

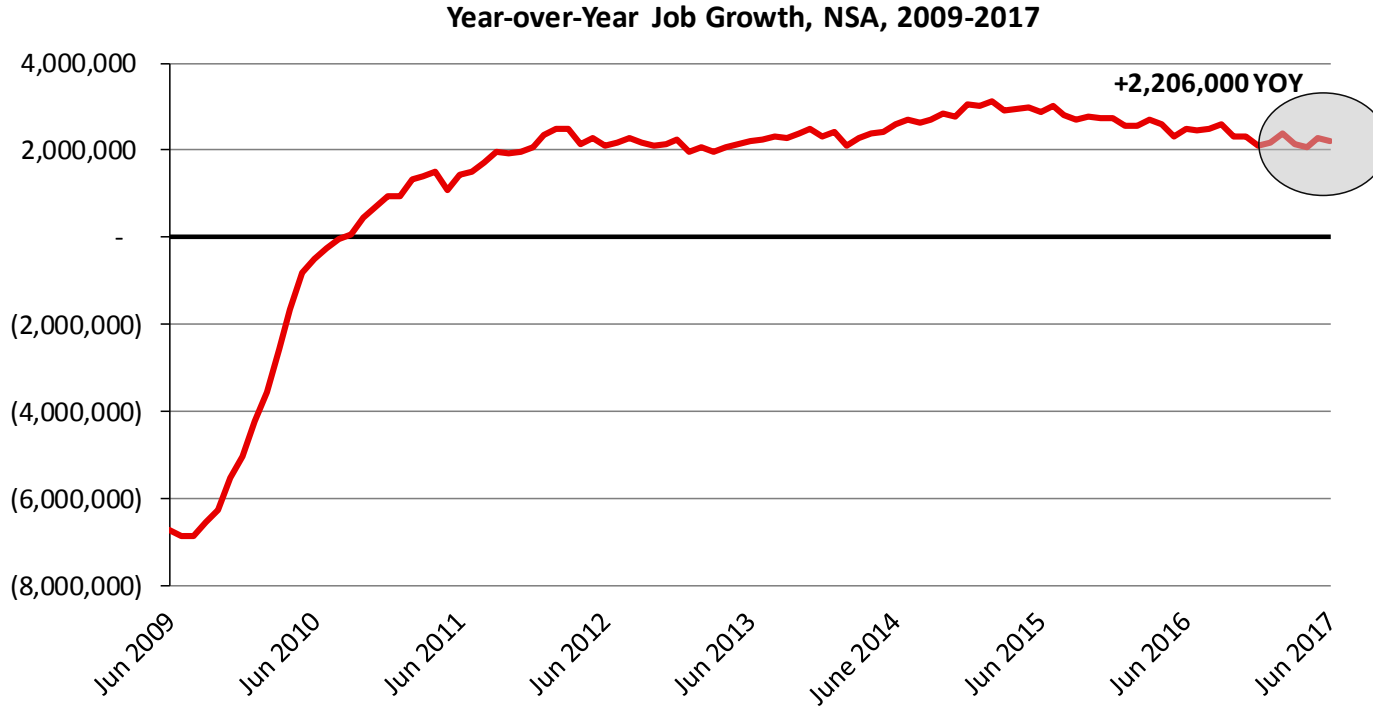


THE RESIDENTIAL ECONOMIC REPORT

National Edition

2nd Quarter 2017

JOB GROWTH REMAINS STEADY

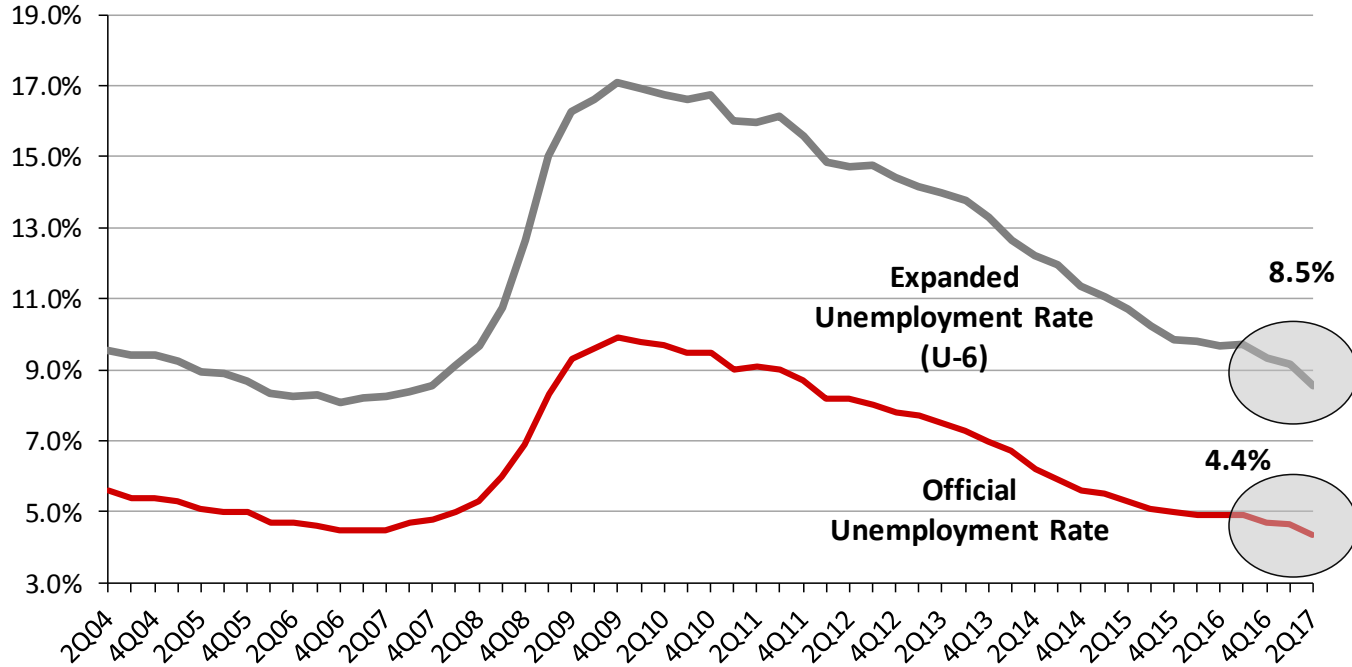


Source: U. S. Bureau of Labor Statistics

UNEMPLOYMENT IS APPROACHING RECORD LOWS



Unemployment Rate Trend

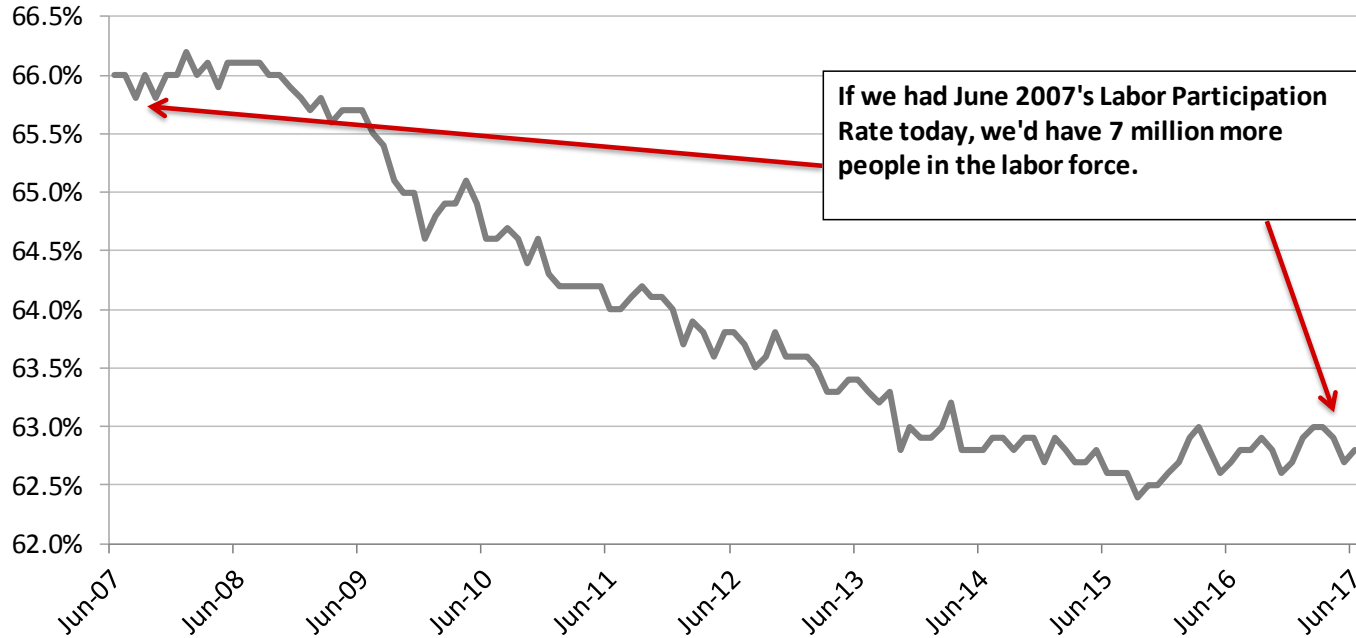


Source: U. S. Bureau of Labor Statistics

THE LABOR FORCE PARTICIPATION RATE IS FINALLY RISING



