

# Demographics

## helping US de-couple

Ain't catching me  
**'late cycle'**



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## Executive Summary

- **World is scary, US stocks ready for bounce**
- **US equities are de-coupling from RoW**
- **Labor shortages benefit US competitiveness**
- **Demographics destiny: Millennials**
- **Recommended Investment Strategies**

Overwhelmingly Bear case... but the Fed is a “Trump” card

## Bear case:

Global economy late cycle

Inverted curve

Plague of negative rate bonds (30%)

Trump ‘unpredictable’

Fed mixed credibility

Brexit

Crashing global PMIs

Earnings recession

DB ‘tip of iceberg’

No bullets left



HYBRID  
Hawk-  
dove Fed



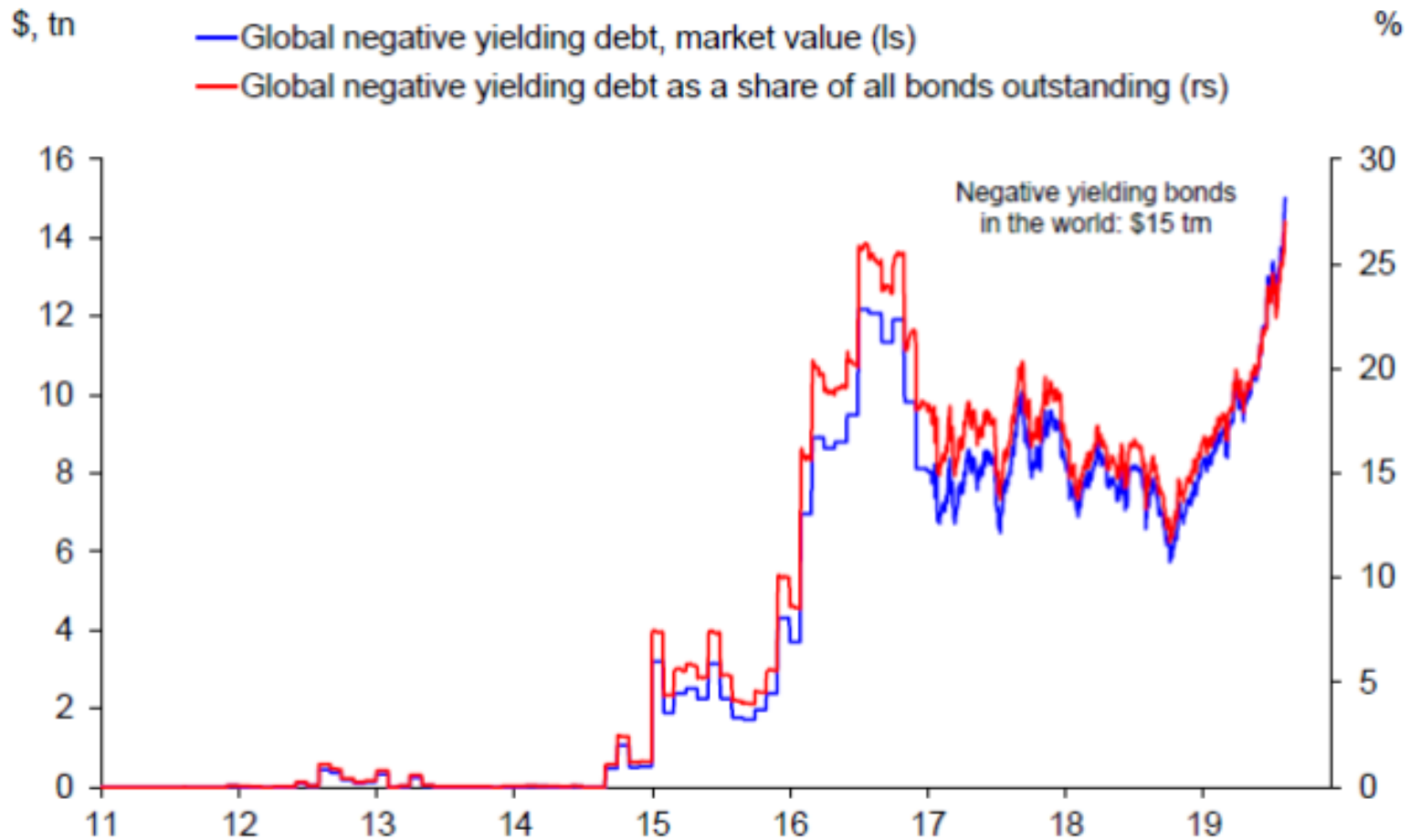
## PMIs WEAK: PMIs around the world are very weak

Composite PMI	Source	8/18	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19	6/19	7/19	8/19
Global	Markit	53.4	52.8	53.0	53.1	52.7	52.1	52.6	52.8	52.2	51.2	51.2	51.7	
Developed Markets	Markit	54.0	53.3	53.6	53.3	52.7	52.3	52.9	52.7	52.0	51.1	51.3	51.7	
Emerging Markets	Markit	51.8	51.6	51.3	52.6	52.5	51.6	51.7	52.9	52.4	51.3	50.9	51.5	
<b>"Diffusion"</b> (% above 50)	Total	<b>85%</b>	<b>85%</b>	<b>81%</b>	<b>70%</b>	<b>63%</b>	<b>63%</b>	<b>74%</b>	<b>67%</b>	<b>81%</b>	<b>67%</b>	<b>59%</b>	<b>70%</b>	<b>53%</b>
	Developed	92%	83%	83%	83%	83%	67%	75%	83%	83%	83%	75%	92%	83%
	Emerging	86%	100%	86%	43%	43%	57%	57%	43%	71%	57%	43%	43%	20%
	Commodity	75%	75%	75%	75%	75%	63%	88%	75%	88%	63%	50%	63%	50%
USA	ISM	59.0	60.7	59.7	60.2	57.6	56.7	59.1	56.0	55.2	56.4	54.7	53.4	
Canada*	Markit	56.9	53.9	52.7	53.5	51.4	<b>49.6</b>	51.4	50.5	50.6	52.0	52.1	52.0	<b>49.5</b>
Eurozone	Markit	54.5	54.1	53.1	52.7	51.1	51.0	51.9	51.6	51.5	51.8	52.2	51.5	51.8
Germany	Markit	55.6	55.0	53.4	52.3	51.6	52.1	52.8	51.4	52.2	52.6	52.6	50.9	51.4
France	Markit	54.9	54.0	54.1	54.2	<b>48.7</b>	<b>48.2</b>	50.4	<b>48.9</b>	50.1	51.2	52.7	51.9	52.7
Italy	Markit	51.7	52.4	<b>49.3</b>	<b>49.3</b>	50.0	<b>48.8</b>	<b>49.6</b>	51.5	<b>49.5</b>	<b>49.9</b>	50.1	51.0	
Spain	Markit	53.0	52.5	53.7	53.9	53.4	54.5	53.5	55.4	52.9	52.1	52.1	51.7	
UK	Markit	54.2	54.1	52.1	50.8	51.4	50.3	51.5	50.0	50.9	50.9	<b>49.7</b>	50.7	
Japan	Markit	52.0	50.7	52.5	52.4	52.0	50.9	50.7	50.4	50.8	50.7	50.8	50.6	51.7
Australia*	Australian Ind.	55.9	57.1	54.7	50.8	50.0	52.5	54.0	51.0	54.8	52.7	<b>49.4</b>	51.3	53.1
Singapore	Markit	51.1	<b>49.6</b>	52.6	53.8	52.7	50.1	<b>49.8</b>	51.8	53.3	52.1	50.6	51.0	
Hong Kong	Markit	<b>48.5</b>	<b>47.9</b>	<b>48.6</b>	<b>47.1</b>	<b>48</b>	<b>48.2</b>	<b>48.4</b>	<b>48</b>	<b>48.4</b>	<b>46.9</b>	<b>47.9</b>	<b>43.8</b>	
Mexico*	Markit	50.7	51.7	50.7	<b>49.7</b>	<b>49.7</b>	50.9	52.6	<b>49.8</b>	50.1	50.0	<b>49.2</b>	<b>49.8</b>	<b>49.0</b>
China	Markit	52.0	52.1	50.5	51.9	52.2	50.9	50.7	52.9	52.7	51.5	50.6	50.9	
Taiwan*	Markit	53.0	50.8	<b>48.7</b>	<b>48.4</b>	<b>47.7</b>	<b>47.5</b>	<b>46.3</b>	<b>49.0</b>	<b>48.2</b>	<b>48.4</b>	<b>45.5</b>	<b>48.1</b>	<b>47.9</b>
South Korea*	Markit	<b>49.9</b>	51.3	51.0	<b>48.6</b>	<b>49.8</b>	<b>48.3</b>	<b>47.2</b>	<b>48.8</b>	50.2	<b>48.4</b>	<b>47.5</b>	<b>47.3</b>	<b>49.0</b>
Vietnam*	Markit	53.7	51.5	53.9	56.5	53.8	51.9	51.2	51.9	52.5	52.0	52.5	52.6	51.4
Poland*	Markit	51.4	50.5	50.4	<b>49.5</b>	<b>47.6</b>	<b>48.2</b>	<b>47.6</b>	<b>48.7</b>	<b>49.0</b>	<b>48.8</b>	<b>48.4</b>	<b>47.4</b>	<b>48.8</b>
India	Markit	51.9	51.6	53.0	54.5	53.6	53.6	53.8	52.7	51.7	51.7	50.8	53.9	

Source: Fundstrat, Bloomberg



# NEGATIVE RATES: Plague of negative yielding debt soaring... 27% of bonds in the world trade at negative interest rates



Source: Bloomberg Finance LP, DB Global Research

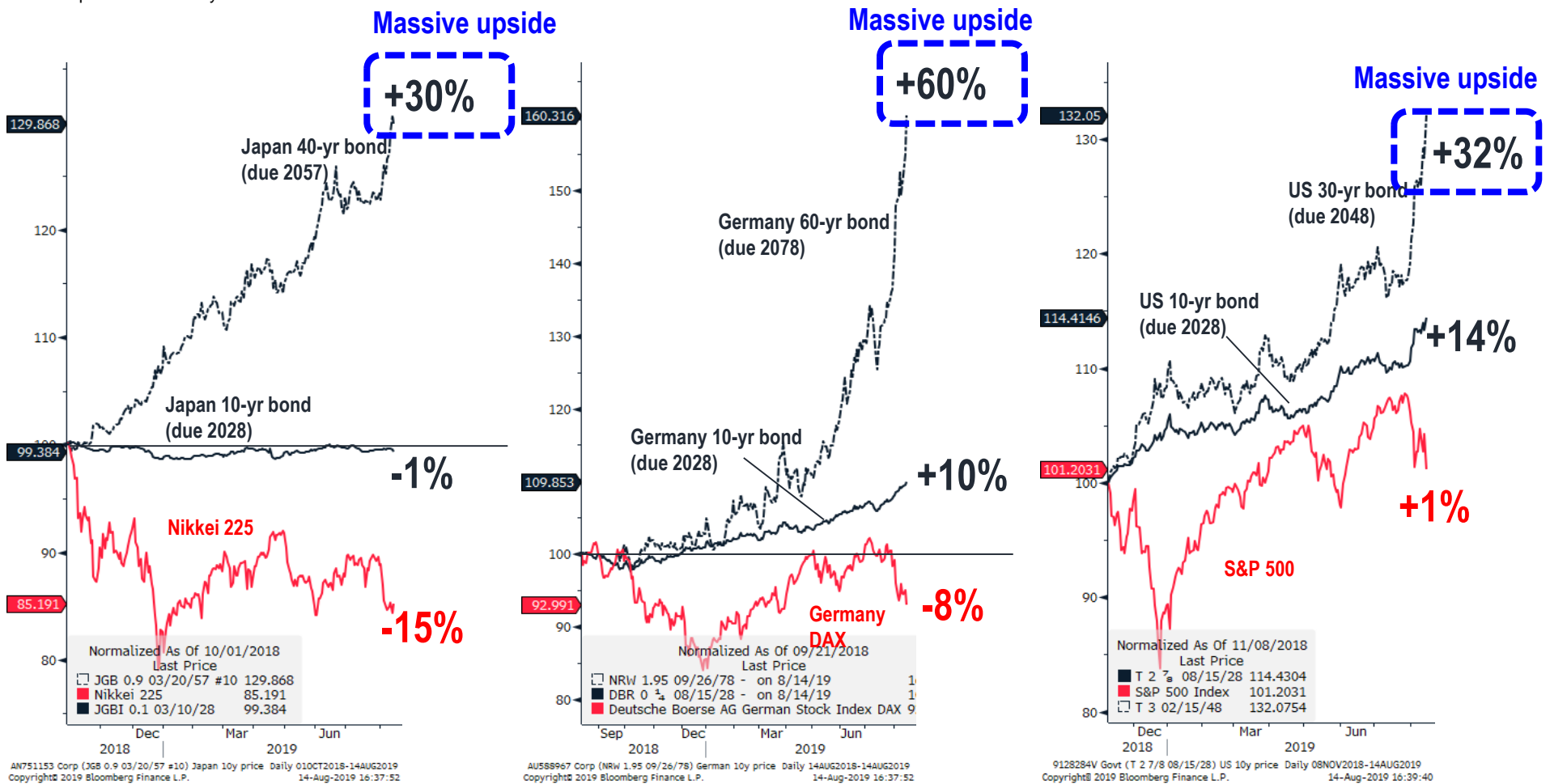
# MOMENTUM TRADE: Falling rates have created massive upside in bonds

The decline in interest rates has created massive upside for bonds, particularly longer term (long duration) bonds.

- The 30-yr and longer bonds of governments have soared 30%-plus since rates began falling. This is the reason we believe momentum trading is driving the shift into bonds. This is not solely about deflation/ risk-off, it is a massive momentum trade.

Figure: Price changes since September 2018

Japan and Germany



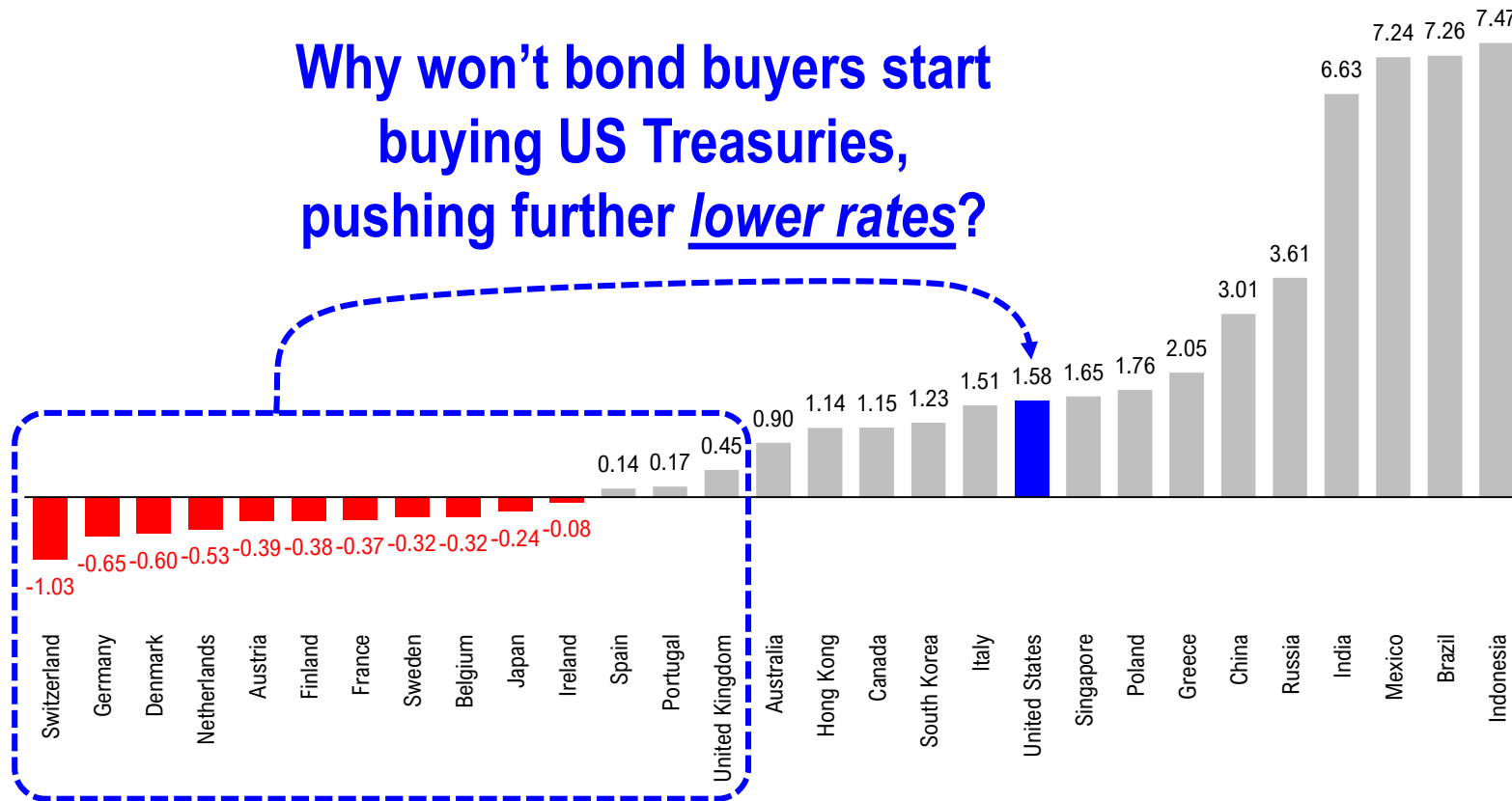


# REASON #1 ZERO US RATES: The US 10-year could fall to zero TINA

Less influenced by the Fed, the 10-year US Treasury yield is a good indicator of the economy's health. Recently, the yield on 10-year US Treasury has fallen to 1.58%, the lowest level since September 2016.

- However, compared with other developed economies, the yield on 10-year US Treasury is still relatively high, reflecting US economy is still strong. We have previously pointed out that the US is the safe haven and massively outperforming the rest of world.

Figure: 10-year Government Bond Yield (%)  
Sorted lowest to highest



Source: Fundstrat, Bloomberg, Factset

# REASON #3 ZERO RATES US: Momentum trade, *juice* in long-term bonds...

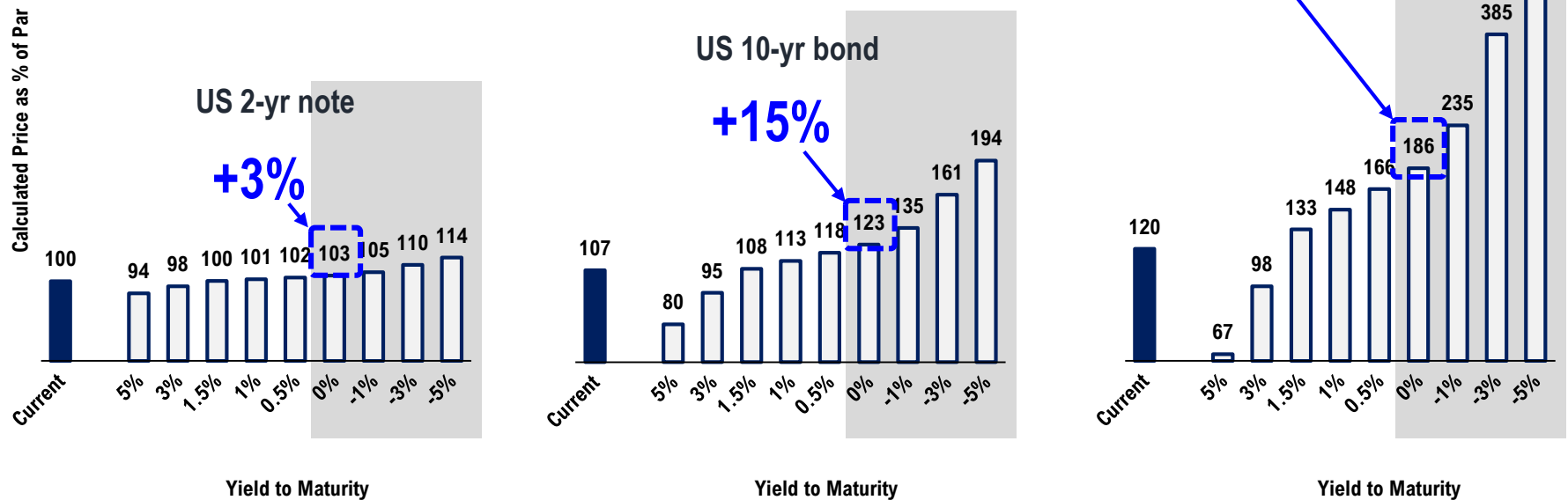
If indeed, investors believe US rates are going to fall, the rational investor will be buying long-term bonds (see below).

- There is more juice in long-term bonds if interest rates fall. This means, long-term bonds see more buying pressure (momentum), which makes the curve even more inverted.

Figure: Upside potential for bonds if interest rates keep falling  
US Treasury 2-year vs. 10-year vs. 30-years; log scale

If markets believe US rates could go to zero, there is a rush to buy long-term (duration) bonds, which have more upside...

...but this causes curve to invert.



Source: Fundstrat, Bloomberg, Factset

# US YIELD CURVE: Entire rate structure of US govt bonds < FF

We believe the Fed does need to cut interest rates, even more than 50bp (consensus) because of the term structure.

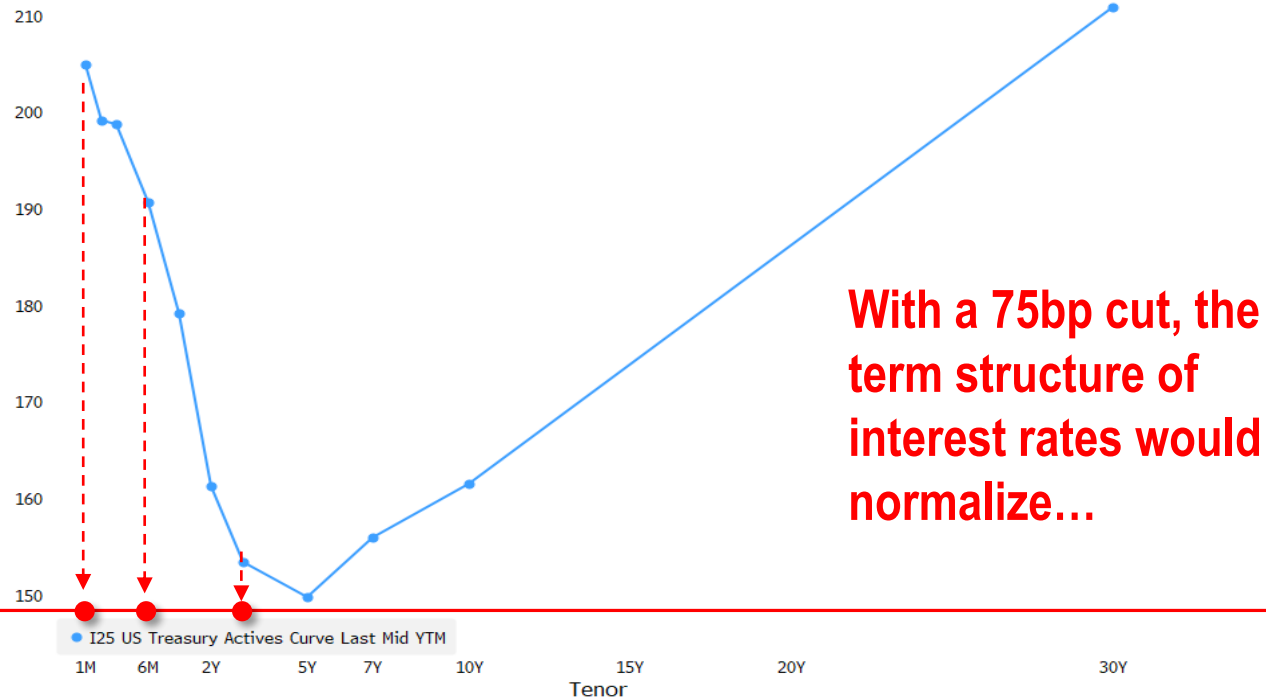
- Only a 75bp cut would bring Fed Funds below any of the existing rates today (5-year is lowest at 1.5%).

Figure: US yield curve 1M to 30Y and correlation against Fed Funds Effective Rate since 2012

As of 8/1/2019

Fed funds  
2.00-2.25

Fed funds  
1.25-1.50



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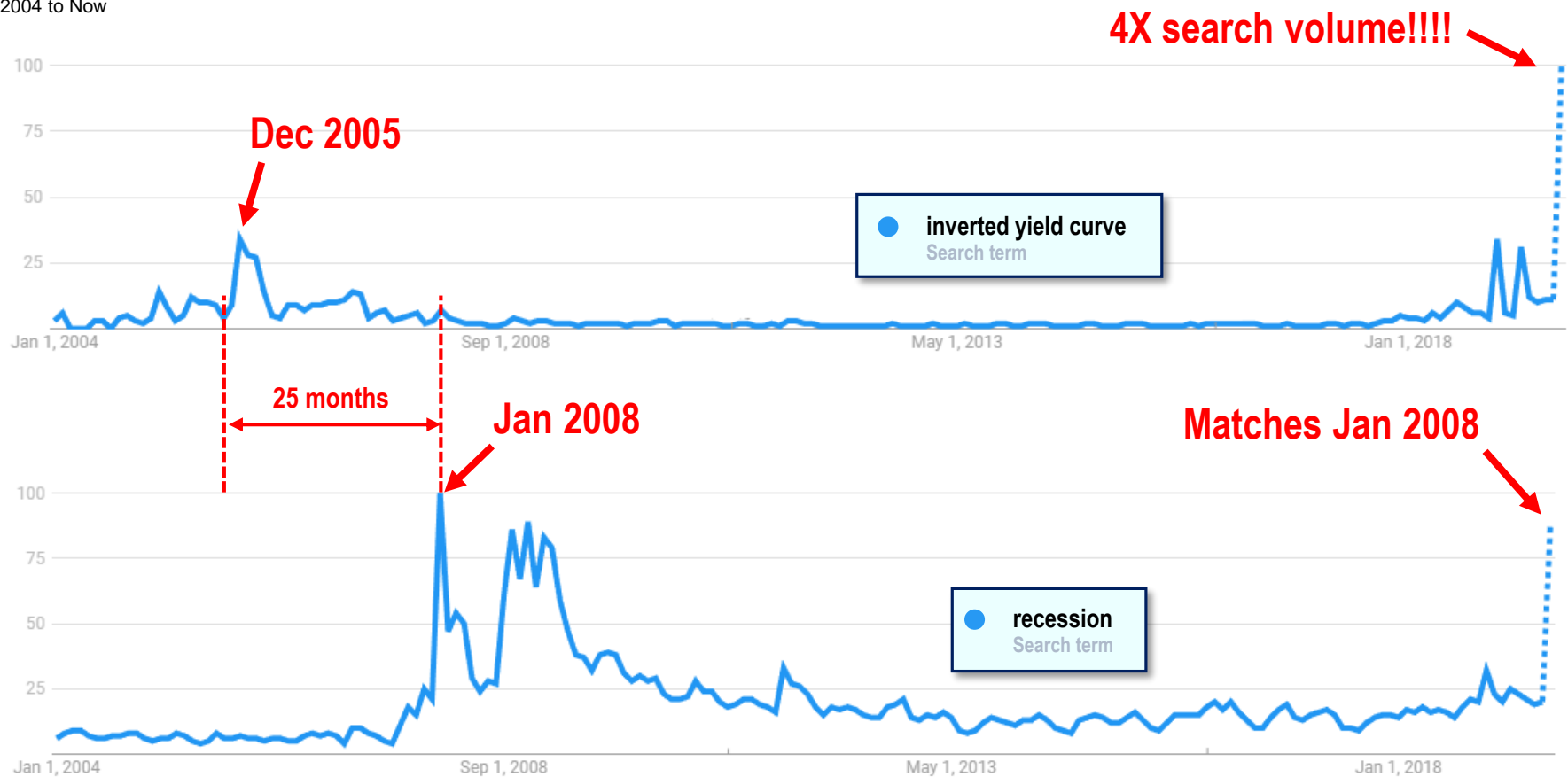
Source: Fundstrat, Bloomberg, Factset

# POINT #1: Focus on recession risk overly sensitive, 4X > than '05-'08 period

In order to appreciate the "over sensitivity" to recession risk, we compared the search volumes of key words "inverted yield curve" and "recession" today to 2005-2008 period.

- The search for "recession" did not surface until January 2008. In other words, "recession" fears didn't surface until a full 25 months AFTER SEARCHES FOR YIELD CURVE INVERSION PEAKED. By contrast, both "inverted yield curve" and "recession" are going ballistic now.

Figure: Past 16 years: Google Search Trends for "Inverted Yield Curve" and "Recession"  
2004 to Now



Source: Fundstrat, [Google Trends](#)

## DON'T FIGHT THE FED: When economy mid-cycle and Fed cut... BLAST OFF

Timing of the Fed cut is key. When the Fed cuts and the US economy is in expansion, the first Fed cut drives positive equity returns.

- As shown below, the S&P 500 has seen gains 100% of the time when the Fed cuts and the US is not in recession. 100% of the time.

### Fed cut + recession:

July '74, April '80, June '81,  
Jan '01 and Sept '07

	% return (avg)	Win-ratio
3M	<b>-8.0%</b>	<b>20%</b>
6M	<b>-4.1</b>	<b>20</b>
9M	<b>-4.6</b>	<b>20</b>
12M	<b>-0.9</b>	<b>40</b>

### Fed cut + Expansion:

Jan '71, Oct '84, Oct '87,  
July '89, July '95, Sept '98

	% return (avg)	Win-ratio
3M	<b>9.7%</b>	<b>100%</b>
6M	<b>13.5</b>	<b>100</b>
9M	<b>15.7</b>	<b>100</b>
12M	<b>16.5</b>	<b>100</b>

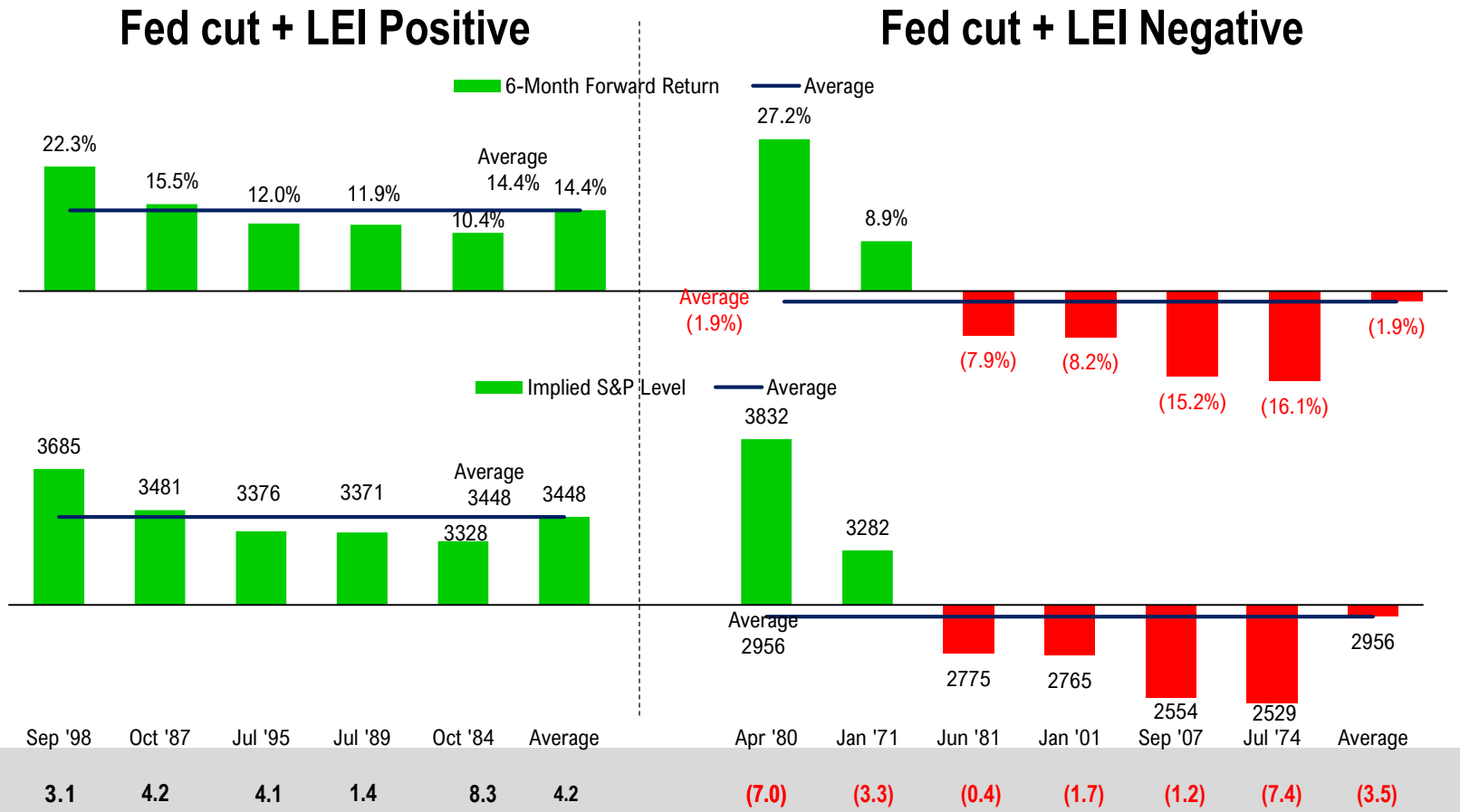
# Positive LEIs when Fed cuts is positive; implies S&P 500 at 3450

Average 6M gain of 14.4% if LEI is positive when Fed cuts

- The gain ranged from 22.3% to 10.4% for the 5 instances
- This implies S&P 500 at 3450 in 6M, with a range of 3300-3700

**Figure: 6-month forward returns and implied S&P level**

Based on LEI level at first cut of easing cycles



Source: Fundstrat, Bloomberg



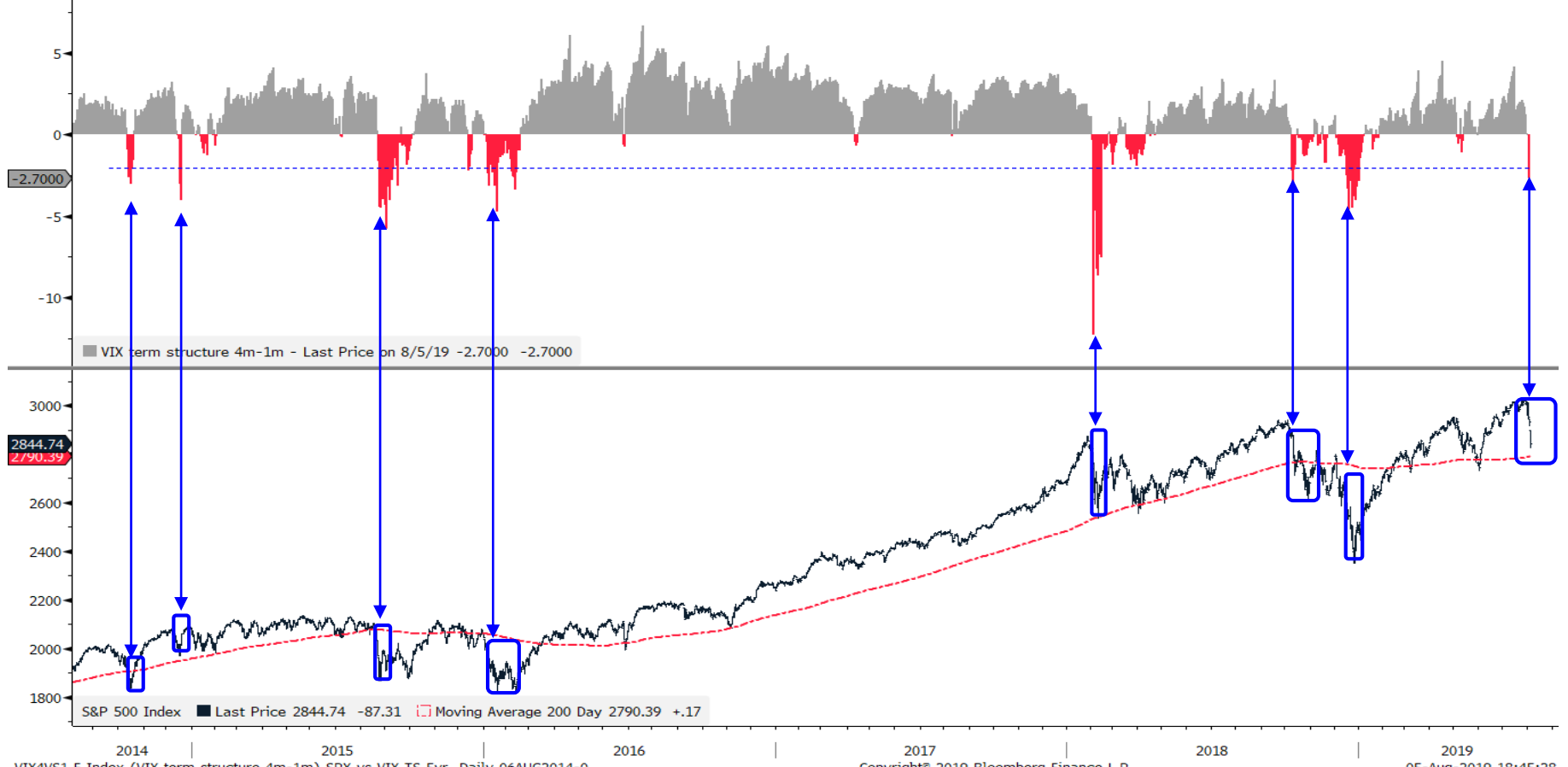
# VIX TERM STRUCTURE INVERSION: 6M average gain of 8.9%

The VIX term structure inverting is often a sign of an imminent low. The exceptions are January 2016 and October 2018, when markets still had a 2-4 weeks of further downside.

