2018 Portfolio Strategy Outlook

YE Target: 3,025

Sectors: OW I-C-R-A-P

Theme: Millennials, Inflation, Automation, Blockchain

2018 Technical Outlook: Rob Sluymer Report: Market Cycles - Cyclical Rotation	2018 Quantitative Outlook: Sam Doctor Report: Long Energy, Financial and Industrials

fundstrat

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We are constructive on stocks in 2018, driven by earnings growth of +13% and slight P/E expansion, supported by strong global growth (tempered by rising core inflation). **S&P 500 is forecast to reach 3,025 by YE18.**

- **2018 FORECAST: 2018/2019 EPS: $147/$160 (11%/9% growth y/y). Forward P/E expands to 18.9X vs 18.4X today (Slide 7)**

- **2017 REVIEW (Slide 5): 2017 Barbell of FANG + CRAP meaningfully outperformed S&P 500 by 530bp, while our Neutral-rated sectors (-1.6%, Industrials, Discretionary, Healthcare) and UW-rated (-9.9%, REITs, Staples, Utilities)**

- **2018 THEMES (summary Slide 8): We see 5 major themes in 2018: (i) Animal spirits driving upside to capex (Slide 35); (ii) Millennials entering prime income years (Slide 44); (iii) rising core inflation (Slide 18) and (iv) automation given structural labor shortage (Slide 54) and (v) blockchain (Slide 52).**

- **2018 SECTORS: Our OWs are Industrials, Tech (ex-FANG), Materials, Energy, Financials and Telecom/Media—acronym is ICRAP (same as 2017 + Industrials). We also upgrade Staples to N from UW on valuation adjustment (Slide 9).**

- **6 Risks (Slide 16): The 6 risks to our thesis are: (i) 10% correction but one is more likely in 2019; (ii) surge in inflation but only 10% chance; (iii) Global CB turn hawkish (inflation key); (iv) surge in rates (2.64% is key); (v) flattening long-term yield curve, 10bp key level; (vi) mid-term elections—2 seats for Republicans.**

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Overview

Forecast

Long-term bull market

Global growth accelerating

The Millennial tailwind

Technology and automation

Value style investing

Sectors: ICRAP

REVIEW: 2017 forecast, Market stronger, Sectors calls on target…

The S&P 500 was considerably stronger than our forecast, with the upside provided by P/E expansion.

- **We said 2017 would be about sectors and this indeed was the case. Our OW sector meaningfully beat N/UW.**

Figure: Review of Index and Sector forecasts
1/1/17 to now

	Fundstrat Forecast	Actual
Index Outlook: It's all about sectors		
S&P 500 Forecast	+2%	+19%
• **EPS forecast**	+9%	+12%
• **Forward P/E forecast**	-1.4X	+1.3X

S&P 500 upside was due to the expansion in the forward P/E from 16.9X to 18.2X. Earnings growth was impressive but not meaningfully stronger than our estimate.

Sector Strategy: "Barbell" of CRAP + FANG		2017 Performance relative to S&P 500
Overweights		
Overweights overall (cap-weighted)		+5.3%
FANG	+++	+27.3%
CRAP (C-Computers, aka old tech); R-Resources (Energy/Materials); A-American Banks and P-phone carriers	+++	+0.9%
Neutrals	=	-1.6%
Industrials, Consumer Discretionary, Healthcare		
Underweights	Negative	-9.9%
Real Estate, Staples and Utilities		

FANG + CRAP = 49% of the S&P 500.
We recommended a "barbell" strategy and this meaningfully outperformed the broader market.

Source: Fundstrat

REVIEW: “Barbell” beat the S&P 500 and N/UW sectors by *wide margin*

We recommended a barbell strategy throughout the year, favoring FANG and CRAP (acronym) and as shown below, the OW beat the N and UW.

- **Notably, our Neutral rated sectors also beat the UW sectors meaningfully.**

Figure: 2017 Performance of Fundstrat Sector Recommendations
Return relative to S&P 500

OW only 49% of S&P 500

Rating		Sector	Relative Return (vs S&P 500)		Market Value (@ 1/1/17)	
Overweight *Rating on 1/1/17*	C	*FANG*	$1,280,415	6%	27.3%	+27.3%
	C	Technology (ex-FB, GOOG)	$3,264,689	16%	16.0%	
	R	Basic Materials	$567,031	3%	2.0%	
	R	Energy	$1,478,066	7%	(23.2%)	
	A	Financials	$2,873,001	14%	0.6%	
	P	Telecom Services	$516,038	3%	(25.4%)	
		CRAP Composite	**$8,698,825**	**43%**	**0.9%**	+0.9%
Neutral *Rating on 1/1/17*		Industrials	$2,041,068	10%	(0.9%)	
		Consumer (ex-AMZN, NFLX)	$2,066,201	10%	(5.1%)	
		Health Care	$2,672,422	13%	0.6%	
		Neutral Composite	**$6,779,691**	**34%**	**(1.6%)**	-1.6%
Underweight *Rating on 1/1/17*		Real Estate	$574,687	3%	(12.3%)	
		Consumer Staples	$2,079,721	10%	(9.0%)	
		Utilities	$612,727	3%	(11.1%)	
		Underweight Composite	**$3,267,134**	**16%**	**(9.9%)**	-9.9%

Source: Fundstrat

REVIEW: Why P/E outperformed expectations… 2018 Forecast for P/E

We expected PE to contract in 2017, based on the five factors listed below. Instead, the S&P 500 P/E expanded last year.

- **As shown, the key factor, in our view, is that inflation actually fell, leading to upside in P/E.**

Figure: Impact on P/E from various external factors

Forecasts for 2017 were as of start of 2017. Forecasts for 2018 are as of 1/11/18.

	2017 Forecast… Fundstrat (on 1/1/17)	P/E Δ	Actual	P/E Δ	2018 Forecast… Fundstrat (on 1/11/18)	P/E Δ
Credit	The sharp flattening of 30Y/10Y yield curve flattening historically negative for equities	↓	**Inflation fell, leading to falling "term premia"**	↑	**Inflation fall in 2017, meaning CB remained dovish, especially ECB and BoJ. European High-yield rallied huge….**	↑
Central Banks	Fed expected to tighten, short-term headwinds	↓	**Global Central banks eased while Fed tightened**	↑	Global Central banks neutral from dovish…	↓
Seasonals	1st term of Presidential term sees drawdown	↓	Never happened	N/C	President is seen as "pro-business"	↑
Valuation	Median P/E near all-time high > 2000 and 2007	↓	**"stocks cheap vs bonds"**	↑	Market focused on "stocks cheap vs bonds"	↑
Relative Value	Market cap/ GDP are near all-time highs	↓	**"de-regulation" ignited animal spirits**	↑	Market focused on "de-regulation"	N/C

Source: Fundstrat

FORECAST: 2018 S&P 500 Target: 3,025, EPS growth and slight P/E gain

Our 2018 YE target is 3,025 for the S&P 500 based on 11%/9% EPS growth to $147/$160 and YE forward P/E of 18.9X (2019 EPS).

- **The 3,025 is driven primarily by EPS growth of 11% and forecasts the forward P/E to slightly expand to 18.9X in 2018 (from 18.4X currently).**

Figure: Fundstrat S&P 500 Target
Based on consensus EPS forecasts

		Level	Delta
S&P 500 Forecast	Start (12/31/17)	2,674	
	End (YE 2018)	**3,025**	**+13%**
EPS forecast	2017A	$132.00	
	2018E	$147.00	**+11%**
	2019E	$160.00	**+9%**
Forward P/E forecast (Yr+1)	Current ('18E P/E)	18.4X	
	Target ('19E P/E)	18.9X	**+0.5X**

Source: Fundstrat

FORECAST: Themes… Millennials, Inflation, Automation and Blockchain

We have identified 5 themes for 2018 (a few are connected) and these drive our sector outlooks in 2018.

- **We have highlighted styles and sectors that are positively leveraged to each theme. In short, we favor Value (over Growth) and Cyclicals (ICRAP, acronym).**

Figure: Value Stocks that are quantitatively attractive
Based on stocks being ranked as quintile 1 in the DQM Model

		Value	Growth	Industrials	Technology	Materials	Energy	Financials	Telecom/ Media	FANG	Discretionary	Staples	Healthcare	REITS/Utilities
				I	C	R	R	A	P					
		OW	N	OW	OW	OW	OW	OW	OW	N	N	N	N	UW
1. Animal spirits rising	*Capex rising*	+		++	++	++	++	+	+	+				
2. Millennials	*Buying homes + cars Hitting prime income*	+		+	++	++		+						
3. Inflation/ Higher interest rates	*Core PCE rising*	++	--	+	+	++	++	++	+	-				--
4. Automation	*Major shortage of labor*	+		+	++			+			-			
5. Blockchain	*Blockchain innovation*				++			++	++					+

Source: Fundstrat

FORECAST: Sector recommendations, favor ICRAP. Staples to N from UW

We are making a few changes to our recommendations for 2018. Given a better economic outlook globally, investors should focus on groups leveraging higher growth rates.

- **We upgraded Industrials in December 1, 2017 and our OW are ICRAP (see below). We also moved Staples to N from UW given the more attractive valuations.**

Figure: Fundstrat Sector Recommendations
2017 and 2018

	2017 Recommendations	2018 Recommendations	
Overweight	FANG	I Industrials	Upgraded on 12/1/17. Capex rising.
	C Computers (Tech ex-FANG)	C Computers (Tech ex-FANG)	Beneficiaries of de-regulation, higher inflation and accelerating global GDP growth.
	R Resources (Energy/Materials)	R Resources (Energy/Materials)	
	A American-based Banks	A American-based Banks	
	P Phone carriers	P Phone carriers (and cable)	Net Neutrality is positive.
Neutrals	Industrials	FANG	Downgraded on 12/15/17—track EPS
	Discretionary (ex-AMZN, NFLX)	Discretionary (ex-AMZN, NFLX)	Benefits from tax cuts.
	Healthcare	Healthcare	
		Consumer Staples	Valuation makes this group a neutral
Under-weight	Real Estate	Real Estate	Rising rates headwind.
	Consumer Staples	Utilities	Rising rates headwind, but blockchain positive.
	Utilities		

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OW Value: 25 stocks that are quantitatively attractive; 25 avoid ideas

We favor Value in 2018 and have identified the 25 stocks that are in the Russell 1000 Value Index and quantitatively attractive, as well as 25 avoid ideas, based on the Fundstrat Doctor Quant Model

- **We further screened ideas based on the z-scores of P/B, LTM P/E, EBIT margin, asset turnover, last 90 day volatility and Debt to EBITDA**
- **We also ranked stocks on the ratio of dividend to FCF yield, EPS growth, EBIT margin, ROE, ROAS, Asset Turns and Volatility**

Figure: Russell 1000 Value Stocks that are quantitatively attractive

Based on stocks being ranked as quintile 1 in the DQM Model

Long

	I	C	R	R	A				P	
Discretionary	**Industrials**	**Technology**	**Materials**	**Energy**	**Financials**	**Real Estate**	**Staples**	**Healthcare**	**Telcos/Media**	**Utilities**
CCL MHK RCL TWX	CAT CSL IEX RTN SWK WM	MSI		HAL OXY XEC	AMG AMP BLK TROW		CL KMB WBA	AMGN BIIB BMY DHR		

Figure: Russell 1000 Value Stocks that are quantitatively unattractive

Based on stocks being ranked as quintile 5 in the DQM Model

Short

	I	C	R	R	A				P	
Discretionary	**Industrials**	**Technology**	**Materials**	**Energy**	**Financials**	**Real Estate**	**Staples**	**Healthcare**	**Telcos/Media**	**Utilities**
LVNTA MAT LBRDK FWONA	FLS JCI TRN		MOS	NBR RIG WLL BHGE		TCO CXP CLNS HTA MAC	RAD COTY CASY KR	OPK AGIO	CTL	NRG

Source: Fundstrat

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Sectors OW: ICRAP, 66 stocks that are quantitatively attractive

As noted, we favor Cyclicals in 2018, with the 6 OW sectors shown below (acronym: ICRAP).

- **We have identified the 66x stocks in these 6 sectors that are quantitatively attractive on the Fundstrat Doctor Quant Model.**

Figure: ICRAP Stocks that are quantitatively attractive
Based on stocks being ranked as quintile 1 in the DQM Model – Highlighted ideas are in our long value screen (Slide 62)

I Industrials		C Technology		R Materials		R Energy		A Financials		P Telecoms/ Media	
Growth	Value	Growth	Value	Growth	Value	Growth	Value	Growth	Value	Growth	Value
BA	BA	ACN	IBM	APD	APD	CXO	CVX	**AMP**	AFL	CMCSA	
CAT	**CAT**	ADBE		NUE	LYB	EOG	CXO	AXP	**AMP**		
CMI	DE	ADP			NUE	**OXY**	EOG	**BLK**	AXP		
DE	EMR	FIS				PXD	MPC	CINF	**BLK**		
EMR	HON	GOOG				SLB	**OXY**	NTRS	CB		
FDX	MMM	IBM				**XEC**	PSX		CINF		
GWW	NSC	INTU					SLB		COF		
HON	**RTN**	KLAC					VLO		GS		
HRS	UNP	LRCX					**XEC**		MTB		
ITW		**MSI**					XOM		NTRS		
JBHT		TSS							PFG		
LMT		TXN							PNC		
MMM		V							RE		
NOC									STT		
ROK									TRV		
RTN									WFC		
UNP									WLTW		
UPS											

Source: Fundstrat

Comparative exposure to bitcoin and/or blockchain

● --highly levered
◕
◑
◔--modestly levered

Figure: Companies leveraged to Blockchain and Bitcoin
Sorted from greatest exposure to least

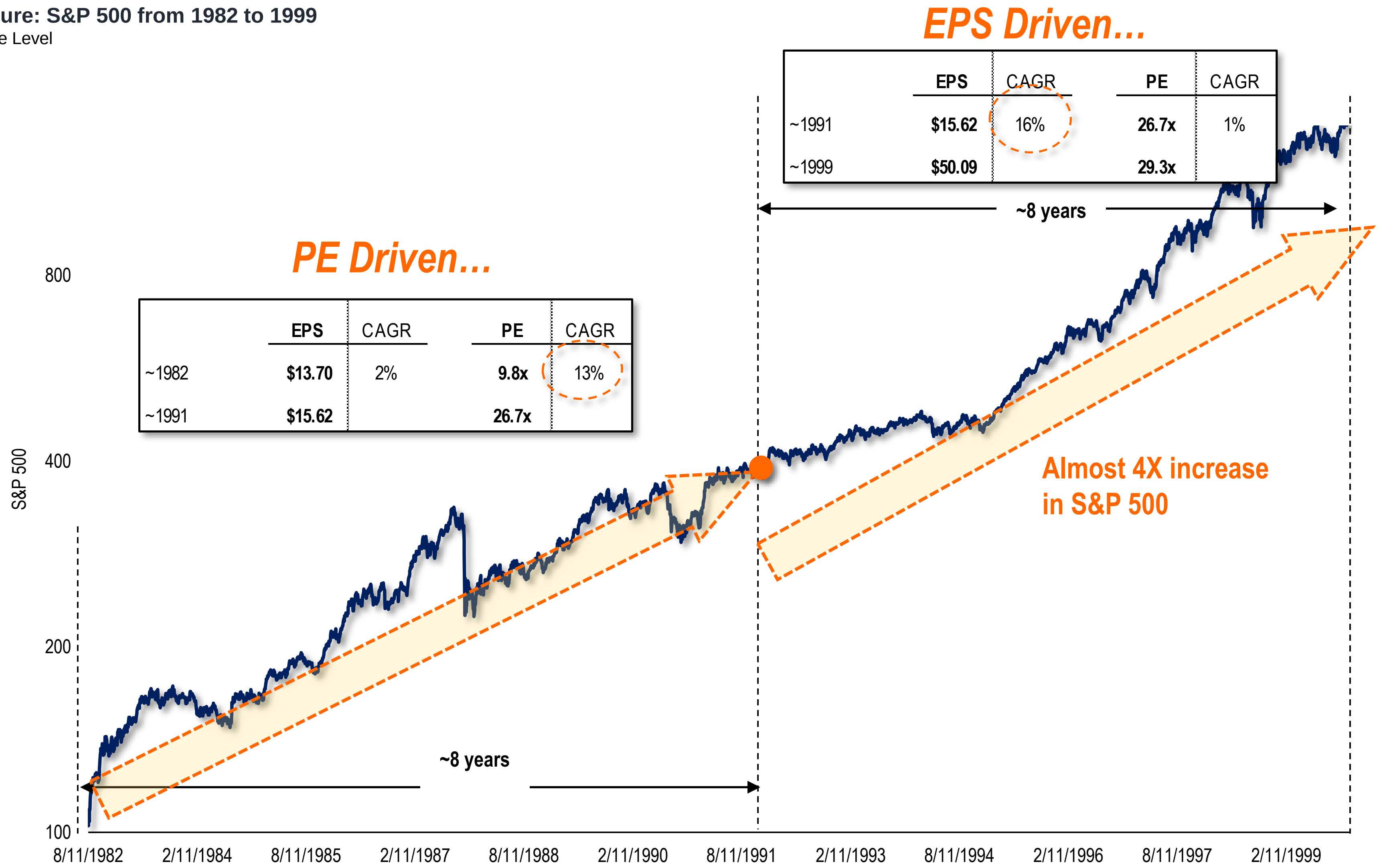
				Leverage to Crypto-currencies…			
Company	**Ticker**	**Price**	**Overall Crypto exposure**	**Price of Crypto**	**Transaction volume**	**Mining**	**Comments**
Bitcoin Investment Trust	GBTC		●	●			ETN with ownership of bitcoin
MGT Capital	MGTI		●			●	Crypto miner
Hive Blockchain Technologies	HIVE.CN		●			●	Crypto miner
US Global Investors	GROW		●			●	Leveraged stake in HIVE
DigitalX	DCC.AU		●		●		Advisory and research services
Nvidia	NVDA		◑			●	GPU card producer for mining tokens
AMD	AMD		◑			●	GPU card producer for mining tokens
CME Group	CME		◑	◔	●		Bitcoin derivatives
CBOE Options Exchange	CBOE		◑	◔	●		Bitcoin derivatives
Overstock	OSTK		◑	◑	◑		Medici Ventures and accepts BTC
Goldman Sachs	GS		◔	◔	◔	◔	Likely “first mover” IB in bitcoin
Square	SQ		◔		◔		Allows BTC bought/sold. Accepts BTC

Source: Fundstrat, Bloomberg

FORECAST: EPS growth over P/E beyond 2018 lot like 1991-1999…

Despite cautious sentiment, the S&P 500 managed to rise by 271% from 1991 to 1999. **P/E expanded to 29X slightly, but the engine for growth was EPS, which expanded from $16 to $50.**

Figure: S&P 500 from 1982 to 1999
Price Level



	EPS	CAGR	PE	CAGR
~1982	$13.70	2%	9.8x	13%
~1991	$15.62		26.7x	

	EPS	CAGR	PE	CAGR
~1991	$15.62	16%	26.7x	1%
~1999	$50.09		29.3x	

Source: Fundstrat, Bloomberg, Factset

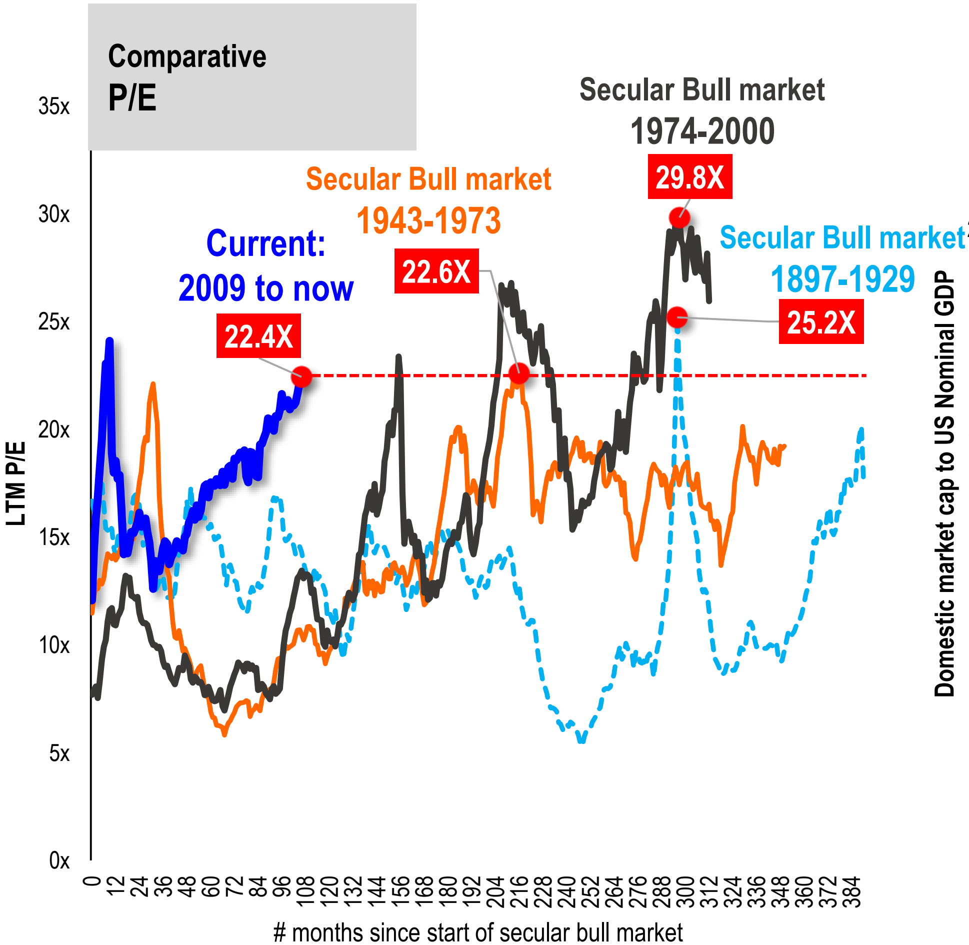
VALUATION: Current bull market near peak P/E and market cap/GDP

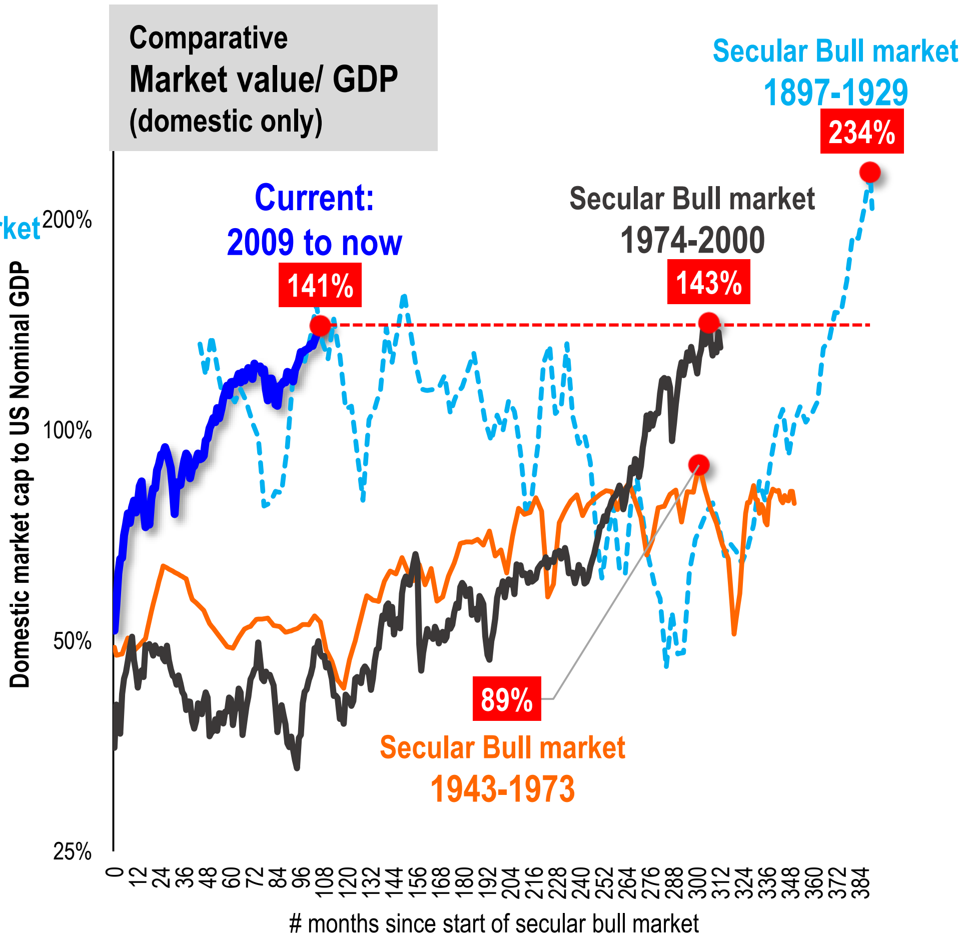
As for valuation, we have highlighted the valuations of the current market to precedent bull markets (see below).

- **As shown, the current valuation is near highs and thus, earnings and economic growth (nominal) are key.**

Figure: Comparative valuation current bull market versus prior bull markets

1929 to now. 3 precedent bull markets: 1897-1929. 1943-1973. 1974-2000





Source: Fundstrat

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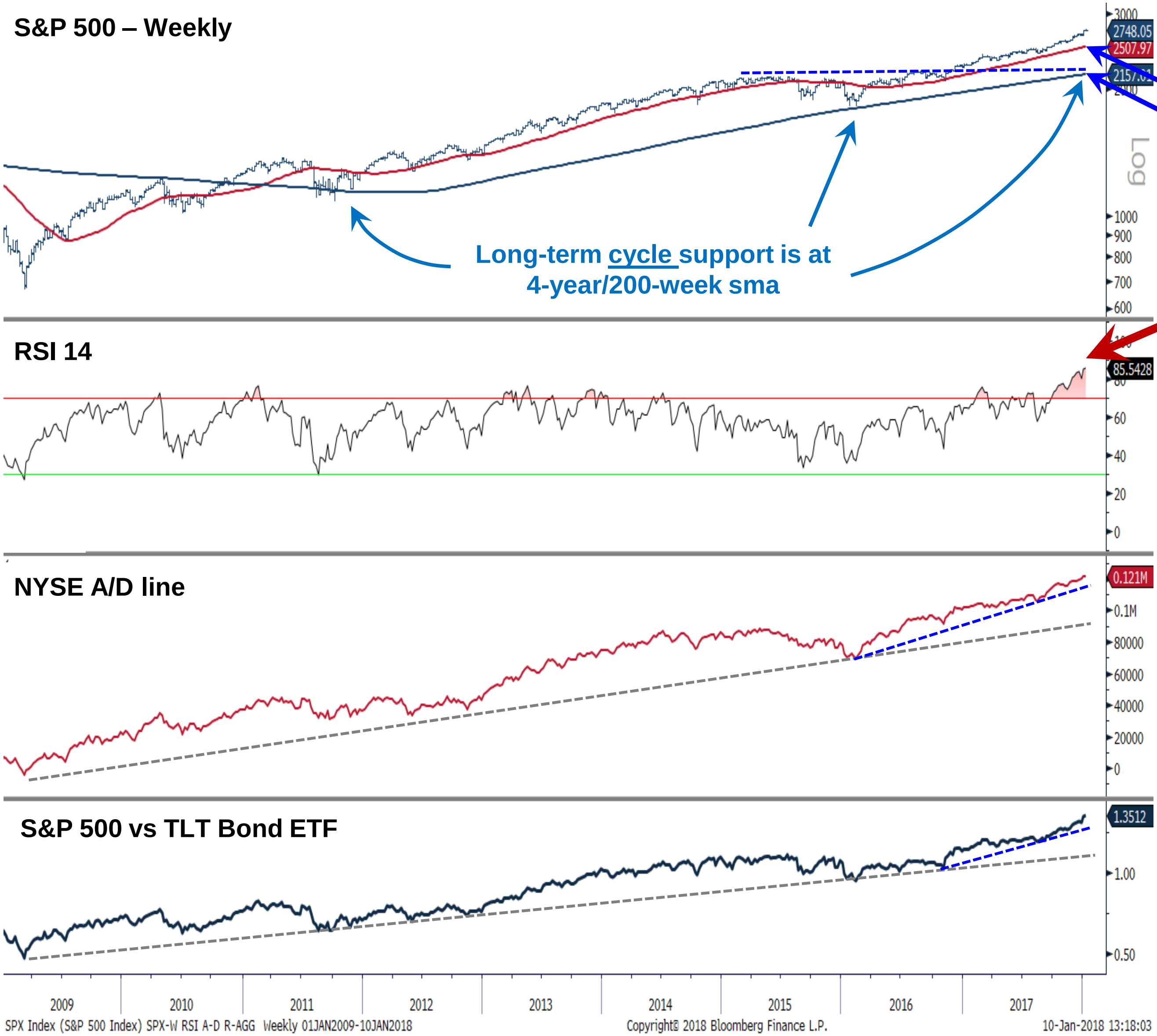
S&P 500 – Intermediate-term momentum

Price, Breadth and Relative Performance to Bonds (TLT) trends remain intact with no evidence of deteriorating yet BUT weekly momentum (RSI) is overbought and at risk of peaking in Q1



The S&P's price trend remains intact
Key cycle support/risk levels
1) 200-dma (~2500 -9%)
2) 2016 highs (2193) -20% near long-term support at the 200-week sma.