Labor Force Participation Rate, 2007-2017



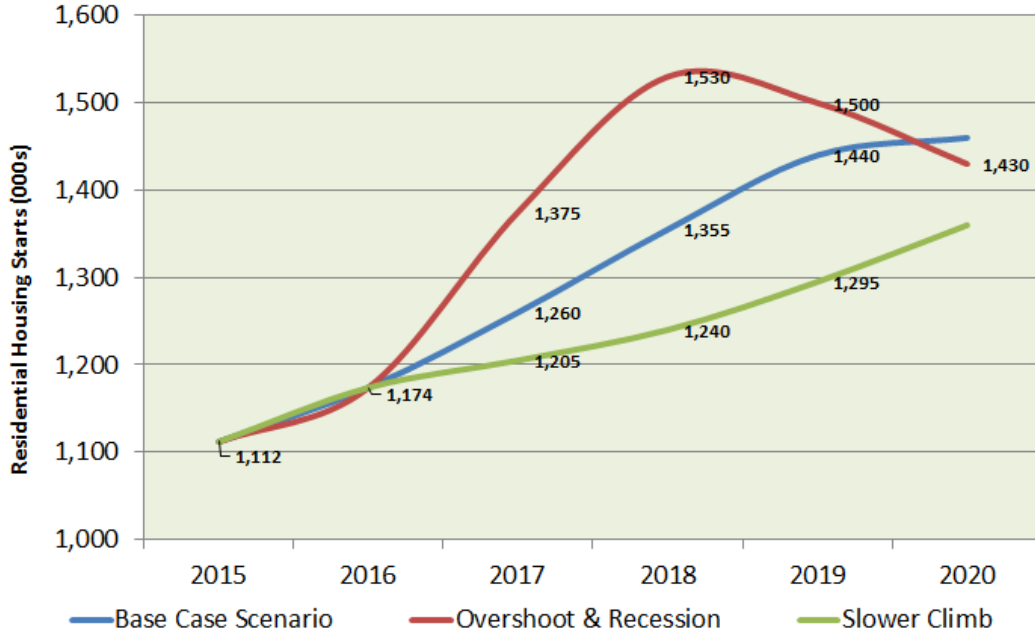
If we had June 2007's Labor Participation Rate today, we'd have 7 million more people in the labor force.

Source: U. S. Bureau of Labor Statistics

NEW HOME CONSTRUCTION IS RISING MORE SLOWLY THAN IT SHOULD

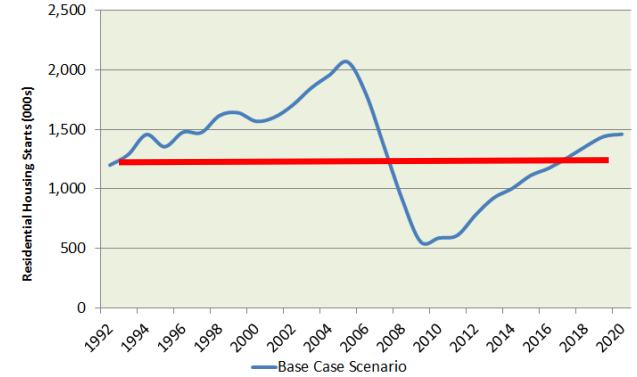


Metrostudy Scenarios for Housing Starts



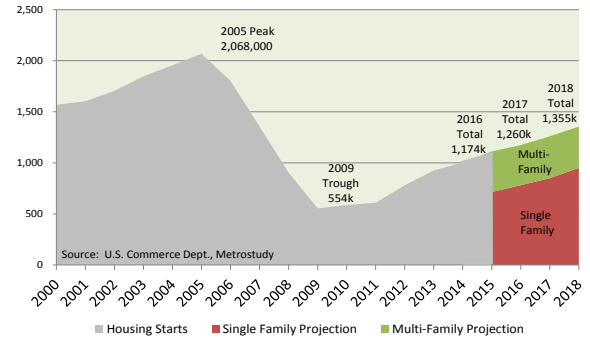
Source: U.S. Commerce Department, Metrostudy

