



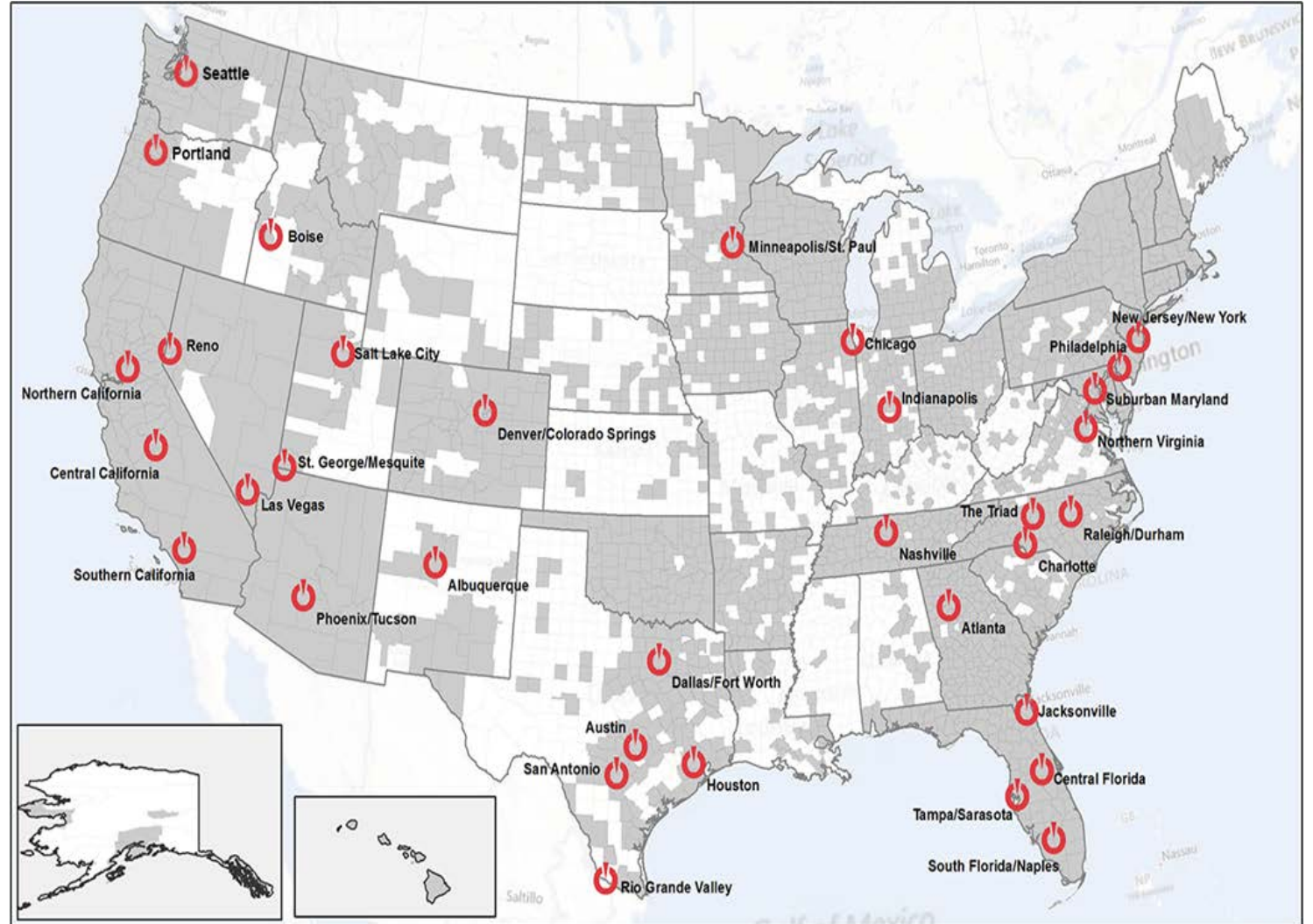
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**Southern California Chapter of the
Appraisal Institute
Inland Empire Market Trends Seminar
June 2018**

METROSTUDY ADVISORS

- Largest US geographic footprint including:
 - 890 CBSAs | 2,483 Counties
 - Top 25 construction CBSAs
 - 27,000 active subdivisions
 - 36,000 future subdivisions
 - 3.2 million individual parcels
 - 76% of US new home construction
 - Exclusive consumer demographics insights
 - 25 regional offices
 - 500 surveyors



TOPICS FOR TODAY

- National Economy
- Inverted Yield Curve & Interest Rate Trends
- The Outlook for China
- Housing Market Trends
- Southern California Submarket Review
- Inland Empire

NATIONAL ECONOMIC CONDITONS

NO RECESSION IN SIGHT

Recession Dashboard							
Start of Recession	Yield Curve	Inflation Trends	Job Creation	Credit Perform	ISM Mfg.	Earnings Quality	Housing Market
Nov-73	↓	↓	↓	↓	↓	--	↓
Jan-80	↓	↓	↓	↓	↓	--	↓
Jul-81	↓	↑	↑	↓	↓	--	↓
Jul-90	↓	↓	↓	↓	↓	↓	↓
Mar-01	↓	↓	↓	↓	↓	↓	↔
Dec-07	↓	↓	↔	↓	↓	↓	↓
Present	↑	↔	↑	↑	↑	↑	↑
Key: ↓ Recessionary ↑ Expansionary ↔ Neutral							
Source: Standard & Poor's, Federal Reserve, BLS, National Statistical Agencies, NBER, ISM, Census Bureau, Haver Analytics®, Credit Suisse							

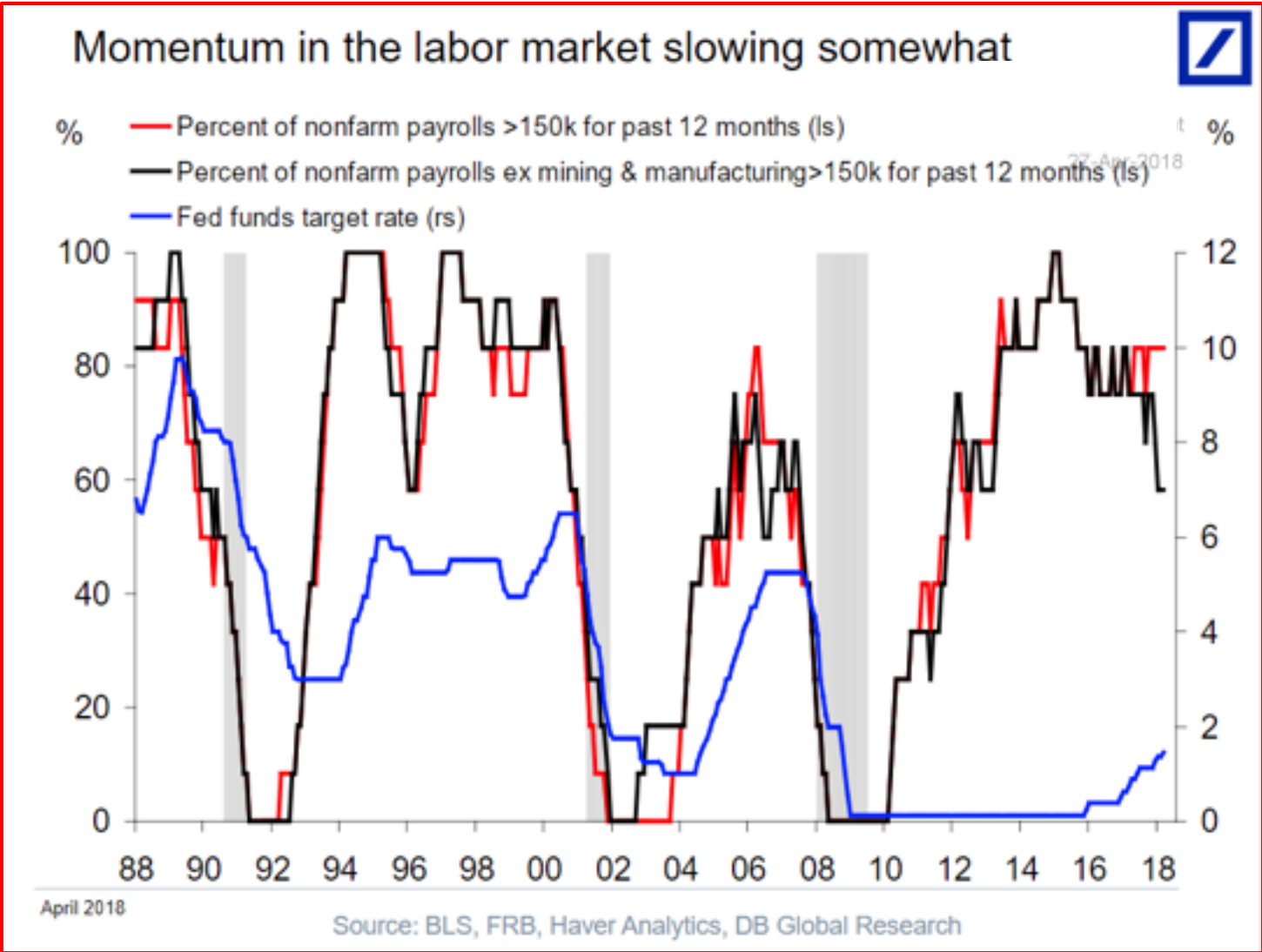
FUND MANAGER SURVEY OF ECONOMIC CYCLE MATURITY



UNEMPLOYMENT CLAIMS ARE AT HISTORIC LOWS



EMPLOYMENT MARKET MOMENTUM

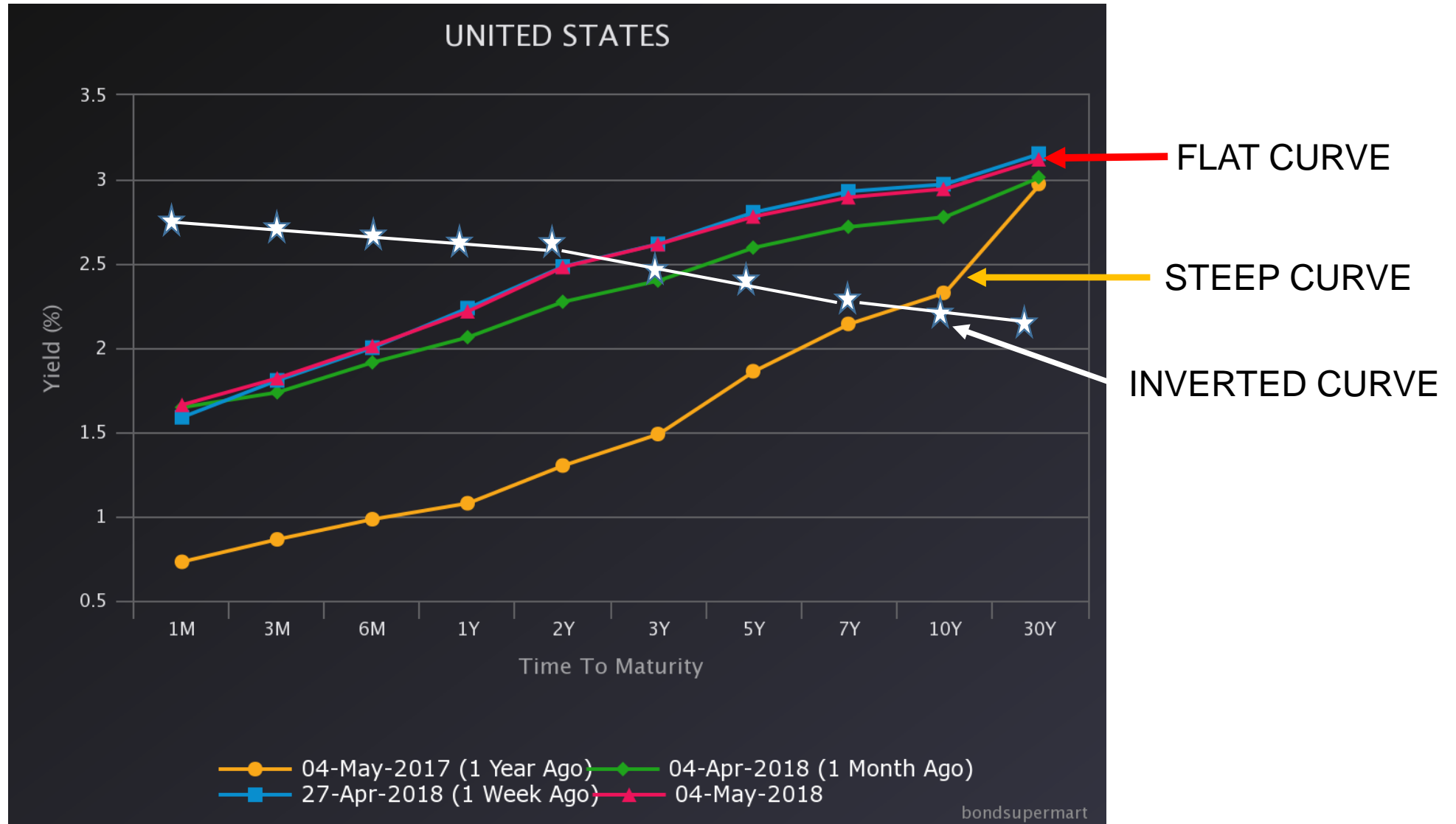




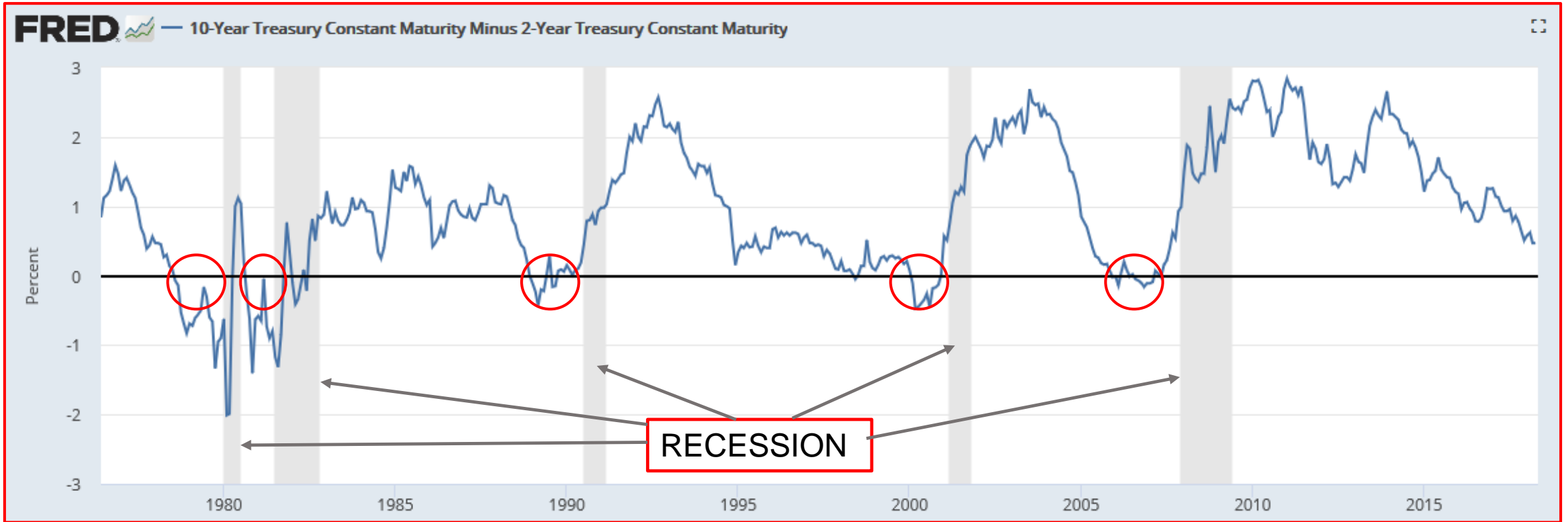
INVERTED YIELD CURVE AND INTEREST RATE OUTLOOK