Concern/Risk
Weekly Momentum (RSI) has moved into overbought. While high momentum readings are common in strong uptrends, this data suggest waiting for better tactical entry points to deploy new capital.

NYSE Cumulative A-D Line
Despite high momentum reading, breadth is not showing evidence of deteriorating which often precedes major market declines. We would need to see breadth decay to shift to a more cautious stance.

Stocks versus Bonds
Similar to the A/D line there is no evidence that this trend is weakening to support a more defensive stance.

RISKS: Correction + Inflation + Central Banks + Interest rates

Multiple risks exist in 2018 but the 6 greatest risks, in our view, are highlighted below.

- **As shown, the risks primarily focus on the risk of inflation and its resulting impact on Fed, bond market and interest rates. Inflation needs to accelerate by >50bp in 2018 to be a risk.**

Figure: Key risks in 2018
Per Fundstrat

	Measure	Current	Key level	Comment
Correction of >10%	# days since a >10% decline	694 days	>900 days	This is the 10th longest period without a 10% decline. The 9th longest was 903 days.
Sharp increase Inflation	Core PCE YoY (BBG: PCE CYOY Index)	1.5%	>2.0%	This is the inflation metric the Fed targets. A move of ~50bp in a 12-month period is not common historically.
Global Central bank more hawkish than consensus	Forward guidance	Dovish	Neutral	Forward guidance is key
Interest rates rise quickly	US 10Y	2.47%	>2.65% >3.75%	2.65% confirmed LT trend reversal 3.75% is pre-2010 interest rates
Long-term Yield curve flattens	Delta 30Y less 10Y	32.5bp	=10bp	Yield curve has an enviable record of predicting recessions (when it inverts) but falling below 10bp is ominous.
Mid-term elections	Republican control of Senate: House:	51/100 248/435	-2 -31	Senate: 8 Rep.; 24 Dem. seats; 2 Ind. in 2018 House: entire House seeks re-election

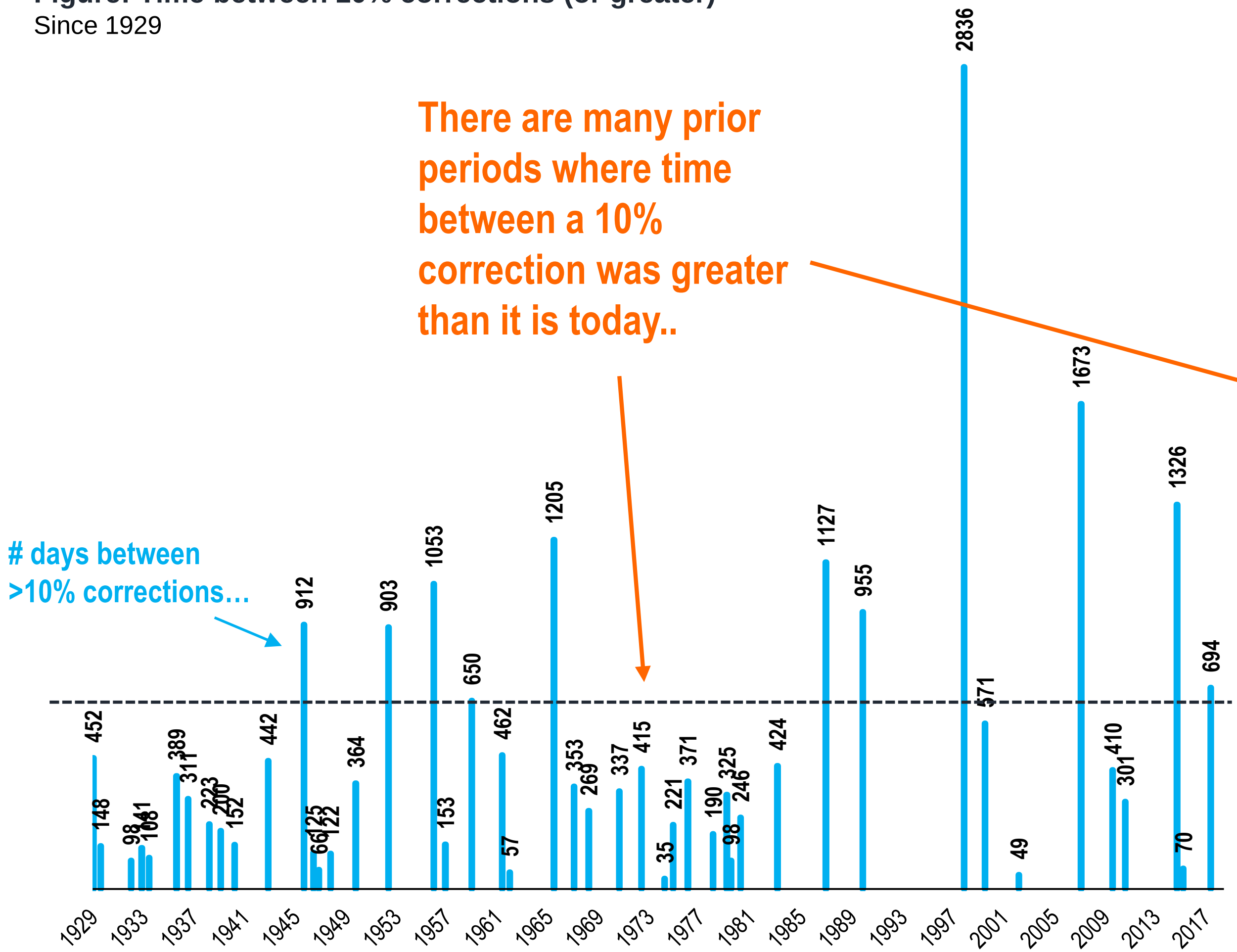
Source: Fundstrat

Correction: Risk of a 10% drawdown not that high in 2018…

It has 694 days since the last 10% correction (in 2015) and while this may seem like a long periods, as shown below, there have been many instances where such a drawdown was even further away.

- **As shown on the table on the right, this ranks as only the 10th longest stretch between 10% corrections. While a correction of less than 10% would be painful, the fact we have not seen a 10% is not that unusual.**

Figure: Time between 10% corrections (or greater)
Since 1929



	Dates…			S&P 500 Level		
	Trough	Peak	Days	Trough	Peak	Return
1	10/11/1990	7/17/1998	2836	295.5	1,186.8	301.7%
2	3/11/2003	10/9/2007	1673	800.7	1,565.2	95.5%
3	10/3/2011	5/21/2015	1326	1,099.2	2,130.8	93.8%
4	10/23/1962	2/9/1966	1205	53.5	94.1	75.8%
5	7/24/1984	8/25/1987	1127	147.8	336.8	127.8%
6	9/14/1953	8/2/1956	1053	22.7	49.7	119.0%
7	12/4/1987	7/16/1990	955	223.9	369.0	64.8%
8	11/29/1943	5/29/1946	912	11.0	19.3	75.2%
9	7/17/1950	1/5/1953	903	16.7	26.7	59.8%
10	2/11/2016	1/7/2018	696	1,829.1		
11	10/22/1957	8/3/1959	650	39.0	60.7	55.7%
12	8/31/1998	3/24/2000	571	957.3	1,527.5	59.6%
13	9/28/1960	1/3/1962	462	52.5	71.1	35.5%
14	6/12/1928	9/7/1929	452	18.3	31.9	74.0%
15	4/28/1942	7/14/1943	442	7.5	12.6	69.2%
16	8/12/1982	10/10/1983	424	102.4	172.7	68.6%
17	11/23/1971	1/11/1973	415	90.2	120.2	33.4%
18	3/9/2009	4/23/2010	410	676.5	1,217.3	79.9%
19	3/14/1935	4/6/1936	389	8.1	15.5	92.4%
20	9/16/1975	9/21/1976	371	82.1	107.8	31.4%
21	6/13/1949	6/12/1950	364	13.6	19.4	43.2%
22	10/7/1966	9/25/1967	353	73.2	97.6	33.3%
23	5/26/1970	4/28/1971	337	69.3	104.8	51.2%
24	11/14/1978	10/5/1979	325	92.5	111.3	20.3%
25	4/29/1936	3/6/1937	311	13.5	18.7	38.1%

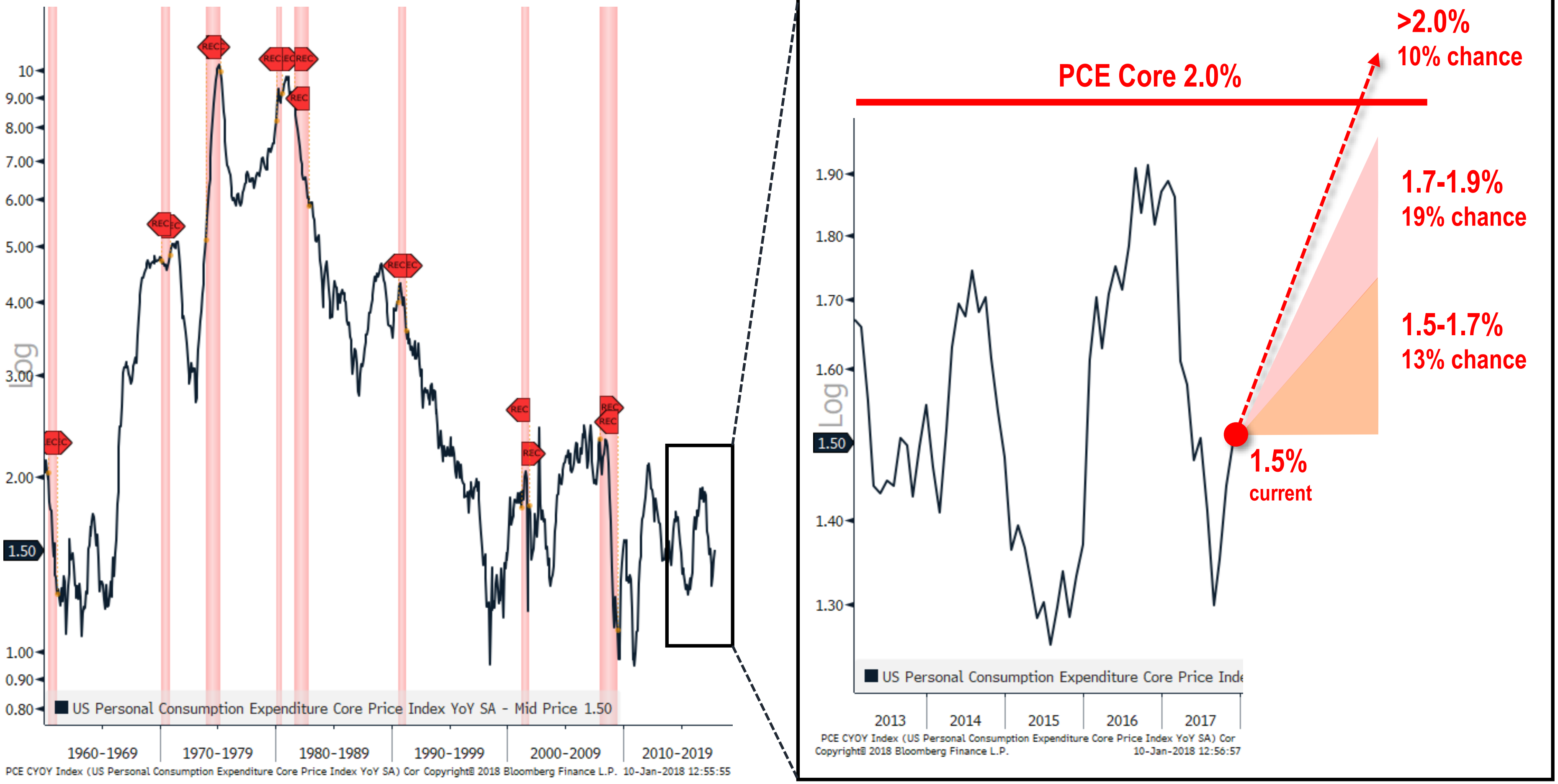
Source: Fundstrat

Inflation: Core inflation to rise, but magnitude is key question

Inflation is set to rise in 2017 but the key question is how quickly can core PCE inflation rise to 2.0% (Fed target).

- **Core PCE tends to be anchored and slower moving (dipped in 2017) and using historical data (since 1985), we have highlighted probabilities of inflation reaching the Fed target of 2.0% in 2018. It is only a 10% chance.**

Figure: Core PCE YoY
Since 1960



Source: Fundstrat

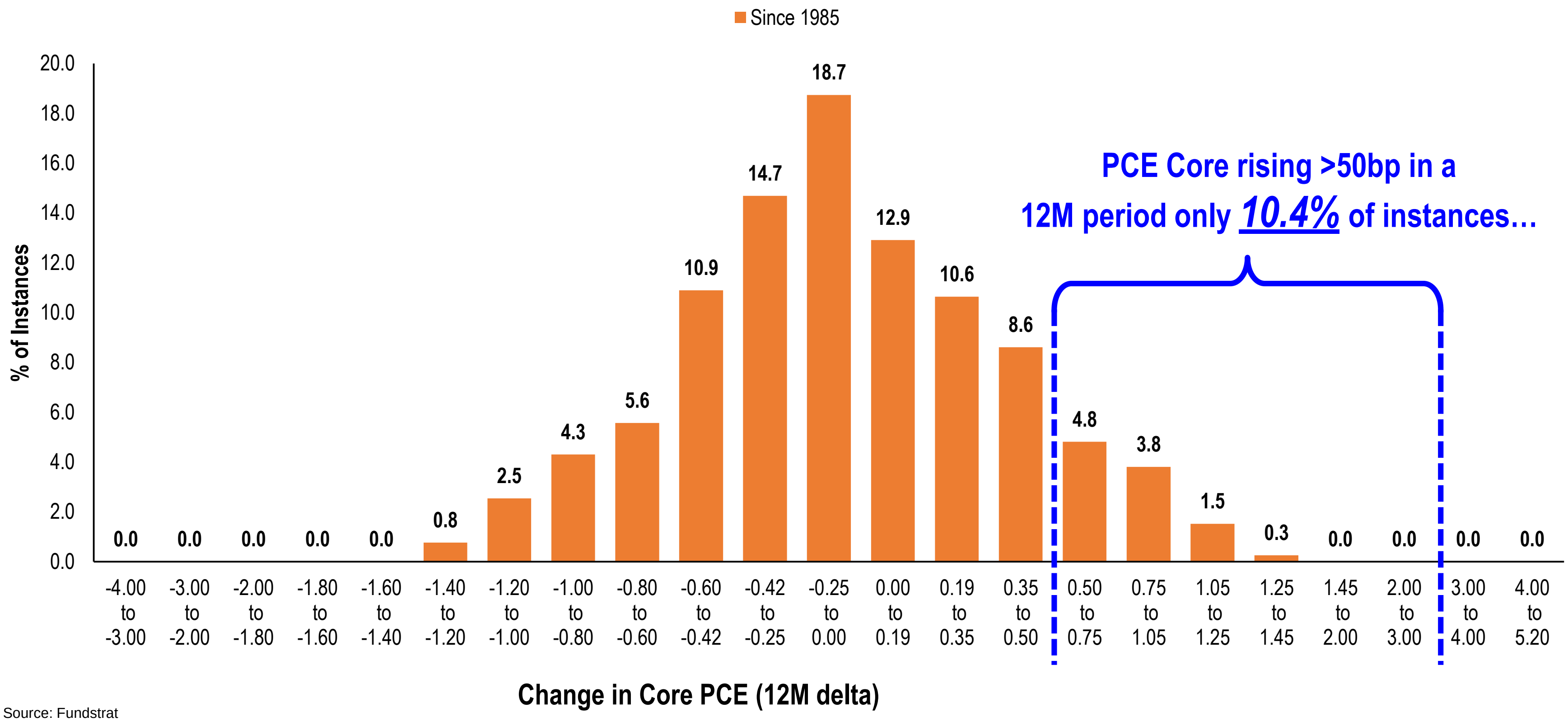
Fed target = 2.0% Core PCE. Only 10% chance happening in 2018…

Core inflation is currently 1.4% and the Fed's target is 2.0%, or 60bp above the current level of core PCE. The question is how quickly can core PCE rise in any 12-month period? JPMorgan's economist posited this question in 2017, looking at the period since 1985. We compiled our own version of this analysis—asking how quickly does core PCE change in any 12-month period.

- **As shown below, core PCE historically moves slowly—rising +/-25bp within any 12M period 70% of the time.**
- **As for moving >50bp (pushing it to Fed's target), this has only happened 10% of the time—meaning there is a 90% chance that the core inflation *is below* 2% in 2018.**

Figure: Probabilities of a specific change in PCE Inflation (12M) since 1985

Change in PCE YoY. Since 1985



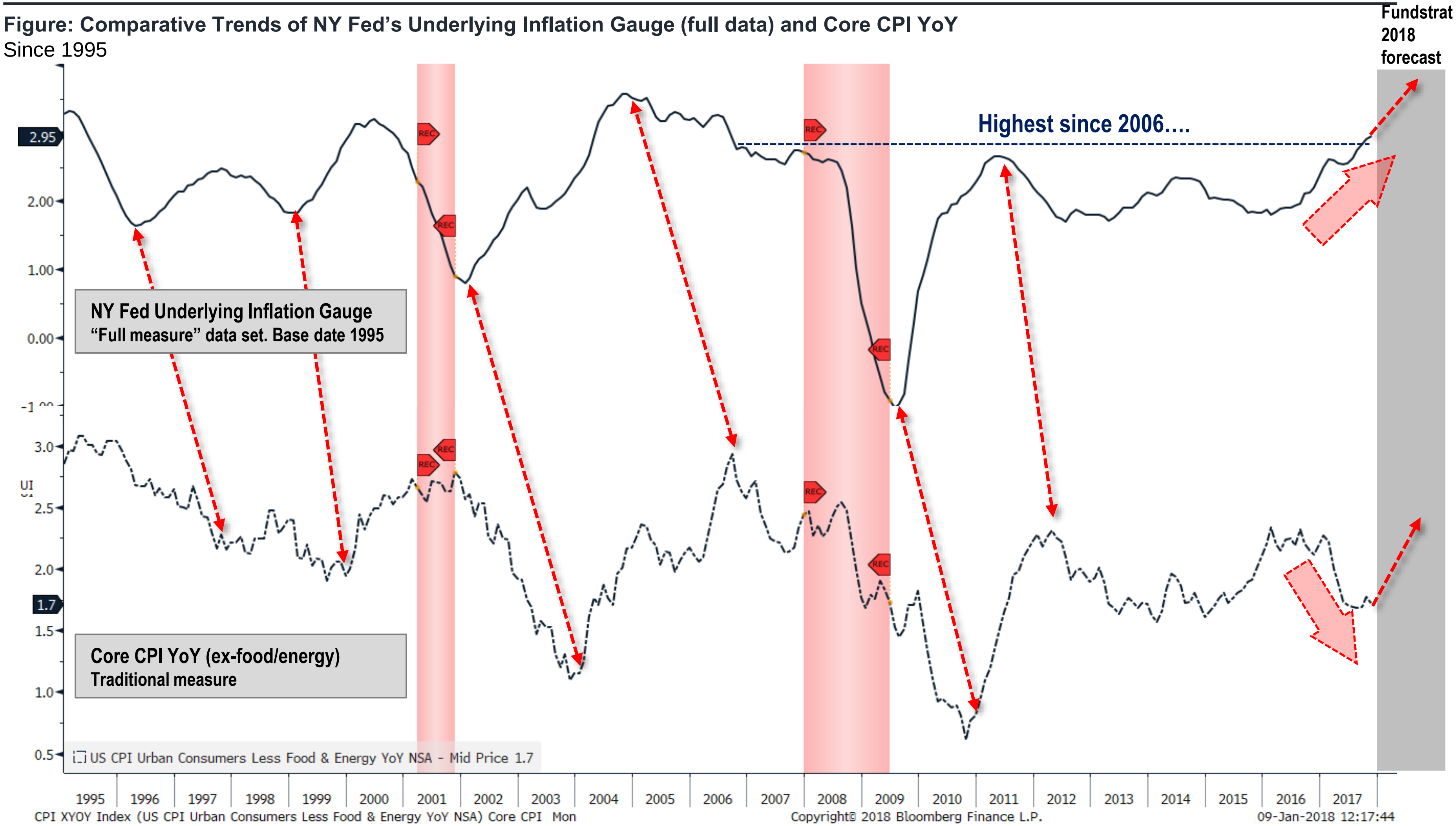
Source: Fundstrat

Inflation leading indicators rising… bodes well for the ***Value***

One "forward" inflation measure, proven to be "leading" for core CPI, is the Fed Underlying Inflation Gauge.

- **As shown below, this measure has risen to the highest reading since 2005 at 2.83%. While core CPI has diverged, as shown below, UIG has generally led turns in Core CPI by several quarters.**

Figure: Comparative Trends of NY Fed's Underlying Inflation Gauge (full data) and Core CPI YoY
Since 1995



Source: Fundstrat, Bloomberg

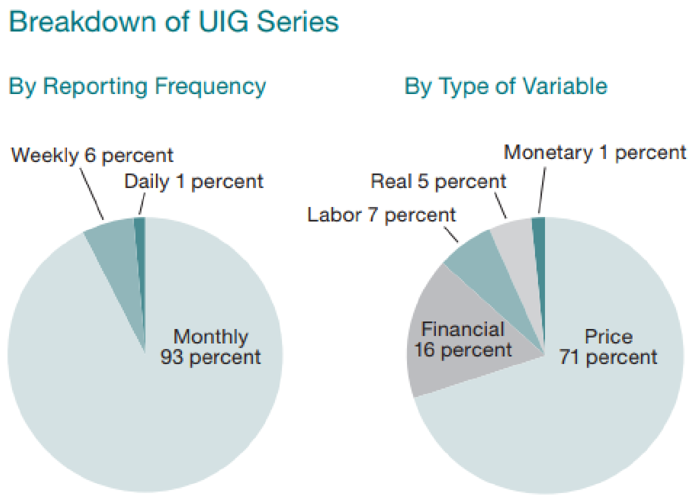
Inflation: The UIG incorporates faster moving data

The NY UIG looks at the persistent components of monthly inflation and adds data and components that are upgraded more frequently.

- **As shown on the chart on the right, financial components comprise 16% of the variables and these are not normally incorporated into CPI/PCE. The 57 Financial market variables are shown on the bottom of the table.**

Figure: Components of UIG

As described Marlene Amstad, Simon Potter, and Robert Rich, authors



The design of the UIG is based on the premise that movements in underlying inflation are accompanied by related persistent changes in other economic and financial series. Specifically, the UIG is defined as *the persistent common component of monthly inflation*. Consequently, we examine a large data set and apply modern statistical techniques to extract a small number of "factors" that capture the common fluctuations in the series. The data set includes disaggregated price data as well as a wide range of nominal, real, and financial variables. The statistical techniques, known as dynamic factor models, provide a very tractable framework in which to use large information sets, with the extracted factors serving as the basis to construct the UIG.

Financials

1. Cash price: gold bullion, London commodity price, PM Fix (US$/troy oz)
2. Gold: London PM Fix (US$/troy oz)
3. Gold spot ($/oz) NSA
4. Spot commodity price—West Texas Intermediate crude oil, Cushing OK
5. Federal funds effective rate
6. 3-month Treasury bill rate coupon equivalent
7. 6-month Treasury bill rate coupon equivalent
8. 1-year Treasury bill yield at constant maturity (% p.a.)
9. 5-year Treasury note yield at constant maturity (% p.a.)
10. 7-year Treasury note yield at constant maturity (% p.a.)
11. 10-year Treasury note yield at constant maturity (% p.a.)
12. LIBOR Eurodollar 11 A.M. Fixing 1 month
13. LIBOR Eurodollar 11 A.M. Fixing 3 month
14. LIBOR Eurodollar 11 A.M. Fixing 6 month

Financials (*continued*)

15. LIBOR Eurodollar 11 A.M. Fixing 9 month
16. LIBOR Eurodollar 11 A.M. Fixing 1 year
17. Spot price (euro/$) (Revised backwards)
18. Spot price (GBP/$)
19. Spot price (yen/$)
20. Spot Price (Swiss franc/$)
21. Board Narrow Nominal Effective Exchange Rate Index: United States (2000 = 100)
22. Board Broad Nominal Effective Exchange Rate: United States (2000 = 100)
23. Bank credit: all commercial banks (NSA, billions $)
24. Total revolving U.S. consumer credit outstanding
25. Total non-revolving U.S. consumer credit outstanding
26. Securities in bank credit: all commercial banks (NSA, billions $)
27. U.S. government securities in bank credit: all commercial banks (NSA, billions $)
28. Real estate loans in bank credit: all commercial banks (NSA, billions $)
29. Commercial and Industrial loans in bank credit: All commercial banks (NSA, billions $)
30. Consumer loans in bank credit: All commercial banks (NSA, billions $)
31. Moody's seasoned Aaa corporate bond yield (% p.a.)
32. Moody's seasoned Baa corporate bond yield (% p.a.)
33. Merrill Lynch High Yield Master II yield
34. New York Stock Exchange Composite Index
35. New York Stock Exchange total volume
36. Standard and Poor's 500 Price Earnings Ratio Index
37. Dow Jones Industrial Average
38. Dow Jones Wilshire 5000 Composite Index Full Cap
39. Light Sweet Crude Oil Futures Price: 1st exp contract nearby settlement (EOP, $/bbl)
40. Light Sweet Crude Oil Futures Price: 3 month contract settlement (EOP, $/bbl)
41. Light Sweet Crude Oil Futures Price: 6 month contract settlement (EOP, $/bbl)
42. No 2 Heating Oil Futures Price: 1st exp contract nearby settlement (EOP, $/gal)
43. No 2 Heating Oil Futures Price: 3 month contract settlement (EOP, $/gal)
44. No 2 Heating Oil Futures Price: 6 month contract settlement (EOP, $/gal)
45. Unleaded gasoline futures price: 1st exp contract nearby settlement (EOP, $/gal)
46. Unleaded Gasoline Futures Price: 3 month contract settlement (EOP, $/gal)
47. New York Harbor Conventional Gasoline Regular Spot Price FOB (EOP cents/gal)
48. Gas Oil Futures Price: 1st exp contract nearby settlement (EOP, $/metric ton)
49. Unleaded Premium Gasoline Price, NY gal (EOP, $/gal)
50. Unleaded Gas, Regular, Non-Oxygenated: NY (EOP, $/gal)
51. Natural Gas Price, Henry Hub, LA ($/mmbtu)

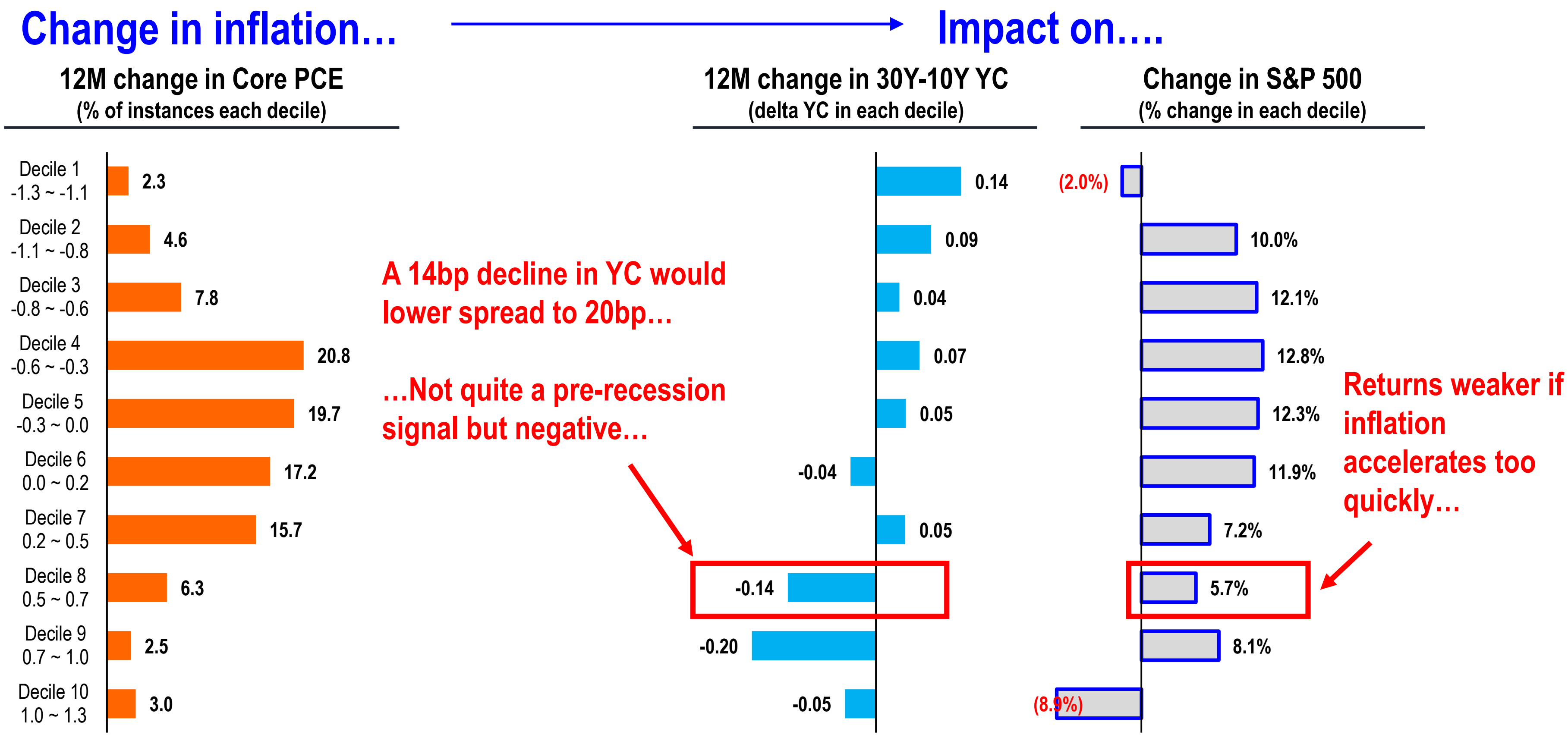
Source: Fundstrat. https://www.newyorkfed.org/medialibrary/media/research/epr/2017/epr_2017_underlying_inflation_rich.pdf

Risk: If inflation surges, *flattens* Yield curve and *headwind* for stocks

A rise in inflation of 50bp or more is a headwind for equities—hence, a surge in inflation is a risk to our thesis.