- Even in those two cases, the further downside was 3%-4%, and while that seems huge, recoveries were rapid.

Figure: VIX term structure (4M-1M) and the S&P 500

Since 2014



2014		2015		2016		2017		2018		2019	
Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:	Days to low:
0	0	1	34			3	18	6			

Source: Fundstrat, Bloomberg, Factset

# DOWN 3% IN 1-DAY: 6M average gain of 15.3%

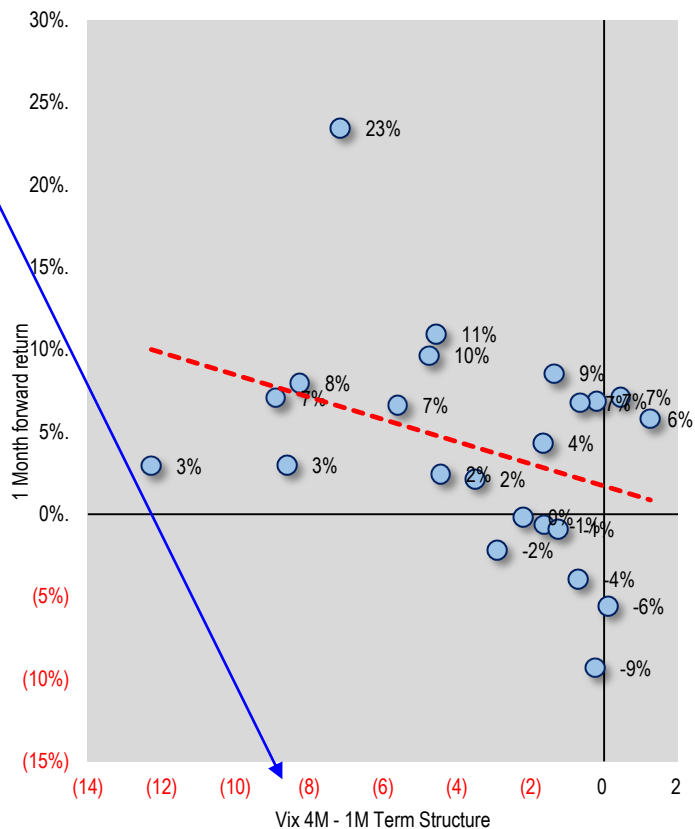
It is a positive sign when stocks fall 3% in a day and the VIX term structure is inverted.

- Of the 24 instances, when stocks fall 3% in a day, positive returns seen 87% of the time with average gain of 8%.

**Figure: Equity declines of 3% and VIX term structure**

Since 2009

	S&P Level	1 Day Change	1 Month forward return	3 Months forward return	6 Months forward return	Spot Vix	Vix 4M - 1M Term Structure	
1	3/5/2009	682.55	(4.3%)	23.4%	38.1%	47.0%	50.17	(7.15)
2	3/30/2009	787.53	(3.5%)	10.9%	17.7%	35.0%	45.54	(4.55)
3	4/20/2009	832.39	(4.3%)	8.5%	14.3%	31.9%	39.18	(1.35)
4	6/22/2009	893.04	(3.1%)	6.8%	19.2%	24.7%	31.17	(0.20)
5	2/4/2010	1063.11	(3.1%)	7.1%	6.1%	5.9%	26.08	0.45
6	5/6/2010	1128.15	(3.2%)	(5.6%)	(0.2%)	8.2%	32.80	0.10
7	5/20/2010	1071.59	(3.9%)	4.3%	0.4%	11.7%	45.79	(1.65)
8	6/4/2010	1064.88	(3.4%)	(4.0%)	3.7%	15.0%	35.48	(0.70)
9	6/29/2010	1041.24	(3.1%)	5.8%	10.2%	20.9%	34.13	1.25
10	8/4/2011	1200.07	(4.8%)	(2.2%)	5.1%	10.5%	31.66	(2.90)
11	8/8/2011	1119.46	(6.7%)	7.1%	12.7%	20.1%	48.00	(8.90)
12	8/10/2011	1120.76	(4.4%)	3.0%	9.7%	20.5%	42.99	(8.60)
13	8/18/2011	1140.65	(4.5%)	6.6%	6.6%	19.1%	42.67	(5.60)
14	9/22/2011	1129.56	(3.2%)	9.6%	11.0%	23.3%	41.35	(4.75)
15	11/9/2011	1229.10	(3.7%)	2.1%	9.8%	10.2%	36.16	(3.50)
16	8/21/2015	1970.89	(3.2%)	(0.7%)	6.0%	(2.7%)	28.03	(1.63)
17	8/24/2015	1893.21	(3.9%)	2.4%	10.2%	2.8%	40.74	(4.43)
18	6/24/2016	2037.41	(3.6%)	6.8%	6.2%	11.1%	25.76	(0.65)
19	2/5/2018	2648.94	(4.1%)	2.9%	0.9%	7.6%	37.32	(12.28)
20	2/8/2018	2581.00	(3.8%)	8.0%	5.5%	10.6%	33.46	(8.25)
21	10/10/2018	2785.68	(3.3%)	(0.2%)	(7.2%)	3.7%	22.96	(2.20)
22	10/24/2018	2656.10	(3.1%)	(0.9%)	(0.7%)	10.2%	25.23	(1.25)
23	12/4/2018	2700.06	(3.2%)	(9.3%)	3.3%	3.8%	20.74	(0.25)
24	8/5/2019	2844.74	(3.0%)				24.59	(2.70)



Average	(3.8%)	4.0%	8.2%	15.3%	35.08	(3.40)
Median	(3.5%)	4.3%	6.2%	11.1%	34.81	(2.45)
Win Ratio		69.6%	87.0%	95.7%		

**S&P 500 sees strong 3M + 6M returns following 3% declines + inverted VIX**

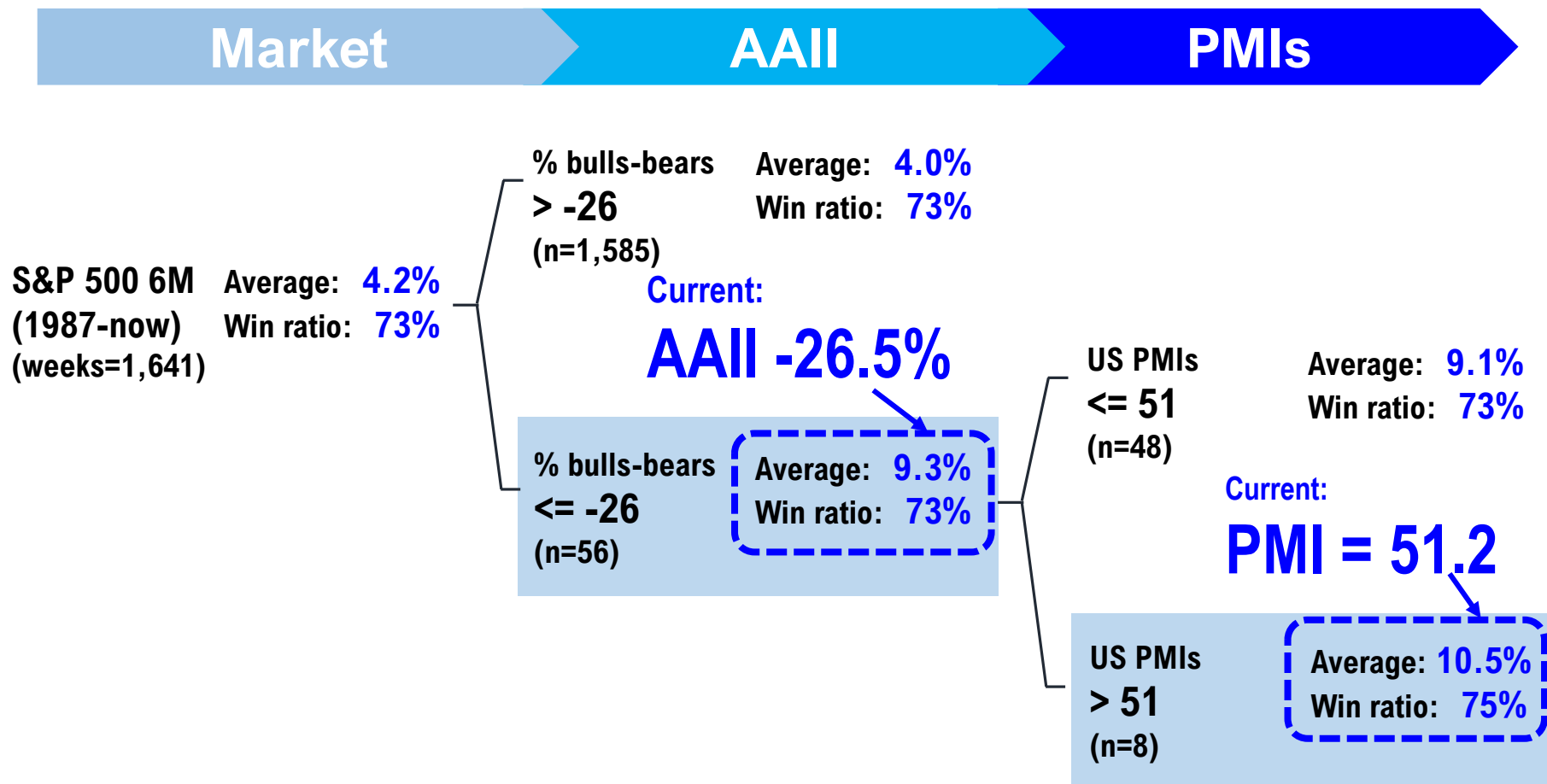
Source: Fundstrat, Bloomberg, Factset

# AII BULLS – BEARS < -26: Avg 6M gain of 9.3%

We have looked at the forward 6-month returns of the S&P 500 under different combinations of AII and PMIs.

- When AII is this weak, we can see that comparative returns are better than when AII sentiment is > -26.
- Moreover, when we factor in the level of US PMIs, forward equity returns are considerably better (+10.5% 6M) and a win-ratio of 75%. This suggests that risk/reward for equities is quite attractive currently.

Figure: Comparative 6M returns of S&P 500 based upon AII and upon PMI levels  
Since 1987



Source: Fundstrat, Bloomberg, Factset

## Executive Summary

- **World is scary, US stocks ready for bounce**
- **US equities are de-coupling from RoW**
- **Labor shortages benefit US competitiveness**
- **Demographics destiny: Millennials**
- **Recommended Investment Strategies**

# Beneficiaries of a US recession...

Figure: Beneficiaries of a US recession or rising economic gloom

Per Fundstrat

- |    |                              |  |
|----|------------------------------|--|
| 1. | <b>Short Sellers</b>         | Obvious                                      |
| 2. | <b>Democratic Candidates</b> | Economy is THE swing factor.                 |
| 3. | <b>Trump Haters</b>          | Obvious                                      |
| 4. | <b>Bond Holders</b>          | Falling rates = massive upside to bond price |
| 5. | <b>China</b>                 | A recession forces Trump to capitulate.      |
| 6. | <b>Media</b>                 | turmoil sells Ads baby!!!                    |
| 7. | <b>Europe</b>                | Misery loves company + Schadenfreude         |
| 8. | <b>Private Equity</b>        | \$2 trillion of dry powder                   |
| 9. | <b>Federal Reserve???</b>    | To Be Determined                             |

Source: Fundstrat, Bloomberg, Factset

# Despite Armageddon prognostications, S&P 500 up 17% YTD

Figure: S&P 500  
YTD



SPX Index (S&P 500 Index) SPX YTD Daily 31DEC2018-03SEP2019  
Source: Fundstrat, Bloomberg, Factset

2019  
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**S&P 500 – The Bull market “takes a licking but keeps on ticking”**



Overwhelming Bear case... but the Fed is a “Trump” card

## Bull case:

US de-coupling structural reasons

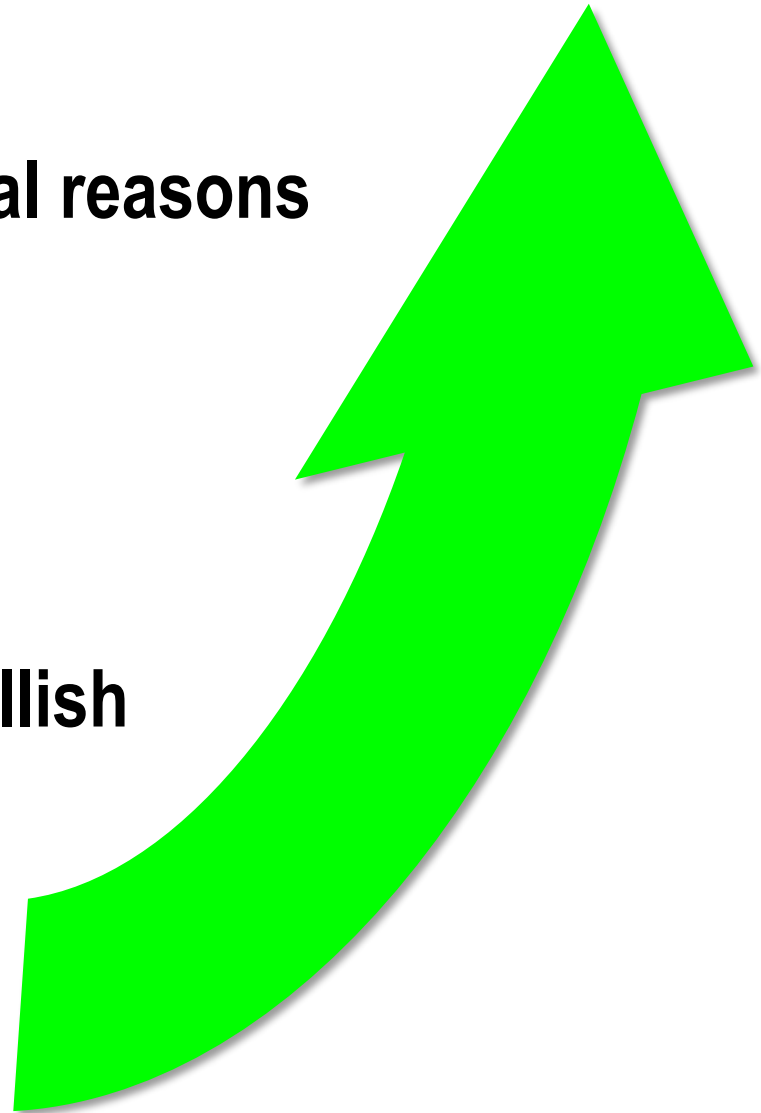
US mid-cycle

Millennials

Sentiment so bad, its bullish

Don't fight the Fed

Inflation picking up

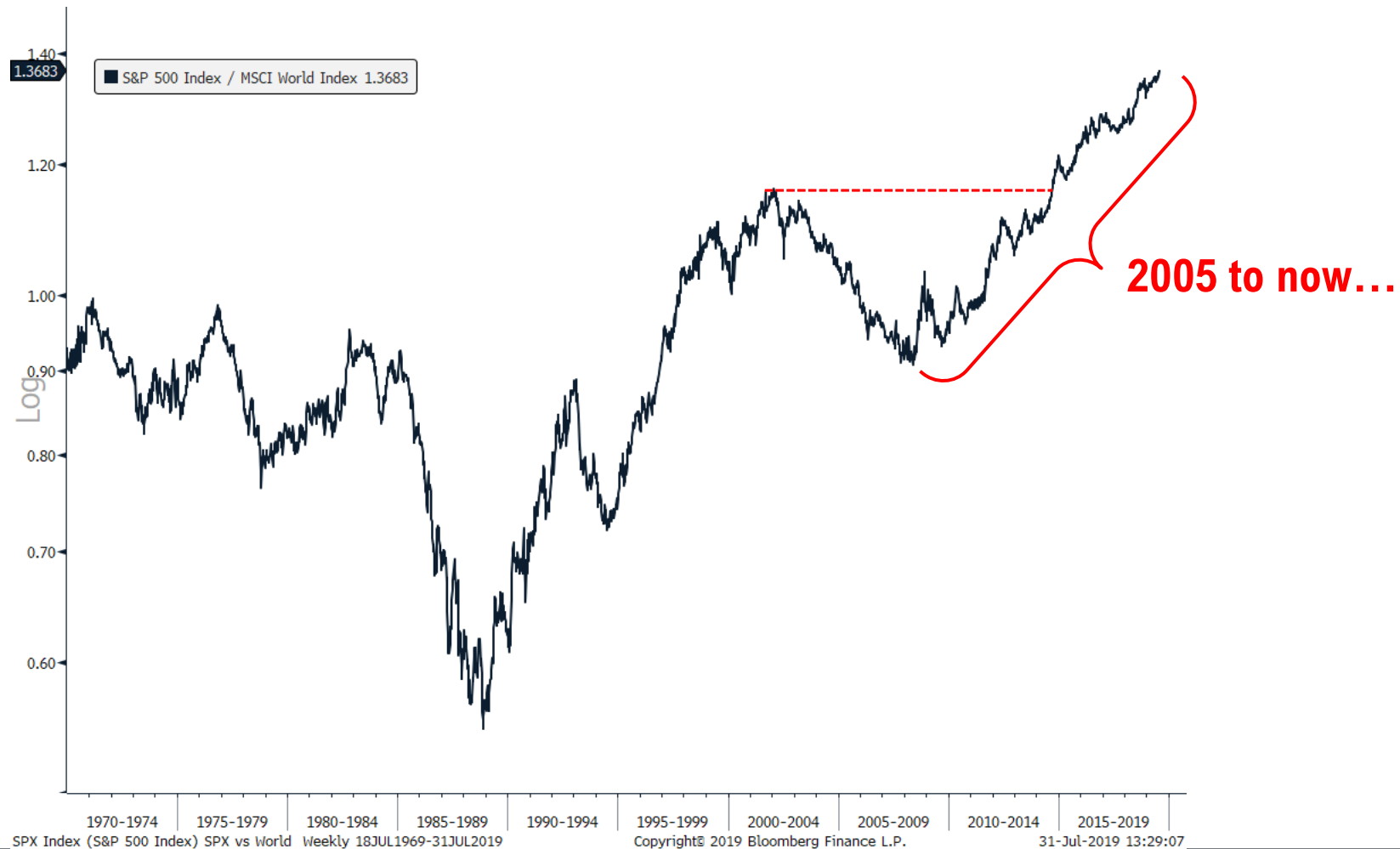


# S&P 500 pulling away from Global equities for some time...

The S&P 500 continues its relentless outperformance against global equities in 2019—our assessment since start of year.

- The big picture drivers continue to be: strong US franchises (Technology, Healthcare, in particular); plus, supportive White House/ government policy and lastly, supportive central bank policies (easing financial conditions).

Figure: S&P 500 vs MSCI World Index  
Since 1970



SPX Index (S&P 500 Index) SPX vs World Weekly 18JUL1969-31JUL2019

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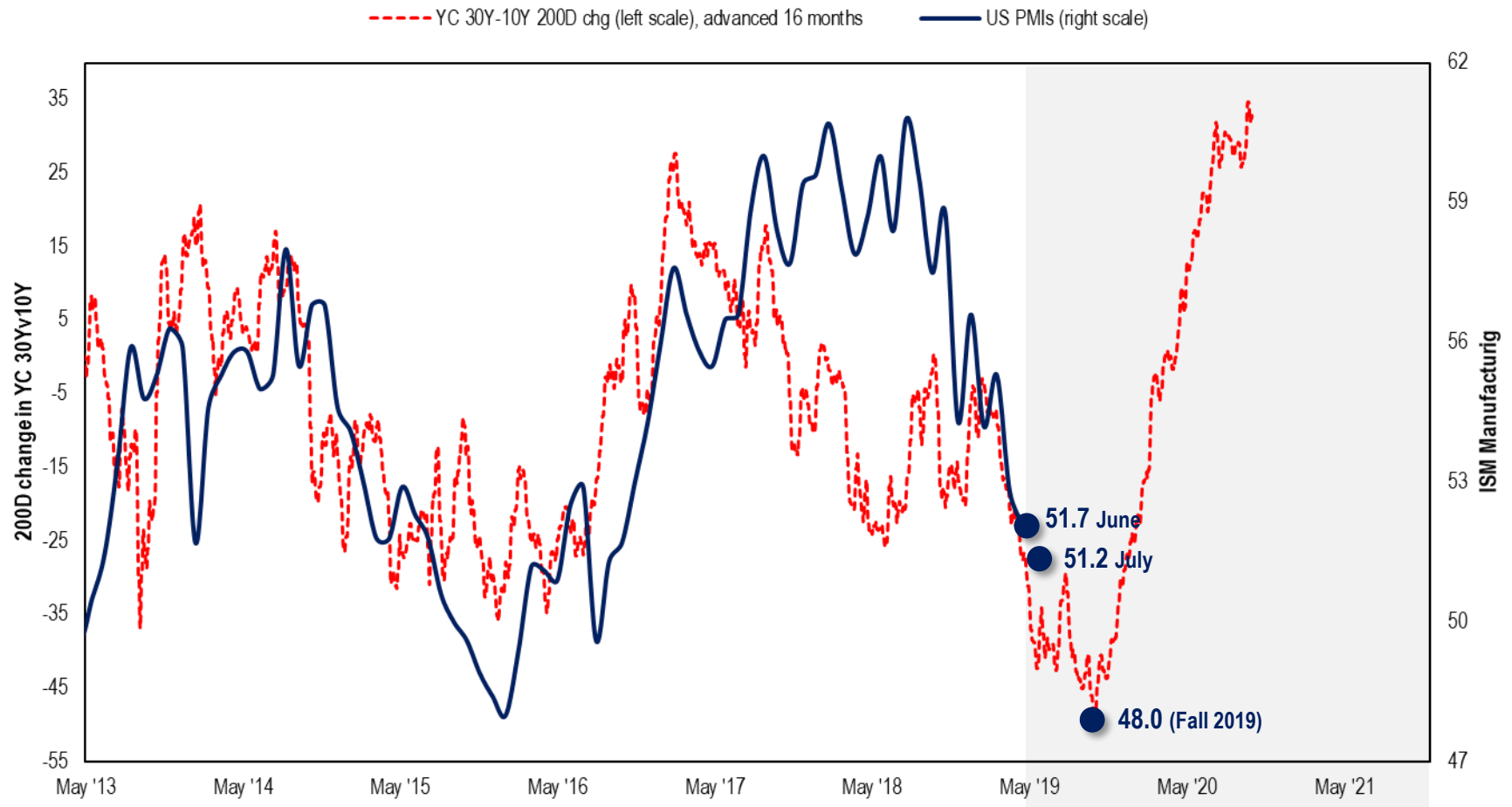
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## STRUCTURAL: Yield curve ISM bottoms 2H19, soar through 2020...

The long-term yield curve (10M change of 30Y-10Y yield spread) signaled 16M ago a downturn in ISM PMI was coming.

- Since our April 2017 study, the long-term yield curve seems to be doing a pretty good job of predicting ISM.
- And it currently suggests the ISM will fall towards 50 by 3Q19 but then soar to new highs in 2020. This move upwards, in our view, is explaining the outperformance of Cyclical stocks.

Figure: Long-term yield curve 10M change (advanced 16-months) and ISM Manufacturing  
Past 6 years



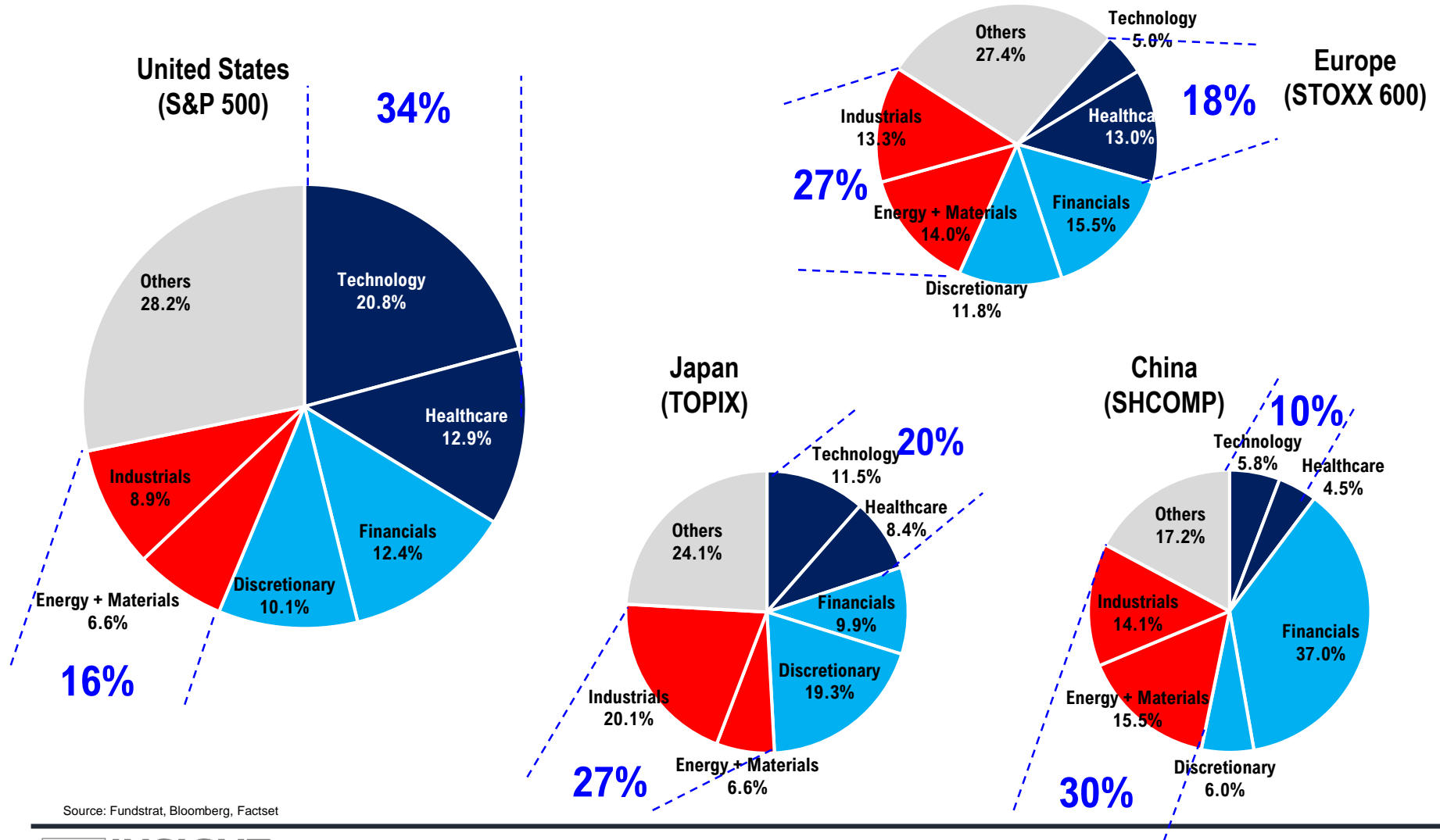
Source: Fundstrat, Bloomberg, Factset

# BIZ MIX: US stock market higher share of “High-value” sectors

- The S&P 500 has a higher mix of ‘high-margined’ or “high-value” sectors such as Technology and Healthcare

Figure: Global Equity Indices Sector Weight

As of 9/3/19



Source: Fundstrat, Bloomberg, Factset

## Demographics explain why US is pulling away....

US is pulling away from the rest of the World in terms of population growth.

- Over the next 20 years, the US population will have grown by 43 million, while other G7 and other countries have shrunk or stagnated (at best).

**Figure: Total Population Growth — 2019 to 2039**  
Per UN DESA

	Population CAGR 1999 - 2019	Population (in mm) 2019	Population CAGR 2019 - 2039	Population Delta (in mm) 2019 - 2039
US	0.8%	329.1	0.6%	43.3
Europe	0.1%	743.1	-0.1%	-13.1
Germany	0.1%	82.4	-0.1%	-1.2
Japan	-0.0%	126.9	-0.5%	-11.0
China	0.5%	1,420.1	0.0%	1.2
Russia	-0.1%	143.9	-0.3%	-7.7

Source: Fundstrat, Bloomberg, Factset



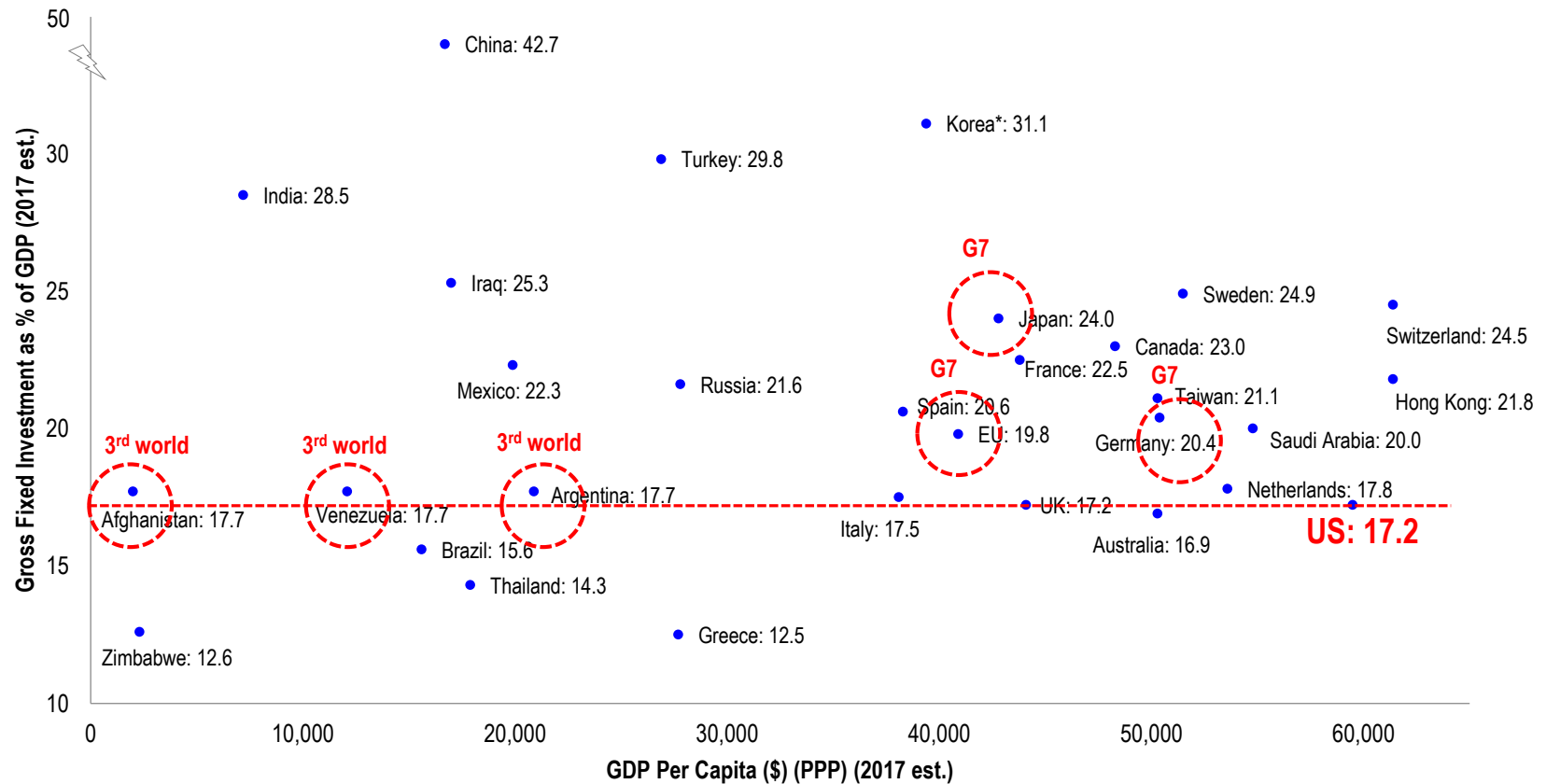
# INVESTMENT: US private investment same as third world nations...