U.S. YIELD CURVE

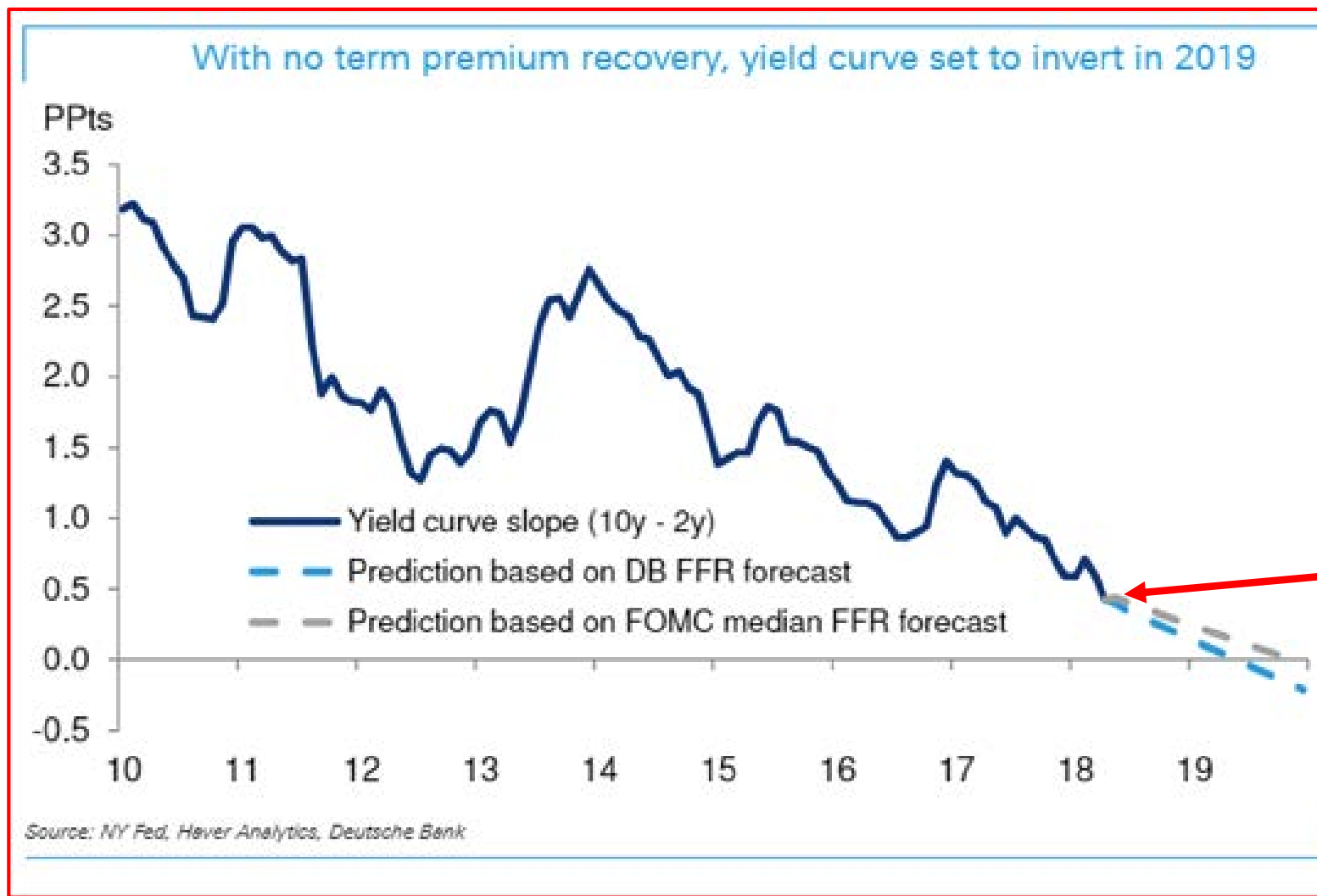
The additional yield investors get paid for longer investments is called “term premium”



THE YIELD CURVE INVERTS A FEW MONTHS PRIOR TO RECESSIONS



YIELD CURVE INVERSION FORECAST – NO TERM PREMIUM RECOVERY



About 45 basis points

ANTICIPATING THE ONSET OF A RECESSION

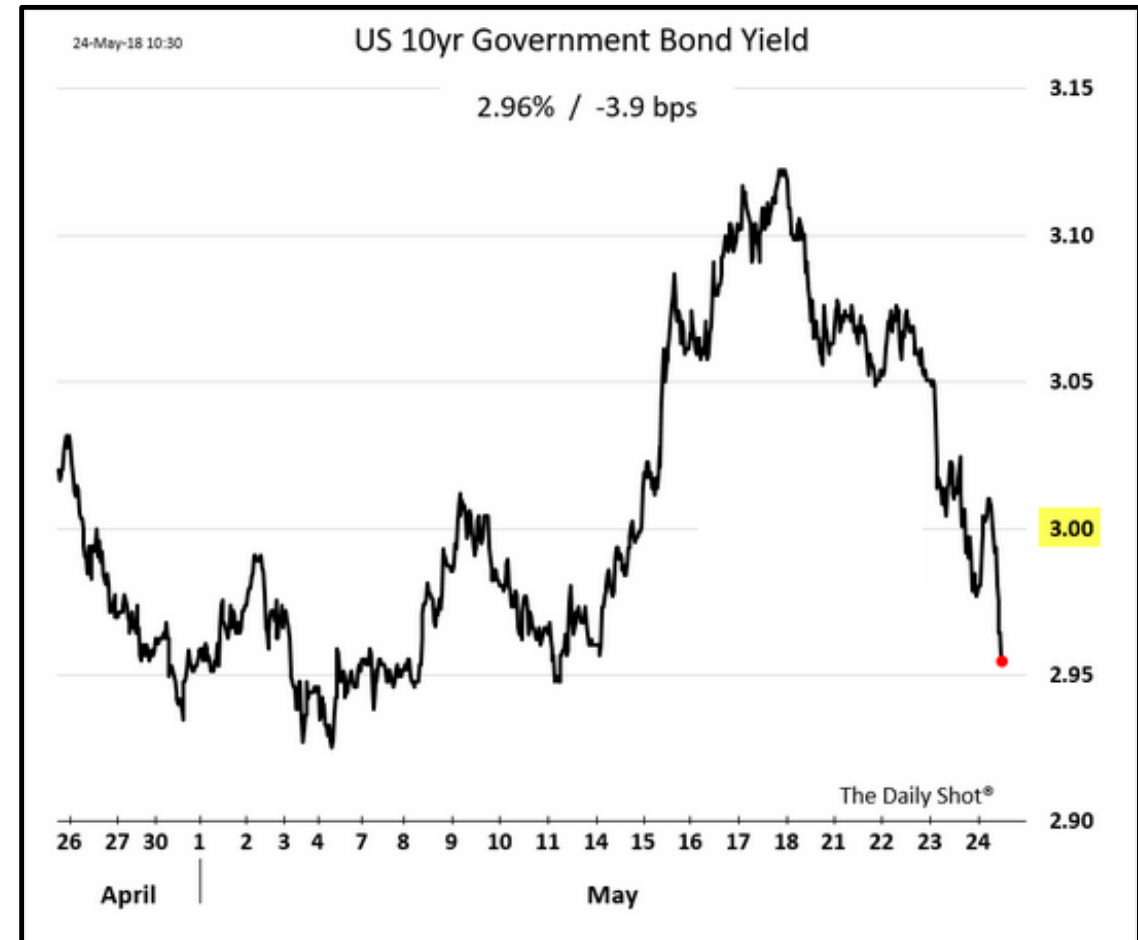
Inverted Yield Curve (10-Yr minus 1-Yr) and Recessions (1956-Present)				
Recession Start	Recession End	Inverted Curve Before Recession?	First Yield Curve Inversion	Lead (Months)
Aug-57	Apr-58	Yes	Dec-56	8
Apr-60	Feb-61	Yes	Sep-59	7
Dec-69	Nov-70	Yes	Dec-67	24
Nov-73	Mar-75	Yes	Mar-73	8
Jan-80	Jul-80	Yes	Sep-78	16
Jul-81	Nov-82	Yes	Sep-80	10
Jul-90	Mar-91	Yes	Feb-89	17
Mar-01	Nov-01	Yes	Apr-00	11
Dec-07	Jun-09	Yes	Jan-06	23
Average Lead Time				14

On average the yield curve has inverted 14 months prior to the beginning of a recession.

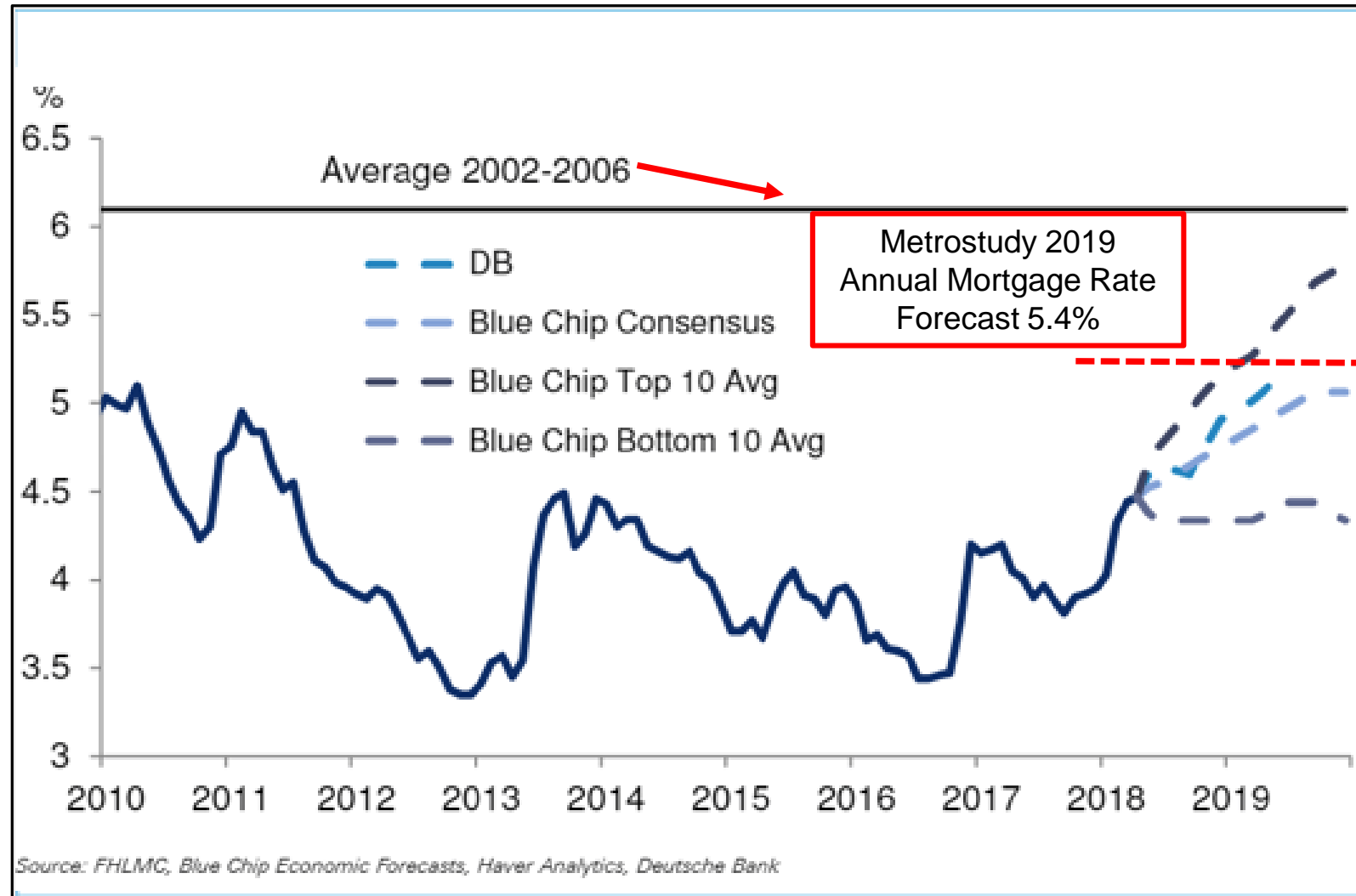
Months that Troughs Precede Recessions		
First Month of Recession	Initial Claims	Continued Claims
Dec 1969	7	6
Nov 1973	8	7
Jan 1980	14	14
Jul 1981	3	3
Jul 1990	20	20
Mar 2001	11	10
Dec 2007	22	19
Average	12	11

Initial and continuing claims for unemployment benefits tend to bottom out a few months before a recession.

