US Equity Strategy Year Ahead

Own stocks, but it ends next year

20 November 2018 Corrected

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United States

Savita Subramanian
Equity & Quant Strategist
MLPF&S
+1 646 855 3878
savita.subramanian@baml.com

Alex Makedon
Cross-Asset & Quant Strategist
MLPF&S
+1 646 855 5982
alex.makedon@baml.com

Jill Carey Hall, CFA
Equity & Quant Strategist
MLPF&S
+1 646 855 3327
jill.carey@baml.com

Ohsung Kwon, CFA
Equity & Quant Strategist
MLPF&S
+1 646 855 1683
ohsung.kwon@baml.com

James Yeo
Equity & Quant Strategist
MLPF&S
+1 646 743 0187
james.h.yeo@baml.com

Jimmy Bonilla
Equity & Quant Strategist
MLPF&S
+1 646 556 4179
jimmy.bonilla@baml.com

Our numbers for 2019

With wildcards everywhere (trade, geopolitics, deficits, protectionism), we have decided to focus on the macro scenarios that seem most likely and most relevant for equity market performance: (1) more Fed tightening, and (2) an upward bias to volatility. Our 2019 year-end target for the S&P 500 is 2900, where we believe the peak in equities is likely before the end of 2019. We forecast 2019 EPS of $170 (+5% growth). We are overweight Health Care, Technology, Utilities, Financials and Industrials. Our underweights are Consumer Discretionary, Communication Services, and Real Estate.

There is now an alternative to stocks

For most of this cycle, stocks enjoyed a lack of compelling asset class alternatives (bonds had elevated price risk, cash yields hit rock bottom). But cash is now competitive and will likely grow more so. Cash yields today are higher than dividend yields for 60% of the S&P 500 today, and our Fed call puts short rates close to 3.5% by the end of 2019, well above the S&P 500's 1.9% dividend yield. We suspect that we see a peak in equities next year, but bearish positioning and weak sentiment in stocks present upside, especially if trade risks subside, keeping us constructive for now.

Free cash flow is king

Given cash's re-rating, 2019 boils down to buying sources of cash and selling users of cash. Note that Free Cash Flow yield has been the way to value companies late in the cycle, as capex and inflation start to weigh on profitability. Moreover, periods of Fed balance sheet shrinkage have also seen cash-generative investments outperform credit sensitive themes. We would avoid companies with increasing capex (FANG), high labor intensity (Discretionary, other services industries) and leverage, all of which represent claims against cash. R&D is the only cash burn we like, as it has been a good signal of superior returns and long-term growth.

The VIX should double over the next three years…

…says our signal for volatility. What works when volatility rises? Quality of earnings. Where can you find cheap quality? Financials, "Value Tech" and select Industrials. And contrary to popular belief, trading less, not more, during volatile markets generally wins: a buy-and-hold approach beat monthly rebalancing across investment disciplines.

What could surprise investors

Besides the obvious risks — an all-out trade war, an EU political/economic crisis, we identified several other more likely surprises. Consensus strategists expect margin compression in 2019 driven by wages, raw materials, and tariffs. But on the positive side, the precipitous drop in oil prices, low labor participation and job cuts data suggest that cost pressure could stall out. Moreover, companies have also begun to exhibit pricing power. On the negative side, although our work indicates there is more to go in stocks, there is a risk that we are already in a bear market, which our signposts briefly flashed at the beginning of October. We thus move Utilities to overweight from underweight as a partial hedge to our bullish outlook.

Refer to important disclosures on page 92 to 94. **11941119**

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Table 1: 2019 Outlook & Key Views