Metrostudy Housing Starts



Source: U.S. Commerce Department, Metrostudy

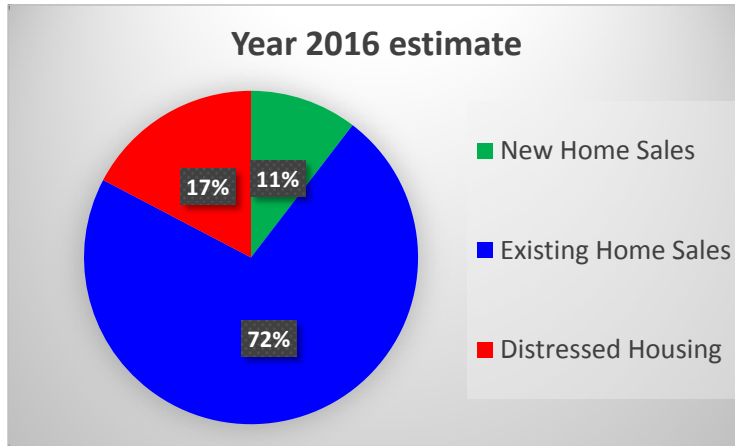
Housing Starts 2000-2018 (in 000s)



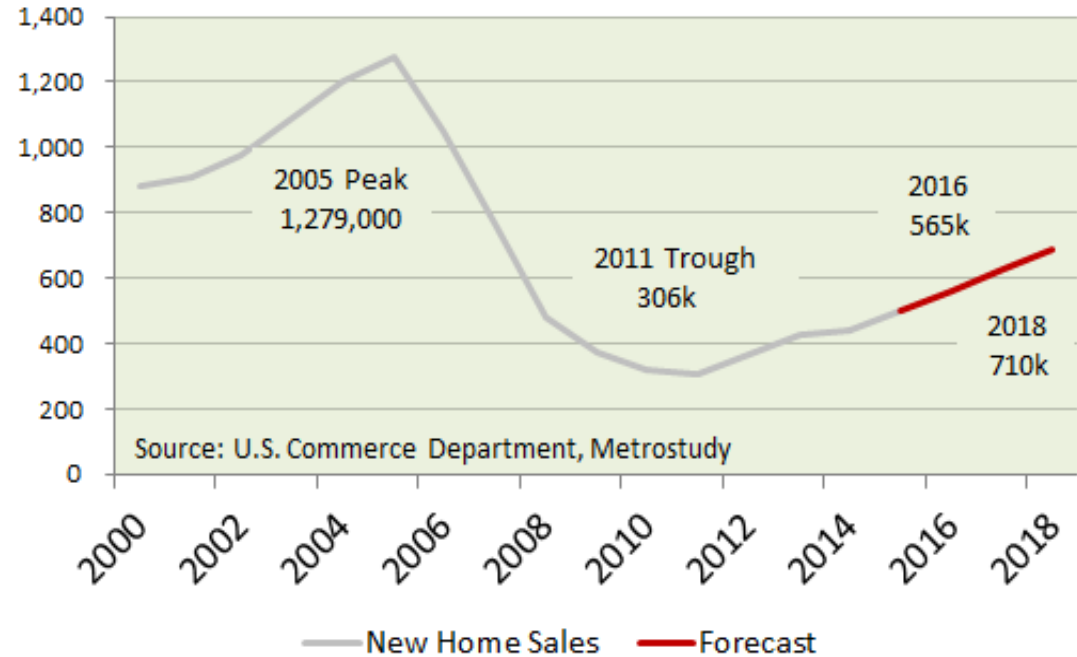
NEW HOME SALES RISE BUT REMAIN BELOW NORM