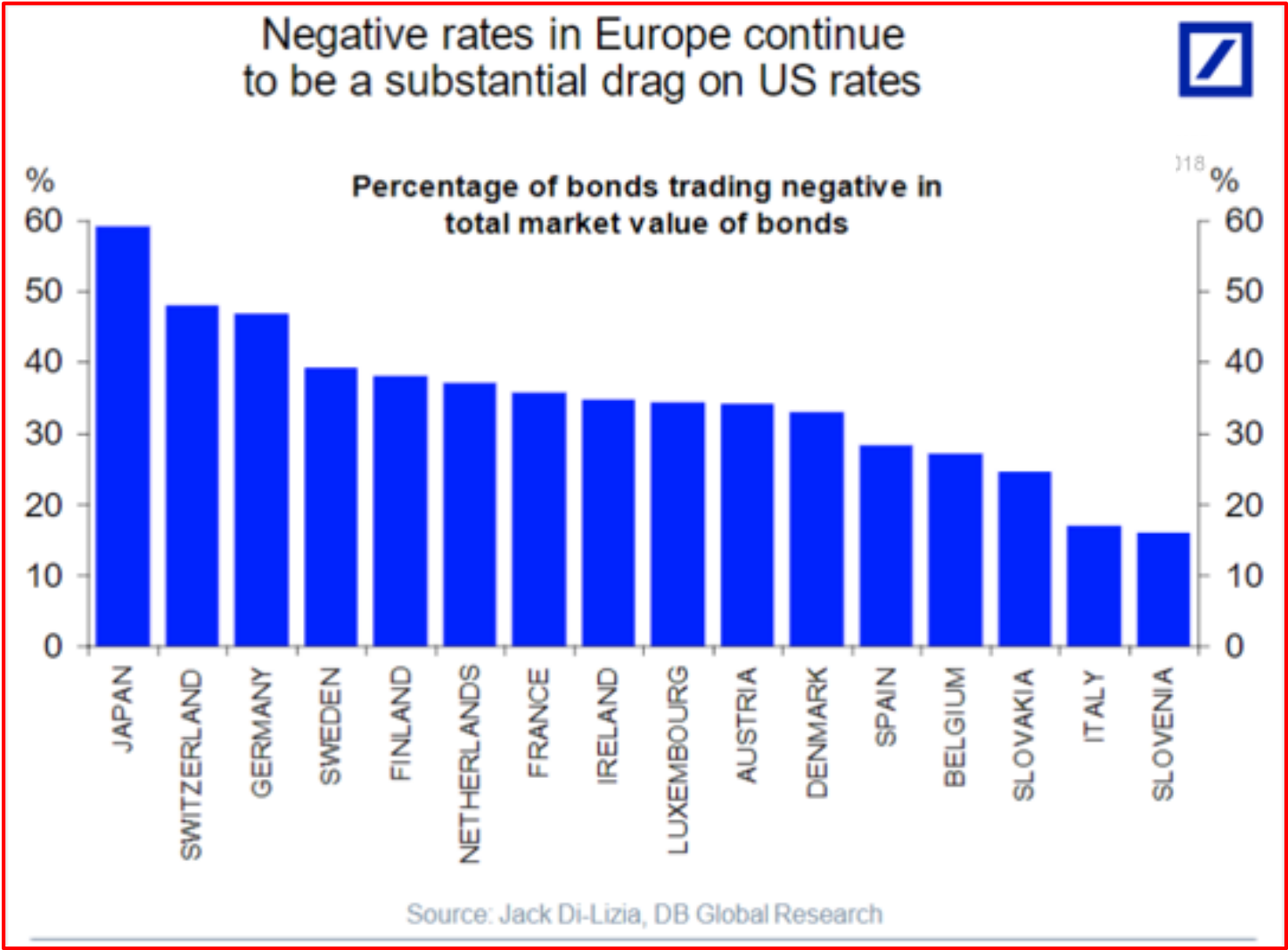
U.S. 10 YEAR TREASURY YIELD HISTORY – Long Term & Short Term



“BLUE CHIP” FORECASTS FOR MORTGAGE RATES VARY WIDELY

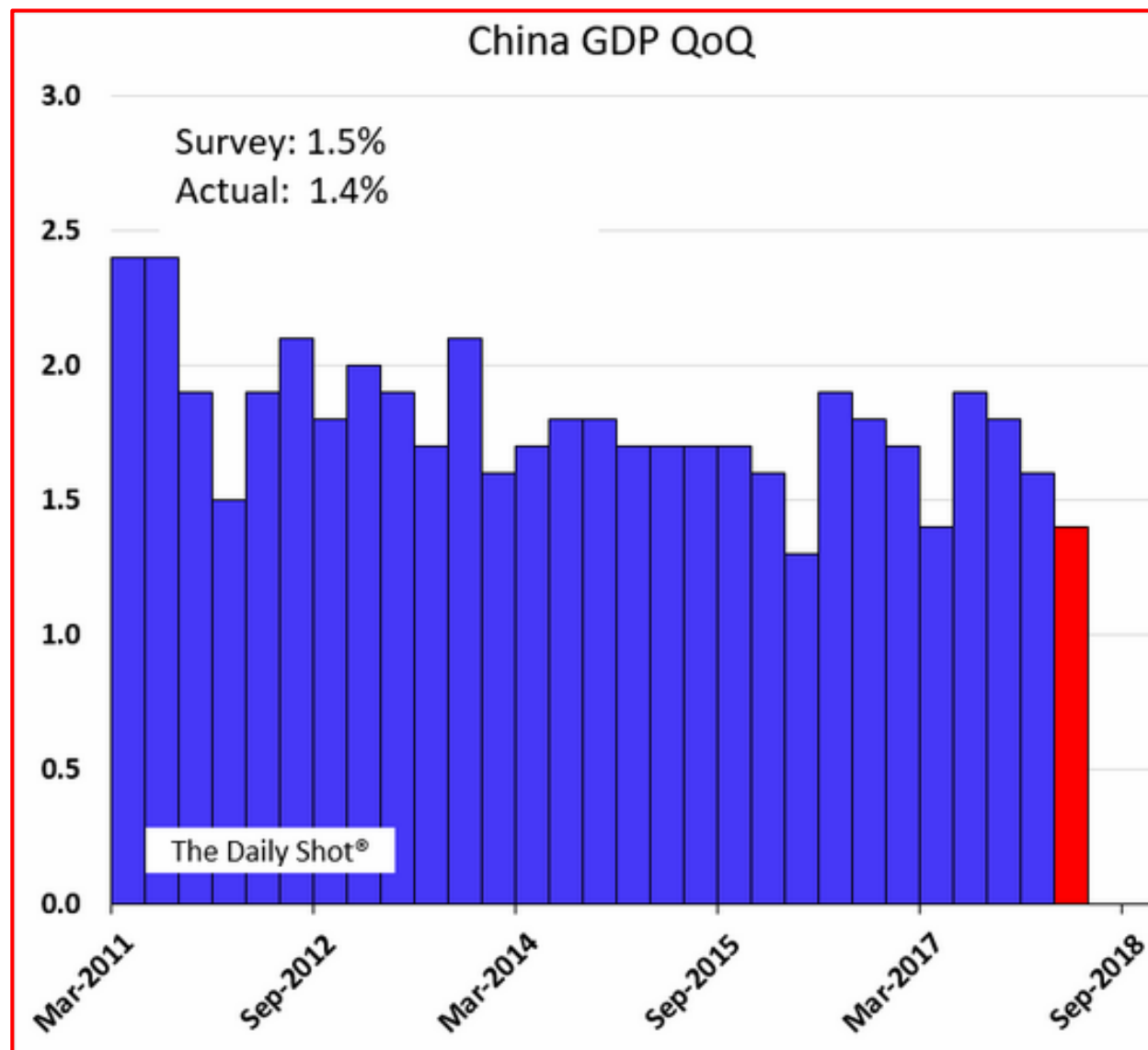


NEGATIVE RATES STILL DOMINATE IN EUROPE



OUTLOOK FOR CHINA

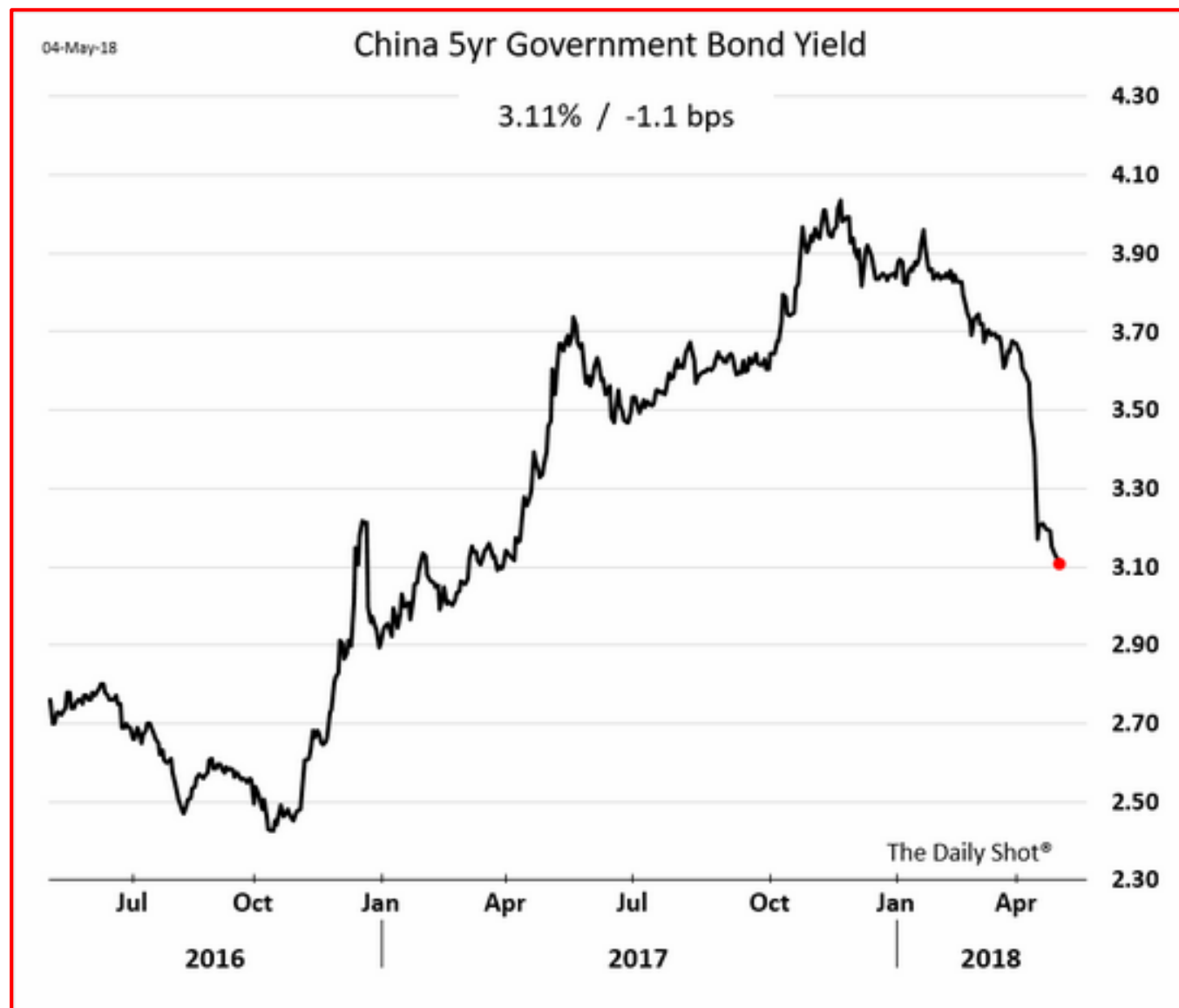
CHINESE GDP SOFTENS



CHINESE PROPERTY PRICES ENTERING A SOFT PATCH



CHINESE 5 YEAR GOVERNMENT BOND



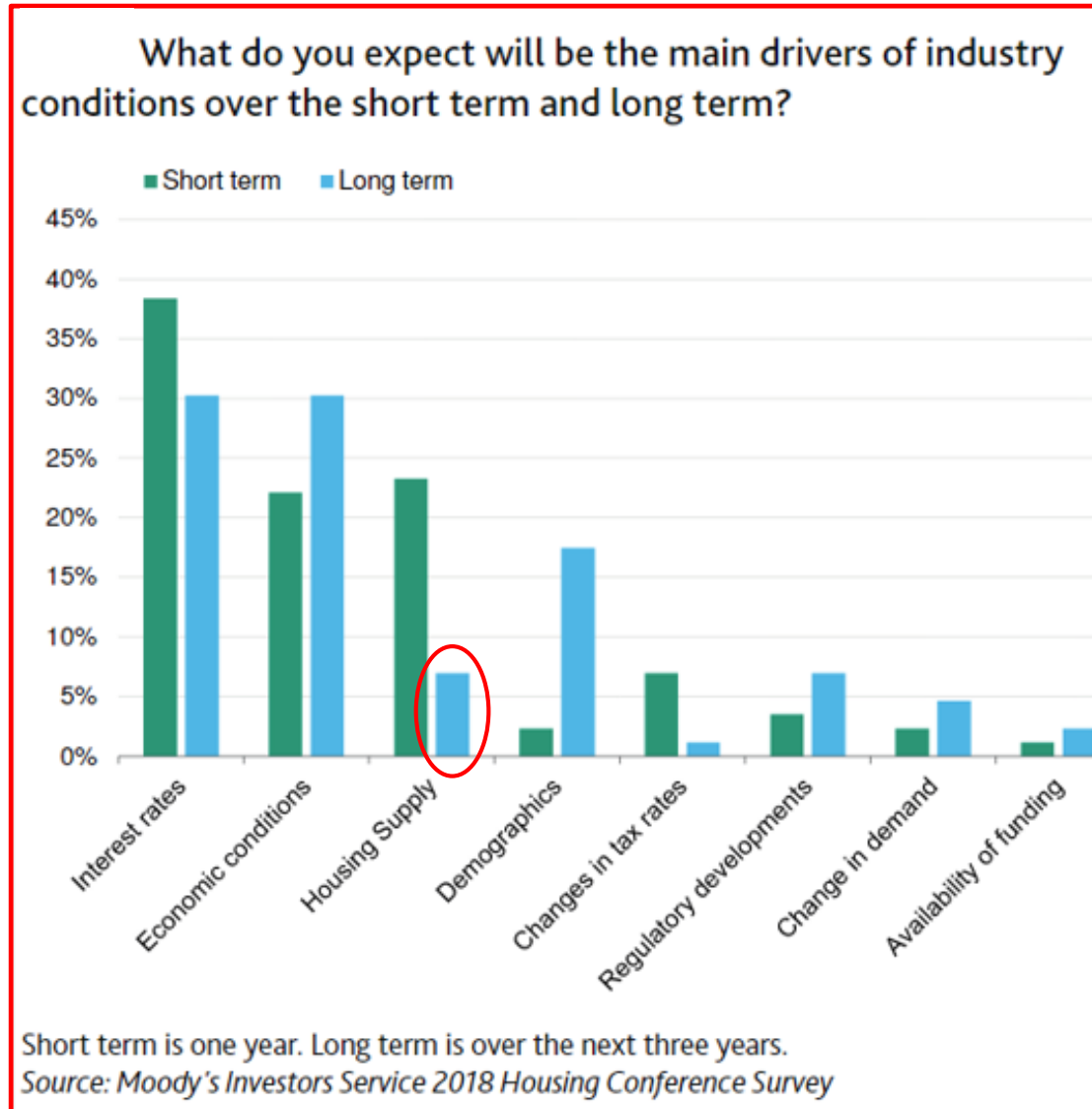
U.S. DOLLAR VERSUS CHINESE YUAN EXCHANGE RATES

