U.S. New SF House Sales



Sources: Association of American Railroads (AAR), *Rail Time Indicators* report 2/3/17; U.S. DOC-Construction; 2/23/17

Return to TOC

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 January 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 2/3/17; U.S. DOC-Construction; 2/37/17

Return to TOC

January 2017
Construction Spending

2017 January Total Private Residential Construction: $476.4 billion (SAAR)

0.5% more than the revised December estimate of $474.0 billion (SAAR)
5.9% greater than the January 2016 estimate of $450.0 billion (SAAR)

January SF construction: $253.9 billion (SAAR)
1.1% more than December: $251.1 billion (SAAR)
2.3% greater than January 2015: $248.1 billion (SAAR)

January MF construction: $63.5 billion (SAAR)
2.2% more than December: $62.2 billion (SAAR)
9.0% greater than January 2016: $58.3 billion (SAAR)

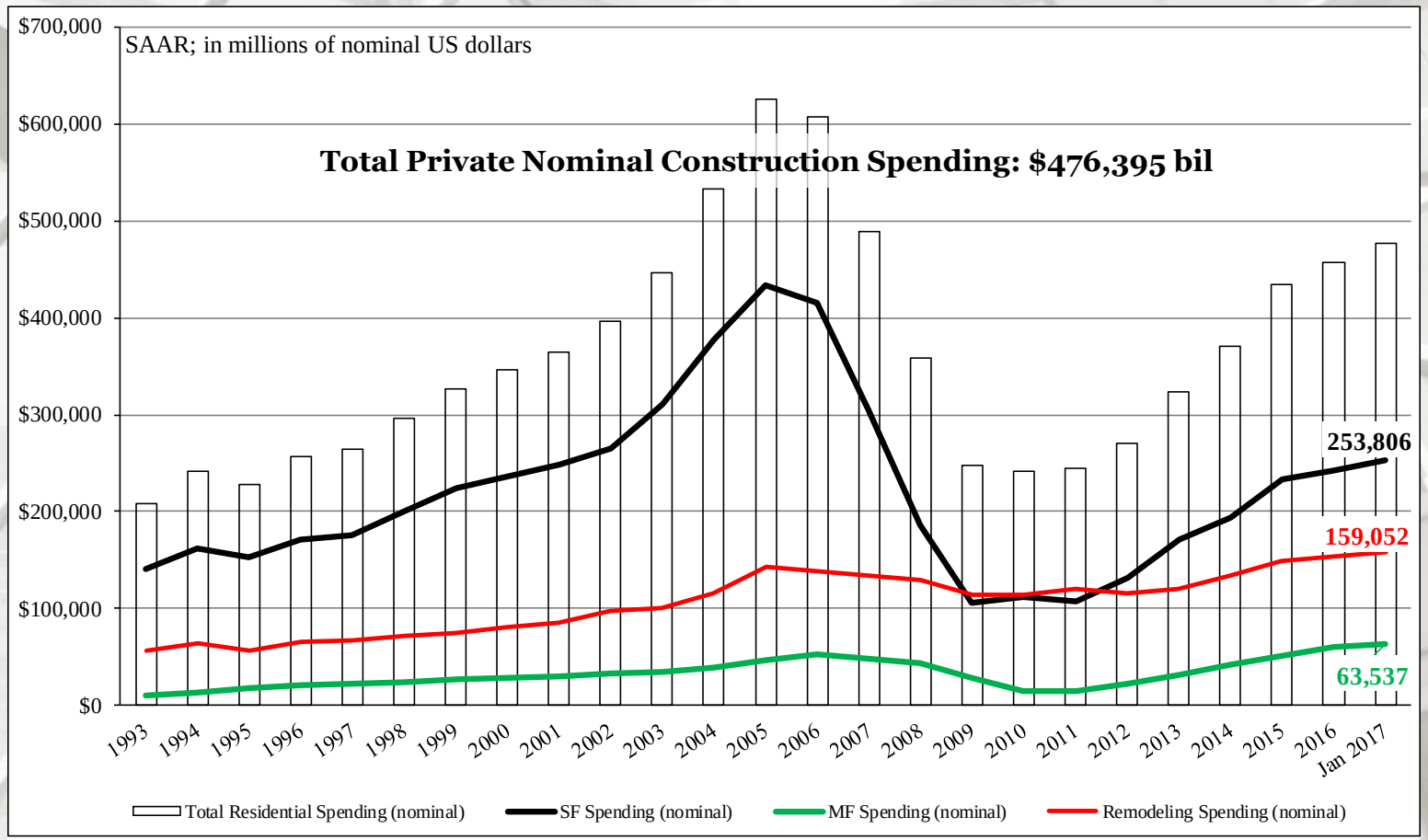
January Improvement[C] construction: $159.0 billion (SAAR)
-1.0% less than December: $160.7 billion (SAAR)
10.8% more than January 2016: $143.6 billion (SAAR)

[C] The US DOC does not report improvement spending directly, this is a monthly estimation for 2016: ((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; 3/1/17

Return TOC

Total Construction Spending (nominal): 1993 – January 2017

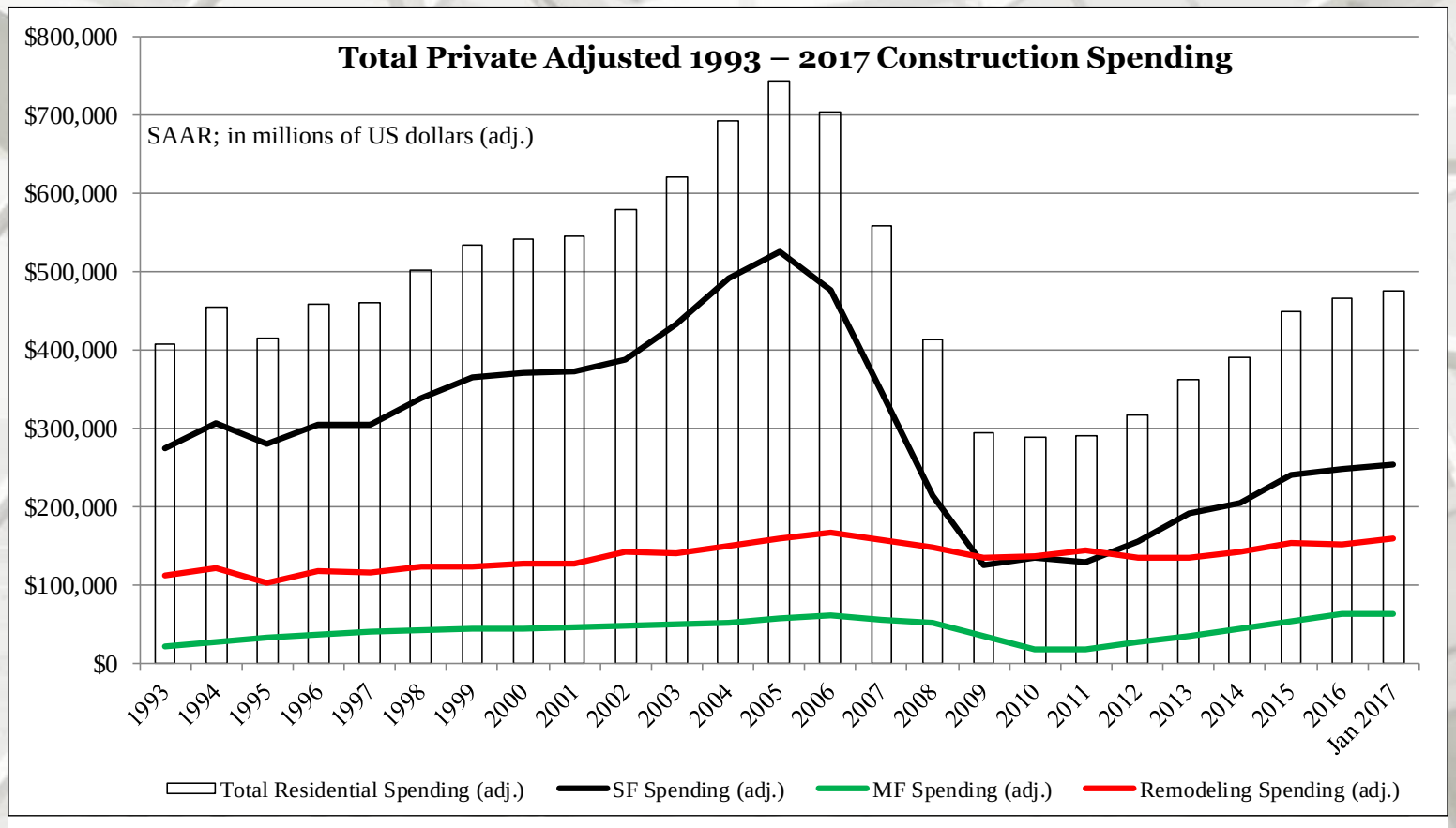


Reported in nominal US$.
The US DOC does not report improvement spending directly, this is a monthly estimation for 2017.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/17