- **As show below, if inflation rises greater than 50bp in any 12M period, it is a headwind for equities, and also leads to a flattening yield curve.**
- **It could be different this time, given the concerns about the lack of inflation (and hence, low inflation premia), so a rise in inflation could lead to a steepening.**

Figure: Comparative analysis of a rise in core inflation and historical impact on yield curve and S&P 500 returns
Since 1985



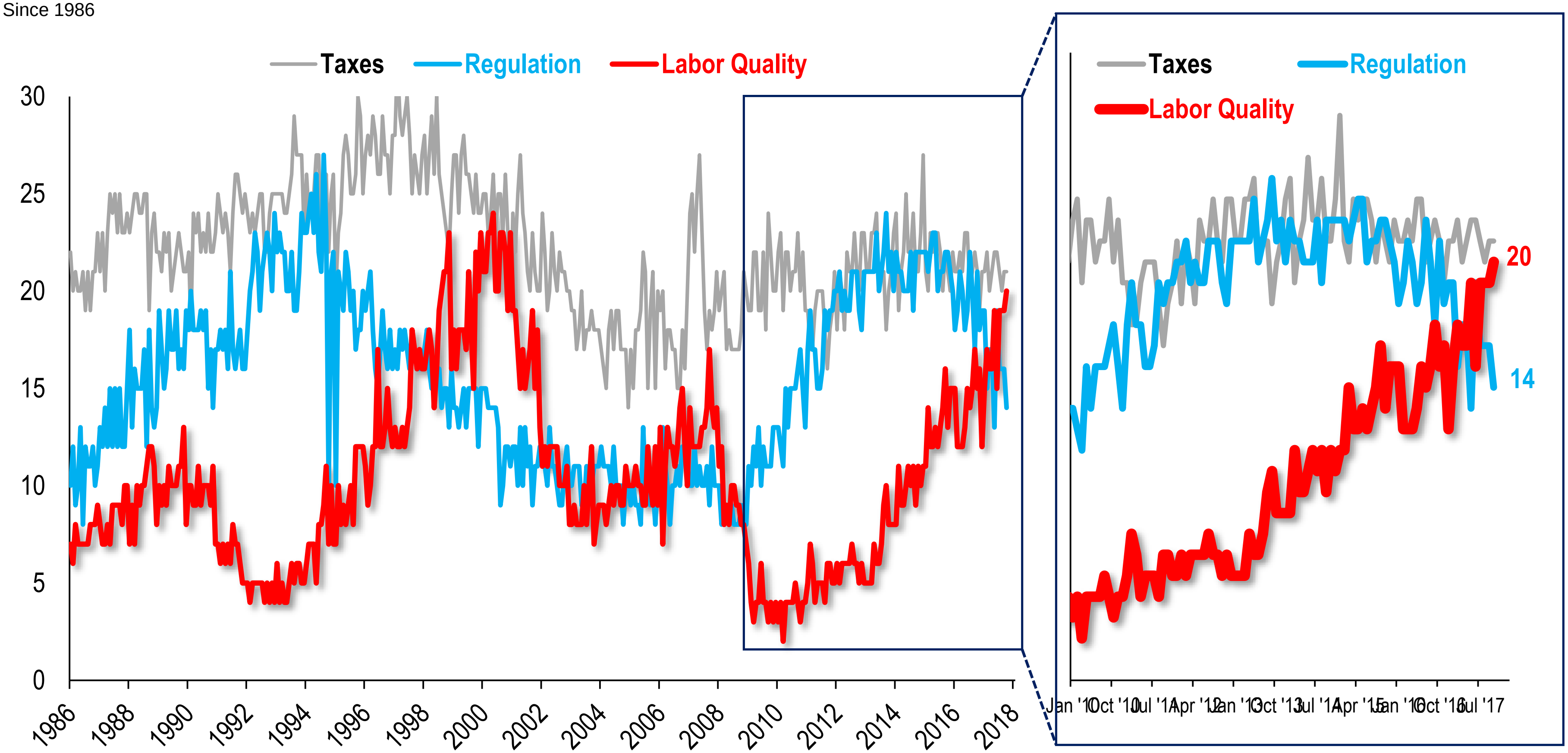
Source: Fundstrat

NFIB Small business survey: Labor Quality now surpassed regulation…

Labor quality, or the poor labor quality, has soared for small businesses, surging from few noting this in 2010 to 19%, exceeding regulation as the second biggest issue (taxes is first).

- **We think this surge in the NFIB regarding labor quality suggests that wages are set to rise—after all, businesses ultimately need to increase wages to attract better quality workers.**

Figure: NFIB Survey: % of respondents noting an item is a primary concern
Since 1986

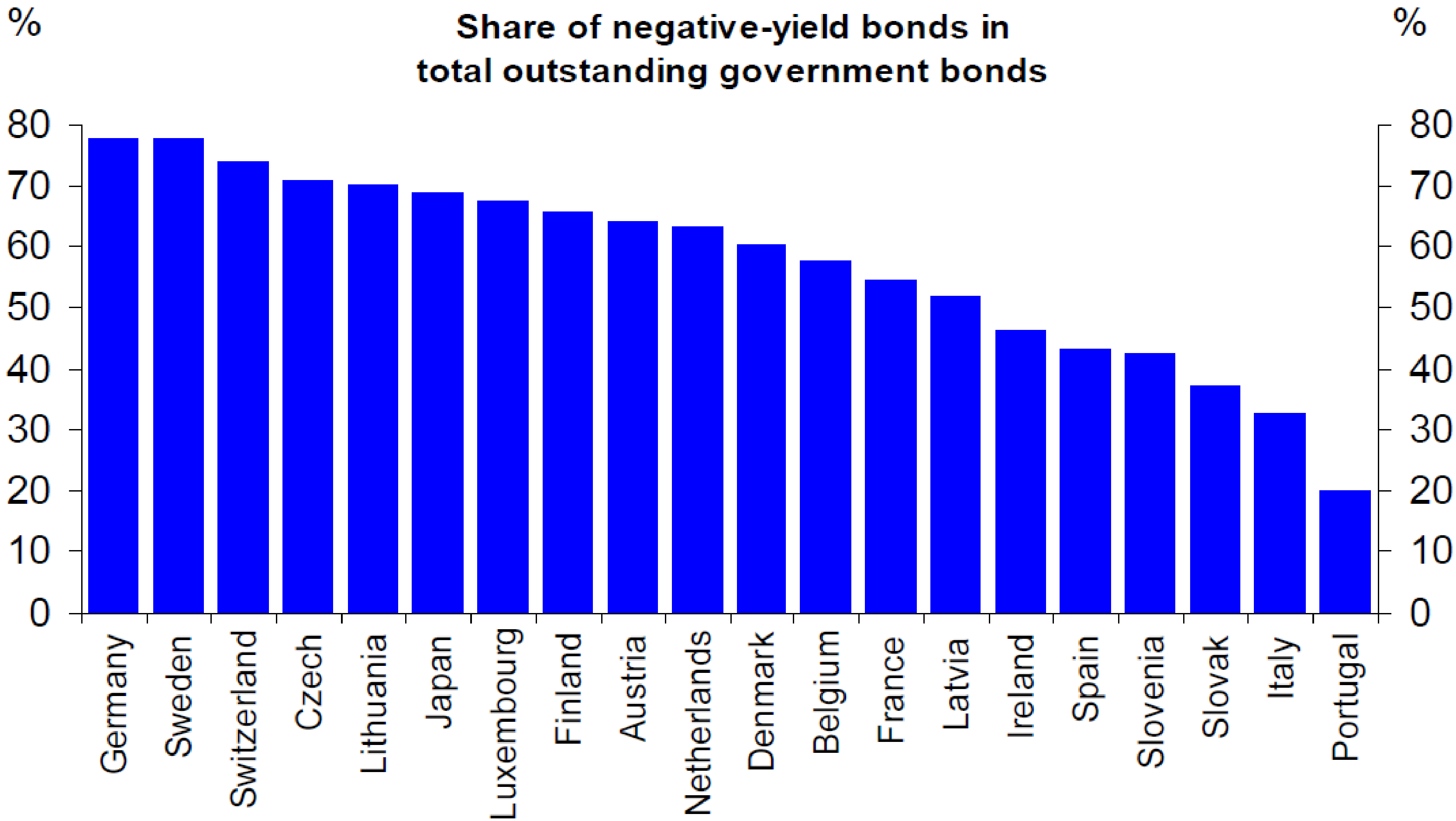


Source: Fundstrat, Bloomberg

Central bank ZIRP has led to distortions…

Interest rates are incredibly low today and as highlighted below, results in a significant share of bonds with negative interest rates.

Figure: Percent of bonds with negative rates
From Torsten Slok, Deutsche Bank Research, 2018 Outlook



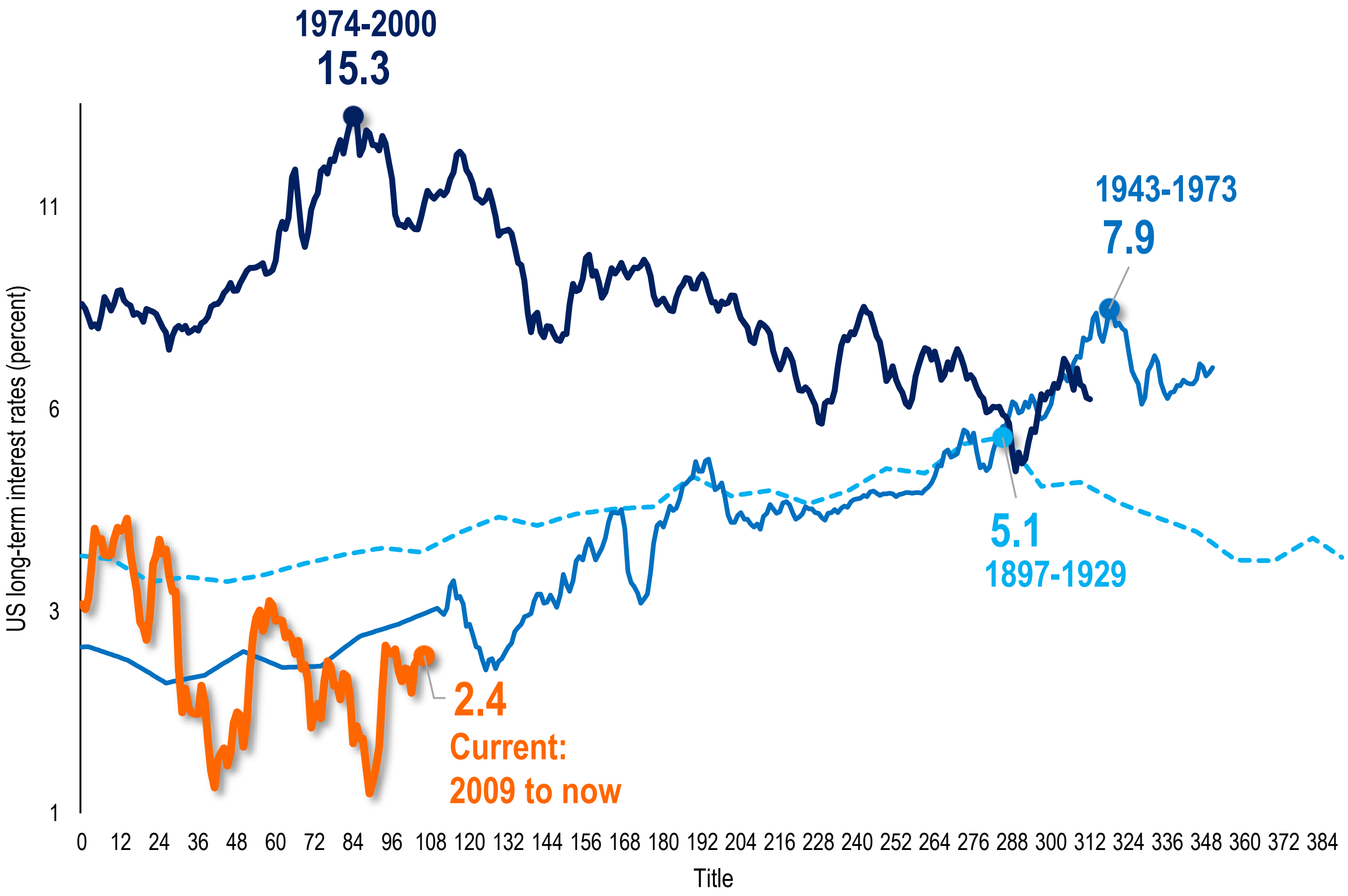
Source: Fundstrat, Bloomberg. Deutsche Bank Research, Haver Analytics.

Interest rates tend to rise during bull markets and expansions…

Longer term, it makes sense for interest rates to rise. When looking at the 3 precedent bull markets, interest rates rose in 2 of 3 of those bull markets.

- **The exception was 1980-2000 period when interest rates fell, but in other bull markets, the path was higher..**

Figure: Long-term interest rates over various bull market cycles…
1929 to now. 3 precedent bull markets: 1897-1929. 1943-1973. 1974-2000



Trend in interest rates…

	General Trend
1897-1929	Higher
1943-1973	Higher
1974-2000	Lower
Current	Flattish

Source: Fundstrat

Overview

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Value style investing

Sectors: ICRAP

Long-term: Since 2009, we have argued this is a secular bull market

Since 2009, we have steadfastly supported the equity market and we have seen strong returns in the equity markets since.

Figure: Since 2009, we have been consistently above consensus on the equity outlook, but 2017 is the sole exception…

Annual Outlooks since 2009

2009	bullish
2010	bullish
2011	bullish
2012	bullish
2013	bullish
2014	bullish
2015	bullish
2016	bullish
2017	neutral
2018	bullish

Source: Fundstrat

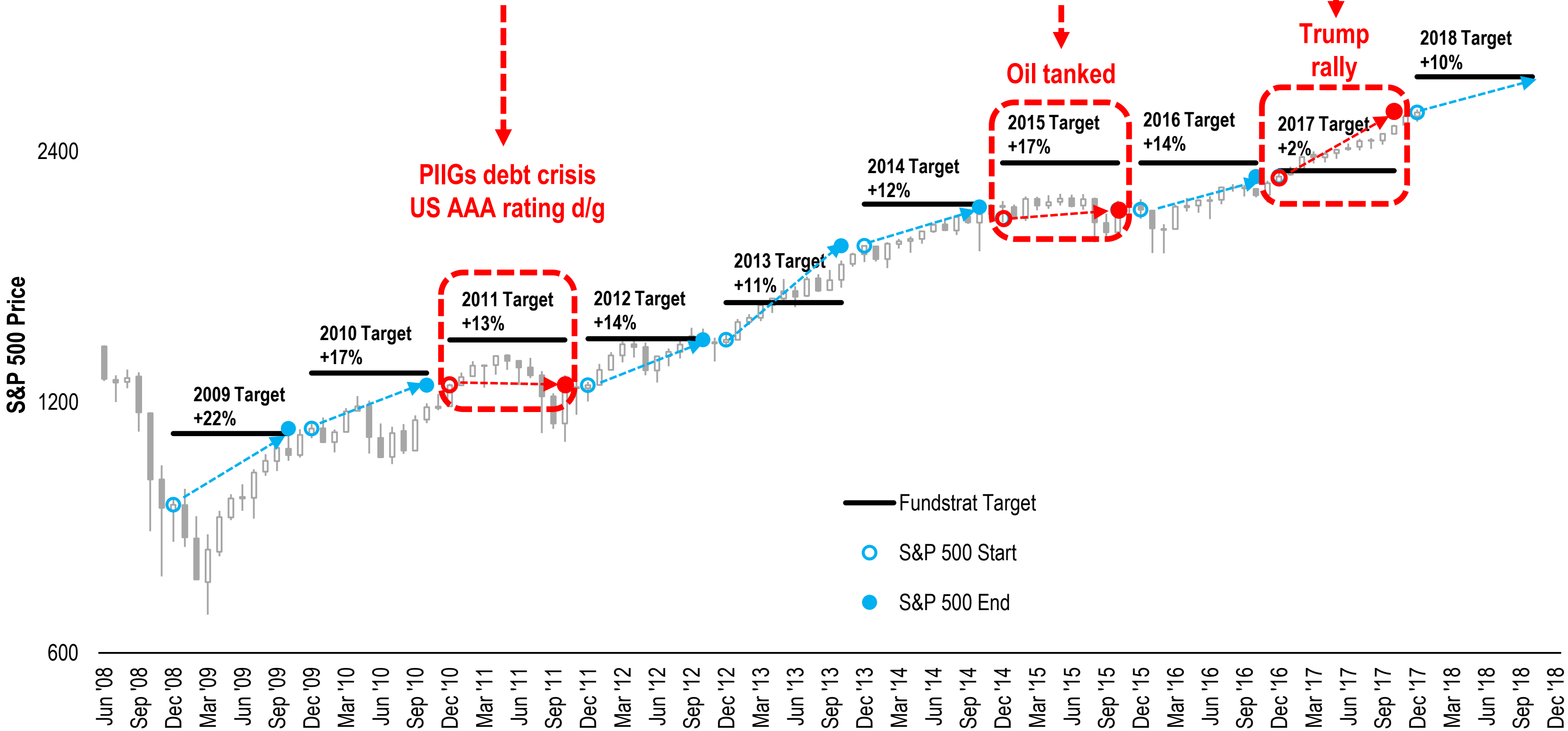
And this long-term approach, worked most years…

Our long-term focus has served clients well most years as shown below. And there are a few years where this diverged.

- **As shown below, in 2011, 2015 and 2017, the market directionally moved away from our forecast.**

Figure: Comparison Fundstrat forecast versus actual gains
Since 2009

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E
Fundstrat Target	1100	1300	1425	1430	1580	2075	2325	2325	2275	3025
FS Target Upside	+22%	+17%	+13%	+14%	+11%	+12%	+17%	+14%	+2%	+13%
S&P 500 actual	+23%	+13%	+0%	+13%	+30%	+11%	+2%	+10%	+19%	
Target ~5% actual *(or better)*										



Source: Fundstrat

And we have not always been bullish… as our 2008 report highlights

In 2008, we also studied prior bear markets and concluded that bear markets bottoms are measured as retracements of the prior bull market rather than either (i) declines from the peak or (ii) based on time.

- **We identified likely low as 670-720 by mid-2009.**

Figure: From "Guide to Stock bottoms" dated 11/21/2008
Published on 11/21/2008

J.P.Morgan

North America Equity Research
21 November 2008

Guide to Stock Bottoms: Part I

Bottoms best called on a "rear"-ward basis...

This Report has 5 Sections:
1: Introduction
2: Retracements define Trough
3: Sequence of Metrics at Trough
4: Time Series of 9 Indicators (see Figure 12 to Figure 29)
5: 9 Specific Bear troughs (see Figure 30 to Figure 109)

Nothing about this Recession, nor this Bear market, is pre-ordained and hence staying defensive is logical. We know a few things though. This bear market is entering its 14th month and at a 52% peak to trough decline, is the most severe since the Great Depression. We wanted to do a comprehensive look at past Bear markets to determine patterns of duration, magnitude (of decline), as well as leading indicators to confirm a trough. Not surprisingly, the range of outcomes for this bear market are wide. Our four broad insights are as follows:

- **Range-bound until middle of 2009.** Comparing this Bear market to other major Bears ('29-'32, '37-'38, 73-'74, '00-'02), this decline is equal in magnitude (retracement, see below) but shorter on duration at 14 mos vs. 19mos avg. Because we see both as important, this suggests to us that equities are likely range-bound until the middle of 2009.
- **Low-end of range is 720. Buy around 720. Sell around 1125 or so.** Retracements are a useful way to look at declines: Typically, Bear markets shed 73% of the points gained in the prior Bull. For instance, in the '29-32 Great Depression, the Dow shed 340 points, 107% of the 317 point gain of the 9 year bull preceding that decline. Using the 107% on today's market implies 720 for the S&P 500 (1565 less 788 pts (btwn '02-'07) x 107%).
- **This bear is only 14 months old, short of 19-21 months suggested by analysis.** One reason to expect a longer duration is simply that we are at the front end of this recession. While half of Bear markets trough (10 of 20) within 10 months of a recession start, we are facing a more severe recession and thus, risk aversion is likely to keep investors sidelined. Moreover, the duration of Major bear is 19 months, meaning we will not see a trough until mid-2009 at the earliest.
- Few harbingers of a trough, but confirming data from Macro and valuation indicators only confirm a bottom once it is established, meaning we need to be backwards looking to judge a proper bottom. That said, we did find that there was a relatively consistent sequence of metrics showing improvements that progressively confirm a bottom: **CRB** peaks (-3mos), **RSI** troughs (+0 mos), **Valuations** broadly cheap (0-1 mos), **Volatility** recedes (+1 mos), **ECRI US Weekly Index** turns up (+1 mos), **Consumer Confidence** troughs (+2 mos), **ISM** troughs (+4 mos), and **Unemployment rate** peaks (+8 mos).

US Equity Strategy
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J.P. Morgan Equity Strategy Framework

	Street B/U EPS	Street B/U % chg yoy	JPM Strategy EPS	JPM Strategy % chg yoy
FY06A	$88.18	15.6		
1Q07A	22.71	9.6		
2Q07A	24.40	9.4		
3Q07A	21.31	(5.7)		
4Q07A	16.14	(28.1)		
FY07A	$85.12	(3.5)		
1Q08A	18.96	(16.5)		
2Q08A	19.78	(18.9)		
3Q08E	17.73	(16.8)	18.92	(11.2)
4Q08E	19.02	17.8	19.07	18.2
FY08E	$76.87	(9.7)	$76.73	(9.9)
1Q09E	19.25	1.5	17.25	(9.0)
2Q09E	20.61	4.2	18.25	(7.7)
3Q09E	21.56	21.6	19.75	4.4
4Q09E	22.57	18.7	19.95	4.6
FY09E	$85.73	11.5	$75.20	(2.0)

Source: J.P. Morgan and Thomson Financial

Source: Fundstrat

North America Equity Research
21 November 2008

- **Range-bound until middle of 2009.** Comparing this Bear market to other major Bears ('29-'32, '37-'38, 73-'74, '00-'02), this decline is equal in magnitude (retracement, see below) but shorter on duration at 14 mos vs. 19mos avg. Because we see both as important, this suggests to us that equities are likely range-bound until the middle of 2009.
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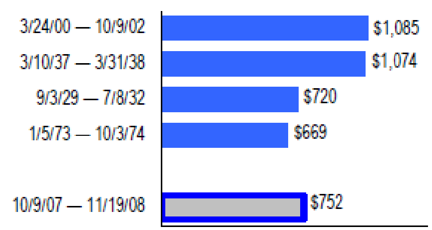
- **The implied low for S&P 500 could be 670-720.** Based on the above, the downside in equities is still substantial, unfortunately, based on looking at the severest bear market decline retracements of '29 Crash and 73-74 bear market

Figure 5: Implied S&P 500 Low....
Dow Jones until 1960. S&P 500 after 1960



Page 8

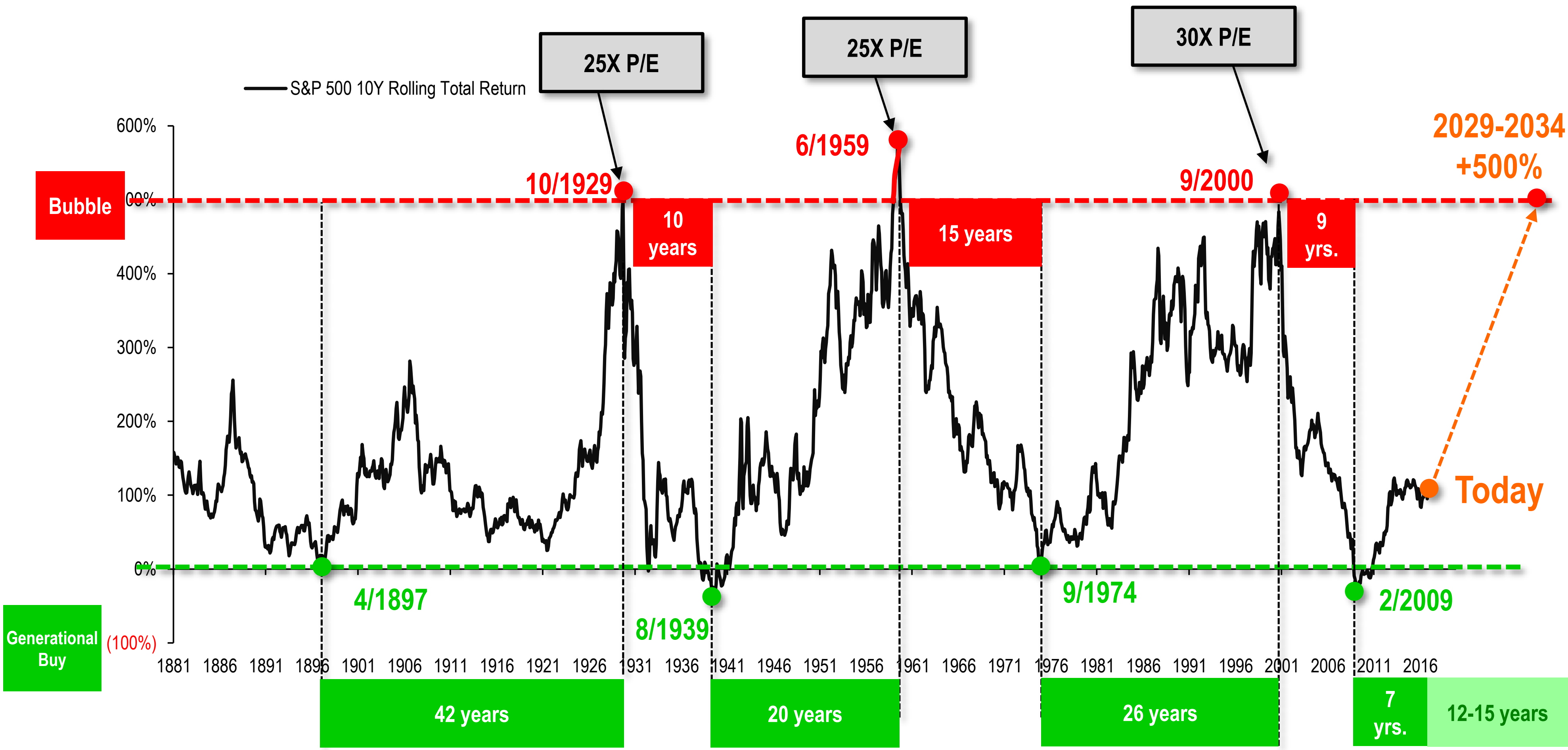
Source: Datastream. Calculated as: Retracement = (points lost in Bear)/(points gained in Bull)

Long-term bull markets see peak acceleration to 500% 10-yr returns

Long-term bull markets last 20-42 years and peak returns accelerate to cumulative gain 500%…

- ***The current bull market has risen for 9 years and 10-year rolling returns are around 100%...***

Figure: 10-year rolling returns of the US equities
Since 1900



Source: Fundstrat, Bloomberg.