Investment spending levels in the US are depressed and best evidenced when compared to other nations. We previously showed these spending levels as a time series (see earlier slide).

- At 17% for gross fixed investment spend as % GDP, US is about the same as Italy, Venezuela, Afghanistan. Basically, third world nation levels of spending.

Figure: Gross fixed investment as % GDP

Since CIA World Factbook, 2017 estimates



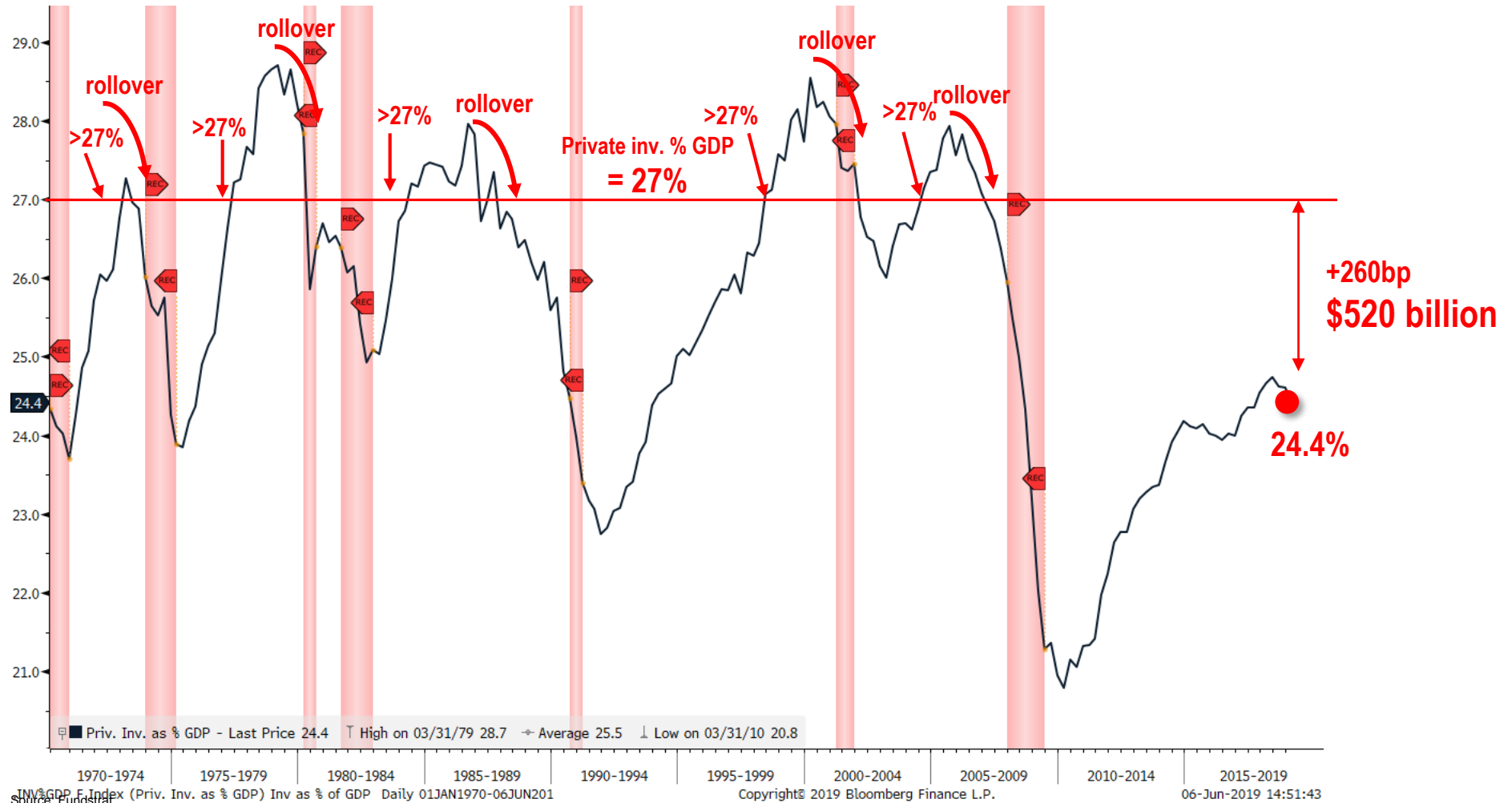
Source: Fundstrat, Bloomberg, Factset, CIA World Factbook

# KEY MID-CYCLE SIGN: Not happened yet, Investment spending >27%

Private Investment peaking is logically the peak of the business cycle—when private sector has over-invested.

- This ratio (past 50 years) is 27% and needs to rollover before we see a recession. At 24.4%, ratio is quite low.

Figure: Private Investment (sum of capex + durables + residential investment) as % GDP is still below 27% Since 1970

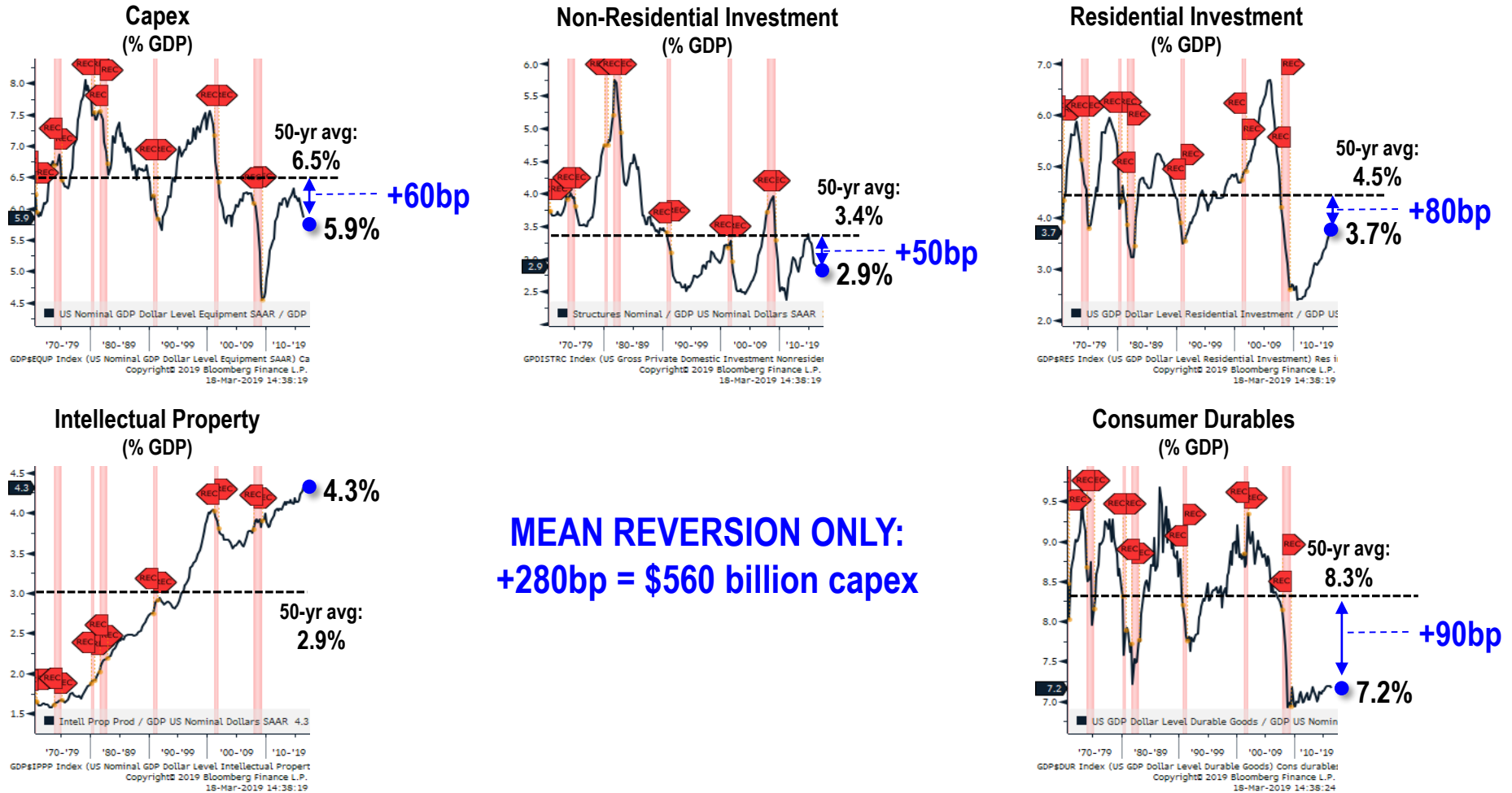


# MEAN REVERSION ONLY: +280bp upside to investment as % GDP

There are 5 components for private investment spending (shown below), (i) Capex; (ii) IP spend; (iii) Non-res building; (iv) Res. Construction; and (v) consumer durables purchases

- Just “mean reversion” to 50-yr averages implies 280bp upside to investment spend, or \$560 billion in capex.

Figure: Comparative components of private investment spending (as % GDP)  
Since 1970



Source: Fundstrat, Bloomberg, Factset

# ECONOMIC-ANXIETY: Why is the US the only inverted 10Y-2Y?

The most curious thing about the 10Y-2Y inversion is that the US is the only country (besides Hong Kong) with an inverted curve. Sure, Canada and Mexico, but their rate structure follows the US.

- This lends credence to the arguments that non-economic/non-fundamental factors can be causing the US inversion.

Figure: 10Y less 2Y in various countries.  
As of 8/21/19

		Spread	
		10Y - 2Y	30Y - 10Y
US-centric	United States	0.00%	0.49%
	Canada	-0.18%	0.23%
	Mexico	-0.29%	0.46%
China-related	China	0.36%	0.60%
	Hong Kong	-0.52%	
	Japan	0.07%	0.44%
	Australia	0.18%	0.62%
	South Korea	0.08%	0.01%
	Singapore	0.13%	0.23%
	India	0.76%	0.42%
Eurozone	Germany	0.22%	0.54%
	France	0.40%	0.87%
	United Kingdom	0.00%	0.57%
	Spain	0.68%	0.89%
	Switzerland	0.15%	0.43%
	Denmark	0.23%	0.23%
	Netherlands	0.33%	0.39%
	Finland	0.38%	0.49%
	Sweden	0.36%	0.44%
	Ireland	0.41%	0.86%
	Portugal	0.75%	0.88%
	Italy	1.33%	1.07%
	Greece	1.18%	0.77%

Shouldn't cyclical regions like Asia and Europe have inverted 10Y-2Y curves if fundamental drivers are causing the US inversion?

Source: Fundstrat, Bloomberg, Factset

# POINT #2: Only 1 of 5 10Y2Y inversion is due to drop in yields, like '19 Panic

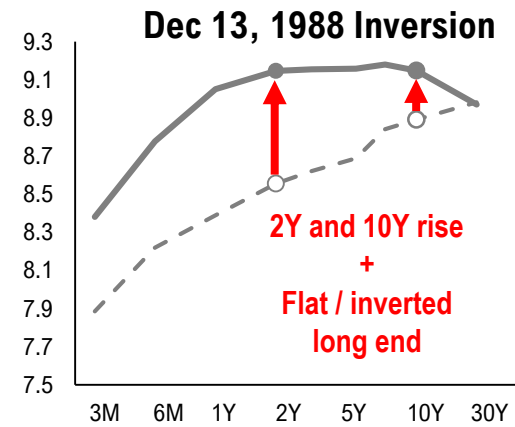
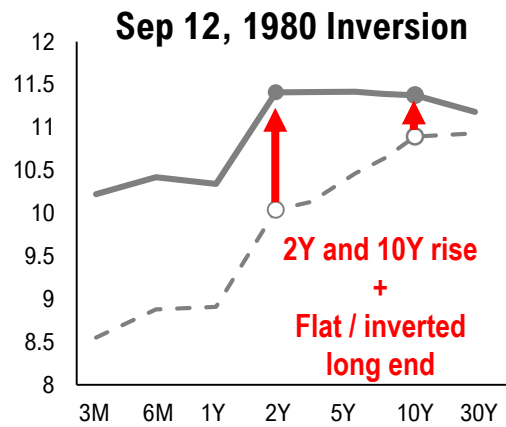
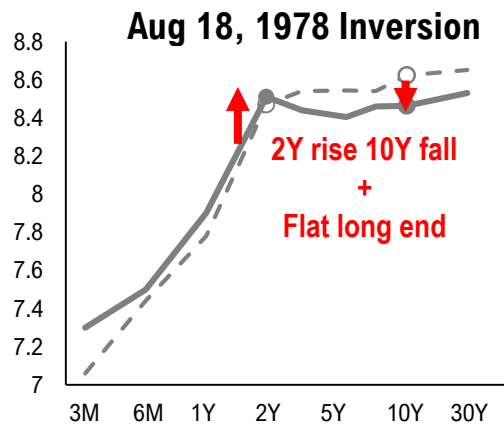
We below compared the 5 initial inversion instances with current inversion. Historically, the 10Y-2Y curve inverts because Fed is raising front end rates and this raises front end faster than long-end and we get an inversion

- In other words, the yield curve is not some magic 'divining rod' -- it historically inverts because the Central Bank wants that, to slow an overheated economy.

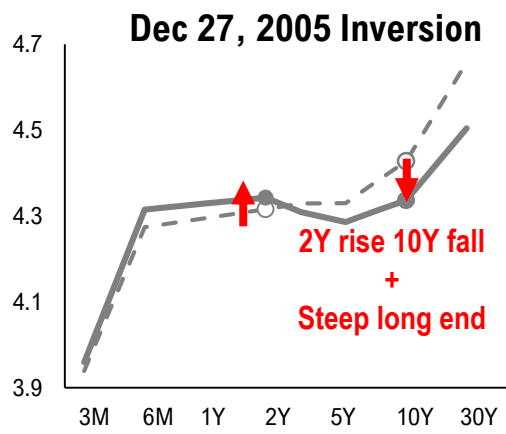
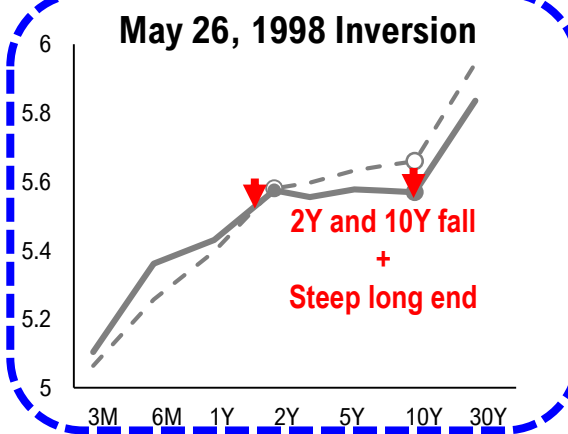
Figure: US Treasury Interest Rate Curves

Inversion day and 1 month ago

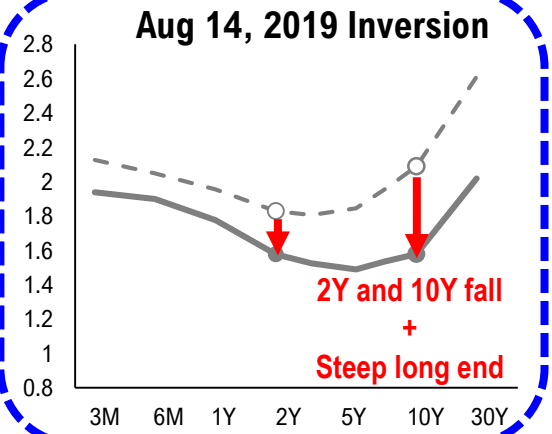
-- 1M Pre-Inversion    — Inversion day



Both 1998 similar to today



Current...



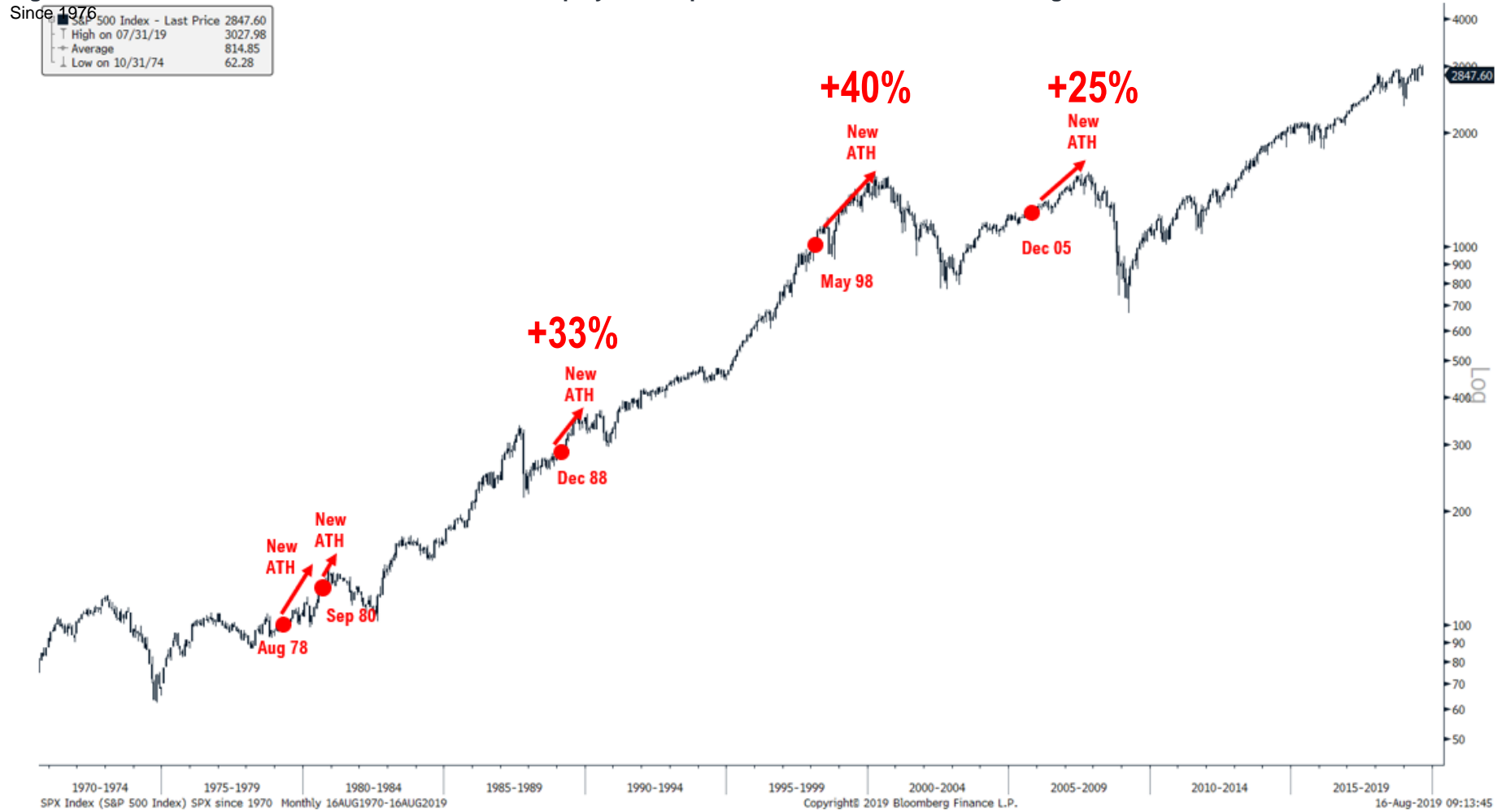
Source: Fundstrat, Bloomberg, FRED

# S&P 500 new ALL-TIME HIGHS 5 of 5 times post 10Y-2Y INVERSION

The S&P 500 has managed new all-time highs 5 of 5 times we saw the first inversion of the 10Y-2Y (2Y only since 1976).

- 5 of 5 times, the equity markets staged further gains, with an average further gain of 23%, but averaged 33% in the past 3 instances.

Figure: Time from first inversion of 10Y-2Y until the equity market peaks and the cumulative S&P 500 gain

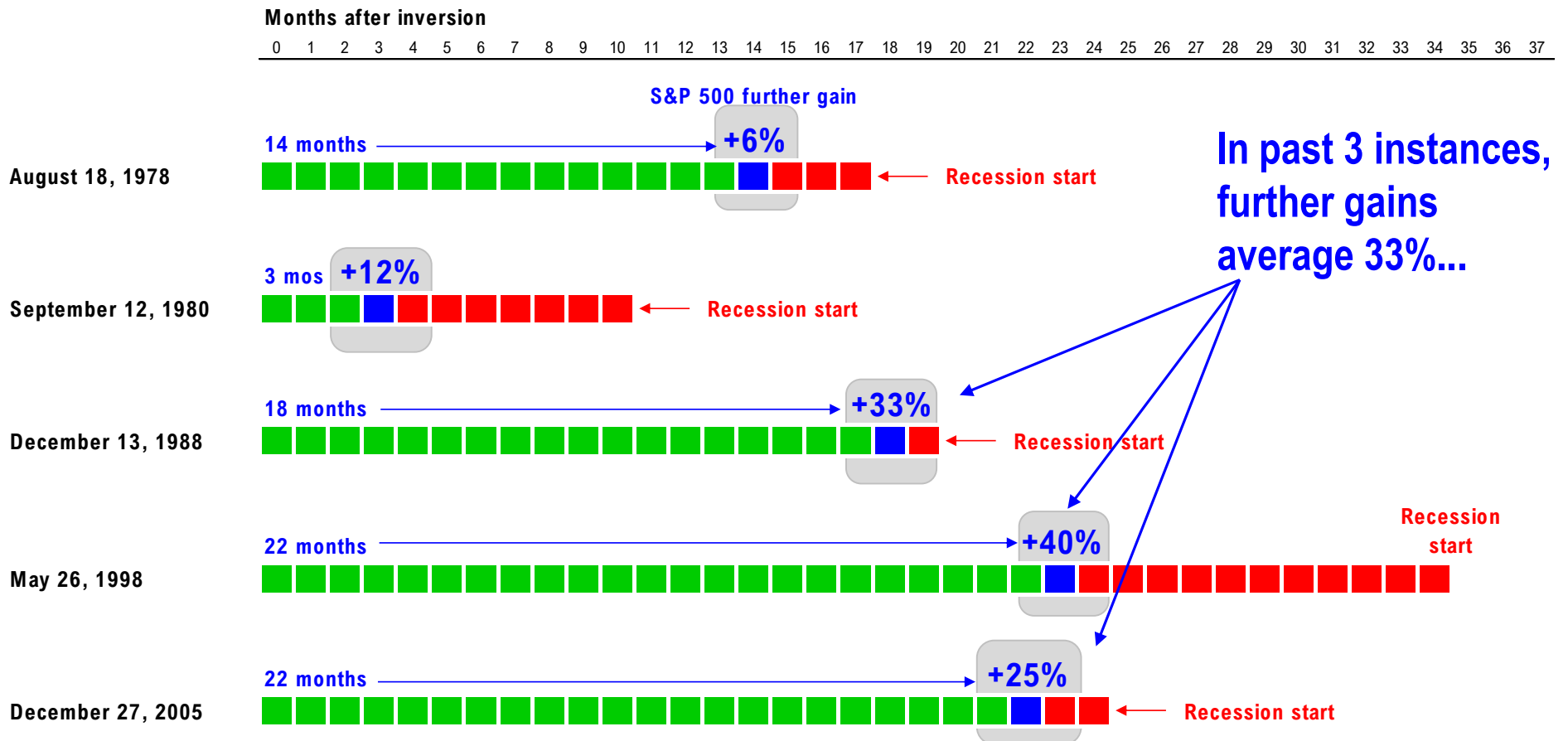


# PANIC NOW? Last 3 times, gains continued for 17-20 months...

The S&P 500 has managed further gains 5 of 5 times we saw the first inversion of the 10Y-2Y (2Y trade only since 1976).

- 5 of 5 times, the equity markets staged further gains, with an average further gain of 23%, but averaged 33% in the past 3 instances.

Figure: Time from first inversion of 10Y-2Y until the equity market peaks and the cumulative S&P 500 gain Since 1976



Source: Fundstrat, Bloomberg, Factset

## Executive Summary

- **World is scary, US stocks ready for bounce**
- **US equities are de-coupling from RoW**
- **Labor shortages benefit US competitiveness**
- **Demographics destiny: Millennials**
- **Recommended Investment Strategies**



# LABOR: Global excess supply of labor is gone, first time since 1973

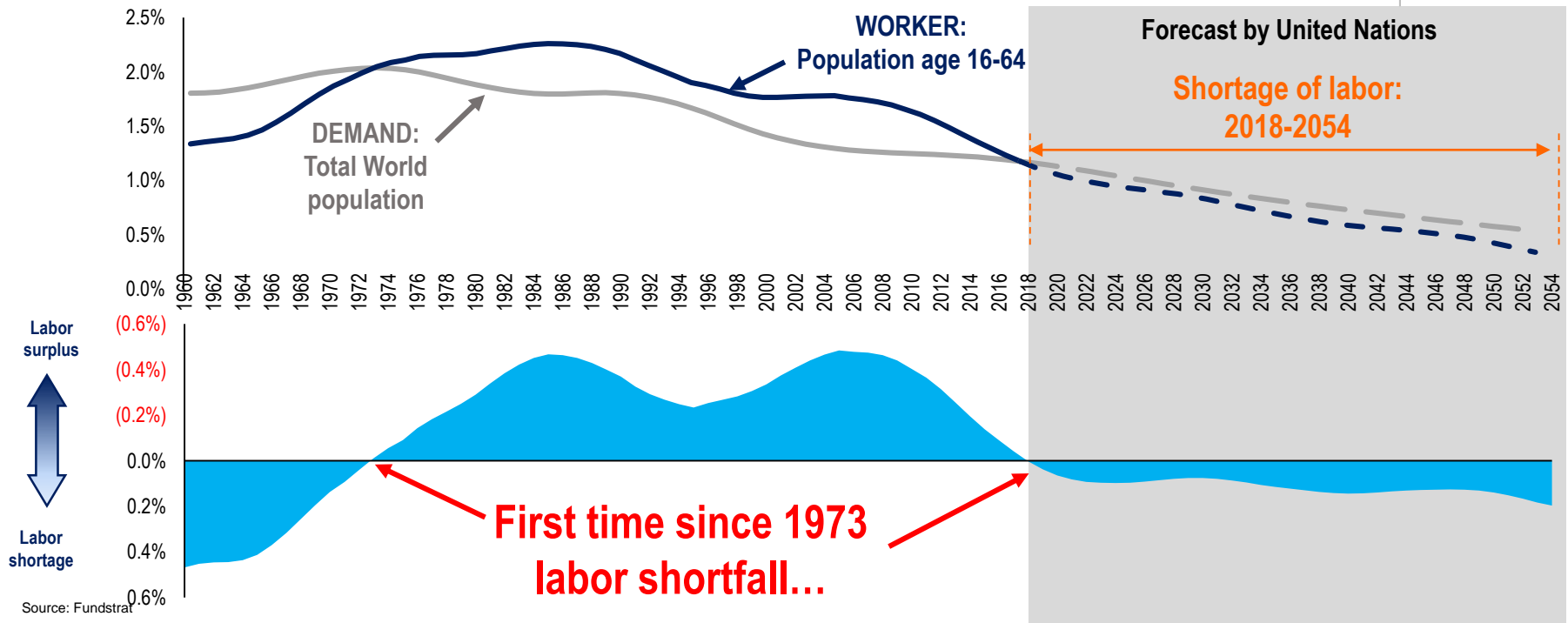
Global labor supply is falling into a deficit. This is shown below and is most acute in high income countries (4.9% labor)

- The decline in labor is widespread (except Africa and India, basically) and total shortfall is 43 million workers.

Figure: Spread between total population growth and workforce growth (age 16-64)

Per UN DESA

	2018		2028		Delta		CAGR		% current	
	Total	Workforce (16-64)	Total	Workforce (16-64)	Total	Workforce (16-64)	Total	Workforce (16-64)	Shortage	workforce
World	7,632,819	4,983,447	8,407,900	5,446,592	775,081	463,145	1.0%	0.9%	(42,903)	(0.9%)
World ex-Africa	6,344,899	4,264,461	6,778,314	4,501,749	433,416	237,288	0.7%	0.5%	(78,025)	(1.8%)
High-income countries	1,197,191	783,527	1,242,592	775,187	45,401	(8,340)	0.4%	(0.1%)	(38,054)	(4.9%)
Mid/Low-income countries	6,435,628	4,199,919	7,165,308	4,671,404	729,680	471,485	1.1%	1.1%	(4,849)	(0.1%)

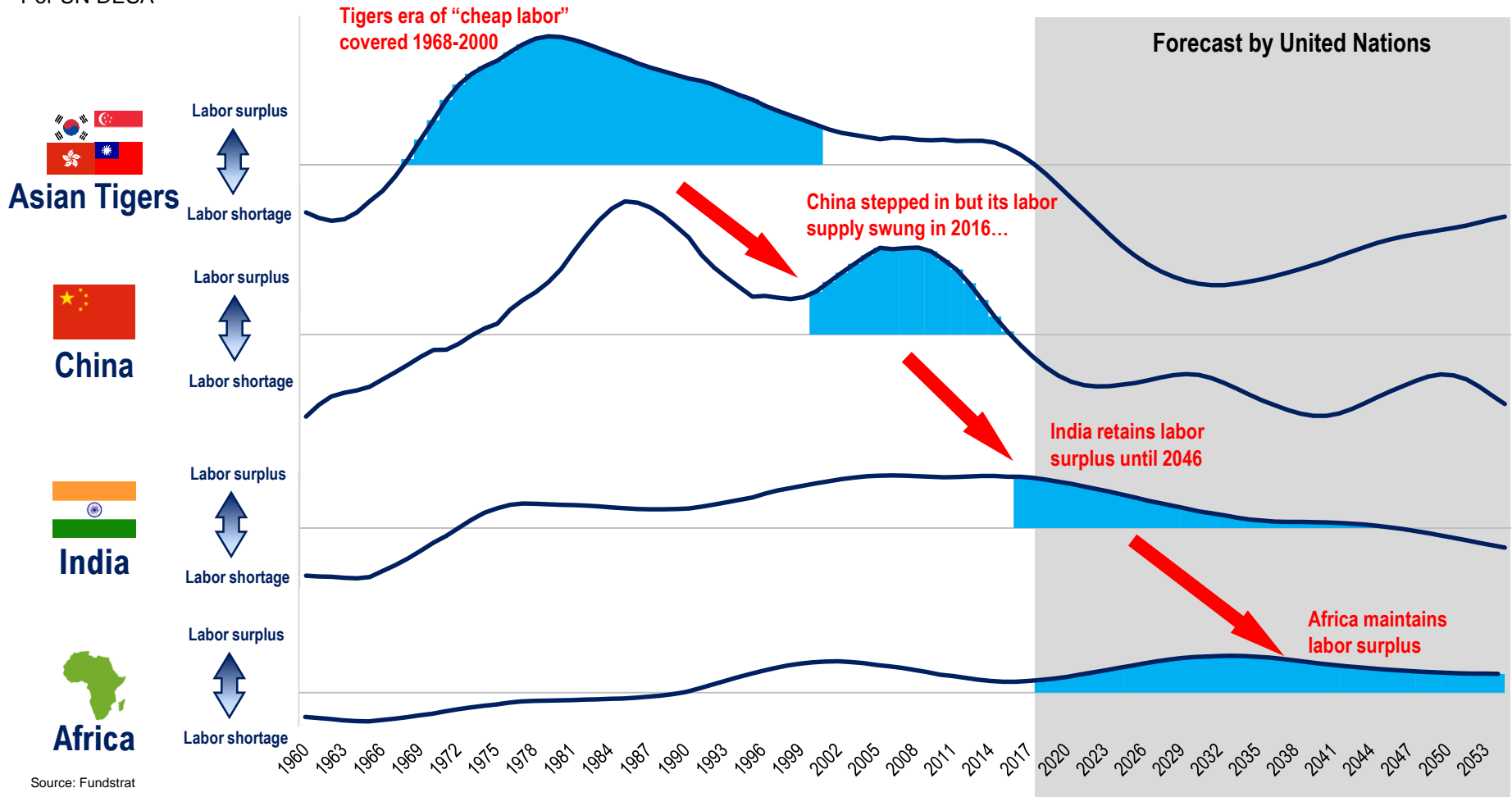


# LABOR: From Tigers to China to India (until 2046) and Africa

China and the Four Asian Tigers (Hong Kong, Korea, Singapore and Taiwan) entered labor shortage recently.

- In the chronology below is the progress of labor supply. The Tigers were the first, followed by China joining in the 2000s, and now we're seeing a shift in India. India's labor surplus will start to diminish in 2019, but won't enter labor shortage until 2046. Africa will maintain its labor surplus through the forecasted period.