Return TOC

Total Construction Spending (adjusted): 1993-2017*

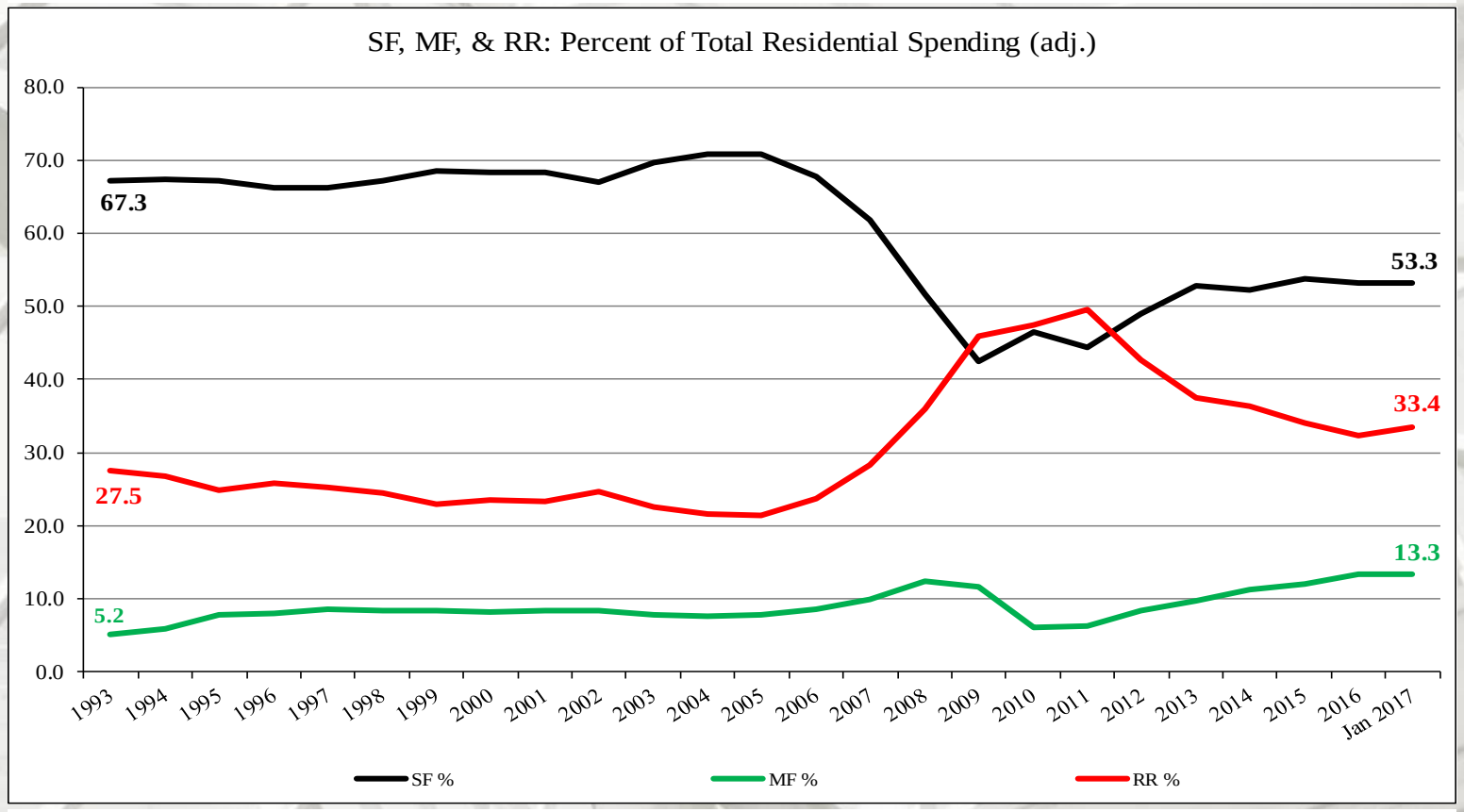


Reported in adjusted US$: 1993 – 2016 (adjusted for inflation, BEA Table 1.1.9); *January 2017 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 3/1/17

Return TOC

Construction Spending Shares: 1993 to January 2017



Total Residential Spending: 1993 through 2006

SF spending average: 69.2 %

MF spending average: 7.5 %;

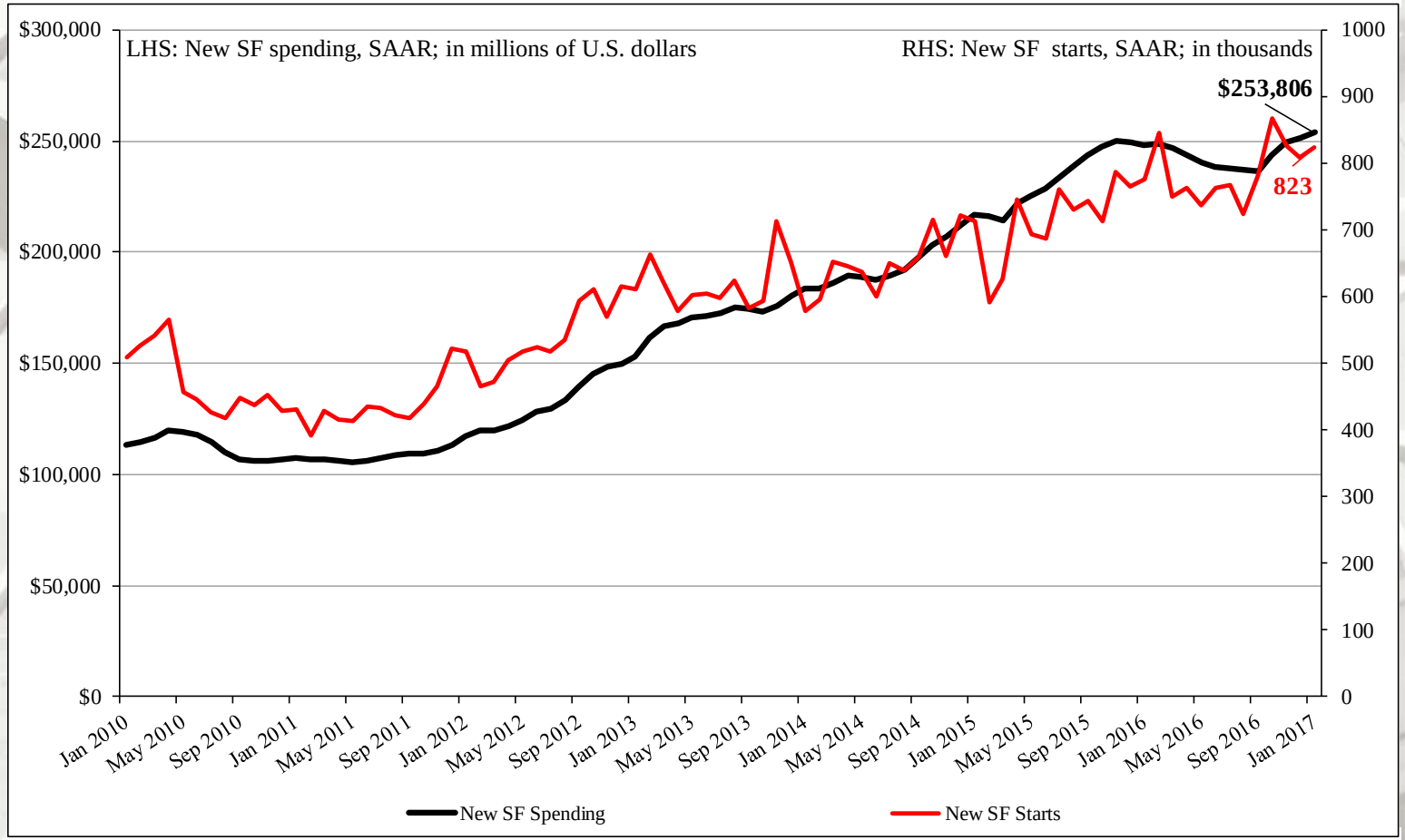
Residential remodeling (RR) spending average: 23.3 % (SAAR).

Note: 1993 to 2015 (adjusted for inflation, BEA Table 1.1.9); January-November 2016 reported in nominal US$.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and http://www.bea.gov/iTable/iTable.cfm; 3/1/17

Return TOC

Construction Spending & Starts: 2010 to January 2017



New SF Residential contrasted against New SF Starts: 2010 through 2017

In the above graph, new SF construction spending is compared to new SF starts. Generally, as SF starts increase so does spending. However, there are other factors involved: house size, amenities, lot price, location, etc.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf and : http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 2/16/17-3/1/17

Return TOC

Remodeling

Aging Homeowners Drive Growth in Remodeling as Millennials Begin to Gain Footing

"With national house prices rising sufficiently to help owners rebuild home equity lost during the downturn, and with both household incomes and existing home sales on the rise, we expect to see continued growth in the home improvement market." – Kermit Baker, Director of the Remodeling Futures Program, The Joint Center for Housing Studies, Harvard

"Homeowner spending on remodeling is expected to see healthy growth through 2025, according to ***Demographic Change and the Remodeling Outlook***, the latest biennial report in the Improving America's Housing series released today by the **Harvard Joint Center for Housing Studies**. Demographically based projections suggest that older owners will account for the majority of spending gains over the coming years as they adapt their homes to changing accessibility needs. Although slower to move into homeownership than previous generations, millennials are poised to enter the remodeling market in greater force, buying up older, more affordable homes in need of renovations.

The residential remodeling market includes spending on improvements and repairs by both homeowners and rental property owners, and reached an all-time high of $340 billion in 2015, surpassing the prior peak in 2007. Spending by owners on improvements is expected to increase 2.0 percent per year on average through 2025 after adjusting for inflation, just below the pace of growth posted over the past two decades, and about on par with expected growth in the broader economy." – Kerry Donahue, The Joint Center for Housing Studies, Harvard

Source: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_improving_americas_housing_2017_press_release_final_0.pdf; 3/1/17

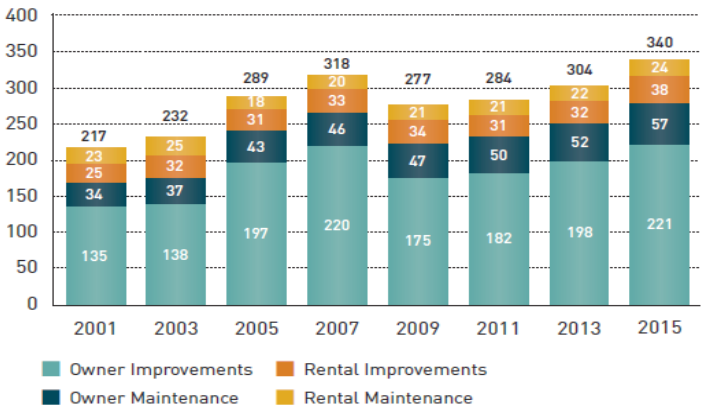
Return TOC

Remodeling

Figure 1

With All Segments Growing, the Home Remodeling Market Has Surpassed Its Previous Peak

Billions of Dollars

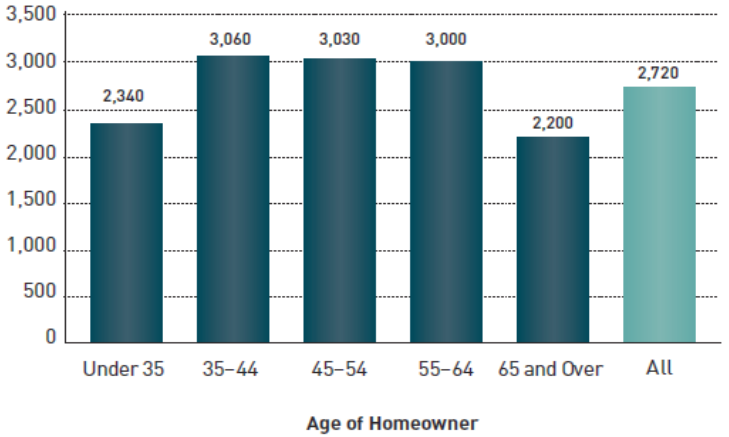


Sources: JCHS analysts of US Department of Housing and Urban Development (HUD), American Housing Surveys; US Department of Commerce, Retail Sales of Building Materials and Survey of Expenditures for Residential Improvement and Repairs (C-50); and JCHS Research Notes, October 2010 and April 2016.