USDCNH CHART

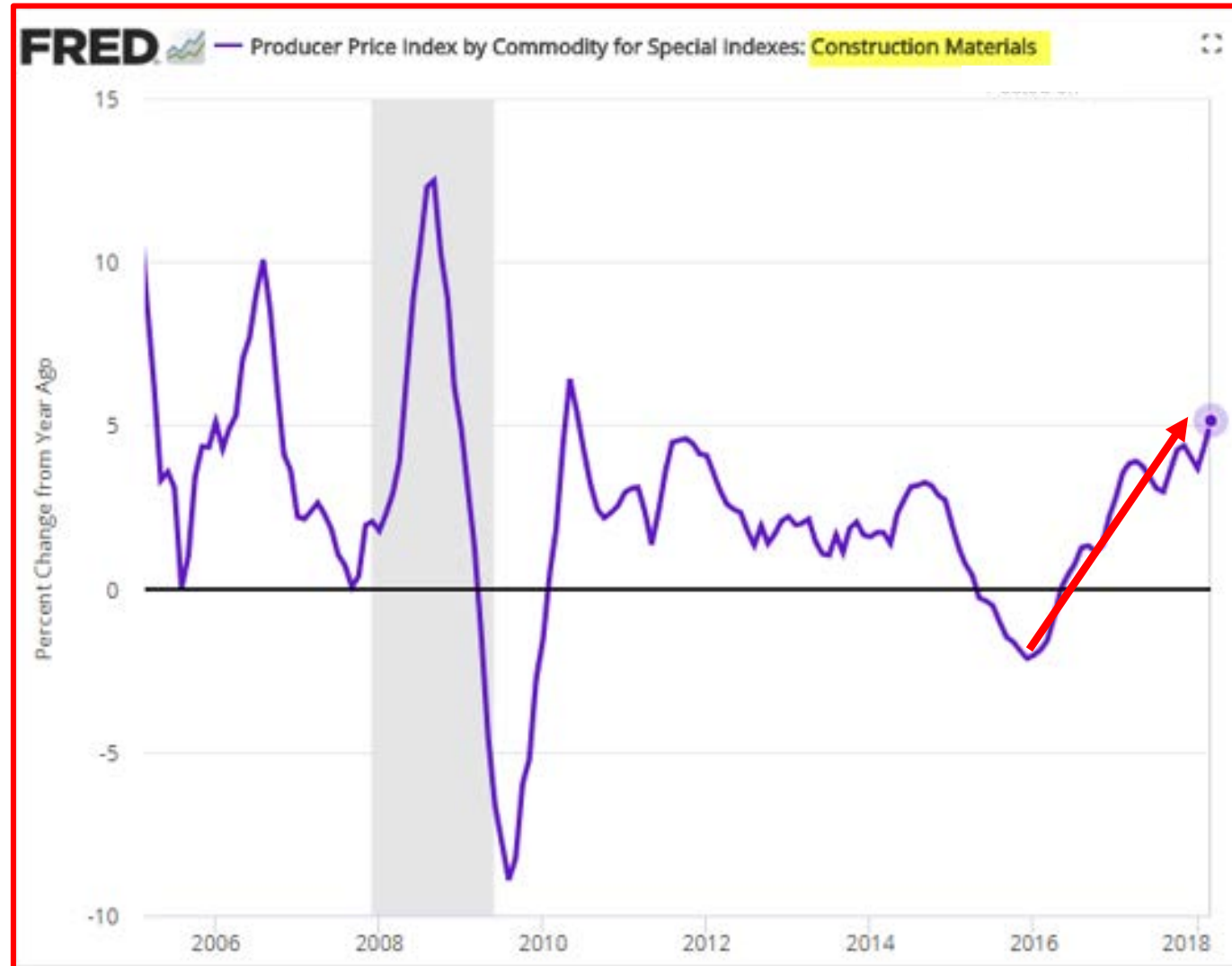


HOUSING MARKET TRENDS

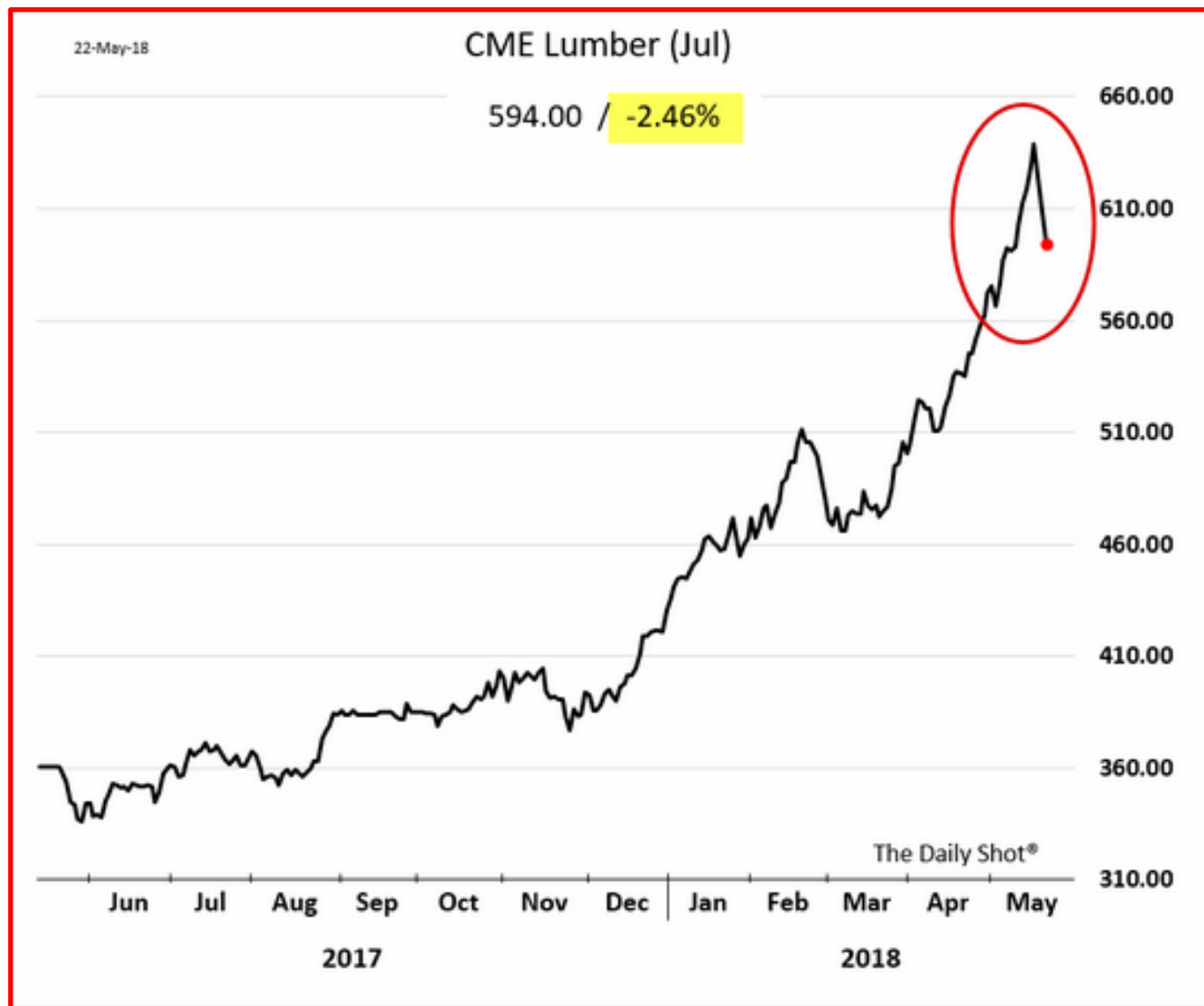
HOMEBUILDING INDUSTRY CONDITONS – SHORT TERM AND LONG TERM



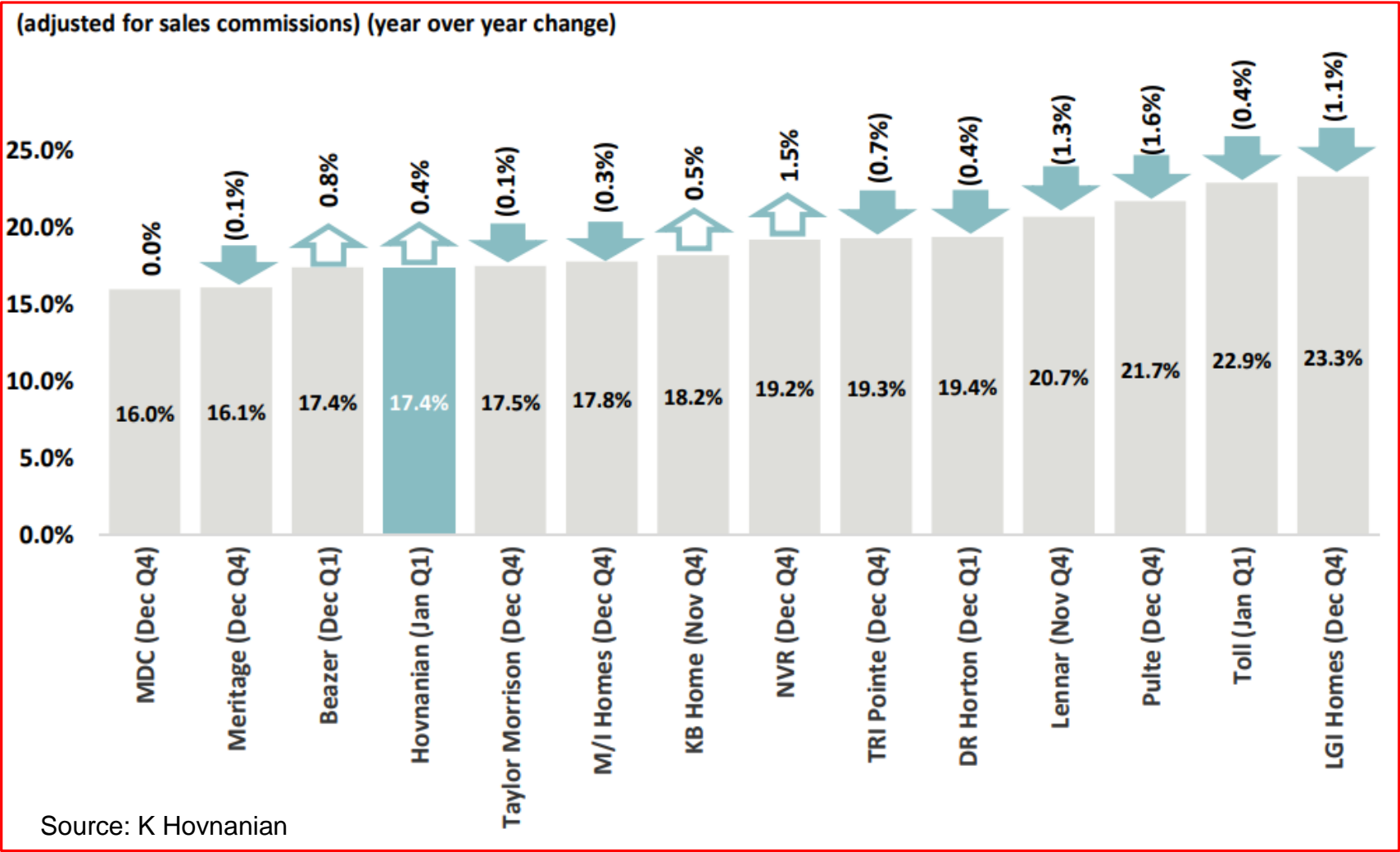
CONSTRUCTION COST INFLATION



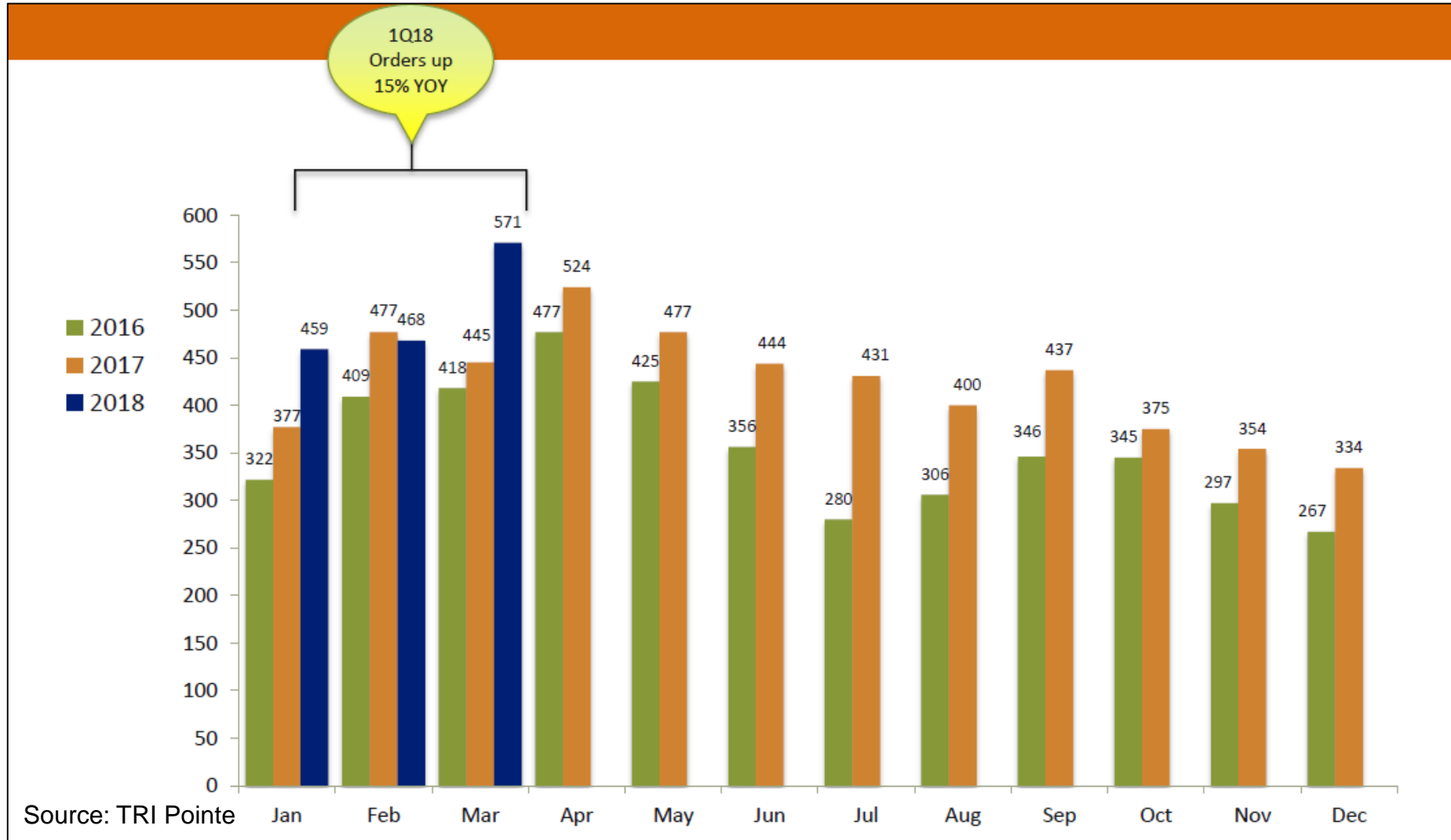
RECENT ACCELERATION THEN REVERSAL IN LUMBER PRICES



HOMEBUILDING INDUSTRY CONDITONS – MARGIN PRESSURES

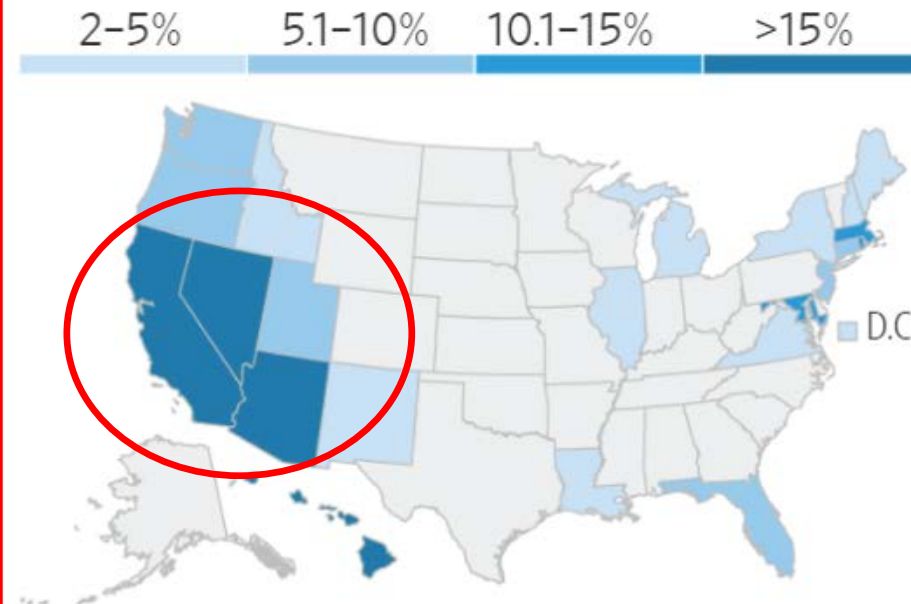


HOMEBUILDING INDUSTRY CONDITONS – SALES VOLUMES RISING



U.S. HOUSING PRODUCTION SHORTAGES

Underproduction as a percentage of 2015 housing stock

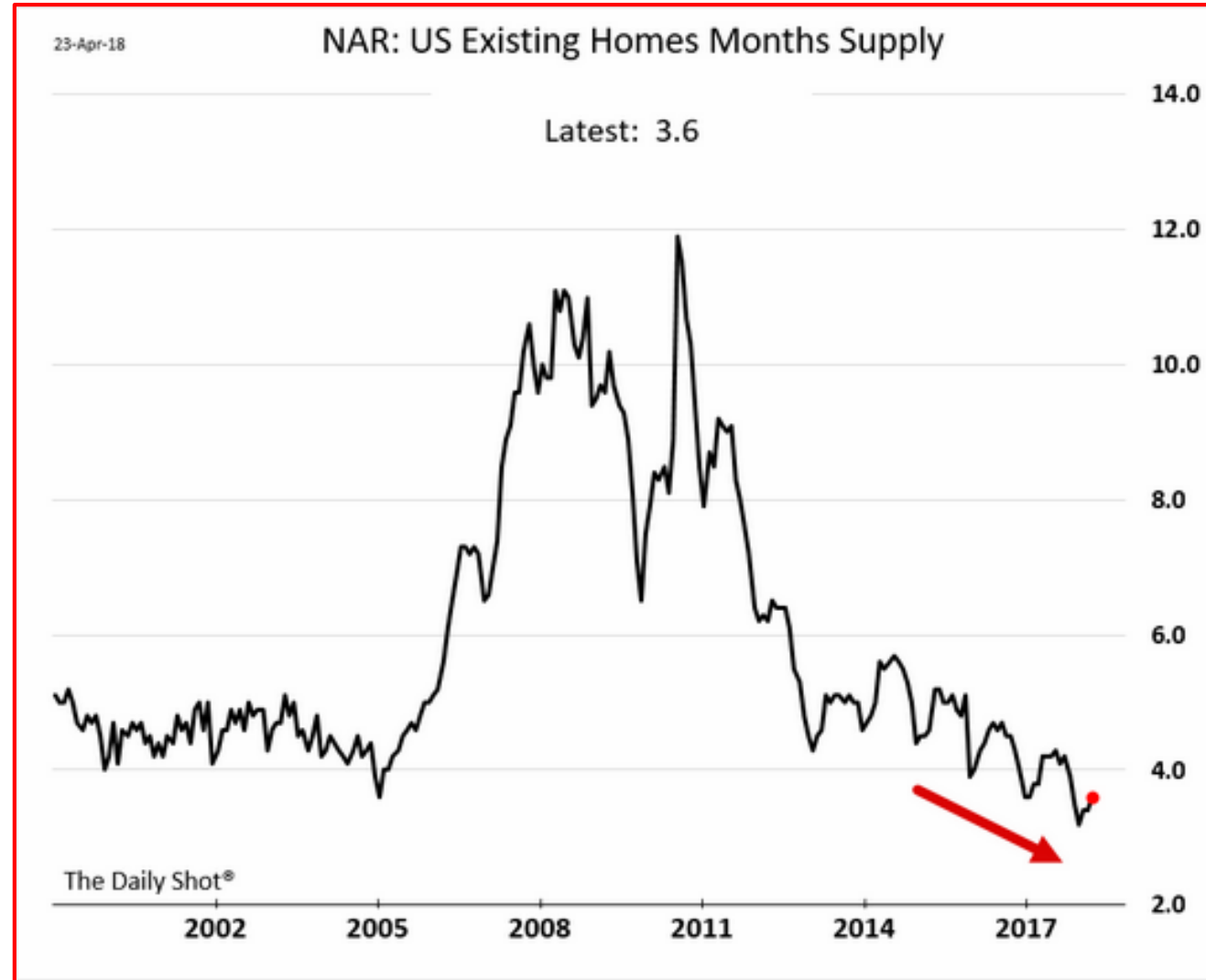


Note: Other states didn't have a housing shortage

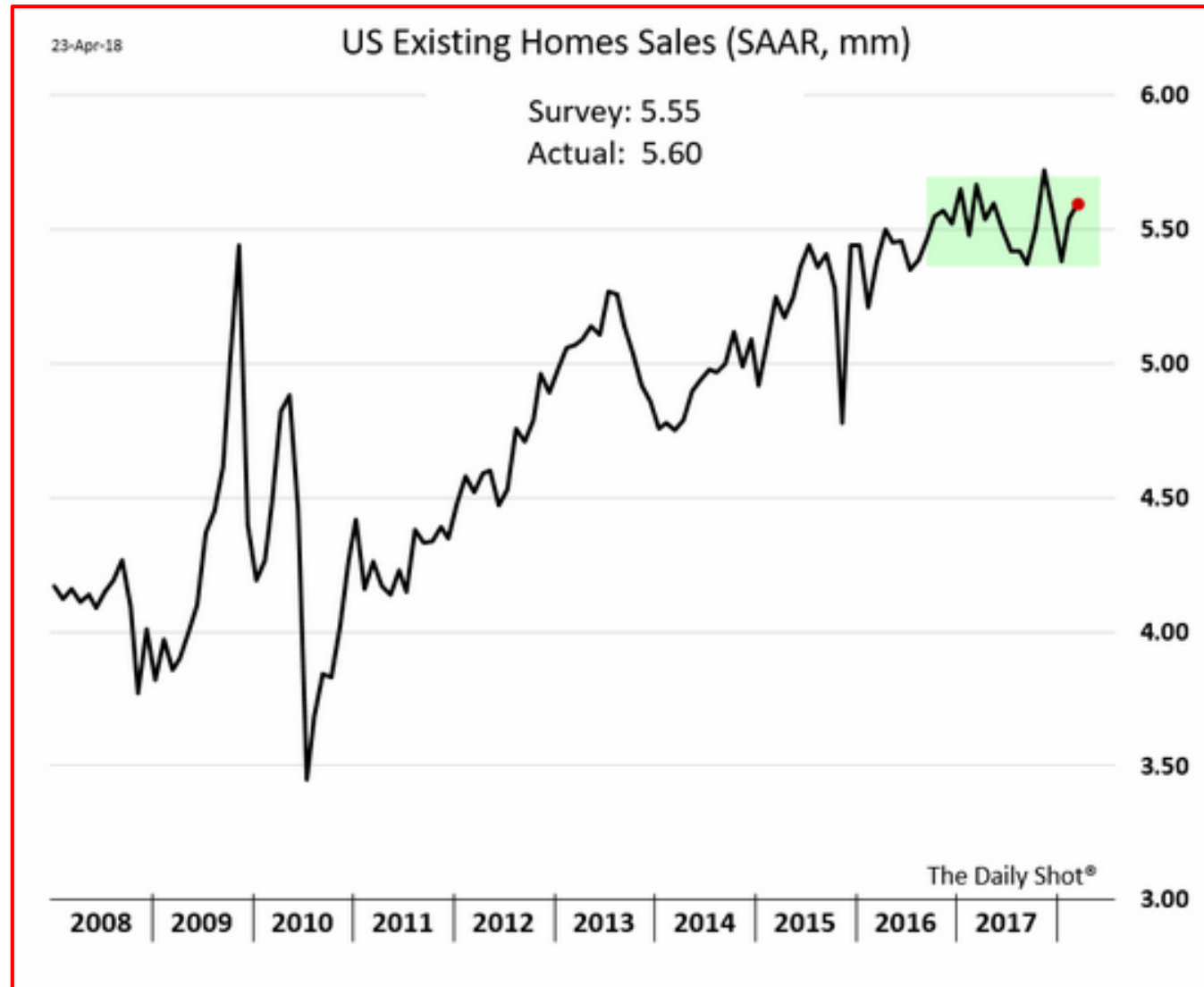
Source: ECONorthwest

Some 22 states and the District of Columbia didn't build enough housing from 2000 to 2015. Production fell short by 7.3 million homes, or 5.4% of the total housing market.

U.S. EXISTING HOMES – MONTHS OF SUPPLY



