



# Q2 2018 MACRO THEMES SUMMARY



April 11<sup>th</sup>, 2018

Originally Published April 3<sup>rd</sup>, 2018

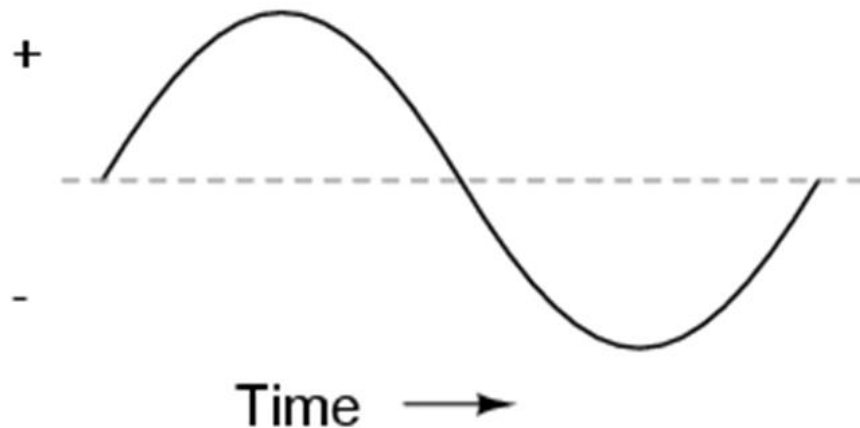
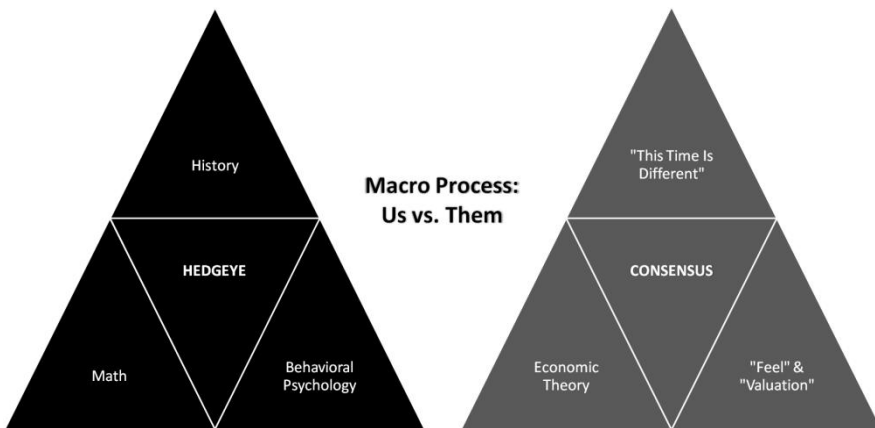
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# PROCESS: RATE OF CHANGE CENTRIC



## DIFFERENTIATED FROM THE HERD

Macroeconomics and Global Macro Risk Management are two very different fields. We specialize in the latter, incorporating key lessons of behavioral finance such as Prospect Theory and Bayesian Inference into our analysis.

## WE FOCUS ON THE SLOPES

Everything that matters in Global Macro occurs on the margin. Our key differentiator is an ever-present focus on trending rates of change, which helps us front-run changes in sentiment among investor and policymakers – both of whom tend to overweight absolute states in their analysis.

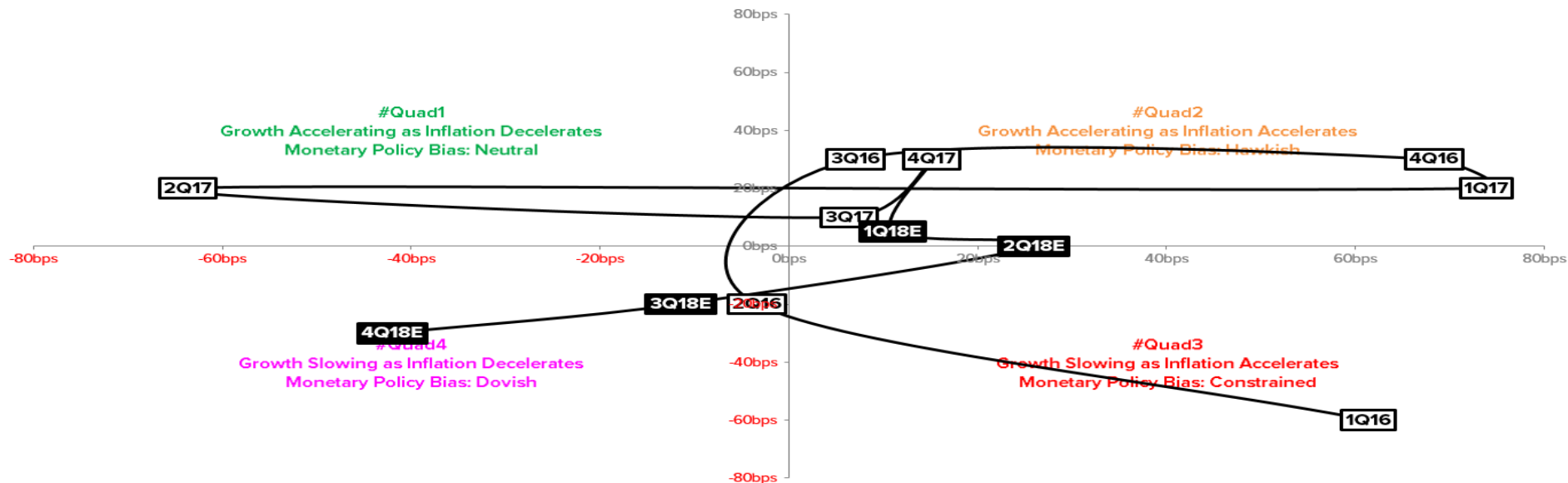
# MEASURING AND MAPPING THE CYCLE

SPECIFICALLY, OUR BACKTEST DATA SHOWS THAT A LARGE DEGREE OF INTER AND INTRA ASSET CLASS RETURNS CAN BE EXPLAINED BY CHANGES IN GROWTH, INFLATION AND POLICY RELATIVE TO IMPLIED EXPECTATIONS ACROSS MACRO MARKETS. REFER TO THE FOLLOWING SLIDE FOR MORE DETAILS.

United States	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17		1Q18E	2Q18E	3Q18E	4Q18E	NTM
Real GDP QoQ SAAR	3.20%	2.70%	1.60%	0.50%	0.60%	2.20%	2.80%	1.80%	1.20%	3.10%	3.20%	2.90%	Hedgeye Estimates	1.50%	3.03%	2.33%	1.68%	-
Percentile (T10Y)	77%	56%	41%	26%	31%	56%	69%	46%	33%	79%	82%	72%	Bloomberg Consensus Estimates	2.50%	3.05%	2.90%	2.70%	-
Real GDP YoY	3.80%	3.30%	2.40%	2.00%	1.40%	1.20%	1.50%	1.80%	2.00%	2.20%	2.30%	2.60%	Hedgeye Estimates	2.65%	2.65%	2.45%	2.15%	2.48%
Percentile (T10Y)	100%	95%	59%	54%	33%	23%	38%	56%	62%	64%	67%	74%	Bloomberg Consensus Estimates	2.80%	2.80%	2.70%	2.74%	2.76%
Headline CPI YoY	-0.06%	-0.04%	0.11%	0.47%	1.08%	1.05%	1.12%	1.80%	2.54%	1.90%	1.97%	2.12%	Hedgeye Estimates	2.23%	2.49%	2.37%	1.95%	2.26%
Percentile (T10Y)	5%	10%	13%	15%	18%	18%	23%	59%	77%	67%	69%	74%	Bloomberg Consensus Estimates	2.26%	2.60%	2.56%	2.31%	2.43%

## United States

◆ x-axis: Second Derivative of Headline CPI;  
y-axis: Second Derivative of Real GDP



Data Source: Bloomberg

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# WHY DOES THE 2<sup>ND</sup> DERIVATIVE MATTER?

BECAUSE FINANCIAL ASSET RETURNS HAVE HISTORICALLY ANCHORED ON MARGINAL RATES OF CHANGE IN BOTH GROWTH AND INFLATION – ESPECIALLY WHEN THESE DELTAS ARE COUNTER TO CONSENSUS EXPECTATIONS.

Hedgeye Macro U.S. GIP Model Backtest	Weighted Expected Value, by Quadrant				Percentile of Weighted Expected Value, by Asset Class				Percentile of Weighted Expected Value, by Quadrant				Percent Positive Ratio [color-coding by Asset Class & Quadrant]				Total Quarterly Performance Observations			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
S&P 500 Index	1.4%	0.4%	0.1%	-0.4%	42%	53%	32%	37%	76%	56%	33%	38%	81%	75%	56%	56%	21	16	27	16
S&P 500 Consumer Discretionary Sector Index	1.7%	0.4%	0.1%	0.0%	79%	58%	47%	74%	91%	58%	42%	78%	44%	21	16	27	16	27	16	16
S&P 500 Consumer Staples Sector Index	1.1%	0.1%	0.0%	0.2%	5%	26%	16%	84%	60%	29%	24%	82%	86%	63%	59%	56%	21	16	27	16
S&P 500 Energy Sector Index	1.2%	0.3%	0.4%	-0.4%	11%	47%	89%	26%	62%	53%	71%	31%	71%	75%	63%	50%	21	16	27	16
S&P 500 Financials Sector Index	1.4%	0.3%	-0.2%	-0.2%	32%	37%	0%	42%	71%	47%	4%	49%	76%	69%	56%	63%	21	16	27	16
S&P 500 Health Care Sector Index	1.3%	0.3%	0.0%	0.2%	21%	32%	21%	89%	67%	44%	21%	84%	69%	52%	69%	21	16	27	16	16
S&P 500 Industrials Sector Index	1.5%	0.5%	0.1%	-0.4%	68%	68%	37%	32%	87%	62%	38%	33%	71%	75%	48%	44%	21	16	27	16
S&P 500 Information Technology Sector Index	1.8%	1.0%	0.4%	-0.7%	89%	95%	84%	16%	96%	84%	67%	22%	81%	81%	52%	56%	21	16	27	16
S&P 500 Materials Sector Index	1.5%	0.3%	-0.1%	0.1%	58%	42%	5%	79%	82%	51%	9%	80%	81%	75%	52%	50%	21	16	27	16
S&P 500 REITS Index	1.3%	0.1%	0.2%	0.0%	26%	16%	63%	68%	69%	22%	53%	76%	67%	62%	64%	82%	18	13	22	11
S&P 500 Utilities Sector Index	0.8%	-0.7%	0.7%	-0.2%	0%	0%	100%	47%	56%	4%	84%	53%	71%	31%	67%	50%	21	16	27	16
Russell 1000 Growth Index	1.5%	0.7%	0.1%	-0.6%	63%	84%	53%	21%	84%	69%	47%	27%	81%	75%	63%	56%	21	16	27	16
Russell 1000 Value Index	1.4%	0.0%	0.1%	-0.1%	37%	11%	71%	6%	73%	18%	31%	67%	71%	75%	56%	69%	21	16	27	16
S&P 500 Dividend Aristocrats Index	1.4%	0.1%	0.0%	0.4%	47%	21%	11%	100%	78%	24%	22%	91%	81%	63%	63%	56%	21	16	27	16
S&P 500 Low Beta Minimum Volatility Index	1.3%	-0.2%	0.2%	0.4%	16%	5%	68%	95%	64%	11%	56%	89%	71%	63%	52%	75%	21	16	27	16
S&P 500 Quality Index	1.6%	0.5%	0.2%	0.0%	74%	63%	58%	63%	89%	60%	51%	73%	90%	81%	56%	56%	21	16	27	16
S&P 500 High Beta Index	2.0%	0.6%	0.2%	-0.7%	100%	74%	74%	5%	100%	2%	64%	18%	67%	69%	59%	50%	21	16	27	16
S&P 500 Momentum Index	1.7%	0.7%	0.3%	-1.0%	84%	89%	79%	0%	93%	73%	64%	9%	90%	63%	48%	56%	21	16	27	16
Russell 2000 Index	1.5%	0.6%	0.1%	-0.1%	53%	79%	42%	58%	80%	67%	40%	69%	76%	75%	59%	56%	21	16	27	16
NASDAQ 100 Index	2.0%	1.2%	0.6%	-0.7%	95%	100%	95%	11%	98%	89%	82%	20%	86%	75%	59%	56%	21	16	27	16
Bloomberg Barclays U.S. Agg Credit Yield To Worst	-0.3%	0.1%	0.6%	-1.4%	33%	33%	50%	17%	8%	20%	78%	4%	43%	44%	52%	25%	21	16	27	16
Bloomberg Barclays U.S. High Yield Average Yield To Worst	-0.5%	-0.4%	0.9%	-0.5%	17%	25%	58%	50%	4%	9%	87%	29%	33%	44%	59%	44%	21	16	27	16
Bloomberg Barclays U.S. Corporate Average OAS	-0.4%	-0.7%	1.6%	-0.3%	83%	8%	100%	58%	49%	2%	100%	42%	33%	31%	52%	38%	21	16	27	16
Bloomberg Barclays U.S. High Yield Average OAS	-0.2%	-0.5%	1.4%	0.8%	42%	17%	92%	-83%	11%	7%	98%	96%	29%	31%	48%	50%	21	16	27	16
Bloomberg Barclays U.S. Composite Convertible Cvt. Yield	-1.4%	-1.5%	1.4%	1.0%	0%	0%	83%	92%	0%	0%	96%	98%	41%	0%	60%	45%	17	11	20	11
U.S. Treasury 2Y Note Yield	0.8%	1.5%	1.1%	-1.8%	100%	92%	75%	0%	58%	93%	0%	52%	69%	52%	38%	21	16	27	16	16
U.S. Treasury 5Y Note Yield	0.7%	1.3%	0.5%	-1.6%	92%	75%	42%	8%	53%	91%	76%	2%	52%	56%	48%	31%	21	16	27	16
U.S. Treasury 10Y Note Yield	0.1%	1.1%	0.1%	-1.3%	75%	67%	25%	25%	36%	87%	44%	7%	48%	69%	48%	31%	21	16	27	16
U.S. Treasury 30Y Bond Yield	-0.1%	0.7%	0.0%	-0.9%	58%	50%	17%	33%	16%	71%	16%	13%	48%	69%	52%	31%	21	16	27	16
Bond Buyer US 40 Municipal Bond YTM	-0.2%	0.3%	0.3%	-0.8%	50%	42%	33%	42%	13%	49%	62%	16%	33%	50%	48%	13%	18	16	25	16
U.S. Treasury 5Y Breakeven Rate	-0.6%	1.0%	-0.5%	-0.2%	8%	58%	0%	67%	2%	82%	0%	51%	43%	56%	59%	19%	21	16	27	16
U.S. Treasury 10Y Breakeven Rate	-0.1%	1.3%	1.0%	18.6%	67%	83%	67%	100%	29%	93%	89%	100%	48%	69%	67%	38%	21	16	27	16
U.S. Treasury 5Y 5Y-Forward Breakeven Rate	-0.3%	1.6%	-0.2%	0.0%	25%	100%	8%	75%	7%	98%	2%	71%	43%	75%	56%	38%	21	16	27	16
Thomson Reuters/CoreCommodity CRB Commodity Index	0.0%	0.8%	0.4%	-0.9%	25%	50%	25%	0%	22%	4%	78%	69%	51%	57%	75%	63%	21	16	27	16
Commodity Research Bureau BLS/US Spot Raw Industrials Index	0.3%	0.8%	0.0%	-0.2%	50%	75%	0%	75%	42%	80%	13%	58%	57%	81%	44%	50%	21	16	27	16
Commodity Research Bureau BLS/US Spot Foodstuff Index	0.0%	0.3%	0.6%	-0.2%	0%	0%	75%	0%	50%	20%	38%	80%	44%	43%	56%	50%	21	16	27	16
Front-month Brent Crude Oil	0.6%	2.3%	1.0%	-0.7%	100%	100%	100%	25%	51%	100%	91%	24%	52%	75%	52%	50%	21	16	27	16
Gold Spot	0.3%	0.8%	0.4%	0.5%	75%	25%	50%	100%	47%	76%	73%	93%	52%	75%	56%	63%	21	16	27	16
U.S. Dollar Index	-0.1%	-0.1%	0.0%	0.3%	0%	0%	29%	100%	18%	13%	18%	87%	49%	38%	52%	69%	21	16	27	16
AUD/USD	0.3%	0.3%	0.0%	-0.2%	100%	71%	43%	57%	44%	36%	20%	60%	62%	69%	67%	44%	21	16	27	16
CAD/USD	0.1%	0.3%	0.1%	-0.2%	14%	86%	57%	56%	24%	4%	29%	64%	43%	56%	52%	44%	21	16	27	16
CHF/USD	0.3%	0.2%	0.2%	-0.2%	86%	57%	100%	71%	40%	33%	60%	62%	67%	56%	59%	38%	21	16	27	16
EUR/USD	0.2%	0.1%	0.1%	-0.2%	71%	29%	71%	29%	38%	27%	36%	47%	62%	56%	56%	31%	21	16	27	16
GBP/USD	0.1%	0.2%	-0.1%	-0.3%	57%	43%	14%	14%	33%	31%	11%	40%	57%	69%	41%	31%	21	16	27	16
JPY/USD	0.1%	0.3%	0.1%	-0.2%	43%	100%	86%	43%	31%	42%	49%	56%	38%	50%	56%	44%	21	16	27	16
JPMorgan EM FX Index	0.1%	-0.1%	-0.1%	-0.4%	29%	14%	0%	0%	27%	16%	7%	36%	56%	57%	57%	44%	18	14	23	16

Data Source: Bloomberg. Expected value calculations weighted by cumulative delta into respective quadrant. Trailing 20 years.

# GIP MODEL ASSET ALLOCATION PROCESS

## #QUAD1

- **Maximum gross exposure, tight net exposure. Hedge downside risk to market beta. Growth investing bias.**
- **Asset Class Overweight(s):**  
Equities and Credit
- **Asset Class Underweight(s):**  
Fixed Income
- **Equity Sector Overweight(s):**  
Consumer Discretionary, Tech and Materials
- **Equity Sector Underweight(s):**  
Utilities, Consumer Staples and Energy
- **Equity Style Factor Overweight(s):**  
Momentum, High Beta and Growth
- **Equity Style Factor Underweight(s):**  
Low Beta/Minimum Vol., High Dividend Yield and Value
- **Fixed Income Overweight(s):**  
HY Credit, IG Credit and Convertibles
- **Fixed Income Underweight(s):**  
Short Duration

## #QUAD2

- **Maximum gross exposure, wide net exposure. Hedge downside risk to market beta. Inflation-hedging bias.**
- **Asset Class Overweight(s):**  
Equities and Credit
- **Asset Class Underweight(s):**  
Fixed Income
- **Equity Sector Overweight(s):**  
Tech, Industrials and Consumer Discretionary
- **Equity Sector Underweight(s):**  
Utilities, REITS and Consumer Staples
- **Equity Style Factor Overweight(s):**  
Momentum, High Beta and Growth
- **Equity Style Factor Underweight(s):**  
Low Beta/Minimum Vol., High Dividend Yield and Value
- **Fixed Income Overweight(s):**  
TIPS, HY Credit, IG Credit and Convertibles
- **Fixed Income Underweight(s):**  
Long Duration and Munis

## #QUAD3

- **Low gross exposures, tight net exposure. Hedge upside risk to market beta. Defensive, yield-chasing bias.**
- **Asset Class Overweight(s):**  
Fixed Income
- **Asset Class Underweight(s):**  
Equities and Credit
- **Equity Sector Overweight(s):**  
Utilities, REITS and Energy
- **Equity Sector Underweight(s):**  
Financials, Materials and Consumer Discretionary
- **Equity Style Factor Overweight(s):**  
Low Beta/Minimum Vol. and Quality
- **Equity Style Factor Underweight(s):**  
Value and Small Caps
- **Fixed Income Overweight(s):**  
Long Duration
- **Fixed Income Underweight(s):**  
HY Credit, IG Credit and Convertibles

## #QUAD4

- **Minimum gross exposure, net short exposure. Hedge upside risk to market beta. Deflation-hedging bias.**
- **Asset Class Overweight(s):**  
Fixed Income
- **Asset Class Underweight(s):**  
Equities and Credit
- **Equity Sector Overweight(s):**  
Healthcare, Consumer Staples and Consumer Discretionary
- **Equity Sector Underweight(s):**  
Tech, Energy and Industrials
- **Equity Style Factor Overweight(s):**  
High Dividend Yield, Low Beta/Minimum Vol. and Value
- **Equity Style Factor Underweight(s):**  
Momentum, High Beta and Growth
- **Fixed Income Overweight(s):**  
Long Duration and Munis
- **Fixed Income Underweight(s):**  
TIPS, HY Credit, IG Credit and Convertibles

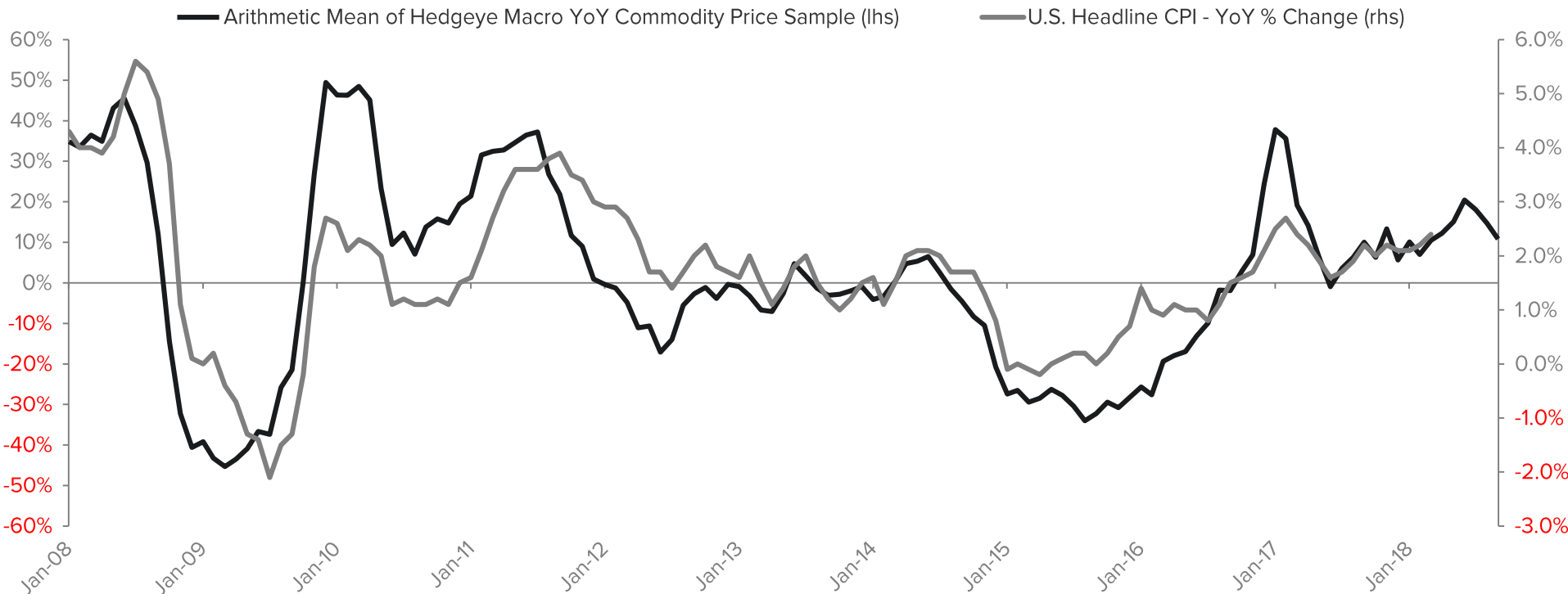
# U.S. GDP PREDICTIVE TRACKING ALGORITHM

EACH OF THE FOLLOWING 30 FACTORS BACKTESTS AS STATISTICALLY SIGNIFICANT WITH RESPECT TO FORECASTING REAL GDP GROWTH AND ARE DYNAMICALLY RE-WEIGHTED ACCORDING TO THEIR RESPECTIVE CORRELATIONS TO THE MARGINAL RATE OF CHANGE OF GDP GROWTH – WHICH ARE INHERENTLY NONSTATIONARY.