Figure: Spread between total population growth and workforce growth (age 16-64)  
Per UN DESA



Source: Fundstrat

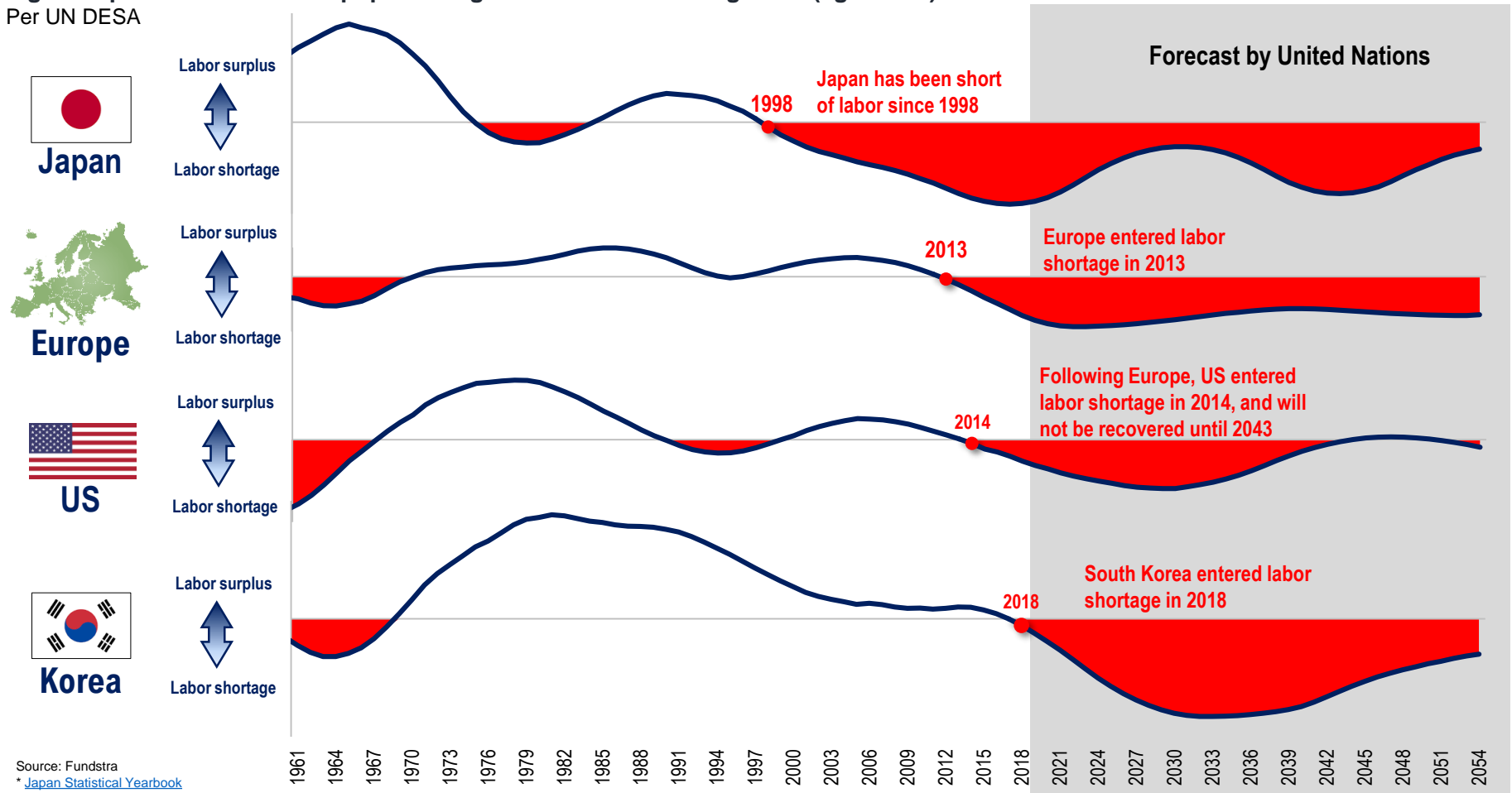
# LABOR SHORTAGE: From Japan to Europe and US to Korea

With ~1/3\* of its population aged 65 or above, Japan has been in labor shortage since late '90s. Europe and US, the major developed regions, have been short of labor since 2013 and 2014, respectively. Korea, one of the Asian Tigers that used to provide abundant labor force, also entered labor shortage in 2018.

- In the chronology below is the progress of labor supply. With both aging population and low birth rates, the labor condition in Japan, Europe and Korea will persist through the forecasted period. US is relatively better, but still will maintain labor shortage until 2043.

Figure: Spread between total population growth and workforce growth (age 16-64)

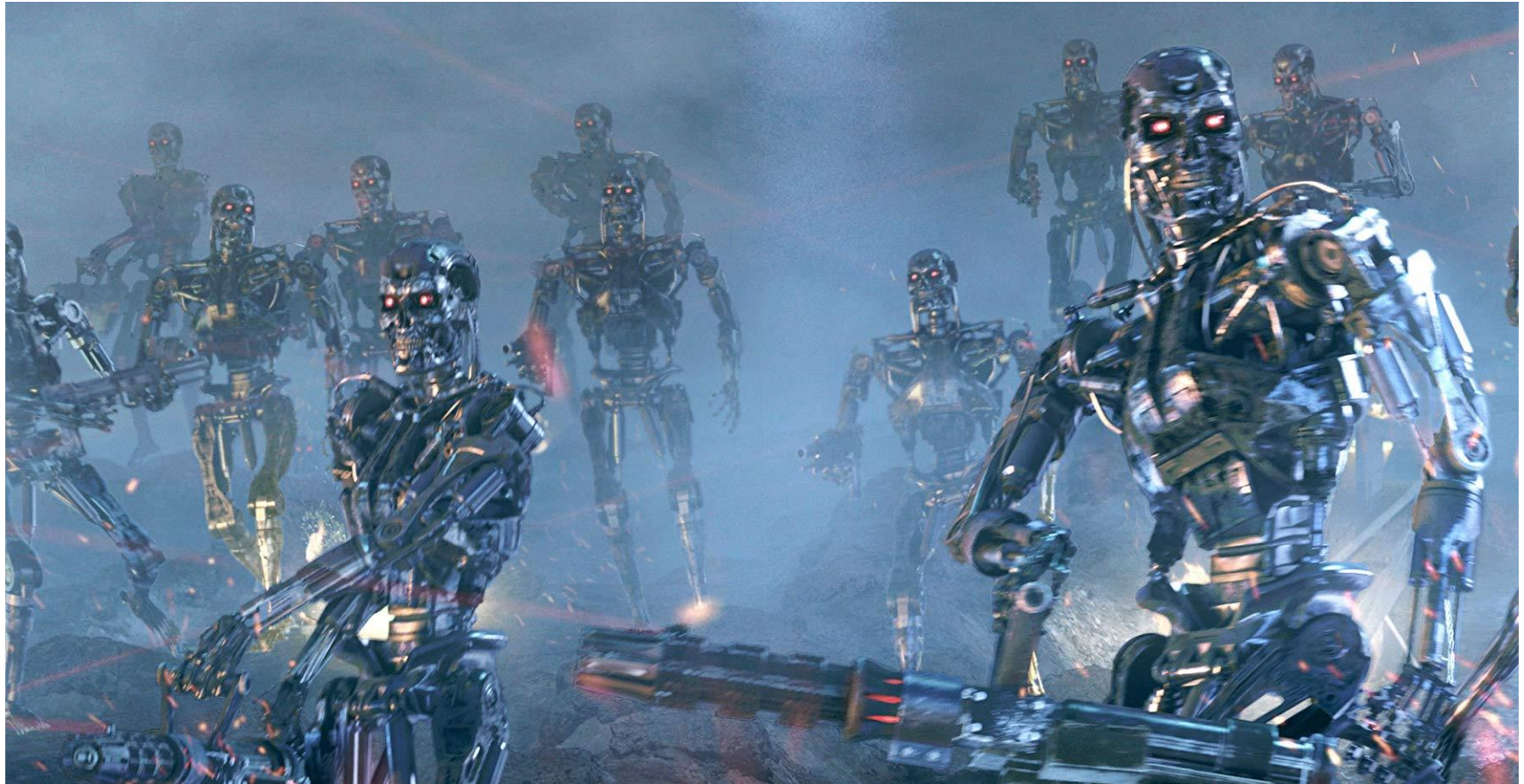
Per UN DESA



Source: Fundstra  
\* Japan Statistical Yearbook

AUTOMATION: Labor Shortage drives demand for ‘automation’

**‘Demand for automation drive by necessity’**



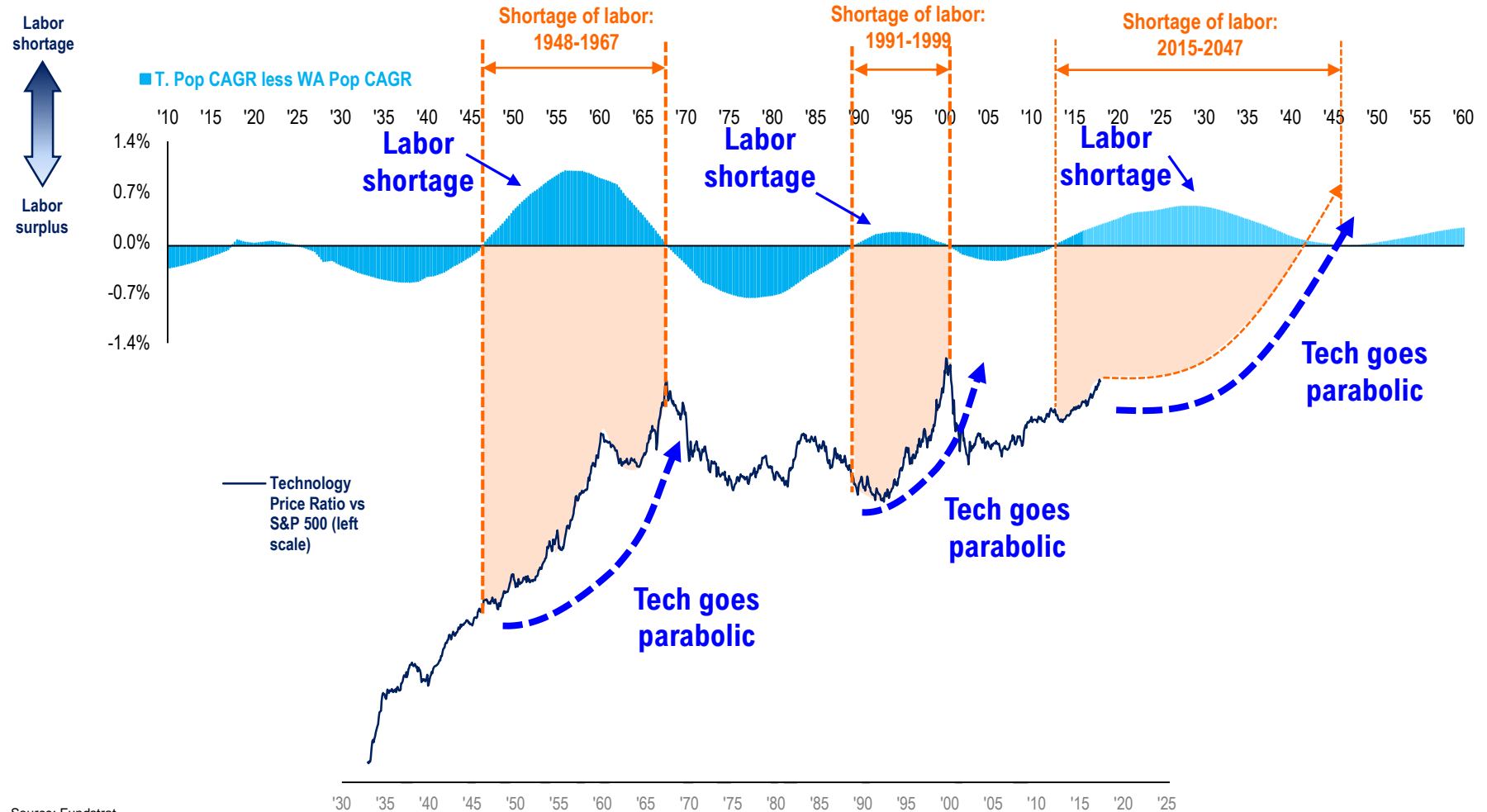
# AUTOMATION: Overweight Technology and Cyclical

We have compared the performance of US Technology stocks (vs S&P 500) and indicated periods of labor shortage.

- The outperformance of Technology during periods of labor shortage is substantial—and we believe the forecasted 2015-2047 to benefit Technology stocks.

**Figure: Comparative relative performance of US Technology stocks during periods of US labor shortage**

Since 1930-now



Source: Fundstrat

## Executive Summary

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- **US equities are de-coupling from RoW**
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- **Demographics destiny: Millennials**
- **Recommended Investment Strategies**

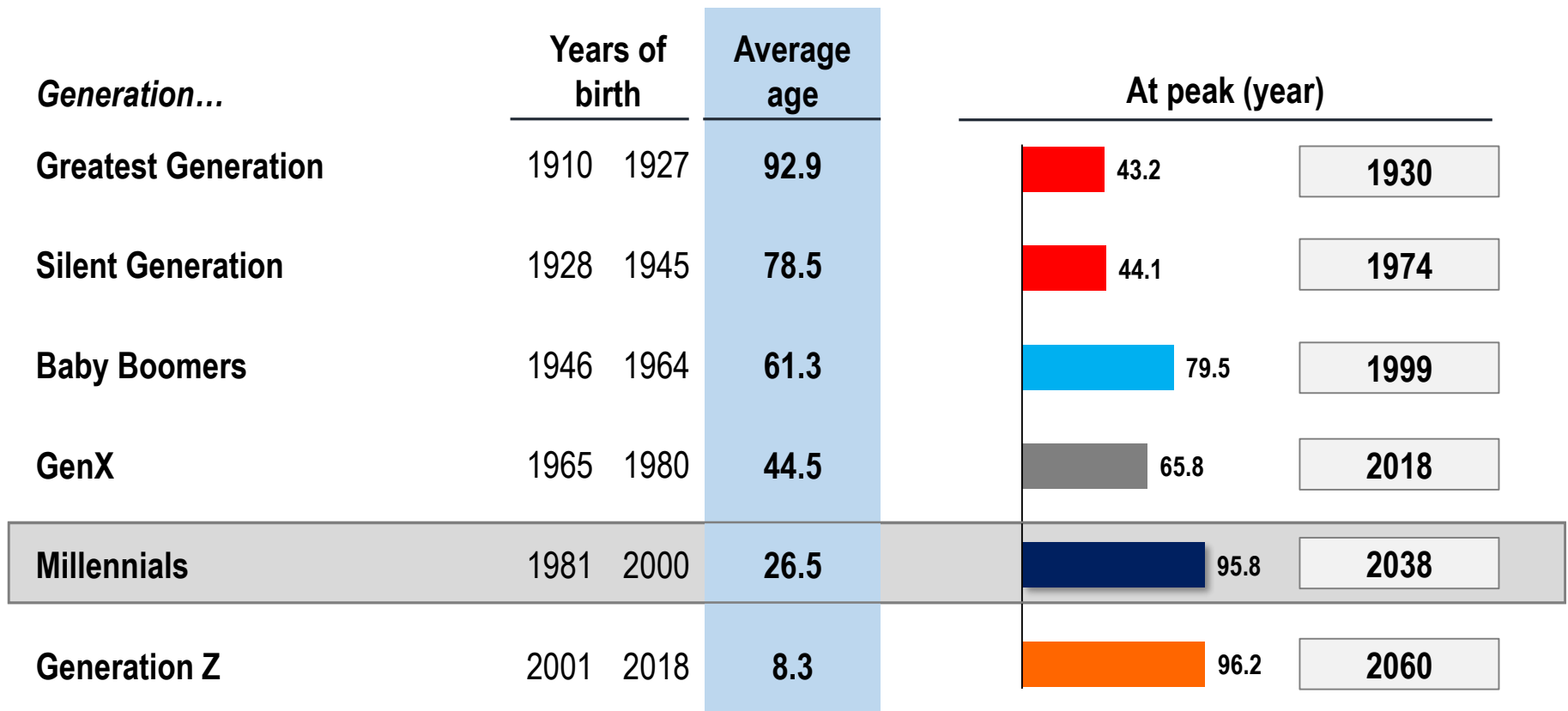


# DEMOGRAPHICS: Explains business cycles better than people realize...

Millennials are significant for two reasons: sheer size, both in the US and the rest of the world, and relatively young age.

- **First, they are the largest single generation ever (larger than Boomers) at a population of 2.5 billion globally.**
- **Second, at an average age of 26.5, they are just entering their prime income years.**

Figure: Total US Population divided by age groups  
2017. Data provided by the DESA UN Data sets.



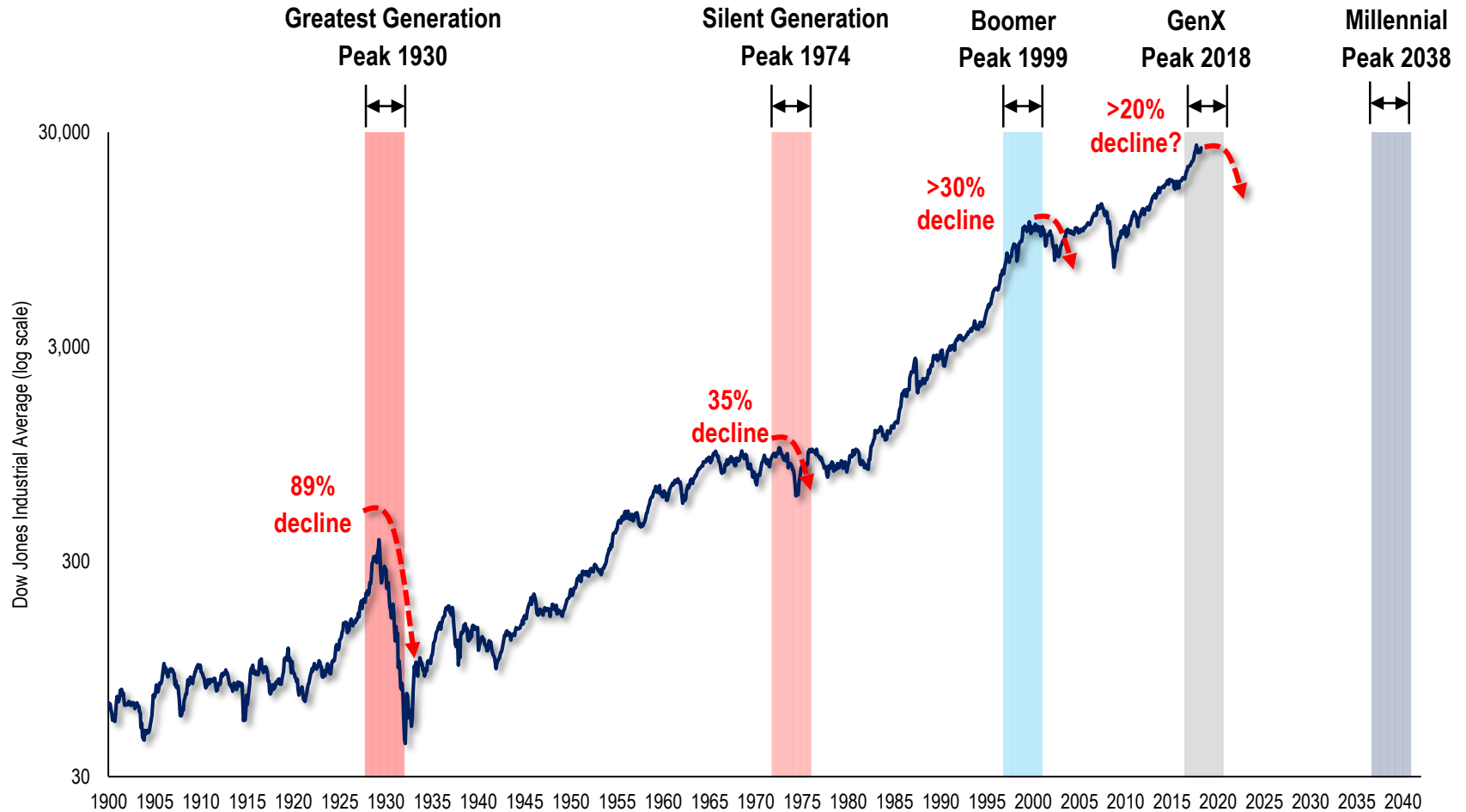
Source: Fundstrat. Peak population figures above include immigration. \*\*Reduced immigration will lead to a smaller overall size of GenZ.

# DEMOGRAPHICS: Major market turning points with each generation's peak

Notably, equity markets tend to peak with each generation's peak. Notice this below.

- GenX is reaching the peak size of the cohort in 2018.

Figure: Dow Jones Industrials Average  
Since 1900



Source: Fundstrat, Bloomberg

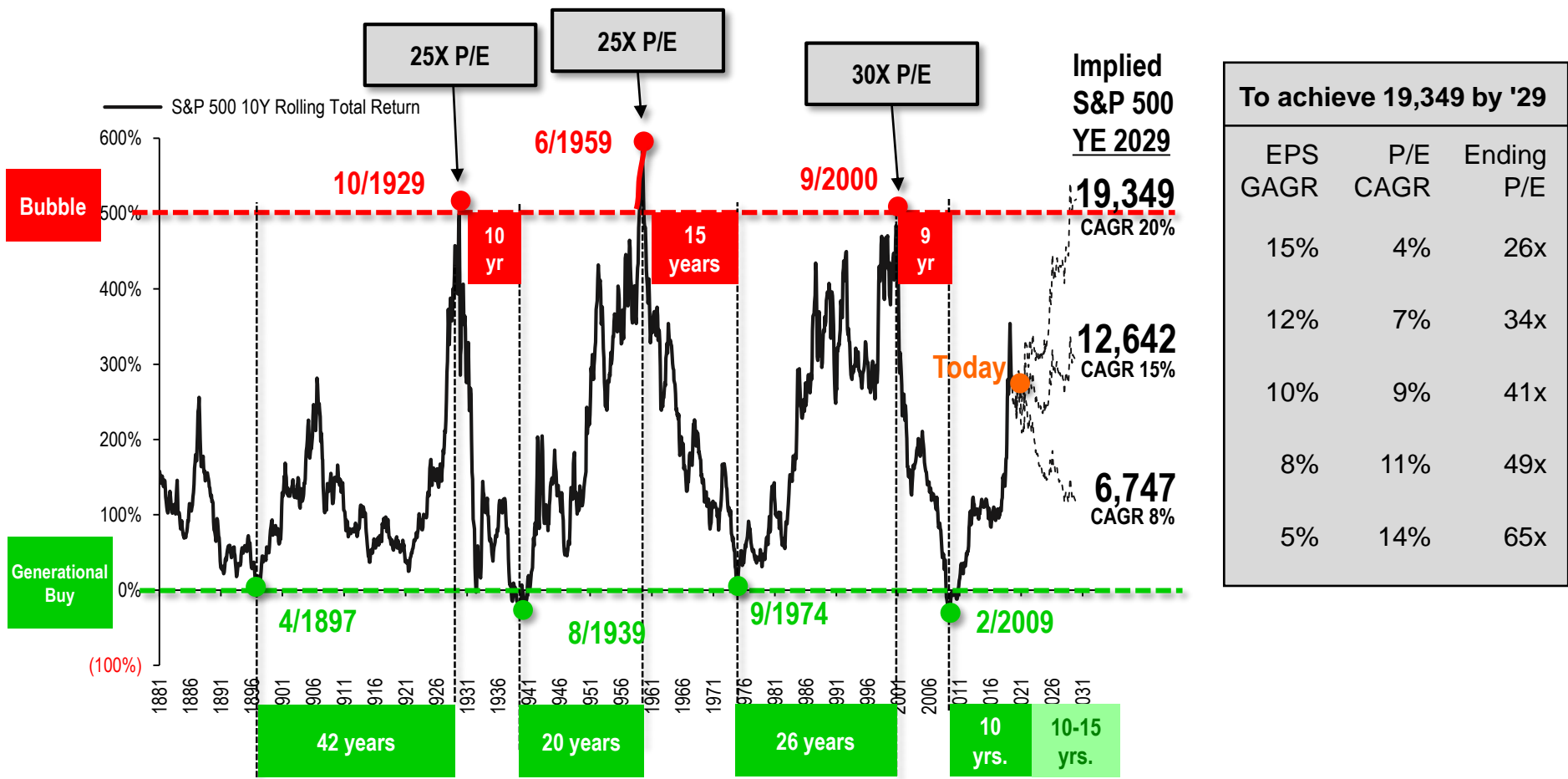


# Long-term bull markets see peak acceleration to 500% 10-yr returns

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

- **The current bull market has risen for 10 years and if the history plays out, S&P 500 could reach 19,000 YE 2029 vs. 3,000 now.**

**Figure: 10-year rolling returns of the US equities**  
Since 1881



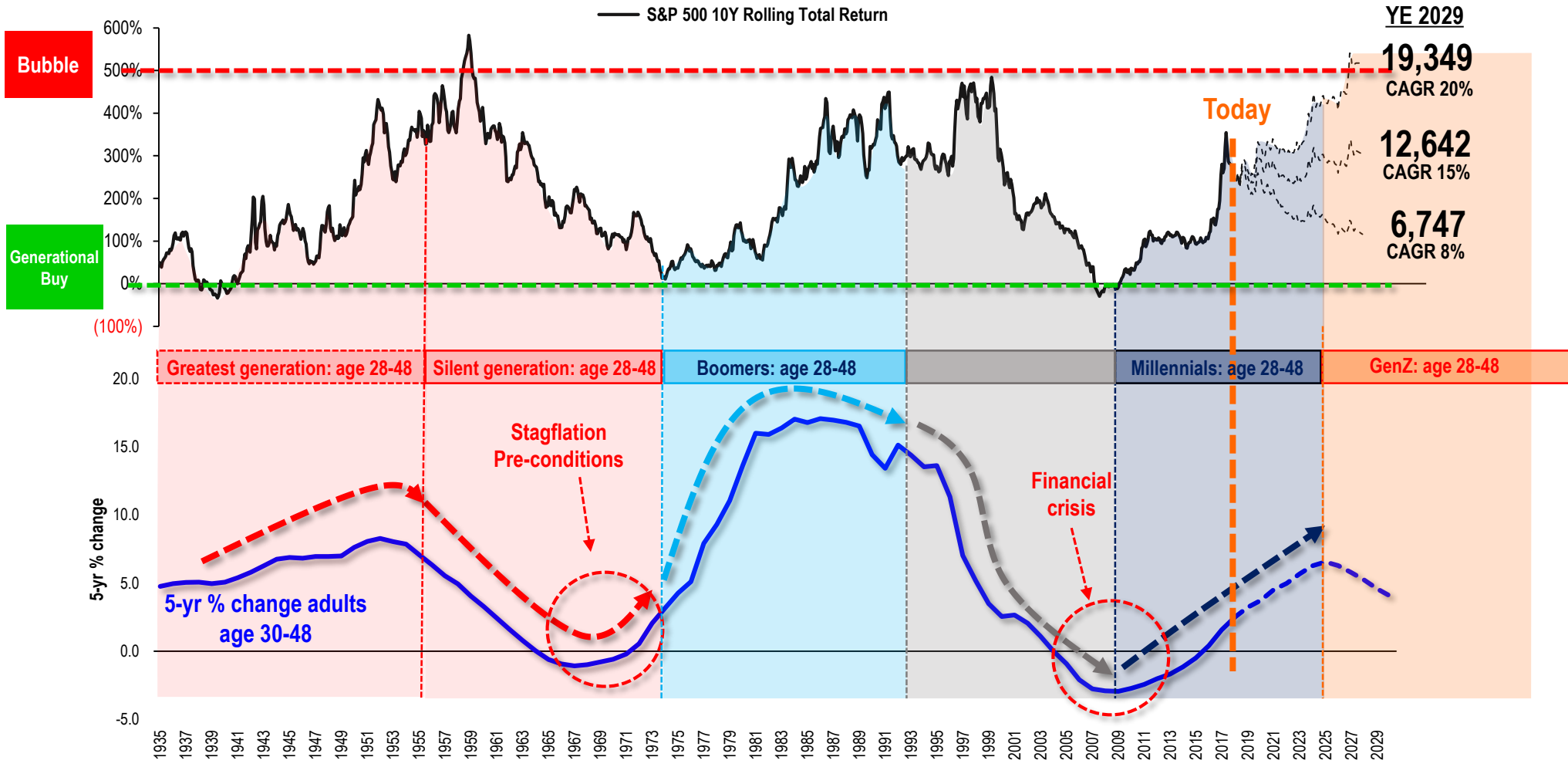
Source: Fundstrat, Bloomberg.

# STOCK: Like housing, equity markets also follow moves in adults age 28-48

We overlay the # of adults in "prime leverage age" (age 30-48) against the 10-year rolling total return of S&P 500 below.

**Figure: Prime Leverage years: # adults age 30-48**

Since 1935 per the US Census Bureau



Implied  
S&P 500  
YE 2029

**19,349**  
CAGR 20%

**12,642**  
CAGR 15%

**6,747**  
CAGR 8%

— Primary debt leverage (age 30-48) -- 5-yr % chg historical

- - - Primary debt leverage (age 30-48) -- 5-yr % chg US Census forecast

Source: Fundstrat, Bloomberg, BEA, National Association of Realtors, US Census Bureau

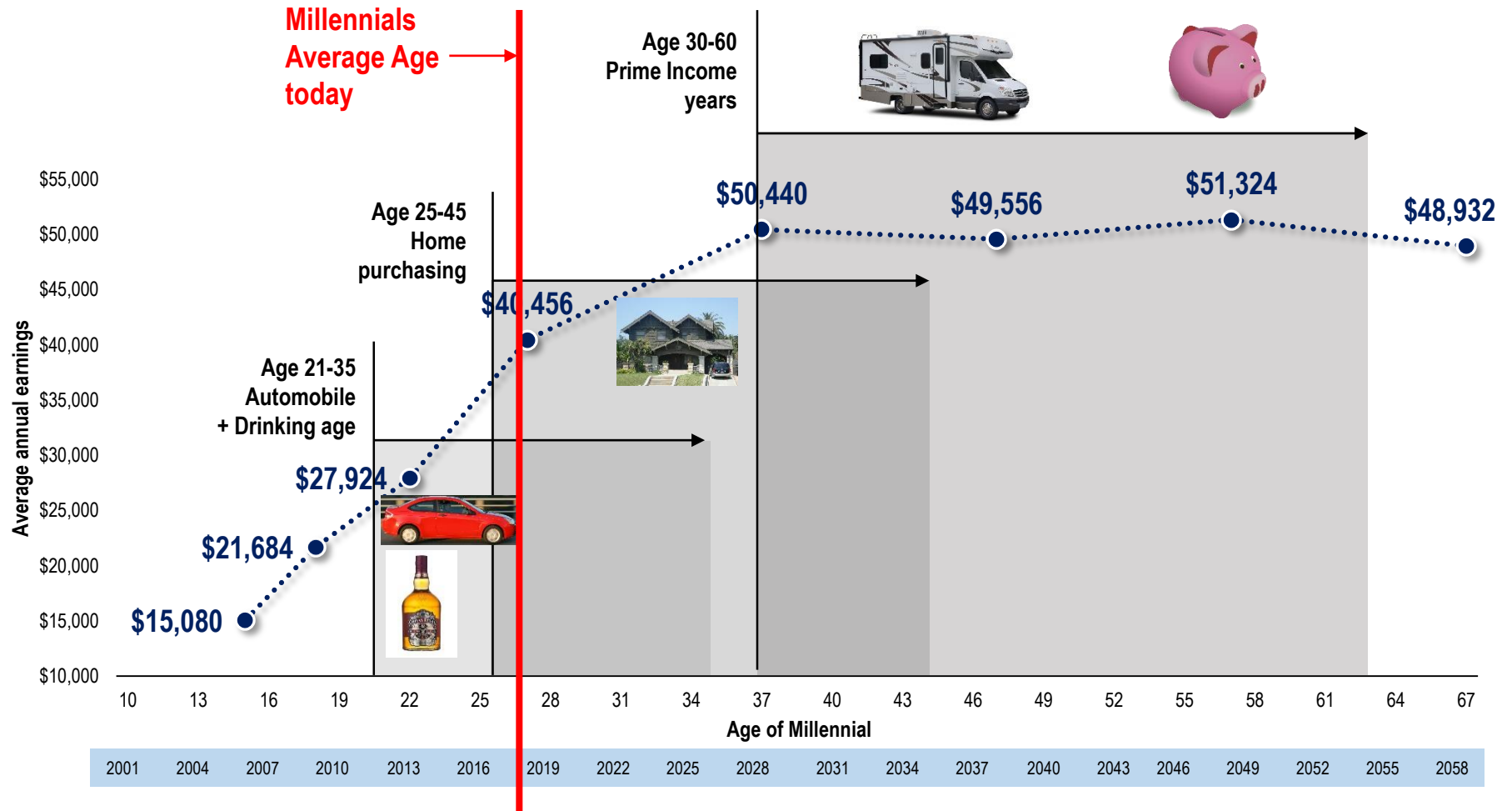
# Millennials average age is 26.5... still early in life cycle

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  
Source: Fundstrat, Bloomberg, Udata