New Home Sales Rise but Remain Below Norm



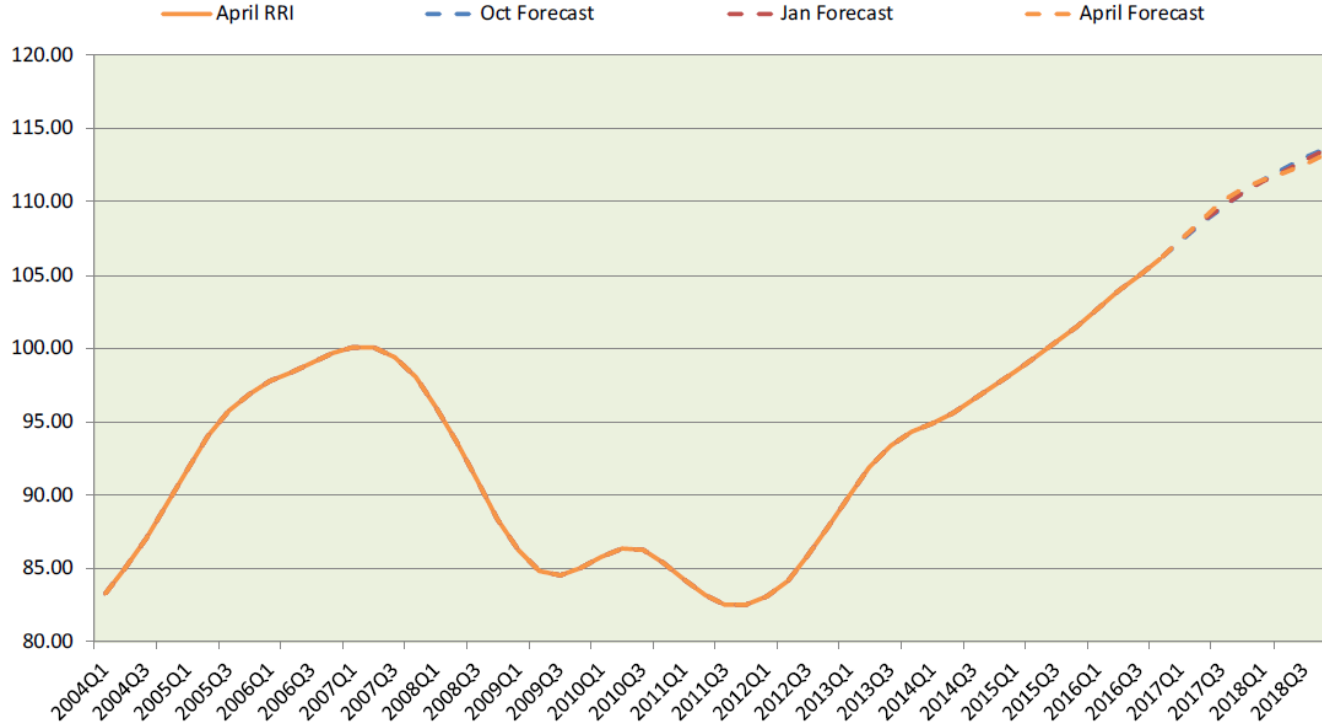
New Home Sales 2000-2018



NOT ENOUGH NEW HOMES MEANS MUCH MORE REMODELING ACTIVITY, WHICH WILL CONTINUE FOR THE NEXT SEVERAL QUARTERS



National Residential Remodeling Index and Forecast as of April 2017

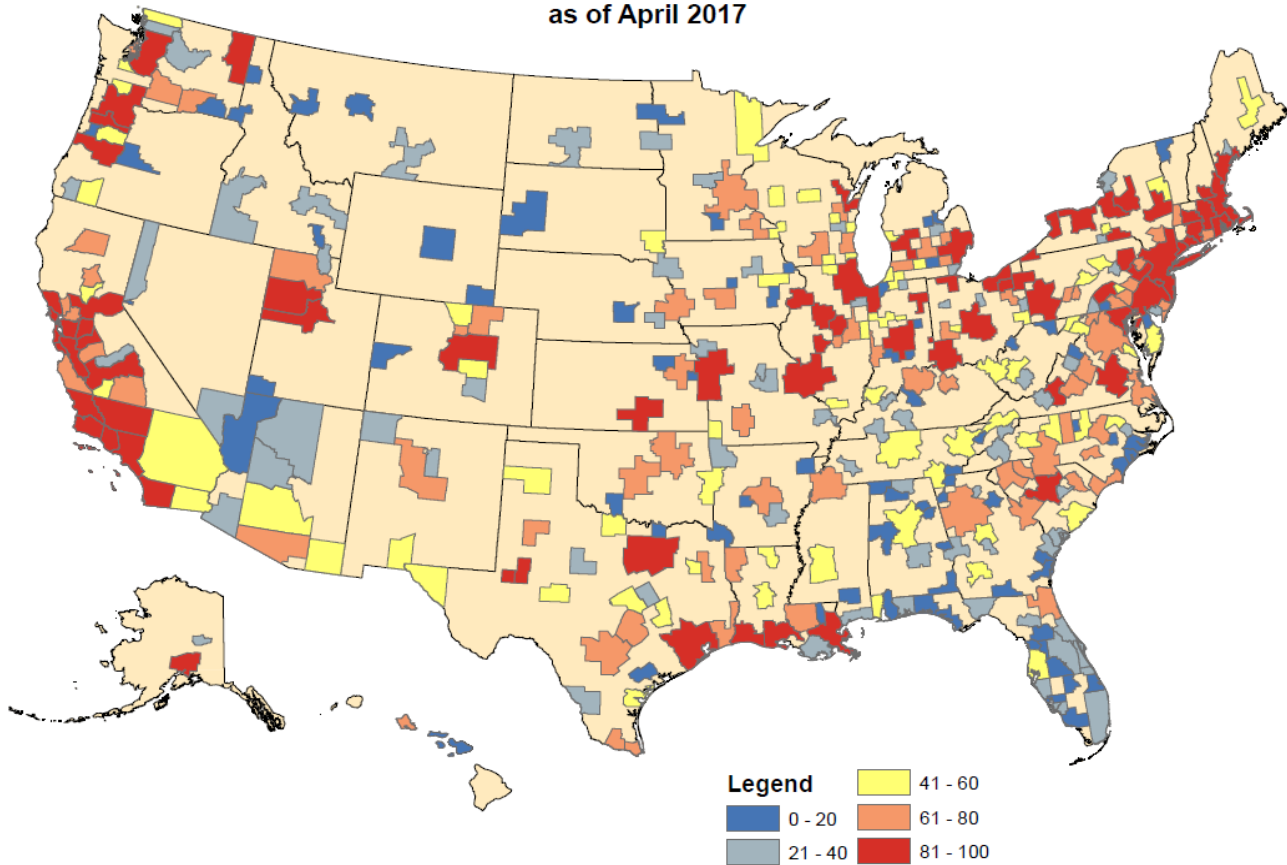


Source: Metrostudy, April 2017 RRI Report

THE REMODELING OUTLOOK SUGGESTS STRONG REMODELING ACTIVITY IN MANY U.S. MARKETS



Residential Remodeling Outlook Market Comparison
as of April 2017

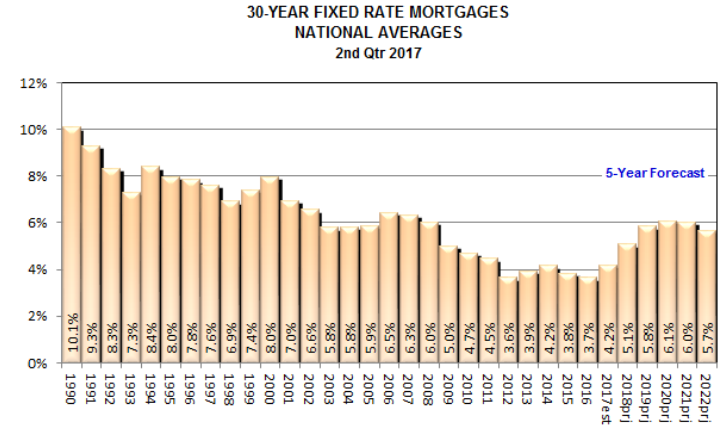
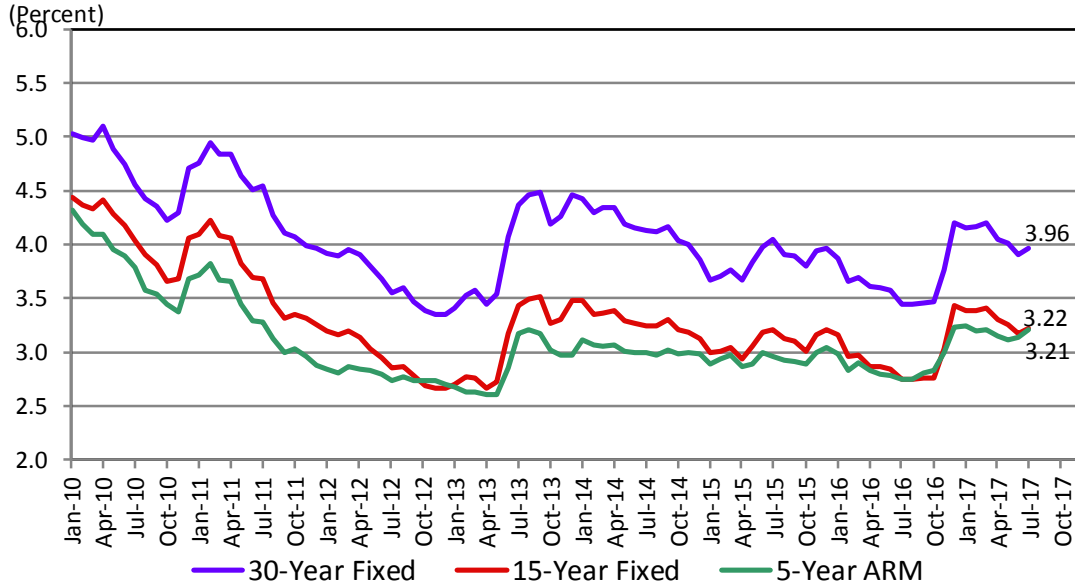


2Q'17 Residential Remodeling Outlook Shows Strong Forecast Remodeling Activity in Many of the More Expensive Coastal Markets, as well as Select Mid-Atlantic and Texas Markets

MORTGAGE RATES WILL RISE TO “NORMAL” LEVELS OVER TIME



TRENDS IN FIXED RATE AND ADJUSTABLE RATE MORTGAGES
NATIONAL AVERAGES



Source: Freddie Mac; Real Estate Economics

MORTGAGE RATES WILL RISE AS INFLATION RISES



1 By definition, inflation causes the U.S. dollar to lose its value relative to a basket of global currencies

2 As the U.S. dollar loses value, the value of things denominated in U.S. dollars falls, too. This includes mortgage-backed bonds.