	HIGH-FREQUENCY INDICATOR	QUARTERLY AVERAGE DATA		TRENDING DATA		SEQUENTIAL DATA		PERCENTILE BASIS (10Y)
		4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading
COMMON SENSE	UNITED STATES Real PCE SA YoY % Change	2.85	2.77	2.82	2.80	2.80	2.80	2.80
		4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading
	UNITED STATES Headline Retail Sales SA YoY % Change	5.35	3.93	4.73	4.82	3.90	4.00	55%
		4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading
	UNITED STATES Retail Sales Control Group SA YoY % Change	4.79	4.02	4.23	4.38	3.80	4.20	76%
		4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading
	UNITED STATES Auto Sales Total Annualized SAAR YoY % Change	-0.50	0.14	-0.08	-0.18	-2.08	4.07	44%
		4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading
	UNITED STATES Real Disposable Personal Income SA YoY % Change	1.84	2.24	1.68	1.85	2.30	2.10	58%
		4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading
	UNITED STATES Personal Savings Rate SA YoY bps Change	-120	-60	-110	-98	-50	-70	34%
		4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading
	UNITED STATES Total Employees On Nonfarm Payrolls SA YoY % Change	1.50	1.51	1.48	1.50	1.53	1.55	46%
		4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading
	UNITED STATES Nominal Average Hourly Earnings SA YoY % Change	2.47	2.69	2.62	2.60	2.60	2.70	83%
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES Average Weekly Hours SA YoY % Change	0.29	0.30	0.15	0.30	0.30	0.60	78%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES Monthly Initial Jobless Claims SA YoY % Change	-5.40	-7.36	-10.37	-8.40	-13.80	0.40	87%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES Real Average Weekly Earnings SA YoY % Change	0.64	0.70	0.55	0.65	0.60	0.90	61%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES Conference Board Consumer Confidence SA 1985=100 YoY % Change	17.13	8.53	15.21	13.81	11.97	2.24	38%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Industrial Production SA YoY % Change	2.97	3.58	2.36	2.88	2.90	4.26	91%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Durable Goods New Orders SA YoY % Change	7.34	7.85	7.19	7.72	7.00	8.70	75%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Capital Goods New Orders Excluding Aircraft & Defense SA YoY % Change	8.74	7.04	7.62	7.20	6.34	8.70	73%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Factory Orders SA YoY % Change	7.02	6.86	6.82	7.03	6.70	7.10	71%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Nonresidential Construction Spending SA YoY % Change	0.06	1.84	-0.28	0.35	2.40	1.30	47%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Residential Construction Spending SA YoY % Change	7.12	5.84	8.25	7.40	6.30	5.40	39%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES ISM Manufacturing PMI SA	58.67	59.20	59.37	59.20	60.00	59.30	97%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES ISM Non-Manufacturing PMI SA	57.70	59.40	58.65	58.55	59.50	58.80	96%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES ISM Economy-Weighted Composite PMI SA	57.90	59.43	58.83	58.67	59.60	58.90	97%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES NFBI Small Business Optimism Index SA YoY % Change	5.93	1.04	5.06	9.45	2.13	0.00	40%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Exports SA YoY % Change	7.06	5.85	5.63	6.17	5.10	6.60	68%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Imports SA YoY % Change	8.55	9.15	7.32	8.42	7.40	10.90	76%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Trade Balance SA YoY % Change	-14.86	23.00	-9.07	-2.73	16.40	29.60	92%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES CPI NSA YoY % Change	2.12	2.17	2.12	2.17	2.10	2.40	72%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES Core CPI NSA YoY % Change	1.75	1.92	1.77	1.83	1.80	2.10	73%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES PCE Deflator SA YoY % Change	1.68	1.71	1.63	1.70	1.70	1.80	70%	
	4Q17	1Q18	Prior 6MMA	6MMA (FEB)	Prior	Latest (FEB)	Latest Reading	
UNITED STATES Core PCE Deflator SA YoY % Change	1.50	1.66	1.45	1.60	1.53	1.60	58%	
	4Q17	1Q18	Prior 6MMA	6MMA (MAR)	Prior	Latest (MAR)	Latest Reading	
UNITED STATES PPI NSA YoY % Change	2.79	2.83	2.75	2.82	2.80	3.00	85%	

# U.S. HEADLINE CPI LEADING INDICATOR

**STRUCTURAL SHIFTS IN THE ECONOMY HAVE INCREASINGLY MITIGATED THE RISK OF A WAGE/PRICE SPIRAL, LEADING TO AN INCREASED SENSITIVITY OF HEADLINE CPI TO ANNUAL FLUCTUATIONS IN TRADEABLE COMMODITY PRICES – A DYNAMIC OUR MODEL HAS ASTUTELY CAPITALIZED ON.**

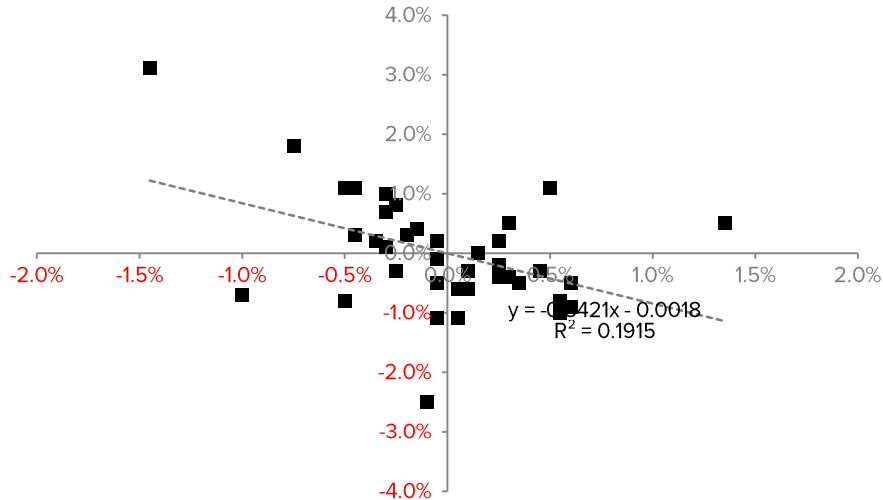


The Hedgeye Macro commodity price sample includes the CRB Index, CRB Raw Industrials Index, Brent Crude Oil and the UN Food and Agriculture Price Index. YoY deltas are calculated from monthly averages. Forward estimates assume no change to current monthly averages.

# A QUICK LESSON IN BASE EFFECTS

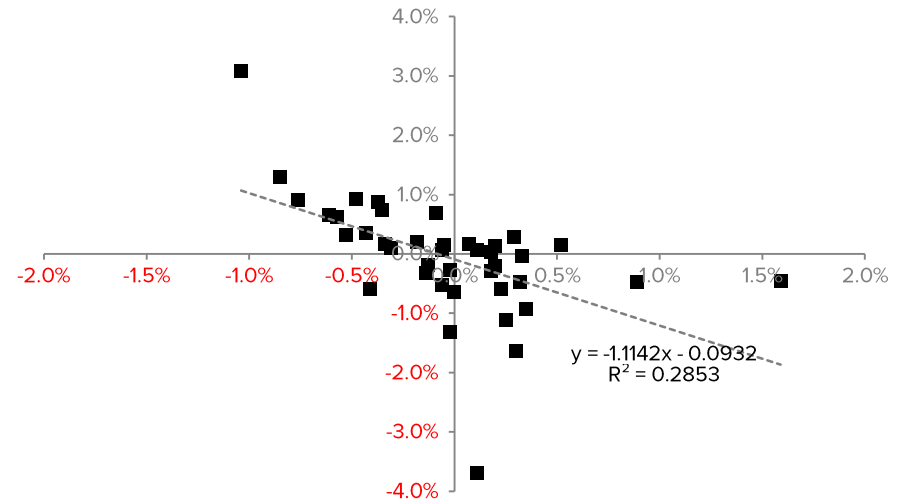
## REAL GDP GROWTH Y/Y

■ x-axis: Marginal Rate of Change of 2Y Average YoY Real GDP Growth Rate in the Comparative Base Period;  
y-axis: Marginal Rate of Change of YoY Real GDP Growth  
Directional Accuracy (Trailing 10Y) = 70%



## HEADLINE CPI Y/Y

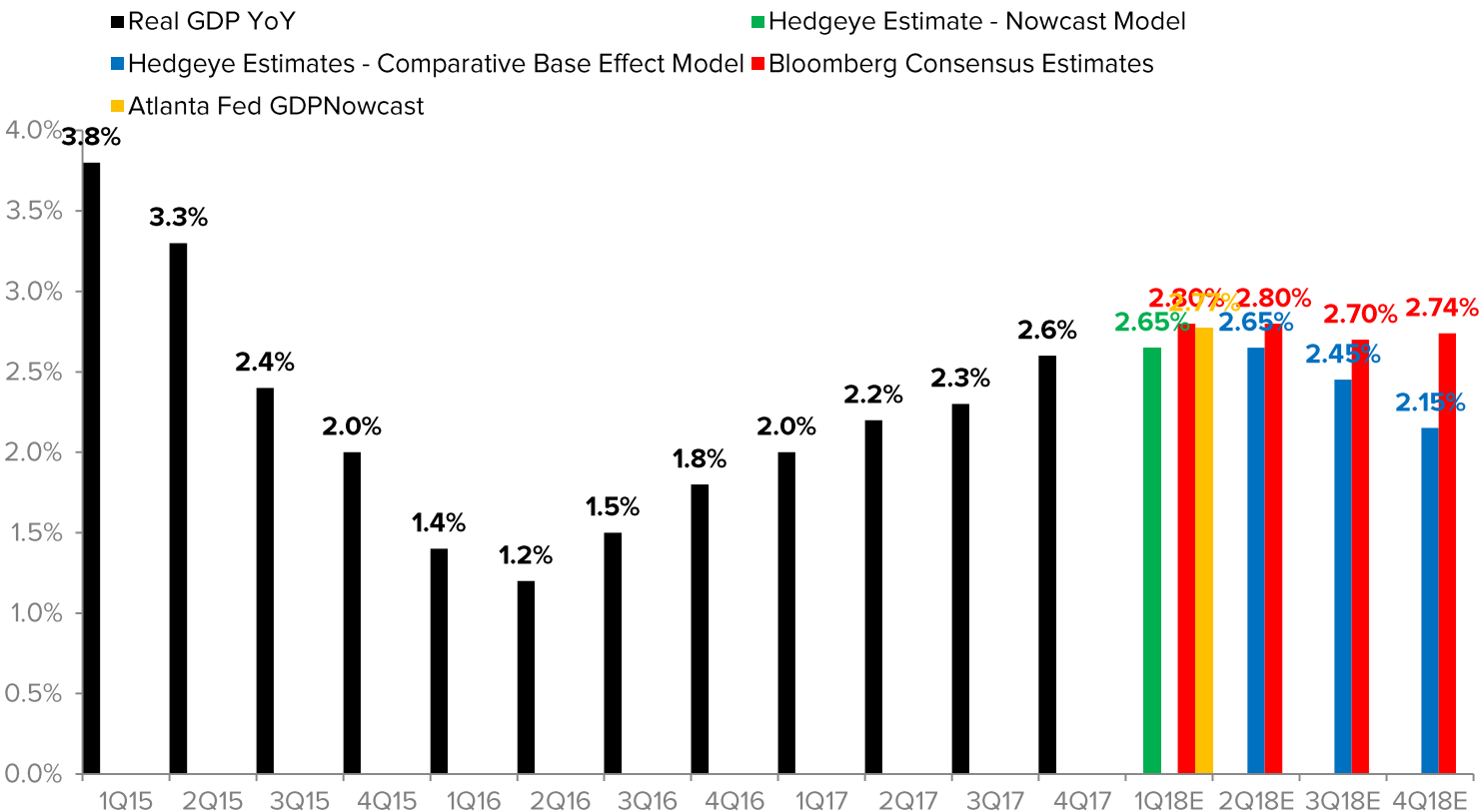
■ x-axis: Marginal Rate of Change of 2Y Average YoY Headline Inflation Rate in the Comparative Base Period;  
y-axis: Marginal Rate of Change of YoY Headline Inflation  
Directional Accuracy (Trailing 10Y) = 68%



In the U.S. specifically, 70% of the time the marginal rate of change in the 2Y average Real GDP growth rate in the comparative base period carries the **opposite** sign of the growth rate in the forecast period; that same figure is 68% of the time for Headline CPI.

# U.S. REAL GDP FORECASTS

## United States



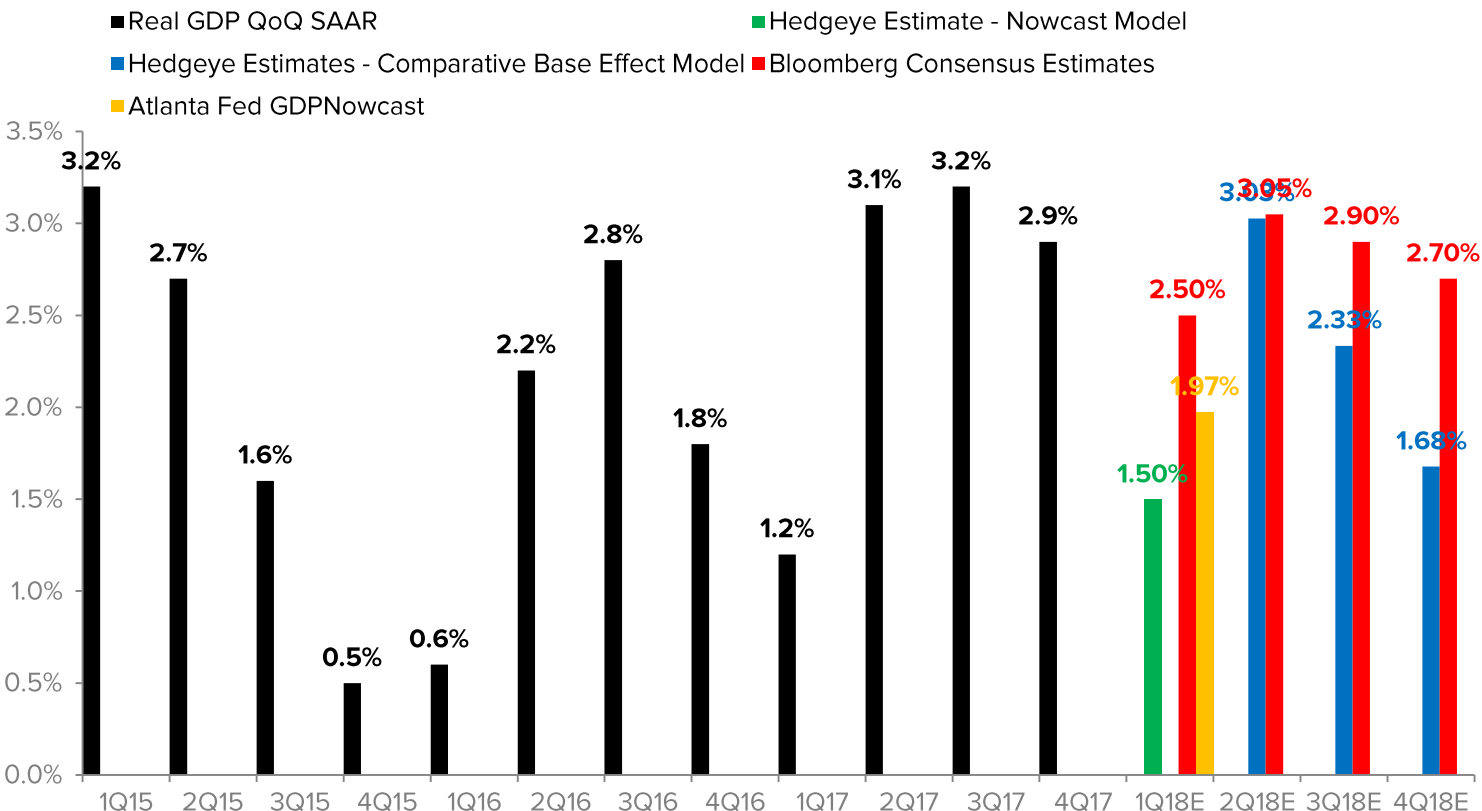
We use two distinct models to forecast the YoY growth rate of real GDP and the combination of the two allows us to develop both a highly accurate real-time view of near-term growth momentum, as well as a high-probability scenario for where growth is likely to trend over the intermediate term.

Intra-quarter, we employ a nowcasting model that adjusts the base rate by the cumulative weighted marginal rate of change of the 30 factors embedded in our predictive tracking algorithm. In out-quarters where high-frequency data has yet to be reported, we employ a stochastic Bayesian inference process that adjusts each of the preceding forecasted base rates inversely and proportionally to the marginal rates of change in the base effects. The 2Y average growth rate in the comparative base period backtests as having the most forecasting validity.

All in, our U.S. GDP model has an intra-quarter tracking error of 40bps, an average absolute forecast error of 29bps and an r-squared of 0.79 with a success rate of 93% in terms of projecting the directional outcome.

# U.S. HEADLINE GDP FORECASTS

## United States



One differentiating factor of our forecasting process is that we aim to solve for cycle (i.e. where growth is trending to on a YoY basis), rather than trying to identify super short-term economic momentum. A rigorous study of financial market history suggests the latter growth rate to be little more than noise in the context of making accurate intermediate-to-long-term investment decisions.

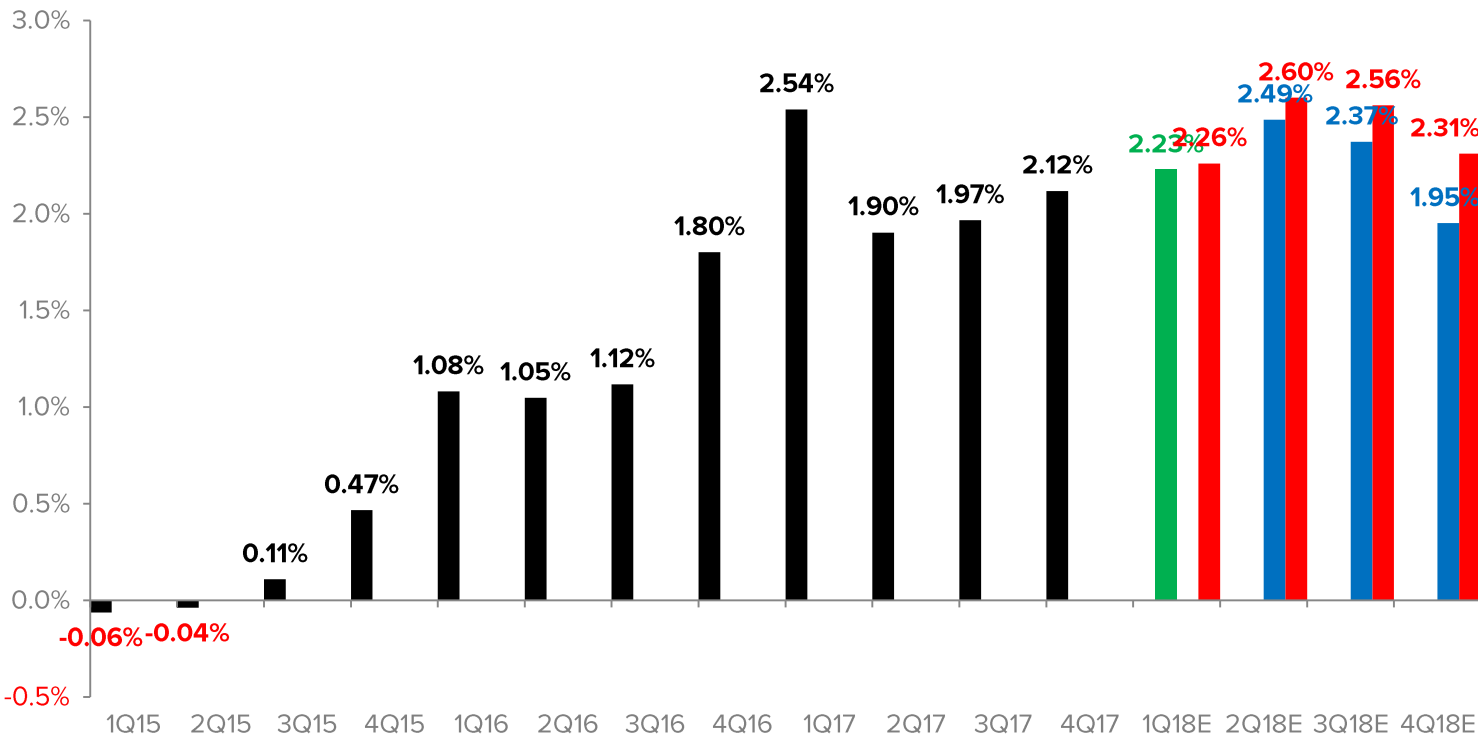
As such, we interpolate our QoQ SAAR forecasts from what is being implied by our forecasted YoY growth rate.

For discussion's sake, we typically backfill a supporting narrative on why our model suggests growth is likely to come in higher or lower than consensus estimates by highlighting recent economic developments that we view as having a high probability of continuing based on our analysis of the distinct cycles throughout the various sectors of the economy, keeping in mind that we're discussing a residual value, not the underlying driver of cross-asset returns.

# U.S. HEADLINE CPI FORECASTS

## United States

- Headline CPI YoY
- Hedgeye Estimate - Nowcast Model
- Hedgeye Estimates - Comparative Base Effect Model
- Bloomberg Consensus Estimates



We use two distinct models to forecast the YoY rate of change in headline CPI and the combination of the two allows us to develop both a highly accurate real-time view of near-term inflation momentum, as well as a high-probability scenario for where inflation is likely to trend over the intermediate term.

Intra-quarter, we employ a nowcasting model that adjusts the base rate by the cumulative weighted marginal rate of change of the various inflation-oriented factors embedded in our predictive tracking algorithm. In out-quarters where high-frequency data has yet to be reported, we employ a stochastic Bayesian inference process that adjusts each of the preceding forecasted base rates inversely and proportionally to the marginal rates of change in the base effects. The 2Y average growth rate in the comparative base period backtests as having the most forecasting validity.

All in, our U.S. CPI model has an intra-quarter tracking error of 34bps, an average absolute forecast error of 21bps and an r-squared of 0.76 with a success rate of 93% in terms of projecting the directional outcome.

# GLOBAL MACRO RISK MONITOR

4/11/2018	GIP Model Signals								High-Frequency Economic Data Signals								Low-Frequency Economic Data Signals				Financial Market Valuation Signals						
	Actuals				Hedgeye Forecasts				Consumption	Manufacturing		Composite PMI		Headline CPI		Core CPI		Economic Cycle Risk		Global Capital Cycle Risk		Stock Market	Bond Market	Currency			
	1Q17	2Q17	3Q17	4Q17	1Q18E	2Q18E	3Q18E	4Q18E	6MMA Trend	Percentile of Latest Reading (T10Y)	6MMA Trend	Percentile of Latest Reading (T10Y)	6MMA Trend	Percentile of Latest Reading (T3Y)	6MMA Trend	Percentile of Latest Reading (T10Y)	6MMA Trend	Percentile of Latest Reading (T10Y)	Private Nonfinancial Sector Leverage (Z-Score; T5Y)	Private Nonfinancial Sector Debt Service Ratio (Z-Score; T5Y)	35-54 Year-Old Population Cohort (5Y-Forward CAGR)	Sovereign Budget Balance as a % of Nominal GDP	Current Account Balance as a % of Nominal GDP	MSCI Index Price-to-NTM-Earnings Ratio Spread vs. MSCI ACWI (Z-Score; T5Y)	10Y Yield Spread vs. Barclays Global Agg. YTW (Z-Score; T5Y)	Broad Real Effective Exchange Rate (Z-Score; T5Y)	
Argentina	2	1	1	3	2	1	3	4	↑	31%	↑	66%	-	-	↑	62%	-	0.8x	-	1.9%	-1.0%	-4.6%	0.9x	-	-	-0.8x	
Australia	3	1	1	3	4	3	1	1	↑	18%	↑	55%	↑	93%	↑	27%	↑	6%	0.6x	0.4x	1.6%	-0.9%	-3.1%	0.3x	-1.1x	-0.7x	
Austria	2	1	2	2	4	3	4	4	↓	42%	↑	88%	↓	89%	↑	67%	↑	72%	-1.2x	-	-1.3%	-1.2%	-1.9%	-0.3x	-1.0x	1.7x	
Belgium	2	4	1	2	1	3	4	-	↑	33%	↓	59%	-	-	↑	51%	↑	30%	1.3x	0.4x	-0.6%	-1.1%	-0.2%	-0.4x	-1.0x	1.7x	
Brazil	1	1	1	2	4	3	4	4	↑	44%	↓	79%	↓	89%	↑	4%	↓	2%	-2.4x	-0.3x	1.7%	-8.5%	-0.5%	1.4x	-1.4x	0.3x	
Canada	2	1	3	3	3	3	2	4	↑	83%	↑	61%	↑	83%	↑	65%	↑	59%	1.2x	0.9x	0.3%	-0.8%	-3.0%	-1.4x	0.5x	-0.6x	
Chile	4	1	1	2	1	3	3	1	↓	25%	↑	71%	↑	19%	↑	52%	↑	17%	1.0x	-	1.0%	-4.6%	-1.7%	0.9x	-	1.7x	
China	1	4	3	3	3	4	3	4	↓	4%	↓	48%	↑	80%	↑	42%	↑	89%	1.2x	0.9x	0.1%	-3.7%	1.3%	1.6x	-0.1x	1.0x	
Colombia	4	4	1	3	1	2	1	4	↑	26%	↓	36%	-	-	↓	56%	↓	66%	1.0x	-	1.3%	-3.3%	-3.4%	0.1x	-0.9x	0.8x	
Czech Republic	2	4	2	2	4	3	1	4	↑	60%	↓	70%	↑	94%	↓	70%	↑	83%	-0.6x	-1.0x	0.3%	1.4%	1.0%	2.8x	1.0x	2.3x	
Denmark	2	4	3	4	1	3	1	4	↑	79%	↓	58%	↑	95%	↓	52%	↓	34%	-1.7x	-1.6x	0.1%	7.6%	-1.5%	-0.2x	-1.4x	0.9x	
Emerging Markets	1	1	1	2	4	3	3	4	↑	27%	↓	73%	↓	98%	↑	19%	↑	50%	1.4x	-	0.2%	-3.4%	0.7%	1.8x	0.3x	0.4x	
Eurozone	2	1	1	1	4	3	4	4	↑	84%	↓	81%	↓	92%	↑	50%	↑	37%	-1.4x	-0.5x	-1.4%	-1.0%	3.5%	-0.2x	-1.0x	0.5x	
Finland	2	1	4	4	3	2	4	1	↓	92%	↓	83%	-	-	↑	24%	↑	3%	0.0x	-1.0x	-0.5%	-0.8%	0.7%	0.2x	-1.1x	0.6x	
France	2	1	1	2	3	4	4	4	↓	57%	↓	84%	↓	93%	↑	58%	↑	34%	1.9x	1.1x	-0.4%	-3.1%	-0.6%	0.4x	-0.2x	0.1x	
Germany	2	1	2	1	4	3	4	4	↑	82%	↓	78%	↑	89%	↑	55%	↑	62%	-0.7x	-0.4x	-1.9%	1.4%	7.9%	0.4x	-1.0x	0.7x	
Greece	2	1	4	2	1	3	4	1	↓	68%	↓	83%	↓	93%	↑	45%	↑	39%	-0.7x	-	-2.1%	-1.1%	-0.6%	-0.2x	-	-1.8x	-0.8x
Hong Kong	1	3	4	4	3	4	1	3	↑	62%	↓	61%	↑	82%	↑	20%	-	-	1.8x	1.7x	-0.8%	7.5%	4.2%	0.4x	0.4x	-0.1x	
Hungary	2	4	2	1	4	3	1	1	↑	94%	↓	64%	↑	96%	↑	43%	↓	42%	-1.7x	-1.3x	0.1%	-2.6%	0.2%	0.1x	-1.5x	0.2x	
India	4	4	2	2	3	2	4	1	-	-	↑	69%	↑	45%	↑	25%	-	-	-2.7x	-1.9x	2.6%	-4.0%	-1.5%	-0.1x	-0.8x	0.7x	
Indonesia	2	2	1	1	4	3	1	4	↑	4%	↑	48%	↑	59%	↑	13%	↑	5%	0.5x	-0.3x	1.3%	-2.4%	-1.7%	0.8x	-1.6x	-0.5x	
Ireland	3	1	2	3	1	4	4	4	↑	85%	↑	42%	↓	27%	↑	39%	↑	49%	-1.5x	-	0.5%	-0.5%	12.5%	-0.5x	-0.9x	-0.1x	
Italy	2	2	1	4	4	3	4	4	↓	66%	↓	82%	↓	80%	↑	40%	↑	16%	-1.6x	-1.5x	-3.3%	-2.3%	2.8%	-1.0x	-0.9x	0.4x	
Japan	2	2	2	2	3	4	4	4	↓	74%	↓	69%	↓	75%	↑	75%	↑	75%	0.1x	0.8x	-1.0%	-5.0%	4.0%	-0.4x	-2.4x	-0.4x	
Malaysia	2	1	1	4	4	3	3	1	-	-	↑	42%	↑	90%	↓	64%	-	-	0.7x	0.4x	0.0%	-3.0%	-1.7%	0.9x	-0.6x	-0.1x	
Mexico	3	3	3	2	1	1	1	4	↑	19%	↑	30%	↑	36%	↑	88%	↓	78%	1.1x	1.9x	2.1%	-1.1%	-1.1%	-1.1x	-1.1x	-0.7x	
Netherlands	2	1	3	4	3	3	1	1	↑	87%	↓	69%	↑	91%	↑	49%	↑	25%	-1.8x	-2.2x	-1.7%	1.2%	10.2%	1.1x	-1.0x	0.6x	
New Zealand	3	1	2	1	4	3	1	1	-	-	↓	51%	↑	74%	↑	41%	-	-	0.9x	-	-0.5%	1.8%	-2.7%	3.8x	-1.6x	-0.7x	
Norway	1	4	1	4	2	2	1	4	↑	51%	↓	72%	↑	93%	↑	25%	↑	35%	1.0x	-1.2x	0.4%	4.6%	5.1%	1.2x	-0.6x	-0.7x	
Peru	3	1	4	4	4	2	3	1	-	-	↓	16%	-	-	↓	10%	-	-	-	-	2.4%	-0.8%	-1.3%	1.3x	-1.4x	3.3x	
Philippines	3	1	2	3	2	4	4	1	-	↑	36%	-	-	↑	55%	↑	66%	-	-	2.1%	-2.2%	-0.8%	-0.7x	2.4x	-2.8x	-2.8x	
Poland	2	4	2	2	4	3	4	4	↑	74%	↓	74%	↓	77%	↑	45%	↑	35%	0.9x	-1.8x	1.7%	-1.3%	0.0%	-0.6x	-0.8x	0.9x	
Portugal	2	2	4	3	4	3	4	4	↑	90%	↓	70%	-	-	↓	61%	↑	75%	-1.5x	-1.3x	-1.4%	-0.1%	0.5%	0.4x	-1.6x	0.2x	
Russia	1	1	4	4	1	3	4	1	↑	45%	↓	28%	↓	66%	↓	2%	↓	2%	0.5x	-1.1x	1.6%	-2.1%	2.1%	1.5x	-1.2x	-0.2x	
Singapore	3	2	1	4	4	3	4	1	↑	49%	↓	74%	↑	93%	↑	32%	-	-	1.3x	-	-0.5%	-0.3%	19.3%	0.4x	-0.4x	-2.1x	
South Africa	1	1	4	1	4	3	2	4	↑	81%	↓	44%	↑	50%	↑	20%	↑	21%	0.7x	1.7x	3.3%	-4.4%	-2.5%	-0.1x	-0.4x	1.8x	
South Korea	2	4	2	4	1	3	4	1	↑	58%	↓	29%	↓	84%	↓	33%	↑	6%	1.5x	-0.5x	-1.3%	0.8%	5.1%	-0.7x	-0.2x	0.8x	
Spain	2	1	4	4	4	3	4	1	↑	69%	↓	89%	↑	61%	↑	47%	↑	58%	-1.4x	-1.4x	-1.7%	-3.1%	1.9%	-1.0x	-1.3x	0.7x	
Sweden	2	2	2	1	4	3	1	1	↑	45%	↑	78%	↑	78%	↑	72%	↑	73%	-0.2x	-0.8x	-0.1%	1.3%	3.2%	-0.1x	-1.1x	-0.9x	
Switzerland	3	4	2	2	4	4	4	1	↑	35%	↓	97%	↓	94%	↑	86%	↑	81%	2.8x	1.3x	-0.6%	0.9%	9.8%	-1.1x	-1.1x	-0.6x	
Taiwan	4	4	2	1	2	3	3	4	↑	70%	↑	55%	↑	84%	↑	47%	-	-	-	-	0.0%	-0.3%	15.4%	0.5x	-1.9x	1.3x	
Thailand	2	1	2	3	1	3	4	1	↑	63%	↓	81%	↑	81%	↑	35%	↑	18%	0.3x	-2.0x	-0.9%	-2.9%	10.6%	2.3x	-1.3x	1.1x	
Turkey	2	2	1	3	4	3	4	4	↑	35%	↓	78%	↓	87%	↓	93%	↑	98%	1.4x	1.5x	1.8%	-1.5%	-6.6%	2.1x	-1.3x	-1.9x	
United Kingdom	2	3	3	3	4	1	4	1	↓	41%	↓	79%	↓	46%	↑	64%	↑	76%	-0.3x	-0.3x	-0.3%	-2.1%	-4.1%	-0.8x	-1.3x	-0.8x	
United States	2	1	2	2	2	2/3	4	4	↑	81%	↓	71%	↓	96%	↑	72%	↑	45%	2.0x	0.4x	0.3%	-3.4%	-2.4%	0.5x	1.8x	0.4x	
MODE/MEAN	2	1	2	2	4	3	4	4	↑	56%	↓	63%	↓	78%	↑	45%	↑	45%	0.1x	-0.2x	0.2%	-3.4%	-0.2%	0.3x	-0.7x	0.2x	