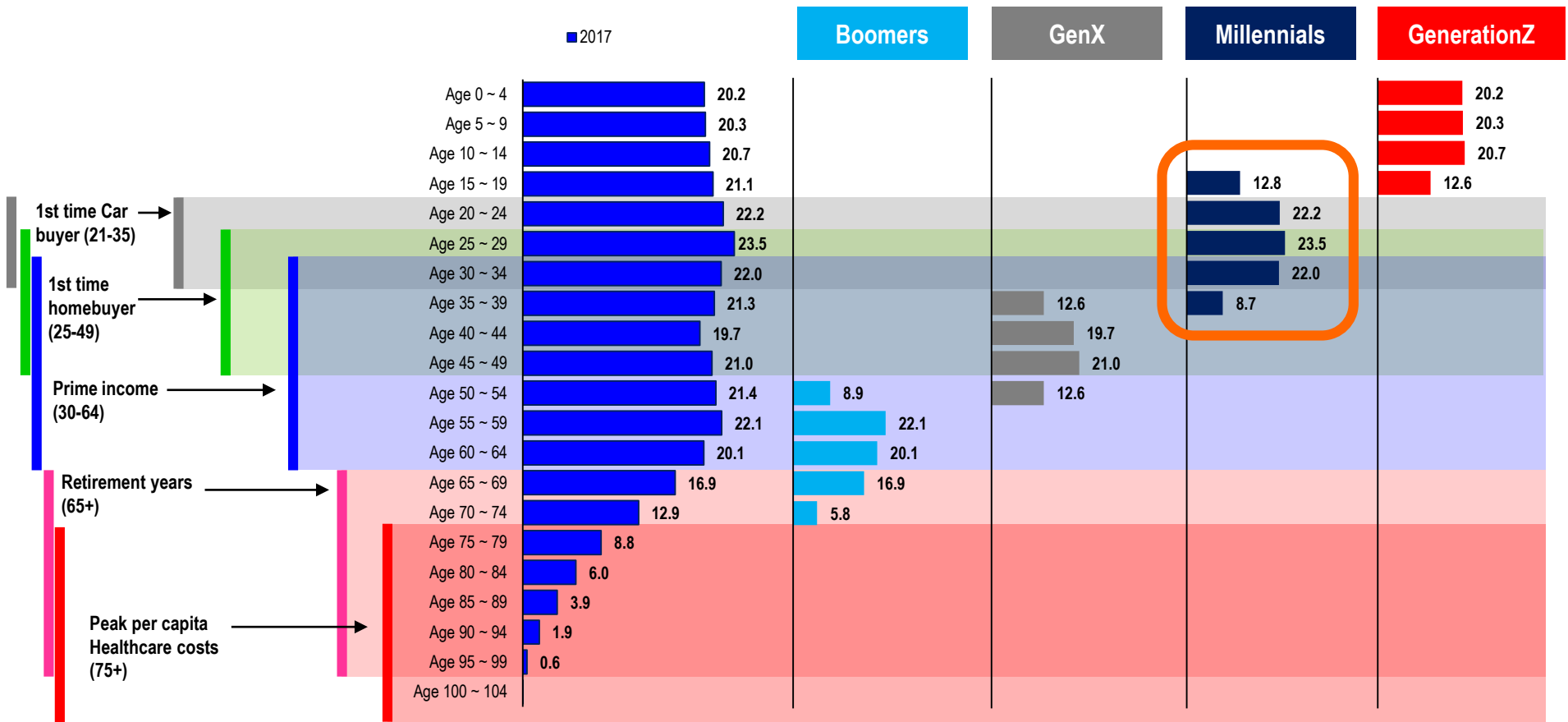
# Millennials *maturing* autos, *peak* homebuying and *early* prime income

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



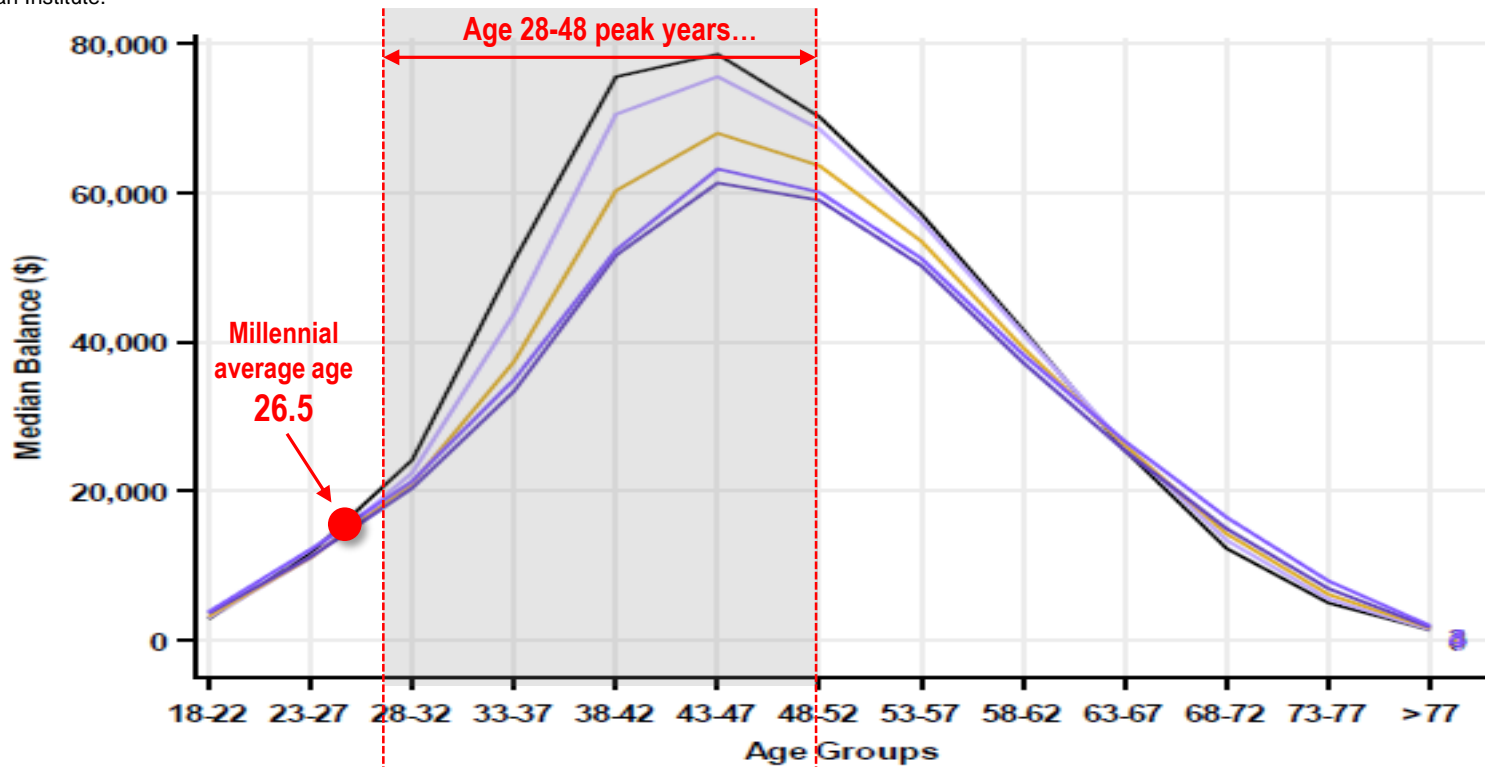
Source: Fundstrat, Bloomberg, Census bureau  
Source: Fundstrat, Bloomberg, Udata

# LEVERAGE: Household debt *peaks* between ages 28-53, or 2019 to 2039...

- Millennials are about to become prime consumers of leverage. The Urban institute shows that leverage peaks between age 28-53. For Millennials, this is between 2019-2039.

Figure: Median debt balance by Age Group

US data. From Urban Institute.



Millennials	2009	2014	2019	2024	2029	2034	2039	2044	2049	2054	2059
Median age	18.0	23.0	27.0	32.0	37.0	42.0	47.0	52.0	57.0	62.0	67.0

Millennials hit this between 2019-2039...

Source: Fundstrat, Bloomberg. <https://www.urban.org>

# DEMOGRAPHICS: US adults age 30-48 inflecting up and surging

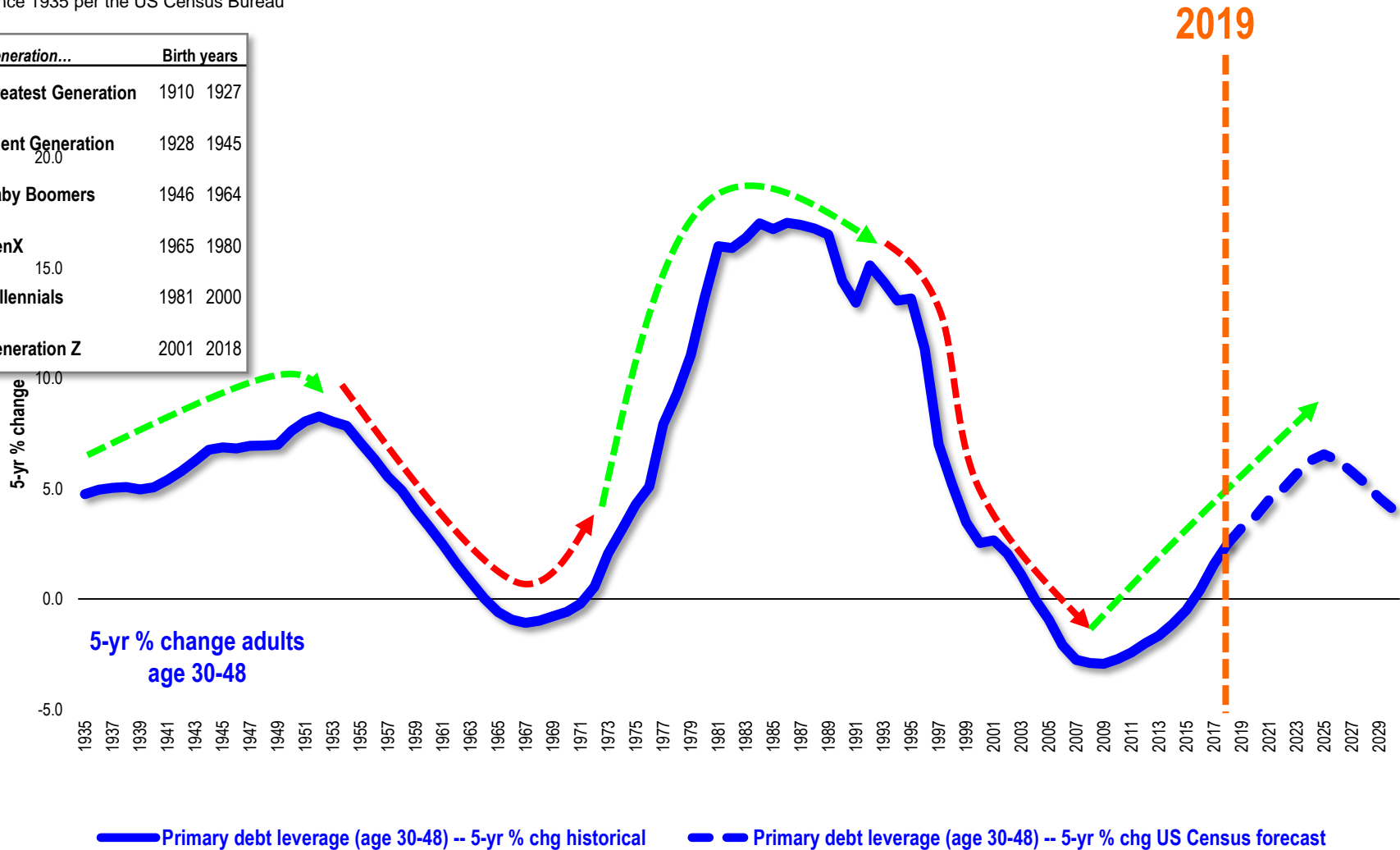
The number of adults in “prime leverage age” (age 30-48) is below, based on data from the US Census Bureau.

- This figure fell from 2001-2008 (is GFC not a surprise?) and as shown below, set to accelerate 2018 to 2026.

Figure: Prime Leverage years: # adults age 30-48

Since 1935 per the US Census Bureau

Generation...	Birth years
Greatest Generation	1910 1927
Silent Generation	1928 1945
Baby Boomers	1946 1964
GenX	1965 1980
Millennials	1981 2000
Generation Z	2001 2018



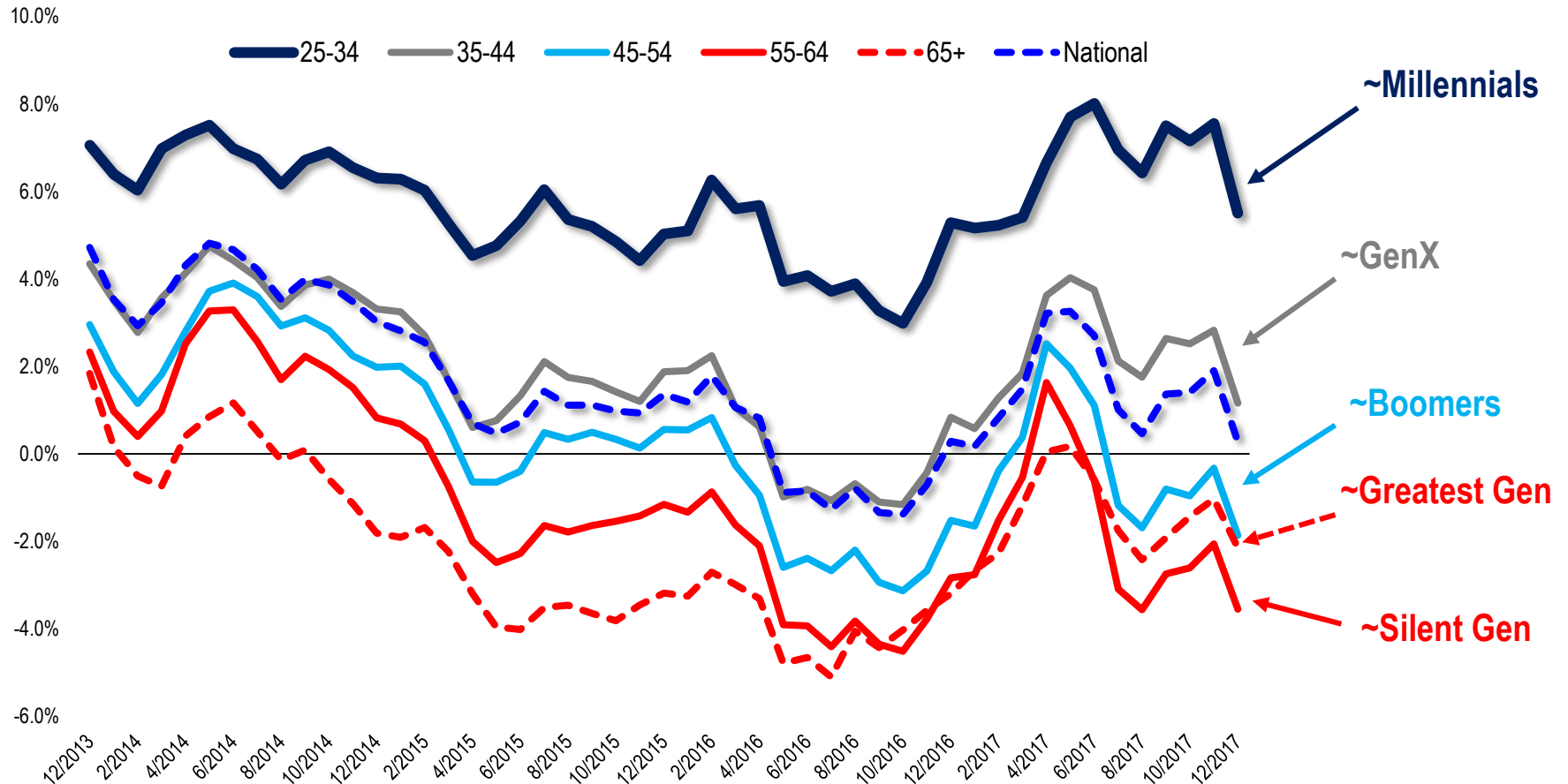
Source: Fundstrat, Bloomberg, BEA, National Association of Realtors, US Census Bureau

# Millennials Credit card spending *growing faster* than GenX or Boomers...

Credit card spending growth by age cohort is shown below. What is being measured is the year over year aggregate spending on Chase Credit cards.

- Millennials spending growth is far outstripping any other cohort. In fact, Boomers, Silent Generation and Greatest Generation are actually seeing declines.

Figure: Chase credit card spending growth based upon age cohort.  
Per Chase Bank



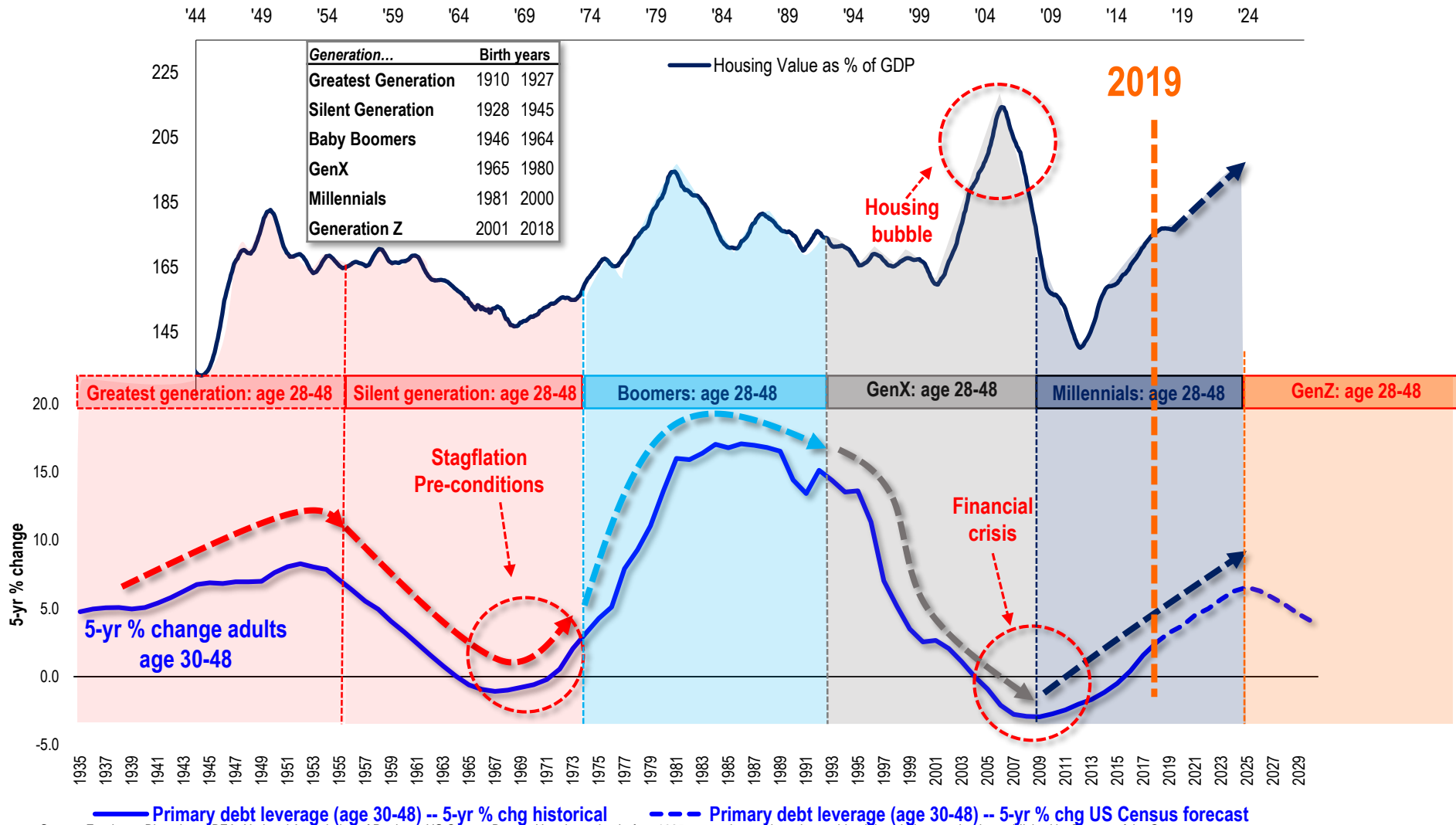
Source: Fundstrat, Bloomberg

# HOUSING: Home values follow moves in adults age 28-48

We overlay the # of adults in “prime leverage age” (age 30-48) against the historical housing value as % of GDP below.

**Figure: Prime Leverage years: # adults age 30-48**

Since 1935 per the US Census Bureau



Source: Fundstrat, Bloomberg, BEA, National Association of Realtors, US Census Bureau Housing value before 1965 was estimated by using residential capital cost valuation published by Bureau of the Census



## Executive Summary

- **World is scary, US stocks ready for bounce**
  - **US equities are de-coupling from RoW**
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# CONTINUATION OF WORKING TRADES: US (vs RoW) + Asset Light + Large-cap + Cyclical

The 4 pillars of working strategy since 2009, we believe, keep working with the Fed cut, primarily because we see TINA driving asset flows into the US. Hence, these strategies continue to outperform.

Figure: We see these trades continuing to work

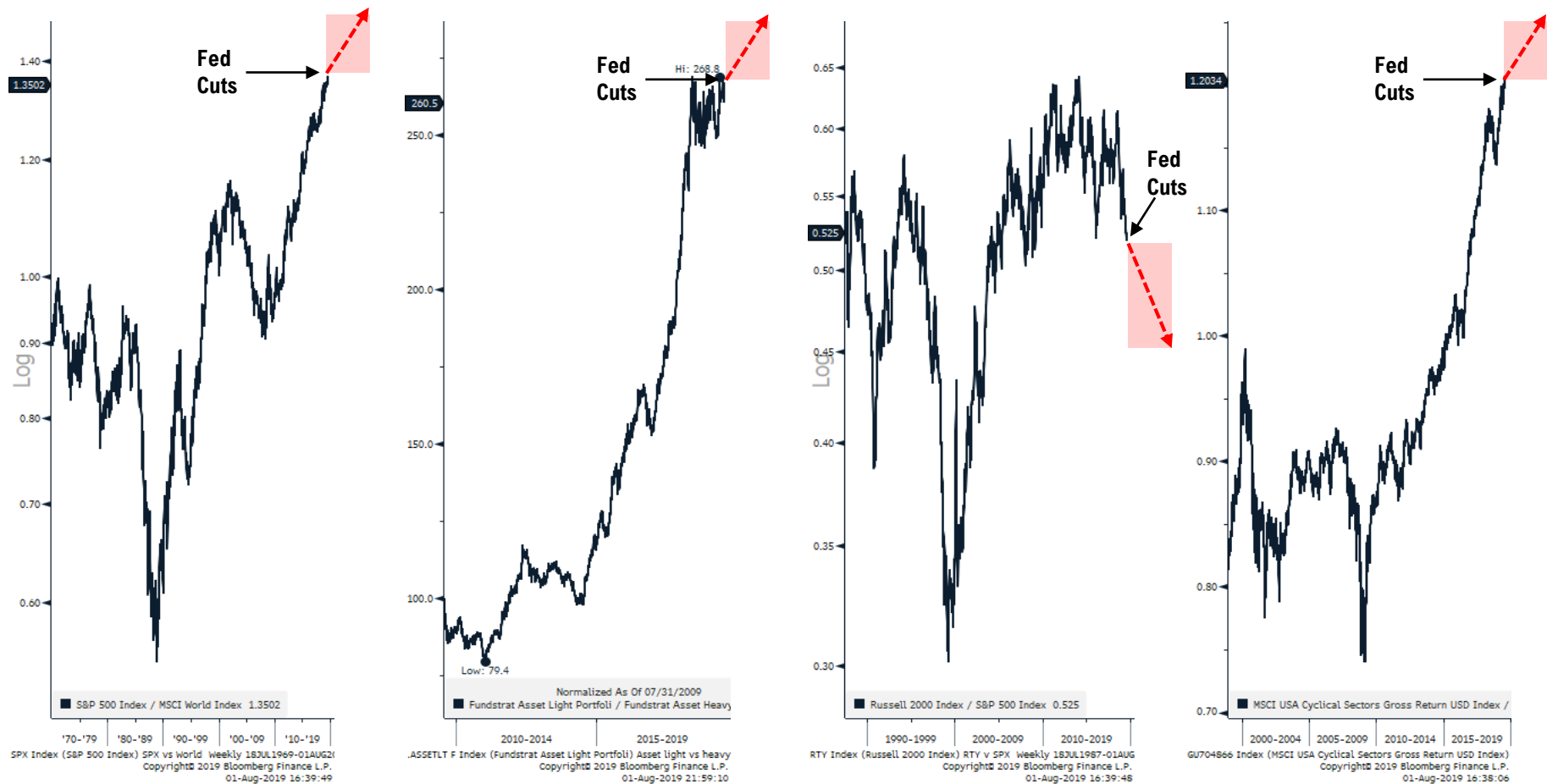
Since base dates noted

**S&P 500**  
**beating**  
**RoW**

**Asset light**  
**beating**  
**Asset heavy**

**Large-cap**  
**beating**  
**Small-cap**

**Cyclicals**  
**beating**  
**Defensives**



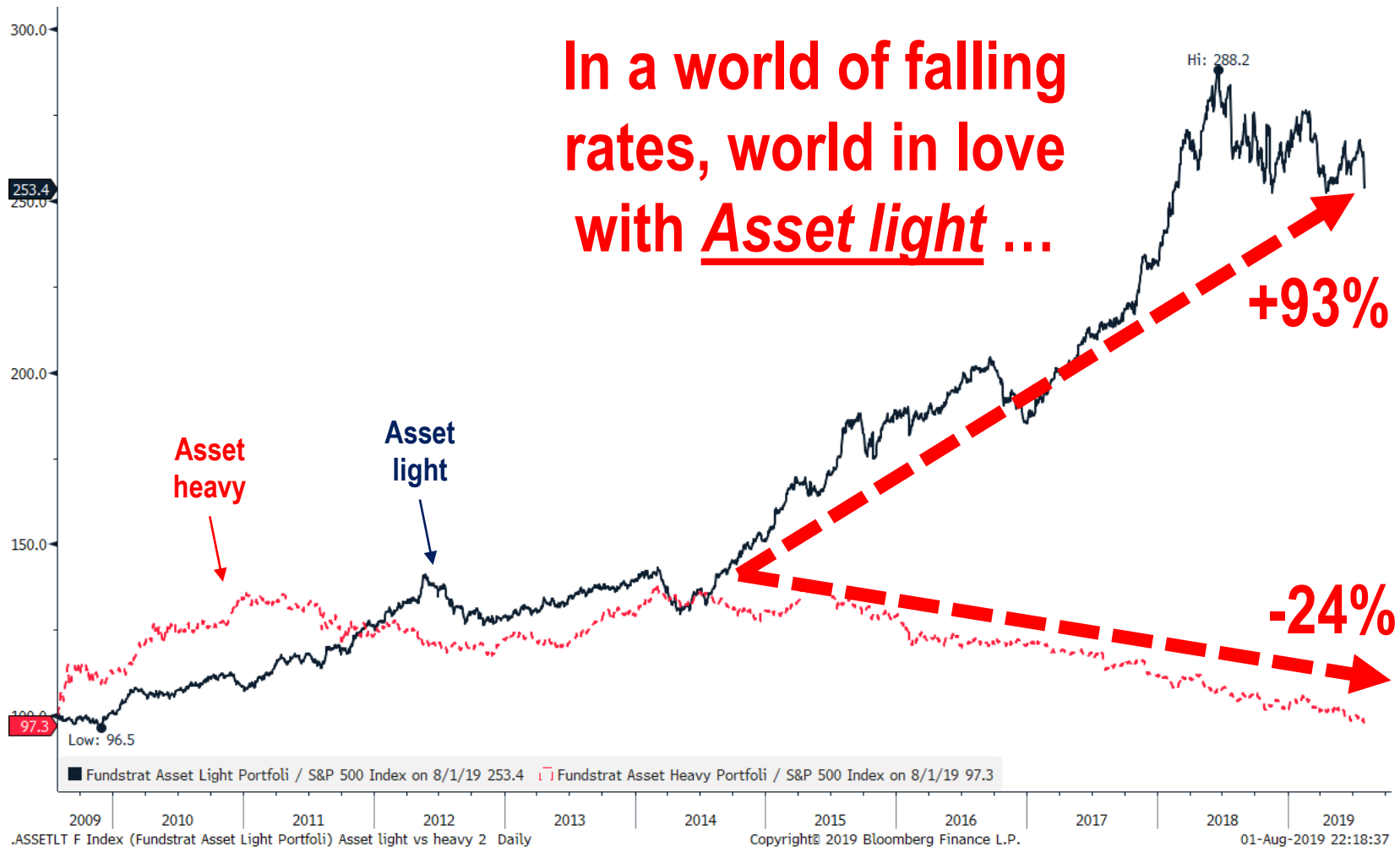
# ASSET LIGHT: Since 2015, Asset light crushed asset heavy stocks

We can create a proxy for asset light and asset heavy based on Assets/\$1mm of EBIT. And the price performance of top and bottom 5% is shown below.

- Since 2015, as investors see permanency in falling rates, they have started to heavily favor asset light stocks.

Figure: Relative performance (vs S&P 500) – Asset heavy vs Asset light stocks

Since 2009. Asset light is lowest 5% of S&P 500 stocks Assets/EBIT and Asset heavy is highest 5% of Assets/ EBIT



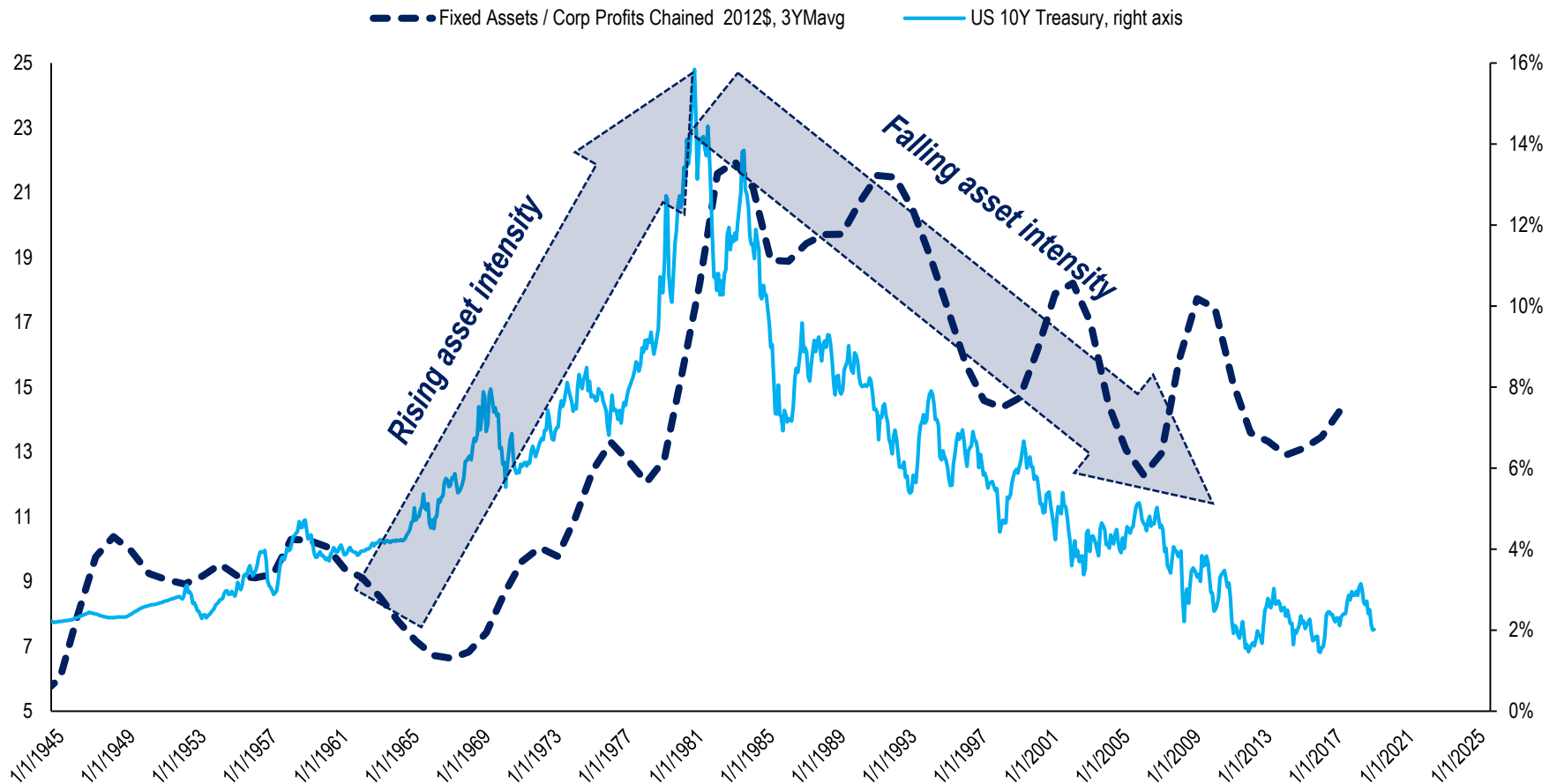
# ASSET LIGHT: As interest rates fell, corporations became asset light...

Below we show the relationship between fixed assets needed to generate \$1 million of corporate profit (in 2012 dollars), and the US 10-year Treasury yield.

- As interest rates soared from 1965-1982, US corporates became “Asset Heavy” using more assets to generate \$1 million in REAL profit. Similarly, as interest rates plunged, corporations became “asset light.”