2019 Outlook & Key Views		
Category	**Thesis**	**Investment Implications**
Market Outlook	S&P 500 2019 year-end target = 2900. We expect the market may peak around 3000, where still-supportive fundamentals, tepid equity sentiment and reasonable valuations keep us near-term positive. Alleviation of trade tensions also would present upside risk. A flattening yield curve suggests a rising VIX through 2021. More of our "bear market signposts" are likely triggered in 2019; for example, our Rates team forecasts an inverted yield curve in 2H19. Long-term (10-year) S&P 500 target for year-end 2028 = 4900, based on our valuation framework. Long-term investing remains a contrarian investment strategy today.	Expect heightened volatility. 5%+ pullbacks historically occur 3x/yr, 10%+ pullbacks historically occur 1x/yr. Rising volatility from here suggests that high quality stocks should outperform There is now an alternative: cash, where cash yields now eclipse the S&P 500 dividend yield.
EPS Outlook	S&P 500 EPS Forecasts: 2018 EPS of $162.50 (+23% YoY), 2019 EPS of $170 (+5% YoY) Key risks to EPS outlook = escalation of trade tensions or a recession in the US. EPS recessions (which have not occurred in every bear market) have seen a ~20% peak-to-trough avg. EPS decline. Upside risk = margin expansion.	EPS growth slows to below-trend in 2019 (long-term avg. EPS growth CAGR since 1936 = 6%) We expect buybacks contribute ~1.5ppt to EPS growth in 2018 & 2019, above the ~1ppt contribution of recent years.
Sector Preferences	Our sector overweights are generally "medium duration" and/or reflect attributes that outperform when volatility rises -- High Quality (Tech, Financials, Industrials) and Low Risk (Utilities). Utilities is also a defensive hedge against the risk that 2019 is the first year of a bear market. We also consider other inputs, including fundamentals, fund positioning, valuations, and our tactical quant framework (which ranks sectors on relative valuation, revisions and momentum).	**Overweight:** Health Care, Technology, Financials, Industrials, Utilities **Marketweight:** Consumer Staples, Energy, Materials **Underweight:** Consumer Discretionary, Communication Services, Real Estate
Key themes		
Category	**Thesis**	**Investment Implications**
More Fed tightening: from "QE" to "QT"	We prefer companies generating, not using, cash. Historical periods of Fed of balance sheet shrinkage have seen cash-generative investments outperform credit-sensitive investments. Free Cash Flow Yield (FCF/P) has been the best late-cycle valuation framework, as capex/inflation begin to weigh on profitability.	Prefer cash-rich companies over levered companies (including larger caps over small caps). Avoid labor-intensive companies (Discretionary/other services industries) and those increasing capex (e.g. FANG). R&D is the only form of cash burn we favor and has historically outperformed in most sectors.
Positioning for rising volatility	Best hedge against higher volatility = high quality stocks, which also are have historically outperformed during bear markets and later in the cycle. Other strategies for rising volatility (which also typically outperform later in the cycle): Low Risk, Large Size Rule of 25: Momentum strategies typically underperform when the VIX is >25 and outperform when the VIX is <25. ESG is the best signal we've found for future high quality stocks, where stocks with the lowest ESG scores saw the biggest subsequent rise in earnings volatility. Buy-and-hold: our work suggests in rising volatility backdrops, a buy-and-hold strategy outperformed a more frequent rebalancing strategy for the Value and Growth factors we tracked.	Prefer high quality stocks with stable earnings, which are negatively correlated with changes in the VIX. Prefer large caps over small caps. Avoid Momentum when the VIX is >25. See our ESG Primer for full details.
Risks for 2019 - bull/bear case		
Risk	**Details**	**Investment Implications**
Peak of market	Bull case: our 10yr valuation framework (which has strong predictive power over subsequent returns) was forecasting +14% annualized returns 10yrs ago, putting the S&P 500 at 4200 by year-end 2019. Bear case: we could already be in bear market territory; historically 80-100% of our bear market signposts are flashing red at market peaks, we reached 79% in early Oct. 2018.	S&P 500 bull market could continue, no near-term peak in equities We raised Utilities to overweight as a defensive hedge; our sector preferences also are consistent with rising volatility.
Economy/cycle	Bull case: our economists see low probability of recession in 2019, and our US regime indicator suggests we continue to hover between mid and late cycle. Bear case: Recessions typically occur ~3qtrs after the market peaks, where we expect the market may peak in 2019.	In late cycle, Quality, Low Risk and Large Size have historically fared best. If we are in a prolonged mid-cycle, Momentum & Growth fare well in this phase. Rising late cycle concerns suggest defensive sectors could outperform.
Inflation	Bull case: Inflation pressures could be stalled by a precipitous drop in oil prices, low labor force participation/job cuts, which could further boost margins. Some companies have begun to exhibit pricing power. Bear case: margin compression in 2019 due to higher wages/higher raw materials costs/tariffs	Our Pro-Inflation & Anti-Inflation screens include stocks with the highest historical sensitivities to inflation. Margins may be most at risk from rising labor costs in labor-intensive industries with high employees/sales.
Trade wars	Bull case: resolution/de-escalation of tensions = bullish for equities Bear case: Continued escalation of trade tensions would negatively impact sentiment/global growth and squeeze corporate margins from rising costs. Worst case scenario = stagflation.	Multinationals and companies that source from China would benefit from a de-escalation of tensions/reversal of tariffs Materials & Tech are most China-sensitive; Industrials have also cited the most impacts on earnings calls. During prior historical periods of staflation, Utilities & commodity-oriented sectors have outperformed
Infrastructure bill	A possible infrastructure bill (more likely given midterm election results) could be bullish for equities.	Industrials/Materials would benefit from increased infrastructure spending (and are not pricing this in).
Credit	Bull case: Credit conditions remain benign, with a muted rise in credit spreads and no significant tightening of credit conditions as companies continue to pay down debt. Bear case: A surge interest rates, investment grade (IG) migration to high yield (HY), heightened funding costs, economic slowdown, or a significant credit event could rapidly shift risk appetite in credit markets.	Smaller/lower-quality companies could suffer most from a credit shock.

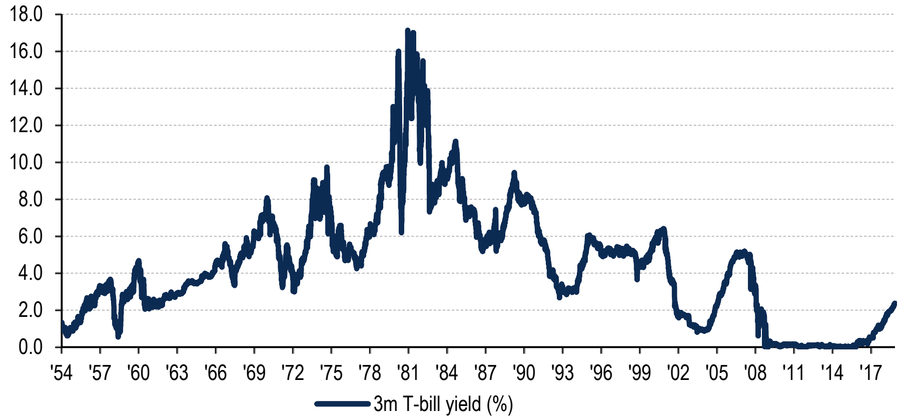
Source: BofA Merrill Lynch US Equity & US Quant Strategy