Data Source: Bloomberg, BIS, World Bank, IMF, Intellectual Property of Hedgeye Risk Management.

# STYLE & SENTIMENT FACTORING

MONITORING STYLE AND THEMATIC MACRO FACTOR PERFORMANCE ALLOWS US TO QUANTITATIVELY MAP THE EVOLUTION OF OUR CURRENT MACRO THEMES WHILE THE CFTC DATA PROVIDES AN IMPORTANT SENTIMENT BACKBOARD AGAINST WHICH WE CAN MEASURE AND FADE CONSENSUS.

## SPX: STYLE FACTOR PERFORMANCE\*

FACTOR		3M % Chg	6M % Chg	12M % Chg
DEBT	High Debt/EV	-6.1%	-2.1%	-2.2%
	Low Debt/EV	-3.2%	10.0%	25.0%
SI	High Short Interest	-4.5%	4.8%	2.6%
	Low Short Interest	-4.1%	4.9%	18.9%
BETA	High Beta	-5.8%	5.1%	16.0%
	Low Beta	-1.9%	1.5%	3.4%
YIELD	High Yield	-6.7%	-4.5%	-5.0%
	Low Yield	-3.5%	7.4%	20.4%
MIKT CAP	MCAP Bottom 25%	-7.3%	-1.0%	1.8%
	MCAP Top 25%	-4.5%	4.3%	16.8%
Sales Growth	Top 25% Sales Growth	-4.1%	4.8%	17.7%
	Bottom 25% Sales Growth	-5.7%	1.9%	2.8%
EPS Growth	Top 25% EPS Growth	-5.4%	3.8%	14.5%
	Bottom 25% EPS Growth	-3.7%	3.1%	6.4%

**GREEN = Relative Outperformance Over Given Duration**

\*Mean Performance of Top Quartile vs. Bottom Quartile, S&P500 Companies

SOURCE: Bloomberg, Goldman Sachs, Hedgeye Calculations

## MACRO AND THEMATIC FACTOR PERFORMANCE

FACTOR	3M % Chg	6M % Chg	12M % Chg
Global Cyclical	-4.45%	1.1%	13.3%
Global Defensives	-5.55%	3.8%	14.6%
Domestic Cyclical	-5.55%	4.3%	16.9%
Domestic Defensives	-2.24%	5.4%	9.9%
Domestic Sales	-4.59%	7.5%	14.7%
International Sales	-3.22%	2.1%	17.5%
Western Europe Sales	-3.86%	0.0%	15.5%
Overseas Earnings	-4.96%	1.9%	13.2%
SPX Buyback Index	-5.53%	5.2%	12.6%
Capex Growth	-3.36%	6.9%	18.4%
Rate Sensitive	-3.86%	6.8%	18.6%
High Tax	-4.04%	7.8%	14.3%
Low Tax	-5.25%	-0.4%	11.7%
M&A Candidates	-2.02%	3.6%	13.4%

**GREEN = Outperforming SPX over given duration**

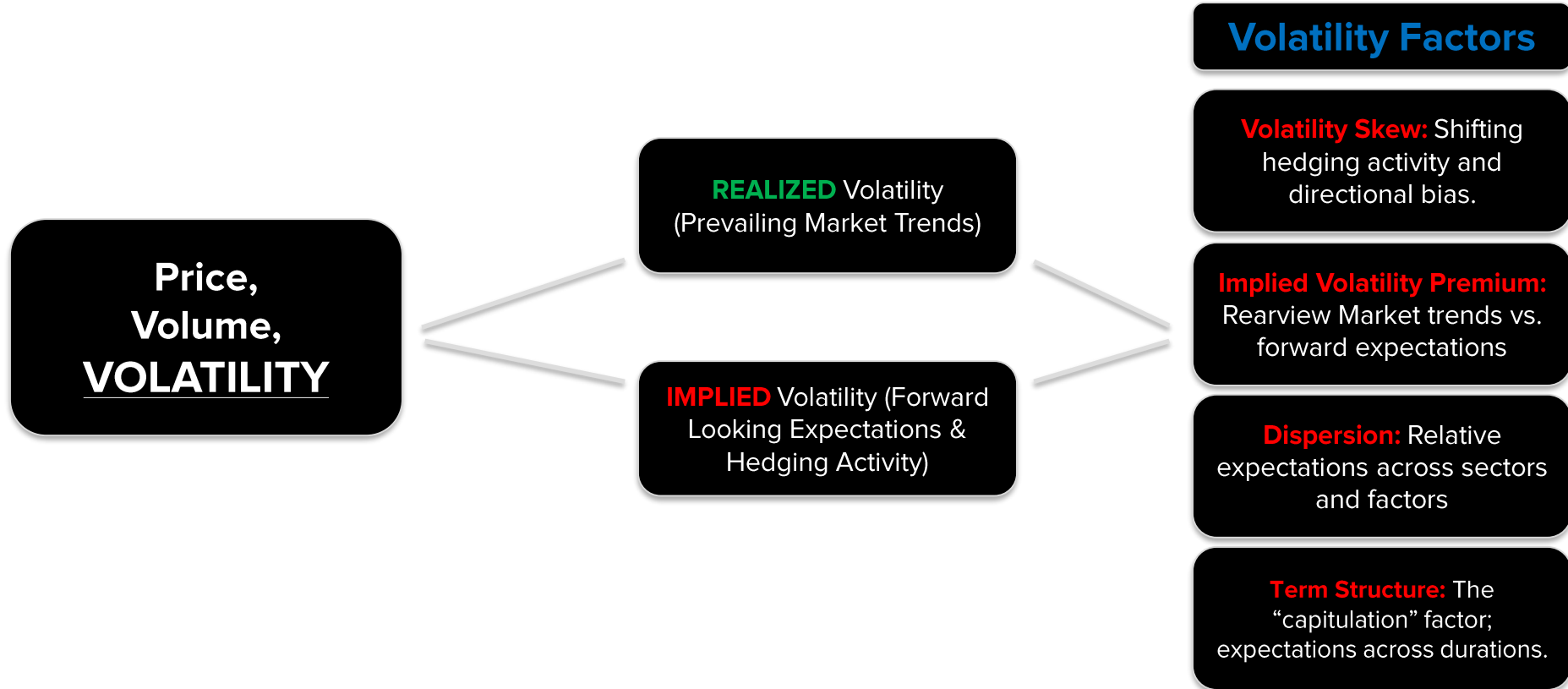
**RED = Underperforming SPX over given duration**

## CFTC NON-COMMERCIAL NET LONG POSITIONING

METRIC	Latest	W/W Chg	3Y		Z-Score		
			Max	Min	1Y	3Y	
EQUITIES	SPX (Index + E-mini)	189,991	(19,216)	249,638	(269,239)	1.50X	1.42X
	VIX	79,102	4,362	85,818	(174,665)	2.18X	2.33X
	Russell 2000 (mini)	20,345	(7,702)	93,772	(88,422)	0.81X	0.88X
	Dow Jones (mini)	19,511	(7,579)	99,976	(15,451)	-2.06X	-0.72X
	Nasdaq (mini)	(16,468)	(33,208)	163,838	(16,468)	-1.72X	-1.80X
RATES	Nikkei Index	10,928	(3,286)	14,253	(4,524)	1.76X	1.50X
	10Y UST	(325,655)	(63,144)	372,991	(386,239)	-1.88X	-1.84X
	2Y UST	(124,014)	(18,837)	181,971	(310,549)	0.30X	-0.63X
	5Y UST	(576,570)	(155,142)	(2,344)	(576,570)	-1.95X	-2.92X
	UST Bonds	17,796	(30,783)	122,839	(51,125)	-0.96X	-0.20X
CURRENCIES	30D Fed Funds	73,548	(41,756)	162,733	(286,025)	1.60X	1.82X
	Eurodollar	(3,023,241)	7,225	504,188	(3,030,466)	-1.64X	-1.82X
	SUSD	(1,160)	575	76,343	(10,666)	-0.42X	-1.23X
	JPY	5,362	8,399	70,342	(140,151)	2.40X	0.64X
	EUR	128,259	(4,076)	147,318	(214,505)	0.97X	1.66X
COMMODITIES	GBP	41,377	7,561	41,377	(113,271)	1.49X	2.14X
	AUD	2,665	(7,503)	77,969	(66,531)	-1.08X	-0.23X
	CAD	(30,697)	(4,535)	78,001	(99,736)	-0.79X	-0.59X
	MXN	99,025	9,423	117,131	(89,524)	0.84X	1.68X
	NZD	18,377	138	35,981	(19,654)	0.90X	1.65X
	CHF	(9,911)	(466)	10,943	(30,445)	0.27X	-0.31X
	CRUDE OIL	738,456	(21,159)	784,290	195,086	1.33X	2.19X
	GOLD	137,849	(34,985)	286,921	(24,263)	-0.30X	0.19X
	COPPER	20,864	1,388	62,856	(44,710)	-0.81X	0.42X
	Natural Gas	(98,849)	(3,117)	57,455	(263,037)	-0.69X	0.24X
RBOB Gasoline	80,183	(1,327)	93,894	29,519	0.63X	1.05X	
ULSD Heating Oil	15,186	(360)	67,696	(23,640)	-0.86X	-0.18X	
Silver	(18,442)	(3,196)	107,003	(18,442)	-1.93X	-2.31X	
Platinum	22,851	(4,620)	56,853	5,262	-0.18X	-0.55X	
Aluminum	163,475	(2,043)	168,292	122,356	0.53X	1.31X	
Nickel	42,230	(365)	47,708	13,508	0.60X	1.21X	
Corn	289,676	62,173	373,443	(166,835)	2.11X	1.93X	
Soybeans	200,722	16,974	255,950	(113,144)	2.26X	1.47X	
Wheat	(40,610)	(934)	36,480	(143,292)	0.42X	0.67X	
Live Cattle	53,825	(12,000)	164,117	(11,972)	-2.88X	-0.47X	
Lean Hogs	7,234	(2,119)	90,653	(436)	-2.07X	-1.58X	
Sugar	(115,350)	2,073	351,383	(117,423)	-1.48X	-1.61X	
Cotton	90,729	(4,571)	132,318	(28,816)	0.36X	0.58X	
Coffee	(52,586)	(6,606)	67,942	(52,586)	-1.44X	-1.77X	
Cocoa	46,442	1,458	70,034	(43,846)	2.13X	0.89X	
Orange Juice	(2,833)	(29)	10,123	(5,667)	-0.72X	-1.01X	

# RISK MANAGEMENT: THE VOLATILITY FACTOR

## 3-FACTOR MODEL: PRICE, VOLUME, VOLATILITY



# VOLATILITY OVERLAY: MACRO EXPOSURES

KEY VOLATILITY METRICS	Ticker	Aggte. Realized Percentile*	Implied Volatility Percentile Reading*	30D Implied Volatility Premium %**	60D Implied Volatility Premium %	IVOL Premium (TTM Z-Score)***	IVOL Premium (3Yr Z-Score)
<b>U.S. Equities</b>							
Power Shares QQQ Trust ETF	QQQ	86.7%	80.3%	-6.0%	-8.8%	-1.0	-0.7
I-Shares Russell 2000 ETF	IWM	65.0%	40.0%	-14.0%	-9.3%	-1.3	-1.0
SPDR S&P 500 ETF Trust	SPY	82.1%	68.1%	-12.0%	-17.5%	-1.2	-1.0
Consumer Discretionary Select Sector SPDR ETF	XLY	76.5%	68.4%	-7.4%	-10.2%	-1.4	-0.9
Financials Select Sector SPDR ETF	XLF	71.5%	64.4%	-6.1%	-11.8%	-1.1	-0.7
Health Care Select Sector SPDR ETF	XLV	88.9%	81.6%	-6.8%	-18.1%	-1.5	-1.0
Technology Select Sector SPDR ETF	XLK	88.9%	81.2%	-4.1%	-15.8%	-1.0	-0.7
Consumer Staples Select Sector SPDR ETF	XLP	83.8%	79.6%	-2.6%	-12.3%	-1.1	-0.7
Industrials Select SPDR ETF	XLI	79.0%	68.0%	-6.4%	-12.3%	-1.3	-0.9
Materials Select Sector SPDR ETF	XLB	66.7%	52.9%	-10.6%	-13.9%	-1.3	-1.0
Energy Select Sector SPDR ETF	XLE	58.1%	43.6%	-3.1%	-12.3%	-1.2	-0.7
Utilities Select Sector SPDR ETF	XLU	55.2%	57.2%	15.1%	-7.3%	-1.0	-0.1
Vanguard REIT ETF	VNQ	45.7%	36.5%	6.7%	-14.4%	-1.0	-0.4
<b>International Equities</b>							
Euro Stoxx 50 Index	SX5E	36.6%	14.1%	-12.4%	-12.2%	-1.2	-0.8
I-Shares MSCI Emerging Markets ETF	EEM	63.4%	49.8%	0.2%	-8.0%	-0.9	-0.5
I-Shares MSCI Japan ETF	EWJ	66.0%	26.8%	-10.0%	-22.9%	-1.5	-1.0
I-Shares China Large-Cap ETF	FXI	65.7%	52.5%	-8.2%	-18.9%	-1.4	-1.0
<b>Currencies</b>							
PowerShares US Dollar Index Bullish Fund ETF	UUP	31.4%	11.7%	-2.5%	-5.3%	-1.4	-0.7
Currency Shares Euro Trust ETF	FXE	30.4%	7.9%	-13.7%	-16.4%	-0.9	-1.0
Currency Shares Japanese Yen Trust ETF	FXJ	32.1%	8.5%	-11.8%	-9.8%	-1.5	-0.9
Currency Shares British Pound Sterling Trust ETF	FXB	43.4%	26.6%	0.9%	-15.1%	-0.6	-0.3
<b>Commodities</b>							
United States Oil Fund ETF	USO	33.3%	18.7%	-7.4%	-1.1%	-0.7	-0.4
SPDR Gold Shares ETF	GLD	14.5%	5.5%	-6.4%	-4.1%	-1.0	-0.9
PowerShares DB Base Metals Fund ETF	DBB	9.1%	18.3%	39.7%	31.2%	-0.4	-0.2
PowerShares DB Agriculture Fund ETF	DBA	28.4%	19.0%	8.4%	31.5%	-0.5	-0.4
<b>Fixed Income</b>							
I-Shares 20+ Year Treasury Bond ETF	TLT	17.2%	10.8%	3.9%	-6.3%	-0.9	-0.3
I-Shares IBOX IG Corporate Bond ETF	LQD	27.2%	29.2%	22.2%	5.4%	-0.2	-0.3
I-Shares IBOX USD HY Corporate Bond ETF	HYG	40.8%	10.8%	-23.3%	-11.0%	-1.4	-1.2
I-Shares J.P. Morgan USD EM Bond ETF	EMB	40.8%	30.0%	30.2%	10.2%	-0.6	-0.6

Data Source: Bloomberg, CME, CBOE

\*12yr Lookback or Max Available

\*\*30D IVOL relative to 30D Realized Vol

\*\*\*Average Z-score between 30D and 60D IVOL premium Z-Scores

# Q1 2018 MACRO THEMES

1

## #REFLATION'S ROLLOVER II

Sequels are rarely as good as the original but with harder comps, a broad deceleration across major componentry in the CPI/PCE price baskets and the Sept-Dec reflationary impulse now largely rearview, we're likely to see our second round of Reflation's Rollover in less than a year. And with growth poised to accelerate for a 6th consecutive quarter in 1Q18, a lower deflator should help drive a GIP rotation back into #Quad1. We'll detail the growth and inflation outlook domestically and revisit why the shift between inflation accelerating and decelerating is key for picking alpha-generating sector and asset class exposures.

2

## #GLOBAL DIVERGENCES

In contrast relying on financial media soundbites, idea dinners or surveys, our views on the global economy are instructed by sophisticated predictive tracking algorithms – which we run for every investable economy in the world. While investor consensus remains committed to the “globally synchronized recovery” narrative heading into 2018, our models are signaling quite the opposite and that outcome should perpetuate a number of meaningful pivots in asset allocation terms throughout the investment management landscape. We'll detail which of those you cannot afford to miss out on to start the year.

3

## #UNDERWEIGHT EM

2017 was an epic year in terms of risk-adjusted returns and portfolio flows across the EM investment landscape for a variety of fundamental reasons – not the least of which was six consecutive quarters in #Quad1 at the aggregate GIP level. The first half of 2018 will likely see a pickup in volatility and credit spreads as said fundamental tailwinds are eroded, at the margins. We will detail why we believe global investors would do well to rotate out of EM and into DM, as we expect the former to underperform over the intermediate term. We will also make the case for why EM-dedicated investors would do well to high-grade their portfolios by rotating into minimum volatility securities, consumer staples and IG credit in lieu of reflation-oriented cyclical and HY credit.

# Q2 2018 MACRO THEMES

1

## USA: #PEAK CYCLE?

After 6 consecutive quarters of accelerating growth and bullish quantitative signaling, our model is mapping a peak and prospective negative inflection in domestic economic growth as we move into 2H18. We'll review and contextualize the recent shift in market and macro dynamics and detail the fundamental, base effect and risk management dynamics driving our expectation for a downshift to Quads 3 and 4 in the back half of the year. We'll specify the risks to the consensus outlook and how to optimize positioning for the chop associated with emergent phase transitions in growth and volatility.

2

## GLOBAL #DIVERGENCES, REITERATED

Cross-asset volatility has conspicuously emerged amid consensus calls for an ongoing “globally synchronized recovery” and an extrapolation of cycle-peak GDP growth rates in the U.S. through year-end. As such, we feel compelled to reiterate our non-consensus view that global growth momentum has broadly dissipated. The only strategist that seems to agree with our view is *Mr. Market* himself.

3

## DOLLAR #BOTTOMING?

We have recently asked the rhetorical question, “Is the [U.S.] dollar the new VIX?” Peak dollar bearishness came midway through Q1 which was driven by carry trades and fund flows associated with the low-volatility, global growth accelerating backdrop of 2017. We'll outline reasons and provide specific set-ups to exemplify why a reversal in the U.S. dollar continues to be a major risk to aging consensus fund flow narratives.