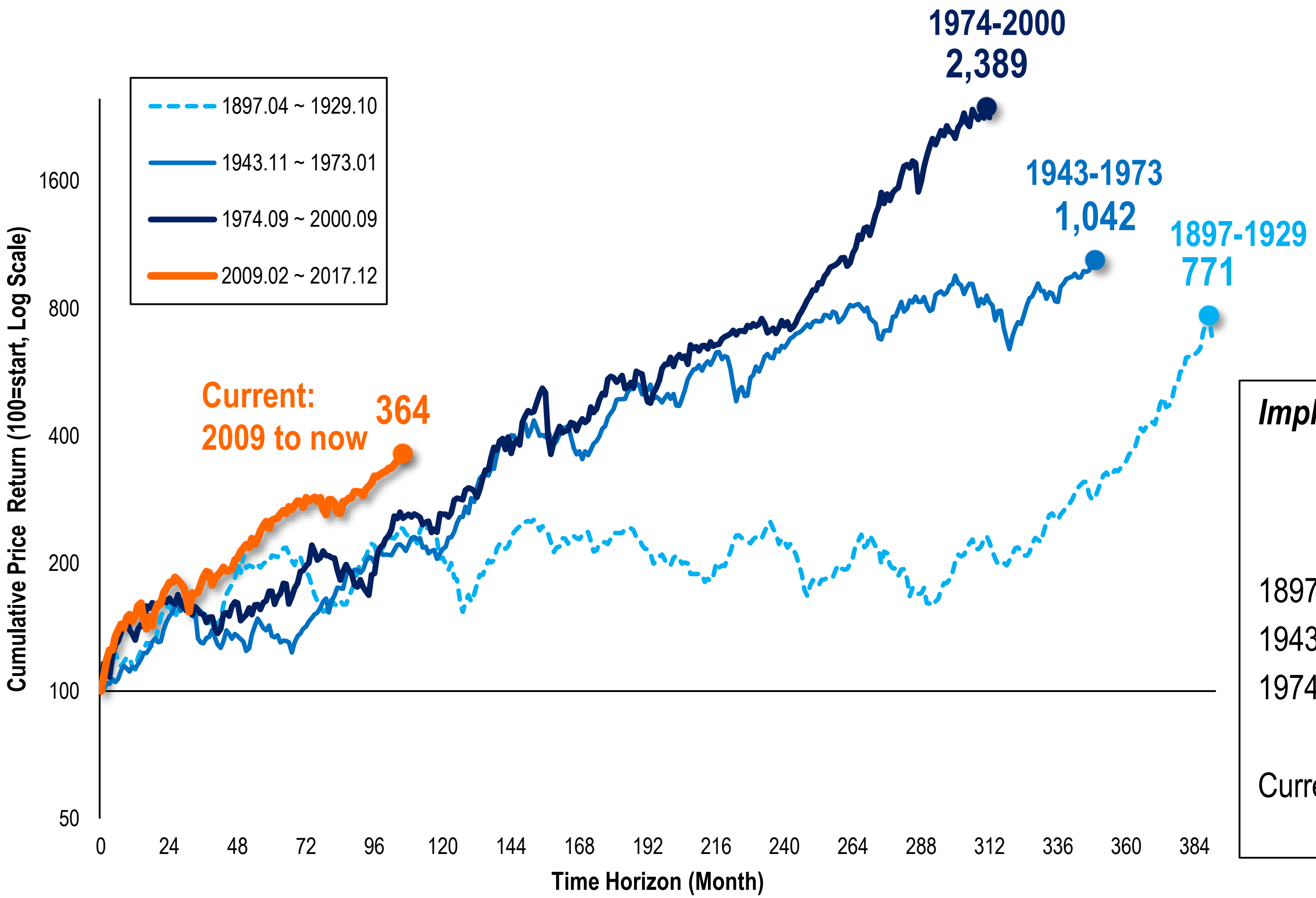
Implies current S&P 500 likely peaks around 10,000-15,000

Based on prior bull markets, the current bull market should see cumulative returns of 671%-2,289% (see below).

- **This implies a peak for the S&P 500 of 5,700 to 17,600, but if we narrowed this, to a range of 10,000-15,000.**

Figure: Cumulative gains of precedent bull markets

Price returns shown until the peak of bull market. 1929 to now. 3 precedent bull markets: 1897-1929. 1943-1973. 1974-2000



Implied Peak 2009 bull...

	Cum % gain	Implied S&P 500
1897-1929	671%	**5,668**
1943-1973	942	**7,660**
1974-2000	2,289	**17,561**
Current	264%	

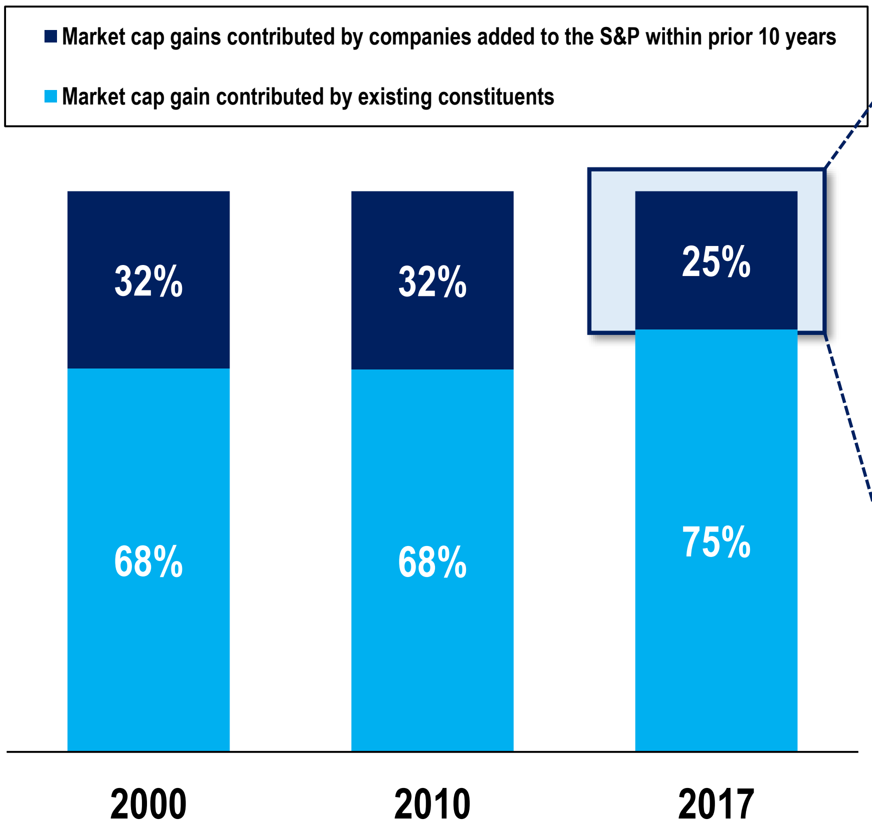
Source: Fundstrat

Newly-added companies will drive 25% of gains in S&P 500

Notably, our confidence in the future gains in the S&P 500 are driven by the realization that new companies will drive a meaningful share of gains.

- **As highlighted below, more than 25% of the return of the S&P 500 within any 10-year period is driven by companies added within the prior 10-year period.**

Figure: Share of overall market gains driven by companies new to S&P 500 within prior 10 years
Three periods highlighted. 2000, 2010 and 2017—corresponding prior period is 1990, 2000 and 2007



Sample of new to S&P 500 within past 10 years (added between 2007 to now)

Google
Facebook
Abbvie
Visa
Broadcom
Accenture
Charter Communications
Paypal
Blackrock
Twenty First Century Fox
Phillips 66
Activision Blizzard
Crown Castle
Lyondellbasell
Regeneron
Monster Beverage
Equinix

Source: Fundstrat

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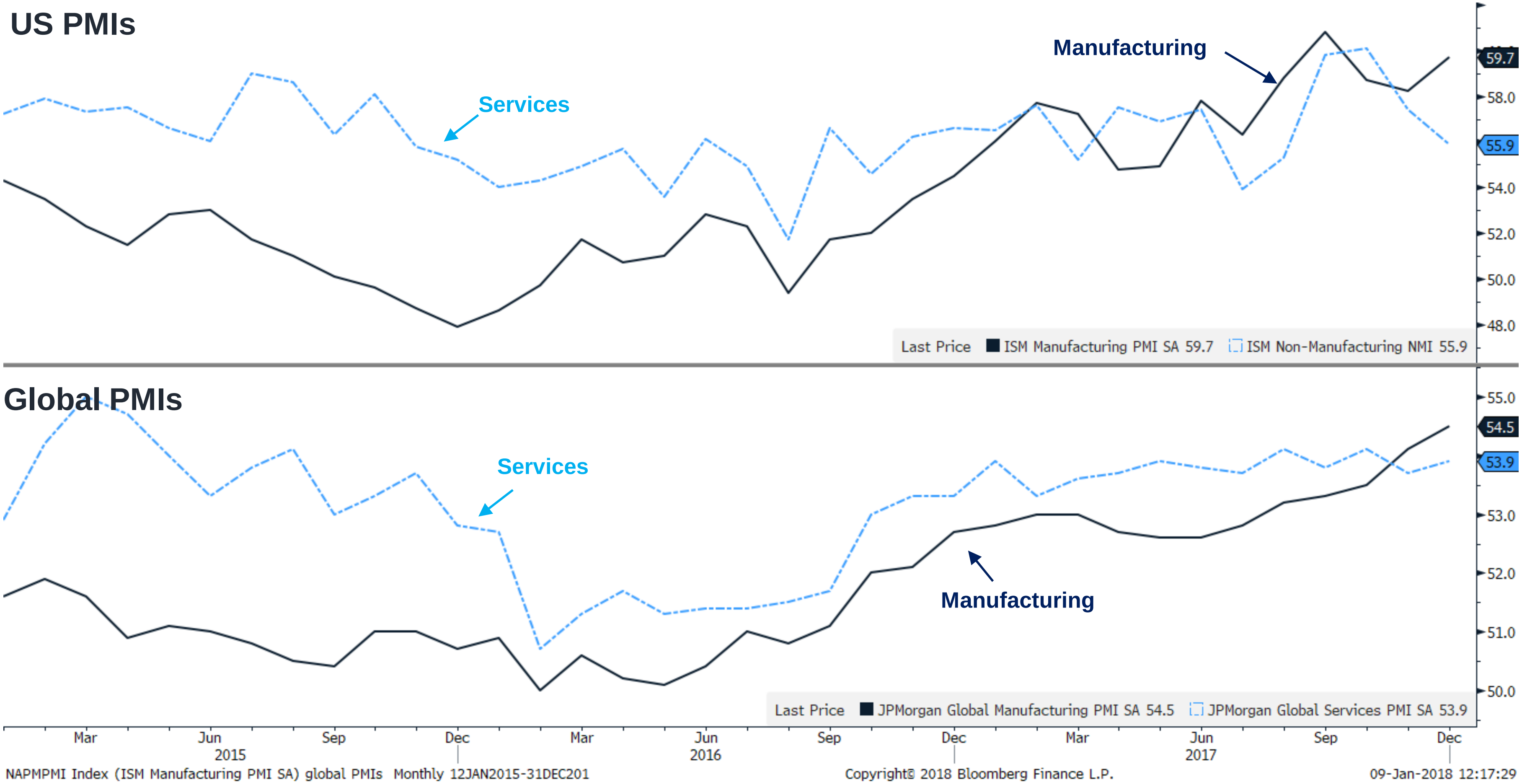
Animal spirits are alive and well… Global PMIs strong…

PMIs have been strong, surprising to the upside throughout 2017. The combination of pent-up demand, de-regulation (US), continued support by Central banks and overall stability are contributing to this. Moreover, the PMIs have shrugged off the flattening yield curves.

Figure: Global PMIs are strong…
Since 2015



Source: Fundstrat

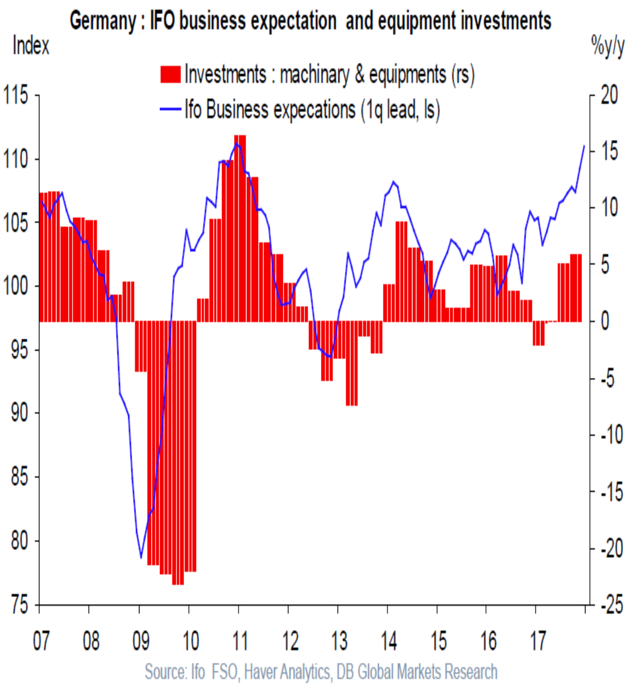
Strong PMIs point to upside risk for capital spending in DM

The upside risks to global PMIs is that capital spending has upside support. We have taken some charts made by Torsten Slok, DB Economist.

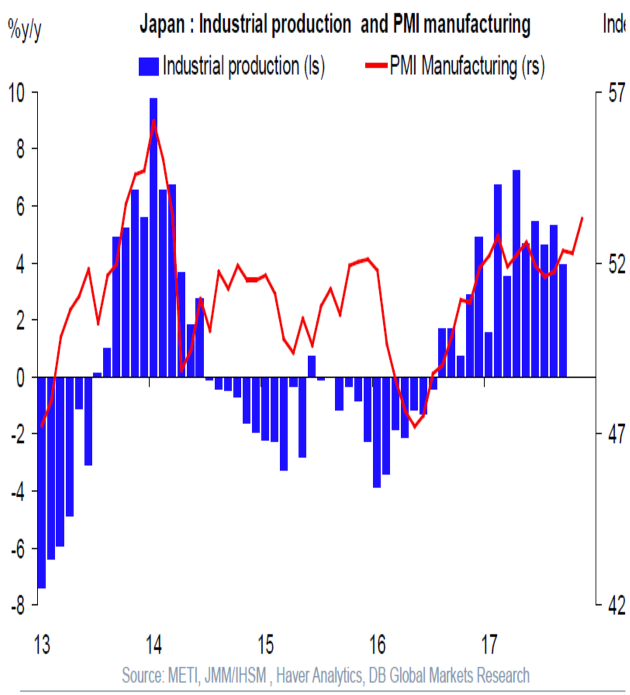
- **As shown below, the upside in PMIs for these developed markets points to upside in manufacturing for the respective regions.**
- **Again, this is an example of the combination of pent-up demand and rising animal spirits leading to an accelerating global GDP picture.**

Figure: Upside risks to Capex
From Deutsche Bank, Torsten Slok

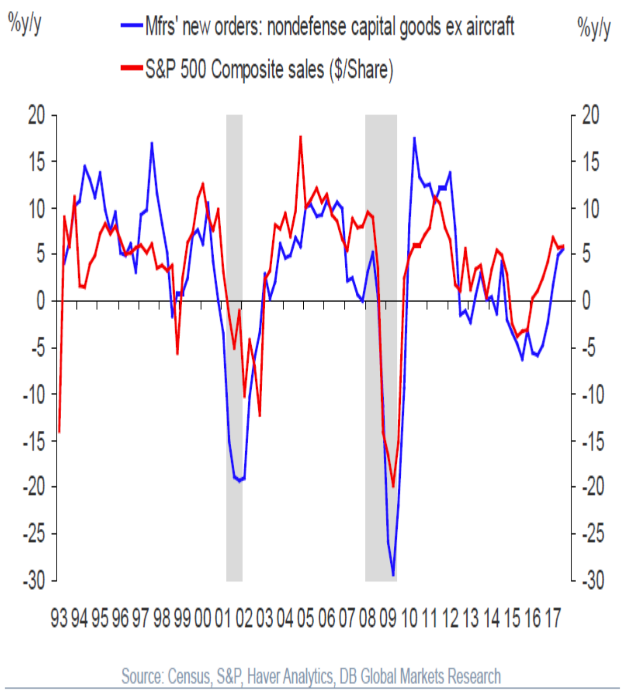
GERMANY:
Strong PMIs lead to upside in PPE…



JAPAN:
Strong PMIs lead to upside in IP…



US:
Strong PMIs lead upside in manufacturing…



Source: Fundstrat

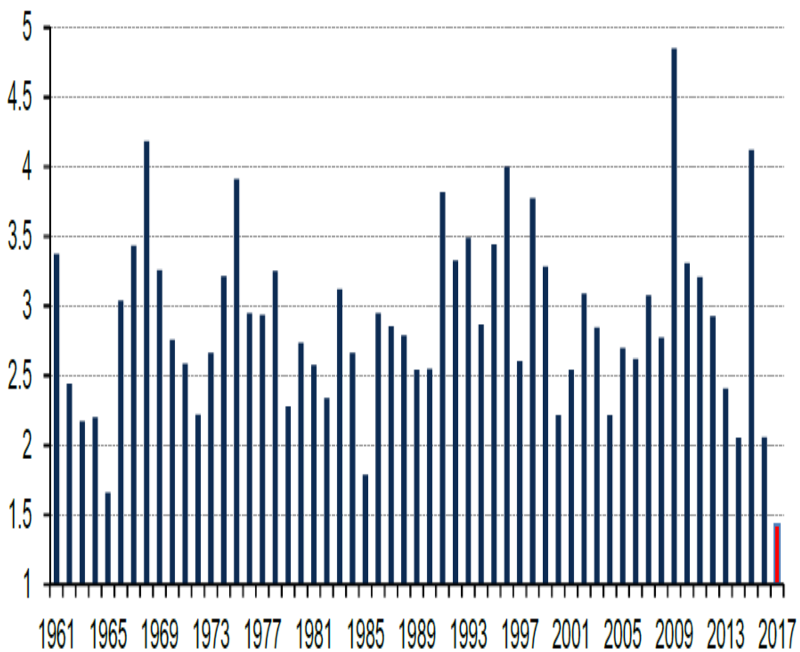
Economic volatility is also low…

Volatility is low, both in fundamentals (see the 50-year low in economic volatility) and of course VIX is low as well.

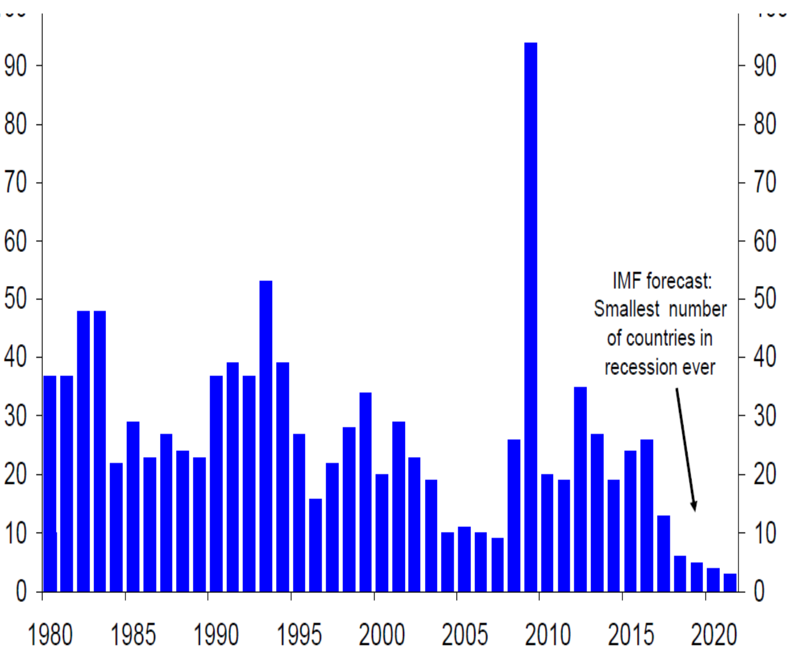
- ***This low volatility, coupled with low interest rates, supports P/E expansion.***

Figure: Economic Volatility is low…

Variability in GDP growth across countries is at the lowest in 50 years
By Shyam Rajan, BofAML Economist



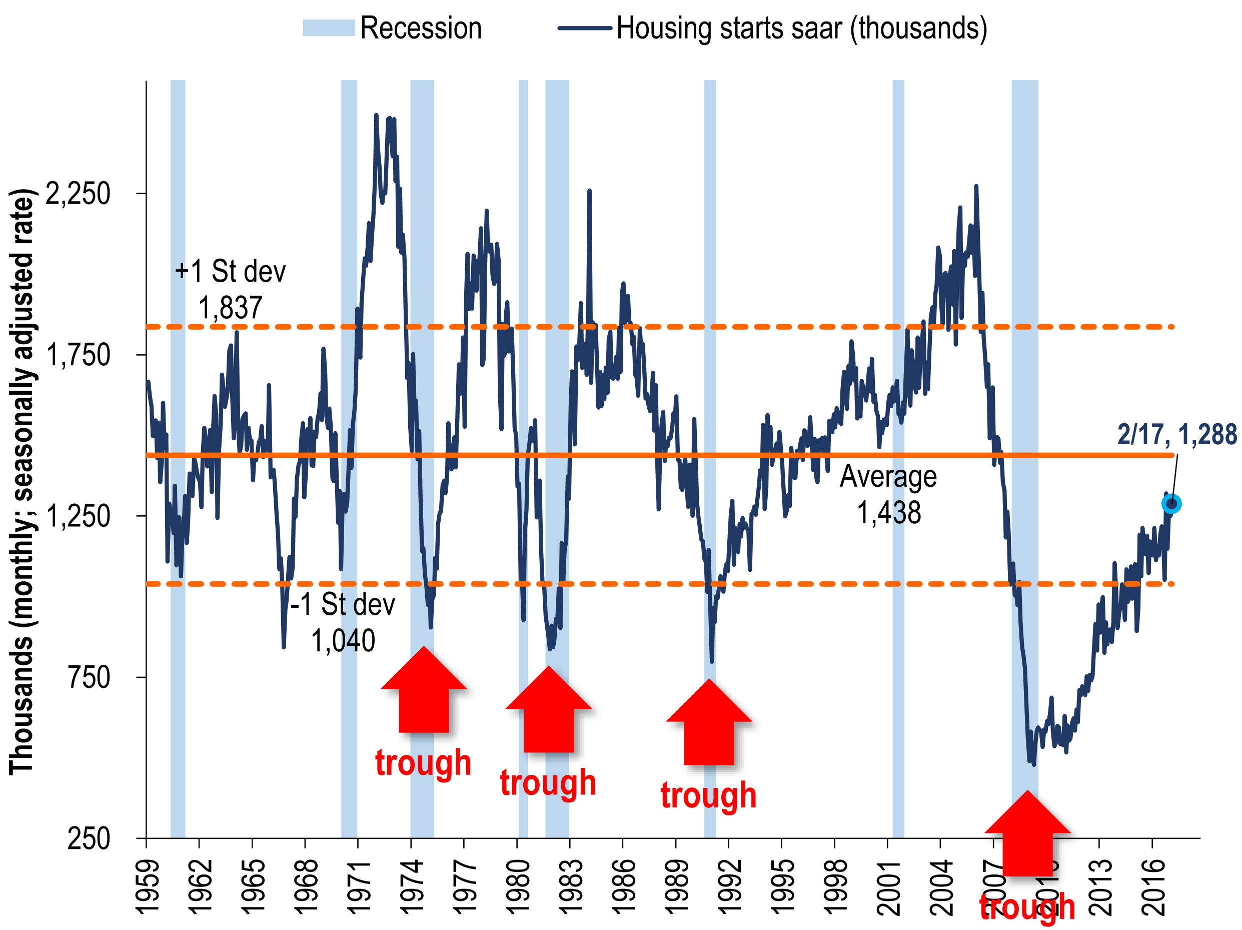
Number of Countries in Recession is the lowest ever…
From Torsten Slok, Deutsche Bank Research, 2018 Outlook



Source: Fundstrat, Bloomberg. We plot the standard deviation of annual growth rates across a sample set of 45 major countries. Source: BofA Merrill Lynch Global Research, OECD. Deutsche Bank Research, Haver Analytics.

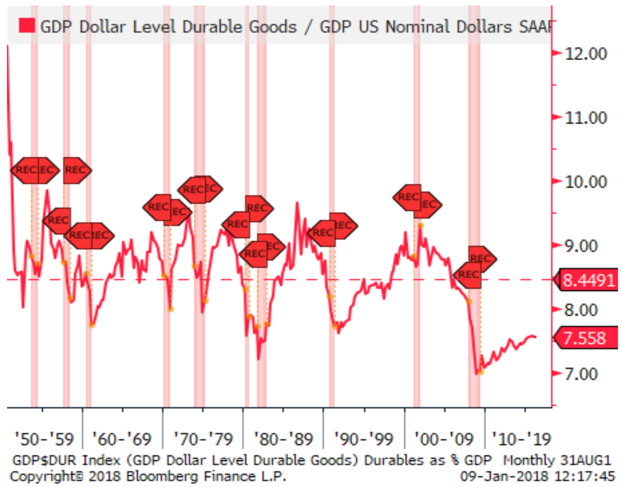
HOUSING: We need to build 1.5-2.0mm homes...

Figure: Housing Starts since 1959
Since 1959

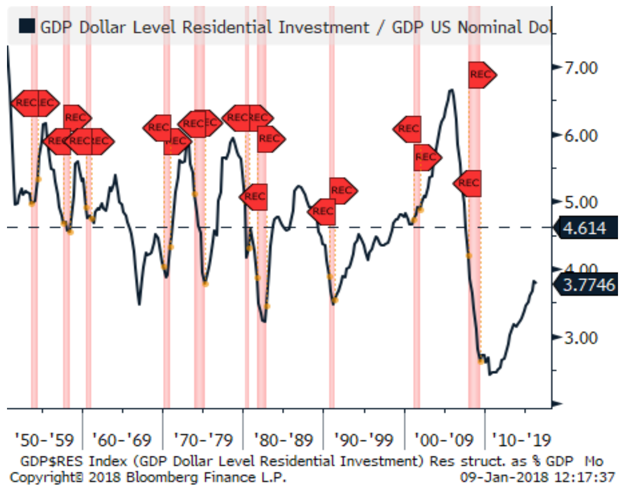


Source: Fundstrat, Bloomberg, BEA.
Note: we are including government fixed investment during the WWII period to account for the reclassification of private property as public property.

Consumer Durables...