S&P 500 outlook

There is now an alternative

For much of this cycle, the "TINA" argument ("There is no alternative") held for stocks: bonds' elevated rate risk and zero-yielding cash allowed stocks to handily win the asset class beauty contest. But cash is now competitive and will likely grow more so. Cash yields today are higher than the dividend yield for 60% of S&P 500 stocks, and our Fed call puts short rates close to 3.5% by the end of 2019, well above the S&P 500's 1.9% dividend yield. We suspect that we see a peak in equities next year, but bearish positioning and weak sentiment in stocks present upside, especially if trade risks subside, keeping us constructive for now.

Chart 1: Cash yields are now higher than the dividend yield of 1.9% of S&P 500 stocks
3-month US Treasury bill yield (%), 1954-present



Source: Federal Reserve/Bloomberg, US Equity & US Quant Strategy

S&P 500 2019 year-end target = 2900

We expect upside to equities through year-end and into next year and thus maintain our 2018 year-end target outlook for 3000 on the S&P 500. Still-supportive fundamentals, still-tepid equity sentiment and more reasonable valuations keep us positive. But in 2019, we see elevated likelihood of a peak in the S&P 500. Our rates team is calling for an inverted yield curve during the year, homebuilders peaked about one year ago and typically lead equities by about two years and our credit team is forecasting rising spreads in 2019. Assuming the market peaks somewhere at or above 3000, our forecast is for modest downside in 2019.

Our S&P 500 target model incorporates fundamental, technical and sentiment models, and as investor focus shifts toward longer-term growth, we increase the weight of our Fair Value Model and Long-term Valuation Model, and decrease the weights of our shorter-term sentiment model as well as our technical model. The weighted average of these models implies a 2019 year-end value of 2900 (+8% from today, but below our 2018 year-end target of 3000).

Table 2: S&P 500 Target Models

Model	Category	Time Horizon	2019 Target	Expected Return (Annualized)	Current Weight in Forecast
BofAML Fair Value Model	Fundamental/Valuation	Medium Term	2,688	-1.6%	30%
Sell Side Indicator	Sentiment	Medium Term	3,058	10.4%	40%
Estimate Revisions	Fundamental/Sentiment	Short-term	3,071	10.8%	5%
Long-term Valuation Model	Valuation	Long-term	2,930	6.3%	20%
12-Month Price Momentum	Technical	Medium Term	3,054	10.3%	5%
		Official S&P 500 Target	**2,900**	**+5.3%**	

Note: Short-term = 1-3 months, medium-term = 1 year, and long-term = 5+ years. We maintain our official target based on increments of 50 points on the S&P 500. Data as of 11/16/18.
Source: BofA Merrill Lynch US Equity & US Quant Strategy

1) Fair Value Model: S&P 500 trading near fair value

Table 3: Target Model #1: Fair Value Model

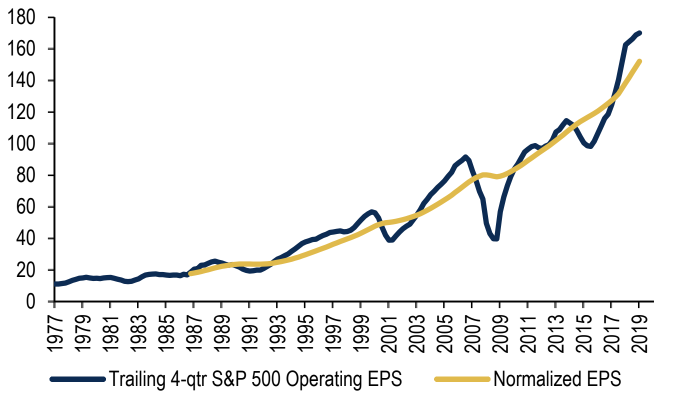
	BofAML Fair Value Model (2019)	
	Normalized 2019 EPS	$152
	Normalized EPS Growth (Nominal Ke - Div Yld)	6.10%
	Normalized 2020 EPS	$161
	Nominal Long-Term Risk-Free Rate	4.00%
-	Assumed Long-Term Inflation	2.50%
=	Normalized Real Risk-Free Rate	1.50%
+	Equity Risk Premium	450bp
=	Fair Real Cost of Equity Capital (Ke)	6.00%
	Fair Forward PE (1 ÷ Fair Ke)	16.7x
	2019 Year-End Target (Fair PE × Normalized 2020 EPS)	2,688

Source: BofA Merrill Lynch US Equity & US Quant Strategy

We forecast a fair value for the S&P 500 of 2688, based on:

- Cyclically peaked earnings (Chart 1 below),
- An increase in the normalized Equity Risk Premium (ERP) by 50bp, to 450bp as of year-end 2019,
- An increase in assumed long-term inflation by 50bp to 2.5% given the quick normalization of inflation trends this year and expectations of further inflationary pressure going forward. This is still below the long-term average inflation rate of 4% since 1936.