Figure: Real Fixed Assets per million 2012\$ of corporate profits (3 year moving average) vs 10 Year Treasury Yield

Since 1945



Source: Fundstrat, Bloomberg, BEA

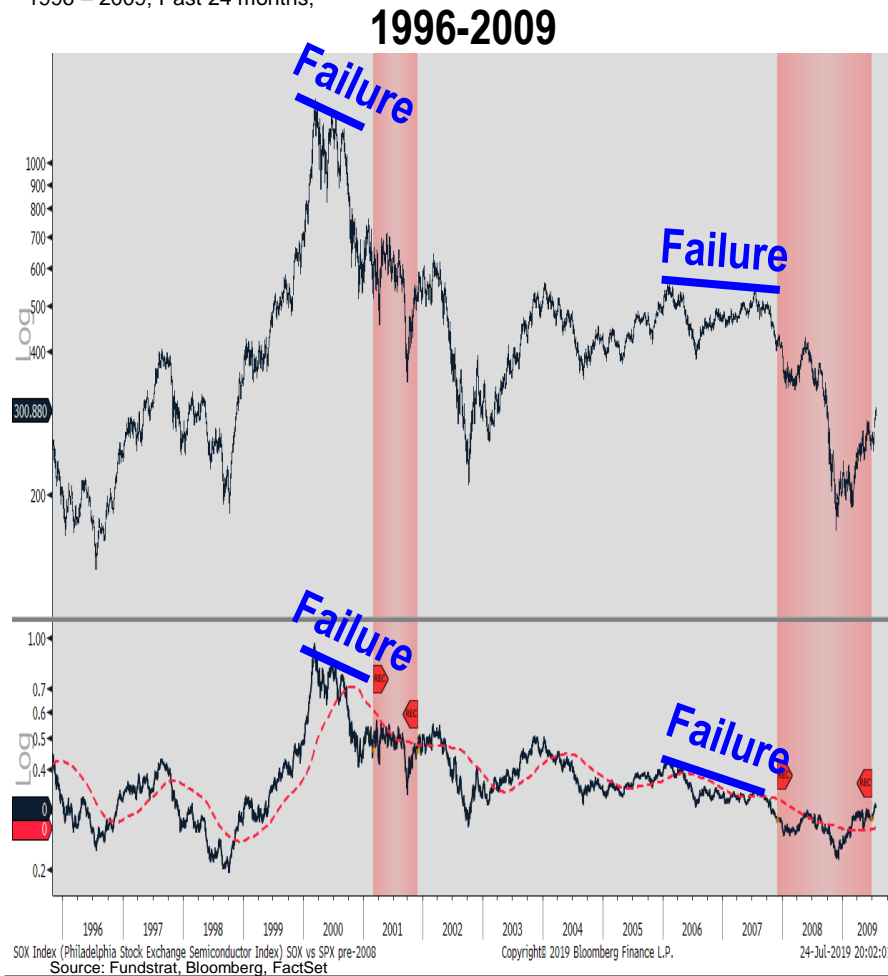
# MID-CYCLE: Semis hit new highs... seems to quash the late-cycle view

Semis NEVER rally in late cycle and NEVER make new highs in late cycle - Semis saw failures in 2001 and 2007, in terms of both absolute price and relative to the S&P 500.

- **Semis' new highs seem to disprove the late-cycle view. If we are in late cycle, Semis should be rolling over now. But what we see is prices at new highs and strong 'relative performance' vs. S&P 500.**

Figure: SOX index and SOX index relative to S&P 500 (lower)

1996 – 2009; Past 24 months;



Past 24 months



# Gold ready to make new “inflation-adjusted” highs, on Fed cuts.

Inflation-adjusted gold should benefit from further Fed cuts, as lower rates makes USD less fundamentally strong.

- Thus, the recent rise in gold is consistent with expected weakening of the fundamentals of USD (lower rates). Plus, Gold is likely seen as a good hedge against the surging risks implied by doubling of negative yielding debt.

Figure: Gold divided by CPI – inflation adjusted gold price

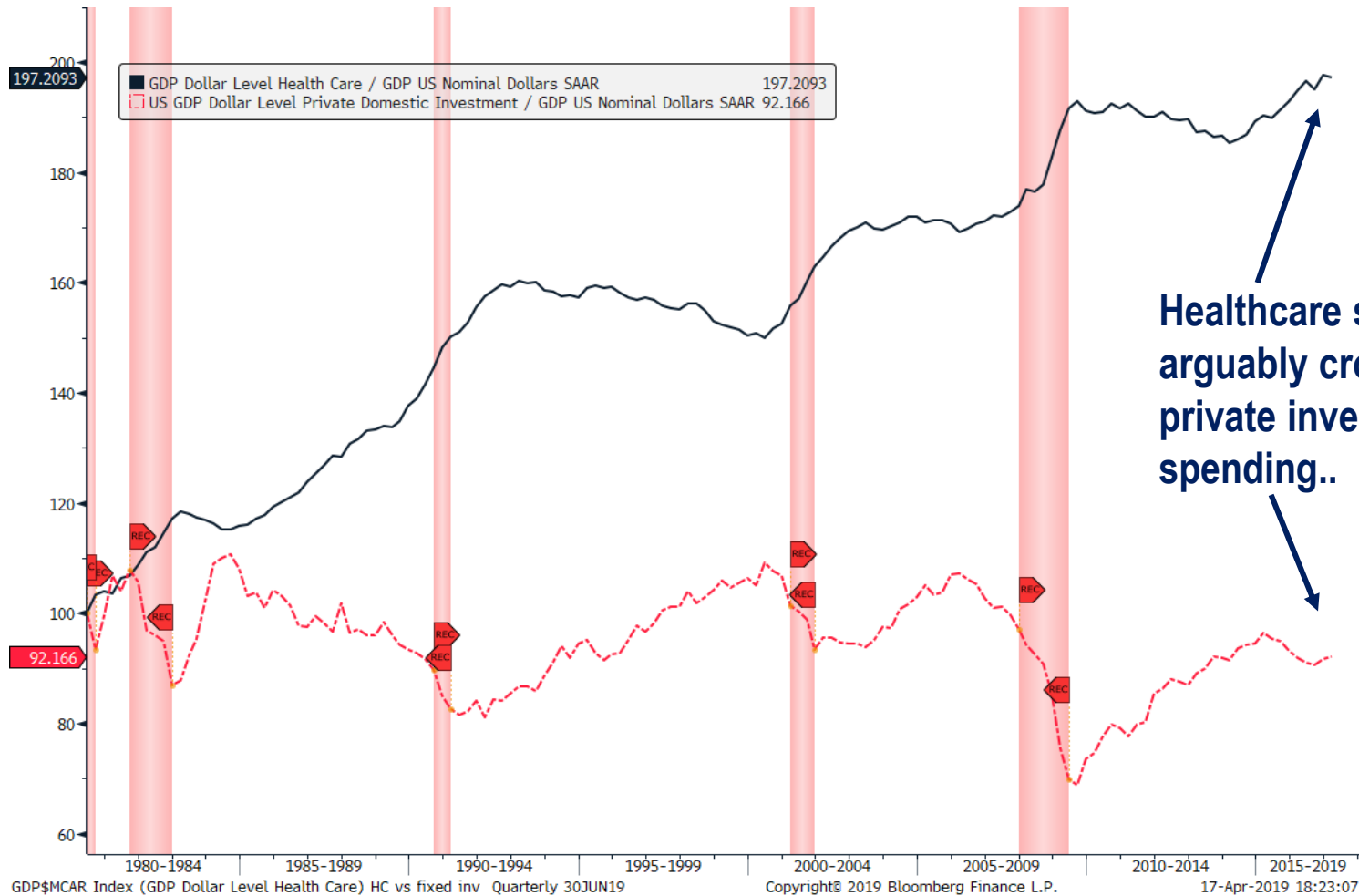
Since 1970



# BIG PICTURE: Healthcare has crowded out private investment spending

In the larger picture, Healthcare's rising costs, evidenced in its rise as % GDP has crowded out private investment spending. Since 1980, Healthcare's share has doubled (as % GDP) while investment spend has fallen. This makes sense—Healthcare has crowded out private investment dollar (available to be spent on private investment spend).

**Figure: Healthcare as % GDP and "private investment spend" as % GDP**  
Since 1980. The ratios are indexed to 100=1980.



Source: Fundstrat, Bloomberg, Factset

# Recent Healthcare sell-off sends relative price back to 2012 levels...

The recent sell-off in Healthcare is severe enough to push Healthcare's relative price back to 2012 levels.

- One longer term concern for Healthcare is the recent sell-off has reversed the relative price of Healthcare (to S&P 500) back to 2012 levels. In other words, reversing 7-years of relative gains and also affirms that Healthcare has underperformed the broader market since 2015.

Figure: Relative price ratio of Healthcare to S&P 500

Since 1990





STRATEGY: Increase “win-rate” of stock picks...

**Shaquille:**

(career success)

**52%**



**Rick Barry:**

(career success)

**90%**



# STRATEGY: Granny Shots represents the “best of the best” from Thematics

The granny shots represent the best of the best from the thematic portfolios.

- This is derived from looking at stocks which appear in multiple themes. As listed on the following pages, no stock appears in 6 of 6 thematics, but several appear in 4 or 5 of 6.

**Figure: Granny Shots are the “best of the best”**  
Stocks which appear in multiple themes.

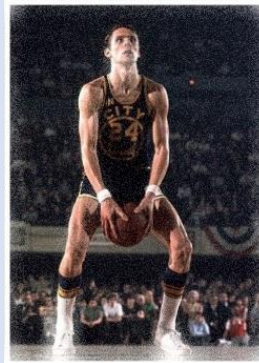
## Tactical (6M-12M)

	# stocks
Style tilt	22
Seasonality	13
FANG	7

## Thematic (3Y-5Y)

	# stocks
Millennials	28
Automation/ AI	48
Asset intensity	26

## Granny Shots



Rick Barry career free throw percentage was eye-popping 90%, incredible considering Shaquille O’Neal’s only 52%.

His secret? The unorthodox style of underhanded throws, which is considered “not macho” enough for most players.

# overlaps  
“layups”

Tickers

5

**GOOG**

4

**AAPL**

3

**FB, NKE, TSLA  
BKNG**

2

**ADP, AMGN, AMP,  
AMZN, AXP, BF/B,  
CLX, CSCO, GRMN,  
MA, MNST, NVDA,  
PG, PM, PYPL,  
ROK, V, XLNX**

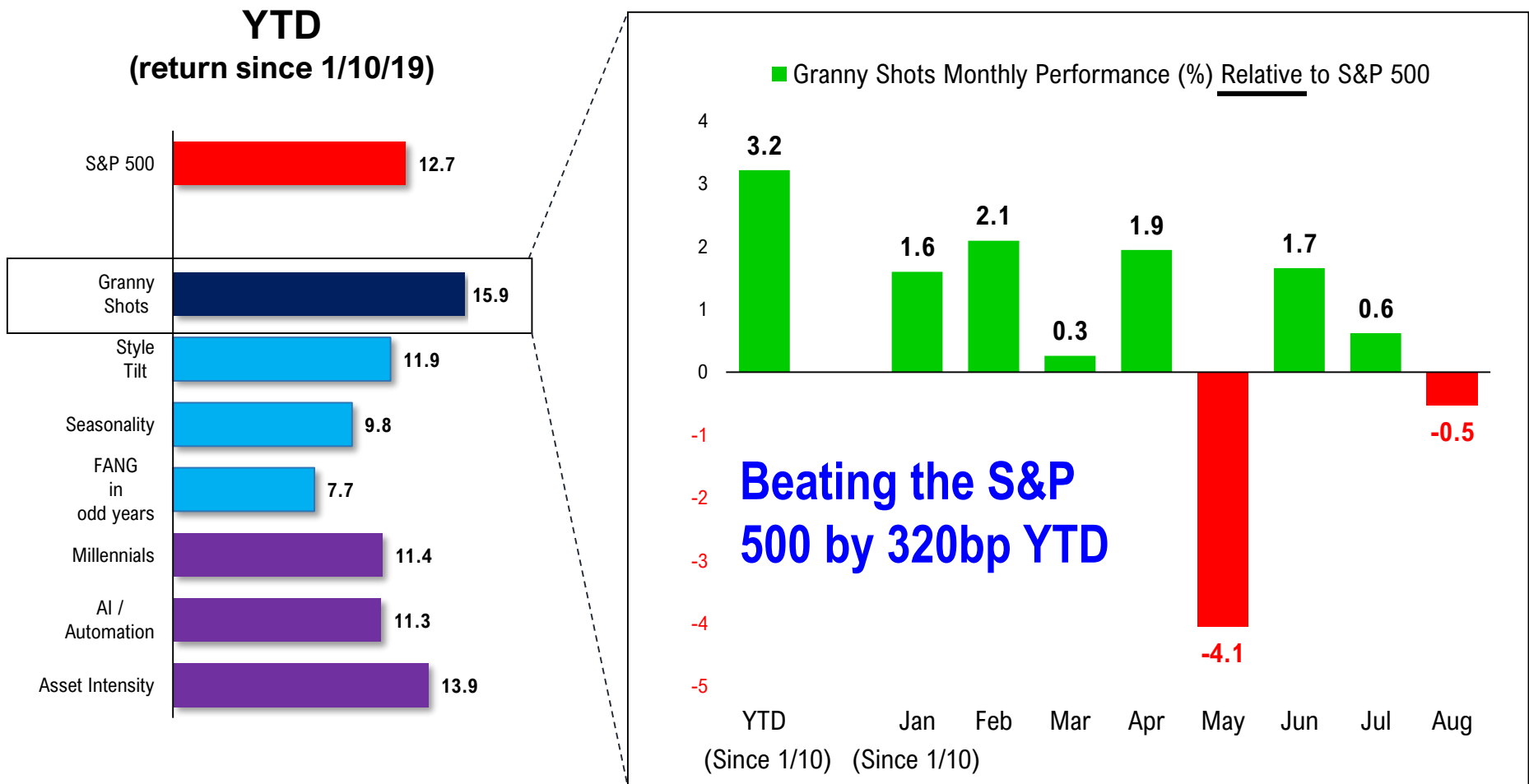
# GRANNY SHOTS: Beat S&P 500 6 out of the 8 months since inception...

The relative performance of Granny Shots is below and as highlighted, has beaten the S&P 500 by 320bp YTD.

- Granny Shots, which are the “best of the best” for our thematic portfolios (and rebalanced every quarter) has beaten the S&P 500 by 320bp YTD. May was tough month, but since has bounced.

Figure: Granny Shots Portfolio Performance

Monthly; As of 8/30/19



Source: Fundstrat, Bloomberg, Factset

Rick Barry career free throw percentage was eye-popping 90%, incredible considering Shaquille O'Neal's only 52%.



His secret? The unorthodox style of underhanded throws, which is considered "not cool" enough for most players.



# GRANNY SHOTS: Best bets in 2019

We recommend investors our granny shots, comprised of 24 stocks.

- These stocks are recommended across at least two of our investment strategies for 2019, which makes them likely to benefit from multiple themes and secular tailwinds.

Figure: Granny shots – recommended across at least two investment strategies for 2019  
Per Fundstrat

Company information						Fundamentals & Valuation								Theme Membership								
Rank	Ticker	Company name	Current Price	Mkt cap (\$ mm)	3m avg daily liquidity (\$ mm)	YTD perf (relative to S&P 500)	Analyst Ratings					2019E sales growth <sup>(3)</sup>	2019E EPS growth <sup>(3)</sup>	P/E ('19E)	ROE	Value / Growth Tilt	Seasonality	FANG in odd years	Millennials	AI / Automation	Inflation	Strategy Count
							FC Mean (5=Buy 1=Sell) <sup>(1)</sup>	Mean implied upside <sup>(2)</sup>	Dividend Yield	Issuer Rating	Short interest %											
1	GOOG	Alphabet Inc-Cl C	\$1,168.39	\$810,534	\$1,696.3	-3.1%	4.73	18%	0.0%	AA+	0.9%	19%	12%	23.9x	20%	•	•	•	•	•	5	
2	AAPL	Apple Inc	\$205.70	\$929,595	\$5,238.0	14.5%	3.76	7%	1.6%	AA+	1.1%	-3%	-2%	17.7x	53%	•	•	•	•	•	4	
3	BKNG	Booking Holdings Inc	\$1,941.78	\$82,549	\$619.7	-3.2%	4.06	8%	-	A-	2.8%	4%	10%	19.0x	53%	•	•	•	•	•	3	
4	FB	Facebook Inc-Class A	\$182.39	\$520,350	\$3,113.2	23.2%	4.59	27%	-	-	1.1%	26%	-13%	27.8x	20%	•	•	•	•	•	3	
5	NKE	Nike Inc -Cl B	\$84.67	\$132,668	\$514.0	-1.7%	4.26	11%	1.1%	AA-	0.7%	8%	16%	29.3x	43%	•	•	•	•	•	3	
6	TSLA	Tesla Inc	\$225.01	\$40,305	\$1,925.1	-48.3%	2.74	17%	-	B-	29.6%	15%	-186%	nm	-14%	•	•	•	•	•	3	
New	7	ADP	Automatic Data Processing	\$167.21	\$72,560	\$319.1	11.6%	3.67	5%	1.9%	AA	0.9%	6%	20%	30.7x	45%	•	•	•	•	2	
8	AMGN	Amgen Inc	\$205.52	\$123,251	\$582.5	-10.4%	3.77	4%	5.3%	A *	1.6%	-4%	-1%	14.4x	62%	•	•	•	•	•	2	
9	AMP	Ameriprise Financial Inc	\$127.20	\$16,647	\$136.1	5.9%	4.54	31%	-	A	1.7%	-6%	12%	7.9x	33%	•	•	•	•	•	2	
10	AMZN	Amazon.Com Inc	\$1,789.84	\$885,355	\$6,636.5	3.2%	4.89	27%	-	AA-	0.8%	20%	19%	75.0x	27%	•	•	•	•	•	2	
11	AXP	American Express Co	\$117.60	\$97,570	\$388.7	7.4%	3.78	12%	1.4%	BBB+	1.0%	8%	1%	14.7x	31%	•	•	•	•	•	2	
12	BF/B	Brown-Forman Corp-Class B	\$59.44	\$28,160	\$72.8	9.0%	2.90	-7%	1.2%	A-	3.8%	5%	4%	33.2x	54%	•	•	•	•	•	2	
New	13	CLX	Clorox Company	\$162.35	\$20,414	\$144.4	-10.6%	2.67	-7%	2.5%	A-	6.6%	1%	1%	25.7x	128%	•	•	•	•	2	
14	CSCO	Cisco Systems Inc	\$46.50	\$199,054	\$1,144.4	-8.6%	4.00	16%	3.1%	AA-	0.9%	5%	19%	15.0x	30%	•	•	•	•	•	2	
15	GRMN	Garmin Ltd	\$81.21	\$15,438	\$86.8	12.3%	2.80	-6%	-	-	2.7%	8%	7%	20.6x	19%	•	•	•	•	•	2	
New	16	MA	Mastercard Inc - A	\$280.11	\$284,188	\$907.1	32.5%	4.79	9%	0.5%	A+	0.7%	13%	17%	36.7x	131%	•	•	•	•	2	
17	MNST	Monster Beverage Corp	\$57.64	\$31,407	\$179.1	1.2%	3.80	15%	-	-	3.1%	10%	13%	28.2x	28%	•	•	•	•	•	2	
18	NVDA	Nvidia Corp	\$164.17	\$99,980	\$1,623.8	7.0%	4.18	9%	0.4%	BBB+u	1.7%	-8%	-19%	30.5x	29%	•	•	•	•	•	2	
New	19	PG	Procter & Gamble Co/The	\$121.36	\$303,720	\$858.5	16.1%	3.83	1%	2.5%	AA-	0.8%	1%	7%	26.8x	8%	•	•	•	•	2	
20	PM	Philip Morris International	\$72.66	\$113,047	\$483.5	-7.1%	4.30	33%	6.5%	A	0.6%	1%	2%	13.9x	-	•	•	•	•	•	2	
21	PYPL	Paypal Holdings Inc	\$106.75	\$125,610	\$710.5	11.0%	4.46	20%	-	BBB+	1.1%	15%	30%	33.9x	16%	•	•	•	•	•	2	
22	ROK	Rockwell Automation Inc	\$148.23	\$17,344	\$147.5	-17.4%	3.17	13%	2.7%	A	2.0%	7%	7%	17.1x	79%	•	•	•	•	•	2	
New	23	V	Visa Inc-Class A Shares	\$179.20	\$355,518	\$1,186.1	19.9%	4.68	11%	0.6%	AA-	1.6%	11%	17%	33.2x	41%	•	•	•	•	•	2
24	XLNX	Xilinx Inc	\$100.40	\$25,362	\$354.4	1.9%	3.73	29%	1.5%	NR	2.6%	12%	7%	27.1x	38%	•	•	•	•	•	2	
Average				\$222,109	\$1,211.2	2.8%	3.92	13%	2.0%		2.9%	7%	0%	26.2x	42%							
Median				\$106,513	\$601.1	4.6%	3.91	12%	1.5%		1.4%	7%	7%	26.8x	33%							
% of stocks positive						56%		78%				70%	70%	85%								

Source: Fundstrat, Bloomberg, Factset

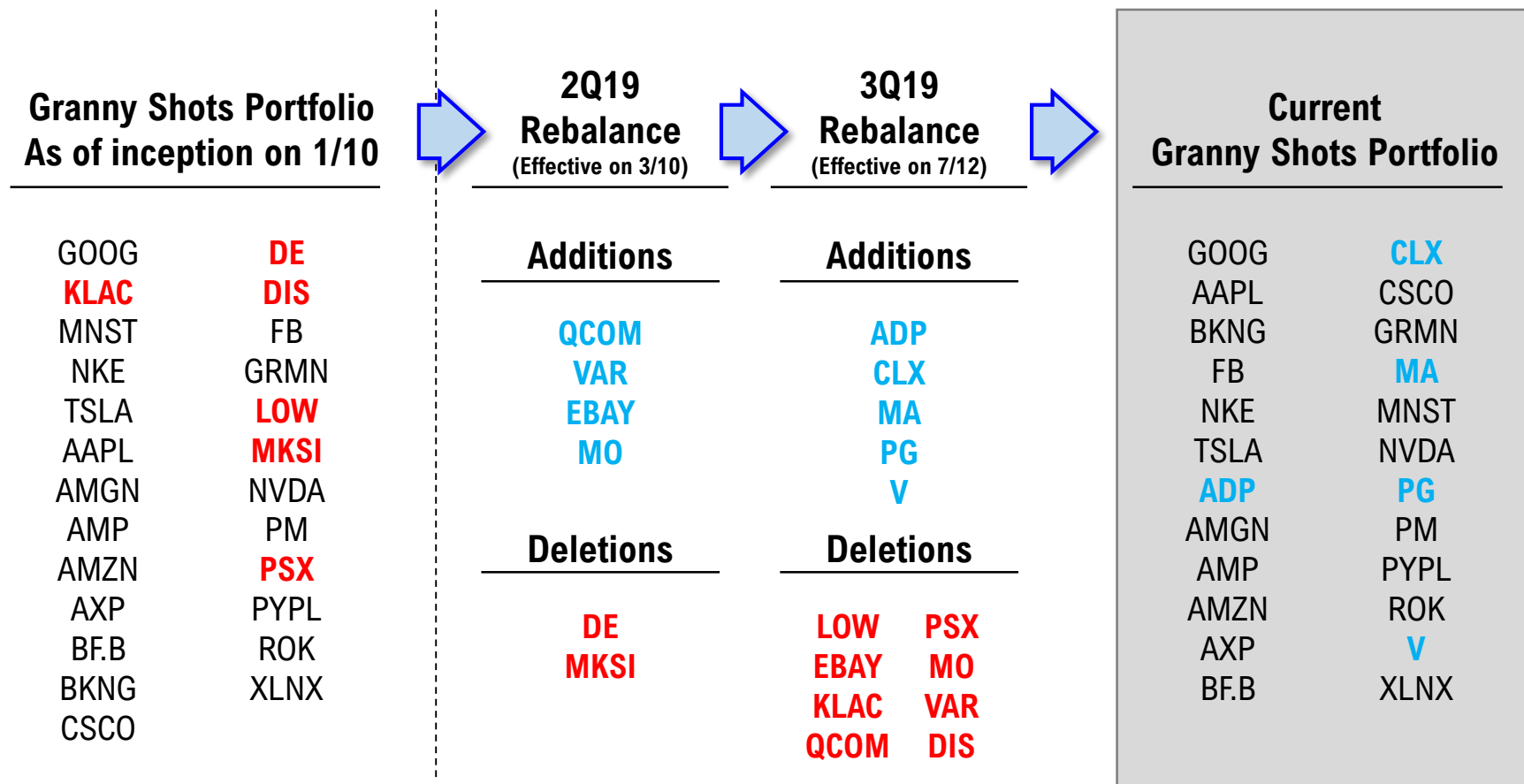
# STRATEGY: Granny Shots represents the “best of the best” from Thematics

The granny shots represent the best of the best from the thematic portfolios.

- We have performed two reconstitutions and rebalances since we launched it on January 10<sup>th</sup>. Below we show the details of constituent changes during these rebalances.

Figure: Granny Shots constituents before and after rebalance

Additions highlighted in **Blue**; Deletions highlighted in **Red**;

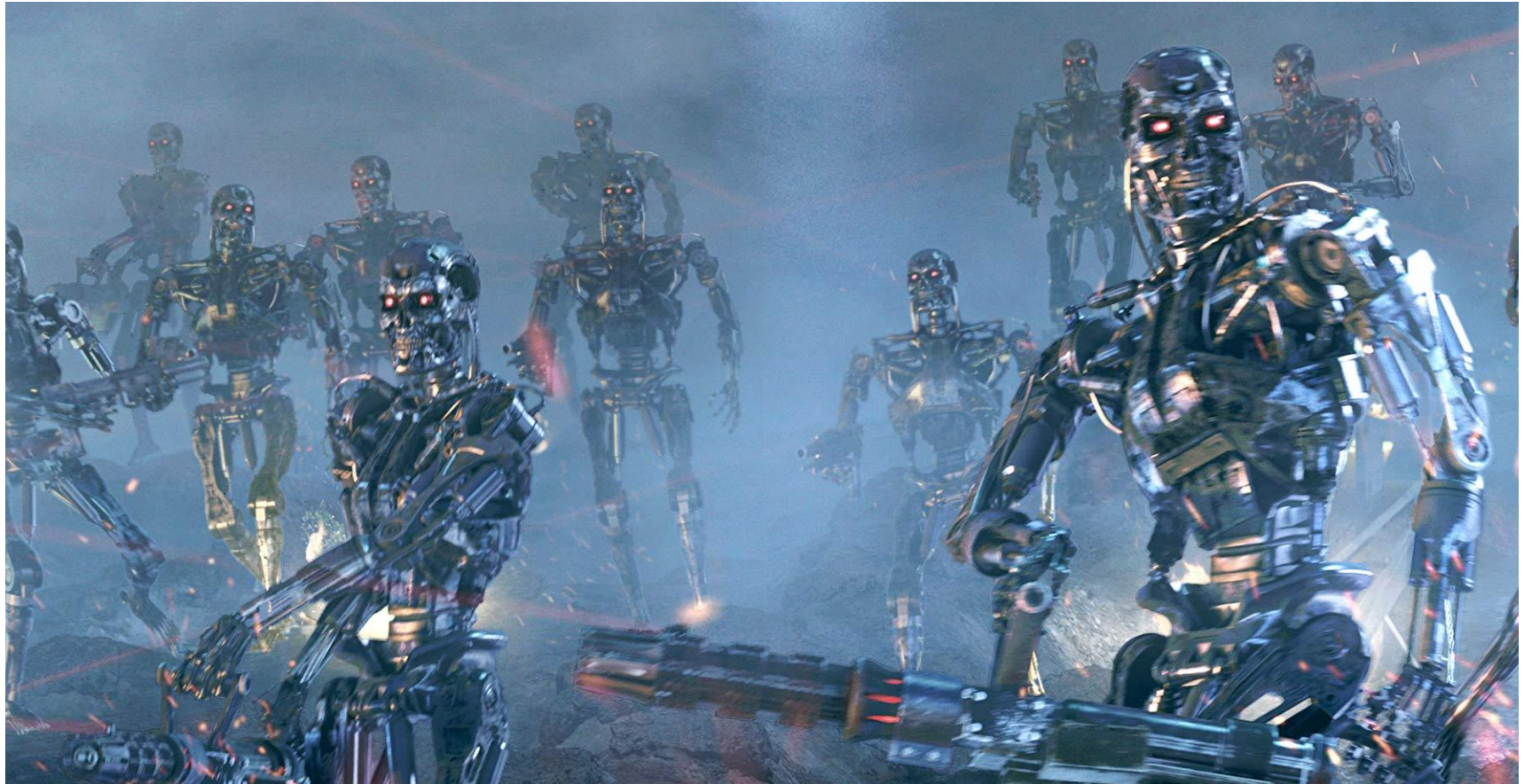


Source: Fundstrat



**AUTOMATION: Labor Shortage drives demand for ‘automation’**

**‘Demand for automation drive by necessity’**



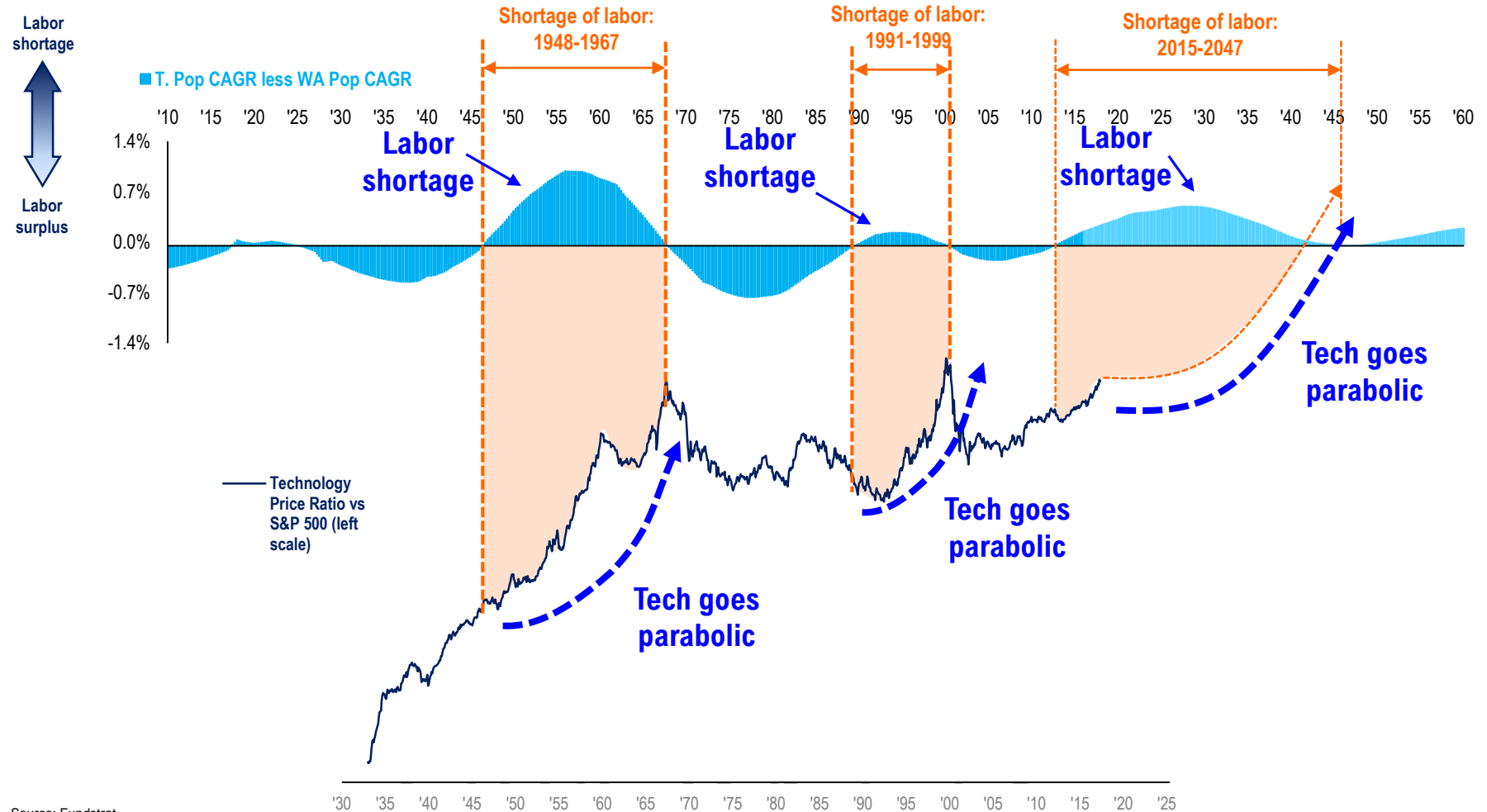
# AUTOMATION: Overweight Technology and Cyclical

We have compared the performance of US Technology stocks (vs S&P 500) and indicated periods of labor shortage.

- The outperformance of Technology during periods of labor shortage is substantial—and we believe the forecasted 2015-2047 to benefit Technology stocks.

**Figure: Comparative relative performance of US Technology stocks during periods of US labor shortage**

Since 1930-now



Source: Fundstrat

## AUTOMATION/ AI: Identifying suppliers and beneficiaries

We have established criteria to identify both suppliers of AI/automation and companies leveraged by adoption of AI and/or automation technology.

- The screening criteria is shown below and does rely heavily on qualitative factors.

**Figure: Automation/ AI stock list criteria**

Per Fundstrat

Factor type	Criteria	Rationale
Suppliers	AI	High exposure to AI and AI-related products Provides components needed to implement AI
	Automation	Producer of autonomous or robotic equipment Supplier of components for autonomous or robotics
Beneficiaries	Qualitative	Current business will leverage AI/ Automation
		Labor skills required are more likely to be automated
		Labor demographics more easily substituted by AI/ automation
	Leverage labor efficiency	Market cap per employee lower than 3-yrs ago
		Employee hiring outpaced Sales + EPS growth
	Operating leverage	EBIT margins declining compared to 3-years ago
Quantitative	DQM Quantitative Model	Ranked Quintile 1

Source: Fundstrat, Bloomberg, FactSet

\* Cash to Net Income ratio is calculated by using the sum of Cash, Cash Equivalents, LT Investment (unrestricted) divided by Net Income



# AUTOMATION PART I: The suppliers

We identified 48 stock ideas from our quant model that are related to the adoption of AI and/or automation technology

- The 31 stocks listed below are the producers or the suppliers of AI and/or automation products which have high exposure to the adoption of AI and/or automation technology.