Inflation

How It Contributes To Higher Mortgage Rates

<http://themortgagereports.com>

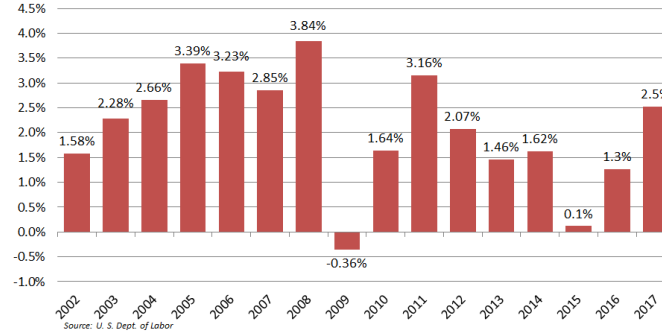
5 Rising mortgage rates increase the inflationary pressures on the U.S. economy.

3 Wall Street divests itself of mortgage-backed bonds, adding to market supply. This leads the market price of mortgage-backed bonds lower.

4 As mortgage bond prices fall, mortgage bond yields rise. These bond yields are the basis for mortgage rates.

INFLATION IN THE UNITED STATES

Consumer Price Index Change, 2002-2017



US INFLATION RATE



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF LABOR STATISTICS

A MODEST SLOW-DOWN IN CONSUMER SPENDING



US CONSUMER SPENDING



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS

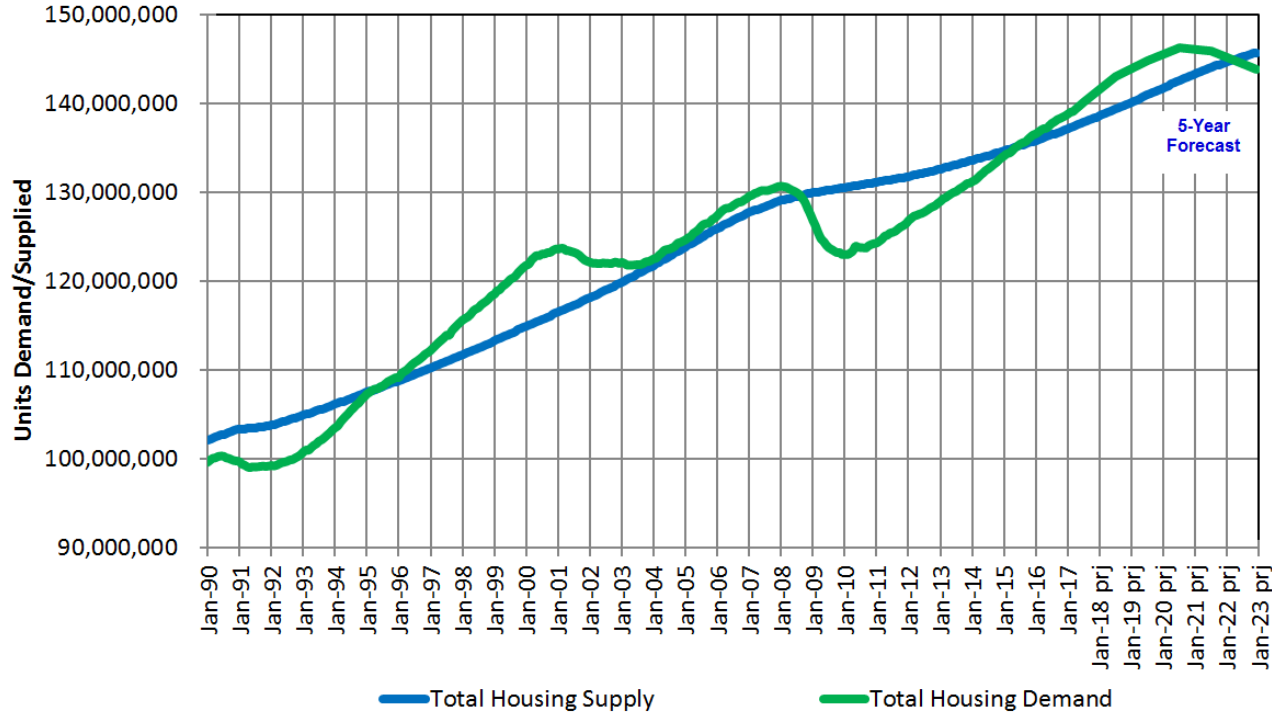
THE MODEL



HOUSING DEMAND EXCEEDS SUPPLY



HOUSING DEMAND AND SUPPLY PATTERNS United States

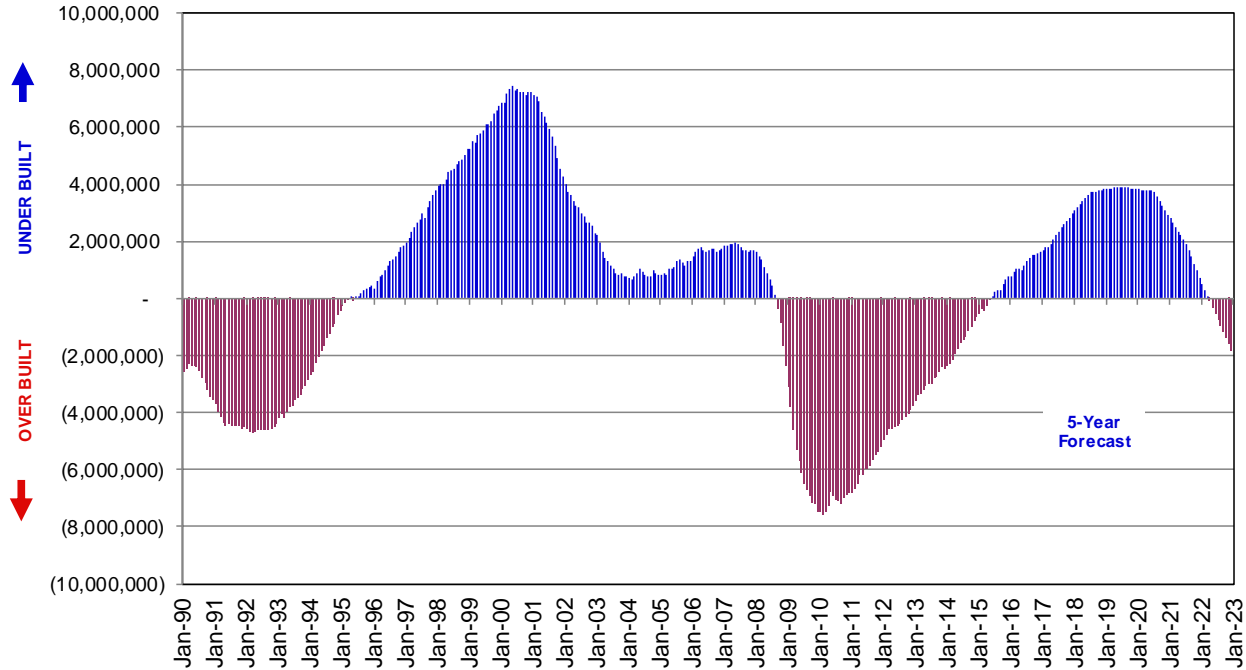