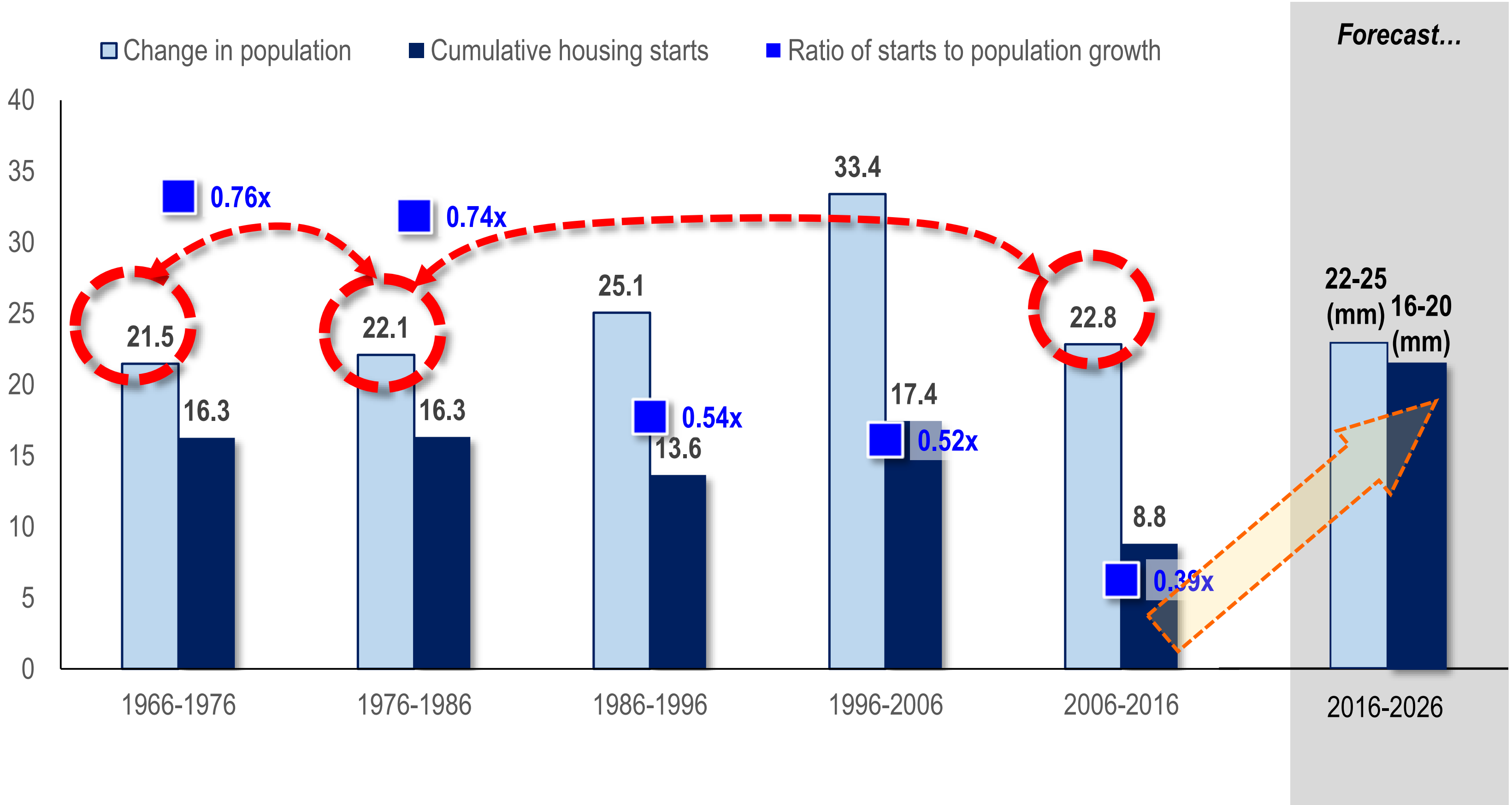
Residential Investment...



Millennials need homes…

Since 2006, the U.S. population has increased by 23 million. Historically, we would have built around 11mm homes over the past 10 years to accommodate this growth. Instead, we built around 8.8mm homes.

Figure: Changes in housing starts and population growth
From 1966



Source: Fundstrat, Bloomberg

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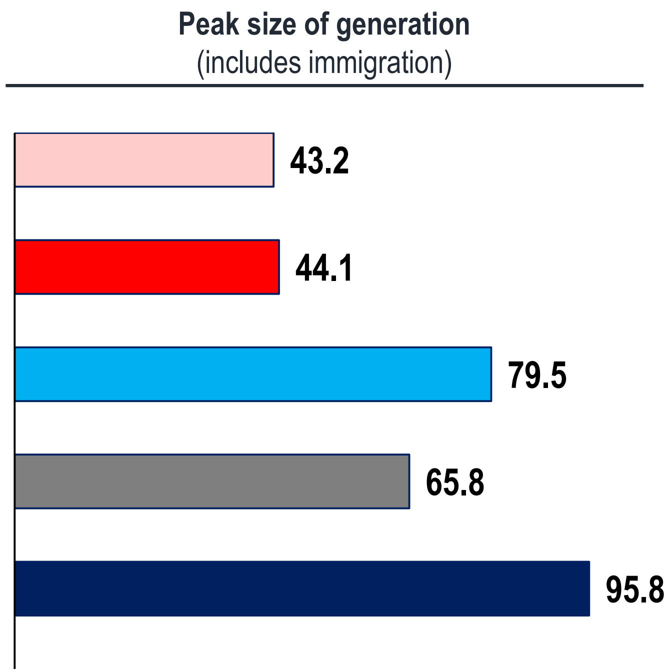
Millennials are *largest* population cohort ever

Millennials are currently the largest population cohort (born 1981 to 2000) and current have an average age of 26.5.

- **As shown below, this is the single largest cohort ever at 96 million (peak size) and currently represents 27% of the total US population.**
- **As discussed on the following pages, the millennials are entering their prime working years**

Figure: Comparative size of generations
Population in millions

Generation	Years of birth		Statistics @ 2017: # in cohort	As % Pop	Avg age
Greatest Generation	1910	1927	2.6	1%	92.9
Silent Generation	1928	1945	25.8	8%	78.5
Baby Boomers	1946	1964	73.8	23%	61.3
Generation X	1965	1980	65.8	20%	44.5
Millennials	1981	2000	89.2	27%	26.5



Source: Fundstrat, Census Bureau. Note, the population of each cohort exceeds the total births due to immigration.

Each generation sees innovations… its mostly digital today

Each generation is also characterized by innovations that differentiate that generation from prior generations.

- **As shown below, what differentiates the millennial experience (in their 20s) is the growth of social media and digital businesses. Notably, we believe blockchain is the newest innovation.**

Figure: Innovations seen when each generation was in their 20s
General sources. Wired magazine.

Baby Boomers in their 20s 1970s-1980s

- Woman entering workforce
- Mail order business
- PCs/Apple
- Microsoft/GUIs
- GPS
- Game consoles
- Mobile phones
- Laserdisc/CDs

Disruptive and misunderstood by prior generation

GenX in their 20s 1990s-2000s

- email
- WWW
- Digital Cellular
- Mobile email
- Mobile data
- Text messaging
- Google
- Paypal
- Video Games
- Digital photography
- MP3

Disruptive and misunderstood by prior generation

Millennials in their 20s 2000s-now

- Facebook
- Uber
- Airbnb
- Instagram
- Kickstarter
- Digital video streaming
- Blockchain/Bitcoin
- Electric cars
- Online dating

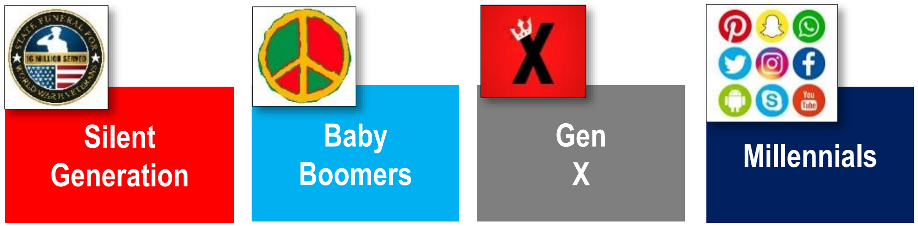
Source: Fundstrat

Millennials are the fully digital generation…

Based on a study by Arthur Maxwell (many others have written about this similarly), and notably, the millennials are the first truly digital generation.

- **That is, the largest and most important corporation relationships for millennials are digital brands like Facebook, Netflix, Snap, Amazon.com, Apple—these are largely companies whose franchise exists in the digital realm.**

Figure: Characteristics of each generation
From Arthur Maxwell



Personal/ Lifestyle Characteristics	Veterans (1922-1945)	Baby Boomers (1946-1964)	Generation X (1965-1980)	Generation Y (1981-2000)
Core Values	Respect for Authority Conformers Discipline	Optimism Involvement	Skepticism Fun Informality	Realism Confidence Extreme fun Social
Communication Media	Rotary phones One-on-one Write a memo	Touch-tone phones Call me anytime	Cell Phones Call me only at work	Internet Picture Phones E-mail

Digital…

Communication	Formal Memo	In person	Direct, Immediate	Email, Voice mail
Rewards & Feedback	No news is good news Satisfaction in a job well done	Money, Title Recognition Give me something to put on the wall	Sorry to interrupt, but how am I doing? Freedom is the best reward	Whenever I want it, at the push of a button Meaningful work
Technology is…	Hoover dam	The microwave	What you can hold in your hand: PDA, cell	Ethereal - intangible

Digital…

Source: Fundstrat, Bloomberg, Factset

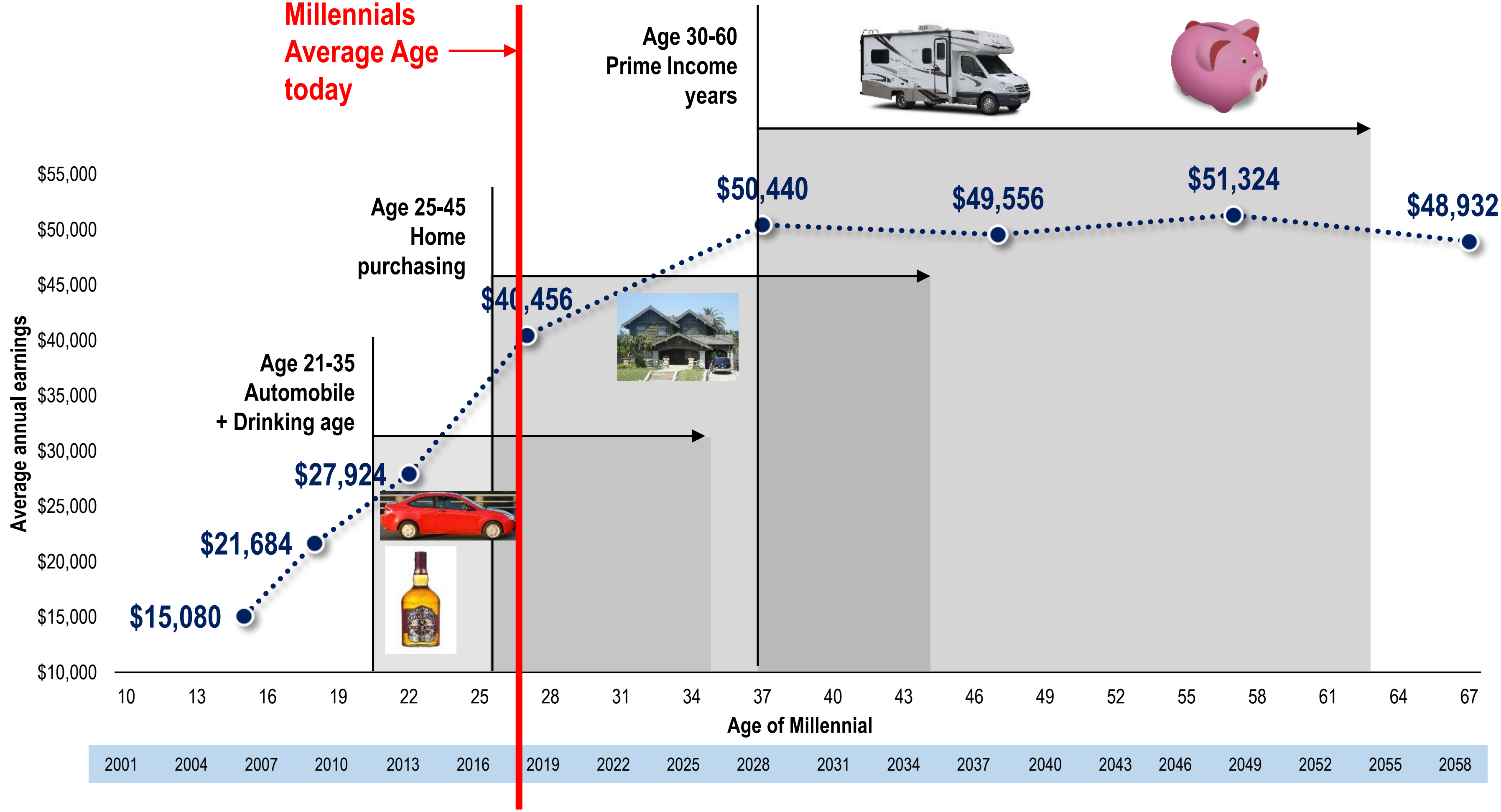
Millennials average age is 26.5… still early in life cycle

The oldest millennials are 36 but the average age is 26.5. As shown below, this means the peak of millennials are driving the automobile market but just beginning to impact the housing market. And early in the investing market.

- **As the following slides show, millennials are now the most important cohort to follow for several key segments.**

Figure: Life cycle of Millennial spending and income

Survey of Consumer Finance for 2017 "real income" levels (born between 1981-2000)



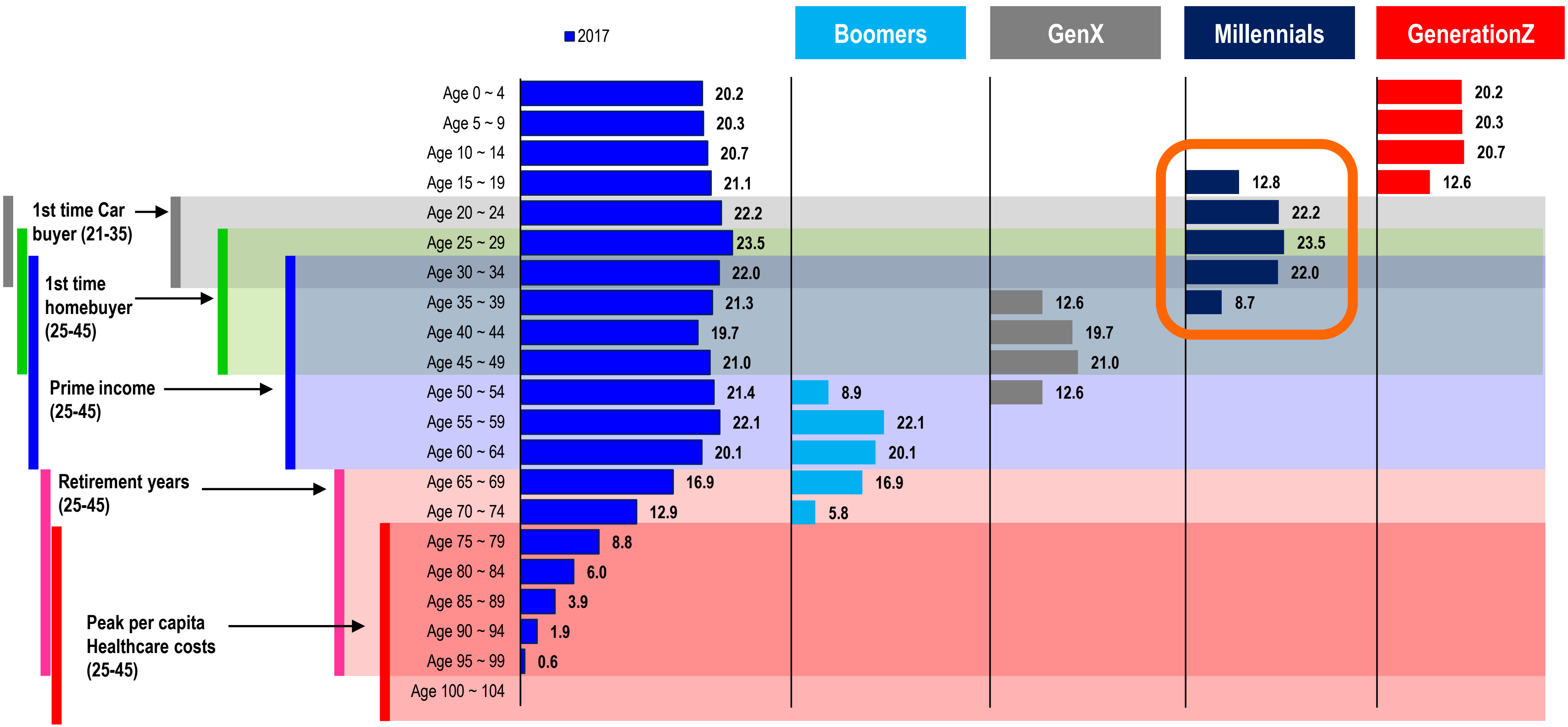
Source: Fundstrat, Bloomberg, Census Bureau

Millennials *maturing* autos, *peak* homebuying and *early* prime income

To highlight the life cycle of various generations, we have highlighted population distribution and shown the various generations and their respective distribution. Additionally, we shaded the various life cycle behaviors (auto buying, etc.).

- **Millennials are now dominating Automobile purchasing, entering homebuying and beginning to generate prime income.**

Figure: Composition of Generations by age group
Census bureau



Source: Fundstrat, Bloomberg, Census bureau

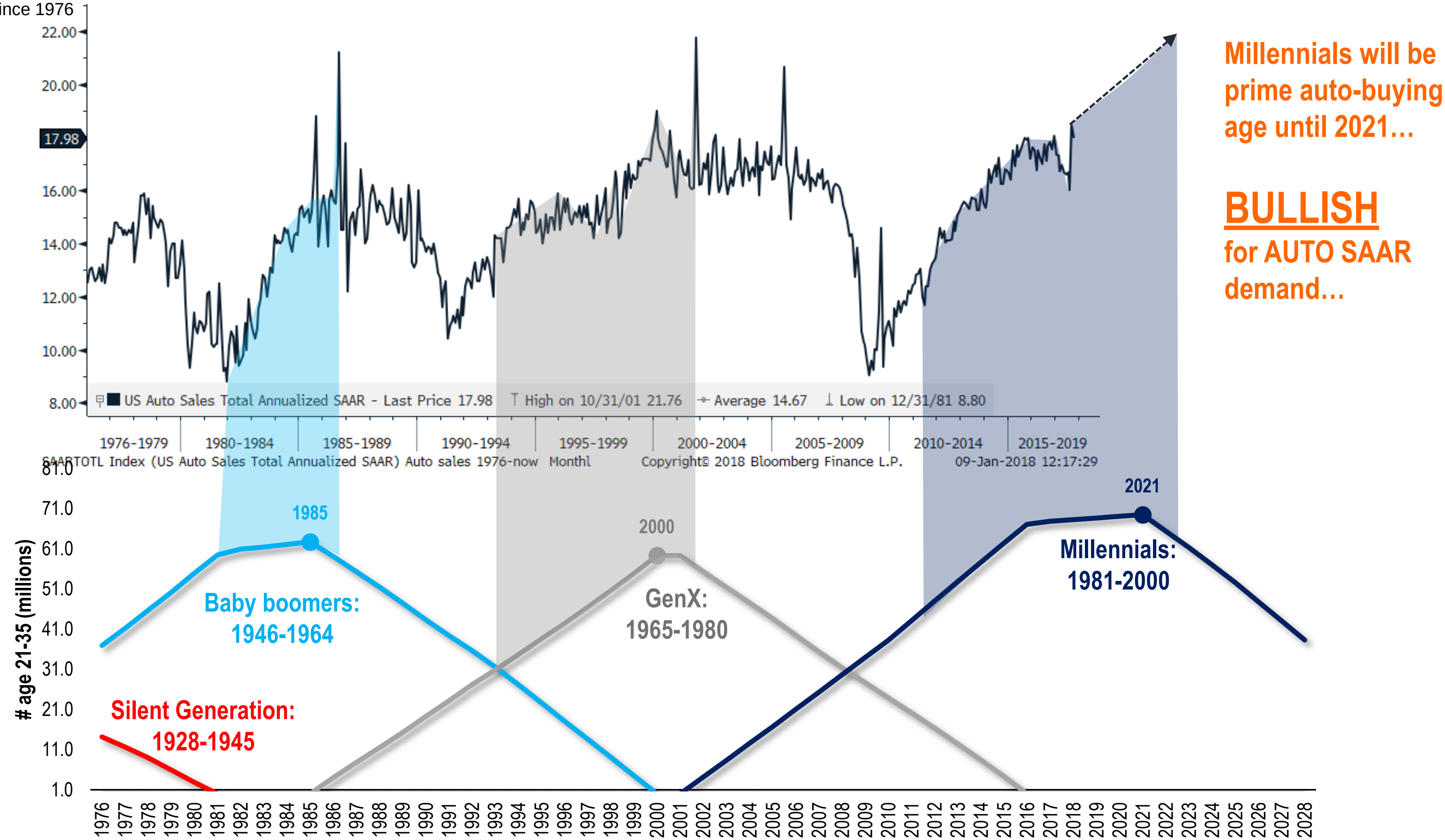
Auto SAAR cycles explained by generations… Millennials drive to 2021

Assuming that prime first time automobile buying age is 21-35, then as shown below, Auto SAAR cycles seem to follow generations.

- **As shown below, the Millennials of prime auto buying age will grow through 2021—suggesting positive SAAR till then.**

Figure: Auto SAAR and the comparative size of generations age 21-35

Since 1976



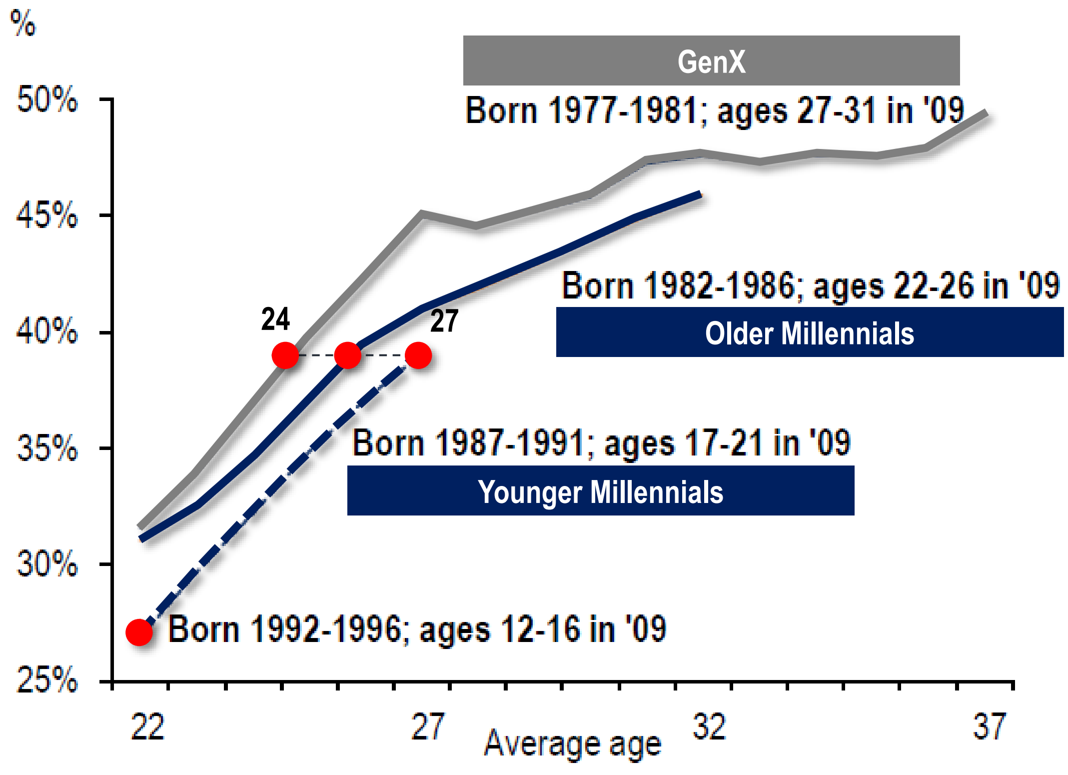
Source: Fundstrat, Bloomberg, Factset

Millennials slower at forming households by 3 years vs GenX…

Millennials are slower at forming households than past generations, evidenced by Census data.

- **As shown below, Millennials have a lower percentage as "head of household" based on average age. What this tells us is that millennials are forming households but with a delay. Relative to late-GenX'ers, Millennials are forming households 3 years later.**

Figure: Head of household by age
From JPMorgan Economics Research



Source: Census Bureau, J.P. Morgan

Source: Fundstrat, Bloomberg, Factset

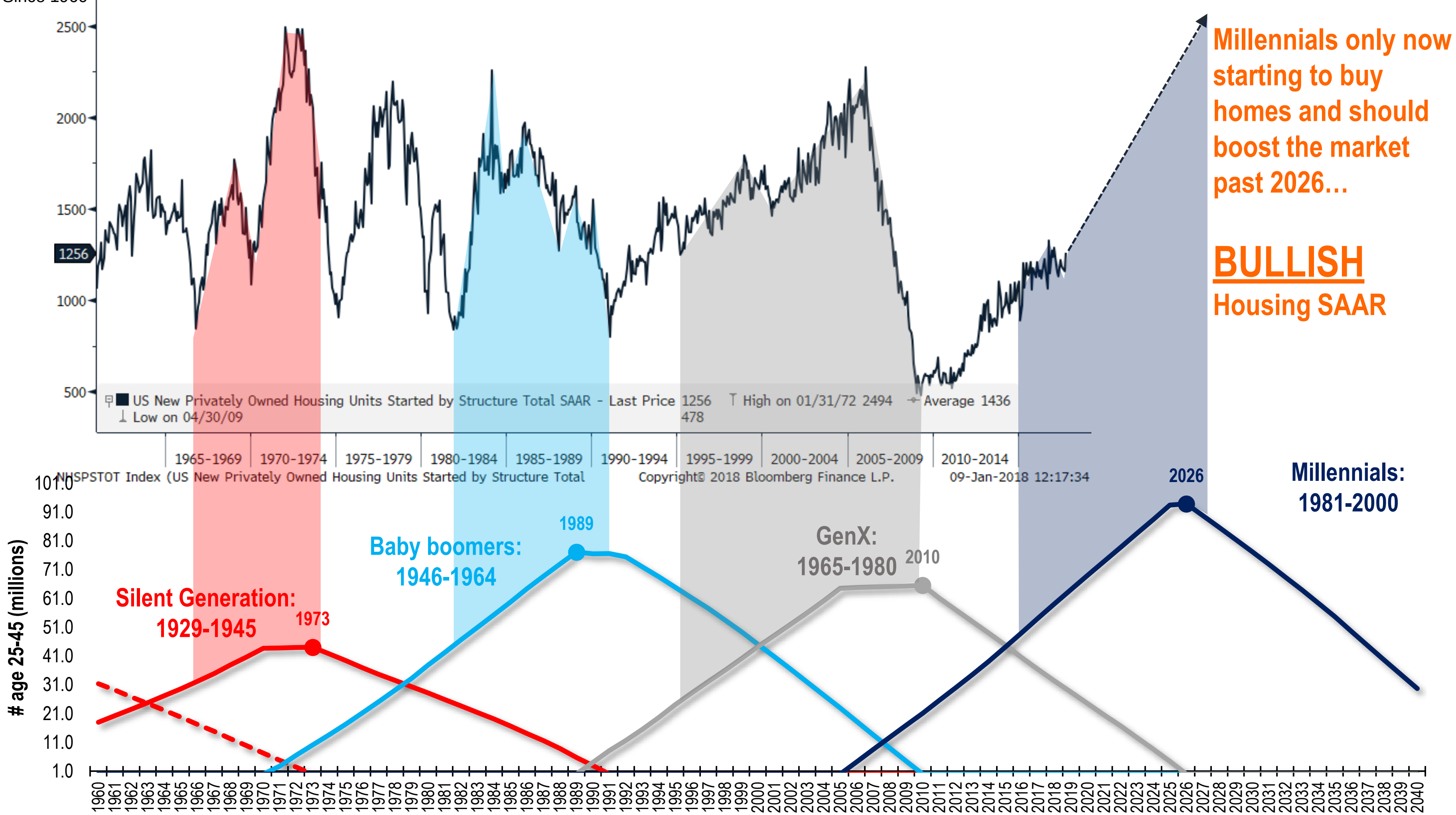
Housing follow generations and implies *peak* starts 2029 or so…

We believe the prime market for homebuyers is age 25-45 and as shown below, this cohort size seems to explain housing cycles.

- **If precedent generations are a template, housing starts should rise through 2029 towards 2.5 million starts.**

Figure: Housing starts and comparative size of generations age 25-45. Starts reported in thousands.