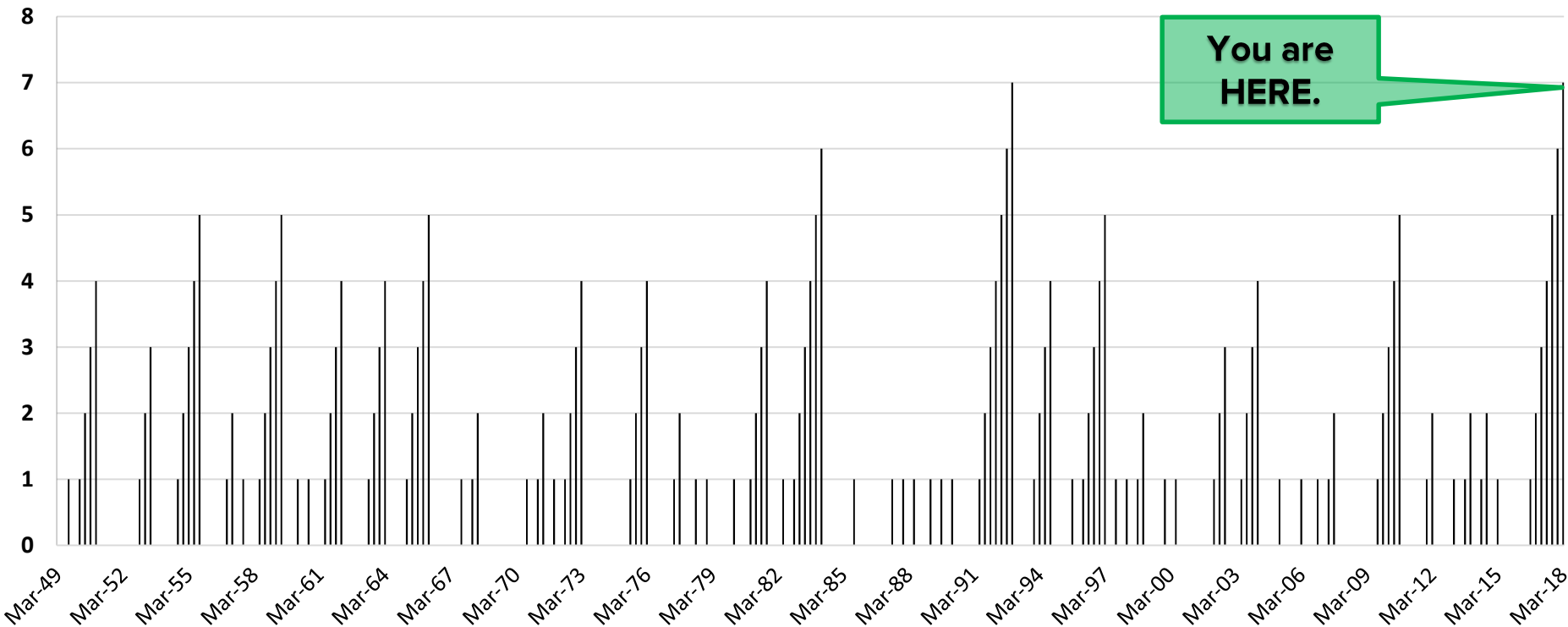
**USA: #PEAK CYCLE?**

# GROWTH: IT'S BEEN A HISTORIC RUN

1Q18 WILL MARK 7 CONSECUTIVE QUARTERS OF ACCELERATING YEAR-OVER-YEAR GROWTH, MATCHING THE LONGEST STREAK EVER

## Consecutive Quarters of Accelerating Growth

GDP Y/Y %, 1948-Present

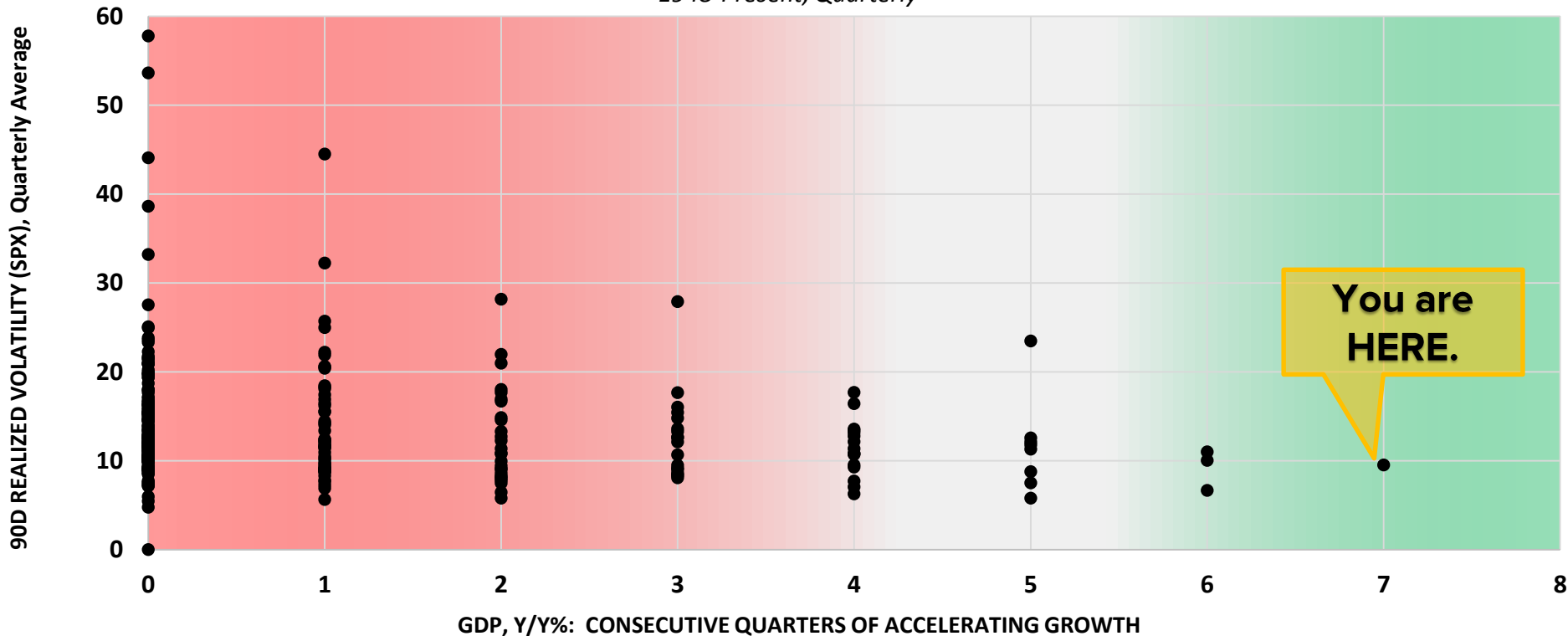


# GOLDBLOCKS: GROWTH IS CAUSAL

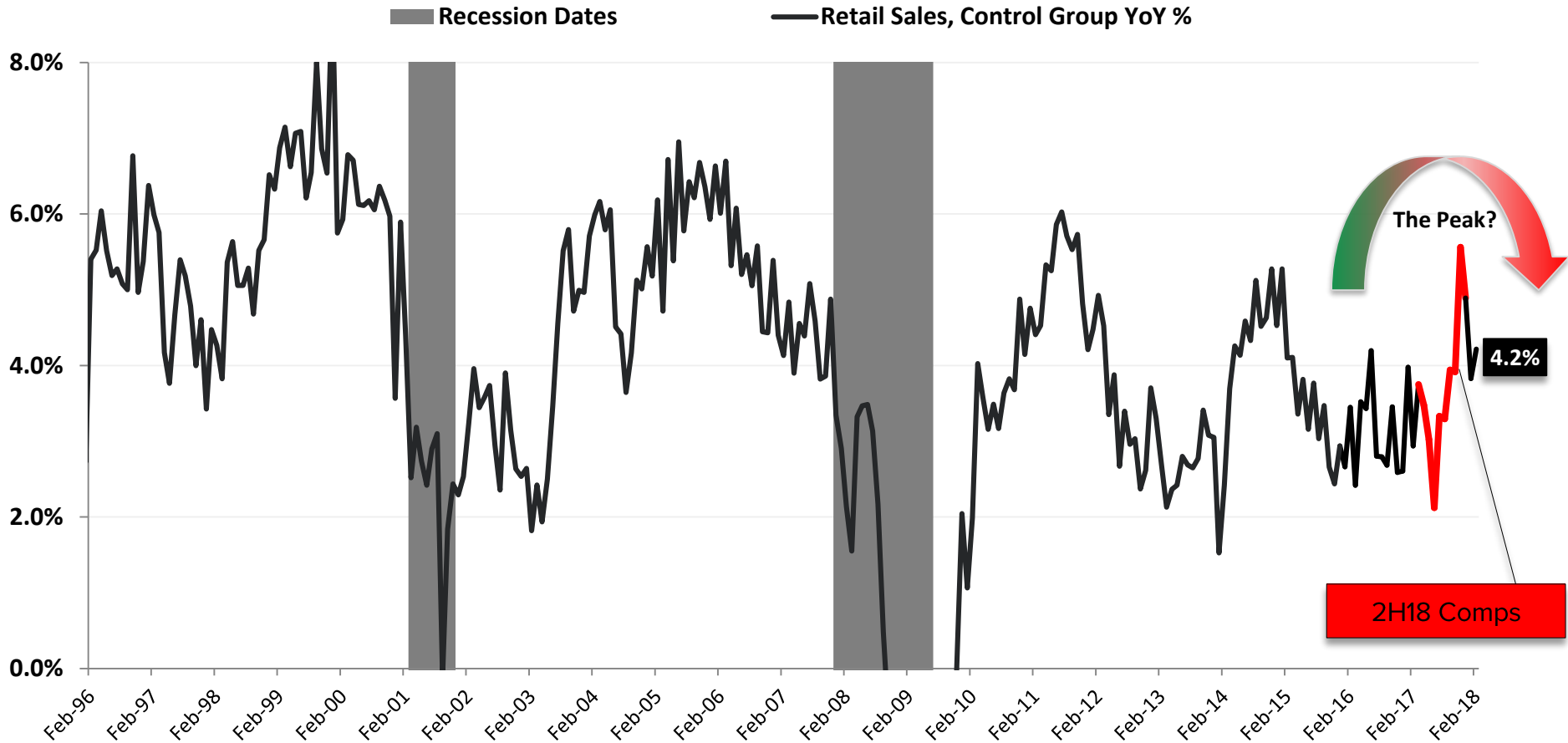
PROTRACTED ACCELERATIONS IN GROWTH PERPETUATE A POSITIVE, SELF-REINFORCING CYCLE OF PASSIVE INVESTMENT AND LOW VOLATILITY. IMBALANCES CAN BUILD AND RISKS CAN CUMULATE LATENTLY ..... UNTIL THE GROWTH CYCLE INFLECTS.

## Consecutive Quarters of Accelerating Growth vs. Realized Volatility

*1948-Present, Quarterly*



# THE COMP AND ROC OUTLOOK = LESS GOOD

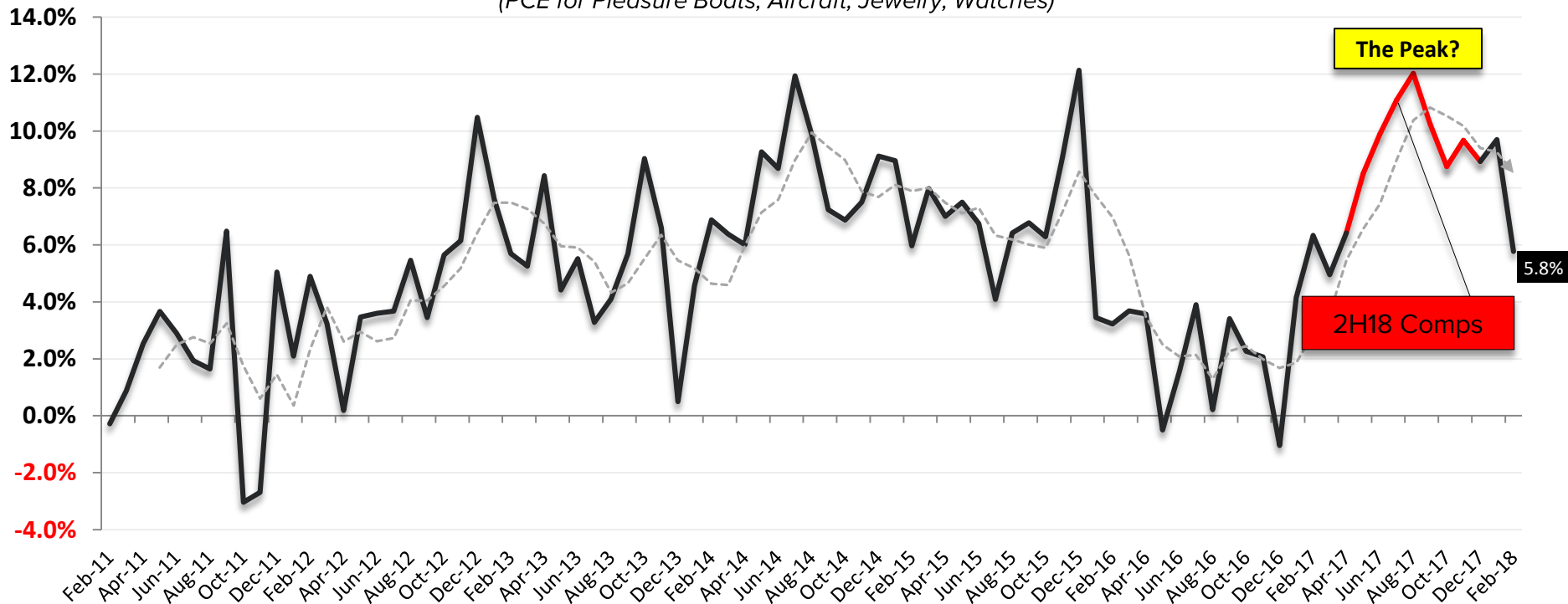


# THE #PEAK? .... HIGH TICKET DISCRETIONARY

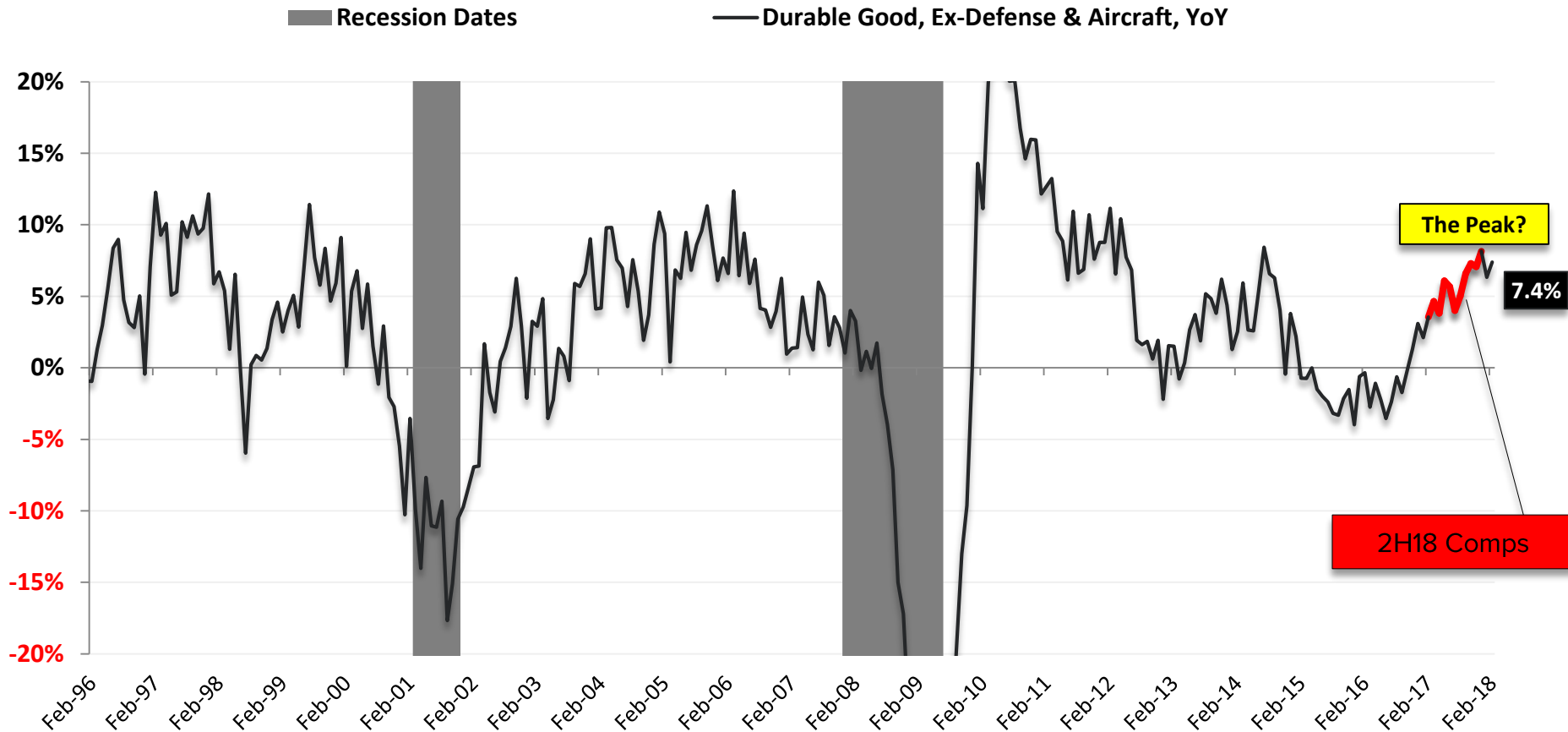
RAMPANT ASSET PRICE INFLATION, ATH'S AND THE BEST RISK ADJUSTED RETURNS OF THE CYCLE DROVE LUXURY CONSUMPTION GROWTH TO ITS FASTEST PACE OF THE CYCLE IN 2017.

## Luxury Goods Consumption, YoY %

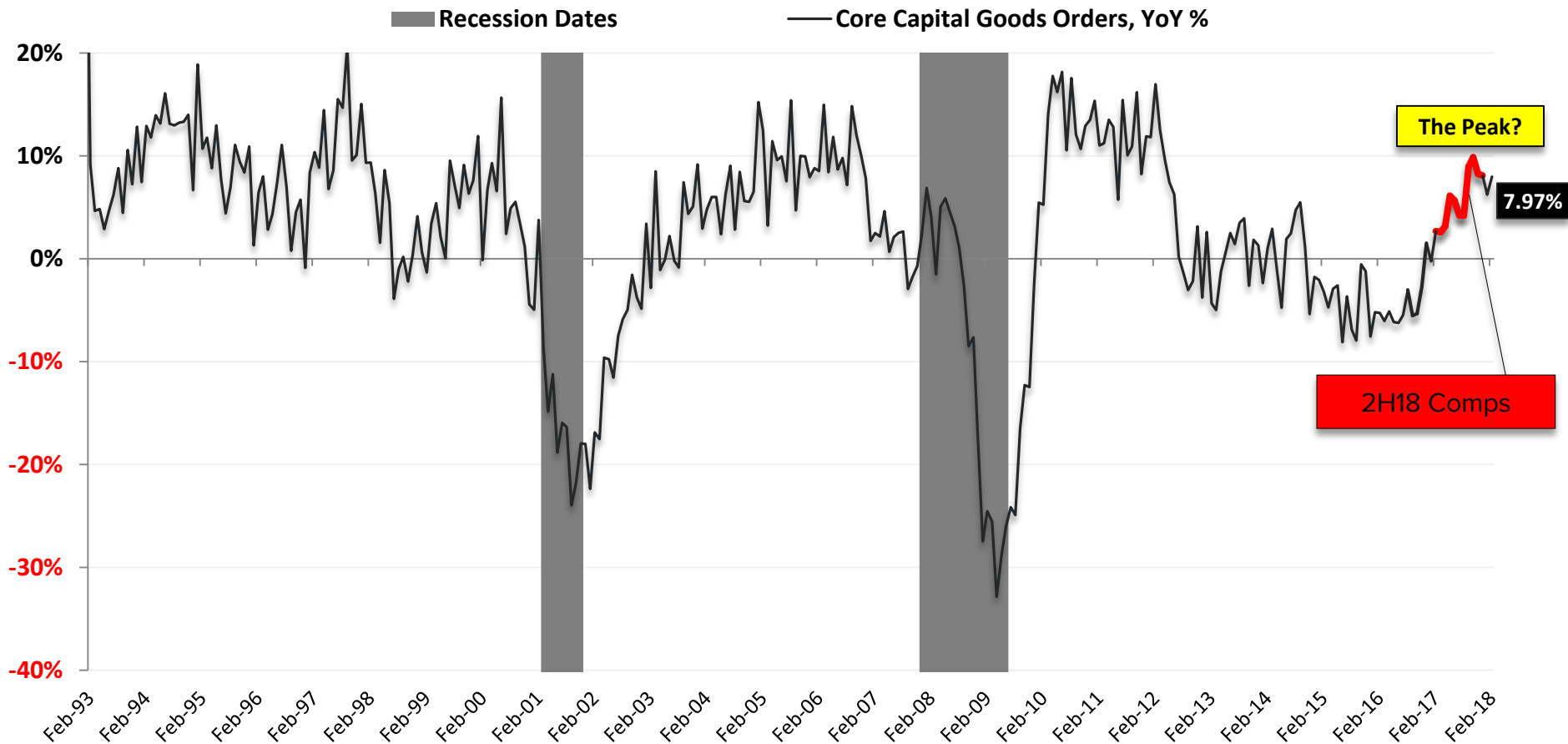
(PCE for Pleasure Boats, Aircraft, Jewelry, Watches)



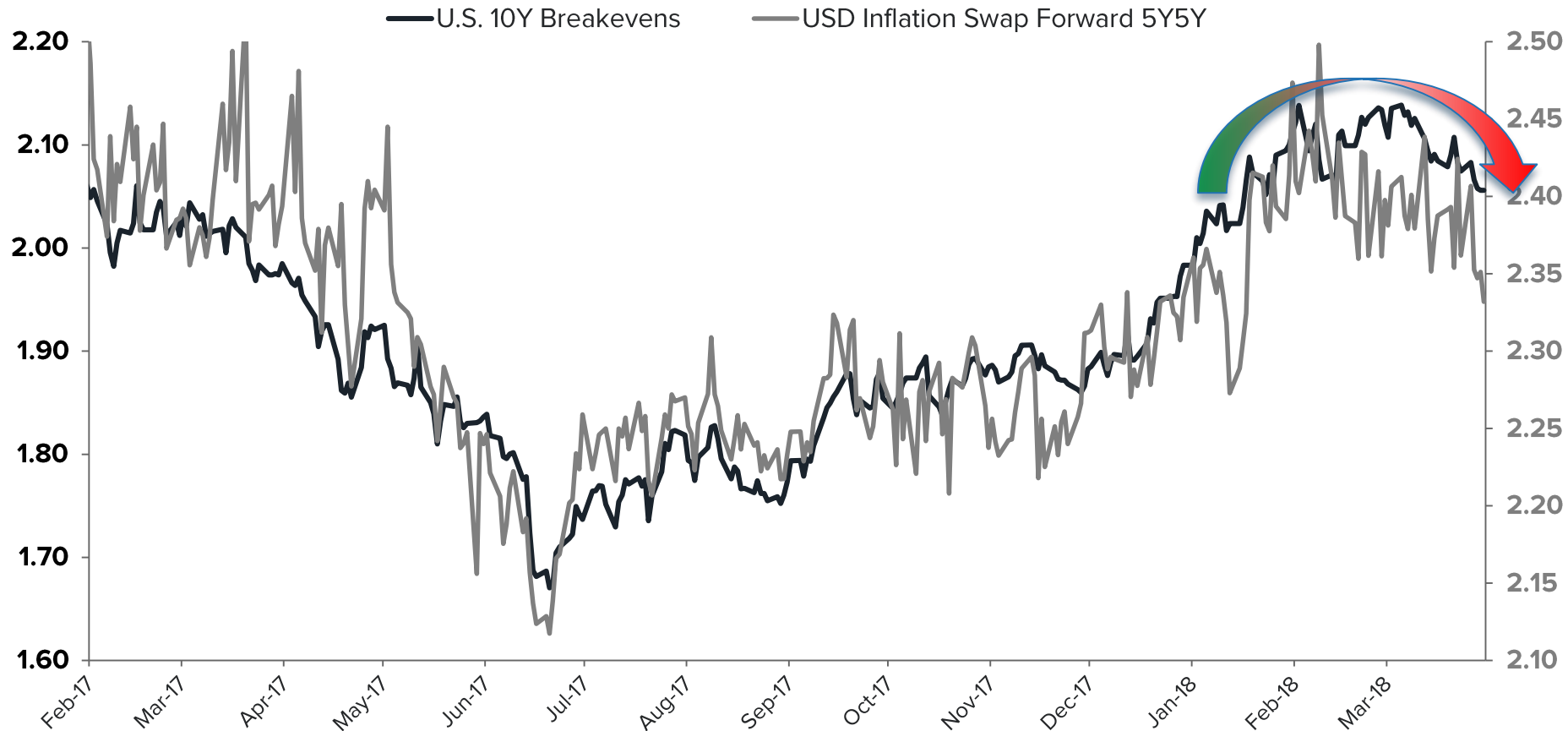
# THE #PEAK? .... DURABLE GOODS



# THE #PEAK? .... CAPITAL GOODS



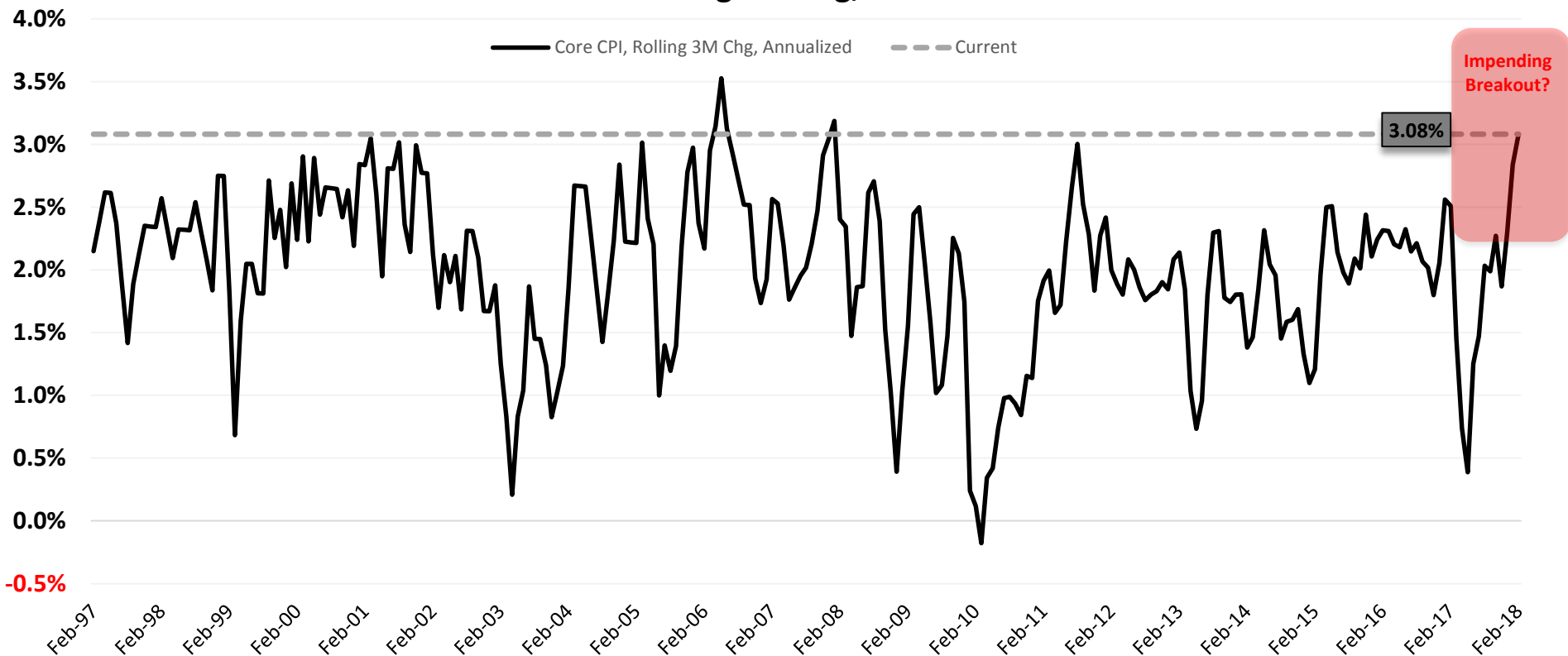
# REFLATION'S ROLLOVER PT.2 NOW REARVIEW



# LATE CYCLE PRICING IN CORE?

CORE PRICE PRESSURE HAS BEEN PERCOLATING IN RECENT MONTHS. THE NEXT FEW MONTHS HOLD THE POTENTIAL FOR FURTHER ACCELERATION AS BASE EFFECTS EASE.