Source: Bureau of Labor Statistics; Moody's Analytics; Real Estate Economics

DEMAND GROWS FASTER THAN SUPPLY THRU 2018



HOUSING (OVER)/UNDER SUPPLY PATTERNS United States



* Over/Under supply measures based on current jobs-to-housing relationship relative to long-term relationship between jobs and housing.

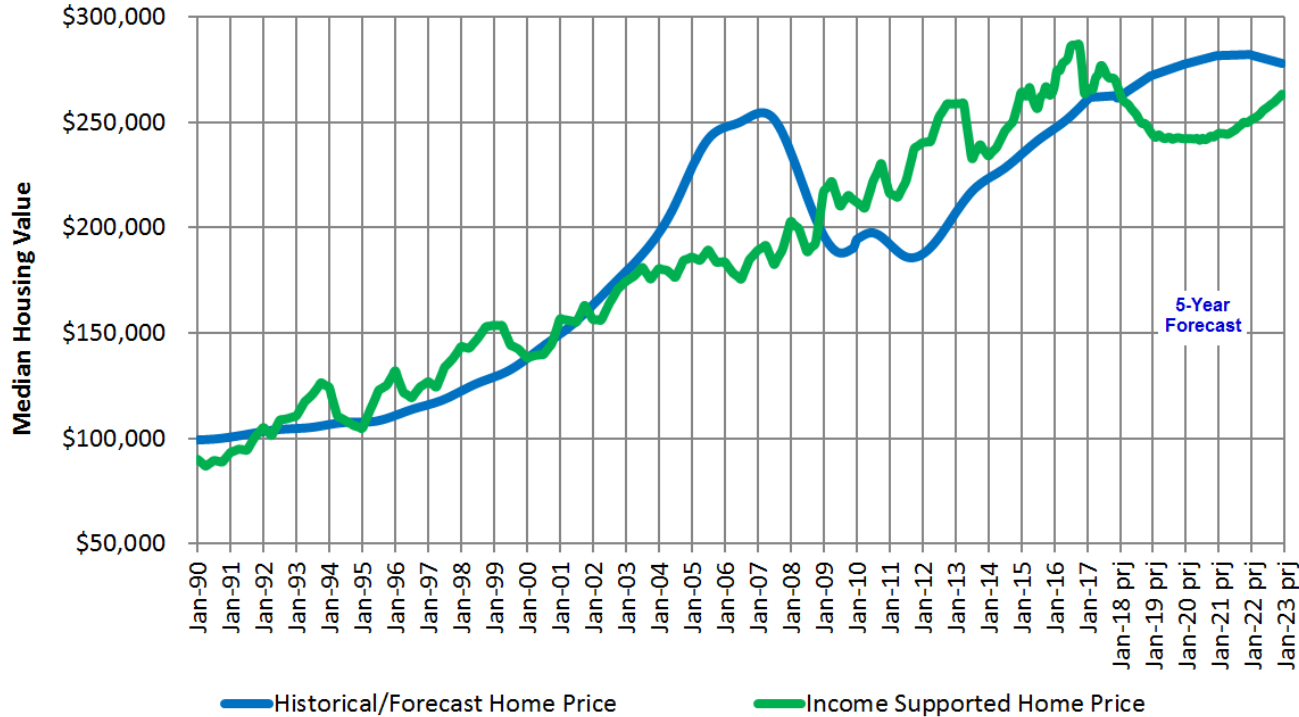
Source: Bureau of Labor Statistics; Moody's Analytics; Real Estate Economics

www.realestateeconomics.com

PRICES WILL BEGIN TO PLATEAU



HOUSING VALUATION PATTERNS United States

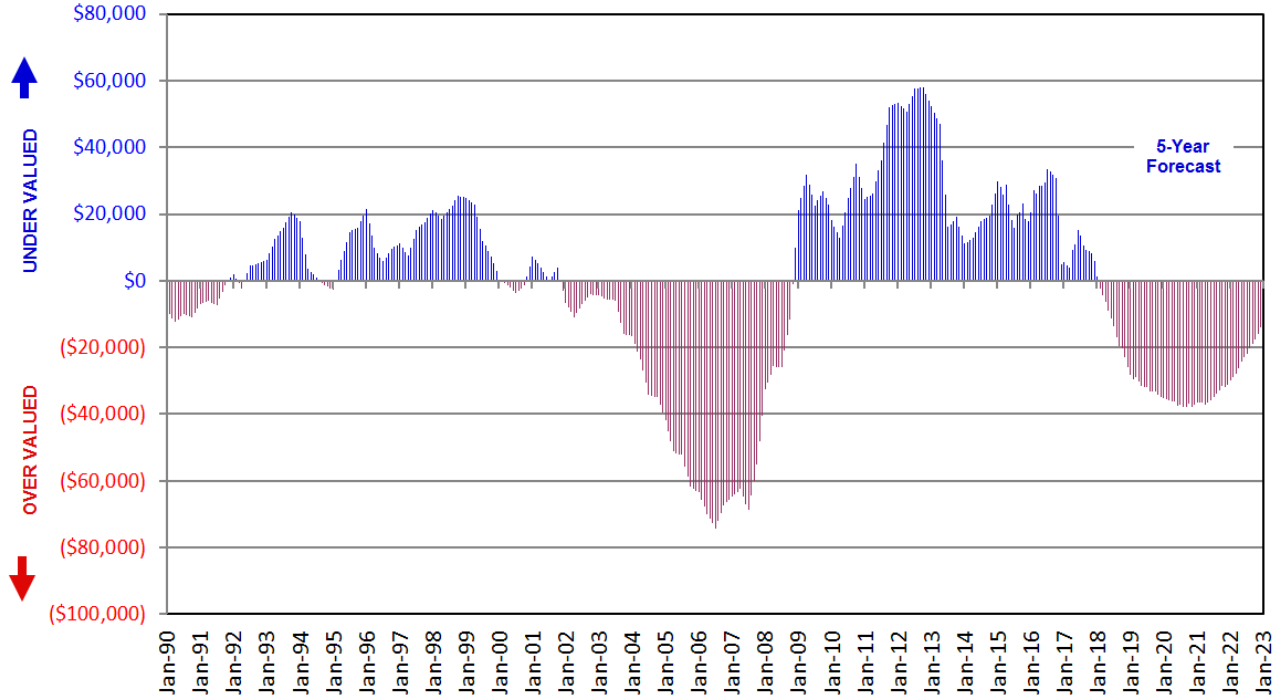


Source: Bureau of Labor Statistics; Moody's Analytics; Real Estate Economics

HEADING TOWARD OVER VALUATION



HOUSING (OVER)/UNDER VALUATION PATTERNS United States



* Over/Under valuation based on value of housing (inclusive of mortgage rates) relative to long-term relationship between housing value & household incomes.