Figure 4

Outlays for Home Renovations Increase Sharply After Owners Reach Their Mid-30s

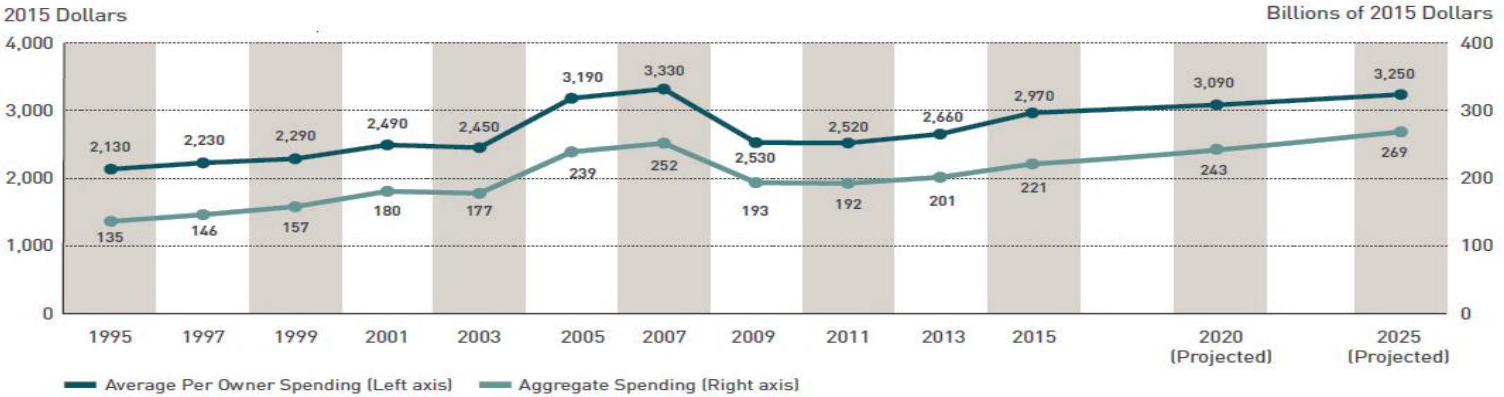
Average Annual Per Owner Improvement Spending, 2011–2015 (2015 dollars)



Source: JCHS tabulations of HUD, American Housing Surveys.

Figure 5

Homeowner Improvement Spending Is Poised for Solid Growth Over the Coming Decade



Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

Source: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_improving_americas_housing_2017_press_release_final_0.pdf; 3/1/17

Return TOC

Remodeling

Aging Homeowners Drive Growth in Remodeling as Millennials Begin to Gain Footing

"The large baby boom generation has led home improvement spending for the past twenty years, and its influence shows no signs of waning. Older homeowners will continue to dominate the remodeling market, as they make investments to age in place safely and comfortably. Expenditures by homeowners age 55 and over are expected to grow by nearly 33 percent by 2025, accounting for more than three-quarters of total gains over the decade. The share of market spending by homeowners age 55 and over is projected to reach 56 percent by 2025, up from only 31 percent in 2005.

Gen-Xers are now in their prime remodeling years, and while some are still recovering from home equity losses after the housing crash, many in this generation will undertake discretionary projects deferred during the downturn. And as younger households move into homeownership, they will supplement the already thriving improvement market.

Even though increasing house prices are encouraging homeowners to reinvest in their homes, they also are raising housing affordability concerns among younger buyers. Climbing mortgage interest rates and rising house prices not only make homeownership more difficult for younger households, but leave those who are able to buy with fewer resources to make improvements and repairs. And while high rents may provide an incentive to buy homes, they also make it difficult for first-time buyers to save for a down payment.

Some demographic trends are also presenting challenges to a healthier remodeling market outlook. A disproportionate share of growth over the coming decade will be among older owners, minority owners, and households without young children; groups that traditionally spend less on home improvements." – Kerry Donahue, The Joint Center for Housing Studies, Harvard

Source: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_improving_americas_housing_2017_press_release_final_0.pdf; 3/1/17

Return TOC

Remodeling

Aging Homeowners Drive Growth in Remodeling as Millennials Begin to Gain Footing

"Despite these challenges, the remodeling industry should see numerous growth opportunities over the next decade. Strong demand for rental housing has opened up that segment to a new wave of capital investment, and the shortage of affordable housing in much of the country makes the stock of older homes an attractive option for buyers willing to in invest in upgrades." – Chris Herbert, Managing Director, The Joint Center for Housing Studies, Harvard

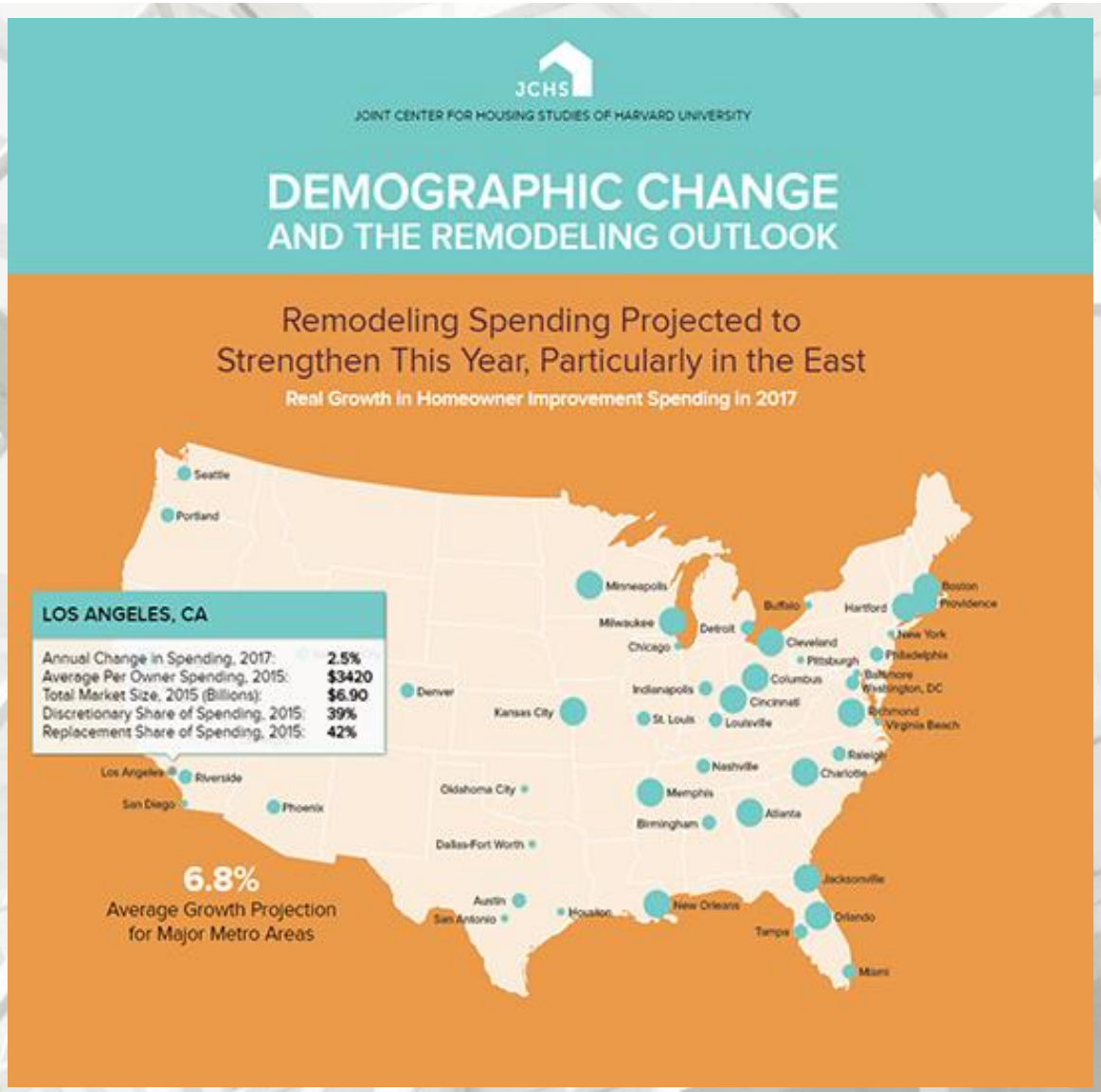
"Finally, as a new generation of homeowners enters the remodeling market, specialty niches focused on energy-efficiency, environmental sustainability, and healthy homes are likely to see significant growth. Home automation — encompassing everything from entertainment systems to home energy management, lighting, appliance control, and security — is also emerging as a strong growth market, particularly among younger households.