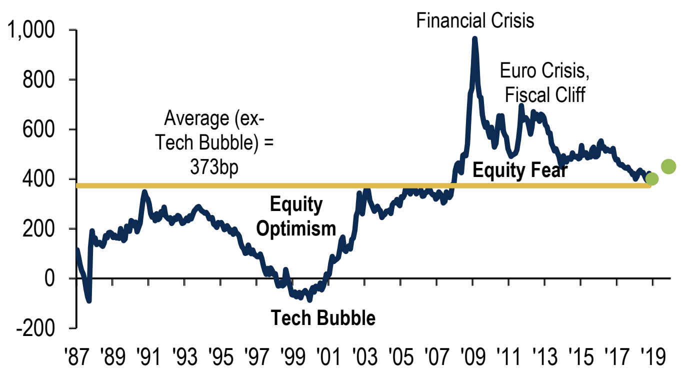
Chart 2: S&P 500 trailing operating EPS vs. normalized EPS, 1977-present with BofAML forecasts for 2018 and 2019



Source: Haver Analytics, BofA Merrill Lynch US Equity & US Quant Strategy

Earnings are cyclically peaked: we forecast S&P 500 2019 EPS of $170 (a record high), 12% above our estimated normalized EPS of $152. This is the widest margins between actual and normalized EPS since 3Q07 (the prior market peak).

Chart 3: S&P 500 normalized equity risk premium (ERP), 1987-10/2018 and forecasts (dots) for year-end 2018 and 2019



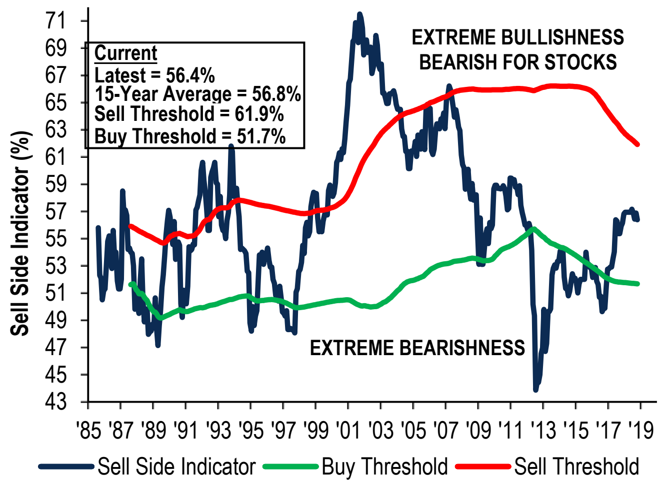
Source: Haver Analytics, BofA Merrill Lynch US Equity & US Quant Strategy

Our forecast for a 50bp rise in the ERP to 450 represents half the typical increase in the ERP during the first year of a bear market.

This is ~75bp above the long-term ex-Tech Bubble average ERP, where we assume that growth will be structurally lower over the next cycle due to deleveraging and demographic pressures.

2) Sell Side Indicator: firmly neutral sentiment yields +10% over next 12m.

Chart 4: Sell Side Indicator (as of 10/31/18)



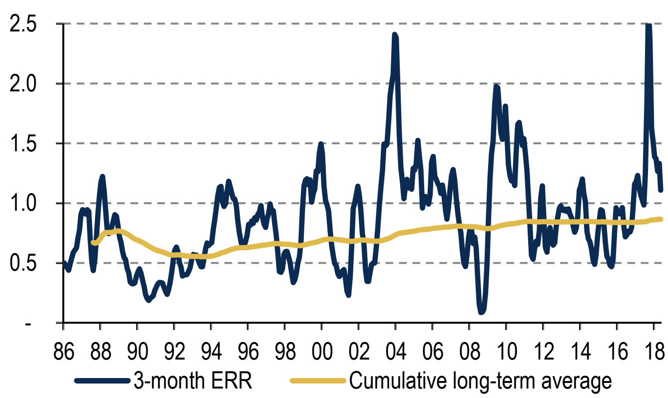
Source: BofA Merrill Lynch U S Equity & US Quant Strategy

Improving optimism (but no euphoria): Wall Street strategists are recommending investors allocate 56% to equities, still below the current "Sell" threshold of 62%. Note the Sell threshold continues to decline based on the secular downshift in equities allocations.

The indicator remains in "Neutral" territory and suggests +10% price returns over the next 12 months.

3) Estimate Revisions: strong revisions yield an +11% annualized return

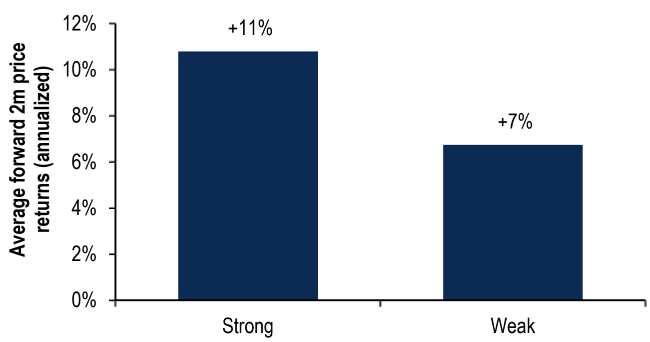
Chart 5: S&P 500 3m EPS estimate revision ratio (ERR), 1986-10/2018



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

The S&P 500 3-month earnings estimate revision ratio (ERR) has come down from its early-2018 highs (following the boost from tax reform), but at 1.1 still remains above its long-term average of 0.86.