Source: Bureau of Labor Statistics; Moody's Analytics; Real Estate Economics

REAL ESTATE ECONOMICS
RESIDENTIAL MARKET OPPORTUNITY/RISK INDEX

United States
2nd Quarter 2017



Year	Housing Demand	Housing Supply	Market is Over/ (Under) Built		Median Home Price	Ann. Price Change	Equilibrium Home Price	30-Yr. Mtg. Rate	Median HH Income	Market is Under/ (Over) Valued		O/R Index (100=Equil.)	Mkt. Health in ~ 24 Mos.	Buy/Sell Land
1990	99,998,810	102,734,934	(2,736,124)	(2.7%) Overbuilt	\$99,635	-	\$89,176	10.10%	\$31,468	(\$10,459)	(10.5%) Overvalued	95.0	Weak	Sell
1991	99,186,537	103,697,494	(4,510,957)	(4.4%) Overbuilt	\$101,711	2.1%	\$96,944	9.29%	\$32,107	(\$4,768)	(4.7%) Overvalued	95.5	Weak	Sell
1992	99,706,792	104,810,312	(5,103,520)	(4.9%) Overbuilt	\$104,000	2.3%	\$106,699	8.34%	\$32,662	\$2,699	2.6% Undervalued	97.4	Weak	Sell
1993	101,861,006	106,033,106	(4,172,100)	(3.9%) Overbuilt	\$105,257	1.2%	\$120,036	7.30%	\$33,466	\$14,780	14.0% Undervalued	101.5	Stable	Buy/Sell
1994	105,231,143	107,391,644	(2,160,501)	(2.0%) Overbuilt	\$107,257	1.9%	\$110,732	8.40%	\$34,516	\$3,475	3.2% Undervalued	99.6	Stable	Buy/Sell
1995	108,220,015	108,711,454	(491,439)	(0.5%) Overbuilt	\$108,508	1.2%	\$119,010	7.96%	\$35,807	\$10,502	9.7% Undervalued	102.6	Stable	Buy/Sell
1996	110,652,986	110,123,732	529,255	0.5% Underbuilt	\$113,262	4.4%	\$124,031	7.85%	\$37,266	\$10,769	9.5% Undervalued	103.2	Stable	Buy/Sell
1997	113,746,126	111,551,380	2,194,746	2.0% Underbuilt	\$118,439	4.6%	\$132,177	7.62%	\$39,097	\$13,738	11.6% Undervalued	104.9	Strong	Buy
1998	116,937,507	113,148,108	3,789,399	3.3% Underbuilt	\$125,629	6.1%	\$147,607	6.93%	\$41,110	\$21,979	17.5% Undervalued	107.6	Strong	Buy
1999	120,032,702	114,796,260	5,236,443	4.6% Underbuilt	\$132,452	5.4%	\$147,235	7.42%	\$43,315	\$14,783	11.2% Undervalued	106.5	Strong	Buy
2000	122,862,777	116,374,142	6,488,635	5.6% Underbuilt	\$143,166	8.1%	\$142,190	7.98%	\$44,521	(\$975)	(0.7%) Overvalued	103.7	Strong	Buy
2001	123,153,936	117,994,452	5,159,485	4.4% Underbuilt	\$155,222	8.4%	\$157,820	6.96%	\$45,073	\$2,598	1.7% Undervalued	103.6	Strong	Buy
2002	122,043,919	119,728,775	2,315,144	1.9% Underbuilt	\$170,437	9.8%	\$163,455	6.56%	\$45,071	(\$6,982)	(4.1%) Overvalued	100.1	Stable	Buy/Sell
2003	121,994,898	121,611,648	383,250	0.3% Underbuilt	\$186,675	9.5%	\$177,666	5.81%	\$45,657	(\$9,010)	(4.8%) Overvalued	98.8	Stable	Buy/Sell
2004	123,568,472	123,664,252	(95,780)	(0.1%) Overbuilt	\$210,235	12.6%	\$180,808	5.84%	\$46,927	(\$29,428)	(14.0%) Overvalued	95.7	Weak	Sell
2005	125,943,568	125,790,875	152,693	0.1% Underbuilt	\$239,491	13.9%	\$185,797	5.87%	\$48,783	(\$53,694)	(22.4%) Overvalued	93.4	Weak	Sell
2006	128,461,495	127,614,997	846,498	0.7% Underbuilt	\$250,061	4.4%	\$181,206	6.45%	\$50,972	(\$68,855)	(27.5%) Overvalued	92.2	Weak	Sell
2007	130,164,280	129,005,330	1,158,950	0.9% Underbuilt	\$249,635	(0.2%)	\$189,397	6.33%	\$53,014	(\$60,238)	(24.1%) Overvalued	93.4	Weak	Sell
2008	129,702,893	129,903,549	(200,655)	(0.2%) Overbuilt	\$216,563	(13.2%)	\$197,031	6.02%	\$53,746	(\$19,532)	(9.0%) Overvalued	97.2	Weak	Sell
2009	124,331,703	130,482,243	(6,150,540)	(4.7%) Overbuilt	\$190,142	(12.2%)	\$215,788	5.01%	\$53,084	\$25,646	13.5% Undervalued	100.7	Stable	Buy/Sell
2010	123,677,984	131,082,274	(7,404,290)	(5.6%) Overbuilt	\$195,784	3.0%	\$218,846	4.71%	\$52,383	\$23,062	11.8% Undervalued	98.7	Stable	Buy/Sell
2011	125,430,604	131,702,632	(6,272,028)	(4.8%) Overbuilt	\$187,486	(4.2%)	\$224,678	4.47%	\$52,684	\$37,192	19.8% Undervalued	102.6	Stable	Buy/Sell
2012	127,804,112	132,527,203	(4,723,091)	(3.6%) Overbuilt	\$194,902	4.0%	\$249,740	3.65%	\$53,518	\$54,837	28.1% Undervalued	105.9	Strong	Buy
2013	130,097,009	133,512,560	(3,415,551)	(2.6%) Overbuilt	\$215,451	10.5%	\$245,475	3.94%	\$54,685	\$30,024	13.9% Undervalued	102.4	Stable	Buy/Sell
2014	132,547,749	134,554,511	(2,006,762)	(1.5%) Overbuilt	\$227,830	5.7%	\$244,715	4.17%	\$56,103	\$16,885	7.4% Undervalued	101.2	Stable	Buy/Sell
2015	135,291,246	135,725,265	(434,019)	(0.3%) Overbuilt	\$240,365	5.5%	\$262,789	3.85%	\$57,977	\$22,424	9.3% Undervalued	102.6	Stable	Buy/Sell
2016	137,669,039	137,012,067	656,972	0.5% Underbuilt	\$252,378	5.0%	\$278,521	3.65%	\$59,929	\$26,143	10.4% Undervalued	103.4	Stable	Buy/Sell
2017est	140,075,175	138,438,865	1,636,310	1.2% Underbuilt	\$261,211	3.5%	\$270,579	4.10%	\$62,207	\$9,368	3.6% Undervalued	101.9	Stable	Buy/Sell
2018prj	142,840,045	139,995,155	2,844,889	2.0% Underbuilt	\$271,660	4.0%	\$254,266	4.91%	\$64,695	(\$17,394)	(6.4%) Overvalued	99.5	Stable	Buy/Sell
2019prj	144,750,281	141,622,200	3,128,080	2.2% Underbuilt	\$277,093	2.0%	\$242,887	5.64%	\$66,924	(\$34,206)	(12.3%) Overvalued	97.8	Weak	Sell
2020prj	146,059,439	143,215,259	2,844,180	2.0% Underbuilt	\$281,249	1.5%	\$242,582	5.92%	\$68,726	(\$38,667)	(13.7%) Overvalued	97.3	Weak	Sell
2021prj	145,844,340	144,594,319	1,250,021	0.9% Underbuilt	\$281,812	0.2%	\$246,952	5.94%	\$69,689	(\$34,860)	(12.4%) Overvalued	96.9	Weak	Sell
2022prj	144,544,402	145,697,575	(1,153,173)	(0.8%) Overbuilt	\$277,585	(1.5%)	\$257,107	5.68%	\$70,385	(\$20,478)	(7.4%) Overvalued	97.2	Weak	Sell