U.S. EXISTING HOMES –ANNUAL SALES RATE



TAX REFORM AND JOBS ACT

State & Local Taxes (SALT) Provisions Increase California Homeowners Tax Liability

Property Tax Component				
Home Purchase Price	\$500,000	\$750,000	\$1,000,000	\$1,500,000
Property Taxes @ 1.75%	\$8,750	\$13,125	\$17,500	\$26,250
Non-Deductible Property Taxes over \$10,000 Limit (1)	-\$1,250	\$3,125	\$7,500	\$16,250
Mortgage Interest Component				
Loan Amount @ 75% LTV	\$375,000	\$562,500	\$750,000	\$1,125,000
Year 1 Interest @ 4.5%	\$16,875	\$25,312	\$33,750	\$50,625
Non-Deductible Interest over \$24,000 Limit (2)	-\$7,125	\$1,312	\$9,750	\$26,625
Year 1 Change in Ownership Costs	-\$8,375	\$4,437	\$17,250	\$42,875
Income Tax Component				
Household Income @ 30% Debt-to-Income	\$112,500	\$168,750	\$225,000	\$337,500
CA State Income Tax at Applicable Rate (3)	\$11,588	\$17,381	\$23,175	\$38,138
Non-Deductible Taxes (1 + 2 + 3)	\$3,213	\$21,818	\$40,425	\$81,013