Figure: AI/ Automation Stock list

Per Fundstrat

		Company information					Analyst Ratings					Fundamentals & Valuation			
		Current Price	Mkt cap (\$ mm)	3m avg daily liquidity (\$ mm)	YTD perf (relative to S&P 500)	FC Mean (5=Buy 1=Sell) <sup>(1)</sup>	Mean implied upside <sup>(2)</sup>	Dividend Yield	Issuer Rating	Short interest % of float	2019E sales growth <sup>(3)</sup>	2019E EPS growth <sup>(3)</sup>	P/E ('19E)	ROE	
Ticker	Company name														
Auto Parts & Equipment	1 APTV Aptiv Plc	\$83.68	\$21,576	\$122.7	15.5%	4.26	6%	1.1%	BBB	3.3%	2%	-5%	16.8x	29%	
	2 GNTX Genlex Corp	\$27.10	\$6,926	\$38.0	13.6%	2.78	-19%	--	--	3.3%	3%	3%	16.2x	23%	
	3 SRI Stoneridge Inc	\$33.59	\$964	\$6.9	15.8%	4.60	4%	--	BB	7.7%	-2%	-20%	21.0x	18%	
Automobile Manufacturers	4 TSLA* Tesla Inc	\$264.88	\$47,179	\$2,514.7	-40.9%	2.69	-2%	--	B-	31.4%	17%	-113%	nm	-14%	
Consumer Electronics	5 GRMN Garmin Ltd	\$79.49	\$15,091	\$86.1	5.1%	2.80	-5%	--	--	2.8%	6%	1%	21.4x	17%	
Aerospace & Defense	6 CW Curtiss-Wright Corp	\$129.96	\$5,559	\$32.9	6.8%	4.25	7%	0.5%	--	2.2%	5%	12%	18.3x	18%	
	7 MOG/A Moog Inc-Class A	\$96.01	\$3,351	\$12.0	3.5%	4.50	9%	--	BB+	1.3%	--	--	#N/A	13%	
	8 TDY Teledyne Technologies Inc	\$299.64	\$10,858	\$51.7	24.3%	4.20	-7%	--	--	1.3%	7%	7%	31.0x	16%	
Agricultural & Farm Machinery	9 DE Deere & Co	\$167.18	\$52,995	\$324.9	-8.4%	4.17	-0%	--	A	2.0%	5%	9%	16.3x	30%	
Electrical Components & Equipm	10 AME Ametek Inc	\$89.98	\$20,501	\$101.5	12.5%	4.75	4%	0.6%	BBB+	1.0%	8%	11%	22.1x	18%	
	11 EMR Emerson Electric Co	\$67.26	\$41,367	\$198.3	-7.9%	4.00	10%	2.9%	A	1.1%	8%	5%	18.5x	27%	
	12 RBC Regal Beloit Corp	\$82.88	\$3,549	\$18.0	-2.1%	3.60	6%	1.4%	--	2.1%	-4%	4%	13.2x	11%	
Industrial Conglomerates	13 ROK Rockwell Automation Inc	\$168.88	\$19,989	\$148.9	-8.2%	3.00	1%	2.4%	A	2.9%	2%	9%	19.2x	59%	
	14 ROP Roper Technologies Inc	\$374.64	\$38,903	\$160.5	20.1%	4.20	1%	--	BBB+	1.5%	4%	10%	28.8x	14%	
	15 LECO Lincoln Electric Holdings	\$89.87	\$5,644	\$30.0	-6.5%	3.67	4%	2.2%	NR	4.0%	2%	4%	17.9x	35%	
Industrial Machinery	16 PH Parker Hannifin Corp	\$178.25	\$22,867	\$161.3	-0.9%	3.26	-1%	1.9%	A *	2.3%	0%	12%	15.3x	24%	
Application Software	17 ADSK Autodesk Inc	\$173.51	\$38,106	\$272.5	14.5%	4.48	6%	--	BBB	1.8%	28%	180%	61.3x	--	
	18 SNPS Synopsys Inc	\$137.62	\$20,629	\$144.9	42.9%	4.40	-2%	--	--	1.3%	7%	11%	31.6x	17%	
Communications Equipment	19 CSCO Cisco Systems Inc	\$57.23	\$244,986	\$1,202.5	11.6%	4.06	1%	2.6%	AA-	0.9%	5%	18%	18.6x	32%	
Electronic Equipment & Instrum	20 FLIR Flir Systems Inc	\$52.04	\$7,047	\$42.6	-0.9%	4.78	14%	1.3%	BBB	1.4%	9%	6%	22.1x	15%	
	21 ZBRA Zebra Technologies Corp-Cl A	\$187.94	\$10,144	\$140.6	-2.4%	4.20	22%	--	BB	4.3%	7%	14%	15.0x	35%	
Semiconductor Equipment	22 MKSI Mks Instruments Inc	\$89.54	\$4,867	\$42.2	18.1%	4.88	19%	0.9%	BB+	3.6%	-5%	-36%	17.8x	17%	
Semiconductors	23 AVGO Broadcom Inc	\$303.77	\$120,923	\$848.0	-1.0%	4.34	1%	3.6%	BBB-	1.6%	9%	3%	14.1x	13%	
	24 NVDA Nvidia Corp	\$178.66	\$108,804	\$1,806.2	13.4%	4.07	0%	0.4%	BBB+u	2.0%	-6%	-20%	33.7x	38%	
	25 QCOM Qualcomm Inc	\$75.87	\$92,235	\$1,269.5	12.9%	3.97	12%	3.6%	A-	2.3%	-10%	3%	19.9x	18%	
Technology Hardware, Storage &	26 XLNX Xilinx Inc	\$132.14	\$33,169	\$489.6	34.7%	3.70	-3%	1.1%	NR	3.0%	13%	8%	35.2x	38%	
	27 AAPL Apple Inc	\$208.67	\$960,106	\$5,178.5	11.8%	3.77	1%	1.5%	AA+	1.0%	-3%	-4%	18.3x	49%	
	28 IMMR Immersion Corporation	\$7.67	\$242	\$3.3	-34.8%	4.33	56%	--	--	11.0%	-65%	-114%	nm	-27%	
Health Care Equipment	29 ISRG Intuitive Surgical Inc	\$543.04	\$62,587	\$375.2	-7.1%	4.16	5%	--	--	1.8%	17%	10%	44.8x	18%	
	30 VAR Varian Medical Systems Inc	\$133.81	\$12,169	\$69.7	-2.4%	3.40	8%	--	--	2.0%	10%	5%	28.8x	21%	
Interactive Media & Services	31 GOOG Alphabet Inc-CI C	\$1,137.81	\$790,537	\$1,766.1	-10.6%	4.73	16%	0.0%	AA+	0.9%	17%	6%	24.6x	16%	
Average			\$91,093	\$569.7	4.6%	4.00	6%	1.7%		3.5%	3%	1%	23.6x	21%	
Median			\$20,629	\$144.9	5.1%	4.17	4%	1.4%		2.0%	5%	6%	19.5x	18%	
% of stocks positive					55%		74%				77%	77%		93%	

Source: Fundstrat, Factset, Bloomberg.

\* TSLA is not DQM Quintile 1, but we believe it is an important producer of autonomous equipment (the Tesla Autopilot)

## AUTOMATION PART II: The beneficiaries

We identified 48 stock ideas from our quant model that are related to the adoption of AI and/or automation technology

- The 17 stocks listed below could benefit from AI and/or automation technology. All of them have increasing market cap and positive earnings growth, however, have deteriorating net income per employee and weakening EBIT margin over the past 3 years.

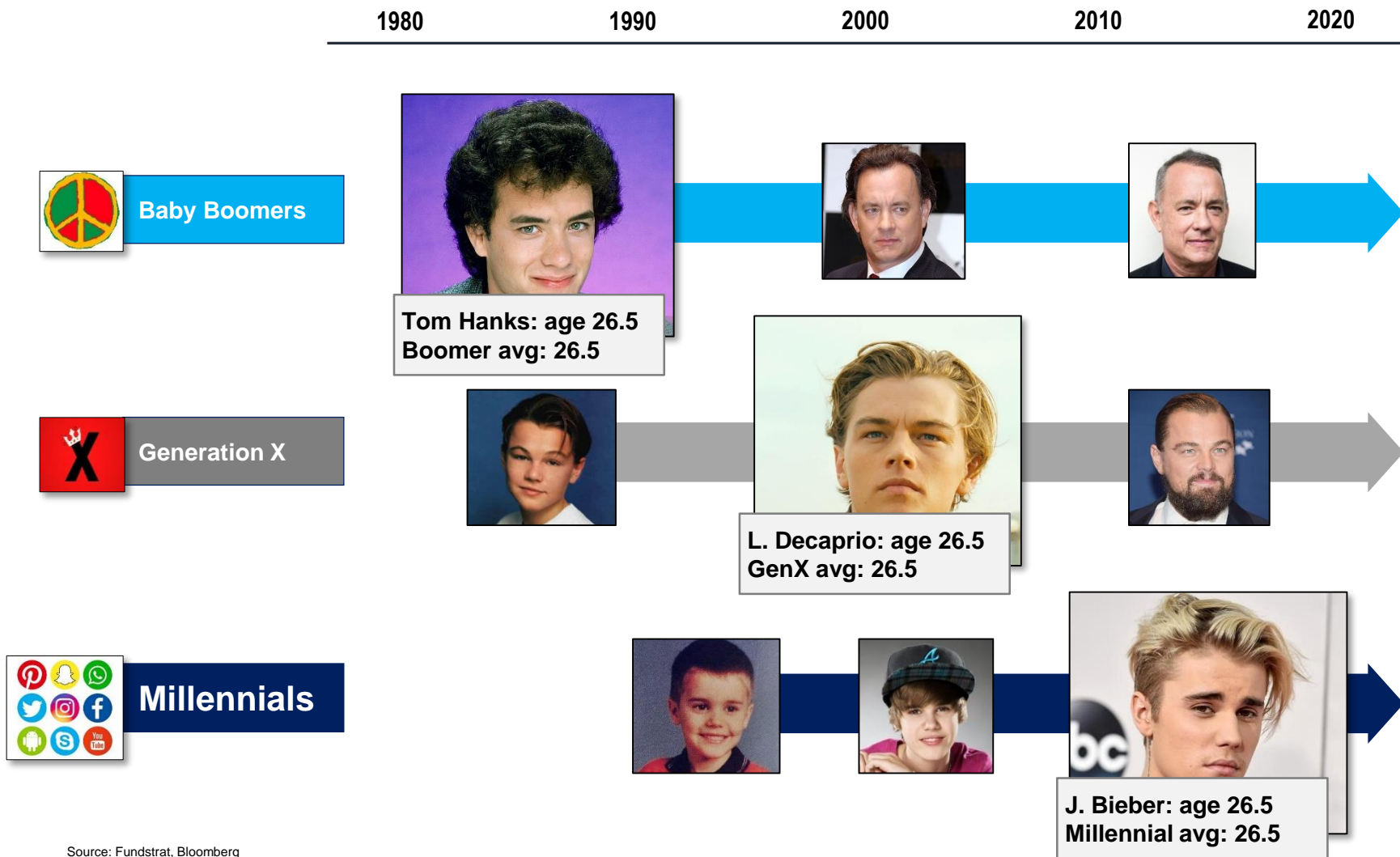
Figure: AI/ Automation Stock list  
Per Fundstrat

Company information							Fundamentals & Valuation									
Sector	Rank	Ticker	Company name	Current Price	Mkt cap (\$ mm)	3m avg daily liquidity (\$ mm)	YTD perf (relative to S&P 500)	Analyst Ratings			Short interest % of float	2019E sales growth <sup>(3)</sup>	2019E EPS growth <sup>(3)</sup>	P/E ('19E)	ROE	
								FC Mean (5=Buy 1=Sell) <sup>(1)</sup>	Mean implied upside <sup>(2)</sup>	Dividend Yield						Issuer Rating
Apparel, Accessories & Luxury	1	CPRI	Capri Holdings Ltd	\$36.71	\$5,541	\$98.8	-23.6%	3.85	41%	—	BBB-	4.6%	15%	-1%	7.5x	24%
Automotive Retail	2	AAP	Advance Auto Parts Inc	\$158.50	\$11,370	\$176.0	-19.8%	4.22	18%	0.2%	BBB-	5.0%	2%	15%	19.4x	12%
Department Stores	3	KSS	Kohls Corp	\$51.62	\$8,364	\$251.0	-42.6%	3.75	23%	5.6%	BBB	12.3%	1%	-6%	9.8x	15%
Distributors	4	GPC	Genuine Parts Co	\$97.30	\$14,213	\$79.2	-19.1%	3.31	5%	—	—	2.6%	5%	1%	17.0x	22%
General Merchandise Stores	5	DG	Dollar General Corp	\$139.15	\$35,946	\$225.2	8.3%	4.27	-0%	0.9%	BBB	1.5%	7%	8%	21.5x	25%
	6	TGT	Target Corp	\$89.09	\$45,644	\$422.3	14.3%	3.86	-0%	2.9%	A	4.1%	3%	10%	15.0x	27%
Home Furnishings	7	BSET	Bassett Furniture Inds	\$12.63	\$131	\$0.5	-57.4%	3.00	66%	4.1%	—	0.7%	0%	-29%	23.2x	3%
	8	ETH	Ethan Allen Interiors Inc	\$20.77	\$552	\$5.7	4.0%	3.00	-1%	3.9%	NR	10.8%	-1%	19%	12.9x	10%
Home Improvement Retail	9	LOW	Lowe'S Cos Inc	\$102.80	\$80,484	\$500.8	-9.1%	4.39	10%	2.2%	BBB+	1.5%	2%	9%	18.4x	53%
Internet & Direct Marketing Re	10	AMZN	Amazon.Com Inc	\$2,000.81	\$985,062	\$7,406.3	12.8%	4.85	13%	—	AA-	0.8%	18%	35%	73.6x	30%
Restaurants	11	DENN	Denny'S Corp	\$21.70	\$1,308	\$8.0	13.4%	4.00	-0%	—	NR	3.5%	-10%	-1%	32.3x	—
Specialty Stores	12	TSCO	Tractor Supply Company	\$112.49	\$13,571	\$124.0	14.4%	3.86	1%	1.2%	—	2.8%	7%	10%	23.6x	38%
Electrical Components & Equipm	13	POWL	Powell Industries Inc	\$37.63	\$435	\$1.4	30.0%	4.00	12%	—	—	1.3%	12%	151%	nm	0%
Industrial Conglomerates	14	CSL	Carlisle Cos Inc	\$139.73	\$7,973	\$51.7	18.6%	4.00	8%	—	BBB	3.6%	8%	30%	17.3x	16%
Industrial Machinery	15	DOV	Dover Corp	\$97.71	\$14,211	\$93.7	17.3%	3.82	8%	2.1%	BBB+	3.1%	-11%	3%	19.7x	21%
Research & Consulting Services	16	HURN	Huron Consulting Group Inc	\$55.00	\$1,259	\$3.6	-13.3%	5.00	6%	—	—	0.7%	9%	-3%	26.4x	4%
Hypermarkets & Super Centers	17	COST	Costco Wholesale Corp	\$280.83	\$123,506	\$424.8	17.4%	4.13	-6%	0.9%	A+	1.1%	10%	16%	41.1x	27%
<b>Average</b>					<b>\$79,386</b>	<b>\$580.8</b>	<b>-2.0%</b>	<b>3.96</b>	<b>12%</b>	<b>2.4%</b>		<b>3.5%</b>	<b>5%</b>	<b>16%</b>	<b>23.7x</b>	<b>20%</b>
<b>Median</b>					<b>\$11,370</b>	<b>\$98.8</b>	<b>8.3%</b>	<b>4.00</b>	<b>8%</b>	<b>2.1%</b>		<b>2.8%</b>	<b>5%</b>	<b>9%</b>	<b>19.5x</b>	<b>21%</b>
<b>% of stocks positive</b>							<b>59%</b>		<b>71%</b>				<b>82%</b>	<b>71%</b>		<b>100%</b>

Source: Fundstrat, Factset, Bloomberg,

# DEMOGRAPHICS: Looking at the world through the eyes of a millennial...

Figure: What did each generation look like in their 20s  
Fundstrat and public information



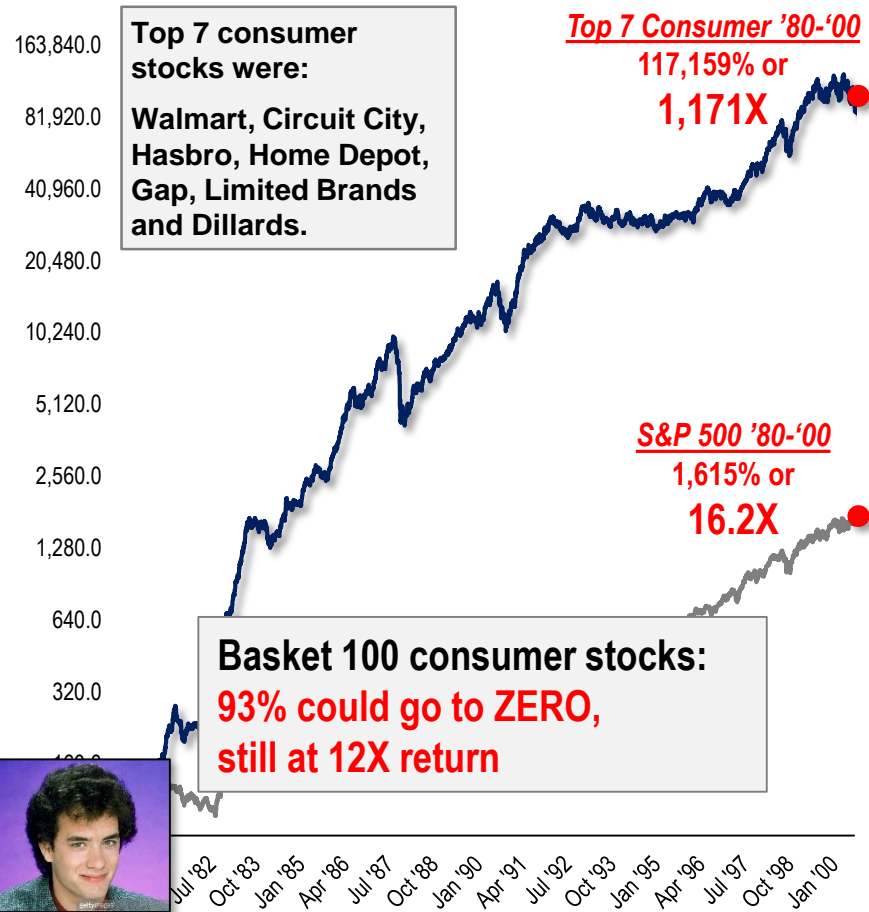
Source: Fundstrat, Bloomberg

# “Generational” Bets paid off for Boomers and for GenX



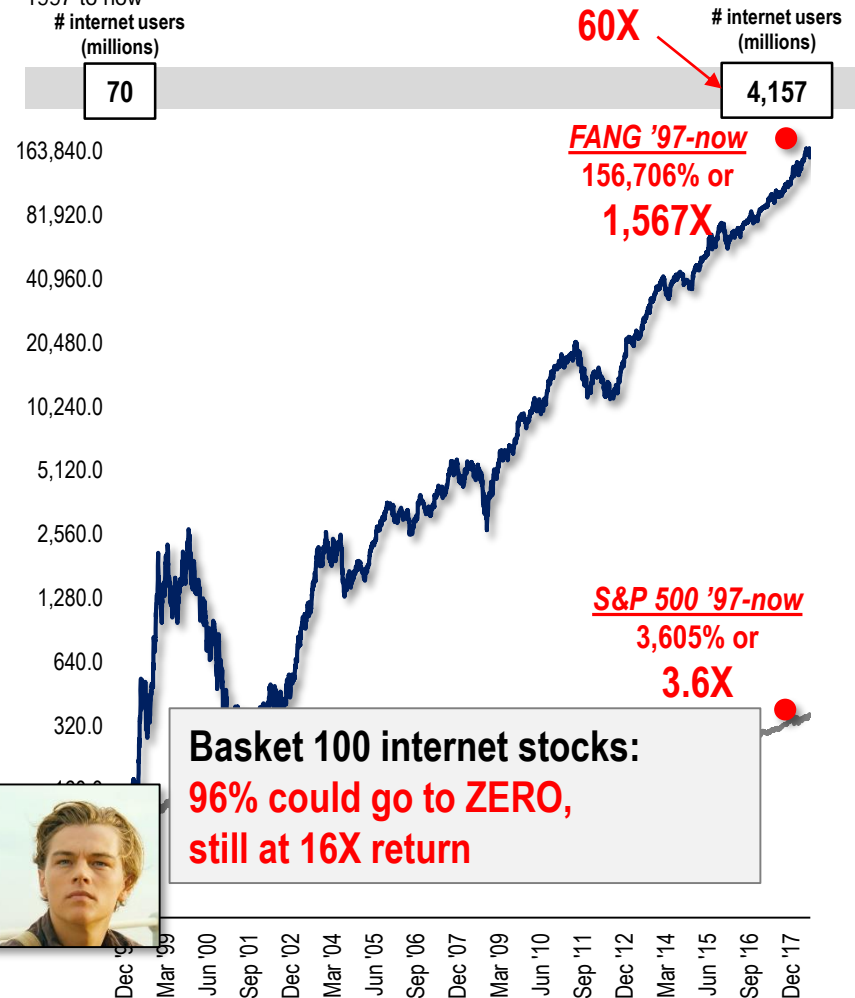
## BOOMER SPEND VS PARENTS: Consumer Stocks was right vector

Figure: Comparative performance of Top 7 Consumer stocks 1980 to 2000



## GenX FANG: Internet

Figure: Comparative performance of FANG 1997 to now



Source: Fundstrat, Bloomberg

# Millennials don't trust banks....

Moreover, as shown below, a Facebook survey done in 2016 shows that Millennials simply do not trust existing financial systems. This is no doubt shaped by the 2008 Financial Crisis.

## 92 Percent of Millennials *Don't Trust Banks*

Source: Fundstrat, Facebook IQ

Millennials need a new kind of financial partner



Earlier in 2016, [Facebook IQ](#), a team of researchers, scientists and analysts funded and supported by Facebook Inc., published a white paper entitled "[Millennials + money: The unfiltered journey](#)" to evaluate the beliefs and thoughts of



### There's no slowing down millennials Capitalizing on a growing and influential generation

How are twenty-somethings using banking services?



71% of millennials would rather go to the dentist than listen to what banks say and 33% believe that in five years they won't need a bank.<sup>13</sup>

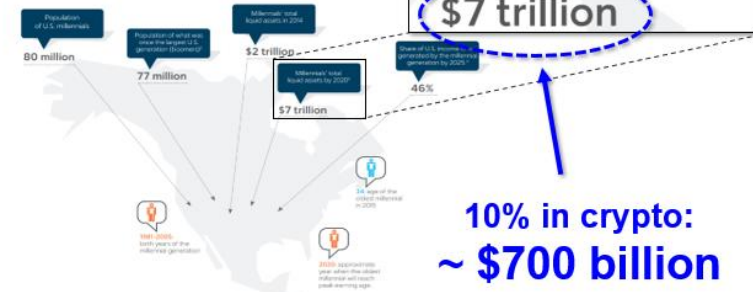
Source: Fundstrat, First Data



June 7, 2019 Slide 7



### There's no slowing down millennials Capitalizing on a growing and influential generation



Source: Fundstrat, First Data



June 7, 2019 Slide 8

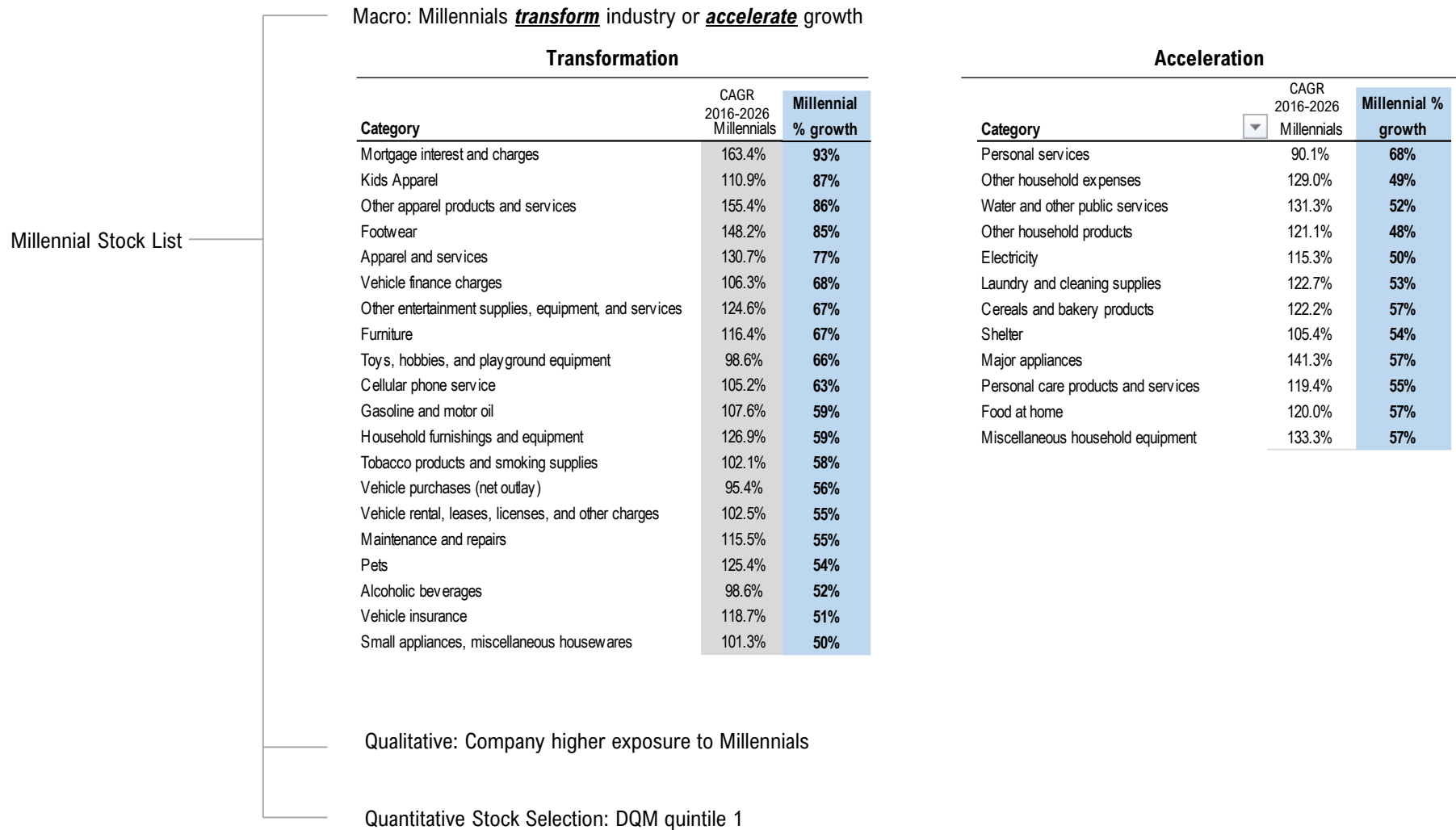
Source: Fundstrat, Facebook IQ, First Data

# MILLENNIALS: Identify where transform vs accelerate growth...

- The screening criteria for our Millennial stock list is shown below.

Figure: Criteria for Millennial stock list

Per Fundstrat





# MILLENNIALS: Stocks levered to transformation and/or growth

We identified 28 stock ideas from our Quant Model (DQM) that will benefit from the growth of Millennials' spending.

- 20 ideas are from the industries where spending by Millennials will outpace the spending of Boomers. 8 ideas are from the industries where Millennials' spending will accelerate expenditure growth.

Figure: 28 ideas  
Per Fundstrat

		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) <sup>(1)</sup>	Mean implied upside <sup>(2)</sup>	Dividend Yield	Issuer Rating	Short interest % of float	2019E sales growth (3)	2019E EPS growth (3)	P/E ('19E)	ROE	
<b>Industries that will be <u>transformed</u> by Millennials</b>															
Apparel, Accessories & Luxury	1 COLM	Columbia Sportswear Co	\$105.21	\$7,186	\$31.7	4.7%	4.43	15%	0.9%	—	3.4%	9%	14%	23.1x	18%
	2 TPR	Tapestry Inc	\$30.80	\$8,936	\$146.2	-29.2%	4.48	41%	4.5%	BBB-	3.5%	31%	22%	11.7x	21%
Auto Parts & Equipment	3 BWA	Borgwarner Inc	\$42.48	\$8,805	\$65.2	1.8%	4.40	12%	1.7%	BBB+	3.1%	7%	15%	9.5x	18%
Automobile Manufacturers	4 TSLA *	Tesla Inc	\$264.88	\$47,179	\$2,514.7	-40.9%	2.69	-2%	—	B-	31.4%	83%	85%	nm	-14%
Automotive Retail	5 ORLY	O'Reilly Automotive Inc	\$396.50	\$30,408	\$239.8	-5.3%	3.96	3%	—	BBB	1.8%	6%	39%	24.6x	506%
Footwear	6 NKE	Nike Inc -CI B	\$86.70	\$135,849	\$560.9	-3.5%	4.26	8%	1.1%	AA-	0.7%	7%	3%	34.8x	43%
Specialty Stores	7 ULTA	Ulta Beauty Inc	\$352.94	\$20,632	\$254.7	23.7%	4.73	6%	—	—	5.0%	14%	22%	32.3x	37%
Technology Hardware, Storage & Data Processing & Outsourced S	8 AAPL	Apple Inc	\$208.67	\$960,106	\$5,178.5	11.8%	3.77	1%	1.5%	AA+	1.0%	16%	29%	17.5x	49%
	9 PYPL	Paypal Holdings Inc	\$121.30	\$142,770	\$626.8	23.8%	4.41	4%	—	BBB+	1.4%	18%	27%	50.1x	16%
	10 SQ *	Square Inc - A	\$80.43	\$34,019	\$598.3	22.9%	3.79	1%	—	—	10.1%	61%	74%	nm	-5%
Consumer Finance	11 AXP	American Express Co	\$127.95	\$106,157	\$383.3	13.8%	3.78	3%	1.3%	BBB+	0.9%	21%	35%	16.2x	31%
Diversified Banks	12 JPM	Jpmorgan Chase & Co	\$116.83	\$378,993	\$1,240.3	-0.8%	3.87	2%	3.1%	A-	0.7%	8%	31%	13.0x	14%
Property & Casualty Insurance	13 ALL	Allstate Corp	\$102.08	\$34,004	\$159.6	3.1%	3.76	6%	1.9%	A-	1.5%	6%	16%	12.6x	11%
Brewers	14 TAP	Molson Coors Brewing Co -B	\$56.65	\$12,360	\$89.8	-19.6%	3.48	13%	4.1%	BBB-	4.6%	-2%	13%	11.2x	7%
Distillers & Vintners	15 BF/B	Brown-Forman Corp-Class B	\$55.38	\$26,258	\$70.1	-4.1%	2.90	-2%	1.2%	A-	4.3%	2%	17%	32.0x	56%
Tobacco	16 PM	Philip Morris International	\$85.02	\$132,278	\$386.3	6.9%	4.33	14%	5.5%	A	0.8%	3%	8%	16.7x	—
Interactive Media & Services	17 GOOG	Alphabet Inc-CI C	\$1,137.81	\$790,537	\$1,766.1	-10.6%	4.73	16%	0.0%	AA+	0.9%	53%	22%	26.0x	16%
	18 FB	Facebook Inc-Class A	\$204.66	\$583,885	\$3,263.4	35.7%	4.58	11%	—	—	1.1%	37%	23%	27.0x	20%
Movies & Entertainment	19 DIS	Walt Disney Co/The	\$141.29	\$254,279	\$1,303.4	8.4%	4.31	10%	1.3%	A	0.9%	8%	24%	20.0x	20%
Wireless Telecommunication Ser	20 TMUS	T-Mobile Us Inc	\$80.61	\$68,865	\$390.5	6.3%	4.62	3%	—	BB+ *	3.7%	7%	24%	24.0x	13%
<b>Industries where their consumer spending will be <u>accelerated</u> by Millennials</b>															
Consumer Electronics	1 GRMN	Garmin Ltd	\$79.49	\$15,091	\$86.1	5.1%	2.80	-5%	—	—	2.8%	8%	26%	21.5x	17%
Homebuilding	2 TOL	Toll Brothers Inc	\$35.28	\$5,076	\$56.1	-13.3%	3.17	12%	1.2%	BB+	3.9%	23%	53%	7.3x	16%
Environmental & Facilities Ser	3 WM	Waste Management Inc	\$115.80	\$49,178	\$179.2	9.7%	4.50	2%	1.8%	A-	0.8%	3%	30%	27.6x	30%
Household Products	4 PG	Procter & Gamble Co/The	\$112.60	\$282,438	\$753.1	2.0%	3.83	-1%	2.7%	AA-	0.8%	3%	8%	26.7x	20%
Packaged Foods & Meats	5 GIS	General Mills Inc	\$52.84	\$31,808	\$217.3	15.2%	3.30	2%	3.8%	BBB	2.8%	7%	4%	16.4x	27%
Personal Products	6 EL	Estee Lauder Companies-CI A	\$189.45	\$68,557	\$242.8	25.2%	4.36	-2%	0.9%	A+	3.0%	16%	30%	42.0x	39%
Soft Drinks	7 MNST	Monster Beverage Corp	\$64.74	\$35,191	\$184.6	11.1%	3.80	5%	—	—	2.7%	13%	22%	35.8x	27%
Multi-Utilities	8 ED	Consolidated Edison Inc	\$86.53	\$28,806	\$163.8	-7.3%	2.33	1%	3.4%	A-	2.0%	3%	5%	20.0x	8%
<b>Average</b>			\$153,559	\$755.5	3.5%	3.91	6%	2.2%	3.6%	17%	26%	23.1x	39%		
<b>Median</b>			\$41,185	\$248.8	4.9%	3.91	4%	1.7%	2.4%	8%	23%	22.3x	20%		

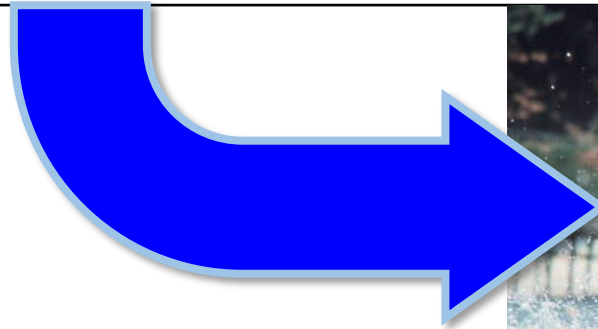
Source: Fundstrat, FactSet, Bloomberg.