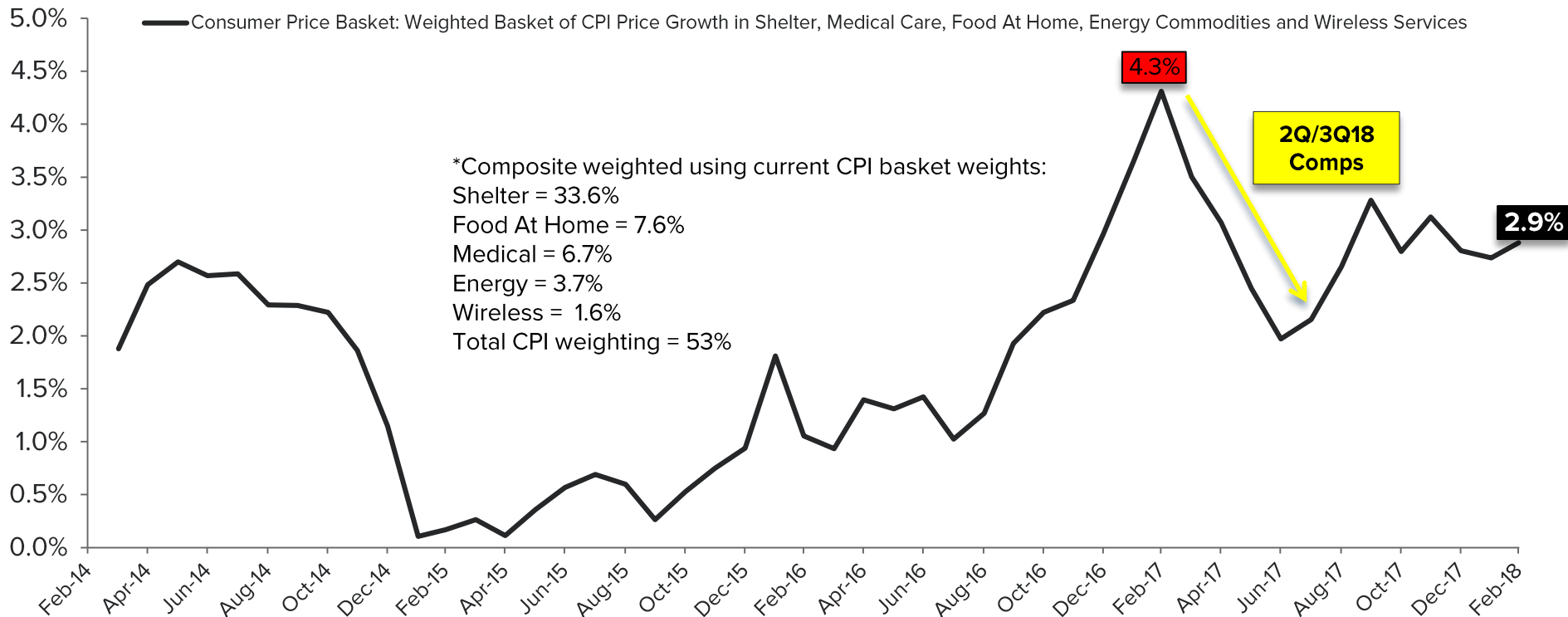
## CORE CPI: Rolling 3M Chg, Annualized



# BASE EFFECTS ARE SET TO REVERSE

THE WIRELESS PRICE WARS (-12% Y/Y) BEGAN IN 2Q17 AND THE 3Q17 MARKED ALL-TIME LOWS IN MEDICAL INFLATION. THOSE ARE NOW THE NEAR-TERM COMPS

## PRICE GROWTH IN KEY CONSUMER COST CENTERS

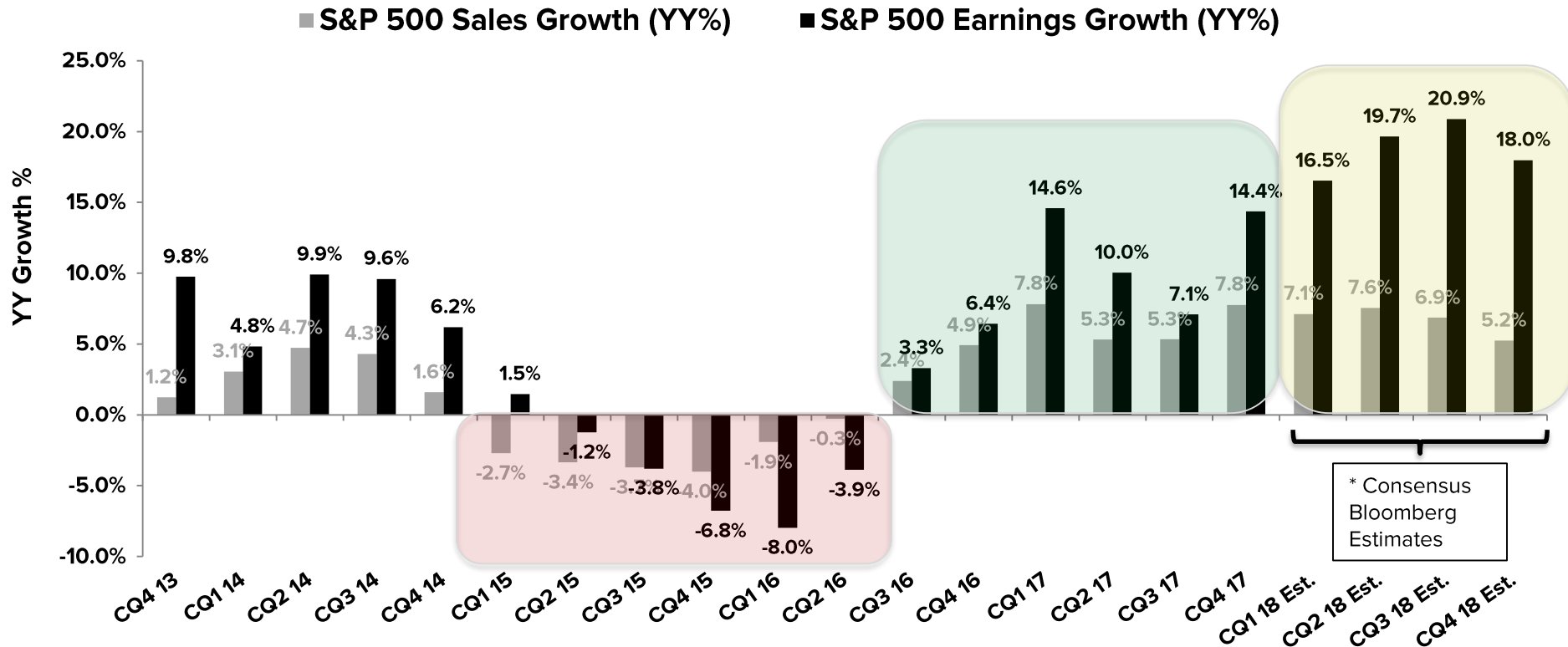


# GROWTH ACCELERATING CREATES LOFTY EXPECTATIONS

S&P 500 Index													Estimates			
SALES GROWTH (%)	CQ1 15	CQ2 15	CQ3 15	CQ4 15	CQ1 16	CQ2 16	CQ3 16	CQ4 16	CQ1 17	CQ2 17	CQ3 17	CQ4 17	CQ1 18	CQ2 18	CQ3 18	CQ4 18
<b>S&amp;P 500 Aggregate</b>	-2.7%	-3.4%	-3.7%	-4.0%	-1.9%	-0.3%	2.4%	4.9%	7.8%	5.3%	5.3%	7.8%	7.1%	7.6%	6.9%	5.2%
Energy	-34.0%	-31.8%	-34.4%	-34.4%	-29.3%	-24.2%	-14.2%	4.2%	34.1%	15.8%	17.9%	19.9%	20.2%	21.2%	17.5%	10.1%
Materials	-9.8%	-10.1%	-14.0%	-15.5%	-8.8%	-7.3%	-2.4%	2.7%	9.1%	7.2%	8.6%	12.9%	9.3%	10.8%	7.5%	4.6%
Industrials	-2.0%	-3.2%	-6.1%	-7.2%	-2.0%	-1.3%	2.2%	2.6%	4.2%	4.8%	6.6%	8.5%	7.3%	6.6%	5.1%	5.6%
Consumer Discretionary	1.8%	2.1%	3.7%	4.4%	6.3%	8.5%	8.2%	7.8%	8.4%	3.8%	3.0%	7.1%	5.7%	8.1%	8.0%	5.7%
Consumer Staples	2.5%	0.6%	0.5%	-0.4%	1.2%	0.7%	1.7%	2.7%	2.1%	2.5%	4.5%	5.1%	3.9%	3.9%	3.0%	3.1%
Health Care	10.3%	8.9%	9.5%	9.6%	9.2%	8.8%	7.0%	5.4%	5.7%	4.0%	4.5%	6.1%	6.4%	6.6%	6.7%	6.0%
Financials	2.0%	1.6%	0.1%	1.0%	-1.7%	0.7%	5.6%	5.5%	9.3%	4.5%	1.7%	3.2%	1.4%	3.4%	3.7%	4.1%
Information Technology	6.0%	3.1%	1.1%	-5.3%	-6.8%	-3.9%	0.4%	7.2%	8.2%	8.7%	8.7%	11.7%	12.7%	11.0%	9.3%	6.3%
Telecom	2.6%	2.4%	11.8%	12.0%	11.2%	9.6%	-0.8%	-2.9%	-4.8%	-1.3%	-1.0%	3.2%	4.4%	3.4%	3.7%	1.1%
Utilities	-3.6%	-4.9%	-2.1%	-12.6%	-10.5%	-2.4%	3.5%	8.1%	7.2%	6.4%	-2.7%	2.5%	2.7%	-0.1%	5.4%	-2.9%
Real Estate	4.4%	6.4%	7.5%	10.8%	11.4%	7.4%	7.5%	3.7%	4.5%	7.3%	5.2%	7.1%	5.5%	4.6%	4.9%	4.8%
EPS GROWTH (%)	CQ1 15	CQ2 15	CQ3 15	CQ4 15	CQ1 16	CQ2 16	CQ3 16	CQ4 16	CQ1 17	CQ2 17	CQ3 17	CQ4 17	CQ1 18	CQ2 18	CQ3 18	CQ4 18
<b>S&amp;P 500 Aggregate</b>	1.5%	-1.2%	-3.8%	-6.8%	-8.0%	-3.9%	3.2%	6.4%	14.6%	10.0%	7.1%	14.4%	16.5%	19.7%	20.9%	18.0%
Energy	-56.7%	-56.5%	-57.5%	-72.6%	-109.6%	-81.6%	-63.7%	-1.5%	690.1%	210.0%	138.0%	111.3%	80.0%	116.7%	71.7%	53.3%
Materials	-0.4%	6.3%	-15.6%	-17.9%	-16.0%	-9.1%	3.2%	-1.1%	19.6%	7.4%	10.7%	41.0%	22.3%	29.0%	27.7%	15.9%
Industrials	11.3%	-3.0%	-0.7%	-5.4%	-7.3%	-1.9%	-1.5%	-5.3%	1.5%	6.6%	0.3%	6.0%	13.9%	16.0%	20.1%	23.0%
Consumer Discretionary	9.3%	9.0%	13.9%	9.4%	17.8%	10.3%	6.5%	4.7%	7.0%	1.9%	1.8%	9.2%	4.7%	16.2%	18.3%	16.2%
Consumer Staples	3.6%	0.1%	-2.1%	-0.7%	1.2%	0.0%	4.4%	4.0%	2.9%	4.1%	3.1%	8.0%	7.4%	10.9%	12.4%	10.6%
Health Care	18.2%	15.1%	14.5%	11.0%	8.1%	4.8%	5.9%	4.8%	5.4%	6.6%	7.1%	7.9%	9.1%	9.8%	10.5%	13.5%
Financials	7.1%	2.7%	-8.6%	-5.3%	-14.2%	-7.0%	12.8%	6.6%	17.9%	9.5%	-8.9%	7.7%	21.8%	20.8%	41.8%	31.6%
Information Technology	10.0%	6.6%	4.5%	-3.8%	-7.4%	-2.7%	6.1%	12.0%	21.7%	15.8%	23.7%	22.9%	20.6%	24.8%	13.9%	11.2%
Telecom	8.5%	10.2%	23.7%	27.8%	16.1%	3.5%	-0.2%	-1.0%	-4.7%	4.8%	-2.2%	7.8%	16.3%	16.6%	20.3%	14.5%
Utilities	1.3%	3.0%	0.8%	-49.6%	-1.9%	8.9%	12.6%	110.6%	3.5%	5.1%	-3.5%	11.6%	10.9%	0.2%	8.5%	12.1%
Real Estate	12.6%	11.7%	12.5%	14.5%	8.3%	7.1%	8.7%	3.1%	6.5%	7.1%	7.6%	10.7%	6.8%	5.0%	7.0%	6.2%
Data Source: BBG																

# THE #PEAK? ... THE PROFIT CYCLE

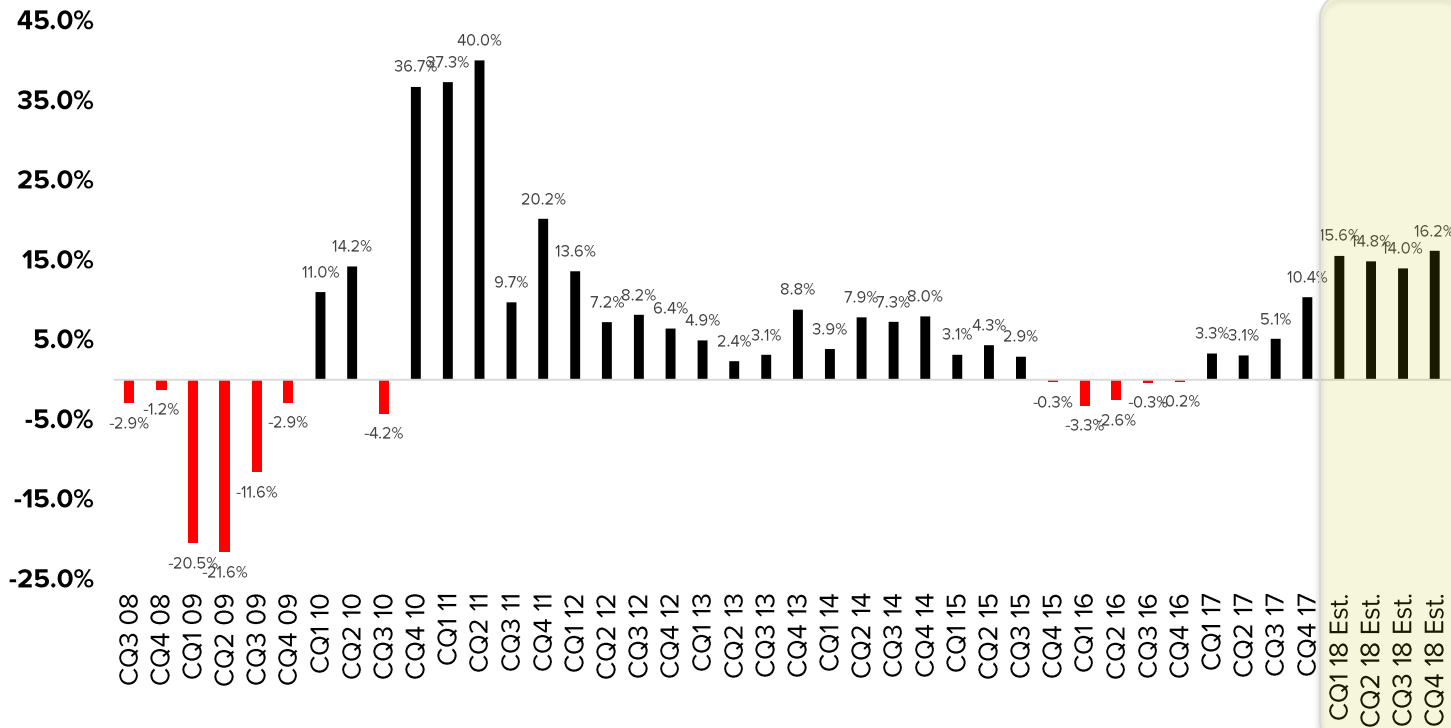
ALTHOUGH THERE ARE BASE-EFFECT COUNTER-ARGUMENTS LIKE TAX REFORM, CONSENSUS IS BETTING ON A SECOND DERIVATIVE ACCELERATION IN S&P 500 EARNINGS GROWTH



# LOFTY EXPECTATIONS: EXTRAPOLATING THE 2YR COMP STACK

THE EXTRAPOLATED 2YR EPS GROWTH TREND PROVIDES A GOOD PICTURE OF EARNINGS EXPECTATIONS AS IT INHERENTLY FACTORS IN BASE RATES.

## S&P 500 EPS Growth Rate YY% (2Yr Comp Stack)



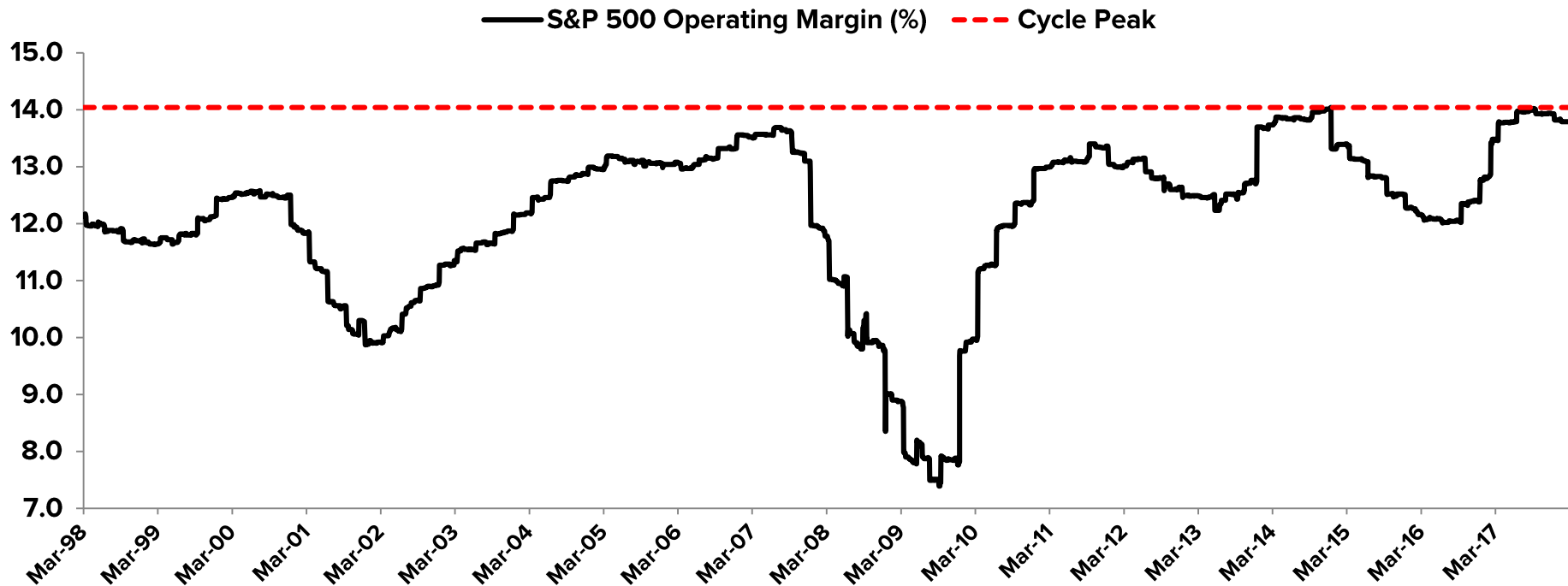
It's a straightforward conclusion that a slowdown in growth would derail forward earnings estimates which have kept pace with the bull market.

The projected, out-quarter 2yr comp stack extrapolates consensus S&P 500 earnings estimates.

# MORE CONTEXT ON FORWARD ESTIMATES...

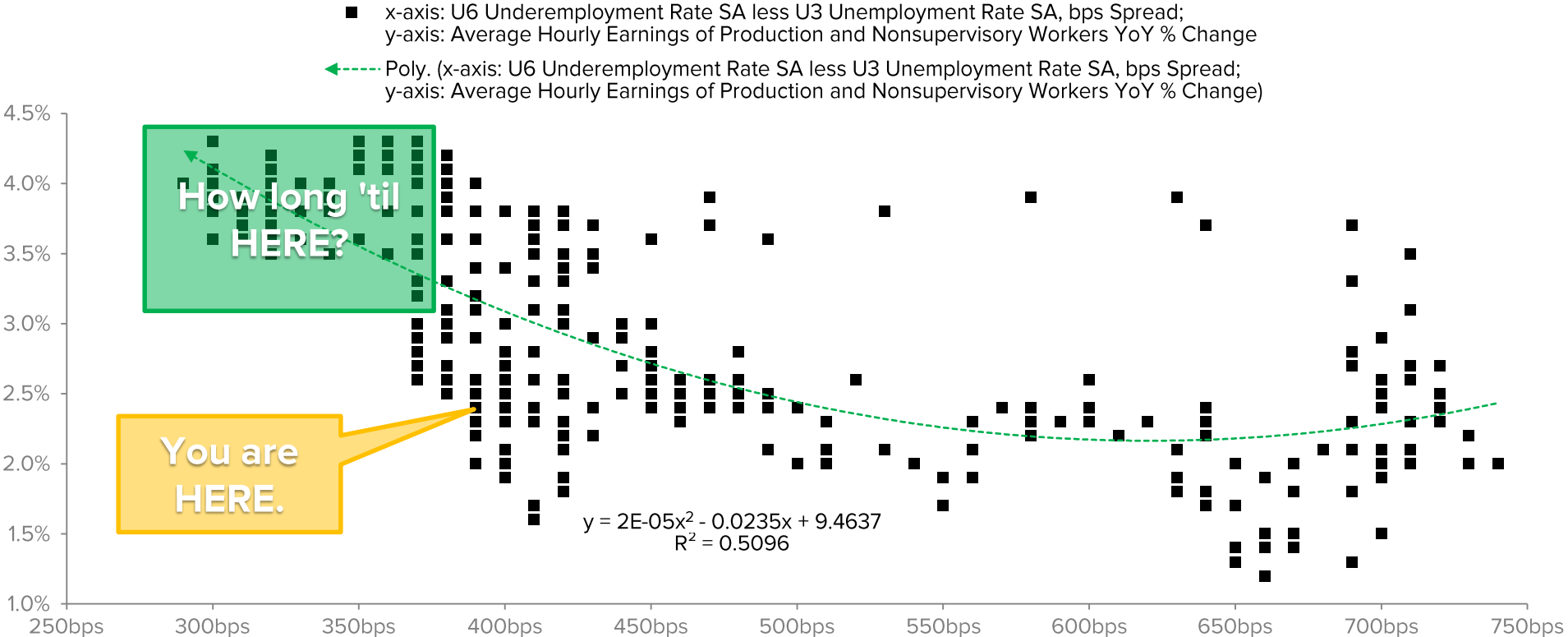
S&P 500 CONSTITUENTS IN AGGREGATE ARE AT CYCLE-PEAK MARGINS. FIXED COST LEVERAGE COMES FROM VOLUME & PRICING ON THE TOP LINE WHICH IS HARD TO FORECAST WITHOUT A CONTINUED ACCELERATION IN GROWTH & DEMAND.

## S&P 500 Operating Margin (%)



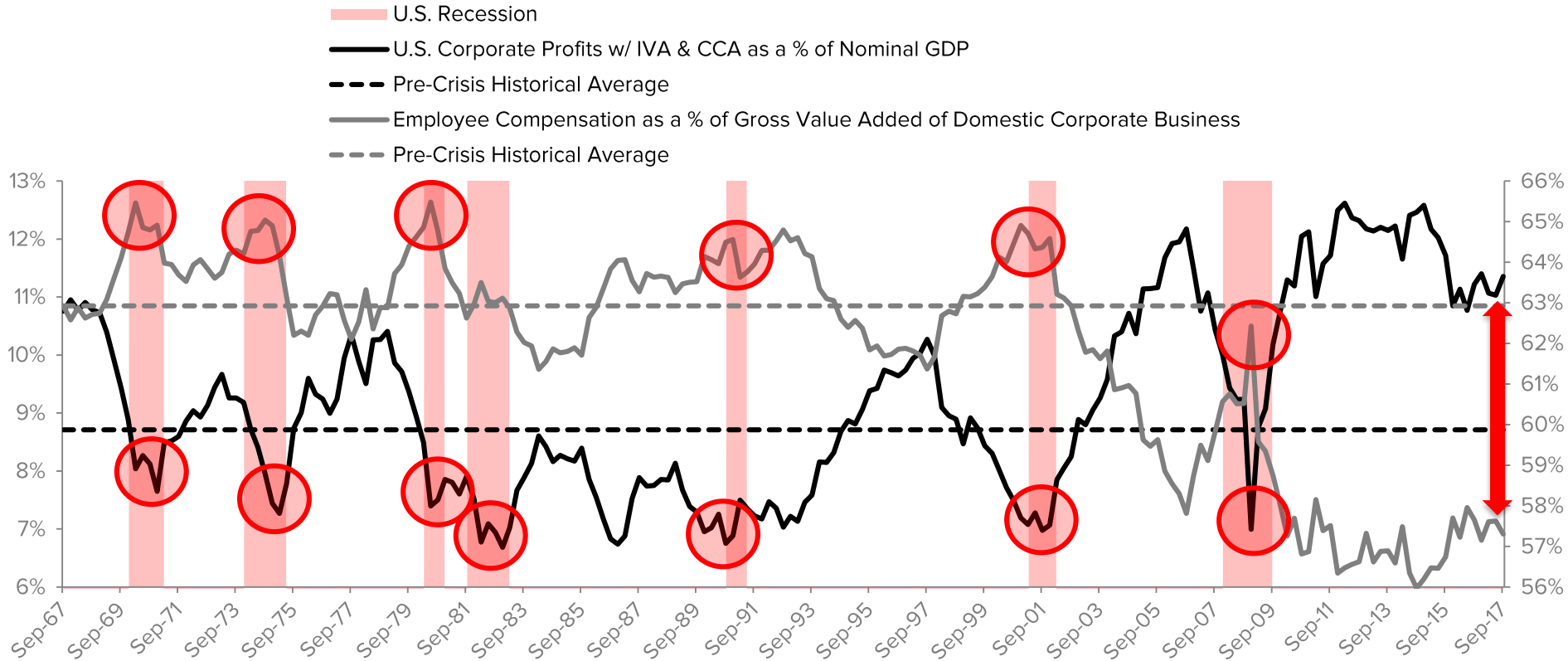
# WAGE PRESSURES ARE NON-LINEAR...