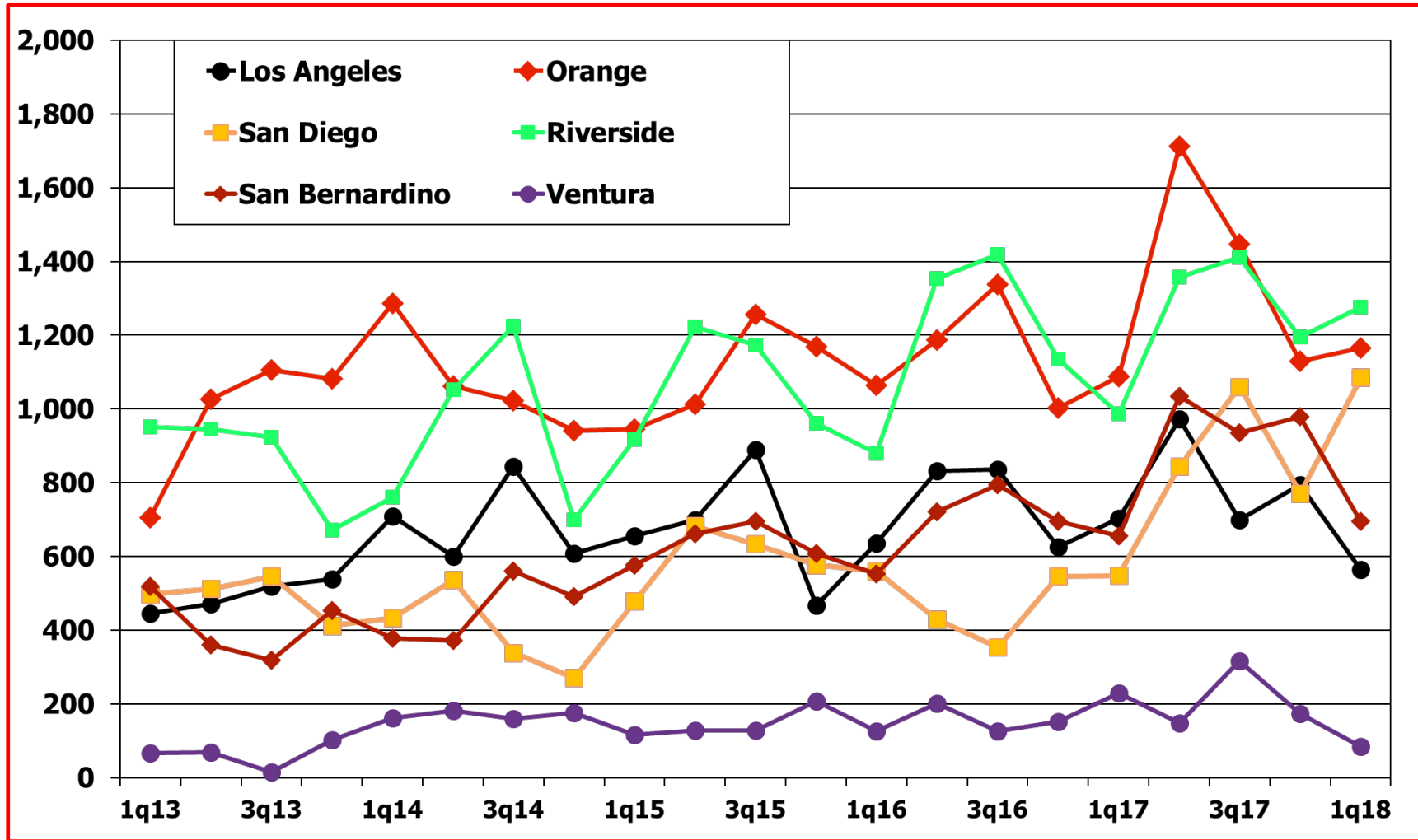
Notes:

- (1) Assumes that the homeowner uses all of their state and local deductions (SALT) for property taxes.
- (2) Assumes that the homeowner uses all of their standard deduction for mortgage interest.
- (3) Above a loan amount of about \$450,000 none of the income tax is deductible since deduction has been used for interest