Since 1960



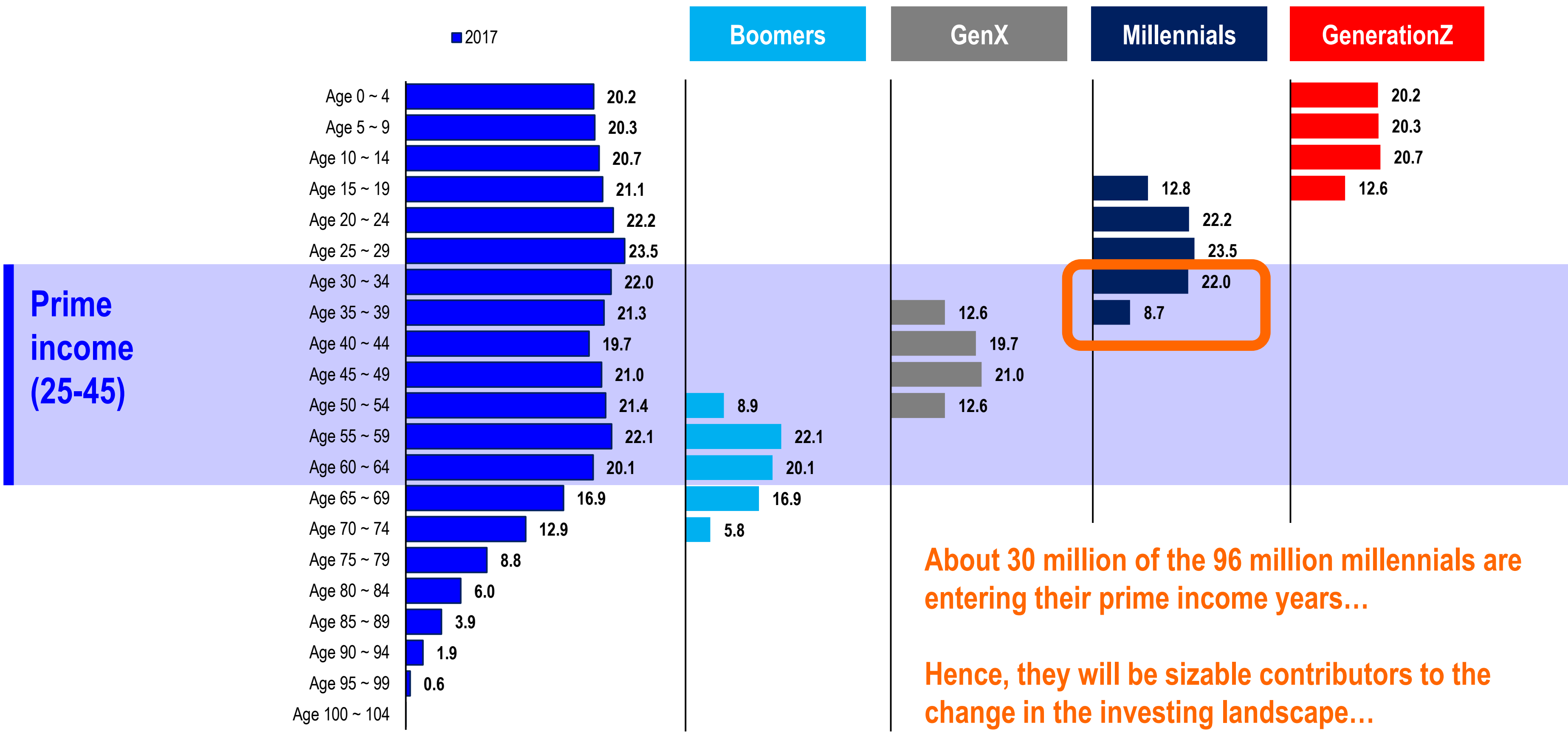
Source: Fundstrat, Bloomberg, Factset

Millennials are just entering their prime income years

Of the 96 million millennials, about 30 million are just entering their prime income years.

- **Thus, the key question from an investment perspective is how the millennials will impact the investment market in the coming decades. After all, each generation seemed to prefer a different investment product.**

Figure: Composition of Generations by age group
Census bureau



Source: Fundstrat, Bloomberg, Census bureau

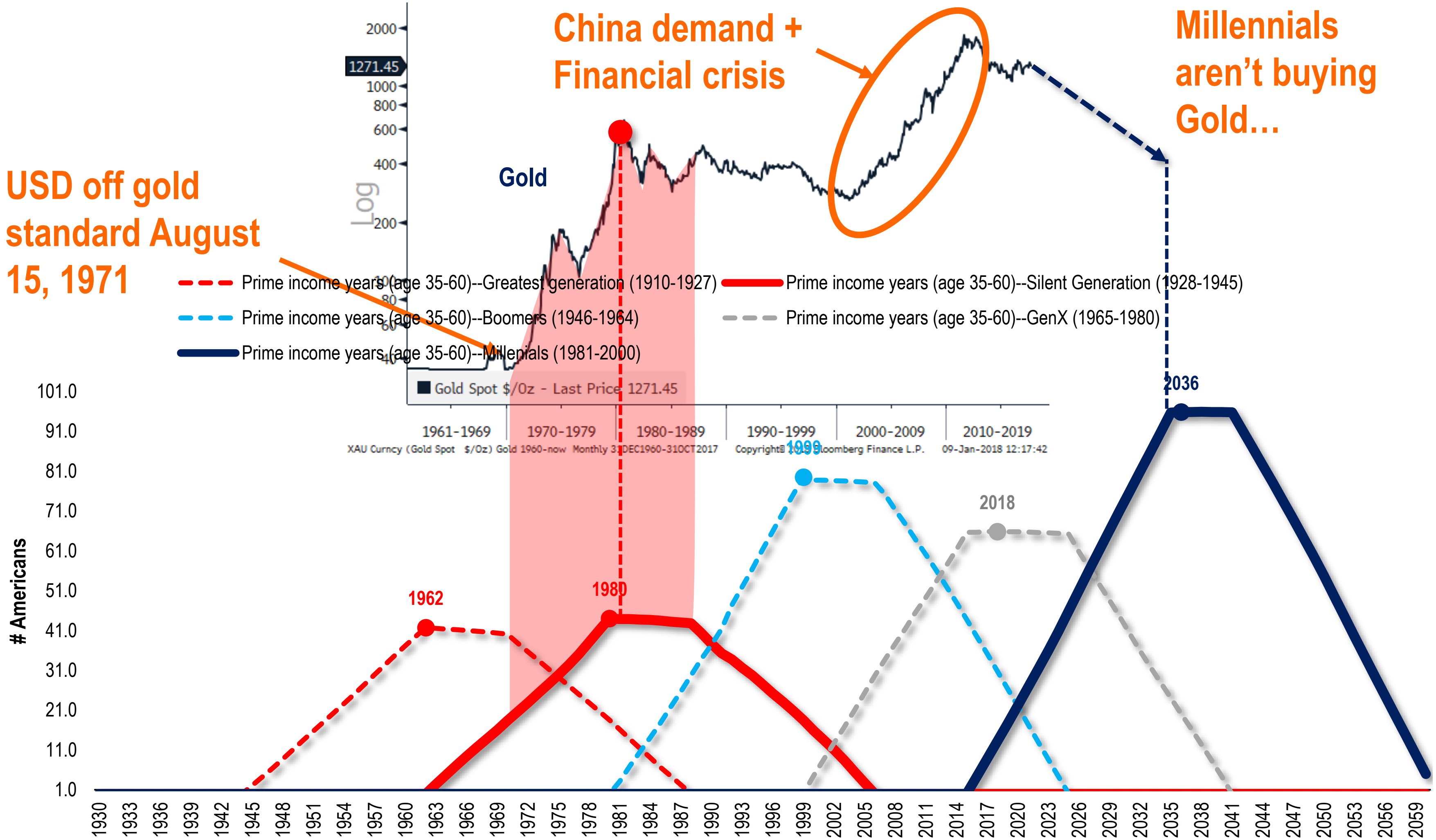
Silent Generation bought *gold*...

As shown below, the Silent Generation was in their prime income years. The USD moved off the gold standard in 1971.

- **As shown, this surge in gold and coincident generational prime income of "Silent Generation" means this generation is the key cohort of "gold bugs".**

Figure: Comparative Gold prices and the prime income years of various generations

Census bureau



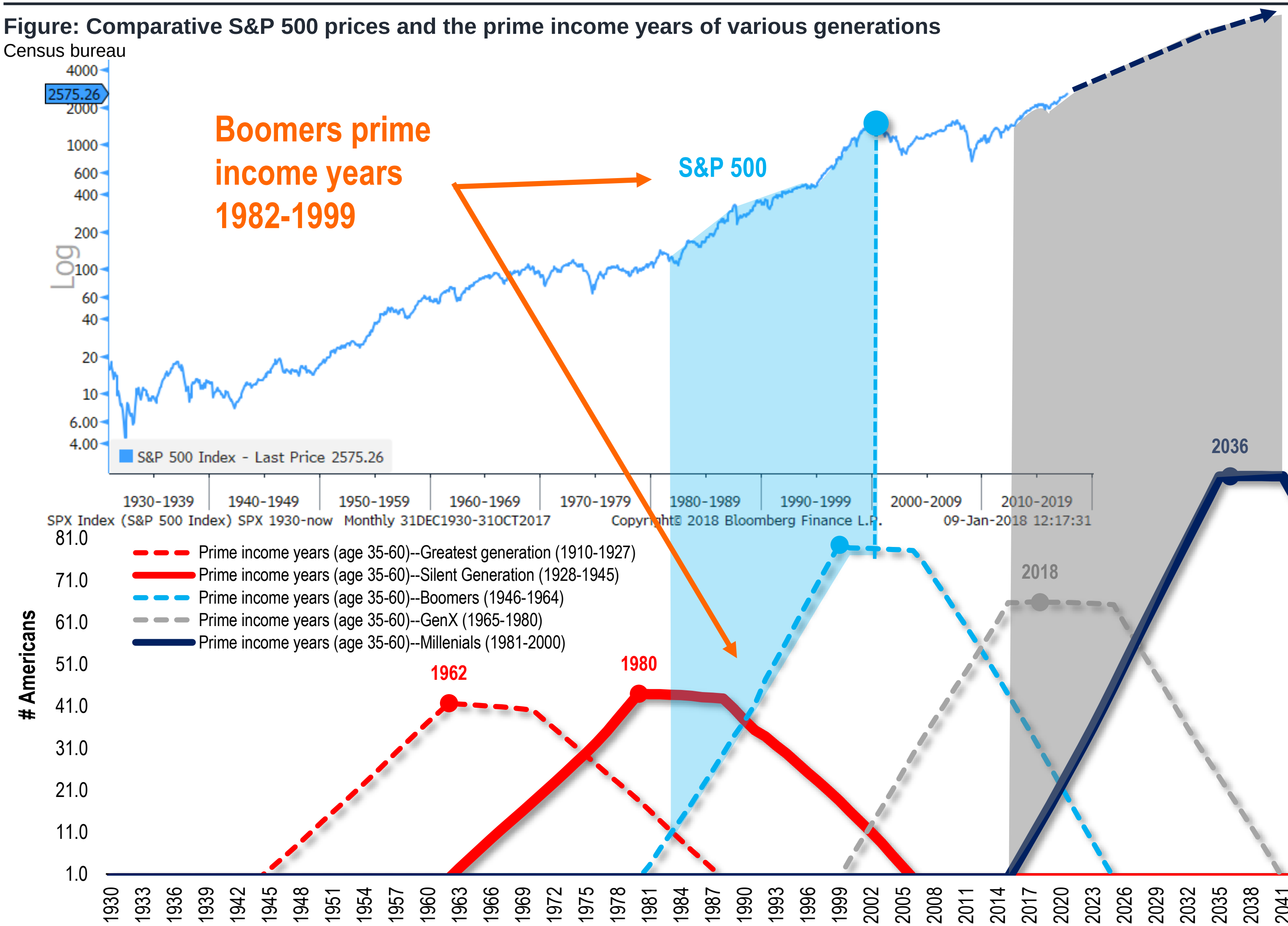
Boomers bought equities... millennials like "Growth stocks"

The Baby boomers prime income years stretched from 1982 and peaked in 1999.

- **Baby boomers prime income years stretched from 1982 and peaked in 1999, coinciding with equity market peak.**

Figure: Comparative S&P 500 prices and the prime income years of various generations

Census bureau



We believe Millennials like equities, and seems like they favor "Growth" stocks and digital-based companies…

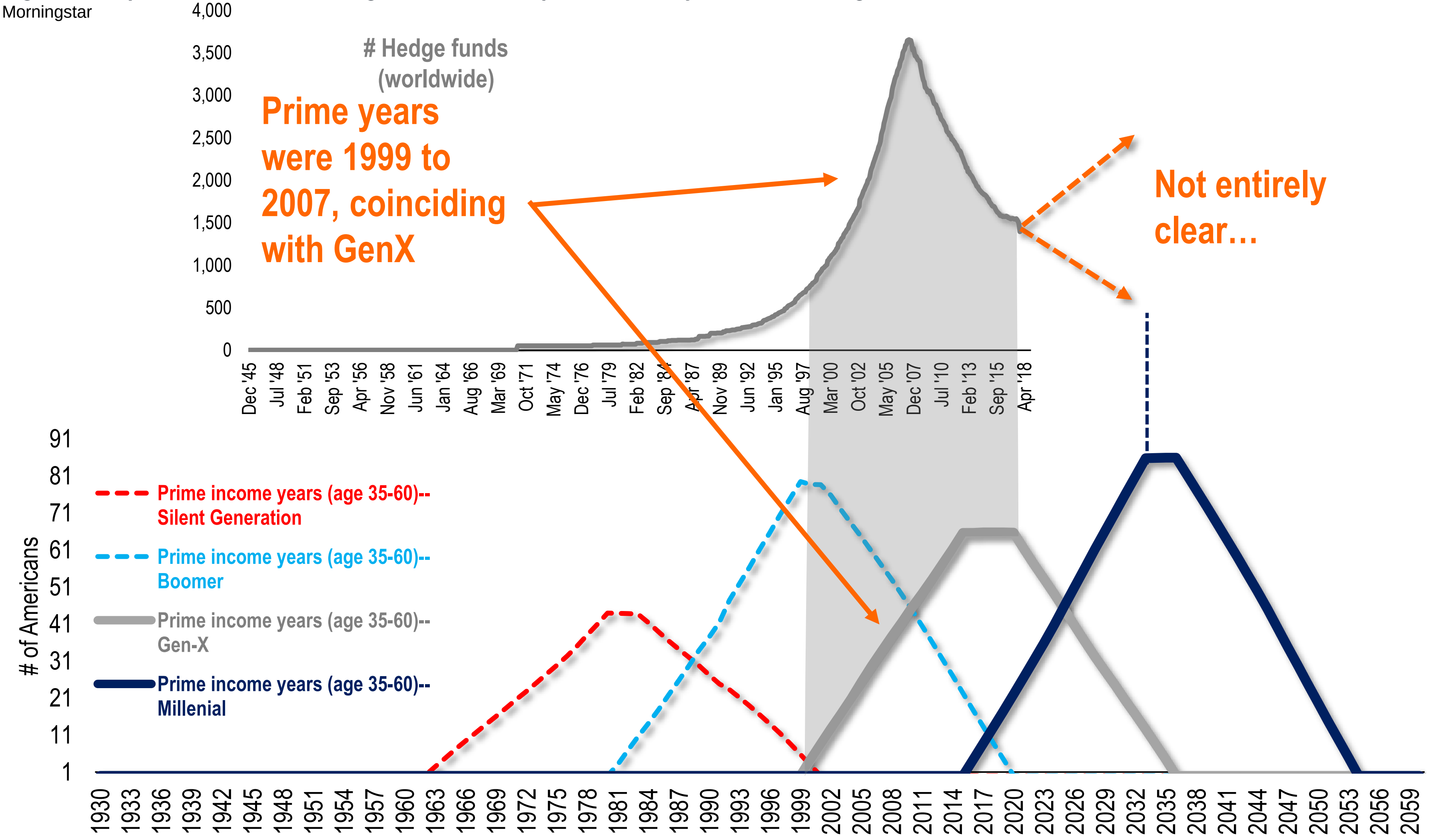
GenX really liked Hedge funds…

The prime years for hedge funds (based on number) was 1990s to 2007. Since then, the number of funds has been declining.

- **The hedge fund industry is evolving and those with deep fundamental or a unique advantage will likely appeal to millennials..**

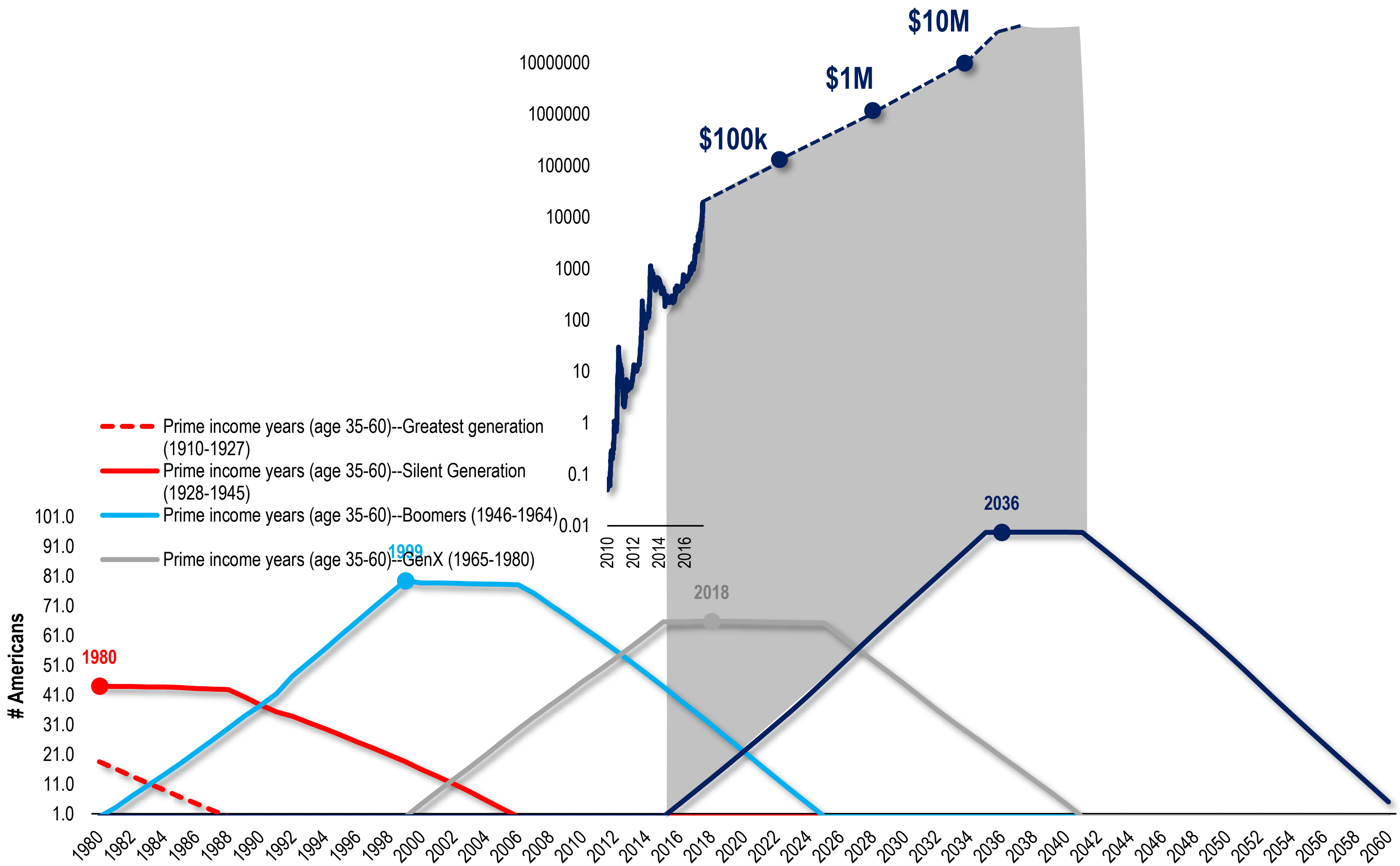
Figure: Comparative number of Hedge funds and the prime income years of various generations

Morningstar



Millennials *LOVE* Bitcoin and Blockchain

Figure: Fundstrat FS CryptoFX 300 Index
Morningstar



Overview

Forecast

Long-term bull market

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The Millennial tailwind

Technology and automation

Value style investing

Sectors: ICRAP

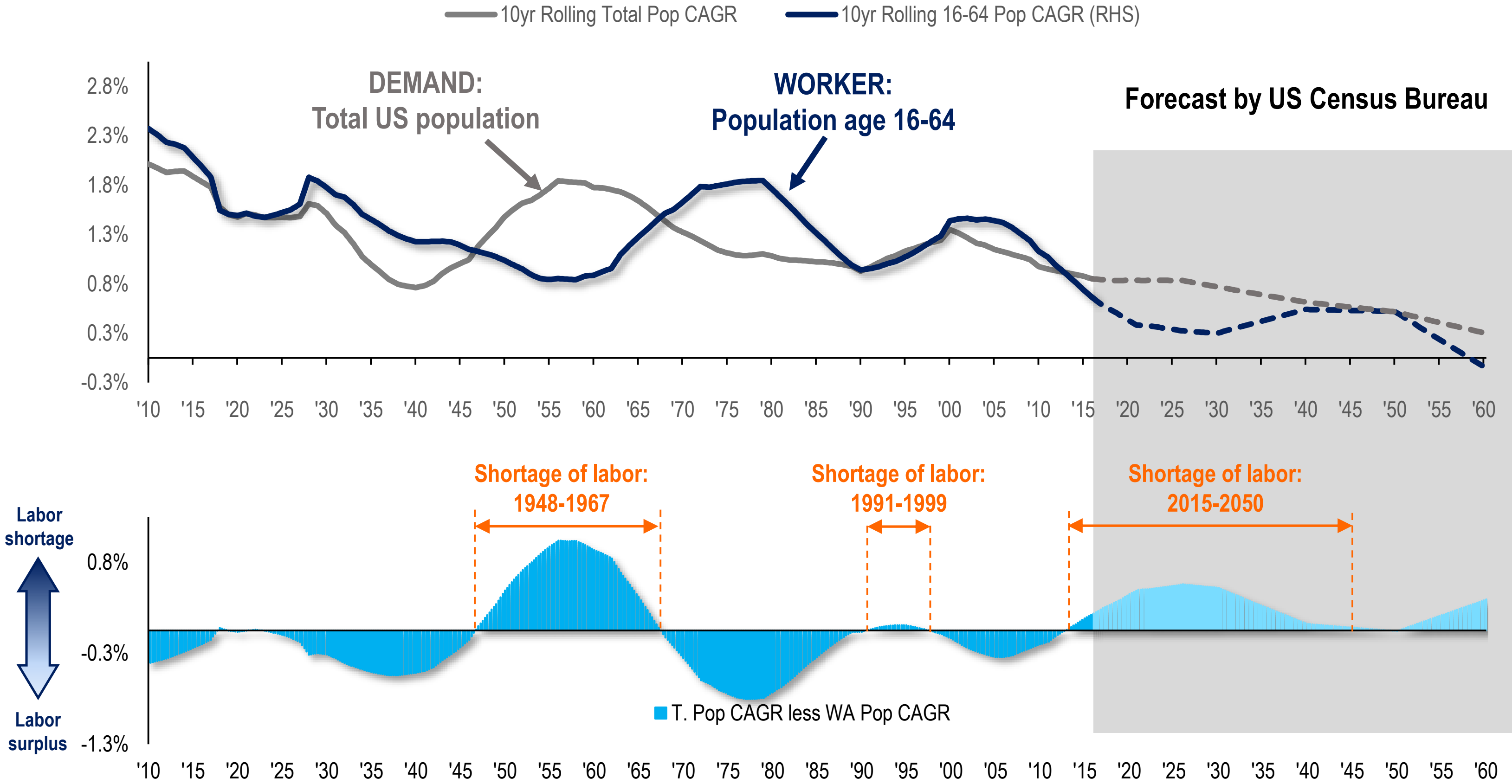
US population growth continues, creating *demand/worker gap*

The overall population growth rate of the US is expected to grow ~1% annually through the next 50 years—meaning the higher births and growth of the retirees is offsetting the shrinking labor pool.

- **Naturally, this creates a demand (total population) versus worker (age 16-64) gap—in other words, labor shortage and is expected to remain in place until 2050.**
- **This is the third time since 1900 that the US faced a shortage of labor, as highlighted below 1948-1967 and 1991-1999. This coming gap lasting an expected 35 years is larger than those two prior periods (19 and 8 years).**

Figure: Comparative growth of overall population versus working age population

Since 1900



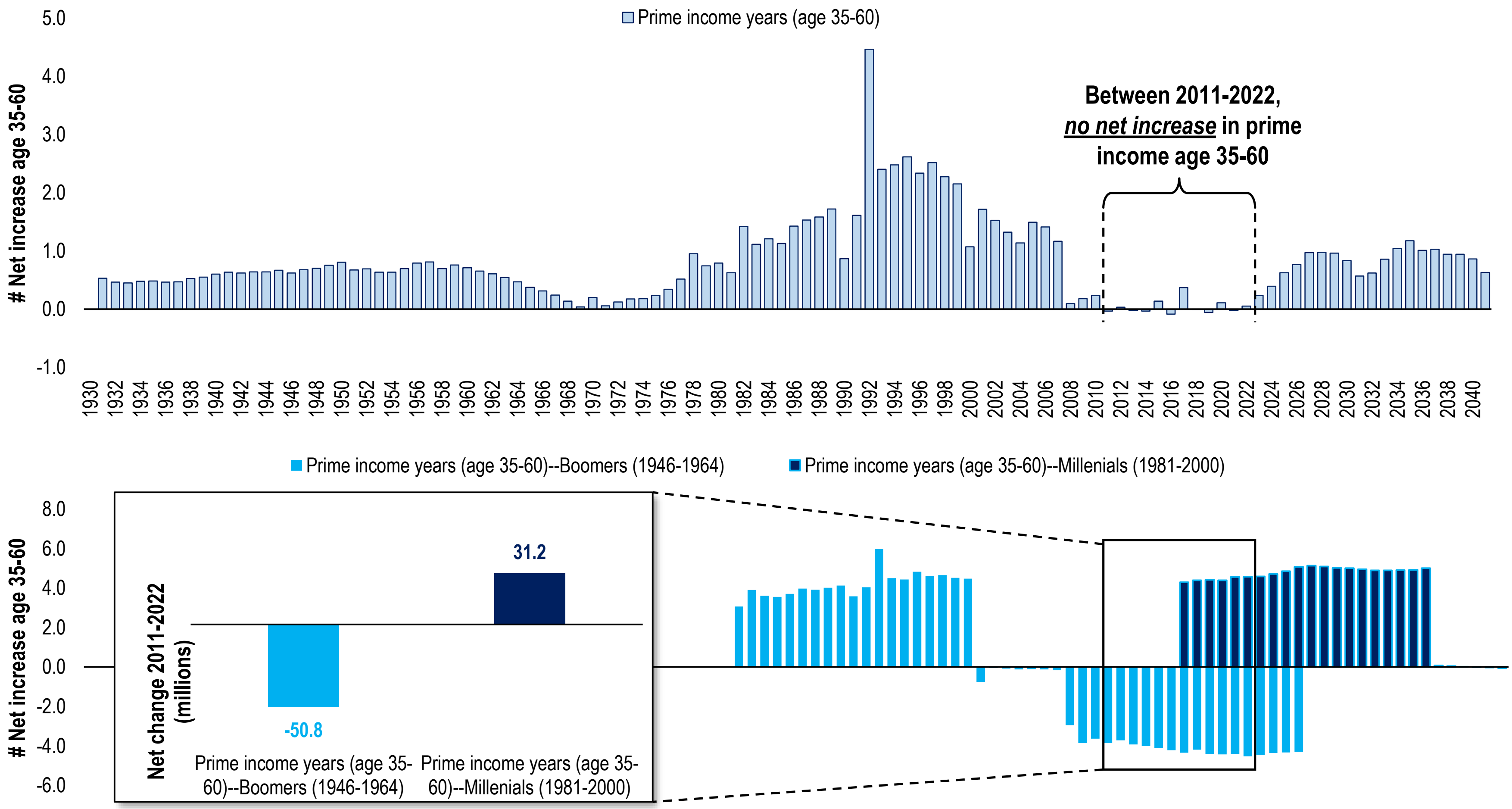
Source: Fundstrat, Bloomberg

No growth in workforce: 2011-2022: Millennials *replacing* boomers

The potential workforce is actually not growing between 2011-2022 as there is a large offset between Boomers retiring and the replacement of those by millennials.

- **But as the bottom chart shows, this net effect is fading after 2022, when the workforce begins to grow again.**

Figure: Number of adults entering prime earning age (35-60)
Number in millions



Source: Fundstrat, Bloomberg, Factset

Labor is driving (what little) inflation similar to 1950s…

We have highlighted the inflation rate of various economic components, relative to CPI and labor inflation is highlighted n the blue box.