Chart 6: Annualized forward 2m S&P 500 price returns based on above-average (strong) vs. below-average 3m ERR (1986-present)

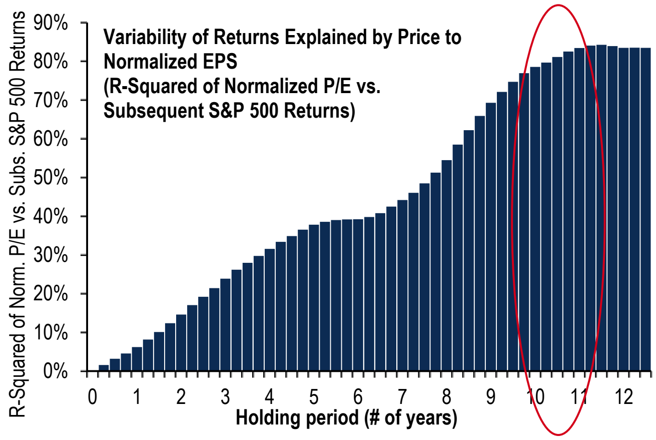


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Near-term returns have historically been stronger when the ERR is above average (as it is today) vs. when the ERR is below-average.

4) Long-term Valuation: P/E suggests 6% price returns over the next 10yrs

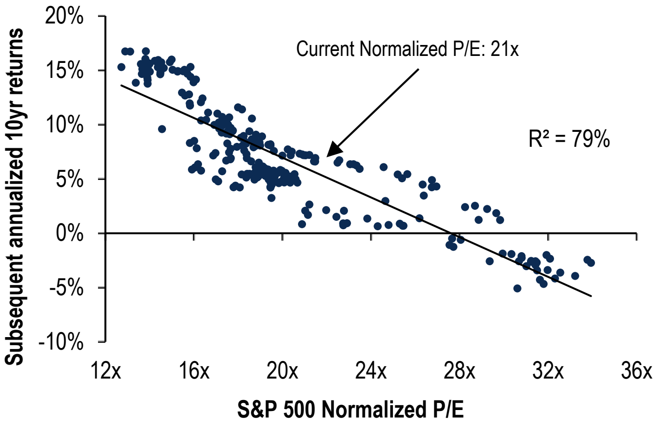
Chart 7: Predictive power (R-squared) of normalized P/E on subsequent S&P 500 returns over various time horizons (since 1987)



Source: Haver Analytics, BofA Merrill Lynch US Equity & US Quant Strategy

Valuation is almost all that matters in the long-term: price to normalized earnings explains ~80% of the variability in S&P 500 returns over a 10-year time horizon.

Chart 8: S&P 500 normalized P/E vs. subsequent annualized returns (since 1987)



Source: Haver Analytics, BofA Merrill Lynch US Equity & US Quant Strategy

The current normalized P/E ratio of 21x suggests annualized 10-year returns of +6%.

5) 12m Price Momentum: reversion to median suggests +10% 12m return

Table 4: Historical 12-month S&P 500 price return z-scores by range and median subsequent 12-month S&P 500 price returns (since 1938))

	-2 or Less Std Dev Below Median	-1 to -2 Std Dev Below Median	-1 to 0 Std Dev Below Median	0 to +1 Std Dev Above Median	+1 to +2 Std Dev Above Median	+2 or More Std Dev Above Median
Median 12-Month Return	22.9%	13.9%	10.3%	8.6%	9.0%	11.7%
Standard Deviation of 12m Returns	19.7%	20.1%	16.2%	13.8%	15.4%	13.1%
Probability of Negative Returns	19.2%	28.1%	24.4%	28.4%	28.6%	40.0%
Percent of observations	2.7%	9.4%	29.1%	36.8%	14.1%	1.1%

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Assuming returns revert to some "normal" level (here, the long-term median), S&P 500 returns of 5% over the last 12 months are 0.3 standard deviations below the long-term median, suggesting subsequent 12m returns of 10%.

Bear market signposts

To determine whether this is a normal pullback or the end of the bull run, our "bear market signposts" can help – these indicators represent "necessary conditions" for market peaks, as they have been triggered ahead of the top. Two (elevated VIX and consumer confidence) were triggered in early October, bringing the tally to 79% for a brief period, consistent with prior peaks seeing 80% or more triggered (Chart 9 below). But shortly thereafter, four other signposts (market returns, Growth, Low Quality, and Momentum) reversed (were un-triggered), bringing the tally to 11 of 19. Note that prior cycles have seen a higher percentage (often 100%) of signposts triggered ahead of the ultimate peak.

What happens to our signposts in 2019?

Given that our credit team is forecasting an increase in credit spreads, and our rates team is forecasting an inverted yield curve, we see risks that several indicators including credit conditions and the yield curve bring the tally of indicators to higher levels consistent with market peaks. This framework also dives our view that the peak in equities may be likely to occur next year, or as we highlight in a subsequent section, may have occurred already given that our indicators briefly hit the 80% threshold.