SOUTHERN CALIFORNIA MARKET REVIEW

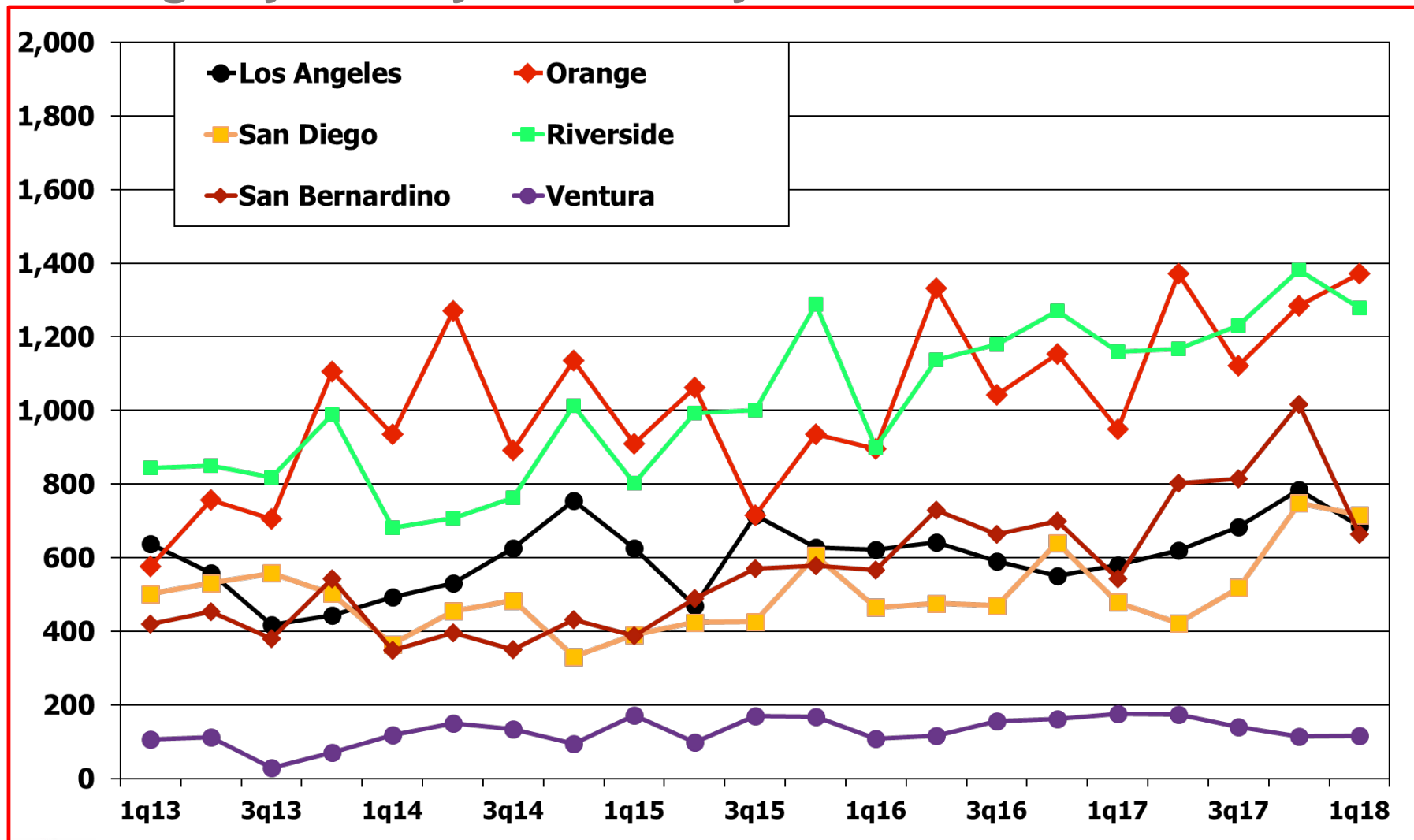
SOUTHERN CALIFORNIA

New Home Starts by County – Quarterly Totals



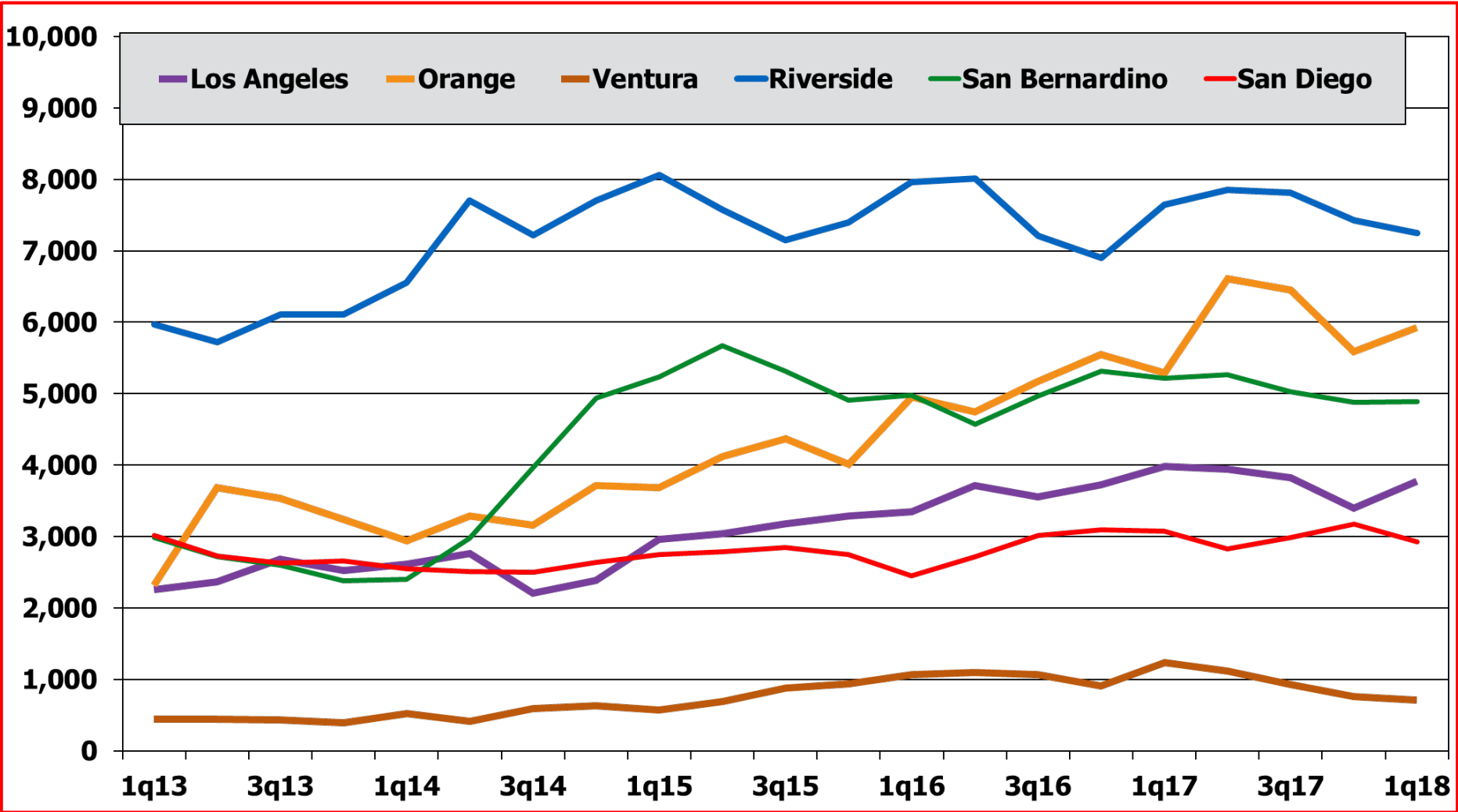
SOUTHERN CALIFORNIA

New Home Closings by County – Quarterly Totals



SOUTHERN CALIFORNIA

Vacant Developed Lots by County – Quarterly Total

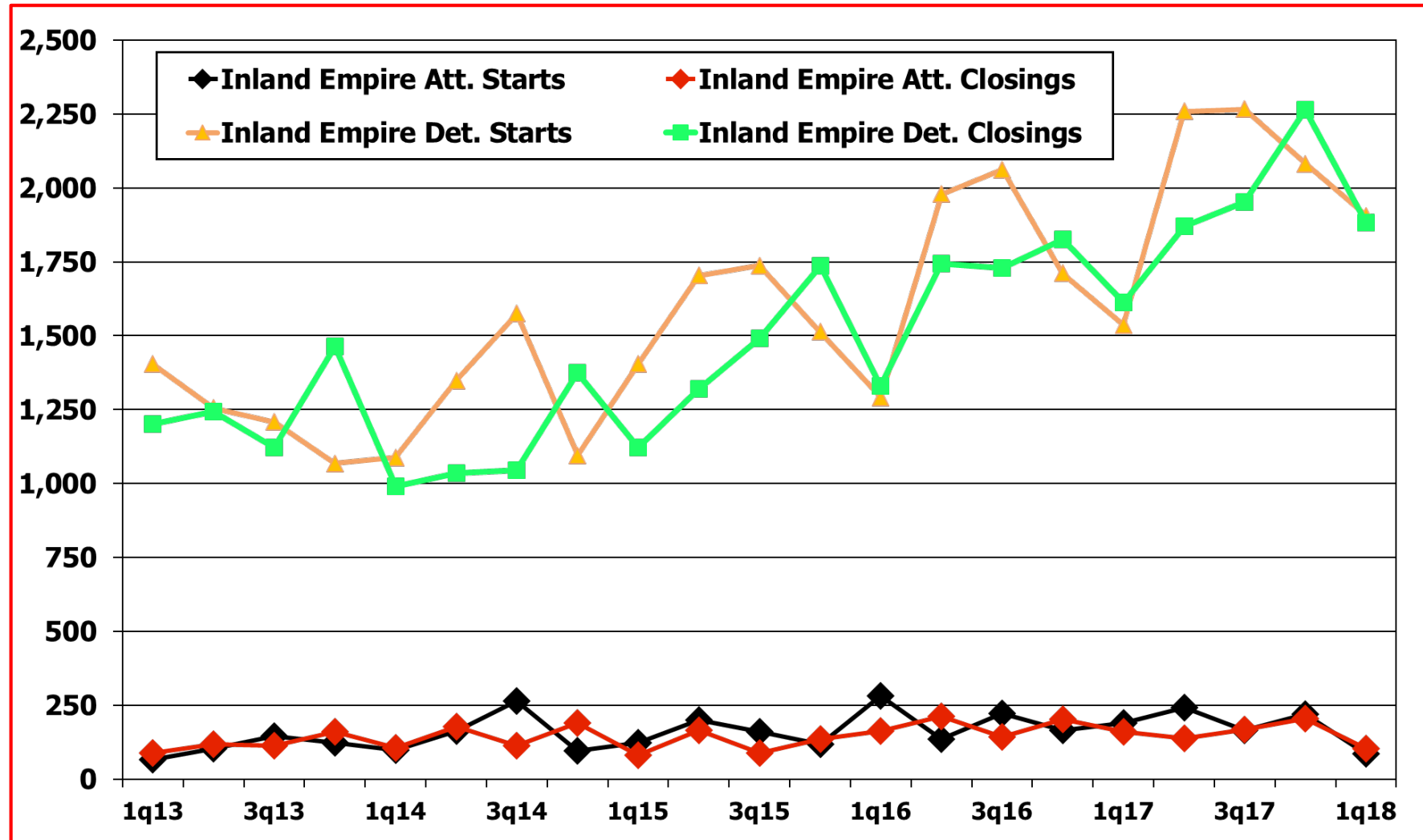




Inland Empire

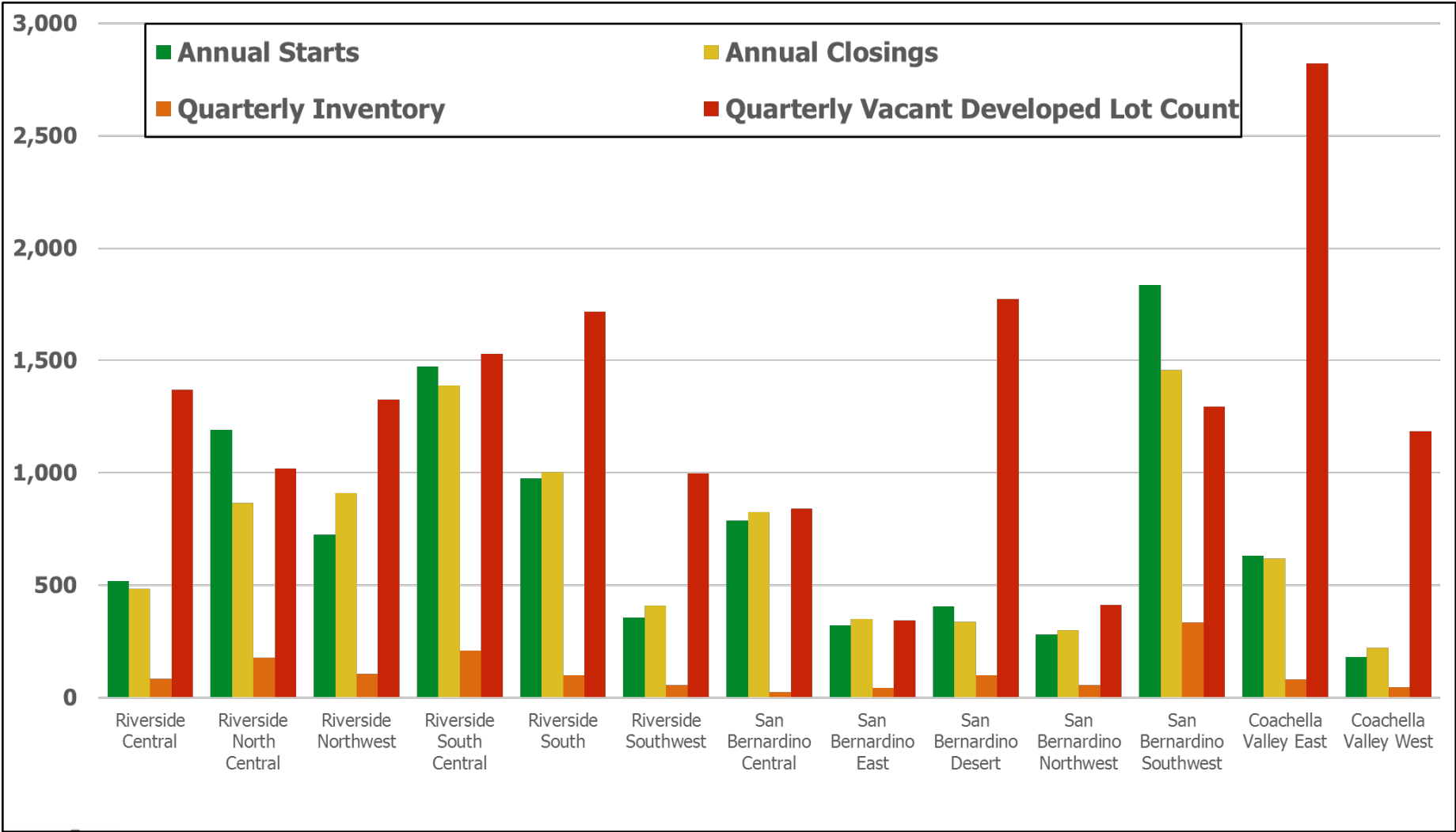
INLAND EMPIRE

New Home Starts and Closings – Quarterly Totals



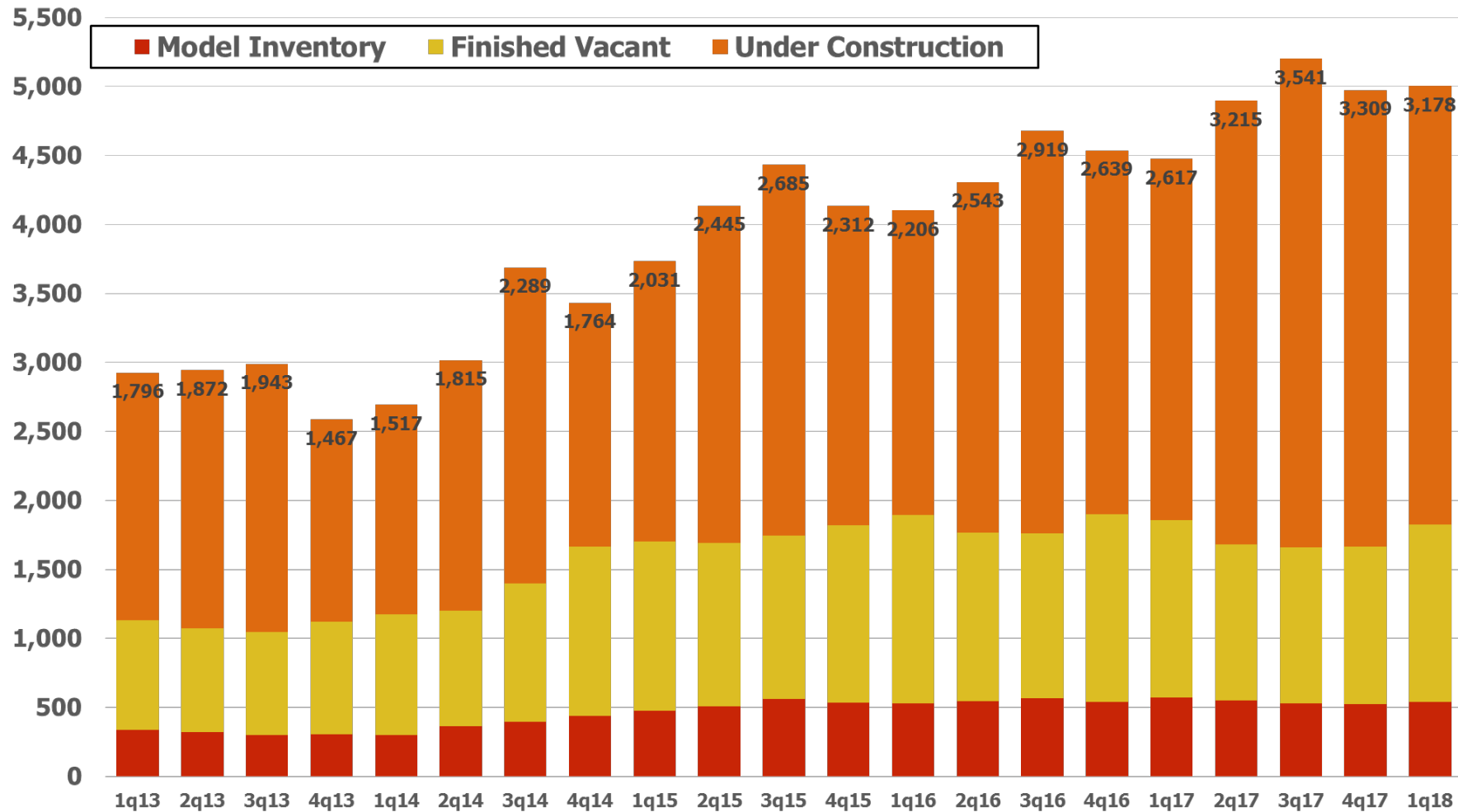
INLAND EMPIRE

New Home Data by Submarket – Quarterly Totals



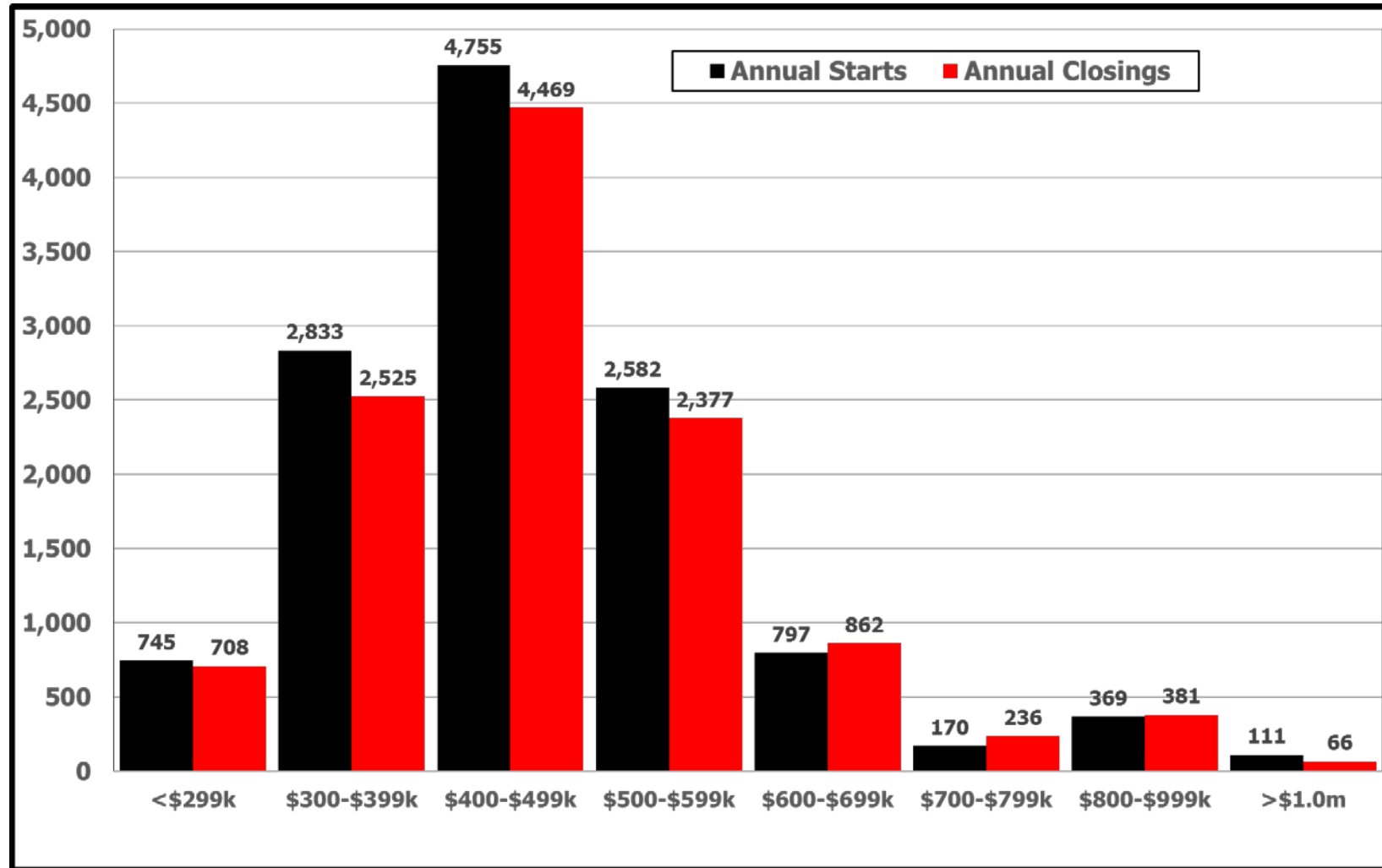
INLAND EMPIRE

New Home Inventory by Type (Models + Finished Vacant + Under Construction)