LOW AND HIGH RISK MARKETS



MARKET OPPORTUNITY RANKINGS SELECT METRO AREAS IN THE UNITED STATES 2ND QUARTER 2017

REGION	Total			Jobs-to-Housing		Mtg.Cost-to-Income		Indexes (100=Long-Term Average)		Near-Term Risk
	Non-Farm Jobs	Job Change	Housing	Ratio	Equilibrium	Ratio	Equilibrium	Jobs / Housing	Mtg. Cost / Income	
1 North Port-Sarasota-Bradenton, FL CBSA	303,300	3.6%	438,552	0.69 to 1.0	0.66 to 1.0	\$0.22 to \$1.0	\$0.24 to \$1.0	104.3	108.8	Low
2 Trenton, NJ CBSA	269,588	2.4%	148,284	1.82 to 1.0	1.72 to 1.0	\$0.16 to \$1.0	\$0.18 to \$1.0	105.5	112.6	Low
3 Seattle-Bellevue-Everett, WA MD	1,689,385	2.9%	1,249,611	1.35 to 1.0	1.30 to 1.0	\$0.26 to \$1.0	\$0.27 to \$1.0	103.6	101.9	Low
4 San Jose-Sunnyvale-Santa Clara, CA CBSA	1,090,841	2.1%	701,164	1.56 to 1.0	1.44 to 1.0	\$0.44 to \$1.0	\$0.41 to \$1.0	107.7	94.1	Low
5 Boston-Cambridge-Nashua, MA-NH NECTA	2,745,201	1.6%	1,946,787	1.41 to 1.0	1.36 to 1.0	\$0.24 to \$1.0	\$0.26 to \$1.0	103.7	107.6	Low
6 Fresno, CA CBSA	343,580	2.9%	333,198	1.03 to 1.0	0.98 to 1.0	\$0.23 to \$1.0	\$0.23 to \$1.0	105.0	99.7	Low
7 San Francisco Bay Area	3,993,893	2.0%	3,019,610	1.32 to 1.0	1.23 to 1.0	\$0.47 to \$1.0	\$0.44 to \$1.0	107.7	94.4	Low
8 Miami-Fort Lauderdale-West Palm Beach, FL CBSA	2,631,685	2.4%	2,569,134	1.02 to 1.0	0.97 to 1.0	\$0.28 to \$1.0	\$0.29 to \$1.0	105.1	104.5	Low
9 Atlanta-Sandy Springs-Roswell, GA CBSA	2,745,622	3.3%	2,406,732	1.14 to 1.0	1.09 to 1.0	\$0.14 to \$1.0	\$0.13 to \$1.0	105.0	93.1	Low
10 Nashville-Davidson--Murfreesboro--Franklin, TN CBSA	977,296	3.8%	794,557	1.23 to 1.0	1.17 to 1.0	\$0.17 to \$1.0	\$0.16 to \$1.0	105.0	95.8	Low
72 Rochester, NY CBSA	528,169	0.2%	481,921	1.10 to 1.0	1.10 to 1.0	\$0.11 to \$1.0	\$0.11 to \$1.0	99.5	103.3	High
73 Virginia Beach-Norfolk-Newport News, VA-NC CBSA	772,715	-0.5%	767,582	1.01 to 1.0	1.04 to 1.0	\$0.16 to \$1.0	\$0.17 to \$1.0	97.0	105.3	High
74 Winston-Salem, NC CBSA	262,400	-0.2%	294,480	0.89 to 1.0	0.89 to 1.0	\$0.14 to \$1.0	\$0.15 to \$1.0	99.8	101.2	High
75 Little Rock-North Little Rock-Conway, AR CBSA	353,500	0.0%	310,557	1.14 to 1.0	1.18 to 1.0	\$0.13 to \$1.0	\$0.14 to \$1.0	96.8	102.5	High
76 Houston-The Woodlands-Sugar Land, TX CBSA	3,048,300	1.4%	2,621,314	1.16 to 1.0	1.17 to 1.0	\$0.17 to \$1.0	\$0.15 to \$1.0	99.7	90.7	High



Key Takeaways for 2017



- **Job growth may increase in 2017/18 from 2016 levels.**
- **Household income growth will accelerate.**
- **Housing shortages will become more intense. Look for an accelerated and shorter, sharper real estate cycle, with a peak in the 2018/19 time frame.**
- **An extended period of low mortgage rates has allowed home prices (and land values) to rise higher and more rapidly than they should have. Rising mortgage rates may contribute to severe housing over valuation in many markets, despite only modest price appreciation during the next few years.**
- **A higher national Debt-to-GDP ratio will lead to higher interest payments which will eventually dilute US currency and slow the US economy.**
- **Careful research and accurate data analysis have never been more important than in the current cycle.**



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