\* stocks are not ranked in DQM quintile 1, but we believe they are highly exposed to growth of millennial population

**ASSET LIGHT: We believe market close to “jumping the shark” on asset light**  
**Warren Buffett, from Berkshire Hathaway**  
**2018 + 2019 annual shareholder meeting...**

**But you now have the four largest companies, by market value, in the United States — a \$30 trillion market — you have four companies that essentially don't need any net tangible assets...**

**...And that is really due to the fact that this has become somewhat, you could call it an asset-light economy.**





# Multi-decade tailwinds for “Growth” and “asset-light” businesses

Drivers of Asset light...



	1980	2019	Delta
Inflation	10.0%	2.0%	800bp
Interest rates —cost of capital	16.0%	2.4%	1,360bp
Cumulative excess supply: prime age workforce*			611 million (27.5%)

Drove multi-decade returns...



		Cumulative	15-yr CAGR	
	S&P 500	151.8%	6.4%	
Growth vs Value	S&P 500 Growth	211.8%	7.9%	11,380bp
	S&P 500 Value	98.0%	4.7%	
Asset Heavy vs Asset Light	S&P 500 Financials	7.3%	0.5%	20,010bp
	S&P 500 Healthcare	207.4%	7.8%	

\* Excess labor supply is calculated since 1973, the first time labor shortfall

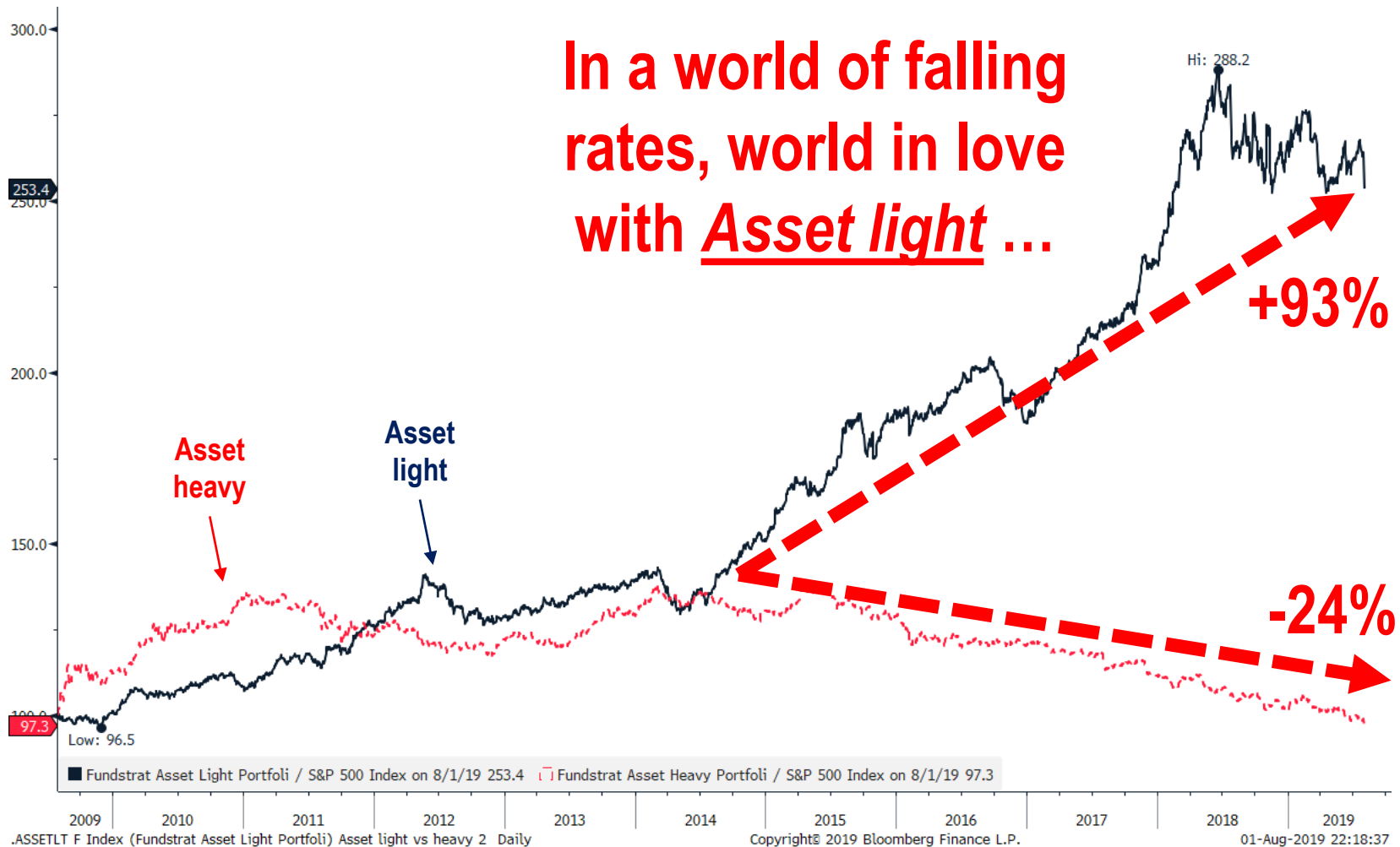
# ASSET LIGHT: Since 2015, Asset light crushed asset heavy stocks

We can create a proxy for asset light and asset heavy based on Assets/\$1mm of EBIT. And the price performance of top and bottom 5% is shown below.

- Since 2015, as investors see permanency in falling rates, they have started to heavily favor asset light stocks.

Figure: Relative performance (vs S&P 500) – Asset heavy vs Asset light stocks

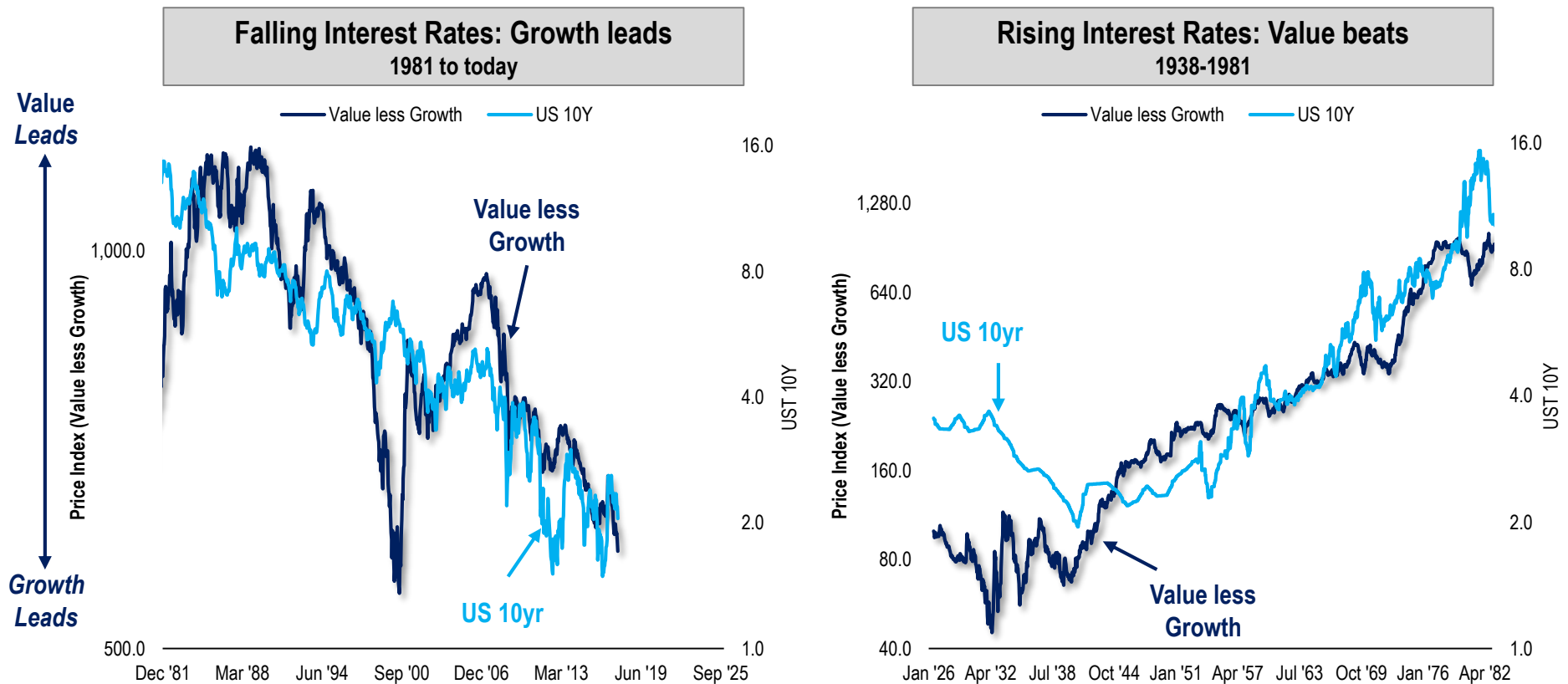
Since 2009. Asset light is lowest 5% of S&P 500 stocks Assets/EBIT and Asset heavy is highest 5% of Assets/ EBIT



# VALUE-Style Investing: Rising interest rates + Inflation good for Value...

- During the 43 year rise of interest rates (1943-1981), Value stocks outperformed most years.
- 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



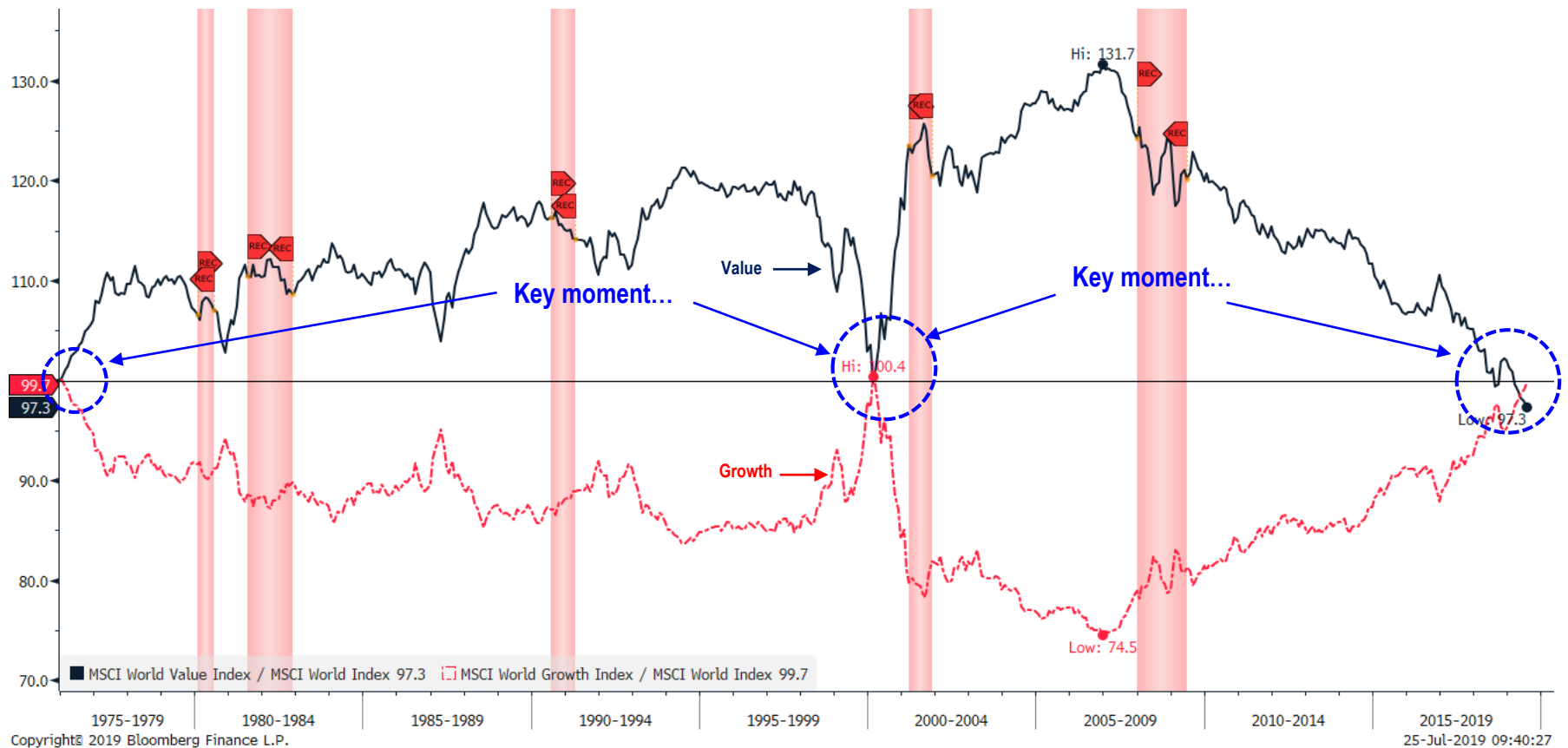
Source: Fundstrat, Bloomberg

# Key moment: Globally, Value vs Growth retraced 40 years of progress...

Arguably, Value versus Growth is facing a more important juncture globally. MSCI Value stocks (price ratio vs MSCI World) has touched a level that has marked major turning points for Value vs Growth.

- **Again, this highlights whether this is a key moment in Value stocks worldwide—it is very telling to us and we believe now is the time to be OW Value.**

**Figure: MSCI World Growth and Value relative price performance (vs MSCI World) past 45 years**  
Since 1974

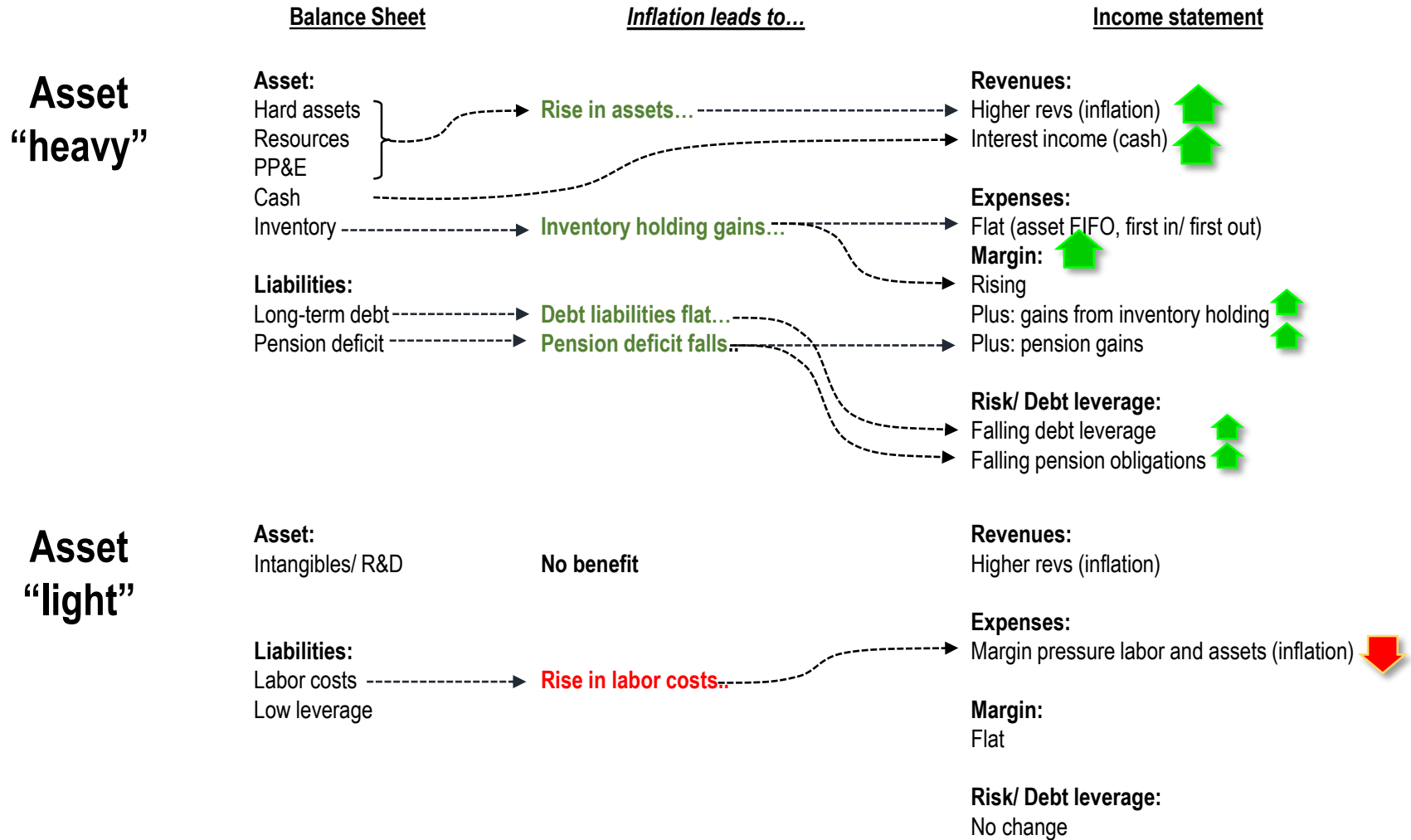


Source: Fundstrat, Bloomberg

# ASSET INTENSITY: Asset “heavy” beats Asset “light” business models....

Figure: Comparative benefit of Asset heavy/ Value stocks in inflation rising environments

Per Fundstrat



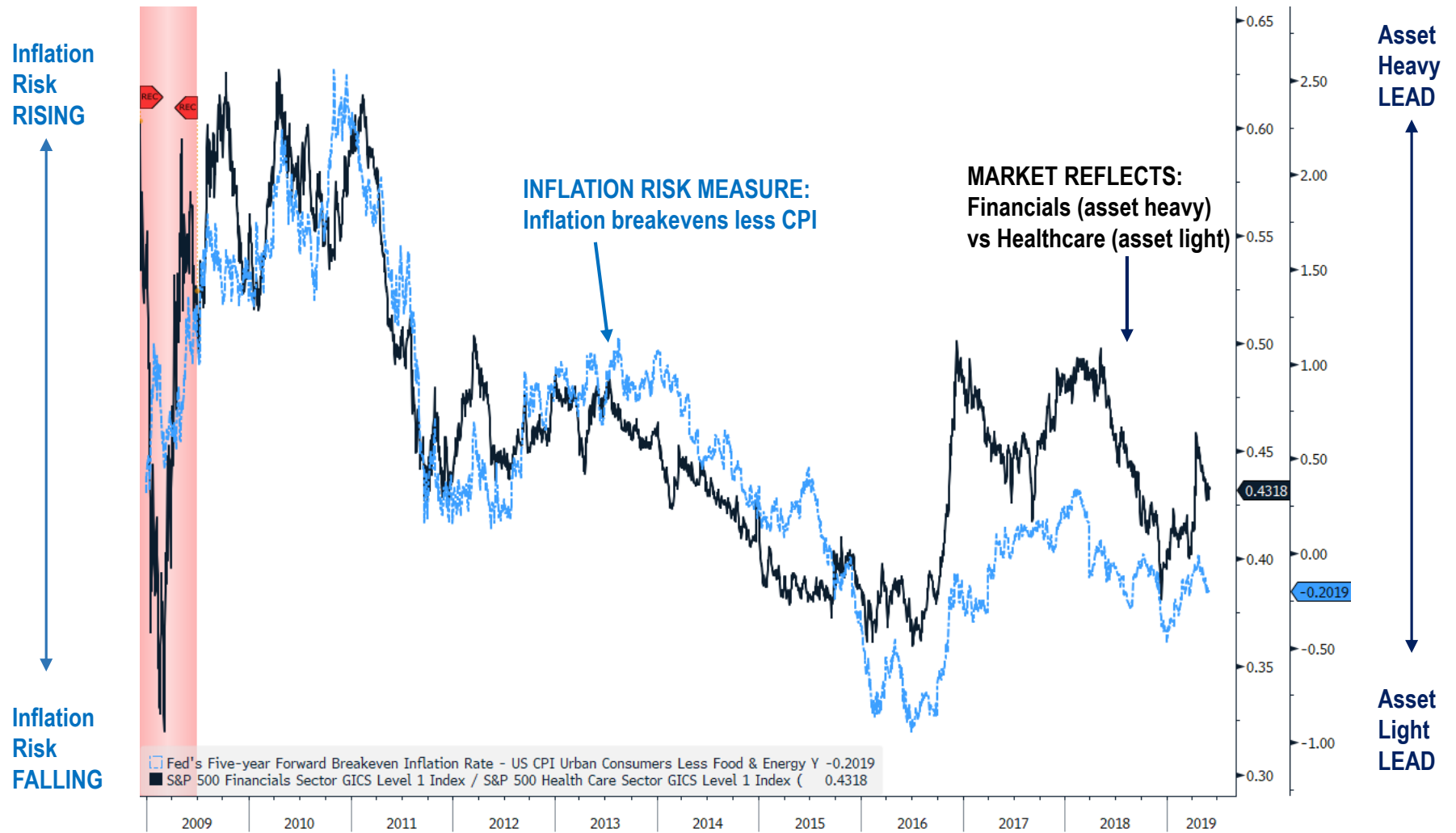
Source: Fundstrat, Bloomberg

# ASSET INTENSITY: Equity markets already recognize this...

Comparing inflation risk premia influences how Financials (asset heavy) trades versus Healthcare (asset light) illustrates that equity markets are good at detecting this inflation risk.

Figure: Inflation risk explains Financials (asset heavy) vs Healthcare (asset light)

Since 2009



## ASSET INTENSITY: Stock selection criteria

As noted on the prior slides, we believe inflation, particularly wage inflation, will shift favor asset intensive businesses.

- The screening criteria below identifies stocks which benefit from rising overall inflation on both the balance sheet, income statement but we also layered in qualitative criteria.

**Figure: Asset Intensity stock list criteria**

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Factor type	Criteria	Rationale
Balance Sheet	Asset boost from inflation	High Asset to Sales ratio
		High Inventory to Sales ratio
		High Inventory to Assets ratio
	De-leveraging	Higher Assets to Equity ratio
		Higher Pension deficit to Equity Market Cap
Income Statement	Low wage inflation exposure	Low # employees per \$1 million of EBIT
	Cash balance leverage	High cash + Investment to Equity Market Cap
Quality Metrics	Sales outpaces Asset Growth	Sales Growth exceeds Asset Growth past 5-years
	DQM Quant Model	Ranked DQM Quintile 1

Source: Fundstrat, Bloomberg, FactSet

\* Cash to Net Income ratio is calculated by using the sum of Cash, Cash Equivalents, LT Investment (unrestricted) divided by Net Income

# ASSET INTENSITY: Stocks positively levered to asset inflation vs wages

We identified 26 stock ideas from our Fundstrat Doctor Quant Model (DQM) that will benefit from the rising inflation.

- The benefits will mainly come from appreciation in assets (asset intensive), gains from held inventory, falling pension deficit and less exposure to wage inflation.

Figure: Asset Intensity stock list

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Company information						Determinant Ratio							Fundamentals & Valuation				
Per Fundstrat	Ticker	Company name	Current	Mkt cap	YTD perf	Assets to Sales	Inventories to Assets	Inventories to Sales	Assets to Equity	Pension Deficit as of Mkt Cap	# of Employee per \$1m EBIT	Sales growth less Assets growth	Cash* to Net Income	Dividend Yield	Issuer Rating	2019E EPS growth <sup>(3)</sup>	P/E ('19E)
			Price	(\$ mm)	(relative to S&P 500)												
Internet & Direct Marketing Re	1 BKNG	Booking Holdings Inc	\$1,919.25	\$83,087	-9.0%	1.6x	--	--	2.6x	--	4.6	25.5%	348%	--	A-	9%	19.0x
	2 EBAY	Ebay Inc	\$41.03	\$34,414	25.7%	2.1x	--	--	4.3x	--	4.8	16.9%	317%	1.4%	BBB+	19%	14.9x
Communications Equipment	3 CSCO	Cisco Systems Inc	\$57.23	\$244,986	11.6%	2.0x	1.7%	3.4%	2.5x	--	4.7	26.8%	308%	2.6%	AA-	18%	18.6x
Data Processing & Outsourced	4 PYPL	Paypal Holdings Inc	\$121.30	\$142,770	23.8%	3.0x	--	--	3.1x	--	6.4	8.9%	272%	--	BBB+	29%	38.9x
Electronic Components	5 DLB	Dolby Laboratories Inc-CI A	\$66.16	\$6,725	-13.5%	2.4x	1.0%	2.3%	1.2x	--	7.1	(5.0%)	738%	--	--	139%	24.3x
Semiconductor Equipment	6 KLAC	Kla Corp	\$142.65	\$23,055	39.0%	1.3x	17.9%	24.1%	3.5x	0.5%	4.0	6.3%	206%	2.1%	BBB	5%	17.0x
Semiconductors	7 XLNX	Xilinx Inc	\$132.14	\$33,169	34.7%	1.8x	6.1%	11.0%	1.8x	--	4.6	15.8%	--	1.1%	NR	11%	34.2x
Systems Software	8 MSFT	Microsoft Corp	\$140.72	\$1,075,523	18.1%	2.2x	0.7%	1.7%	2.8x	--	3.4	8.1%	414%	1.4%	AAA	22%	29.6x
	9 ORCL	Oracle Corp	\$58.11	\$193,844	8.3%	2.8x	--	--	4.5x	0.4%	7.9	22.7%	307%	1.6%	A+	10%	15.0x
Technology Hardware, Storage	10 AAPL	Apple Inc	\$208.67	\$960,106	11.8%	1.4x	1.3%	1.9%	3.2x	--	1.9	20.2%	408%	1.5%	AA+	-4%	18.3x
Gold	11 RGLD	Royal Gold Inc	\$118.56	\$7,768	18.0%	5.9x	0.3%	1.7%	1.2x	--	0.1	14.8%	37660%	--	--	-10%	75.2x
Oil & Gas Refining & Marketing	12 PSX	Phillips 66	\$102.42	\$46,453	-1.6%	0.5x	6.5%	3.2%	2.0x	1.2%	2.3	22.3%	74%	3.5%	BBB+	-34%	13.2x
Asset Management & Custody E	13 AMP	Ameriprise Financial Inc	\$151.47	\$20,282	24.7%	--	--	--	--	1.6%	5.6	--	--	--	A	12%	9.4x
Consumer Finance	14 AXP	American Express Co	\$127.95	\$106,157	13.8%	4.9x	--	--	9.0x	--	5.1	(5.8%)	612%	1.3%	BBB+	1%	16.0x
Investment Banking & Brokerage	15 LPLA	Lpl Financial Holdings Inc	\$87.40	\$7,292	22.6%	1.1x	--	--	5.8x	--	5.9	19.4%	410%	--	--	32%	12.4x
	16 AMTD	Td Ameritrade Holding Corp	\$52.45	\$29,021	-13.3%	--	--	--	--	--	3.4	--	--	2.5%	A	20%	13.0x
Distillers & Vintners	17 BF/B	Brown-Forman Corp-Class	\$55.38	\$26,258	-4.1%	1.6x	28.5%	44.3%	3.5x	0.8%	4.4	1.8%	35%	1.2%	A-	--	nm
Tobacco	18 PM	Philip Morris International	\$85.02	\$132,278	6.9%	1.3x	21.9%	28.2%	3.7x	2.9%	6.8	14.6%	39%	5.5%	A	2%	16.4x
Biotechnology	19 AMGN	Amgen Inc	\$175.77	\$107,208	-30.2%	2.8x	4.4%	12.6%	5.3x	--	1.8	19.5%	315%	5.7%	A	-3%	12.6x
	20 ENTA	Enanta Pharmaceuticals Inc	\$81.82	\$1,609	-4.9%	2.2x	--	--	1.1x	--	1.5	25.0%	584%	--	--	-32%	34.3x
Pharmaceuticals	21 NKTR	Nektar Therapeutics	\$32.12	\$5,599	-22.7%	1.8x	1.8%	3.2%	1.3x	--	0.9	(33.3%)	281%	--	--	-181%	nm
Interactive Media & Services	22 GOOGL	Alphabet Inc-CI A	\$1,139.73	\$790,537	-11.4%	1.7x	0.5%	0.8%	1.5x	--	3.6	4.2%	414%	0.0%	AA+	6%	24.7x
Electric Utilities	23 EIX	Edison International	\$71.02	\$23,139	4.6%	4.5x	0.5%	2.2%	4.5x	3.0%	5.4	(4.7%)	328%	3.5%	BBB +	13%	15.2x
	24 EXC	Exelon Corp	\$45.48	\$44,113	-19.6%	3.5x	1.4%	5.0%	3.6x	9.2%	6.5	(1.4%)	490%	3.2%	BBB+	1%	14.5x
Multi-Utilities	25 BKH	Black Hills Corp	\$78.28	\$4,726	4.2%	4.0x	1.7%	6.7%	3.0x	2.6%	7.3	(0.2%)	29%	2.7%	BBB+	-1%	22.3x
	26 D	Dominion Energy Inc	\$75.18	\$60,322	-15.2%	5.9x	1.8%	10.6%	3.5x	2.8%	4.5	4.8%	211%	4.9%	BBB+	3%	17.9x
Average				\$161,940	4.7%	2.6x	5.8%	9.6%	3.3x	2.5%	4.4	9.5%	1947.9%	2.5%		4%	22.0x
Median				\$39,264	5.8%	2.1x	1.7%	3.4%	3.1x	2.1%	4.6	11.7%	316.9%	2.3%		6%	17.4x
% of stocks positive					58%											72%	

Source: Fundstrat, Bloomberg, FactSet

\* Cash to Net Income ratio is calculated by using the sum of Cash, Cash Equivalents, LT Investment (unrestricted) divided by Net Income



# AUTOMATION: Descriptions of AI/ Automation suppliers

Below is the descriptions of the AI/ automation suppliers and component suppliers

**Figure: AI/ Automation Stock list**

Per Fundstrat

Ticker	Company Name	Company Description
APTIV	Aptiv Plc	Aptiv PLC manufactures and distributes vehicle components such as connector wires, safety restraint systems, pin headers, and underwater towed arrays.
GNTX	Gentex Corp	Gentex Corporation designs, manufactures, and markets products that use electro-optic technology. The Company's product lines include automatic-dimming rearview mirrors.
SRI	Stoneridge Inc	Stoneridge, Inc. designs and manufactures engineered electrical and electronic components, modules, and systems.
TSLA	Tesla Inc	Tesla Inc. designs, manufactures, and sells high-performance electric vehicles and electric vehicle powertrain components.
GRMN	Garmin Ltd	Garmin Ltd. designs, develops, manufactures, and markets hand-held, portable, and fixed mount GPS-enabled products and other navigation, communications, and information
CW	Curtiss-Wright Corp	Curtiss-Wright Corporation designs, manufactures, and overhauls precision components and systems.
MOG/A	Moog Inc-Class A	Moog Inc. manufactures precision motion control components and systems.
TDY	Teledyne Tech. Inc	Teledyne Technologies Inc. provides electronic subsystems and instrumentation such as digital imaging products and software, monitoring instrumentation.
DE	Deere & Co	Deere & Company manufactures and distributes a range of agricultural, construction, forestry, and commercial and consumer equipment.
AME	Ametek Inc	AMETEK, Inc. is a global manufacturer of electronic instruments and electromechanical devices and a supplier of electrical interconnects, specialty metals, technical motors and
EMR	Emerson Electric Co	Emerson Electric Co. designs and manufactures electronic and electrical equipment, software, systems, and services.
RBC	Regal Beloit Corp	Regal Beloit Corporation designs, manufactures, and sells electric motors and controls such as gearboxes, automotive transmissions, rotary cutting tools, automatic transfer switches.
ROK	Rockwell Automation Inc	Rockwell Automation, Inc. produces industrial automation products such as control systems, motor control devices, sensors, and industrial control panels.
ROP	Roper Technologies Inc	Roper Technologies, Inc. manufactures and distributes industrial controls, fluid handling, pumps, medical and scientific devices, analytical instrumentation products, RFID
LECO	Lincoln Electric Holdings	Lincoln Electric Holdings, Inc. designs and manufactures welding and cutting products such as arc welding power sources, wire feeding systems, robotic welding packages.
PH	Parker Hannifin Corp	Parker-Hannifin Corporation manufactures motion control products, including fluid power systems, electromechanical controls, and related components.
ADSK	Autodesk Inc	Autodesk, Inc. supplies PC software and multimedia tools that are used across industries for architectural/mechanical design and visualization applications.
SNPS	Synopsys Inc	Synopsys, Inc. supplies electronic design automation solutions to the global electronics market.
CSCO	Cisco Systems Inc	Cisco Systems designs, manufactures, and sells IP-based networking and other products related to the communications and IT industry and provide services associated with it.
FLIR	Flir Systems Inc	FLIR Systems, Inc. designs, manufactures, and markets thermal imaging and broadcast camera systems for a variety of applications.
ZBRA	Zebra Tech. Corp	Zebra Technologies Corporation designs and manufactures advanced data capture devices, such as laser, 2D and RFID scanners and readers, and specialty printers.
MKSI	Mks Instruments Inc	MKS Instruments, Inc. develops, manufactures, and supplies instruments and components used to control and analyze gases in semiconductor.
AVGO	Broadcom Inc	Broadcom Inc. designs, develops, and markets digital and analog semiconductors.
NVDA	Nvidia Corp	NVIDIA Corporation designs, develops, and markets three dimensional (3D) graphics processors and related software.
QCOM	Qualcomm Inc	QUALCOMM Incorporated manufactures digital wireless communications equipment.
XLNX	Xilinx Inc	Xilinx, Inc. designs, develops, and markets complete programmable logic solutions.
IMMR	Immersion Corp.	Immersion Corporation offers touch feedback technology solutions in mobile devices, automotive touchscreen and touchpads, medical training equipment, gaming consoles.
ISRG	Intuitive Surgical Inc	Intuitive Surgical, Inc. design, manufactures, and markets surgical systems.
VAR	Varian Med. Sys. Inc	Varian Medical Systems, Inc. designs, manufactures, sells, and services medical equipment.
GOOG	Alphabet Inc-C1 C	Alphabet Inc. through its subsidiaries, provides web-based search, advertisements, maps, software applications, mobile operating systems, consumer content, enterprise solutions.

Source: Fundstrat, Bloomberg