Looking ahead, there are several opportunities for further growth in the remodeling industry. The retiring baby boom generation is already boosting demand for accessibility improvements that will enable owners to remain safely in their homes as they age. Additionally, growing environmental awareness holds out promise that sustainable home improvements and energy-efficient upgrades will continue to be among the fastest growing market segments." – Kerry Donahue, The Joint Center for Housing Studies, Harvard

Source: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_improving_americas_housing_2017_press_release_final_0.pdf; 3/1/17

Return TOC

Remodeling



Source: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_improving_americas_housing_2017_press_release_final_0.pdf; 3/1/17

Return TOC

Remodeling

Remodeling Index Hits All-Time High
4th-QTR gain of 4.4% pushes index to a reading of 106.1

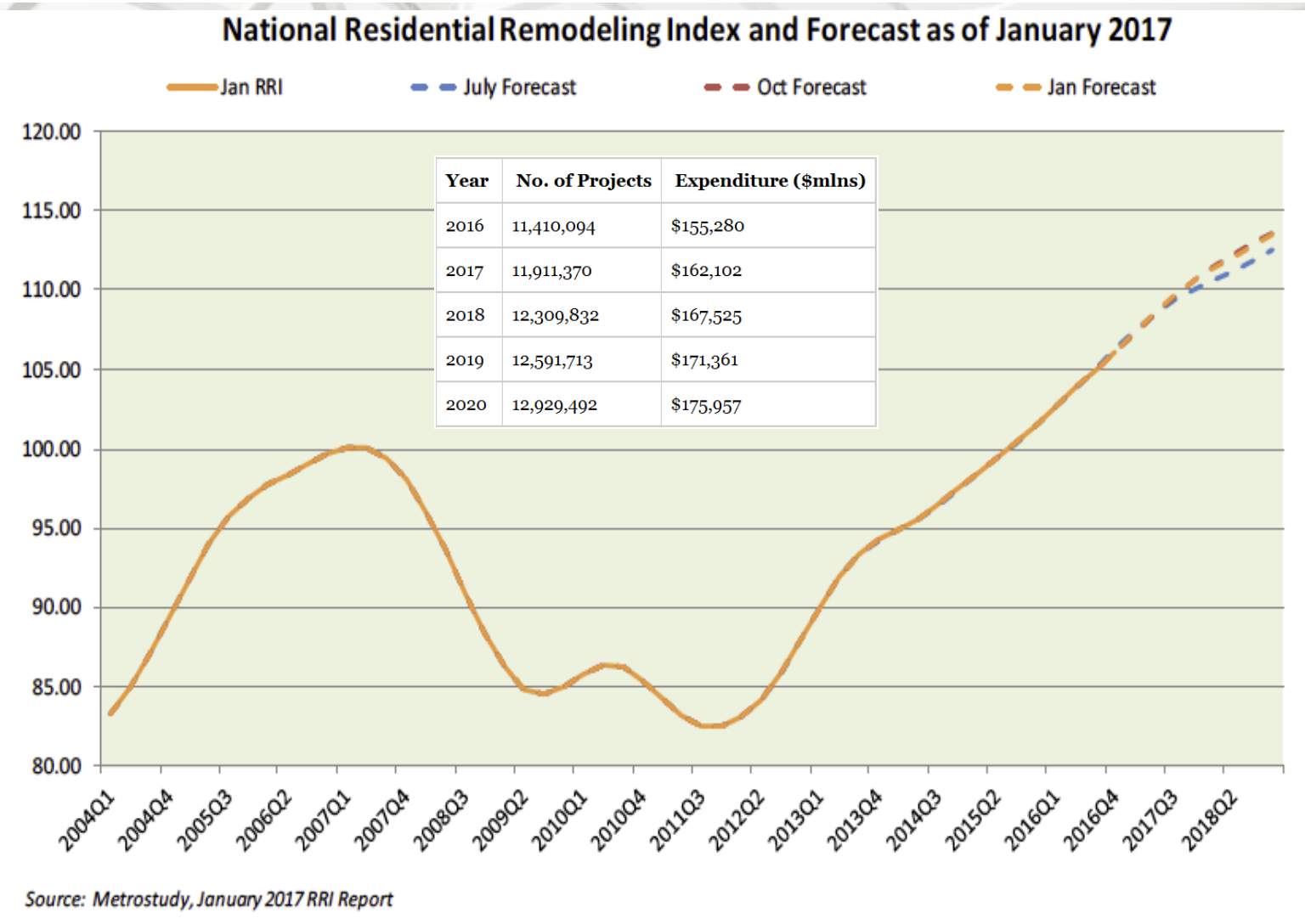
"Metrostudy, a Hanley Wood company, announced that its national RRI Activity Index reaching a new all-time high of 106.1, which also represented a healthy increase of 4.5% from one year earlier. The index has now seen nineteen consecutive quarters of year-over-year gains since 2011, the bottom of remodeling activity nationwide. Metrostudy's latest forecast calls for continued increases over the next few years, with year-over-year growth of the national Activity Index averaging 4.4% in 2017, 3.1% in 2018, and 2.7% in 2019.

The remodeling industry in the United States will continue to be fueled by an economy approaching full employment, growing paychecks, and continued gains in home equity over the next few years. Mortgage rates are forecast to increase through 2017 and beyond. We will be watching closely to see what happens in the remodeling market when mortgage rates surpass the 5 percent mark. Higher rates will slow home sales and price appreciation, but the net positive for the remodeling industry will be a large number of households staying in the homes they locked-in at the 4%-or-below range, and choosing to renovate there. The outlook is positive for home remodeling, but the industry should keep a close eye on current challenges pertaining to a shortage of construction workers. The shortage, if exacerbated, could further increase job costs and diminish project potential." – Mark Boud, Chief Economist, Metrostudy

Source: http://www.builderonline.com/building/operations/remodeling-index-hits-all-time-high_o; 2/15/17

Return TOC

Remodeling



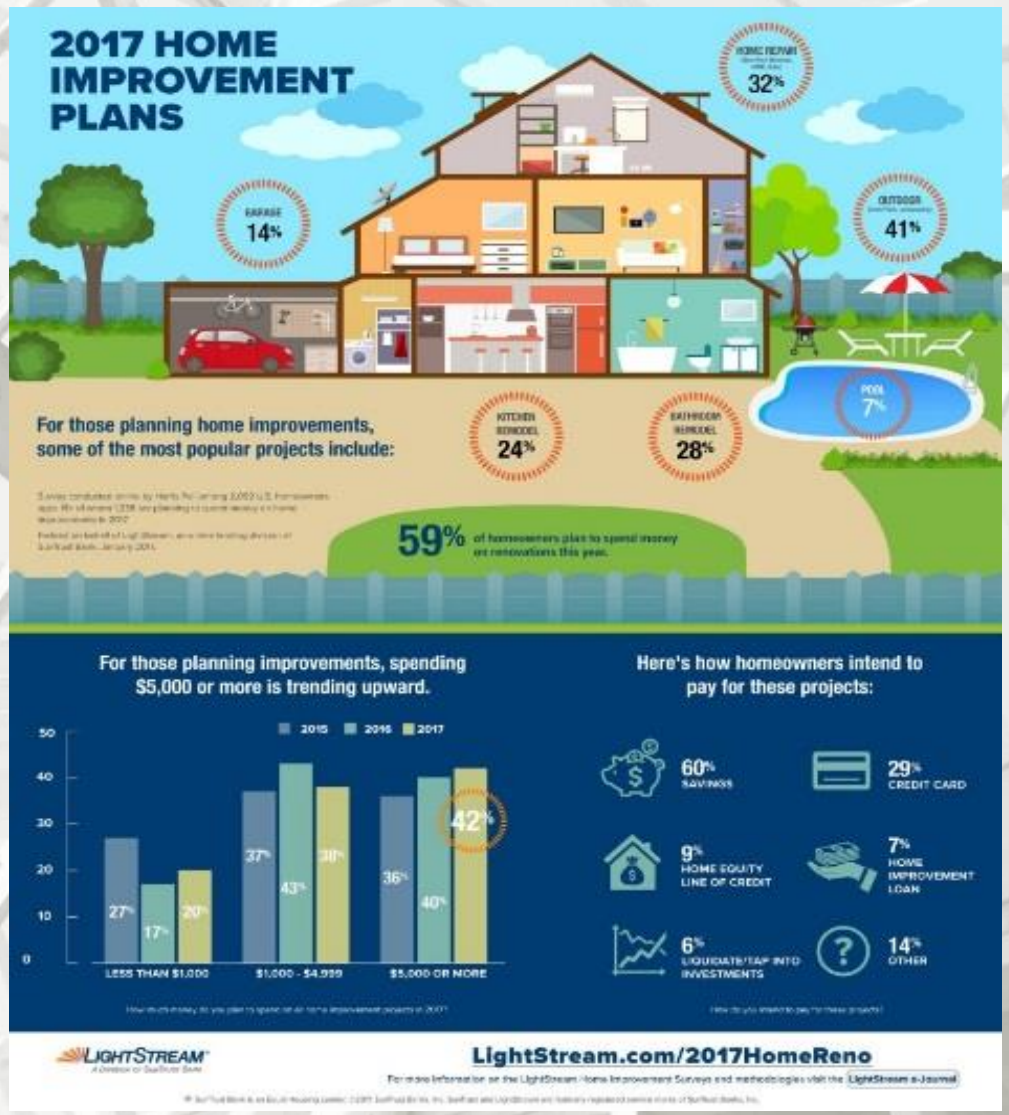
Year	No. of Projects	Expenditure ($mlns)
2016	11,410,094	$155,280
2017	11,911,370	$162,102
2018	12,309,832	$167,525
2019	12,591,713	$171,361
2020	12,929,492	$175,957

Source: Metrostudy, January 2017 RRI Report

Source: http://www.builderonline.com/building/operations/remodeling-index-hits-all-time-high_o; 2/15/17

Return TOC

Remodeling



Source: http://www.builderonline.com/design/consumer-trends/59-of-homeowners-plan-improvement-projects_o; 3/1/17

Return TOC

Existing House Sales

National Association of Realtors (NAR®)

January 2017 sales: 5.690 million (SAAR)

Distressed house sales: 7% of total sales –
(5% foreclosures and 2% short-sales);

7% in December and 9% in January 2016.

All-cash sales: 23%, and 21% in December,
and 26% (January 2016).

Individual investors still purchase a considerable portion of
"all cash" sale houses – 15% in January;
15% in December and 17% in January 2016.

59% of investors paid cash in January.