- **As shown below, since 2000, labor costs have generally been benign relative to CPI and it is only recently that labor costs are inching relatively higher—this was last seen in the 1950s and at that time, labor markets constrained (worker shortages).**

Figure: CPI since 1950

Wage inflation leads CPI…

1/1950 to 12/1954	1/1955 to 12/1959	1/1960 to 12/1964	1/1965 to 12/1969	1/1970 to 12/1974	1/1975 to 12/1979	1/1980 to 12/1984	1/1985 to 12/1989	1/1990 to 12/1994	1/1995 to 12/1999	1/2000 to 12/2004	1/2005 to 12/2009	1/2010 to 12/2014	1/2015 to 08/2017
Shelter costs 4.1%	Medical Cost 3.9%	Medical Cost 2.5%	Medical Cost 5.6%	Commodities 14.5%	Shelter costs 9.6%	Medical Cost 9.0%	Medical Cost 7.1%	Medical Cost 6.7%	Medical Cost 3.3%	Commodities 6.2%	Commodities 11.2%	Medical Cost 2.9%	Medical Cost 3.7%
Medical Cost 3.9%	Labor costs 2.6%	Shelter costs 1.3%	Shelter costs 4.8%	Shelter costs 6.7%	Medical Cost 9.3%	Shelter costs 7.0%	Shelter costs 5.0%	Shelter costs 3.6%	Shelter costs 3.1%	Medical Cost 4.3%	Medical Cost 3.8%	Shelter costs 2.0%	Shelter costs 2.1%
Labor costs 2.7%	Shelter costs 2.0%	Total CPI Index 1.3%	Total CPI Index 3.9%	Total CPI Index 6.6%	Commodities 8.2%	Total CPI Index 6.3%	Entertainment Cost 4.0%	Entertainment Cost 3.5%	Total CPI Index 2.3%	Shelter costs 3.0%	Total CPI Index 2.5%	Total CPI Index 1.6%	Total CPI Index 1.9%
Total CPI Index 2.6%	Total CPI Index 2.0%	Labor costs 0.7%	Labor costs 3.7%	Medical Cost 6.5%	Total CPI Index 8.1%	Entertainment Cost 6.3%	Total CPI Index 3.6%	Total CPI Index 3.3%	Entertainment Cost 1.8%	Total CPI Index 2.4%	Shelter costs 2.4%	Labor costs 1.3%	Labor costs 1.6%
Commodities 1.5%	Commodities -0.7%	Commodities 0.5%	Commodities -0.2%	Labor costs 5.4%	Labor costs 7.0%	Labor costs 5.2%	Labor costs 2.9%	Labor costs 1.8%	Labor costs 1.7%	Entertainment Cost 1.2%	Labor costs 1.1%	Entertainment Cost 0.3%	Entertainment Cost 0.8%
–	–	–	–	Entertainment Cost 4.7%	Entertainment Cost 6.2%	Commodities -3.4%	Commodities -1.4%	Commodities 0.6%	Commodities -2.5%	Labor costs 1.1%	Entertainment Cost 0.8%	Commodities -0.8%	Commodities -1.6%

Source: Fundstrat, Bloomberg

Estimate $400b annual spend to *automate* 8.2mm labor shortfall…

By comparing the projected growth rate of the US population versus that of working age, we can estimate the implied "shortfall" of the pool of age 16-64, and hence, the potential labor shortage.

- **Over the next decade, the US Census bureau projects the US population to expand by 8% to 351.9mm but that the age 16-64 population will rise by less than 2%. As shown below, if age 16-64 grew by 8% (vs 2%), that is a difference of 13 million—using a 63% participation rate, this implies a 8.2mm shortfall of workers.**
- **Businesses likely invest in "capital" (automation) to offset this labor shortfall—assuming a labor parity cost of $50,000 per work replaced, this implies ~$400 billion expansion of technology spend (above trend) to replace workers.**

Figure: Comparative forecasts of Total US population and age 16-64
Census bureau

			Cumulative		
	2017	2027E	Δ	Δ%	CAGR
US Population: Total	325,971,385	351,932,300	25,960,915	8.0%	0.77%
US Population: age 16-64	206,670,388	210,158,729	3,488,341	1.7%	0.17%
Shortfall analysis:					
Implied Pop (16-64) to match overall growth		223,129,969	16,459,581	8.0%	0.77%
Implied shortfall of Pop age 16-64		12,971,240			
Participation rate (forecast)		**63%**			
Implied Labor shortfall		**8,171,881**			

8.1mm workers needed
x $50,000 labor parity/ year

= $400B "automation" capex/ year

Source: Fundstrat, Bloomberg

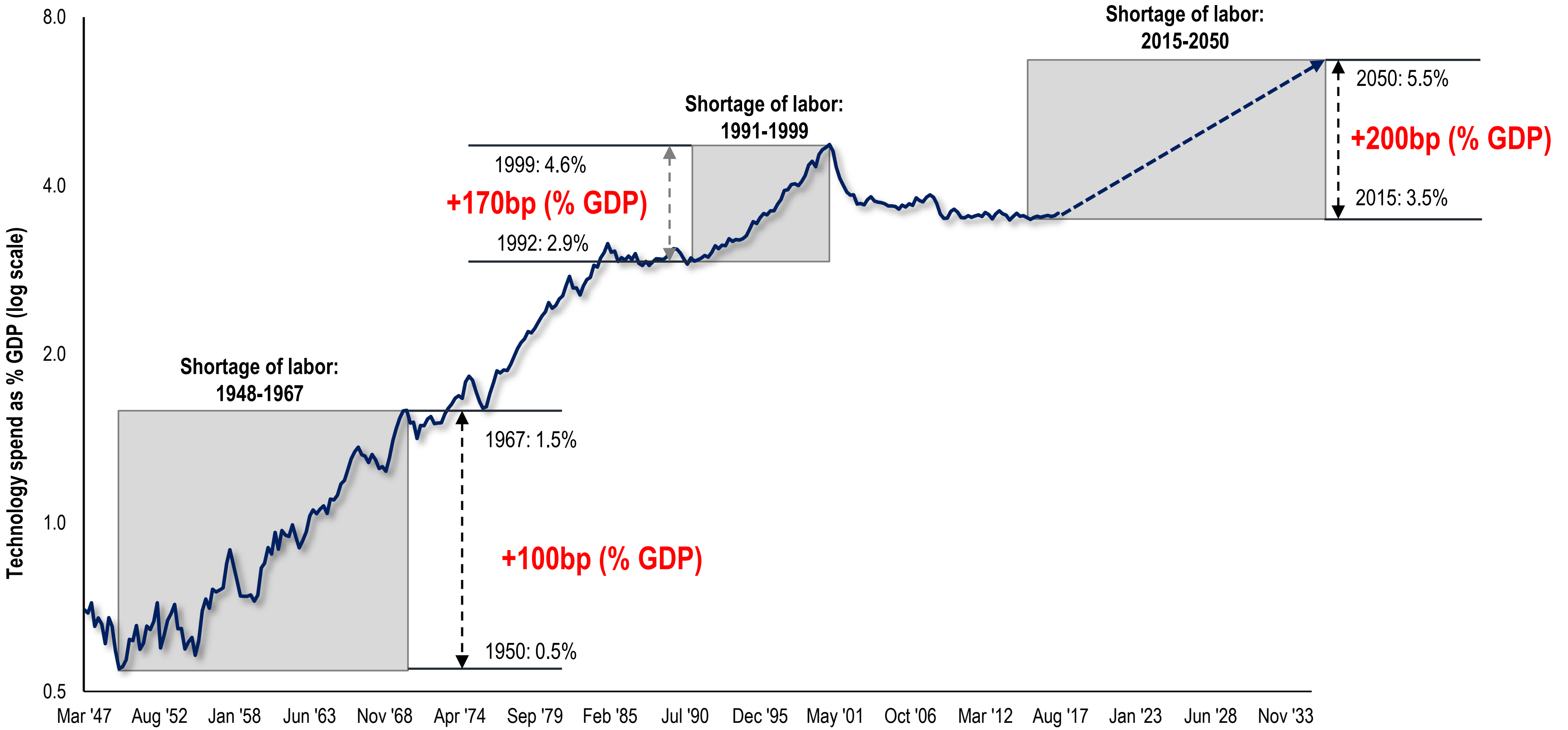
Prior periods of labor shortage saw a surge in Technology spending…

Technology spend (as % GDP) is shown below and the shaded areas show the two prior periods of "labor shortage" (population outstripped worker growth).

- **As shown, during both periods, Technology spend rose sharply as % GDP (+100bp, +170bp, respectively). This rise is not surprising—after all, companies meet production demands by automating.**
- **As discussed on the next page, we believe Technology spend could rise to 5.5% of GDP (all-time high) from 3.5% currently, given the large labor shortage developing.**

Figure: Technology spend as % GDP

Starting in 1947. Based on the sum of GDP components of Information Processing plus software (as % GDP)



Source: Fundstrat, Bloomberg

Sectors: Technology outperforms, Staples underperforms...

We highlighted the comparative performance of Technology and Consumer Staples during the two precedent periods of labor shortage. The reason we highlighted these groups is these two sectors bar-bell sector performance. Best in those two periods and the two worst.

- **The outperformance of Technology is logical, reflecting the need to replace workers with automation. The losers, in our view, are those companies/sectors which are heavily reliant on labor for value-added.**

Figure: Relative Performance of Technology and Consumer Staples during periods of labor shortages

Since 1950

Technology (relative return)

1951	1952	1953	1954	1955	1956	1957	1958	1959
4%	5%	7%	23%	4%	20%	7%	6%	16%

Consumer Staples (relative return)

1951	1952	1953	1954	1955	1956	1957	1958	1959
(13%)	(2%)	(1%)	(21%)	(6%)	(10%)	4%	(4%)	0%

Technology (relative return)

1992	1993	1994	1995	1996	1997	1998	1999
(4%)	13%	21%	5%	23%	(3%)	51%	59%

Consumer Staples (relative return)

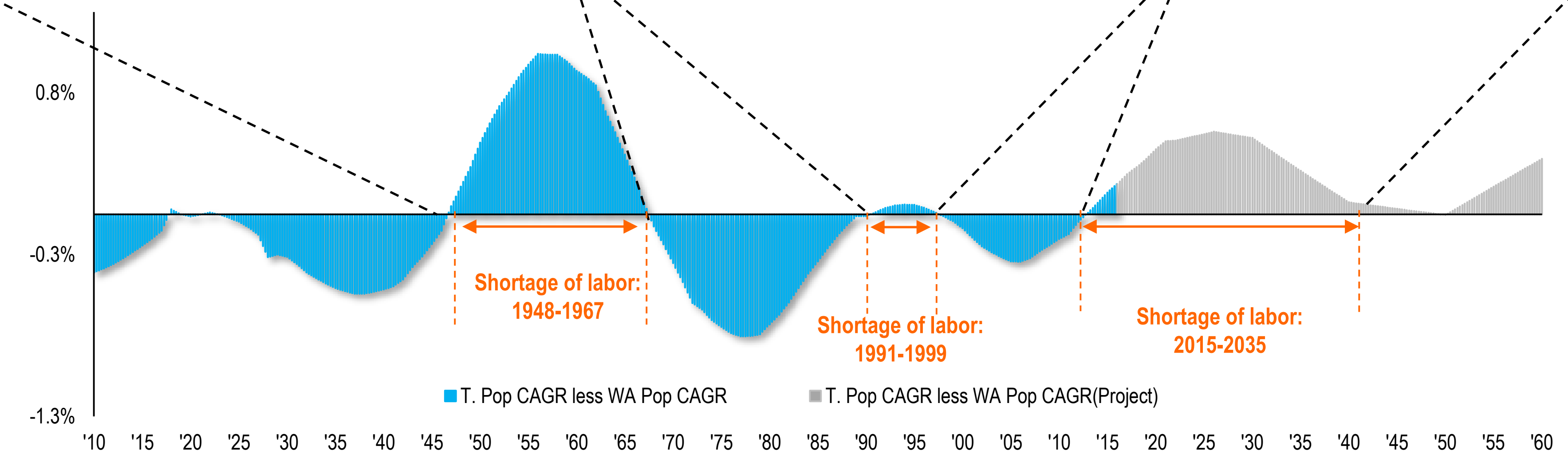
1992	1993	1994	1995	1996	1997	1998	1999
(1%)	(13%)	8%	2%	3%	(0%)	(13%)	(36%)

Winner?

Technology stocks...

Loser?

Wage-intensive...
Staples and Discretionary



Source: Fundstrat, Bloomberg

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Doctor Quant Model
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OW Value: 25 stocks that are quantitatively attractive; 25 avoid ideas

We favor Value in 2018 and have identified the 25 stocks that are in the Russell 1000 Value Index and quantitatively attractive, as well as 25 avoid ideas, based on the Fundstrat Doctor Quant Model

- **We further screened ideas based on the z-scores of P/B, LTM P/E, EBIT margin, asset turnover, last 90 day volatility and Debt to EBITDA**
- **We also ranked stocks on the ratio of dividend to FCF yield, EPS growth, EBIT margin, ROE, ROAS, Asset Turns and Volatility**

Figure: Russell 1000 Value Stocks that are quantitatively attractive
Based on stocks being ranked as quintile 1 in the DQM Model

Long

Discretionary	I Industrials	C Technology	R Materials	R Energy	A Financials	Real Estate	Staples	Healthcare	P Telcos/Media	Utilities
CCL MHK RCL TWX	CAT CSL IEX RTN SWK WM	MSI		HAL OXY XEC	AMG AMP BLK TROW		CL KMB WBA	AMGN BIIB BMY DHR		

Figure: Russell 1000 Value Stocks that are quantitatively unattractive
Based on stocks being ranked as quintile 5 in the DQM Model

Short

Discretionary	I Industrials	C Technology	R Materials	R Energy	A Financials	Real Estate	Staples	Healthcare	P Telcos/Media	Utilities
LVNTA MAT LBRDK FWONA	FLS JCI TRN		MOS	NBR RIG WLL BHGE		TCO CXP CLNS HTA MAC	RAD COTY CASY KR	OPK AGIO	CTL	NRG

Source: Fundstrat

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25 Long Russell 1000 Value ideas

Russell 1000 Value members that are in the Fundstrat Doctor Quant Model Quintile 1 (Long)

- **We further screened ideas based on the z-scores of P/B, LTM P/E, EBIT margin, asset turnover, last 90 day volatility and Debt to EBITDA**
- **We also ranked stocks on the ratio of dividend to FCF yield, EPS growth, EBIT margin, ROE, ROAS, Asset Turns and Volatility**
- **Each stock was scored positively, negatively or neutral on each of the above factors**
- **The 25 stocks listed below had the highest net positive score on these factors**

Figure: 25 Russell 1000 Value Buy ideas

		Ticker	Company name	Current Price	Mkt cap ($ mm)	P/E ('18E)	P/B	P/B Z-score	EBIT Margin	EBIT Margin z-score	ROE	ROA	Asset turnover	Asset turns z-score	Dividend Yield	FCF Yield	Div / FCF Yld	Debt / EBITDA	Debt / EBITDA z-score	volatility _30D	30D Vol Z-score
Discretionary	1	CCL	Carnival Corp	$68.07	$48,872	16.0x	2.0x	1.6x	9.0%	1.0x	6.1%	6.9%	0.4x	2.2x	2.6%	4.9%	53.6%	1.8x	(1.1x)	18.5%	(0.7x)
	2	MHK	Mohawk Industries Inc	$272.65	$20,268	18.3x	3.0x	1.1x	14.9%	1.2x	14.0%	8.0%	0.8x	(1.1x)		1.1%	0.0%	1.5x	(1.2x)	13.4%	(1.3x)
	3	RCL	Royal Caribbean Cruises Ltd	$123.34	$26,406	14.3x	2.5x	1.3x	14.3%	1.8x	16.5%	7.1%	0.4x	(0.9x)	1.9%	0.8%	251.6%	2.9x	(2.1x)	20.4%	(1.0x)
	4	TWX	Time Warner Inc	$91.65	$71,354	13.9x	2.6x	0.3x	23.3%	1.4x	16.4%	6.6%	0.5x	1.1x	1.9%	1.3%	140.9%	2.6x	(1.3x)	14.6%	1.1x
Industrials	5	CSL	Carlisle Cos Inc	$117.52	$7,285	19.1x	3.0x	1.1x	10.8%	0.1x	14.3%	8.4%	0.9x	0.9x	1.3%	4.6%	27.2%	1.1x	(0.6x)	16.0%	(1.0x)
	6	IEX	Idex Corp	$134.79	$10,298	28.7x	5.7x	2.3x	22.3%	1.2x	19.3%	9.9%	0.7x	(1.2x)	1.1%	1.2%	91.6%	1.5x	(1.2x)	12.6%	(1.2x)
	7	RTN	Raytheon Company	$193.53	$55,947	22.7x	5.2x	2.0x	13.3%	0.7x	21.2%	7.4%	0.8x	(0.6x)	1.6%	2.9%	54.1%	1.3x	(1.3x)	13.9%	(0.4x)
	8	SWK	Stanley Black & Decker Inc	$171.52	$26,303	20.5x	3.6x	1.9x	14.5%	1.4x	15.3%	6.4%	0.7x	0.3x	1.5%	4.0%	36.8%	2.1x	(1.1x)	10.9%	(0.9x)
	9	WM	Waste Management Inc	$87.32	$37,916	24.4x	7.2x	2.2x	19.0%	1.6x	26.3%	6.9%	0.7x	2.1x	1.9%	0.8%	251.4%	2.4x	(1.6x)	10.9%	(0.4x)
Technology	10	MSI	Motorola Solutions Inc	$92.06	$14,914	15.7x		2.7x	20.7%	1.2x		10.6%	0.7x	1.4x	2.3%	3.9%	57.4%	2.7x	0.0x	17.5%	0.6x
Energy	11	HAL	Halliburton Co	$52.39	$45,712	24.2x	5.0x	1.1x	12.4%	(0.7x)	17.4%	7.0%	0.7x	(0.7x)	1.4%	1.0%	140.5%	3.5x	0.6x	18.7%	(0.5x)
	12	PXD	Pioneer Natural Resources Co	$178.98	$30,456	49.5x	2.9x	(0.6x)	24.5%	(0.6x)	2.3%	1.5%	0.3x	1.9x	0.0%	(0.5%)	(8.2%)	1.5x	(0.5x)	22.7%	(0.3x)
	13	XEC	Cimarex Energy Co	$126.19	$12,021	20.4x	5.0x	1.1x	40.0%	0.7x	15.2%	7.8%	0.4x	1.9x	0.3%	0.3%	94.8%	1.5x	0.1x	22.9%	(0.6x)
Financials	14	AMG	Affiliated Managers Group	$198.19	$11,016	11.6x	3.2x	(0.7x)	33.4%		26.8%	6.2%	0.3x	(1.5x)	0.5%	10.2%	4.7%	3.1x	0.6x	14.2%	(1.4x)
	15	AMP	Ameriprise Financial Inc	$175.60	$25,977	12.7x	4.1x	2.7x			29.9%	1.3%	0.1x	0.5x	2.0%	5.0%	40.0%	1.5x	(1.3x)	14.2%	(1.1x)
	16	AXP	American Express Co	$101.23	$87,867	14.8x	4.2x	0.5x			25.9%	3.1%	0.2x	(0.5x)	1.4%	12.2%	11.5%	5.0x	(0.5x)	11.8%	(1.2x)
	17	BLK	Blackrock Inc	$530.97	$85,974	19.3x	2.8x	3.3x	43.4%		12.9%	1.5%	0.1x	2.4x	2.1%	4.1%	49.7%	1.0x	(1.0x)	13.8%	(1.1x)
Real Estate	18	AVB	Avalonbay Communities Inc	$170.95	$23,606	36.5x	2.3x	0.6x	37.7%	0.1x	6.6%	3.8%	0.1x	1.2x	3.4%	(0.7%)	(491.4%)	5.6x	(0.6x)	13.8%	(0.8x)
Staples	19	CL	Colgate-Palmolive Co	$74.66	$65,555	24.1x		2.7x	26.5%	1.2x		20.1%	1.2x	(1.1x)	2.2%	1.1%	205.8%	1.5x	0.8x	12.4%	0.2x
	20	HSY	Hershey Co/The	$110.69	$23,322	21.1x	28.3x	1.6x	17.5%	2.2x	125.3%	18.7%	1.3x	(1.2x)	2.5%	2.3%	105.8%	1.7x	1.3x	13.0%	(0.1x)
	21	KMB	Kimberly-Clark Corp	$114.77	$40,371	17.4x	155.9x	(0.0x)	18.8%	1.2x	781.7%	14.6%	1.2x	1.0x	3.5%	1.9%	183.2%	1.9x	0.6x	18.7%	0.5x
Healthcare	22	AMGN	Amgen Inc	$182.68	$132,609	14.3x	4.1x	(0.3x)	48.8%	2.1x	23.4%	10.5%	0.3x	(1.4x)	2.4%	7.9%	30.5%	2.6x	(1.4x)	15.2%	(1.2x)
	23	BIIB	Biogen Inc	$337.05	$71,278	14.1x	5.5x	(0.6x)	54.1%	0.7x	32.2%	17.8%	0.5x	(1.4x)		1.1%	0.0%	1.0x	0.9x	27.3%	(1.3x)
	24	BMY	Bristol-Myers Squibb Co	$61.70	$100,984	19.1x	6.8x	0.8x	22.0%	0.5x	35.0%	15.7%	0.6x	1.6x	2.6%	1.8%	144.6%	1.4x	(0.6x)	13.4%	(1.0x)
	25	DHR	Danaher Corp	$97.91	$68,107	22.5x	2.7x	2.0x	18.2%	(0.8x)	9.1%	5.1%	0.4x	(0.8x)	0.6%	1.5%	41.3%	2.6x	0.3x	14.6%	(1.8x)
		Average			**$45,777**	**20.6x**	**11.6x**	**1.2x**	**24.3%**	**0.9x**	**56.2%**	**8.5%**	**0.6x**	**0.3x**	**1.8%**	**3.0%**	**60.7%**	**2.2x**	**(0.5x)**	**15.8%**	**(0.7x)**
		Median			**$37,916**	**19.1x**	**4.1x**	**1.1x**	**20.7%**	**1.2x**	**17.4%**	**7.1%**	**0.5x**	**0.3x**	**1.9%**	**1.8%**	**53.6%**	**1.8x**	**(0.6x)**	**14.2%**	**(0.9x)**
		% of stocks positive					**92%**	**80%**	**92%**	**72%**	**92%**	**100%**	**100%**	**52%**	**92%**	**92%**	**84%**	**100%**	**36%**	**100%**	**16%**

Source: Fundstrat, Bloomberg, Factset

Doctor Quant Model

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25 Sell / Avoid Russell 1000 Value ideas

Russell 1000 Value members that are in the Fundstrat Doctor Quant Model Quintile 5 (Sell / Avoid)

- **We further screened ideas based on the z-scores of P/B, LTM P/E, EBIT margin, asset turnover, last 90 day volatility and Debt to EBITDA**
- **We also ranked stocks on the ratio of dividend to FCF yield, EPS growth, EBIT margin, ROE, ROAS, Asset Turns and Volatility**
- **Each stock was scored positively, negatively or neutral on each of the above factors**
- **The 25 stocks listed below had the worst net negative score on these factors**

Figure: 25 Russell 1000 Value Sell / Avoid ideas

		Ticker	Company name	Current Price	Mkt cap ($ mm)	P/E ('18E)	P/B	P/B Z-score	EBIT Margin	EBIT Margin z-score	ROE	ROA	Asset turnover	Asset turns z-score	Dividend Yield	FCF Yield	Div / FCF Yld	Debt / EBITDA	Debt / EBITDA z-score	volatility _30D	30D Vol Z-score
Discretionary	1	FWONA	Liberty Media Corp-Liberty-A	$31.93	$7,619	nm	1.3x	(1.1x)	(5.6%)	0.6x	(3.8%)	(1.6%)	0.2x	0.9x		1.4%	0.0%	27.3x	(0.1x)	28.7%	0.5x
	2	LBRDK	Liberty Broadband-C	$88.66	$16,114	nm			(212.1%)	(2.1x)	0.6%	0.6%	0.0x	(1.1x)			0.0%		0.0x	26.9%	0.1x
	3	LVNTA	Liberty Ventures - Ser A	$56.47	$4,825	40.1x	3.6x	0.8x	(90.6%)	(2.8x)	(6.1%)	(2.1%)	0.0x	(1.4x)		4.4%	0.0%			31.2%	(0.2x)
	4	MAT	Mattel Inc	$15.71	$5,400	39.7x	3.8x	(0.7x)	6.7%	(2.0x)	2.1%	(9.0%)	0.8x	(1.7x)	0.0%	(2.5%)	0.0%	5.9x	3.2x	50.6%	3.4x
Industrials	5	FLS	Flowserve Corp	$42.73	$5,582	23.3x	3.2x	(1.3x)	10.8%	(1.7x)	10.4%	3.4%	0.8x	(1.8x)	1.8%	1.2%	157.1%	3.6x	1.7x	19.9%	1.9x
	6	JCI	Johnson Controls Internation	$39.05	$36,134	14.0x	1.8x	(1.6x)	9.4%	0.4x	4.8%	2.9%	0.5x	(0.9x)	2.8%	0.0%	50898.9%	3.0x	1.2x	18.3%	1.7x
	7	TRN	Trinity Industries Inc	$36.57	$5,551	#N/A	1.4x	(0.1x)	14.5%	(1.6x)	5.2%	2.3%	0.4x	(1.9x)	1.4%	1.6%	90.8%	3.9x	1.5x	18.1%	(1.3x)
Materials	8	MOS	Mosaic Co/The	$25.79	$9,052	23.6x	0.9x	(1.3x)	6.6%	(1.3x)	3.1%	1.8%	0.4x	(1.3x)	0.5%	2.2%	21.0%	3.6x	1.5x	25.6%	(0.3x)
Energy	9	NBR	Nabors Industries Ltd	$7.46	$2,370	nm	0.7x	(1.0x)	(8.6%)	(1.7x)	(11.7%)	(4.1%)	0.3x	(1.1x)	3.2%	0.3%	1108.9%	7.3x	2.2x	47.4%	0.0x
	10	RIG	Transocean Ltd	$11.96	$4,677	nm	0.4x	(0.8x)	8.4%	(0.1x)	(4.0%)	1.3%	0.1x	(1.8x)	0.0%	3.2%	0.0%	4.0x	1.5x	41.9%	(0.2x)
	11	WLL	Whiting Petroleum Corp	$28.61	$2,595	nm	0.6x	(1.0x)	(5.0%)	(0.9x)	(5.6%)	(2.8%)	0.1x	(1.0x)		(2.2%)	0.0%	4.1x	0.5x	51.8%	0.4x
Real Estate	12	CLNS	Colony Northstar Inc-Class A	$10.91	$5,960	39.4x	0.8x	(1.6x)			1.4%	1.2%	0.2x	(1.4x)	9.9%	7.9%	125.5%	10.7x	1.3x	15.2%	(1.1x)
	13	CXP	Columbia Property Trust Inc	$21.89	$2,622	nm	1.0x	(0.8x)	18.6%	(0.3x)	0.3%	0.2%	0.1x	(2.4x)	3.7%	1.0%	363.0%	7.3x	0.9x	17.1%	(1.1x)
	14	HTA	Healthcare Trust Of Ame-Cl A	$27.99	$5,735	#N/A	1.8x	(0.9x)	22.3%	0.3x	2.2%	1.0%	0.1x	(1.9x)	4.5%	4.0%	111.2%	8.4x	1.9x	18.3%	(1.8x)
	15	MAC	Macerich Co/The	$62.91	$8,856	#N/A	2.4x	(0.1x)	43.9%	0.8x	3.1%	1.3%	0.1x	(0.4x)	4.7%	0.3%	1711.0%	8.6x	0.2x	26.7%	2.5x
	16	SKT	Tanger Factory Outlet Center	$24.63	$2,328	22.8x	4.0x	(1.8x)	31.9%	(1.9x)	14.1%	3.5%	0.2x	(1.4x)	5.7%	0.8%	752.3%	6.4x	0.9x	26.9%	1.9x
	17	TCO	Taubman Centers Inc	$61.80	$3,752	60.1x			35.4%	(2.6x)		2.3%	0.2x	(1.2x)	4.2%	0.5%	763.9%	11.2x	1.7x	29.6%	3.9x
Staples	18	CASY	Casey'S General Stores Inc	$120.24	$4,515	24.7x	3.9x	(1.4x)	2.6%	(0.3x)	13.6%	5.0%	2.5x	(1.3x)	0.9%	(0.4%)	(218.9%)	2.6x	1.8x	48.2%	3.1x
	19	COTY	Coty Inc-Cl A	$20.44	$15,316	29.8x	1.6x	(1.0x)	12.0%	(2.5x)	4.5%	1.4%	0.6x	(0.7x)	2.4%	2.0%	122.2%	6.9x	1.5x	22.9%	1.6x
	20	KR	Kroger Co	$27.93	$24,616	13.6x	3.9x	(1.0x)	3.1%	(1.9x)	24.4%	4.3%	3.2x	(1.4x)	1.9%	4.3%	43.2%	2.8x	2.0x	34.5%	1.1x
	21	RAD	Rite Aid Corp	$2.13	$2,266	nm	2.7x	(0.6x)	1.1%	(2.0x)	(27.8%)	(1.8%)	2.6x	(1.7x)		6.6%	0.0%	3.8x	(1.7x)	67.1%	1.7x
Healthcare	22	AGIO	Agios Pharmaceuticals Inc	$66.28	$3,231	nm	7.2x	(0.5x)	(586.3%)	(1.7x)	(22.3%)	(12.7%)	0.1x	(1.2x)		(8.2%)	0.0%			59.1%	(1.0x)
	23	OPK	Opko Health Inc	$5.03	$2,811	nm	1.3x	(1.2x)	(10.6%)	0.9x	(3.9%)	(3.0%)	0.4x	1.2x		(1.0%)	0.0%		1.5x	38.3%	2.3x
Telecoms	24	CTL	Centurylink Inc	$17.34	$18,542	12.6x	0.7x	(2.7x)	18.4%	(1.7x)	4.1%	1.2%	0.3x	(0.9x)	12.5%	3.0%	411.7%	4.2x	2.9x	52.6%	2.3x
Utilities	25	NRG	Nrg Energy Inc	$28.32	$8,966	#N/A	7.6x	3.2x	4.8%	(1.0x)	(12.0%)	(0.9%)	0.4x	0.5x	0.4%	0.4%	97.4%	9.1x	1.1x	26.0%	(0.2x)
		Average			**$8,377**	**28.6x**	**2.5x**	**(0.8x)**	**(27.9%)**	**(1.1x)**	**(0.1%)**	**(0.2%)**	**0.6x**	**(1.1x)**	**3.4%**	**1.3%**	**2262.4%**	**6.9x**	**1.3x**	**33.7%**	**0.8x**
		Median			**$5,551**	**24.2x**	**1.8x**	**(1.0x)**	**6.6%**	**(1.6x)**	**1.8%**	**1.2%**	**0.3x**	**(1.3x)**	**2.6%**	**1.1%**	**90.8%**	**5.9x**	**1.5x**	**28.7%**	**0.5x**
		% of stocks positive					**92%**	**8%**	**68%**	**20%**	**60%**	**64%**	**100%**	**12%**	**64%**	**76%**	**60%**	**84%**	**84%**	**100%**	**64%**