Table 5: BofAML bear market signposts

Indicator	Category	Current value	Trigger	Triggered	Triggered at time of latest peak (9/20/18)	Data since [d]	Hit rate %[b]	Notes	Type of trigger[f]
Fed raising rates	Credit	200bp	>75bp	☑	☑	1983	100%	Bear markets have always been preceded by the Fed hiking rates by at least 75bp from the cycle trough	Stays on
Tightening credit conditions	Credit	-16%	>0%	☐	☐	1990	100%	Each of the last three bear markets has started when a net positive % of banks were tightening C&I lending standards	Resets
Trailing S&P 500 12m returns	Returns	8%	>11%	☐	☑	1936	86%	Minimum returns in the last 12m of a bull market have been 11%	Resets
Trailing S&P 500 24m returns	Returns	30%	>30%	☑	☑	1936	86%	Minimum returns in the last 24m of a bull market have been 30%	Resets
Low quality outperforms high quality (last 6m)	Returns[e]	-1.8ppt	>0ppt	☐	☑	1986	100%	Companies with S&P Quality ratings of B or lower outperform stocks rated B+ or higher	Resets
Momentum outperforming (6m/12m)	Returns[e]	-0.7ppt/+1.4ppt	>0ppt	☐	☑	1986	100%	9m price return (top decile) vs. S&P 500 equalweight index	Resets
Growth outperforming (6m/12m)	Returns[e]	-2.2ppt/+0.2ppt	>0ppt	☐	☑	1986	100%	Consensus projected long-term growth (top decile) vs. S&P 500 equalweight index	Resets
5% pullback over prior 12m	Returns	3	>0	☑	☑	1928	100%	In the preceding 12m of all but one (1961) bull market peak, the market has pulled back by +5% at least once	Resets
Low PE underperforms (6m/12m)	Returns[e]	-6.6ppt/-5.3ppt	<0ppt	☑	☑	1986	100%	Forward 12m earnings yield (top decile) vs. S&P 500 equalweight index	Resets
Conf Board consumer confidence	Sentiment	138	>100	☑	☑	1969	100%	We have yet to see a bear market when the 100 level had not been breached within the last 24m	Resets
Conf Board net % expecting stocks higher	Sentiment	25	>20	☑	☐	1988	100%	Similarly, we have yet to see a bear market when the 20 level had not been breached within the last 6m	Resets
Lack of reward to EPS & sales beats	Sentiment[g]	+0.41ppt	<1ppt	☑	☑	3Q00	100%	Companies beating on both EPS & sales outperformed by <1ppt within the last three quarters of the prior bull market	Resets
Sell side indicator	Sentiment	56.4%	>61.9%	☐	☐	1988	67%	A contrarian measure of sell side equity optimism; sell signal trigged in the prior 6m	Resets
FMS cash levels	Sentiment	5.1%	<3.5%	☐	☐	2001	100%	A contrarian measure of buy side optimism	Resets
Inverted yield curve	Sentiment	29bp	<0bp	☐	☐	1962	71%	Doesn't always lead/catch every peak & of all inversions, all but one (1970) coincided with a bear market within 24m	Stays on
Chg in long-term growth expectations	Sentiment	+4.1ppt	+0.6ppt	☑	☑	1987	100%	While not always a major change, aggregate growth expectations tend to rise within the last 18m of bull markets	Resets
Rule of 20	Valuation	18	>20	☑	☑	1961	100%	Trailing PE + CPI (y/y%) >20 within the last 12m	Resets
VIX rises over prior 3m	Sentiment	25	>20	☑	☐	1986[a]	100%	Market peaks have come amid the VIX >20 at some point within the last 3m	Resets
ERR rule	Growth	Yes[c]	See footnote	☑	☑	1987	100%	Based on 1- and 3-month earnings estimate revision trends; see footnote for more detail	Stays on

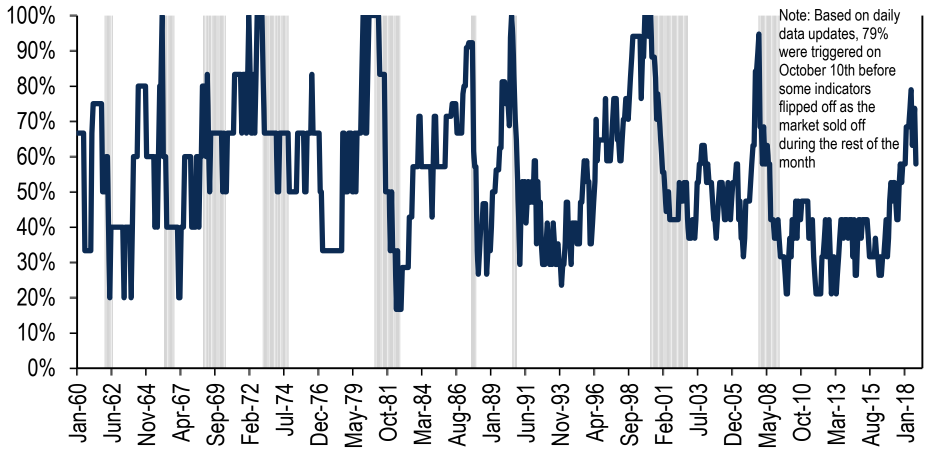
Source: BofAML US Equity & Quant Strategy, BofAML Global Investment Strategy, FRB, S&P, Conference Board, BLS; [a]Based on VXO 1986-1989, [b]% of bear markets where signal was trigged either before or during a bear market, [c]ERR rule: Within six months' window 1) the 1m ERR is below 1.0 for two or more months, 2) the 1m ERR drops from 1.0+ to below 1.0 and, 3) the 3m ERR is under 1.10, [d]Data that first became available during a bear market was not analyzed for that respective bear market, [e]Relative to equalweight S&P 500 price index, [f]Indicator either resets when the trigger criteria no longer holds or stays on for the duration of the bull market once triggere; [g]Based on latest completed quarter until 50% or more companies report in the new quarter