Source: NAR® https://www.nar.realtor/news-releases/2017/02/existing-home-sales-jump-in-january; 2/22/17

Return TOC

Existing House Sales

	Existing Sales*	Median Price	Mean Price	Month's Supply
January	5,690,000	$228,900	$271,000	3.6
December	5,510,000	$233,300	$274,900	3.6
2016	5,480,000	$213,700	$257,700	4.0
M/M change	3.3%	-1.9%	-1.4%	0.0%
Y/Y change	3.8%	7.1%	5.2%	-10.0%

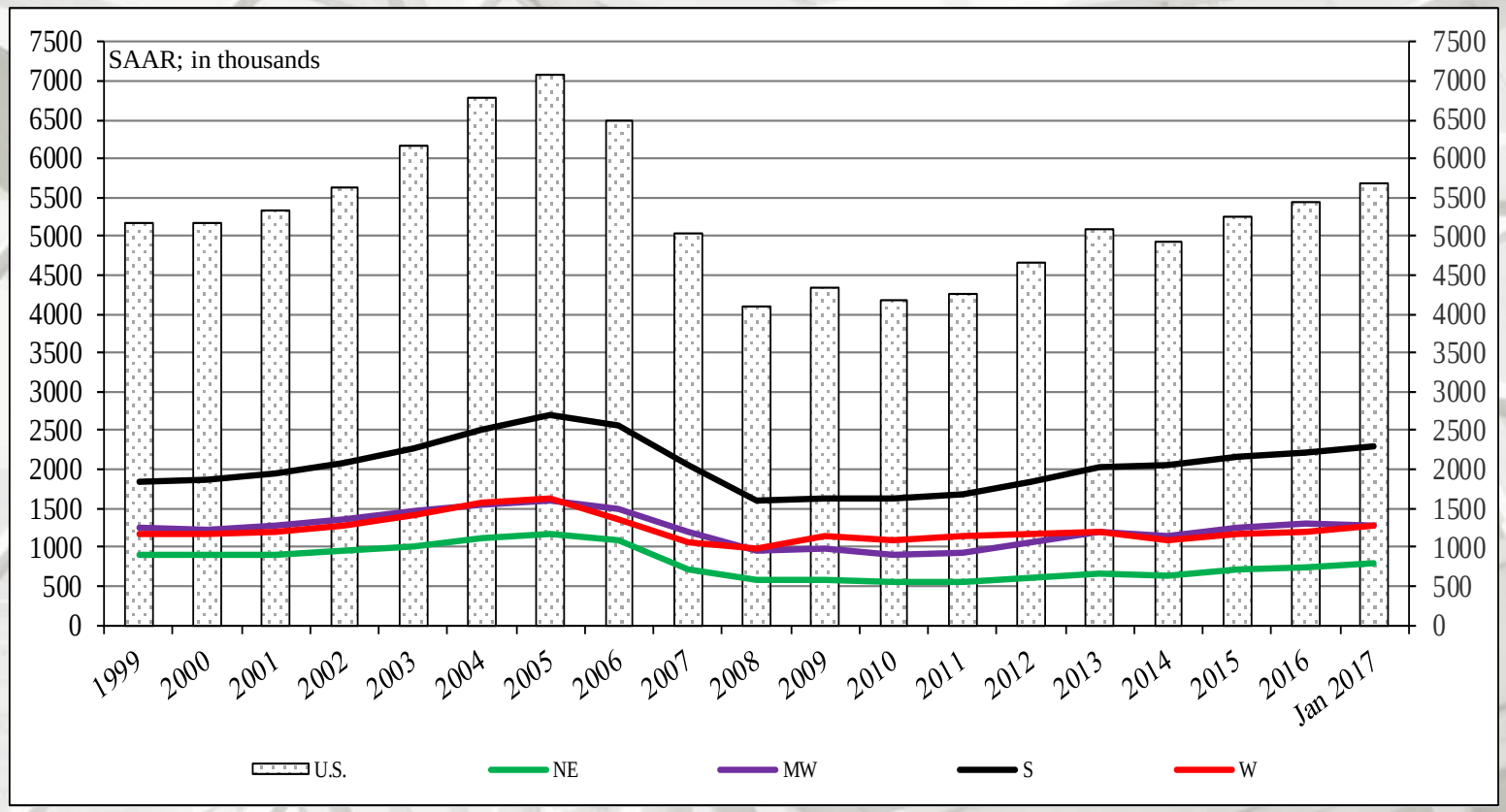
	NE Sales	MW Sales	S Sales	W Sales
January	800,000	1,290,000	2,310,000	1,290,000
December	760,000	1,310,000	2,230,000	1,210,000
2015	750,000	1,300,000	2,240,000	1,190,000
M/M change	5.3%	-1.5%	3.6%	6.6%
Y/Y change	6.7%	-0.8%	3.1%	8.4%

* All sales data: SAAR

Source: NAR® https://www.nar.realtor/news-releases/2017/02/existing-home-sales-jump-in-january; 2/22/17

Return TOC

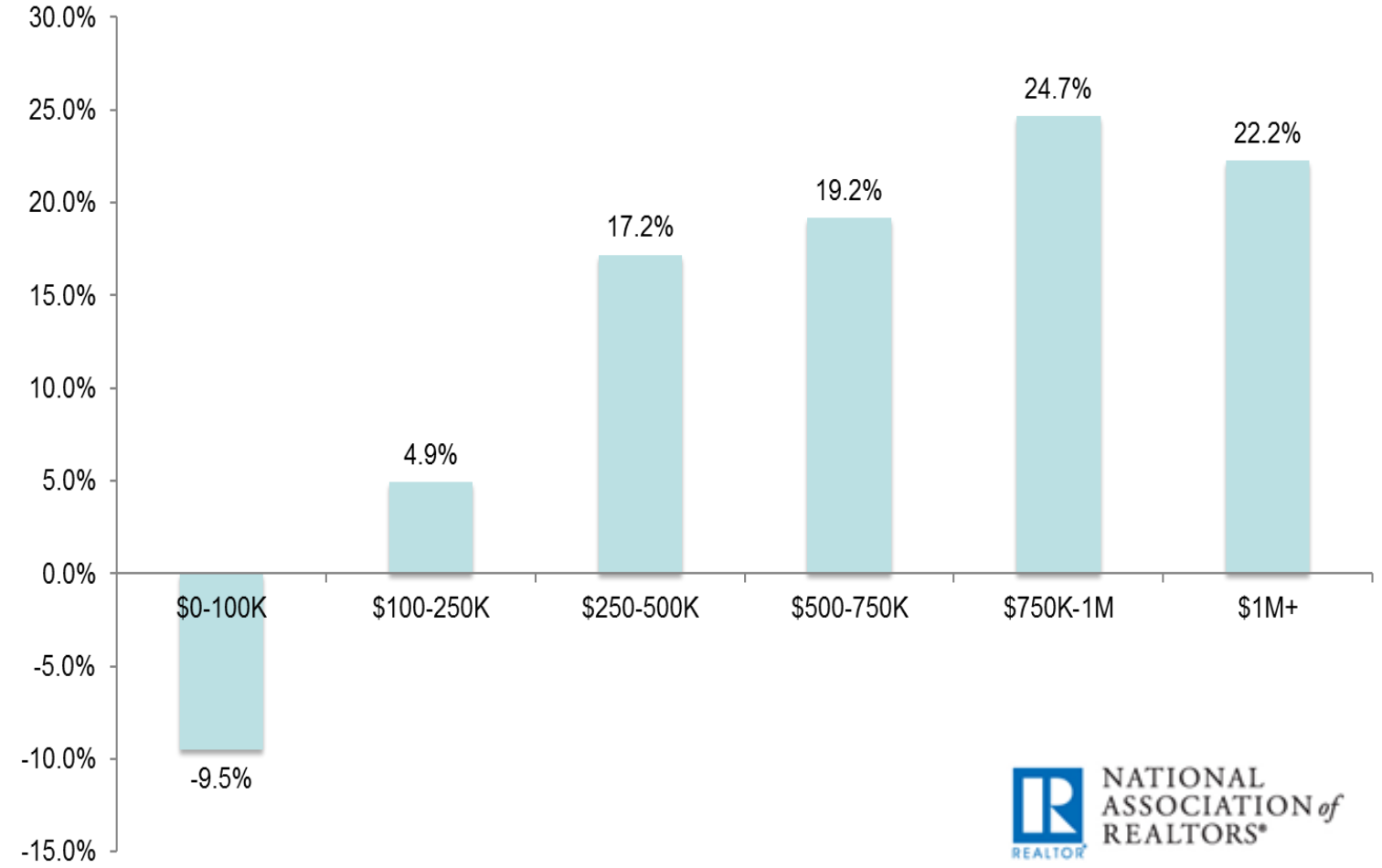
Total Existing House Sales



Source: NAR® https://www.nar.realtor/news-releases/2017/02/existing-home-sales-jump-in-january; 2/22/17

Return TOC

Changes in Existing House Sales



Source: NAR® https://www.nar.realtor/news-releases/2017/02/existing-home-sales-jump-in-january; 2/22/17

Return TOC

House Sales

LANDLORD LAND

A real estate dance party is being led by a new breed of rental property investors But some local markets may soon be left without a dance partner

"Nationwide, single family homes and condos in the third quarter of 2016 sold for a median price of $223,500, just 1.5 percent below the pre-recession high of $227,000 in Q3 2005, according to ATTOM Data Solutions. After bottoming out at $143,500 in Q1 2012, median home prices have increased over the last 18 consecutive quarters and are now 56 percent above that Q1 2012 bottom.

Price per square foot growth has continued to increase since the housing crash, according to a Clear Capital analysis, but continues to remain far below the housing boom highs. National price per square foot has steadily increased over the last 21 quarters beginning in Q3 2011. However, as of Q3 2016, the price per square foot of single family homes and condos nationwide had climbed to around $93 a square foot – still more than 22 percent below the pre-recession high of $120.

Though prices in several markets are nearing pre-bust levels, the composition of both the supply and demand of today's real estate market is starkly different than a decade ago. As such, it's imperative for all market participants to understand the nuances of the New Normal Real Estate Market." – Alex Villacorta, Ph.D., Vice President of Research and Analytics, Clear Capital

Source: http://www.realtytrac.com/news/company-news/analyzing-the-who-behind-recent-real-estate-boom/; 2/22/17

Return TOC

House Sales

LANDLORD LAND

"As the larger institutional investors pulled back on home purchases due to the decreasing distressed share of the market, a different type of investor began to fill the void left by the bigger players; smaller investors, willing to purchase in a wider variety of market landscapes and operate on thinner margins, began ramping up activity in the wake of the Great Recession. The nationwide share of non-owner occupied homes purchased in 2011 had risen to 32.0 percent, up from 30 percent in 2010 and 28 percent in 2009.

During the peak activity of institutional investing, the market share of FHA buyers, who are typically first-time homebuyers with a low down payment, waned during the early housing recovery from 2012 to 2014. However, in January 2015, FHA lowered its insurance premium 50 basis points, and there was a modest resurgence in FHA buyers – a trend perhaps indicative of loosening credit requirements or of a desire to re-enter the housing market for those displaced during the crash. The FHA resurgence was short lived, however, as the share of FHA buyers essentially flat-lined in 2016 – at 21.7 percent compared to 22.3 percent in 2015.