WAGE GROWTH – LIKE MOST THINGS IN THE ECONOMY AND FINANCIAL MARKETS – IS NON-LINEAR. THE KEY QUESTION AS IT RELATES TO THE DOLLAR IS WHEN DOES THIS PHASE TRANSITION TAKE PLACE?



# WAGE PRESSURES END EVERY BUSINESS CYCLE

THE PHENOMENON OF PEAK CORPORATE PROFITABILITY IN THE U.S. IS LIKELY TO COME TO AN END AS UNIT LABOR COSTS RECOVER FROM STRUCTURAL LOWS.

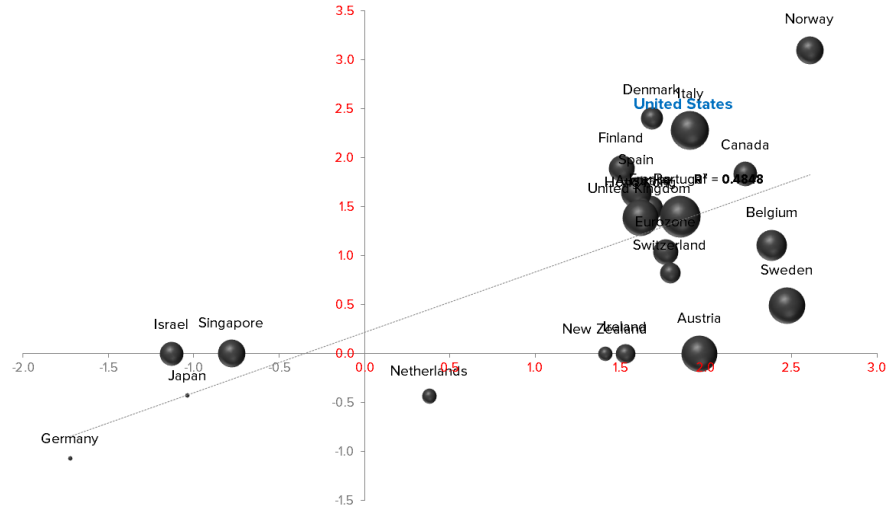


# WHAT STOPS THE ECONOMIC CYCLE?

## Δ IN CREDIT GROWTH VS. Δ IN DEBT SERVICE RATIOS (4Q07)

● x-axis: Private Nonfinancial Sector Credit-to-GDP Gap (Z-Score, Trailing 5Y);  
y-axis: Debt Service Ratio Gap (Z-Score, Trailing 5Y);  
bubble size: Banking Sector NPL Ratio

— Linear (x-axis: Private Nonfinancial Sector Credit-to-GDP Gap (Z-Score, Trailing 5Y);  
y-axis: Debt Service Ratio Gap (Z-Score, Trailing 5Y);  
bubble size: Banking Sector NPL Ratio)



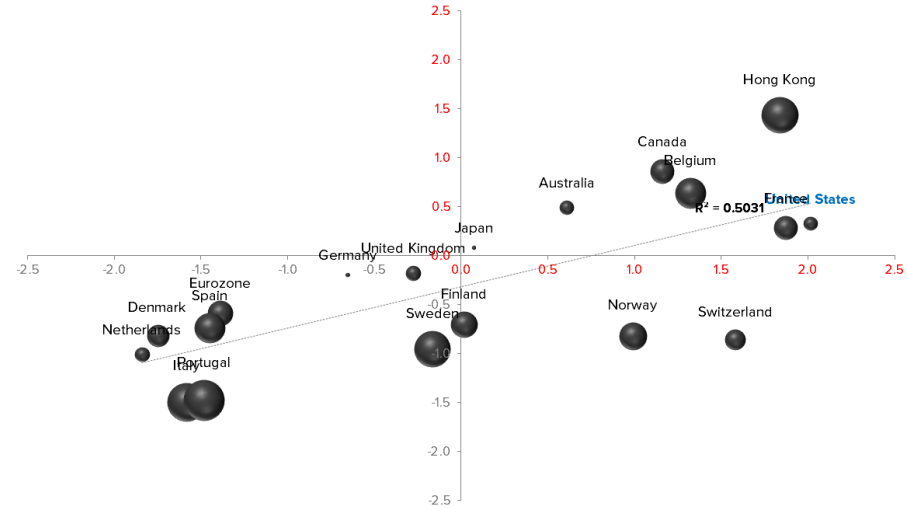
Data Source: BIS.

© Hedgeye Risk Management

## Δ IN CREDIT GROWTH VS. Δ IN DEBT SERVICE RATIOS (LATEST)

● x-axis: Private Nonfinancial Sector Credit-to-GDP Gap (Z-Score, Trailing 5Y);  
y-axis: Debt Service Ratio Gap (Z-Score, Trailing 5Y);  
bubble size: Banking Sector NPL Ratio

— Linear (x-axis: Private Nonfinancial Sector Credit-to-GDP Gap (Z-Score, Trailing 5Y);  
y-axis: Debt Service Ratio Gap (Z-Score, Trailing 5Y);  
bubble size: Banking Sector NPL Ratio)



Data Source: BIS.

© Hedgeye Risk Management

Two conditions must be met for an economic downturn to occur:

1. Potential adverse selection via **rapid expansion in private sector leverage**; and
2. A **sharp rise in debt service costs** that threaten cash flows and perpetuate necessary deleveraging.

Currently in the U.S. economy, only one of the necessary preconditions has been met (i.e. rapid credit expansion).

Debt service ratios are broadly on the rise amid the Fed's policy normalization drive, but not yet by a threatening degree.



**GLOBAL #DIVERGENCES, REITERATED**

# SEQUENCE THE DATA: THEN

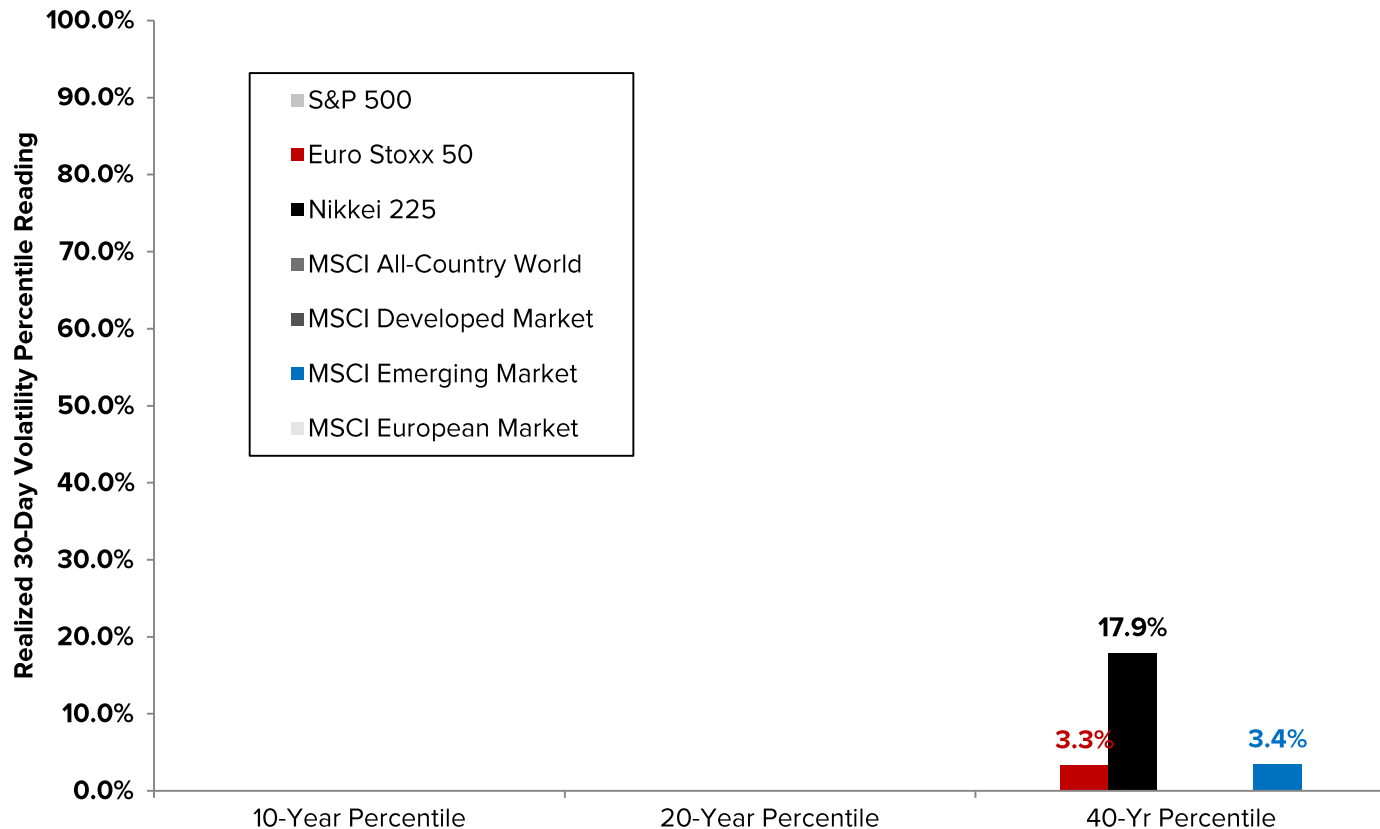
...AT THE YTD HIGH IN GLOBAL EQUITIES

1/26/2018	GIP Model Signals								High-Frequency Economic Data Signals									
	Actuals				Hedgeye Forecasts				Consumption		Manufacturing		Composite PMI		Headline CPI		Core CPI	
	1Q17	2Q17	3Q17	4Q17	1Q18E	2Q18E	3Q18E	4Q18E	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)
Argentina	2	1	1	3	2	1	3	4	↓	27%	↓	66%	-	-	↑	55%	-	-
Australia	3	1	1	3	4	3	1	1	↑	18%	↑	54%	↑	92%	⇒	27%	⇒	6%
Brazil	1	1	1	2	3	3	4	4	↓	43%	↑	77%	↓	89%	↑	2%	⇒	4%
Canada	2	1	3	3	3	3	2	4	↓	87%	↑	61%	↓	85%	⇒	56%	↑	60%
China	1	4	3	3	3	4	3	4	↓	4%	↓	63%	↑	72%	⇒	31%	⇒	90%
Eurozone	2	1	1	1	4	3	4	4	↓	85%	↑	81%	↑	87%	⇒	52%	⇒	46%
France	2	1	1	2	3	4	4	4	↓	71%	↑	87%	↑	94%	⇒	49%	⇒	9%
Germany	2	1	2	1	4	3	4	4	↓	68%	↑	79%	↑	86%	⇒	61%	⇒	78%
India	4	4	2	2	3	2	4	1	-	-	↑	59%	↑	18%	↑	19%	-	-
Indonesia	2	2	1	1	4	3	1	4	↓	3%	↓	56%	↓	58%	⇒	21%	⇒	5%
Italy	2	2	1	4	4	3	4	4	↓	66%	↑	86%	↑	83%	⇒	46%	↓	25%
Japan	2	2	2	2	3	4	4	4	⇒	70%	↑	74%	↑	58%	⇒	70%	⇒	73%
Mexico	3	3	3	2	1	1	1	4	↓	23%	↑	28%	↓	36%	↑	98%	⇒	87%
Russia	1	1	4	4	1	3	4	1	⇒	43%	↓	25%	↑	69%	↓	2%	↓	2%
South Africa	1	1	4	1	4	3	2	4	↓	77%	↑	45%	⇒	33%	↓	22%	↓	26%
South Korea	2	4	2	4	1	3	4	1	↓	50%	↓	33%	↓	86%	↓	49%	⇒	19%
Turkey	2	2	1	3	4	3	4	4	↑	35%	↓	87%	↑	91%	↑	94%	↑	98%
United Kingdom	2	3	3	3	4	1	4	1	⇒	45%	↓	87%	↑	45%	⇒	64%	⇒	77%
United States	2	1	2	2	2	2/3	4	4	↑	77%	↑	54%	↓	89%	⇒	66%	⇒	34%
MODE/MEAN	2	1	1	2	4	3	4	4	↓	51%	↑	63%	↑	71%	⇒	46%	⇒	43%

Data Source: Bloomberg, BIS, World Bank, IMF. Intellectual Property of Hedgeye Risk Management.

# 2017 VOLATILITY = ALL-TIME LOWS

BELOW WE SHOW AVERAGE 30D REALIZED VOLATILITY FOR 2017 AS A PERCENTILE READING FOR THE LAST 10, 20, AND 40 YEARS... AND IT'S MOSTLY ZEROS ALL AROUND.



*“When a Long-Term Trend Loses Momentum, short-term volatility tends to rise. It is easy to see why this should be so: the trend following crowd is disoriented.”*  
– George Soros

# SEQUENCE THE DATA: NOW

4/11/2018	Hedgeye Macro GIP Model Signals								High-Frequency Economic Data Signals									
	Actuals				Hedgeye Forecasts				Consumption		Manufacturing		Composite PMI		Headline CPI		Core CPI	
	1Q17	2Q17	3Q17	4Q17	1Q18E	2Q18E	3Q18E	4Q18E	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)
Argentina	2	1	1	3	2	1	3	4	↑	31%	↑	66%	-	-	↑	62%	-	-
Australia	3	1	1	3	4	3	1	1	⇒	18%	↑	54%	↑	93%	⇒	27%	⇒	6%
Brazil	1	1	1	2	4	3	4	4	↑	44%	↓	79%	↑	89%	⇒	4%	↓	2%
Canada	2	1	3	3	3	3	2	4	↓	83%	↓	61%	↑	83%	⇒	65%	⇒	59%
China	1	4	3	3	3	4	3	4	↓	4%	↓	48%	↓	80%	⇒	42%	⇒	89%
Eurozone	2	1	1	1	4	3	4	4	↓	84%	↓	81%	↓	92%	⇒	50%	⇒	37%
France	2	1	1	2	3	4	4	4	⇒	57%	↑	84%	↓	93%	↑	58%	⇒	34%
Germany	2	1	2	1	4	3	4	4	↓	82%	↓	78%	↓	89%	⇒	55%	⇒	62%
India	4	4	2	2	3	2	4	1	-	-	↑	69%	↓	45%	↓	25%	-	-
Indonesia	2	2	1	1	4	3	1	4	↑	4%	↓	48%	↑	59%	⇒	13%	⇒	5%
Italy	2	2	1	4	4	3	4	4	↓	66%	↓	82%	↓	80%	⇒	40%	⇒	16%
Japan	2	2	2	2	3	4	4	4	↓	74%	↓	69%	↓	75%	↑	75%	⇒	75%
Mexico	3	3	3	2	1	1	1	4	↓	19%	↑	32%	↑	36%	↓	88%	↓	78%
Russia	1	1	4	4	1	3	4	1	↓	45%	↑	28%	↓	66%	⇒	2%	⇒	2%
South Africa	1	1	4	1	4	3	2	4	↓	81%	↓	48%	↑	50%	↓	20%	↓	21%
South Korea	2	4	2	4	1	3	4	1	↑	58%	↓	29%	↓	84%	⇒	33%	⇒	6%
Turkey	2	2	1	3	4	3	4	4	↑	35%	↑	78%	↓	87%	↓	93%	↓	98%
United Kingdom	2	3	3	3	4	1	4	1	⇒	41%	⇒	79%	↓	46%	↓	64%	⇒	76%
United States	2	1	2	2	2	2/3	4	4	↓	81%	↑	71%	↑	96%	⇒	72%	⇒	45%
MODE/MEAN	2	1	1	2	4	3	4	4	↓	51%	↓	62%	↓	74%	⇒	46%	⇒	42%

Data Source: Bloomberg, BIS, World Bank, IMF. Intellectual Property of Hedgeye Risk Management.

# SO FAR, “NOW” HAS BEEN A DIFFERENT STORY

BELOW WE SHOW YTD PRICE PERFORMANCE AND REALIZED VOLATILITY FOR Q1 OF 2017 RELATIVE TO Q1 OF 2018.

## GLOBAL EQUITY MARKET PERFORMANCE YTD (2017 VS. 2018)

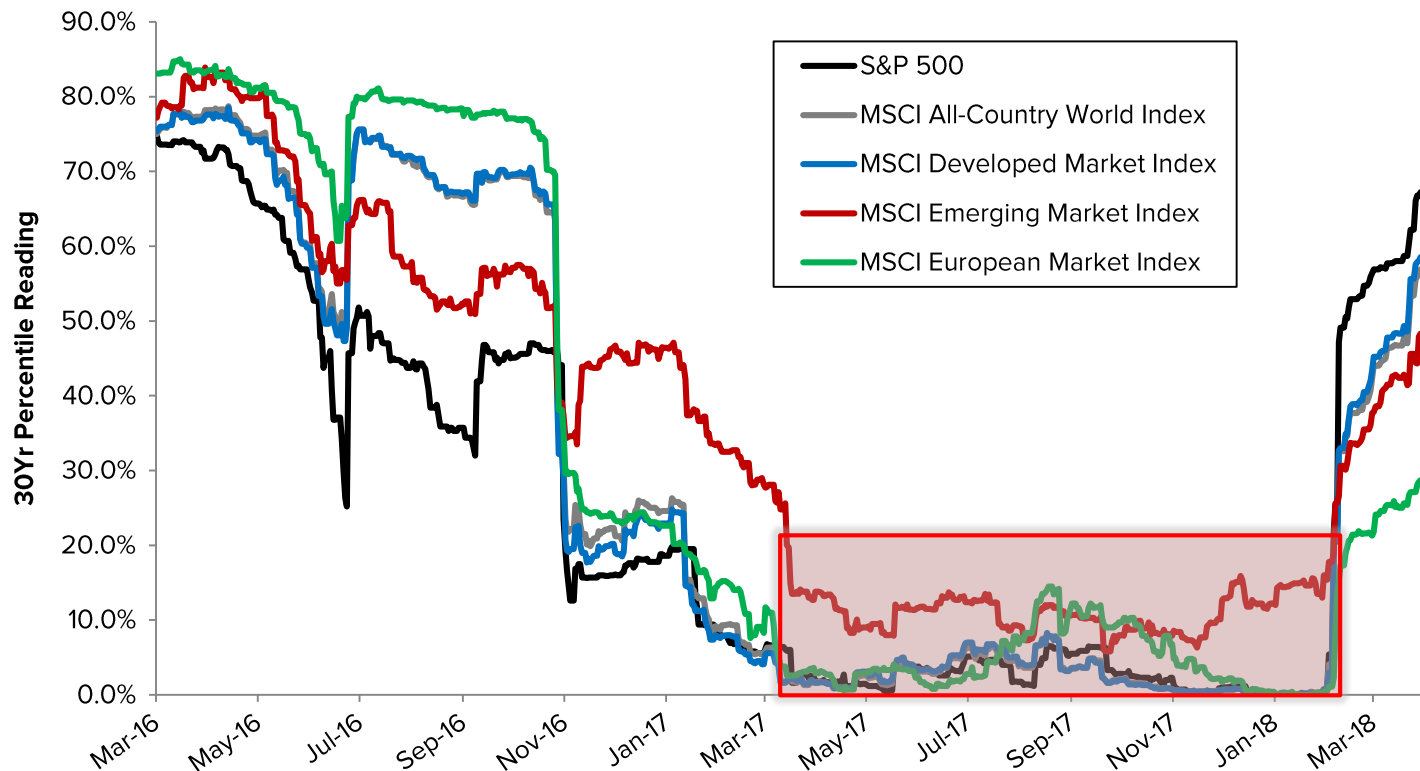
2017 YTD			2018 YTD		
INDEX	YTD Perf. (%)	90-Day Volatility (%)	INDEX	YTD Perf. (%)	90-Day Volatility (%)
S&P 500 Index	5.53%	7.0	S&P 500 Index	-3.43%	17.6
MSCI All-Country World Index	6.41%	5.9	MSCI All-Country World Index	-2.61%	12.4
MSCI Developed Market Index	5.85%	6.0	MSCI Developed Market Index	-3.09%	12.8
MSCI Emerging Market Index	11.14%	9.9	MSCI Emerging Market Index	0.95%	14.6
MSCI European Market Index	6.75%	8.3	MSCI European Market Index	-4.84%	12.4

Data Source: Bloomberg

# SLOWLY THEN ALL AT ONCE... A TIME SERIES VIEW OF VOLATILITY

BELOW WE SHOW ROLLING 90-DAY VOLATILITY AS A PERCENTILE READING FROM THE TRAILING 30 YEARS OF DAILY OBSERVATIONS.

Rolling 90-Day Volatility (30Yr Percentile Reading)

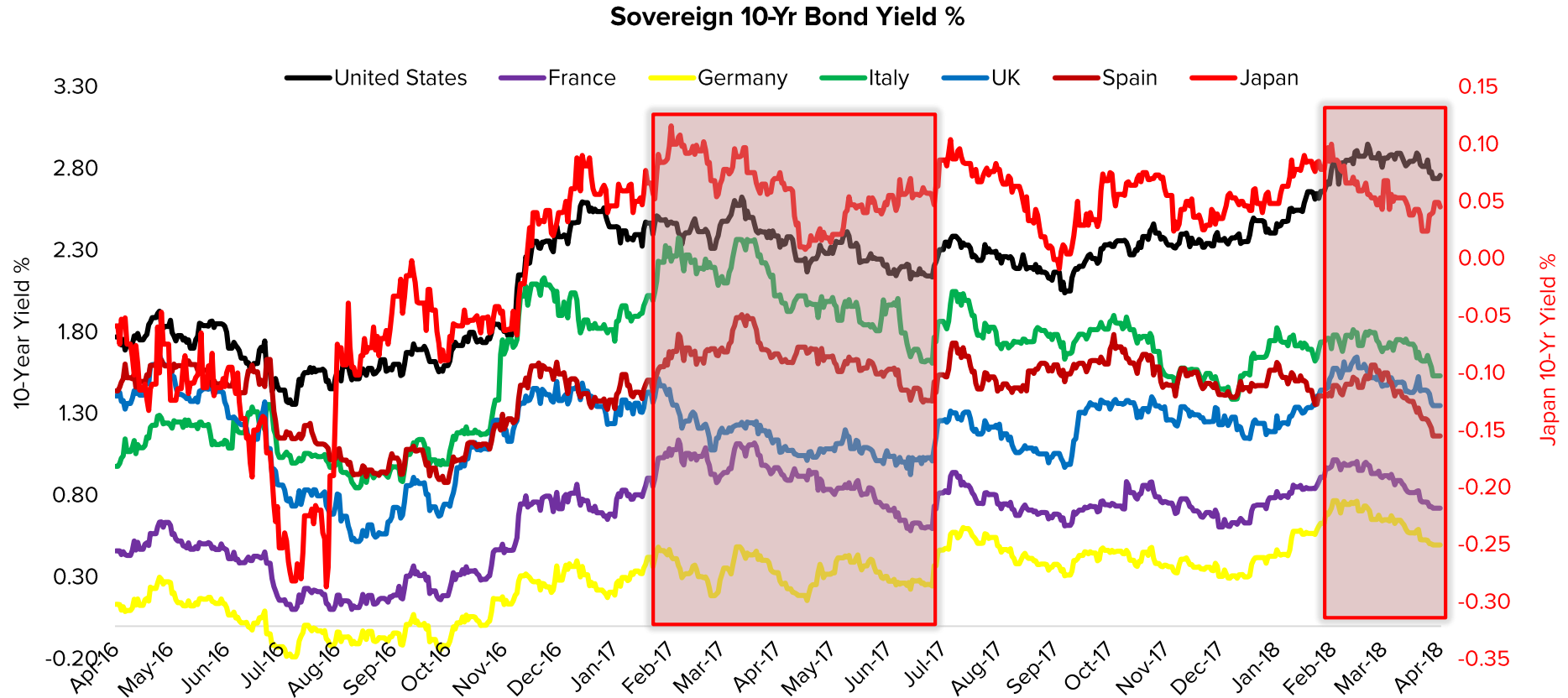


As far as identifiable trends are concerned, the recent bid for volatility needs a lot of context.

As we've said, studying the relationship between past and forward-looking volatility is all about understanding rate-of-change.