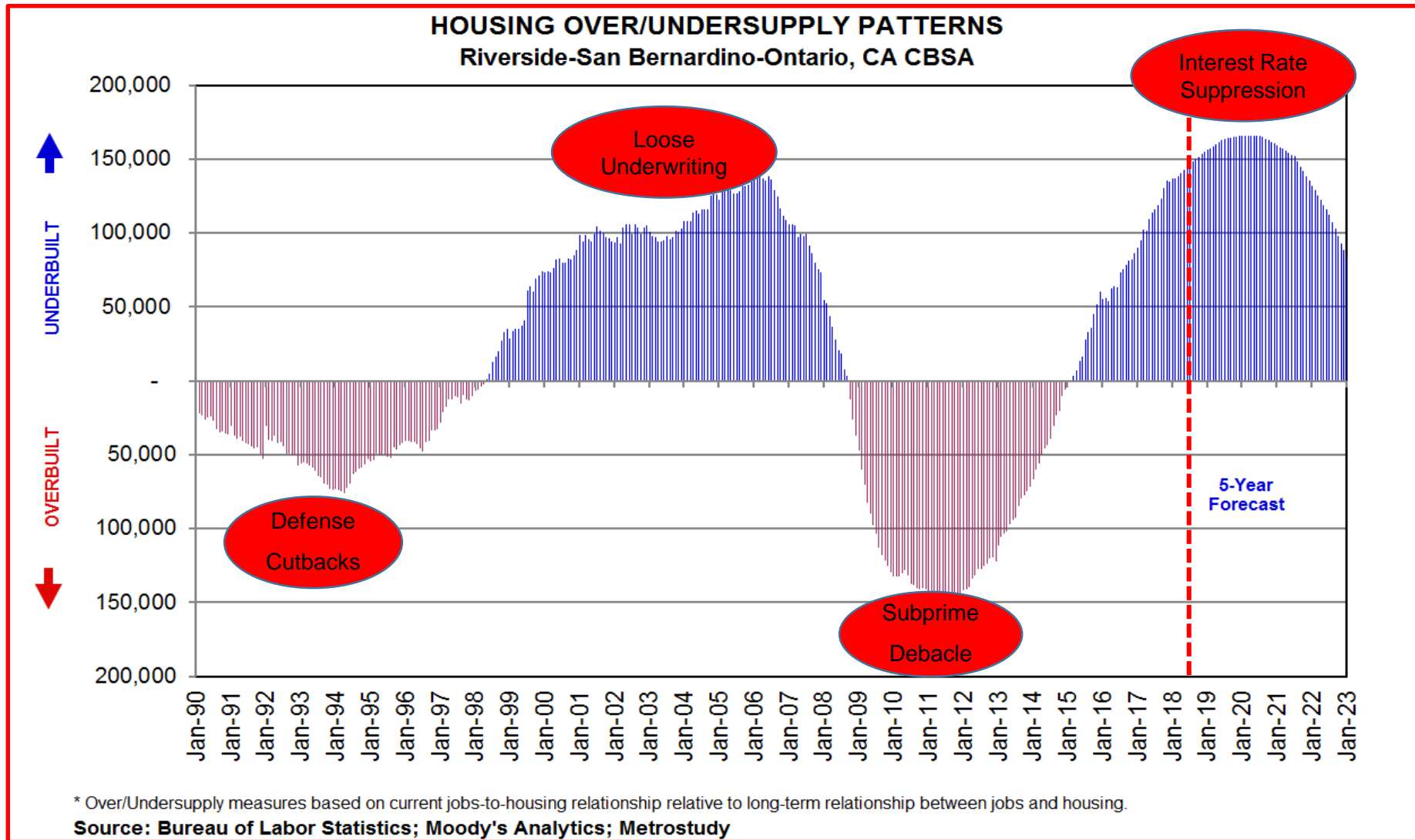
INLAND EMPIRE

Starts and Closings by Price Range TTM



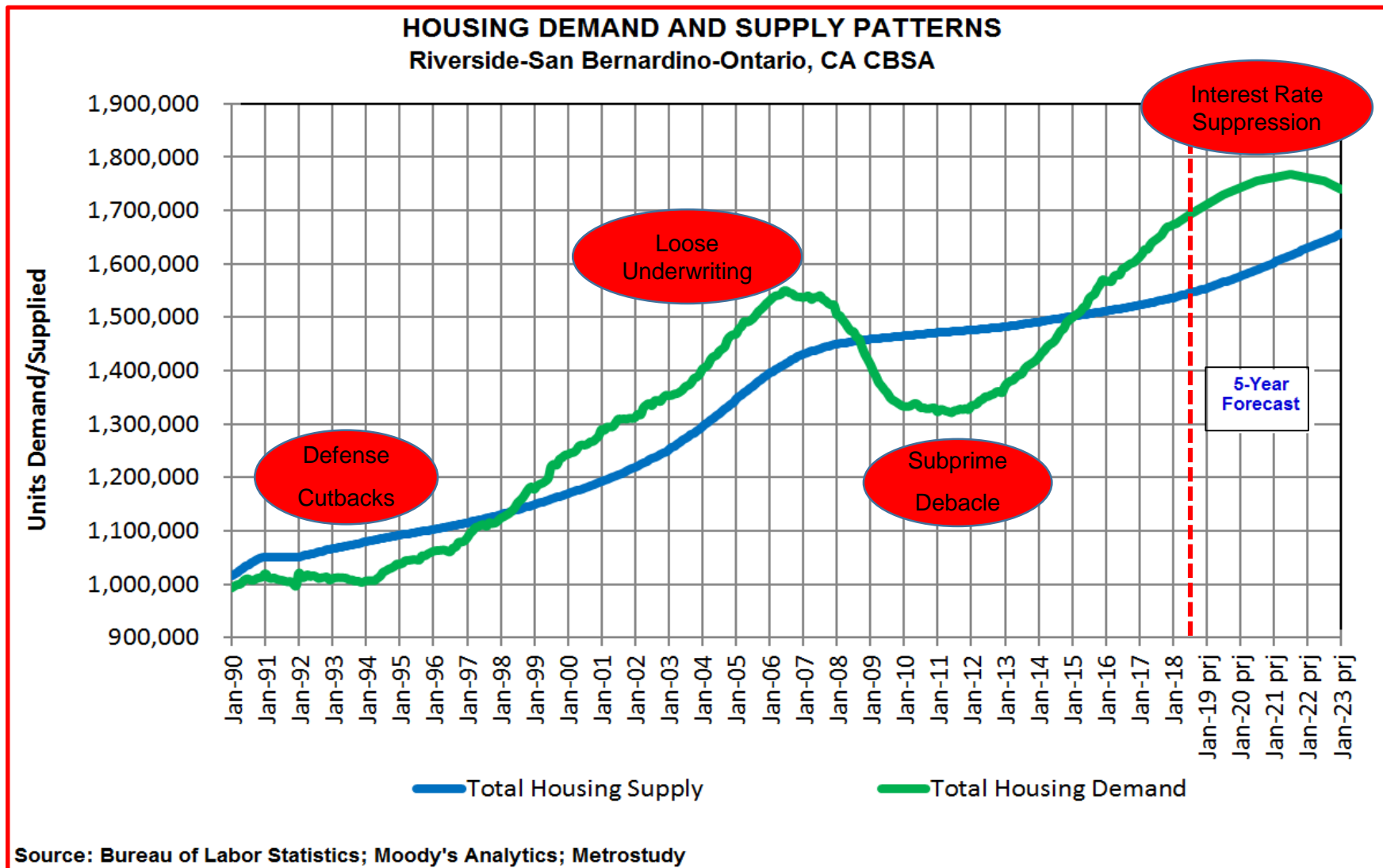
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Supply and Demand Patterns



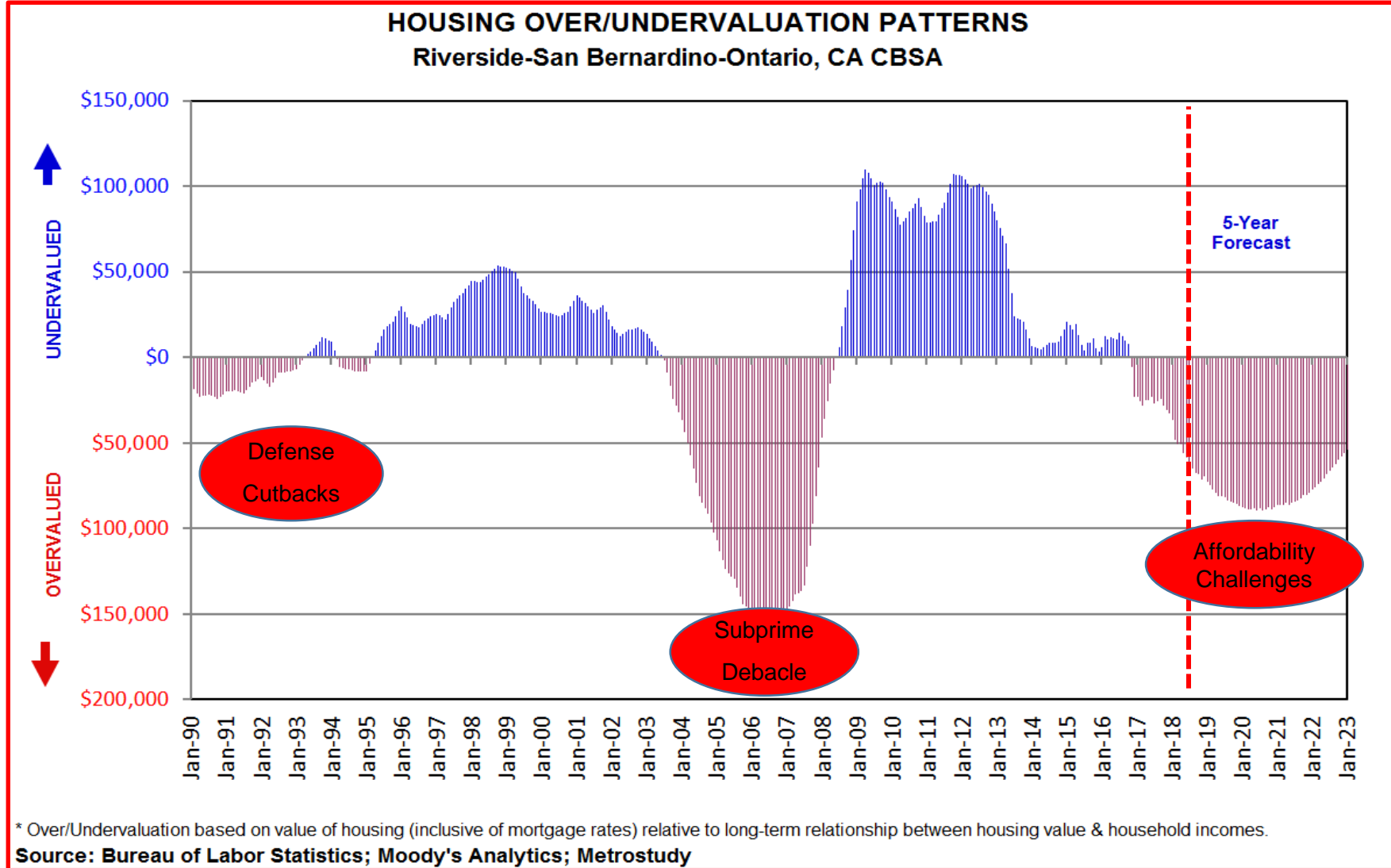
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Supply and Demand Patterns



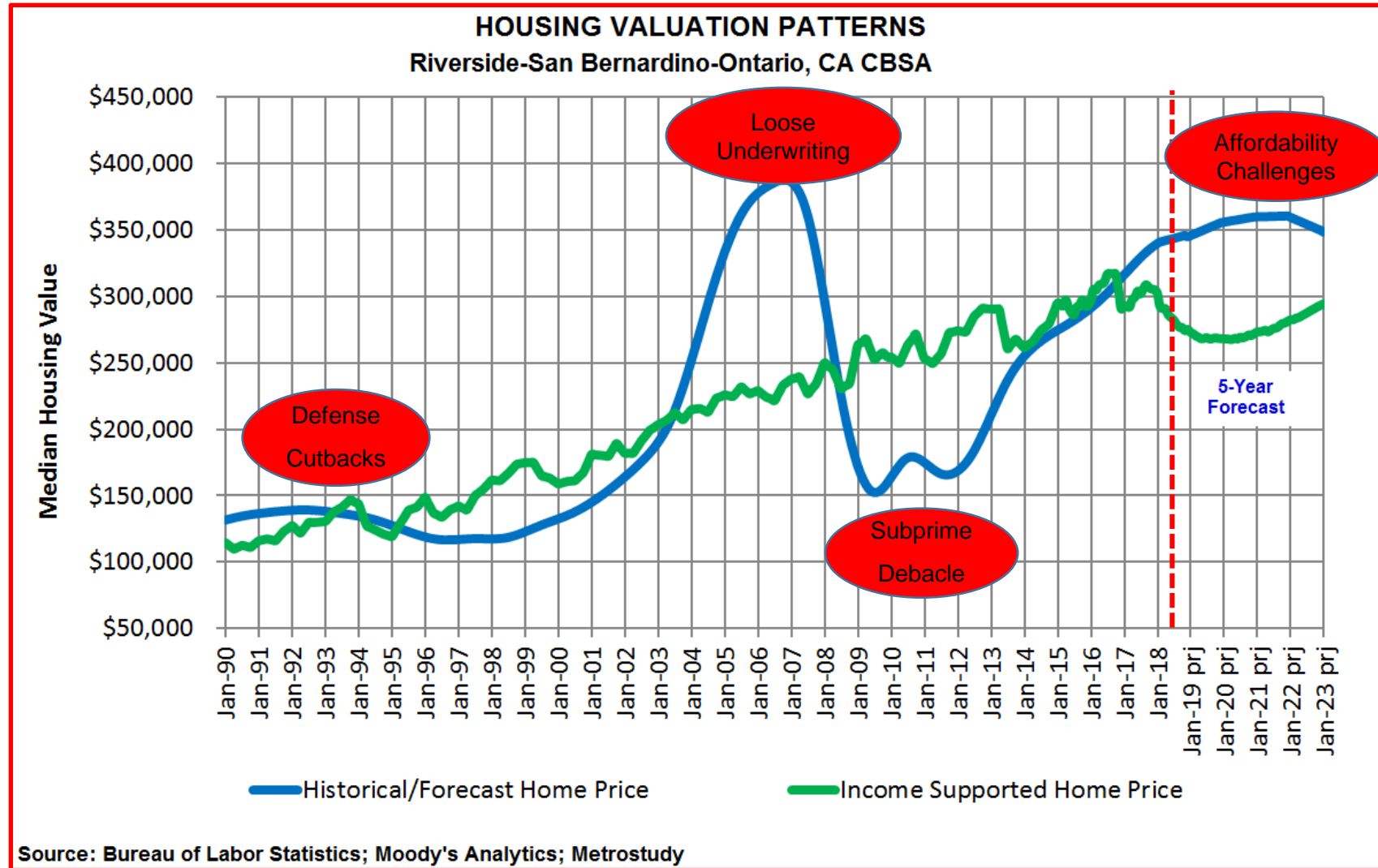
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Over and Undervaluation Patterns



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Over and Undervaluation Patterns



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Builder Ranking - (Combined by Acquisition) Ranked by TTM Closings

Ranking	Builder	TTM	1q18	4q17	3q17	2q17
1	Lennar, CalAtlantic & StanPac	1,902	347	516	488	527
2	DR Horton - All Flags	1,489	168	329	319	282
3	KB Home	890	163	221	227	279
4	Pardee Homes & Tri Pointe	817	205	186	203	223
5	Pulte & Del Webb	531	73	89	74	138
6	William Lyon Homes & RSI	432	65	80	80	139
7	Brookfield Residential	408	70	86	101	151
8	Woodside Homes	330	70	74	80	106
9	Richmond American Homes	305	80	59	65	101
10	Frontier Communities	220	78	45	43	54
11	Meritage Homes	171	40	34	60	37
12	Pacific Communities	122	37	40	22	23
13	K. Hovnanian Companies	122	25	11	49	37
14	Beazer Homes	111	8	9	24	70
15	Diversified Pacific	88	13	30	33	12
16	Griffin Residential	82	11	19	18	34
17	Far West Industries	66	19	10	11	26
18	Crestwood Communities	52	10	18	15	9
19	Legacy Homes	46	16	8	9	13
20	Bowlus Pacific	44	4	11	21	8

HOUSING MARKET OUTLOOK



The Economy

- The yield curve tells us that a recession is NOT imminent or even likely to occur in the next 12 to 18 months,

The Cycle

- Higher rates, tight labor and production bottlenecks tell us we're well into the cycle and market changes are ahead,

Supply Constraints

- Production is increasing, but not nearly enough to offset the supply / demand shortfall,

Input Costs

- Labor, materials costs and interest rates are rising faster than incomes, affordability is weakening.

Buyer Psychology

- Buyers are eager, anticipate some “pull-forward” in sales as buyers try to beat rate increases.

Bottom Line

- The economy remains strong, no signs of overbuilding, and there is solid demand from millennials, mature buyers and move-up buyers. The deep undersupply is a counterbalance to declining affordability.



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