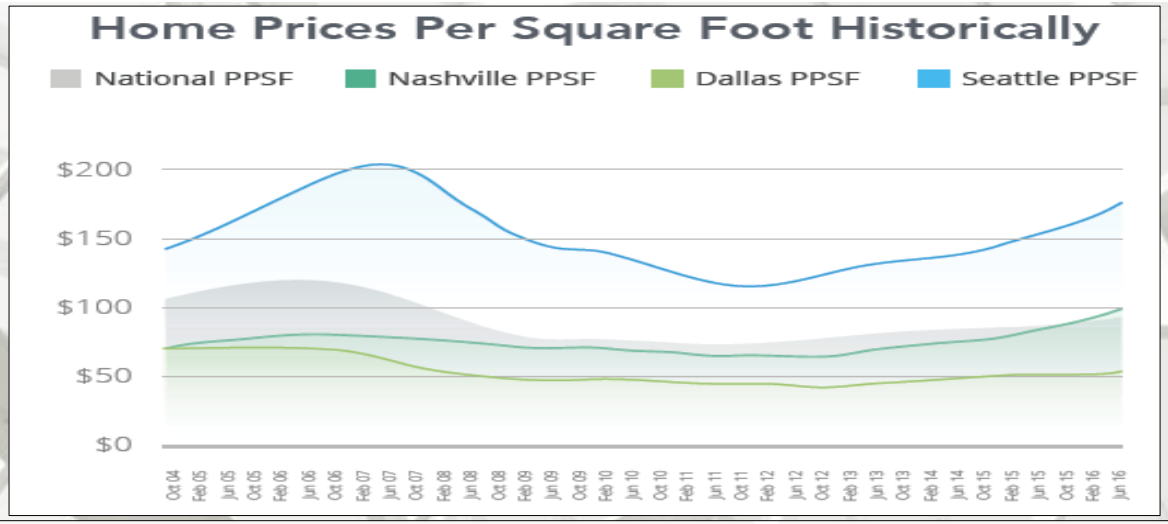
As demand from FHA low-down payment buyers lessened, the demand from smaller investors actually increased. Nationwide, the overall share of non-owner occupied homes purchased in 2015 was 32 percent and one year later jumped to nearly 37 percent – a 21-year high going back as far as ATTOM data is available.

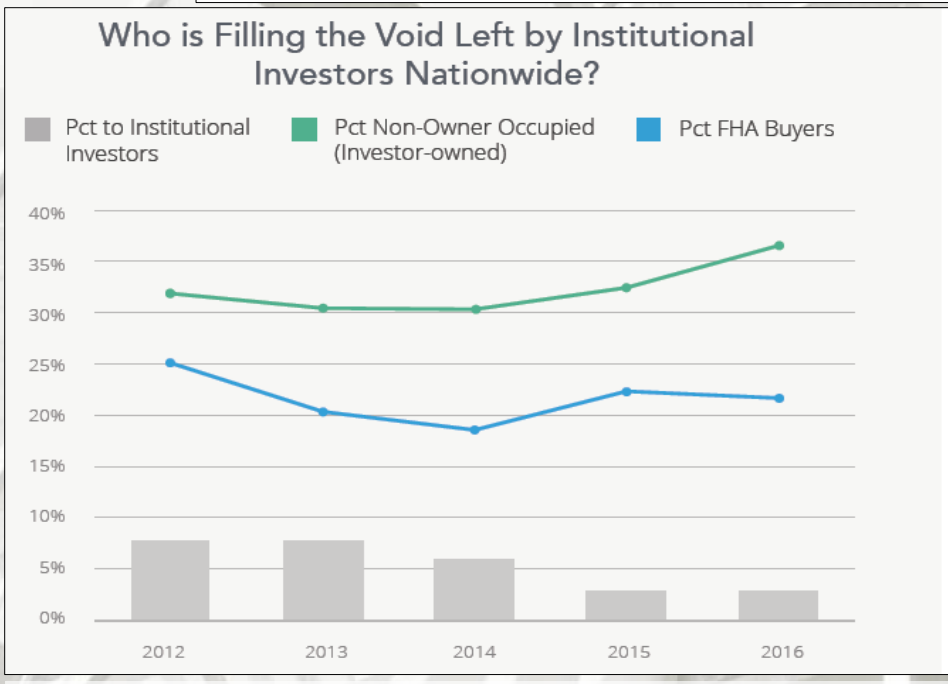
A housing recovery that is highly dependent on real estate investors is a bit of a double-edged sword. Rapidly rising home values have been good for homeowner equity, but also have caused an affordability crunch for the first-time homebuyers the housing market typically relies on for sustained, long-term growth." – Daren Blomquist, Senior Vice President, ATTOM Data Solutions

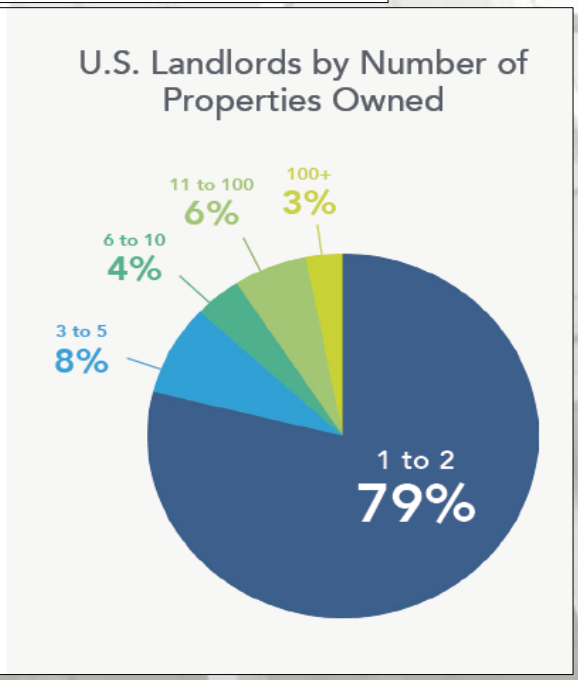
Source: http://www.realtytrac.com/news/company-news/analyzing-the-who-behind-recent-real-estate-boom/; 2/22/17

Return TOC

House Sales



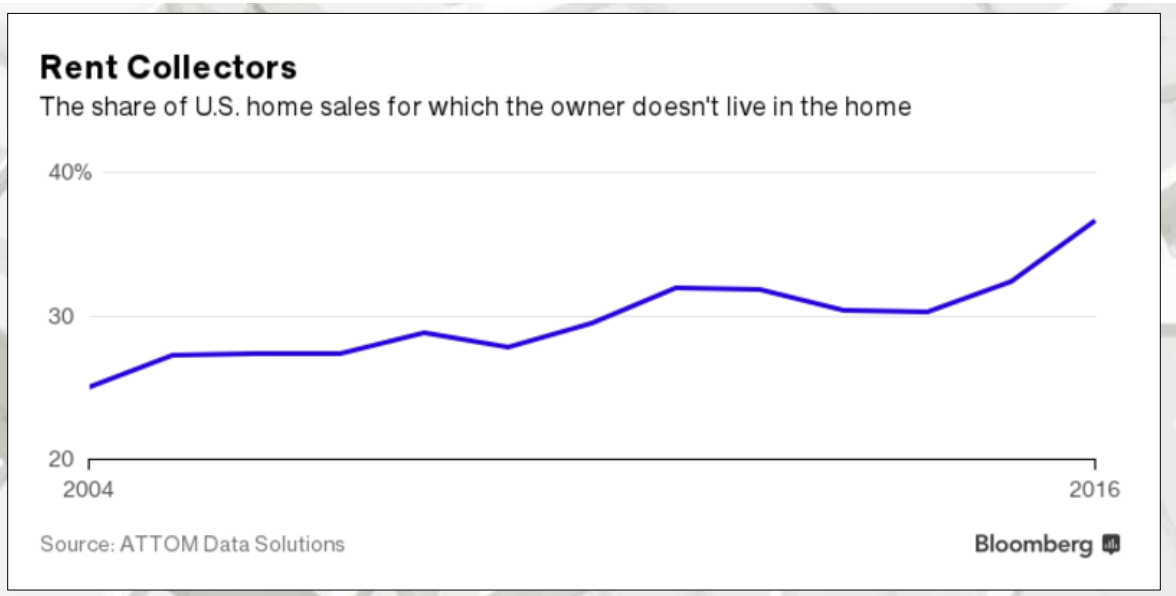


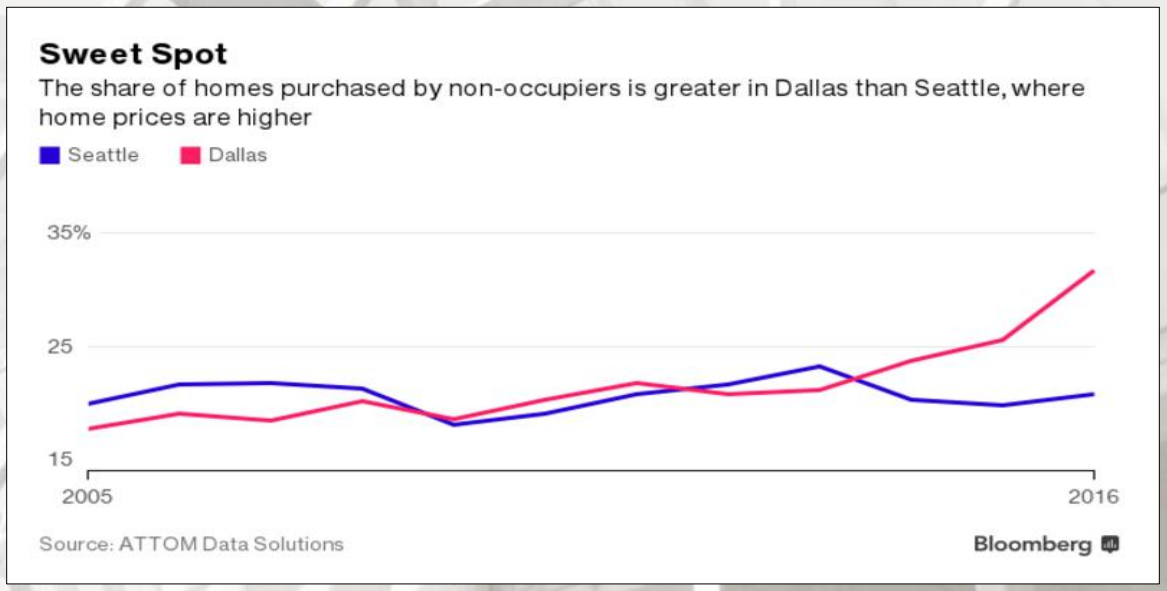


Source: http://www.realtytrac.com/news/company-news/analyzing-the-who-behind-recent-real-estate-boom/; 2/22/17

Return TOC

House Sales





Source: https://www.bloomberg.com/news/articles/2017-02-23/landlords-are-taking-over-the-u-s-housing-market; 2/23/17

Return TOC

House Sales

"Data from this analysis supports the theory that the housing boom of the past four and a half years has been driven in large part by non-owner occupant buyers (investors) – first the large institutional investors acting as the tip of the spear and followed by the much broader base of smaller investors chasing a similar strategy.