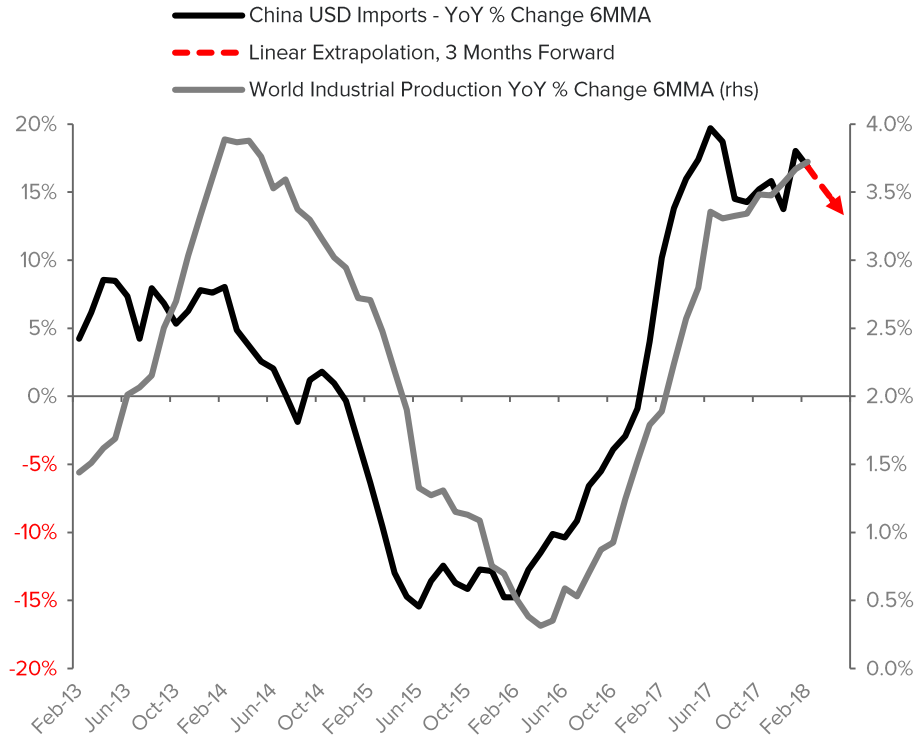
# THE “GLOBALLY SYNCHRONIZED RECOVERY” NARRATIVE IS UNDER DURESS

SOVEREIGN YIELDS IN MOST MAJOR ECONOMIES ARE ROLLING OFF THEIR RESPECTIVE PEAKS

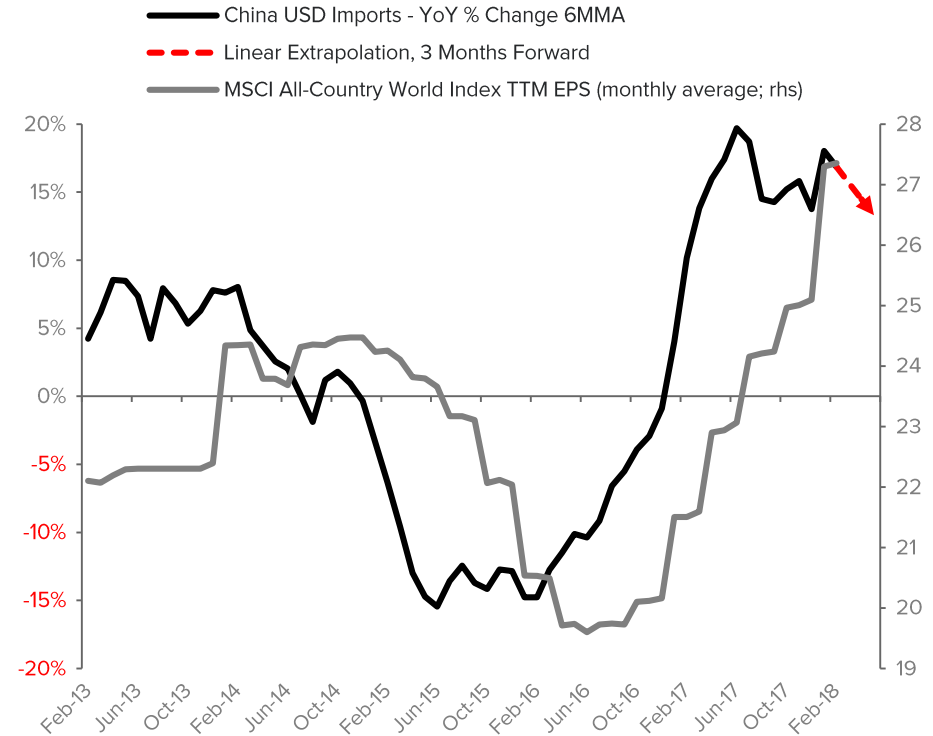


# #CHINASLOWING IS A CAUSAL FACTOR...

## CHINA IMPORTS VS. WORLD MANUFACTURING GROWTH



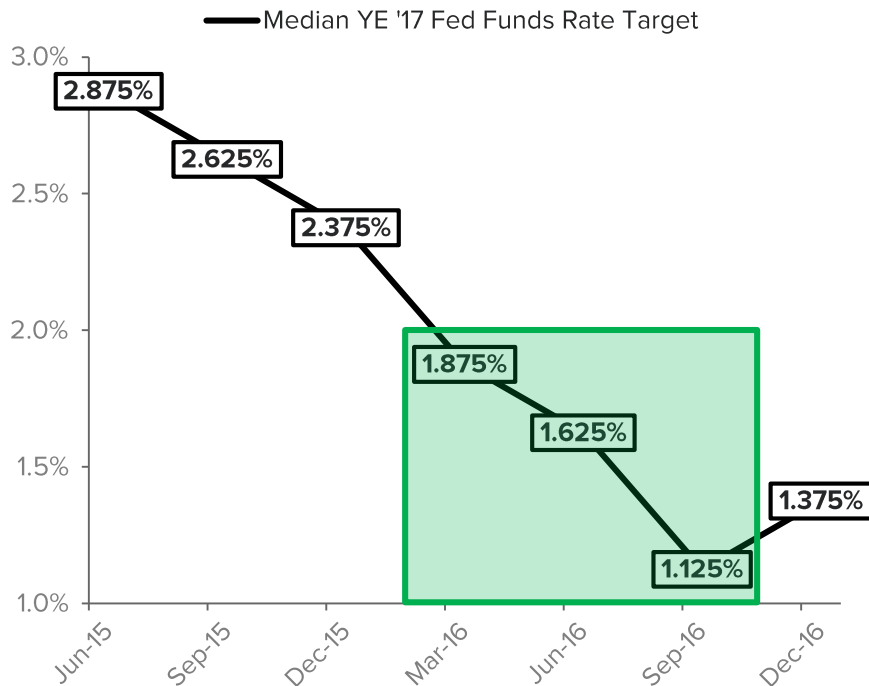
## CHINA IMPORTS VS. WORLD CORPORATE PROFITS



# THE SHANGHAI ACCORD, CHARTED

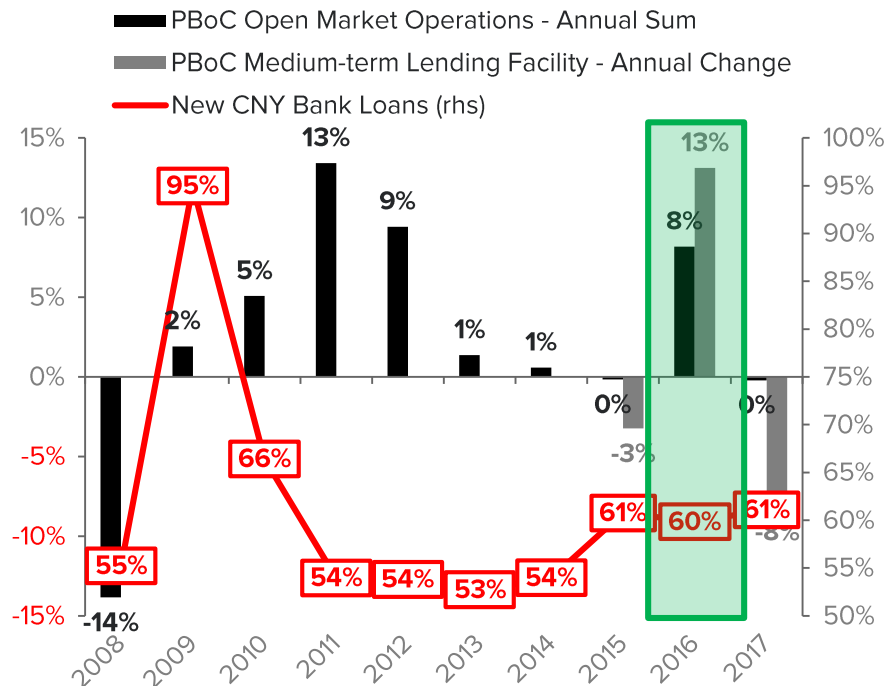
THE FED RHETORICALLY EASED SIGNIFICANTLY DURING THE 2015-16 GLOBAL INDUSTRIAL RECESSION...

FOMC "Dot Plot" Progression



...WHICH ALLOWED THE PBOC TO UNLEASH A WAVE OF LIQUIDITY, WHICH IS NOW BEING CURTAILED AT THE MARGINS

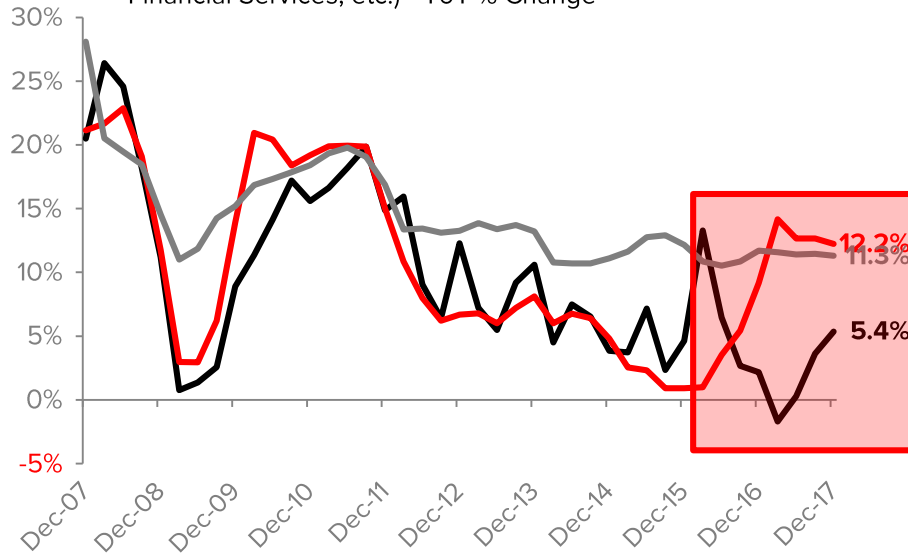
Net Liquidity Provided as a % of GDP



# PRESENTING: XI'S EPIC MAGIC TRICK

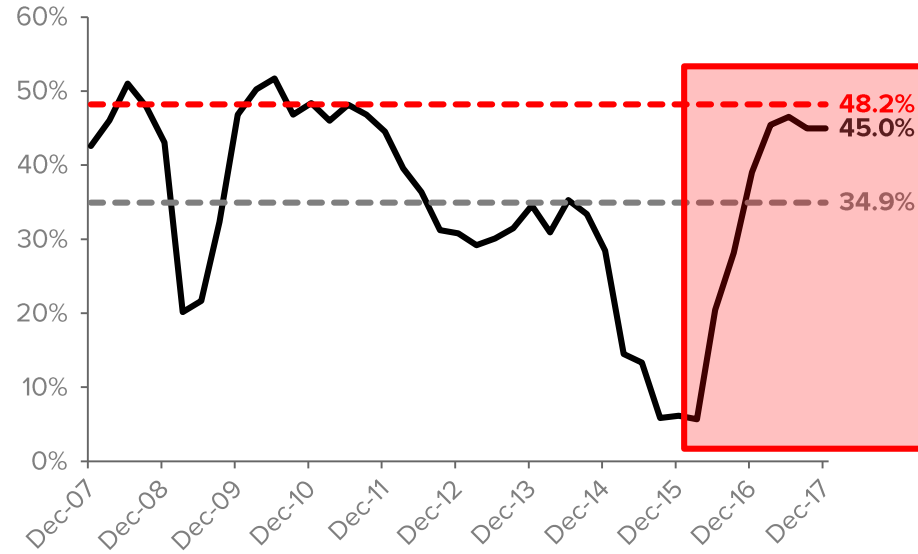
AS A FUNCTION OF HISTORIC STIMULUS EFFORTS THROUGHOUT 2H16, GROWTH IN THE "OLD CHINA" ECONOMY DEMONSTRABLY RECOVERED AND IS NOW OUTPACING THAT OF ITS "NEW CHINA" PEER

- China Nominal GDP: Primary Industries (e.g. Farming, Forestry, etc.) - YoY % Change
- China Nominal GDP: Secondary Industries (e.g. Heavy Industry, Construction, etc.) - YoY % Change
- China Nominal GDP: Tertiary Industries (e.g. Retail Trade, Financial Services, etc.) - YoY % Change



THE ELEVATED CONTRIBUTION OF GROWTH FROM "OLD CHINA" IMPLIES POLICYMAKERS WON'T BE KEEN TO REACT TO ANY FURTHER DECELERATION IN THIS SEGMENT OF THE CHINESE ECONOMY

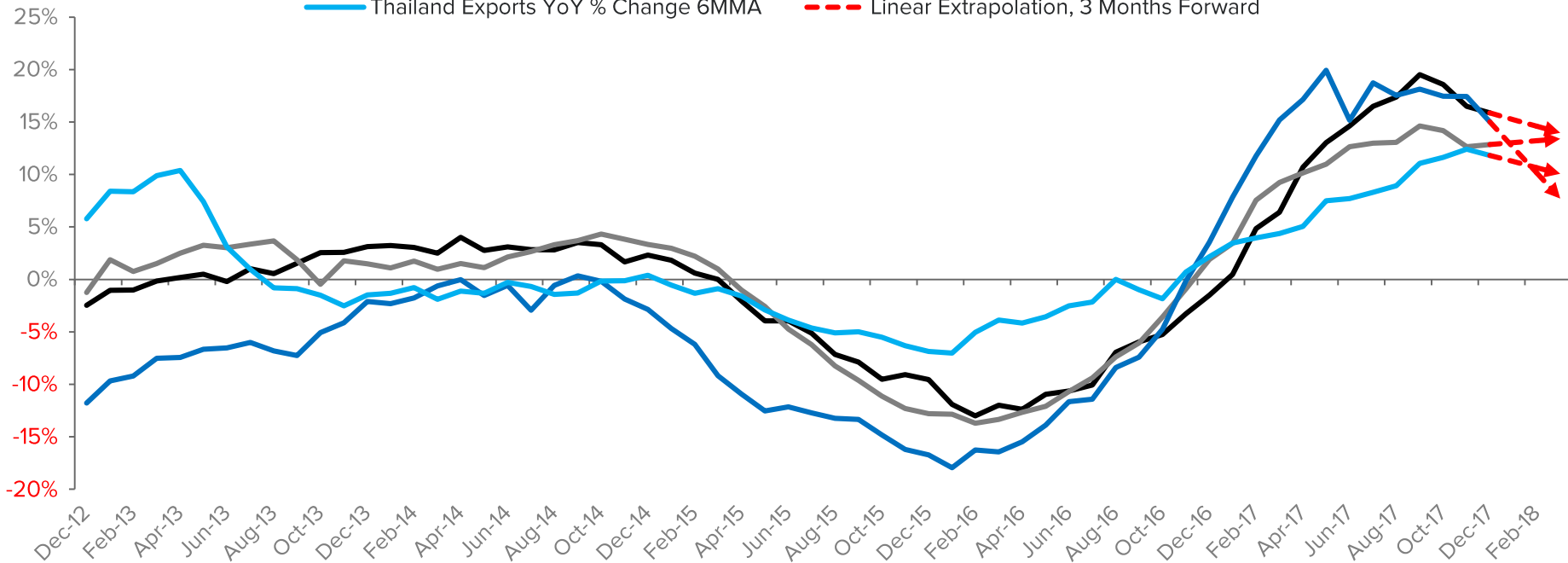
- Secondary Industries as a % of China's Nominal GDP Growth (Trailing 4Q)
- - - Trailing 10Y Average
- - - +1 Sigma



# THE IMPACT OF CHINA'S RECOVERY IS DISSIPATING

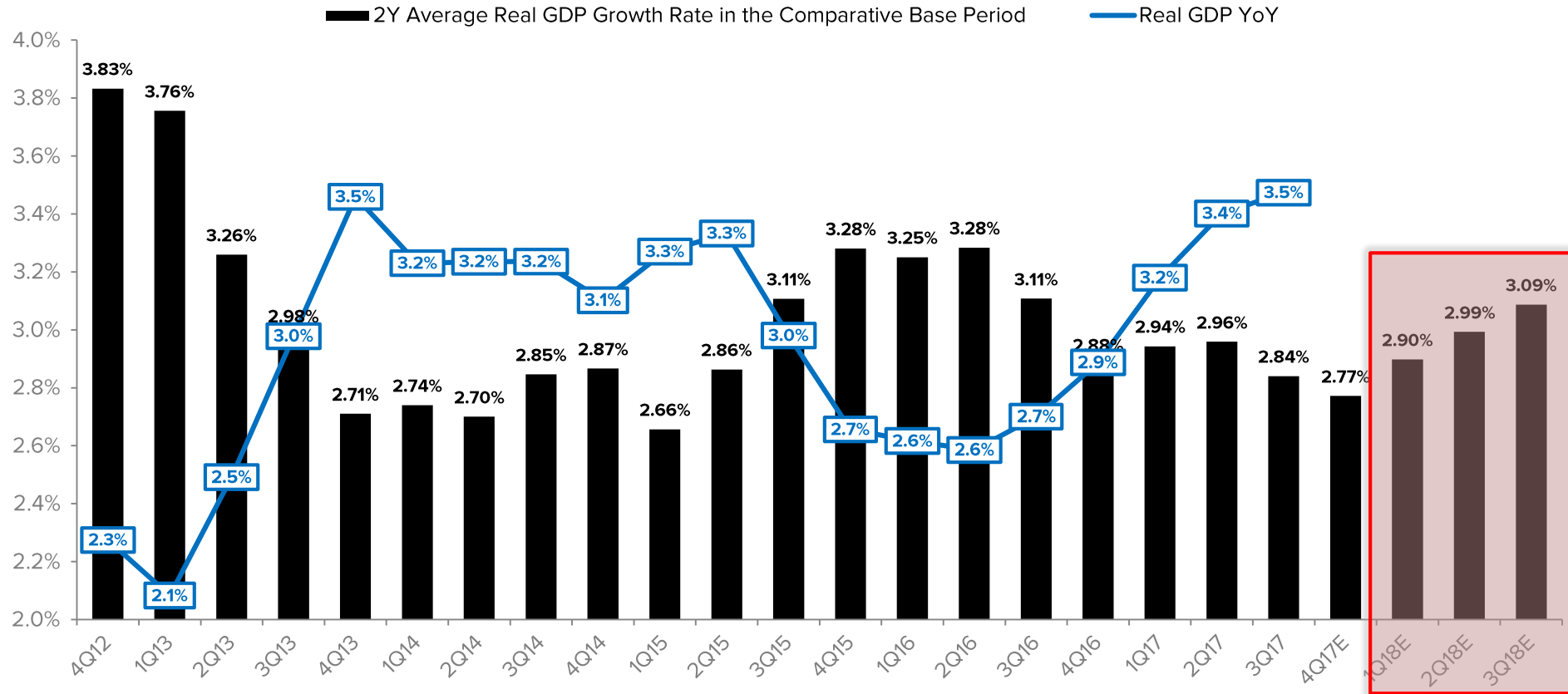
CHINA POPPED THE ECONOMIC CHAMPAGNE AND THE REST OF EM PARTIED LIKE IT WAS 1999. WHAT WILL HAPPEN WHEN CHINA'S HANGOVER INTENSIFIES? LOOK NO FURTHER THAN TRENDING ECONOMIC DATA FOR YOUR ANSWER.

- South Korea Exports YoY % Change 6MMA
- Taiwan Exports YoY % Change 6MMA
- Indonesia Exports YoY % Change 6MMA
- Thailand Exports YoY % Change 6MMA
- - - Linear Extrapolation, 3 Months Forward
- - - Linear Extrapolation, 3 Months Forward
- - - Linear Extrapolation, 3 Months Forward
- - - Linear Extrapolation, 3 Months Forward



# ...AS ARE STEEPENING BASE EFFECTS

## World



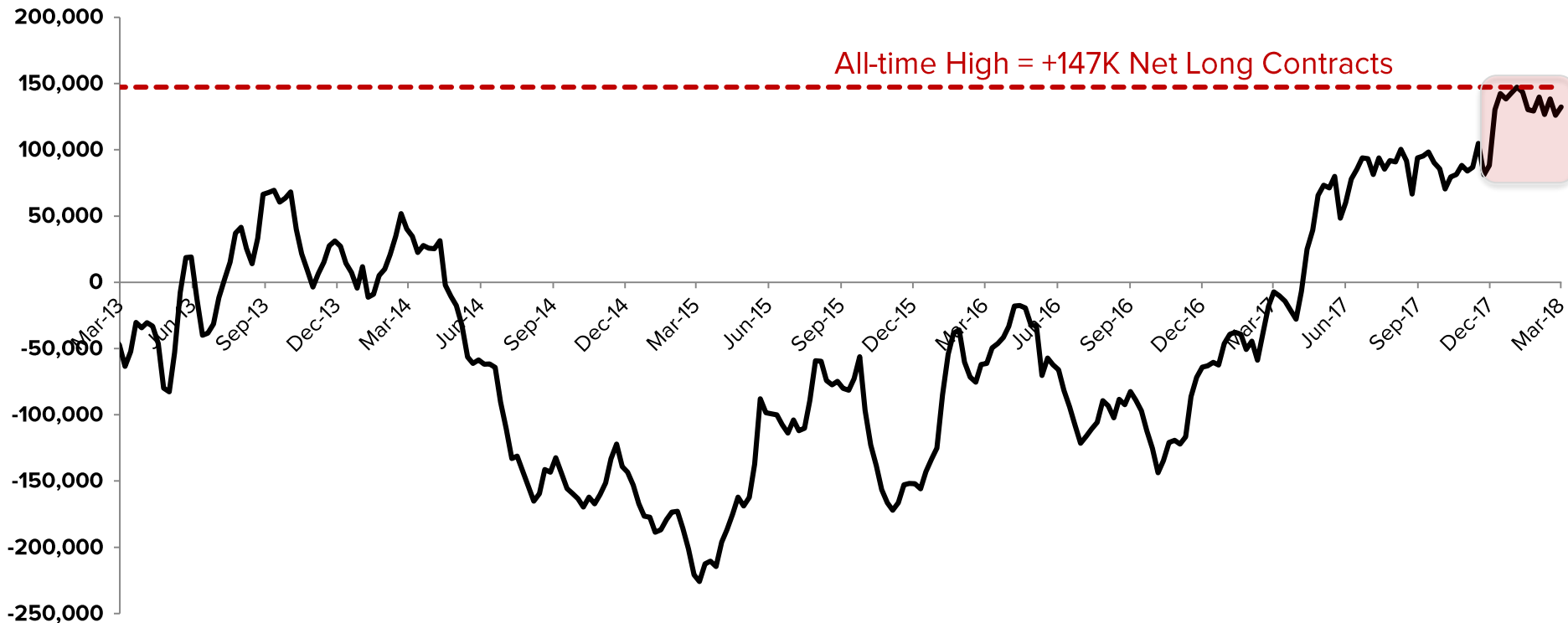


**DOLLAR #BOTTOMING?**

# SPECULATIVE POSITIONING IN THE EURO REMAINS NEAR ALL-TIME HIGHS

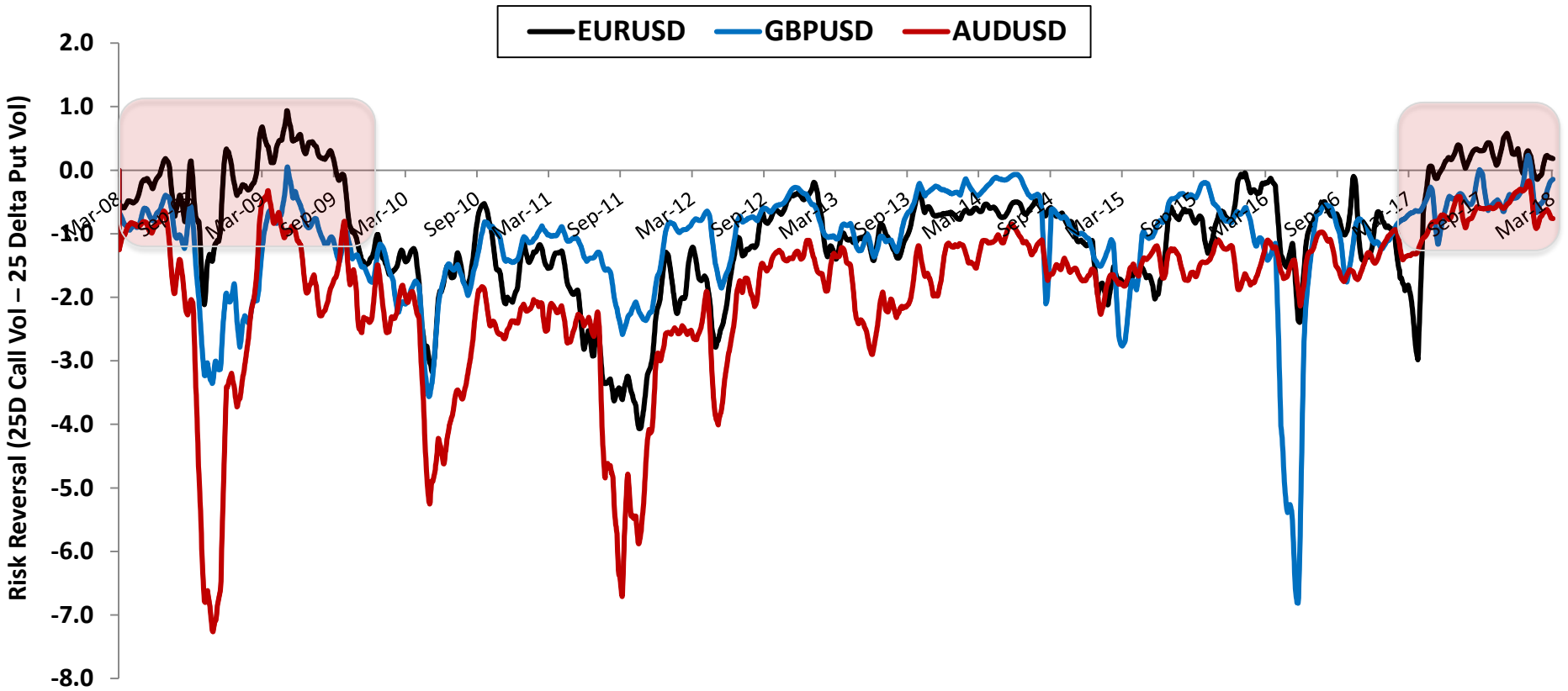
THE NET LONG POOL OF SPECULATIVE MARKET PARTICIPANTS CONTINUES TO HOVER NEAR ALL-TIME HIGHS.

## Net Non-Commercial Futures & Options Positioning (Euro Currency)



# A TIME SERIES LOOKS AT FX RISK REVERSALS: CYCLE-HIGHS

BELOW WE SHOW THE VOLATILITY PRICING OF 25-DELTA RISK REVERSALS ON 2-MTH CONTRACTS. WE SMOOTH OUT THE SERIES WITH THE TWO-WEEK AVERAGE OF DAILY RISK REVERSAL PRICING.