Table 6: Percent of bear market signposts triggered at the market peak or during a bear market

Start of bear market	Available signals	% triggered at the market peak or during a bear market	% triggered at the market peak
Nov-68	5	100%	80%
Jan-73	6	100%	83%
Nov-80	6	100%	100%
Aug-87	13	92%	92%
Jul-90	17	100%	94%
Mar-00	17	100%	100%
Oct-07	19	100%	95%
Current	**19**	**58%**	**58%**

Source: BofAML US Equity & Quant Strategy

Chart 9: Percent of bear market signposts triggered, 1960-present



Source: BofAML US Equity & Quant Strategy

Free cash flow is king

2019 boils down to a simple two-step strategy:

1. Buy sources of cash
2. Sell users of cash

Table 7: Free cash flow valuation is best at the end of a cycle

Average performance of eps-based, sales-based and free-cash flow based factors in different cycle phases(1987-10/2018)

Cycle Phase	Fwd P/E	Price / Sales	Price / Free Cash Flow
Early cycle	40.6%	38.3%	26.0%
Mid cycle	11.0%	13.3%	12.0%
Late cycle	12.7%	8.7%	14.3%

Note: For cycle definitions, see our cycle phase indicator, Chart 150.
Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Late cycle favors free cash flow over earnings or sales

Low Price/Earnings tends to work during early cycle markets, then Low Price/Sales tends to work as top line picks up during mid-cycle. But later in the cycle, as capex and inflation begin to weigh on profitability, free cash flow based factors offer the best relative returns.

Quantitative Tightening (QT) favors cash

Historical periods of Fed balance sheet shrinkage have seen cash-generative investments (large companies that generally throw off cash as they mature) outperform credit-sensitive themes (companies early in their life cycles that need capital to fund their growth).

Table 8: In the historical instances when the Fed was shrinking its balance sheet Stocks>bonds, large>small, value>growth

Total return performance by asset class during periods of Fed balance sheet shrinkage

Peak	Trough	Change in Total Fed Assets	S&P 500 Index	Small caps Index (Ibbotson)	L/T (15+) Govt Bonds	Corp Bonds	Gold	WTI	Cash (3m T-bill) TR Index	Growth	Value	Large Growth	Large Value
1919	1921	-18.50%	-3%										
1922	1923	-3.50%	1%				3%						
1929	1930	-4.70%	-24%	-38%	5%	8%	0%		2%	-31%	-45%	-26%	-43%
1945	1946	-0.70%	-8%	-12%	0%	2%	0%		0%	-10%	-8%	-8%	-8%
1948	1949	-8.50%	19%	20%	6%	3%	0%	0%	1%	23%	20%	23%	19%
1952	1954	-2.30%	51%	50%	11%	9%	1%	10%	3%	47%	59%	51%	65%
1957	1958	-0.50%	44%	65%	-6%	-2%	0%	0%	2%	58%	71%	42%	72%
1959	1960	-2.00%	0%	-3%	14%	9%	0%	0%	3%	-2%	-7%	-2%	-9%
1999	2000	-8.70%	-9%	-4%	21%	13%	-5%	5%	6%	-18%	3%	-14%	6%
2008	2009	-0.20%	26%	26%	-15%	3%	24%	78%	0%	31%	55%	28%	39%
Median since 1929*			**10%**	**8%**	**6%**	**6%**	**0%**	**2%***	**2%**	**11%**	**11%**	**10%**	**12%**
Median since 1948			**23%**	**23%**	**9%**	**6%**	**0%**	**2%**	**2%**	**27%**	**37%**	**26%**	**29%**

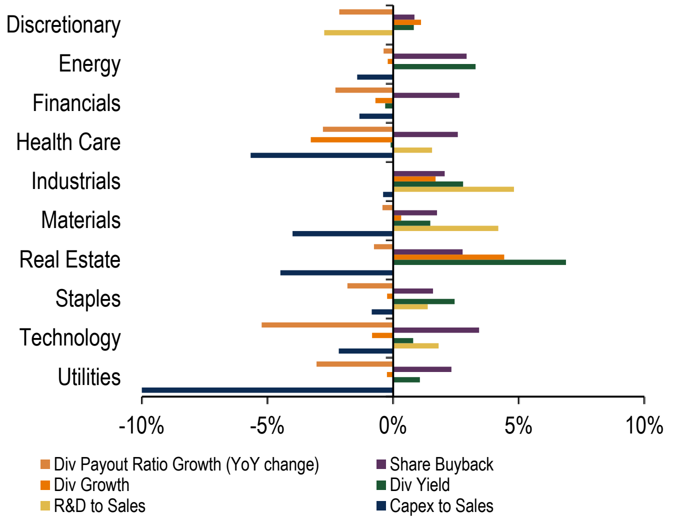
*Median since 1929 does not include WTI oil performance for the 1929-30 and 1945-46 periods. Value and Growth based on Fama French portfolios.
Source: Federal Reserve Board, Ibbotson, Bloomberg, S&P, Russell, BofA Merrill Lynch US Equity & US Quant Strategy

The only good spend is R&D

We would avoid companies increasing their capex spending, those with high labor intensity and those with leverage, all of which represent claims against cash. R&D is the only cash burn we would seek out as it has been a good signal of superior returns and long-term growth.