First-time homebuyers have played a part in driving demand in this housing boom, but in many markets they have played a relatively small role, as evidenced by the stubbornly low home-ownership rate nationwide and the flat-lining of FHA buyer share following a short-term surge in 2015.

Because the driving force behind this housing recovery has been real estate investors, home prices have risen higher and more quickly than if the recovery had been driven more heavily by first time homebuyers. Buyers new to the housing industry are more directly constrained by affordability and the availability of credit in a tight market, while investors are constrained by rate of return – typically in the form of rental cap rates. In many markets, this results in investors more willing and able to pay a higher price point than first-time homebuyers.

Ultimately, these trends have left a market in a precarious position, with affordability for average wage earners nationwide inching closer to its long-term norm, according to the ATTOM Affordability Index. **Given the current trajectory of home prices and interest rates, affordability will go below the long-term norm of 100 in 2017, locking an increasing number of would-be first time homebuyers out of the housing market**." – Daren Blomquist, Senior Vice President, ATTOM Data Solutions

Source: http://www.realtytrac.com/news/company-news/analyzing-the-who-behind-recent-real-estate-boom/; 2/22/17

Return TOC

House Sales

"As a result, future growth in the housing market will continue to be largely in the laps of landlords – particularly in markets like Dallas and Nashville that have been more heavily dependent on investors thus far in the recovery. Meanwhile, markets like Seattle are more poised to see growth coming from the traditional buyer segment of the industry.

Even though median home prices are substantially higher in Seattle than in either Dallas or Nashville, the Seattle market is more in line with its own historical affordability standards, allowing for continued growth from average-wage-earning traditional buyers in that market. Contrastingly, both Nashville and Dallas are now significantly less affordable than their high historical affordability norms – putting would-be buyers, who are now renters in those markets between a rock and hard place.

In short, markets will likely be forced to dance with the one who brought them to the housing boom party – and hope their dance partner has strong legs." – Daren Blomquist, Senior Vice President, ATTOM Data Solutions

Source: http://www.realtytrac.com/news/company-news/analyzing-the-who-behind-recent-real-estate-boom/; 2/22/17

Return TOC

First-Time Purchasers

National Association of Realtors (NAR®)

33% of sales in January 2017 – 32% in December 2016 and 35% in January 2016.

American Enterprise Institute
International Center on Housing Risk

"First-time buyer (FTB) loan volume for Agency loans swelled 31% in November from a year earlier. Compared to November 2015, Agency FTB share is up 2.5 ppts, while volume is up 39%. The jump in volume is being driven, in large part, by easier lending – as documented by the National Mortgage Risk Index- and by an improving job market. The combined FBMSI (measures share of first-time buyers for both government-guaranteed and private-sector mortgages) stood at 51.6%, up slightly from 51.4% the prior November."

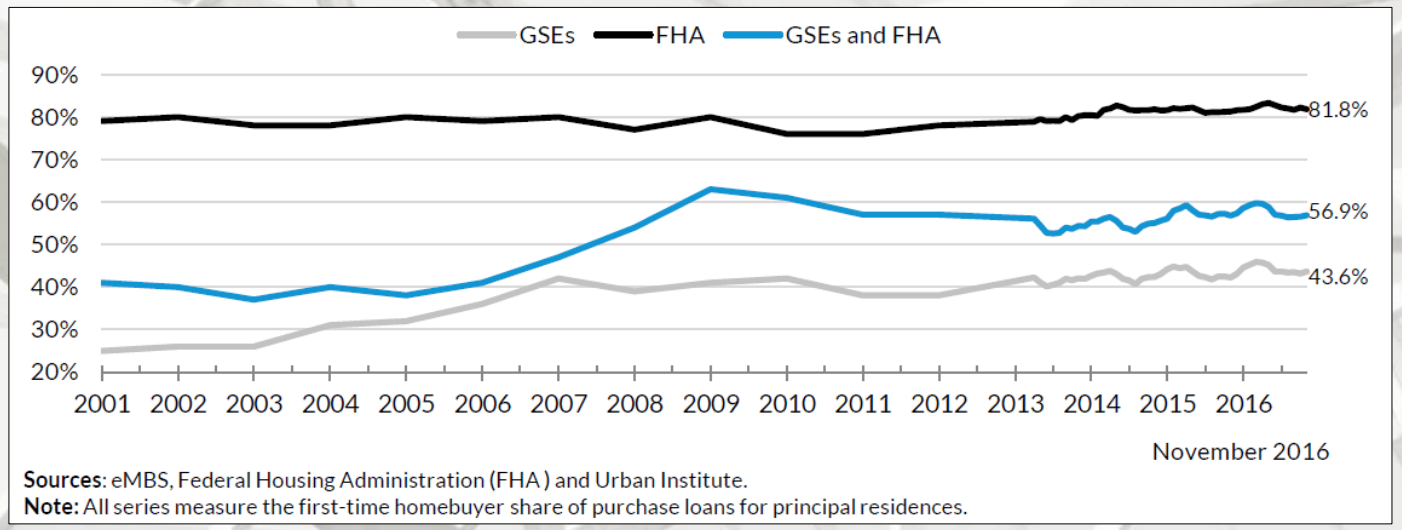
"First time home buyers are taking on additional risk is an effort to keep up with rapidly rising home prices. As a result, there is a yawning gap between the growing risk level for first time buyer loans and much lower and stable risk levels for repeat buyers." – Edward Pinto, Codirector, American Enterprise Institute's (AEI's) International Center on Housing Risk

"After having paused for the last couple months, credit easing, especially for first-time buyers, has resumed with FHA leading the way. We expect this trend to continue as looser lending is used to help first-time buyers offset higher costs from rising mortgage rates and house prices alike." – Tobias Peter, Senior Research Analyst, AEI's International Center on Housing Risk

Sources: https://www.nar.realtor/news-releases/2017/02/existing-home-sales-jump-in-january, 2/22/17; http://www.housingrisk.org/, 2/22/17

Return TOC

First-Time Purchasers



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

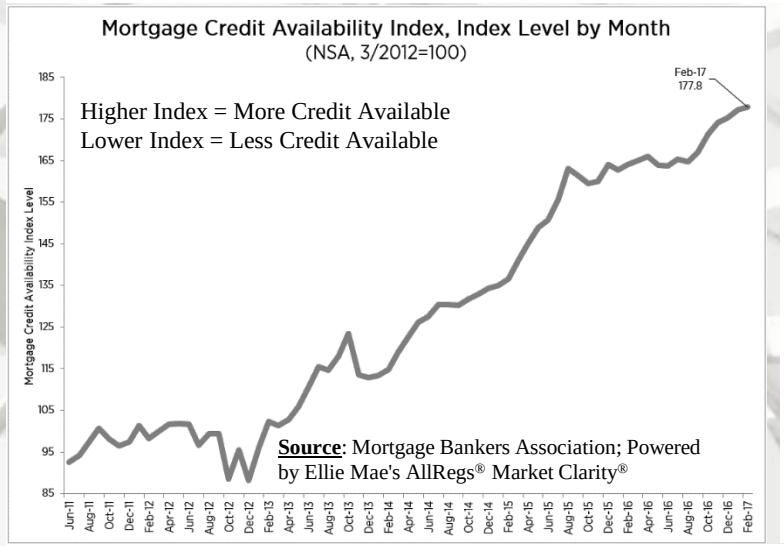
Urban Institute

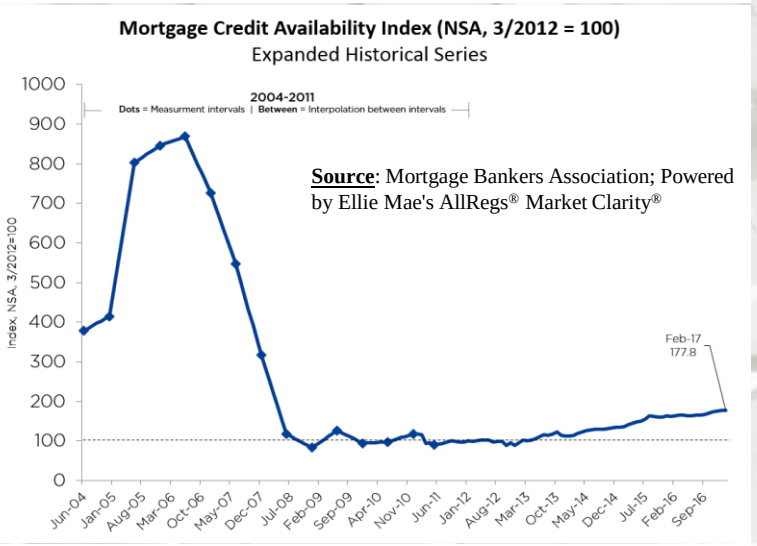
"In November 2016, the first-time homebuyer share of GSE purchase loans stayed flat from previous month at 43.6 percent. The FHA, which has traditionally hovered around 80 percent first-time homebuyers, had an 81.8 percent share in November 2016, down from the peak of 83.3 percent in May 2016. The bottom table shows that based on mortgages originated in November 2016, 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." – Laurie Goodman et al., Co-director, Housing Finance Policy Center

Source: http://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-february-2017/view/full_report; 3/8/17

Return TOC

Mortgage Credit Availability





Mortgage Credit Availability Increases in February

"Mortgage credit availability increased in February according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) which analyzes data from Ellie Mae's AllRegs® Market Clarity® business information tool. The MCAI increased 0.4 percent to 177.8 in February. 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. Of the four component indices, the Government MCAI saw the greatest increase in availability over the month (up 2.3 percent), followed by the Conforming MCAI (up 0.1 percent). The Conventional MCAI decreased 2.2 percent while the Jumbo MCAI decreased 4.4 percent.