Source: Fundstrat, Bloomberg, Factset

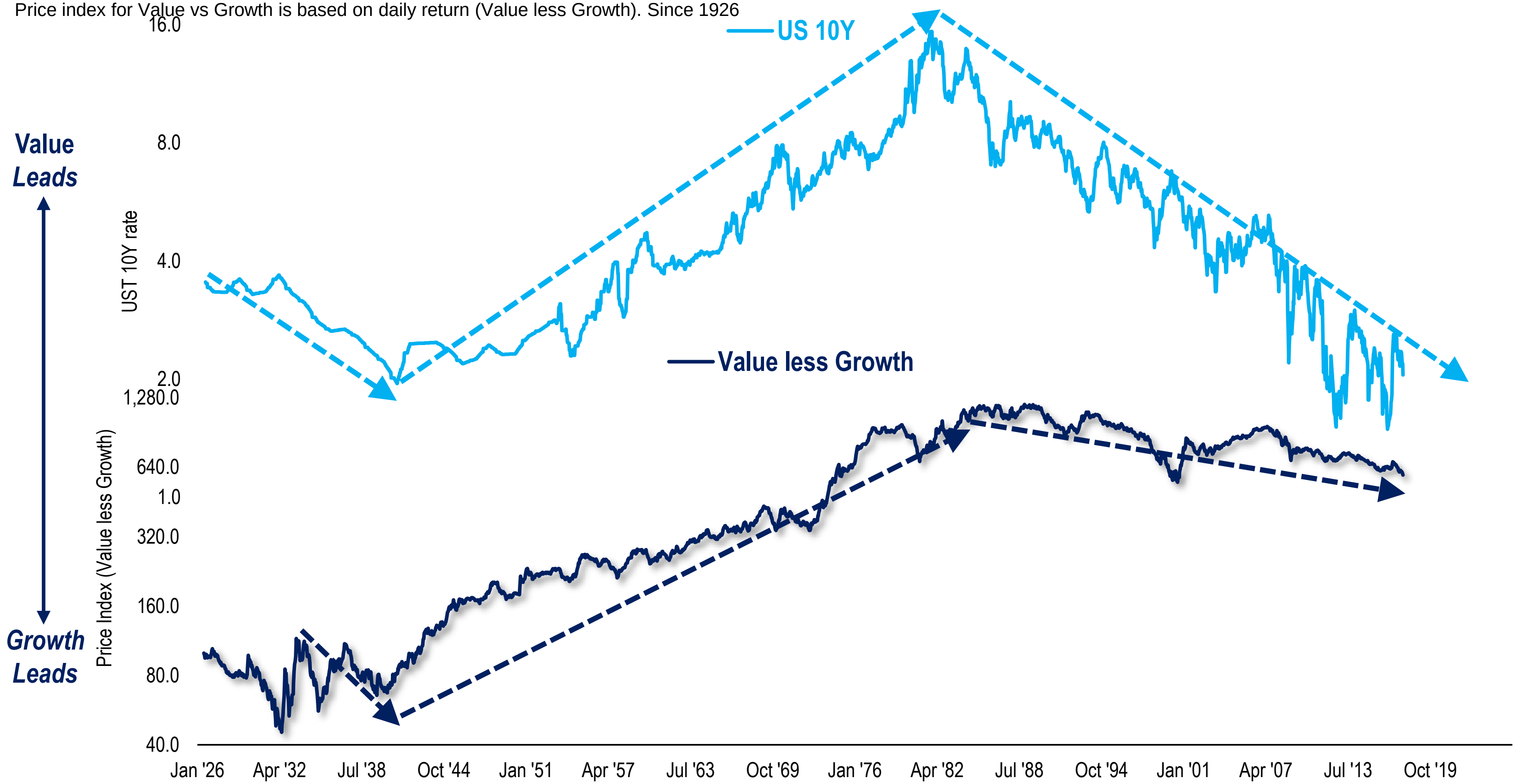
Rising interest rates ultimate tailwind for Value investing…

We have written two reports previously discussing what we see as factors behind the lagging returns in Value, of which, we see 3 of 4 factors as temporary (see report published Sept 8, 2017 “4 factors explain underperformance of Value”). And last week, we noted that the underperformance of US Value vs US Growth *AND* Global Value is historic.

- **But as highlighted below, perhaps the biggest headwind to Value’s performance has been QE and falling interest rates. As shown below, during periods of rising rates, Value generally has outperformed.**

Figure: Comparison of US 10-year yields and Value vs Growth relative returns

Price index for Value vs Growth is based on daily return (Value less Growth). Since 1926



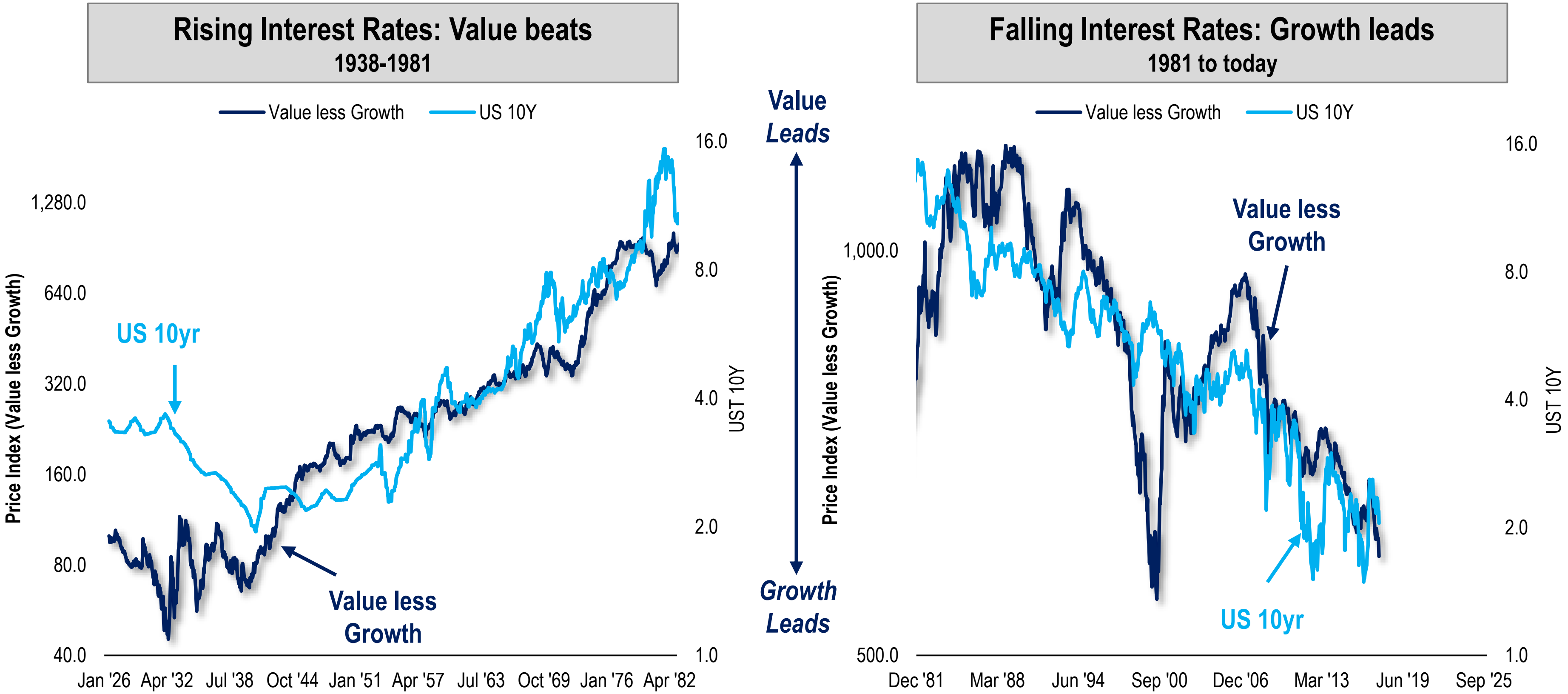
Source: Fundstrat, Bloomberg. FAMA until 1975

Rising interest rates = Inflation + Faster EPS, ***both*** good for Value…

To better appreciate this relationship, we broke the prior chart into the two time periods (no gaps, just two charts).

- **As shown below, during the 43 year rise of interest rates (1943-1981), Value stocks outperformed most years. And the converse is true, as interest rates fell from 1981 to today, this has hurt Value performance.**
- **Rising rates equates to higher nominal returns (either from inflation or real growth) and this in turn leads to faster EPS growth—hence, rising rates favor Value stocks which outperform when nominal growth is faster.**

Figure: Interest rates and the comparative returns of Value vs Growth
Since 1926



Source: Fundstrat, Bloomberg

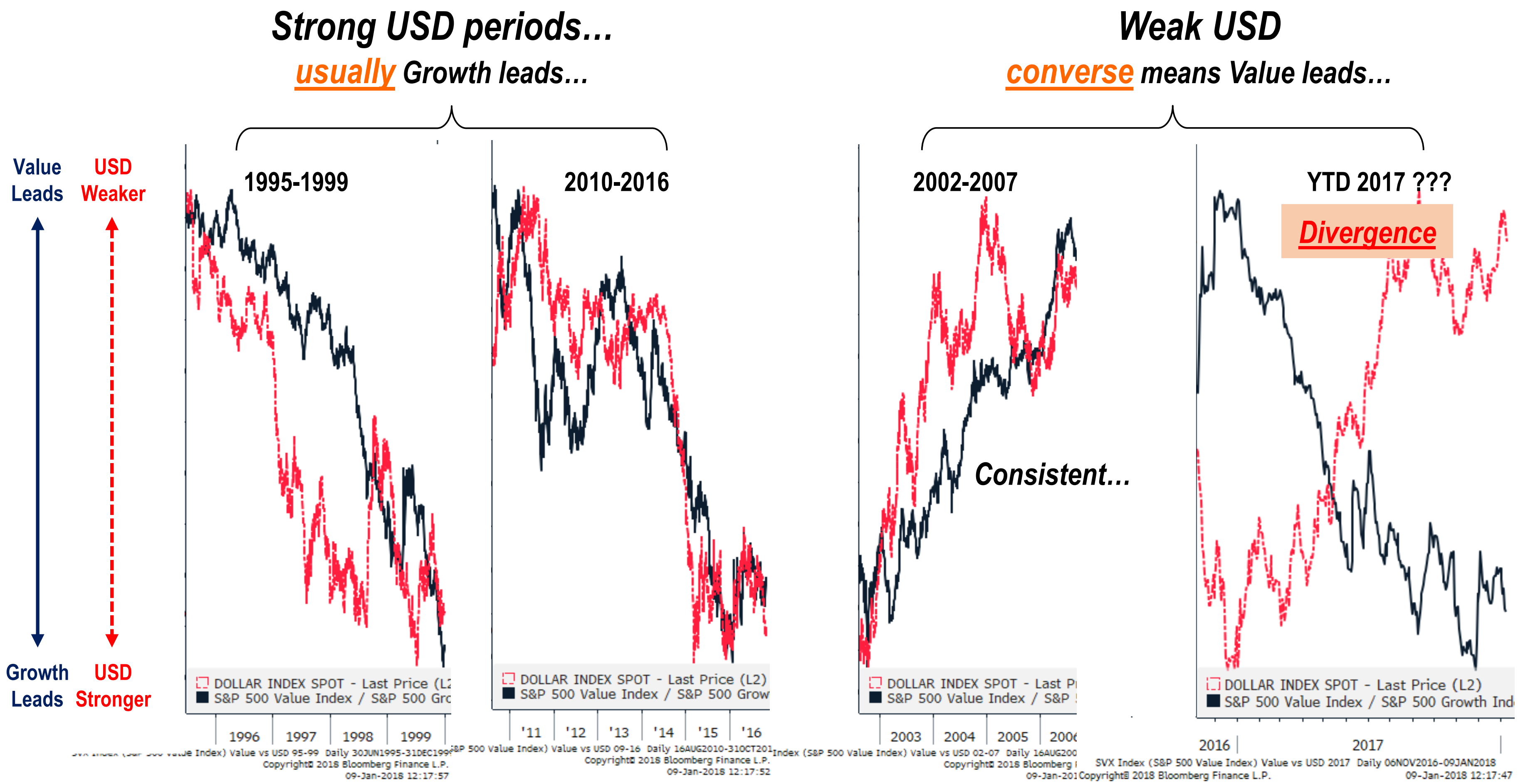
But in 2017, this relationship curiously diverged…

When we overlay the USD indices and Growth/Value, one can see the very close relationship between USD and Value/Growth.

- **But since 2017, this divergence has developed. We find this somewhat puzzling and discuss this on following pages. Bottom line, we still see Value as attractive and would OW Value.**

Figure: Value vs Growth and USD Index

Last two expansion



Source: Fundstrat, Bloomberg

Overview

Executive Summary

Global growth accelerating

The Millennial tailwind

Technology and automation

Value style investing

Sectors: ICRAP

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Sectors OW: ICRAP, 66 stocks that are quantitatively attractive

As noted, we favor Cyclicals in 2018, with the 6 OW sectors shown below (acronym: ICRAP).

- **We have identified the 66x stocks in these 6 sectors that are quantitatively attractive on the Fundstrat Doctor Quant Model.**

Figure: ICRAP Stocks that are quantitatively attractive

Based on stocks being ranked as quintile 1 in the DQM Model – Highlighted ideas are in our long value screen (Slide 62)

I Industrials		C Technology		R Materials		R Energy		A Financials		P Telecoms/ Media	
Growth	Value	Growth	Value	Growth	Value	Growth	Value	Growth	Value	Growth	Value
BA	BA	ACN	IBM	APD	APD	CXO	CVX	**AMP**	AFL	CMCSA	
CAT	**CAT**	ADBE		NUE	LYB	EOG	CXO	AXP	**AMP**		
CMI	DE	ADP			NUE	**OXY**	EOG	**BLK**	AXP		
DE	EMR	FIS				PXD	MPC	CINF	**BLK**		
EMR	HON	GOOG				SLB	**OXY**	NTRS	CB		
FDX	MMM	IBM				**XEC**	PSX		CINF		
GWW	NSC	INTU					SLB		COF		
HON	**RTN**	KLAC					VLO		GS		
HRS	UNP	LRCX					**XEC**		MTB		
ITW		**MSI**					XOM		NTRS		
JBHT		TSS							PFG		
LMT		TXN							PNC		
MMM		V							RE		
NOC									STT		
ROK									TRV		
RTN									WFC		
UNP									WLTW		
UPS											

Source: Fundstrat

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S&P 500 Sector Relative Performance vs. S&P 500

Weekly data

Source: Fundstrat, Bloomberg, Updata

DISCRETIONARY
Oversold rebound continues

C **TECHNOLOGY**
Uptrend intact

I **INDUSTRIALS**
Improving from long-term relative uptrend

R **MATERIALS**
Challenging upper end of 2016-2107 trading range

R **ENERGY**
Testing upper end of H2 2017 trading range

Daily data

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S&P 500 Sector Relative Performance vs. S&P 500

Weekly data

Source: Fundstrat, Bloomberg, Updata

A **FINANCIALS**
Consolidation above 2013-2015 trading range continues

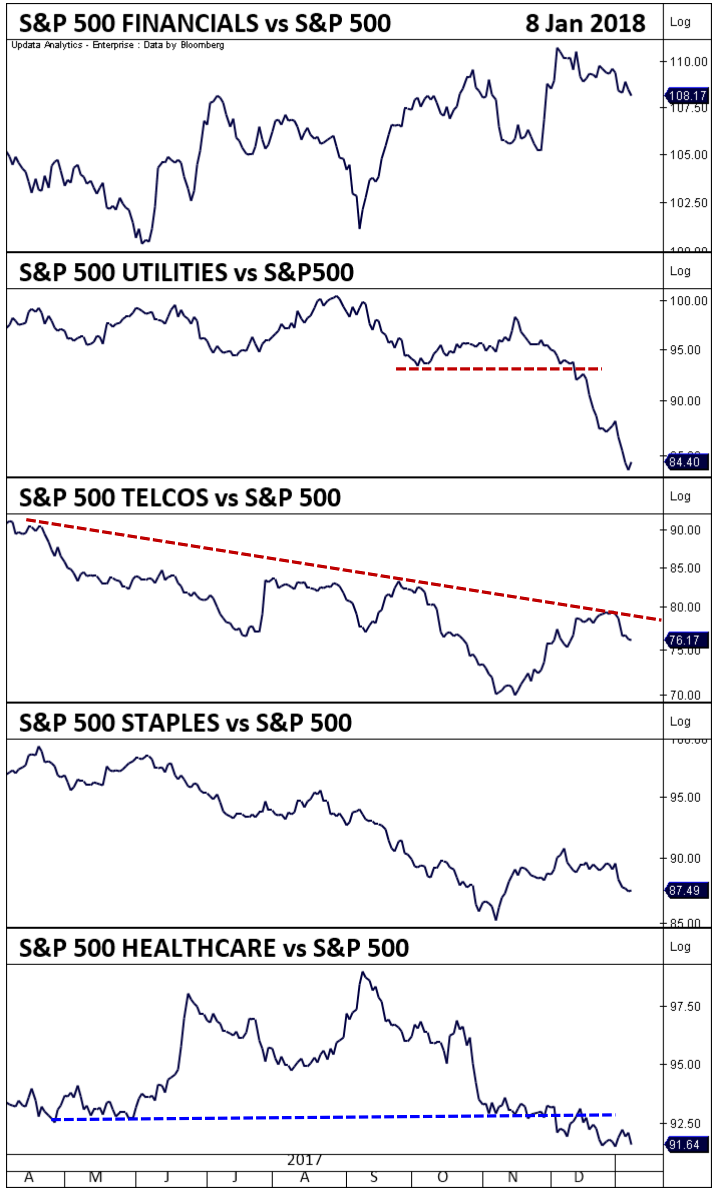
UTILITIES
Beginning to emerge from 2017 trading range

P **TELCOs**
Downtrend intact

STAPLES
Downtrend intact with August bottoming attempt struggling to take hold

HEALTHCARE
Beginning to break the 2009-2016 uptrend

Daily data



Comparative exposure to bitcoin and/or blockchain

● --highly levered
◕
◑
◔--modestly levered

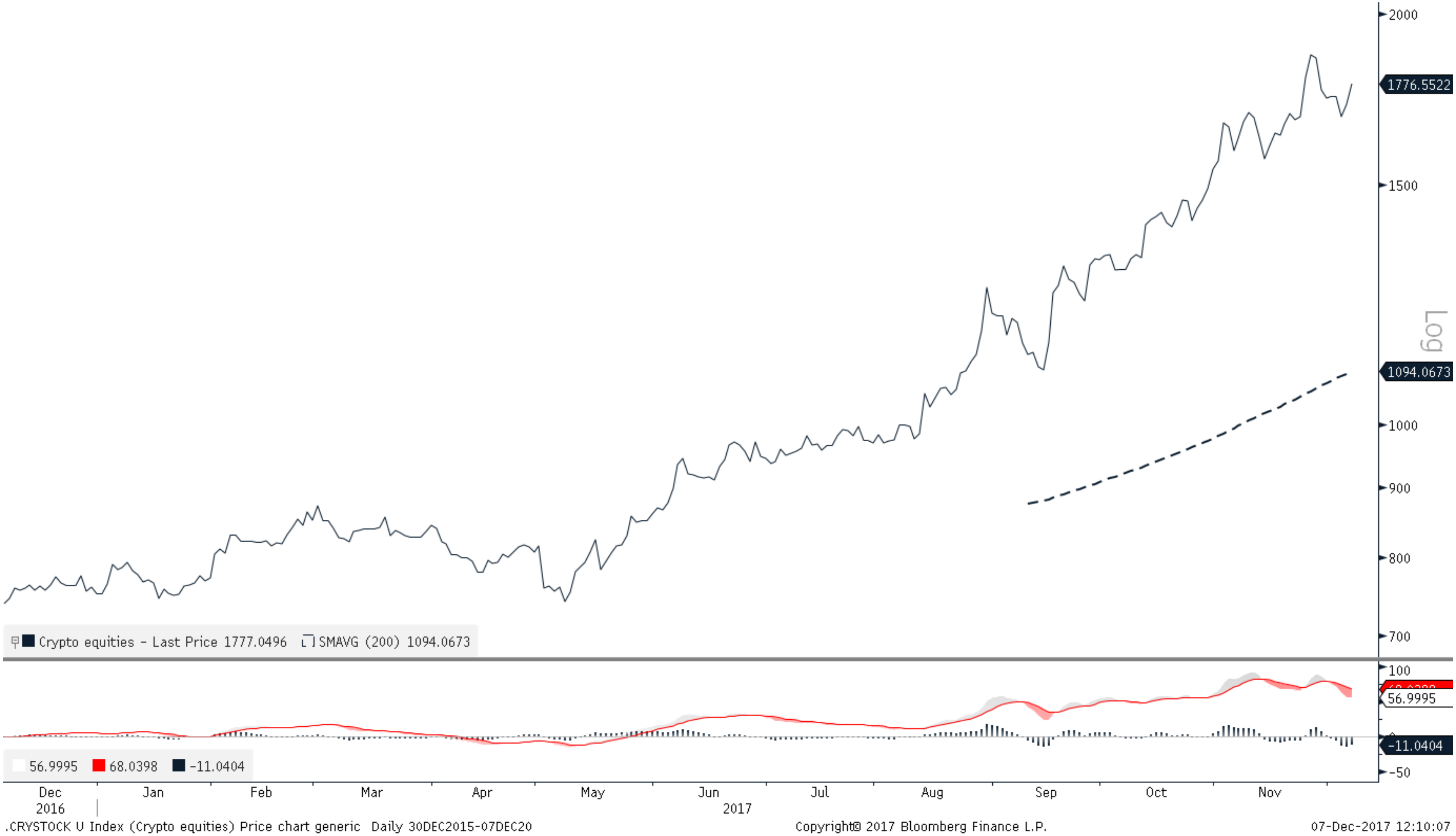
Figure: Companies leveraged to Blockchain and Bitcoin
Sorted from greatest exposure to least

Company	Ticker	Price	Overall Crypto exposure	*Leverage to Crypto-currencies...* Price of Crypto	Transaction volume	Mining	Comments
Bitcoin Investment Trust	GBTC		●	●			ETN with ownership of bitcoin
MGT Capital	MGTI		●			●	Crypto miner
Hive Blockchain Technologies	HIVE.CN		●			●	Crypto miner
US Global Investors	GROW		●			●	Leveraged stake in HIVE
DigitalX	DCC.AU		●		●		Advisory and research services
Nvidia	NVDA		◑			●	GPU card producer for mining tokens
AMD	AMD		◑			●	GPU card producer for mining tokens
CME Group	CME		◑	◔	●		Bitcoin derivatives
CBOE Options Exchange	CBOE		◑	◔	●		Bitcoin derivatives
Overstock	OSTK		◑	◑	◑		Medici Ventures and accepts BTC
Goldman Sachs	GS		◔	◔	◔	◔	Likely "first mover" IB in bitcoin
Square	SQ		◔		◔		Allows BTC bought/sold. Accepts BTC

Source: Fundstrat, Bloomberg

Crypto-related equities up 136% in 2017....

Figure: Crypto equity index
Equal weighted basket of GBTC, MGTI, HIVE.CN, GROW, NVDA, AMD, CME, CBOE, DCC.AU, OSTK, SQ



Source: Fundstrat, Bloomberg, Factset

PORTFOLIO STRATEGY: 12 Blockchain ideas

We identified 12 ideas that benefit from the Bitcoin / Blockchain ecosystem.

Figure: 12 ideas leveraged to Blockchain and Cryptocurrencies
as of 1/10/2018

	Company information							Analyst Ratings					Fundamentals & Valuation			
	Ticker	Company name	Current Price	Mkt cap ($ mm)	3m avg daily liquidity ($ mm)	YTD perf (relative to S&P 500)	FC Mean (5=Buy 1=Sell) [1]	Mean implied upside [2]	Dividend Yield	Issuer Rating	Short interest % of float	2018E sales growth [3]	2018E EPS growth [3]	P/E ('18E)	ROE
1	GBTC	Bitcoin Investment Trust	$2,003.07	$3,836	$197.8	-3.3%	—	—	--	—	3.1%	—	—	—	—
2	MGTI	Mgt Capital Investments Inc	$4.04	$196	$10.4	-17.8%	5.00	-1%	--	—	3.9%	—	—	—	-889%
3	HIVE.CN	Hive Blockchain Technologies	$3.38	$1,021	$20.1	-4.1%	—	—	--	—	6.4%	—	—	—	—
4	GROW	U.S. Global Investors Inc-A	$4.72	$72	$7.4	18.4%	—	—	--	—	10.6%	—	—	—	3%
5	DCC.AU	Digitalx Ltd	$0.40	$189	$5.7	10.2%	—	—	--	—	0.0%	—	—	—	—
6	NVDA	Nvidia Corp	$222.69	$134,952	$2,758.2	12.5%	3.94	0%	0.3%	BBB+u	3.0%	16%	12%	47.5x	43%
7	AMD	Advanced Micro Devices	$11.90	$11,481	$631.4	13.1%	3.43	19%	--	B-	19.6%	13%	168%	33.1x	-12%
8	CME	Cme Group Inc	$152.93	$52,041	$190.5	2.1%	4.20	5%	3.3%	AA-	1.5%	8%	24%	25.9x	7%
9	CBOE	Cboe Global Markets Inc	$132.35	$15,016	$121.5	3.6%	3.62	-4%	0.8%	BBB+	4.5%	15%	32%	29.4x	16%
10	OSTK	Overstock.Com Inc	$79.21	$1,982	$229.4	21.3%	5.00	—	--	—	46.1%	2%	-9%	nm	-5%
11	GS	Goldman Sachs Group Inc	$254.10	$99,557	$658.0	-2.9%	3.69	6%	1.2%	BBB+	2.0%	2%	15%	12.1x	11%
12	SQ	Square Inc - A	$40.83	$15,865	$701.6	15.1%	3.89	-1%	--	—	14.2%	32%	76%	90.8x	-10%
	Average			**$28,017**	**$461.0**	**5.7%**	**4.10**	**4%**	**1.4%**		**9.6%**	**12%**	**46%**	**39.8x**	**-93%**
	Median			**$7,659**	**$194.2**	**6.9%**	**3.91**	**0%**	**1.0%**		**4.2%**	**13%**	**24%**	**31.2x**	**3%**
	% of stocks positive					**67%**		**57%**				**100%**	**86%**		**56%**

Source: Fundstrat, Bloomberg, Factset

Disclosures

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Positive (+): The analyst expects the performance of his industry/sector coverage universe over the next 6-18 months to be attractive vs. the relevant broad market benchmark, being the S&P 500 for North America.

Neutral (N): The analyst expects the performance of his or her industry/sector coverage universe over the next 6-18 months to be in line with the relevant broad market benchmark, being the S&P 500 for North America.

Negative (-): The analyst expects his or her industry coverage universe over the next 6-18 months to underperform vs. the relevant broad market benchmark, being the S&P 500 for North America.

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