# GLOBAL GIP MODEL SUMMARY

Q4 WAS THE LAST QUARTER WHERE GLOBAL GROWTH MOMENTUM WAS BROADLY POSITIVE. FURTHERMORE, OUR MODELS SUGGEST THE NOW-CONSENSUS “SYNCHRONIZED GLOBAL RECOVERY” THEME HAS OFFICIALLY CULMINATED.

4/11/2018	Hedgeye Macro GIP Model Signals												High-Frequency Economic Data Signals									
	Actuals				Hedgeye Forecasts				Consumption		Manufacturing		Composite PMI		Headline CPI		Core CPI					
	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18E	2Q18E	3Q18E	4Q18E	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)	3MMA Trend	Percentile of Latest Reading (T10Y)
Argentina	-	-	1	2	2	1	1	3	2	1	3	4	↑	31%	↑	66%	-	-	↑	62%	-	-
Australia	1	1	3	2	3	1	1	3	4	3	1	1	⇒	18%	↑	54%	↑	93%	⇒	27%	⇒	6%
Brazil	1	1	1	1	1	1	1	2	4	3	4	4	↑	44%	↓	79%	↑	89%	⇒	4%	↓	2%
Canada	2	3	1	2	2	1	3	3	3	3	2	4	↓	83%	↓	61%	↑	83%	⇒	65%	⇒	59%
China	3	1	1	2	1	4	3	3	3	4	3	4	↓	4%	↓	43%	↓	80%	⇒	42%	⇒	89%
Eurozone	4	2	2	2	2	1	1	1	4	3	4	4	↓	84%	↓	81%	↓	92%	⇒	50%	⇒	37%
France	1	3	3	2	2	1	1	2	3	4	4	4	⇒	57%	↑	84%	↓	93%	↑	58%	⇒	34%
Germany	1	4	3	2	2	1	2	1	4	3	4	4	↓	82%	↓	78%	↓	89%	⇒	55%	⇒	62%
India	1	3	4	4	4	4	2	2	3	2	4	1	-	-	↑	69%	↓	45%	↓	25%	-	-
Indonesia	4	1	4	3	2	2	1	1	4	3	1	4	↑	4%	↓	43%	↑	59%	⇒	13%	⇒	5%
Italy	1	4	2	2	2	2	1	4	4	3	4	4	↓	66%	↓	82%	↓	80%	⇒	40%	⇒	16%
Japan	4	1	1	2	2	2	2	2	3	4	4	4	↓	74%	↓	69%	↓	75%	↑	75%	⇒	75%
Mexico	2	1	3	2	3	3	3	2	1	1	1	4	↓	19%	↑	32%	↑	36%	↓	88%	↓	78%
Russia	1	1	1	1	1	1	4	4	1	3	4	1	↓	45%	↑	28%	↓	66%	⇒	2%	⇒	2%
South Africa	3	1	1	2	1	1	4	1	4	3	2	4	↓	81%	↓	43%	↑	50%	↓	20%	↓	21%
South Korea	4	1	4	3	2	4	2	4	1	3	4	1	↑	58%	↑	29%	↓	84%	⇒	33%	⇒	6%
Turkey	3	1	3	1	2	2	1	3	4	3	4	4	↑	35%	↑	78%	↓	87%	↓	93%	↓	98%
United Kingdom	3	3	2	2	2	3	3	3	4	1	4	1	⇒	41%	⇒	79%	↓	46%	↓	64%	⇒	76%
United States	3	4	2	2	2	1	2	2	2	2/3	4	4	↓	81%	↑	71%	↑	96%	⇒	72%	⇒	45%
MODE/MEAN	1	1	1	2	2	1	1	2	4	3	4	4	↓	51%	↓	62%	↓	74%	⇒	46%	⇒	42%

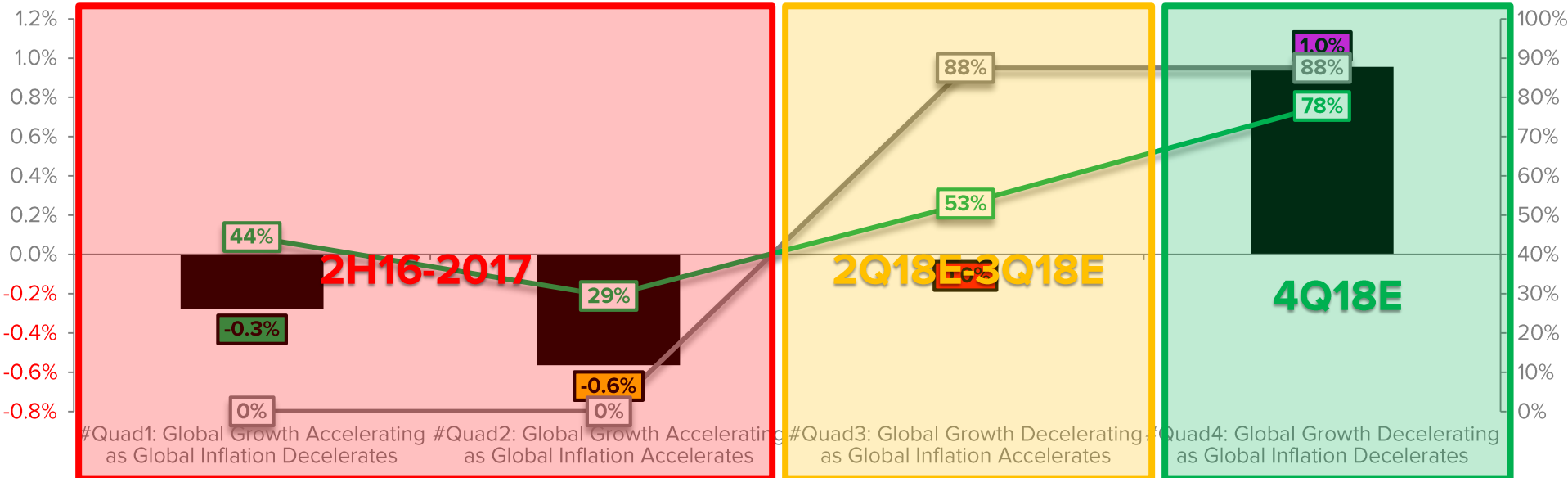
Data Source: Bloomberg, BIS, World Bank, IMF. Intellectual Property of Hedgeye Risk Management.

# U.S. DOLLAR GLOBAL GIP MODEL BACKTEST

AFTER 18+ MONTHS IN PURGATORY FROM THE PERSPECTIVE OF THE CAUSAL FACTORS THAT HAVE PERPETUATED THE DOLLAR'S CRASH TO MULTI-YEAR LOWS, THE GLOBAL ECONOMIC BACKDROP IS TRANSITIONING TO FAR LESS SUPPORTIVE STATE FOR A CONTINUED PLUNGE.

## U.S. Dollar Index

- Weighted Expected Value, by Hedgeye Macro GIP Quadrant
- Percentile of Expected Value, by Quadrant, across Asset Classes (rhs)
- Percent Positive Ratio (rhs)

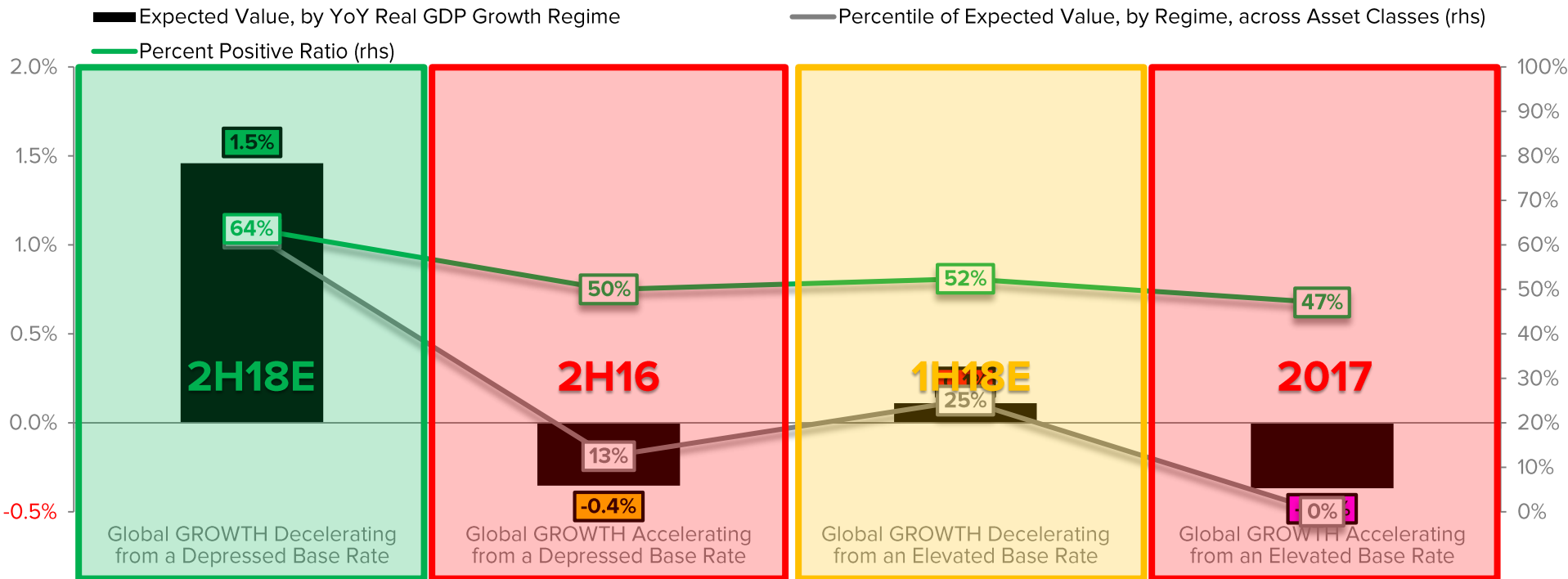


Asset classes include equities, fixed income, FX and commodities. Trailing 20Y. Observations weighted by the cumulative delta into the respective quadrant.

# “BUT GLOBAL GROWTH IS STILL GOOD”

FACTORING IN THE FACT THAT GLOBAL GROWTH IS DECELERATING FROM A CYCLICAL PEAK LEAVES US WITH A ECONOMIC REGIME THAT IS EQUALLY AS UNSUPPORTIVE FOR FURTHER DOLLAR DEBASEMENT.

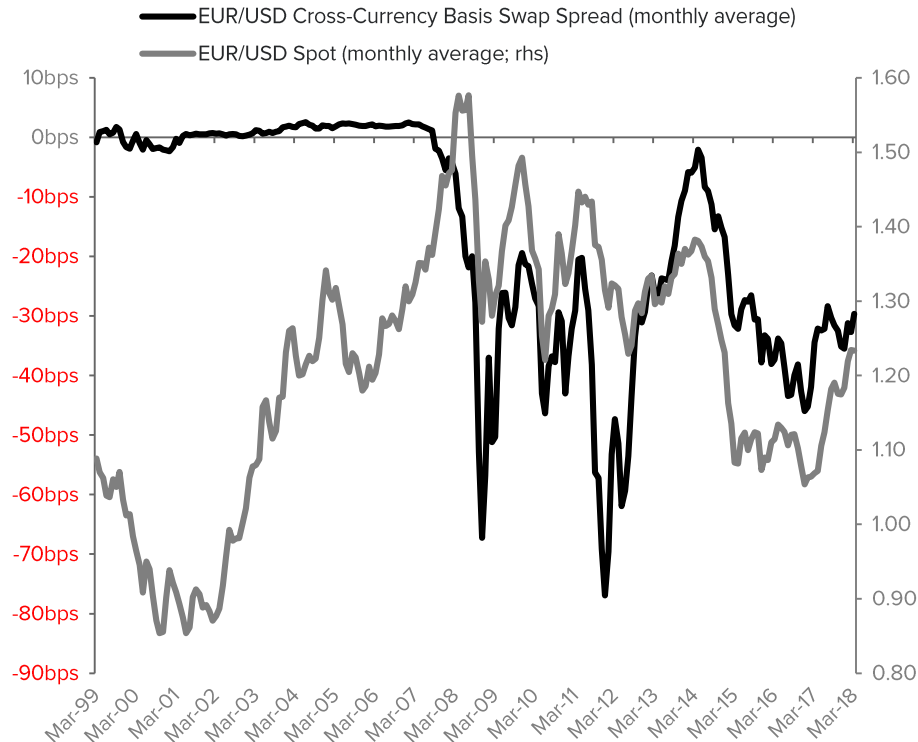
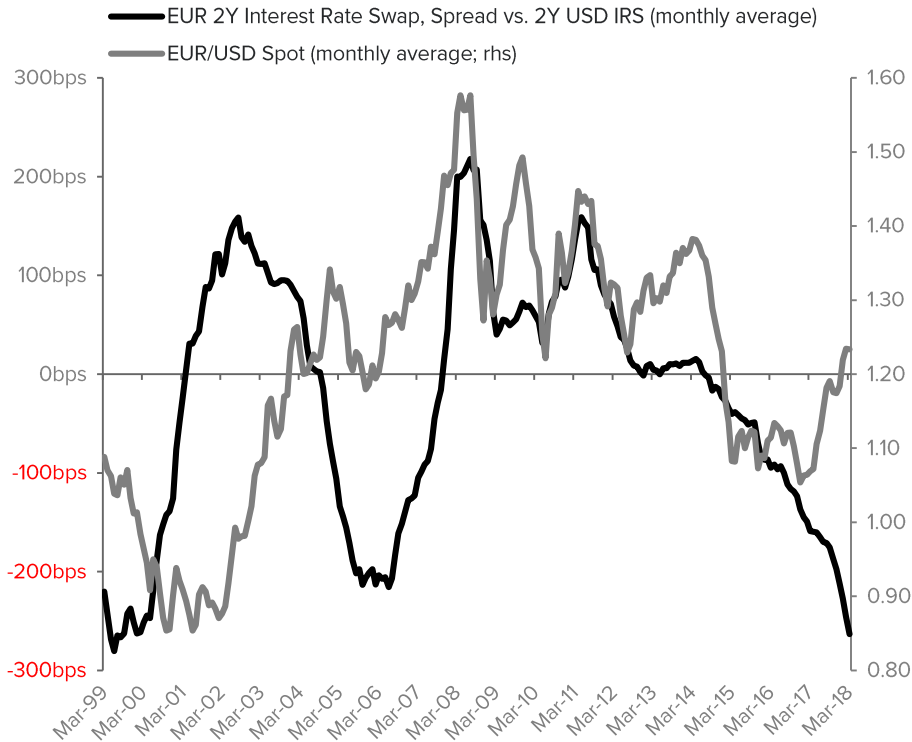
## U.S. Dollar Index



Asset classes include equities, fixed income, FX and commodities. Trailing 20Y. Observations weighted by delta into regime.

# THE CARRY TRADE IS DRIVING THE DOLLAR

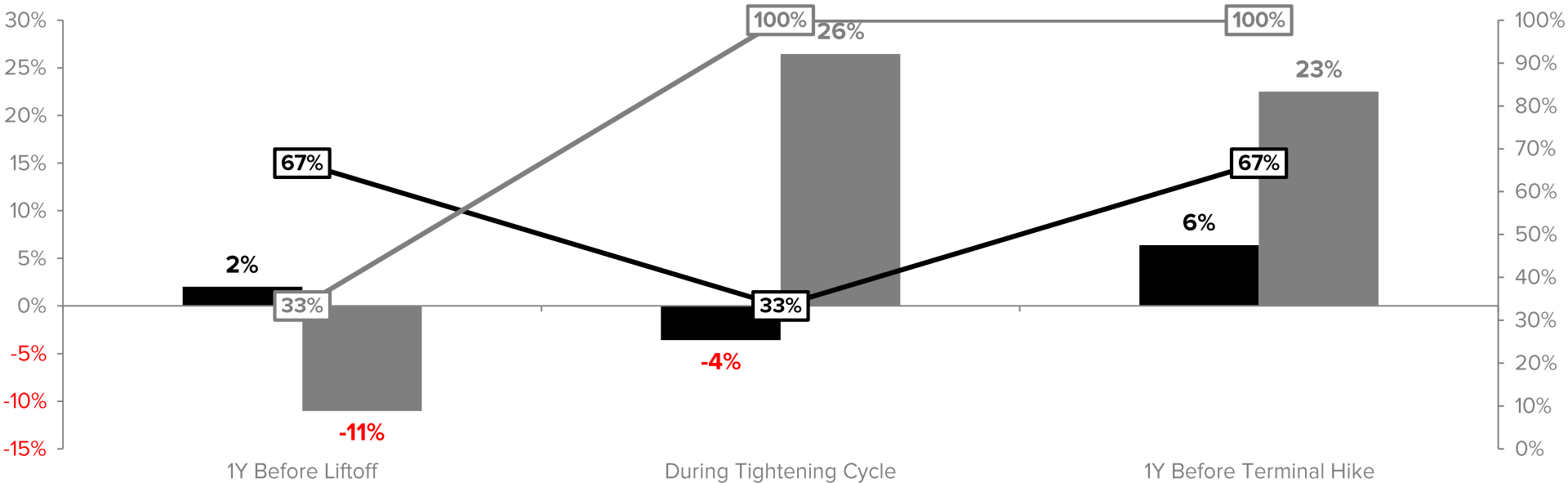
**RATHER THAN BEING MOTIVATED BY TRADITIONAL FACTORS SUCH AS INTEREST RATE DIFFERENTIALS, THE DOLLAR HAS BEEN OVERWHELMINGLY DRIVEN BY INVESTORS' PROPENSITY TO TAKE RISK IN RECENT YEARS. WE SUSPECT A CURTAILMENT IN THE SUPPLY OF DOLLAR CREDIT, AT THE MARGINS, AS GLOBAL GROWTH MOMENTUM INCREASINGLY LOSES STEAM IN REPORTED TERMS THROUGHOUT 2018.**



# ONE FINAL LEG HIGHER FOR THE USD?

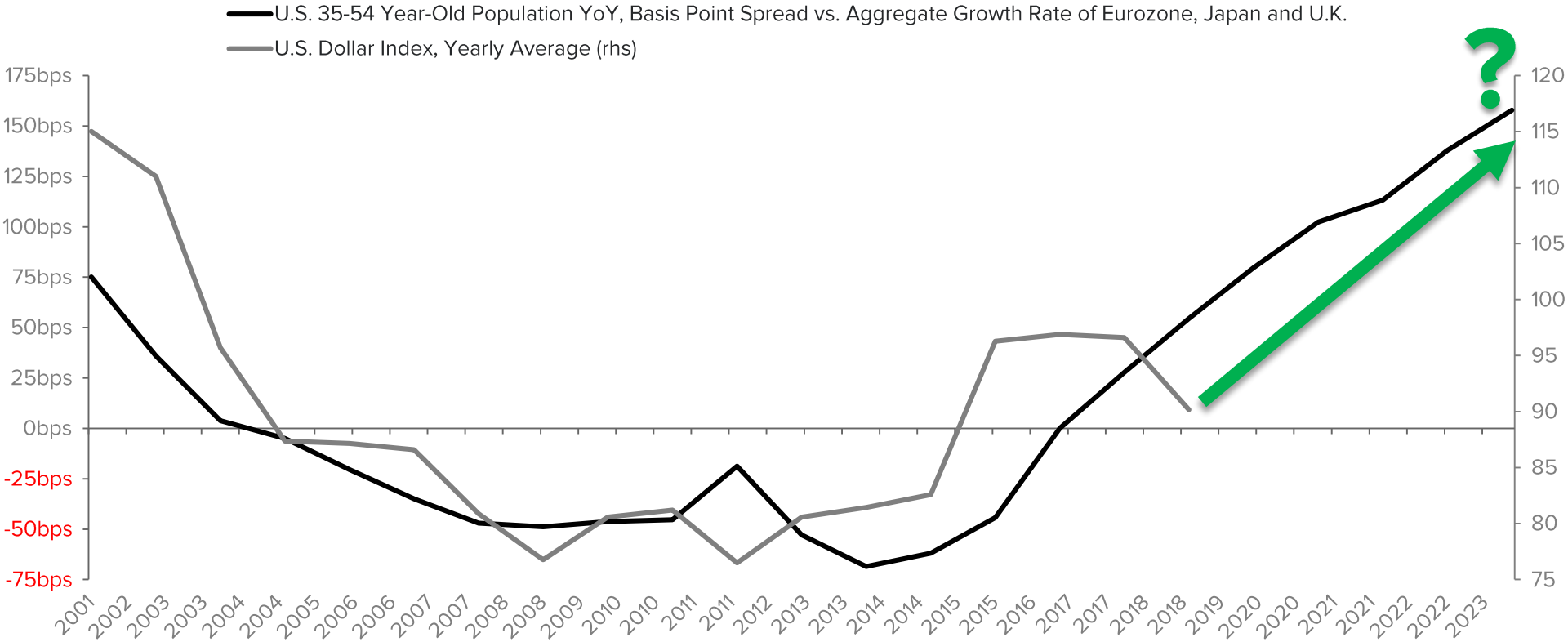
IF THE FED HAS PLENTY OF SCOPE TO CONTINUE TIGHTENING AS OUR CREDIT/DSR GAP ANALYSIS IMPLIES, THEN THE DOLLAR COULD BE SETTING UP FOR ONE FINAL LEG HIGHER – PARTICULARLY IN THE CONTEXT OF OUR GLOBAL #DIVERGENCES THEME.

- Median Percentage Change of the U.S. Dollar Index During Prior Six Fed Rate Hike Cycles
- Median Percentage Change of the U.S. 10Y Treasury Yield During Prior Six Fed Rate Hike Cycles
- Percent Positive Ratio (U.S. Dollar Index)
- Percent Positive Ratio (U.S. 10Y Treasury Yield)



# DEMOGRAPHICS ARE DOLLAR BULLISH

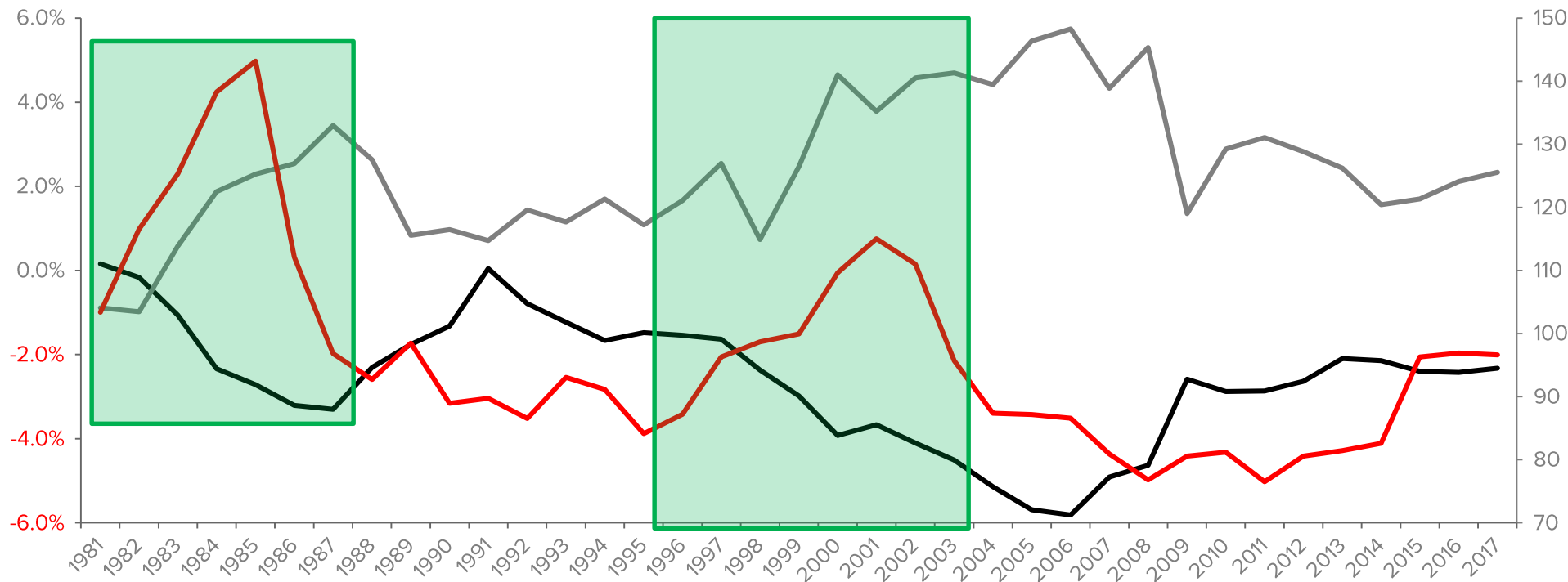
IF DEMOGRAPHY IS TRULY DESTINY, THE DEVELOPING “POLICY RATE CONVERGENCE” THEME WILL ULTIMATELY FAIL TO MATERIALIZE AND THIS OUTCOME IS NOT CURRENTLY BEING DISCOUNTED IN FORWARD MARKETS.



# EXERCISING EXORBITANT PRIVILEGE

THE U.S. DOLLAR REMAINS THE WORLD'S PRIMARY RESERVE CURRENCY AND U.S. TREASURIES REMAIN THE WORLD'S PRIMARY RESERVE ASSET, WHICH MEANS IF THE U.S. NEEDS CAPITAL, IT GETS CAPITAL. THE DOLLAR HAS HISTORICALLY LED MEANINGFUL CHANGES IN THE CAPITAL ACCOUNT AS A RESULT.

— U.S. Current Account Balance as a % of GDP — U.S. Financial Account Balance as a % of GDP — U.S. Dollar Index - Annual Average (rhs)



# THEMATIC INVESTMENT CONCLUSIONS



## TRADE (3 WEEKS OR LESS)

**LONGS:** Consumer Discretionary (XLY), Corn (CORN), Soybeans (SOYB), Int'l Long-Duration Sovereign Debt (BWX), U.S. Dollar (UUP)

**SHORTS:** Copper (JJC), Germany (DAX), European Financials (EUFN), Industrials (XLI), Emerging Market Equity Momentum (EEMO)



## TREND (3 MONTHS OR MORE)

**LONGS:** Consumer Discretionary (XLY; added 1/11/17)

**SHORTS:** Eurozone Equities (EZU; added 6/29/17)



## TAIL (3 YEARS OR LESS)

**LONGS:** U.S. Dollar (UUP; added 4/6/13)

**SHORTS:** Euro (FXE; added 7/7/15)

INSTITUTIONAL **INVESTORS** PLEASE CONTACT US FOR MORE INFORMATION:

**SALES@HEDGEYE.COM**

**203.562.6500**

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