Credit availability loosened slightly in February, due to the net result of two countervailing movements. The supply of credit increased as more investors offered affordable low down payment mortgages and streamlined documentation loans guaranteed by the Federal Housing Administration and the Veterans Administration. However, the impact of that increase on the overall index was partially offset by the first downturn in the availability of jumbo credit in a year due to the consolidation of some jumbo programs." – Lynn Fisher, Vice President of Research and Economics, Mortgage Bankers Association

Source: https://www.mba.org/2017-press-releases/january/mortgage-credit-availability-increases-in-January; 3/7/17

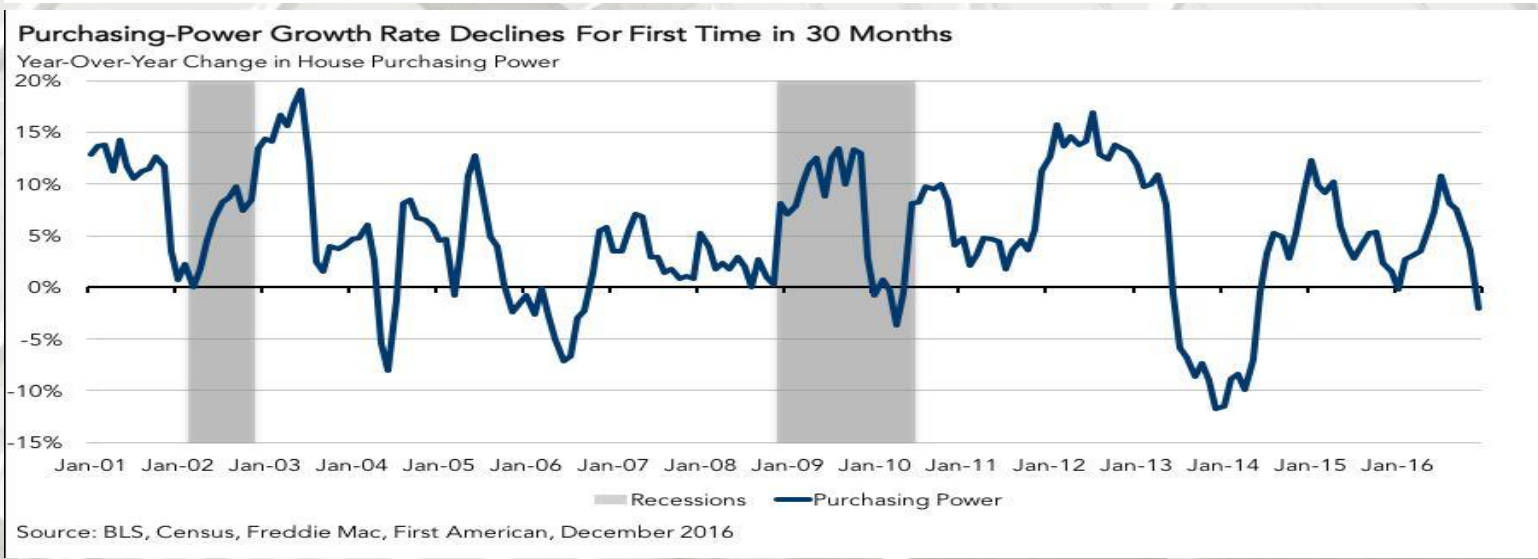
Return TOC

Housing Affordability

What's Behind the December Dip in Housing Affordability?

Post-election interest rate surge lead to the first year-over-year decline in consumer house-buying power in two and a half years, but real house prices remain 10.1 percent below the level from January 2000.

"Real purchasing-power adjusted house prices surged more than 6 percent month-over-month in December, the first full month to see the impact of the surge in mortgage rates after the election and the most recent FOMC rate increase. This interest rate surge lead to the first year-over-year decline in consumer house-buying power in two and a half years. Rising rates and nominal home price growth are outpacing the influence of strong income growth, leading to declining affordability for first-time home buyers. However, housing remains as affordable as it was in late 2009." – Mark Fleming, chief economist at First American



Source: http://blog.firstam.com/economics/whats-behind-the-december-dip-in-housing-affordability/; 2/27/17

Return TOC

Housing Affordability

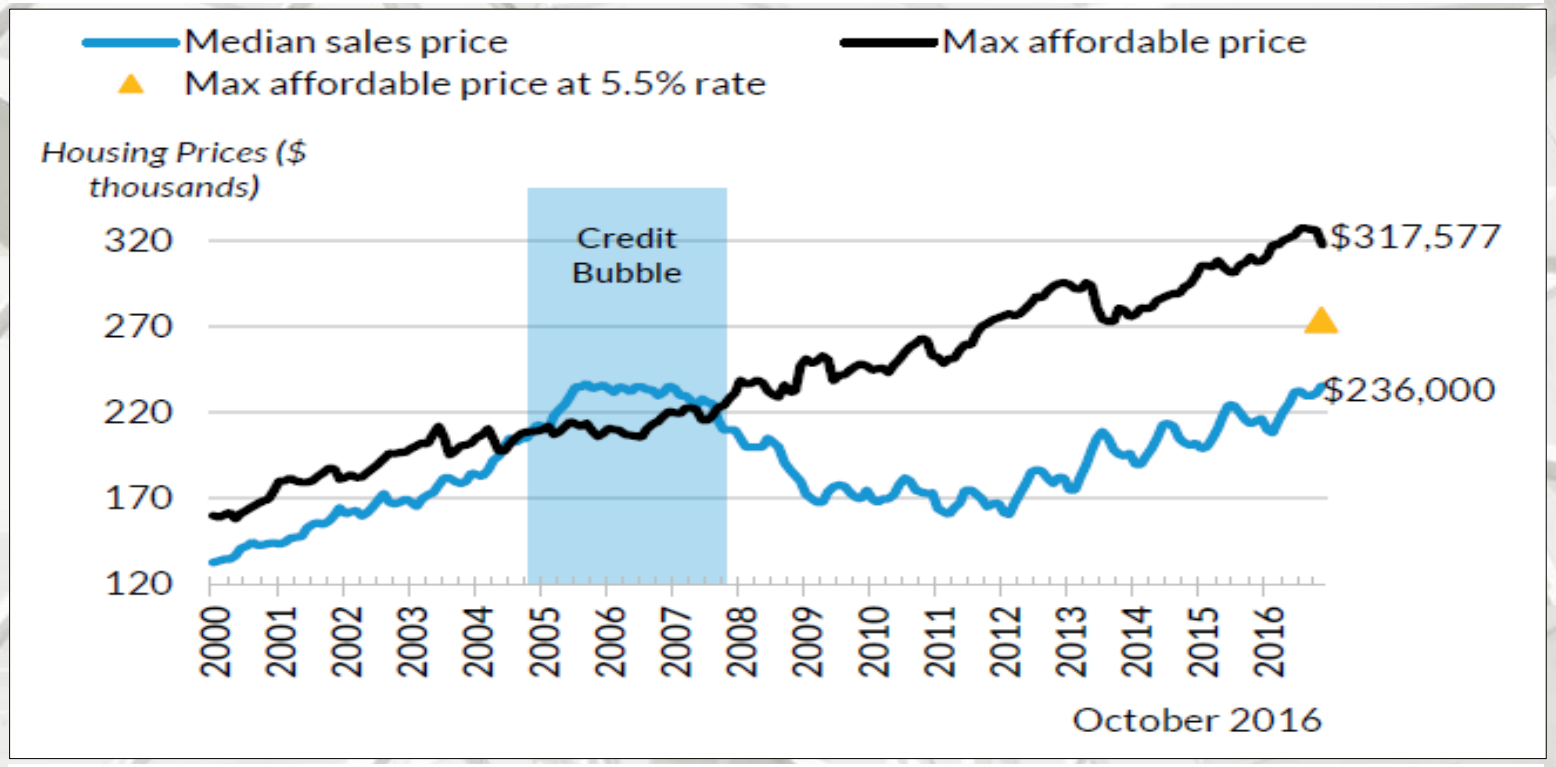
Rising prices likely to dampen affordability

- "Driven in part by a healthy economy and near historic low inventory, the U.S. housing market is showing signs of picking up steam. Home price increases in December were the largest in two and a half years, and homebuyers should expect the quickening of price gains to persist this spring buying season.
- We're seeing signs that price gains are finally spreading into previously cool markets For example, at 8.4% price gains in Tampa, Fla., are just behind the market leaders of Seattle, Portland, and Denver and were the largest there since June 2014.
- This spring housing market is shaping up to be another doozy for homebuyers. Housing affordability is the key to helping break yet another year of gridlocked inventory, but all signs are showing that homes this spring will be much less affordable than last year." – Ralph McLaughlin, Chief Economist, Trulia

Source: https://www.trulia.com/blog/trends/case-shiller-december-16/#sthash.zYNMeriz.dpuf/; 2/18/17

Return TOC

Housing Affordability



National Housing Affordability Over Time

"Home prices are still very affordable by historic standards, despite increases over the last four years. Even if interest rates rise to 5.5 percent, affordability would still be at the long term historical average. The bottom chart shows that some areas are much more affordable than others." – Laurie Goodman et al., Co-director, Housing Finance Policy Center, Urban Institute

Source: http://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-february-2017/view/full_report; 3/8/17

Return TOC

3D Printed Housing

A United States construction firm has purchased Apis Cor 3D printer technology

"3D Printed Demo House in Russia Just Completed"

"We are so excited to bring Apis Cor's 3D print technology to the USA. Congratulations Apis-Cor!!!

I have signed an Agreement with Apis-Cor in Moscow, Russia to bring to the USA, the first true 3D printer for affordable housing. ... ." – Larry Haines, Sunconomy™ Homes

Source: https://sunconomy.com/3d-printed-demo-house-in-russia-just-completed//; 3/7/17

Return TOC

3D Printed Housing

1. **Select Slide Show view**
2. **Click to watch the video**

Source: https://www.youtube.com/watch?v=xktwDfasPGQ

Source: https://sunconomy.com/3d-printed-demo-house-in-russia-just-completed/; 37/17

Return TOC

Summary

In summary:

January's housing data were positive and mixed - typical. Overall all data sectors were positive Y/Y, except for completions. Actual housing forecasts and from Wells Fargo[1] Construction Industry Forecast suggest a tepid upcoming year for residential housing. Existing sales continue to churn forward and the new SF lower-price tier categories faltered once again. It bears repeating, the market needs consistent improvement in these categories to drive the housing construction market upward. New housing forecasts are similar from 2016; however, SF starts are projected to be somewhat more than 2106's estimates.

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

Pros:

1) Historically low interest rates are still in effect, though incrementally rising;
2) As a result, housing affordability is good for most of – 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) Changing attitudes towards SF ownership
3) Gentrification;
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.

Source: [1] https://digital.wf.com/constructionforecast/; 3/6/17

Return TOC

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