Chart 10: Capital allocation-driven alpha

Annualized sector-relative total return performance of cash deployment factors (1986-2017)

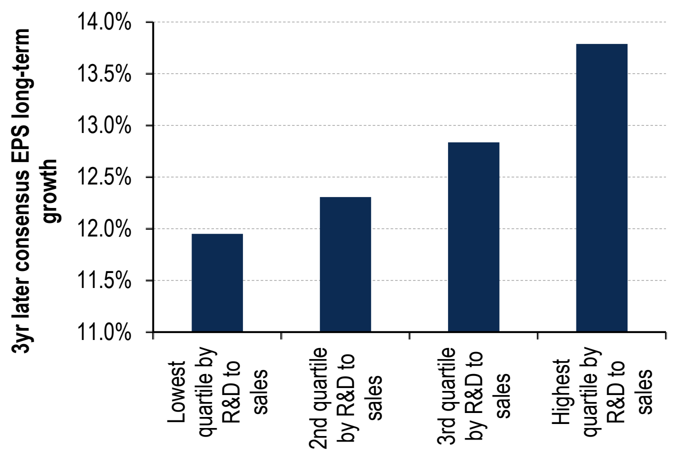


Source: Factset, BofA Merrill Lynch US Equity & US Quant Strategy

*Based on total return performance of top quartile of S&P 500 companies within each sector by each factor, relative to the equal-weighted total return of each sector. Dividend payout ratio growth excludes negative earners.

Chart 11: Future growth is affected by R&D spending

Consensus five-year EPS growth in 3yrs following High vs. Low R&D spending



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

R&D is the only cash burn that generates returns

What cash deployment strategy drives returns? It's sector specific, but capex is last. Among the different cash deployment strategies, buybacks, dividend yield, and R&D generated the most alpha within sectors.

R&D = better future growth

One reason the S&P 500 has fared better than (and could continue to outperform) other regions is its high research & development spend. Long-term growth has generally improved following periods of high R&D spending, and vice versa.

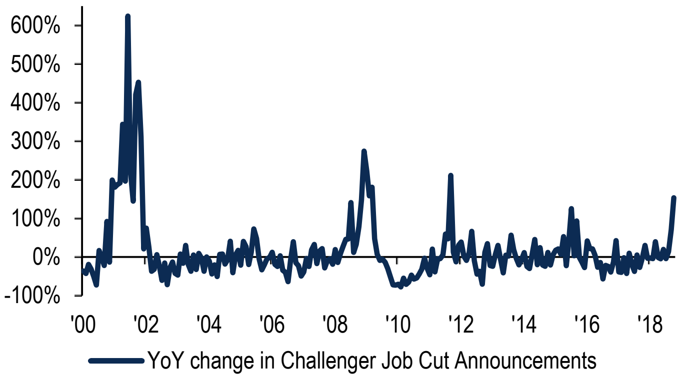
Expect the unexpected

We highlight key positive/negative risks for the year ahead below.

Margin expansion in 2019?

Chart 12: Increase in job cuts at a 7yr high could dampen labor inflation

YoY change in Challenger US Job Cut Announcements (1/1999-10/2018)



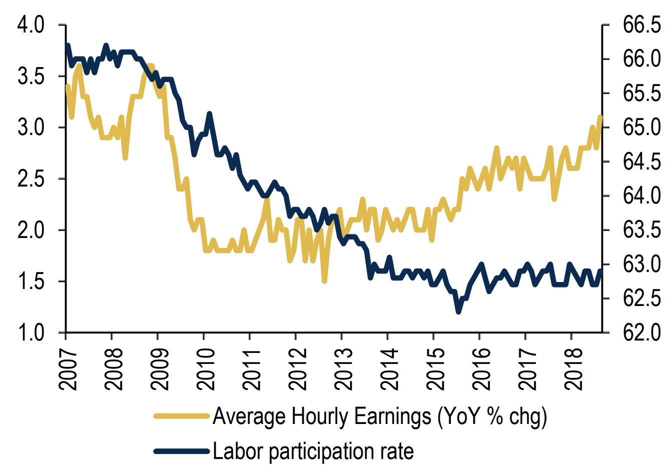
Source: Bloomberg, Challenger, Gray & Christmas, Inc., BofA Merrill Lynch US Equity & US Quant Strategy

Bad news for jobs may be good news for margins

The number of Challenger US Job Cut Announcements rose to a seven-year high, potentially dampening labor inflation.

Chart 13: Labor participation rate has yet to pick up despite rising wage

YoY change in Average Hourly Earnings vs. Labor participation rate (3/2007-10/2018)

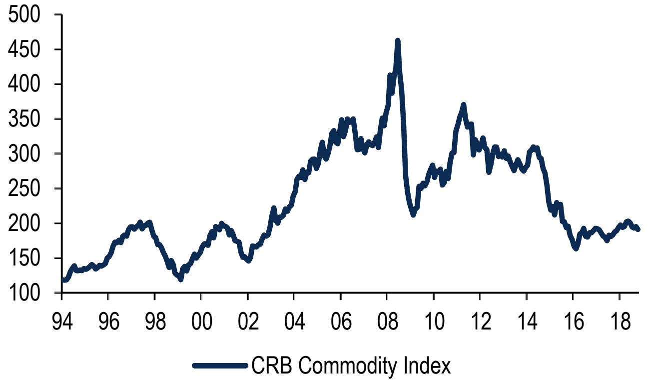


Source: Bloomberg, Bureau of Labor Statistics, BofA Merrill Lynch US Equity & US Quant Strategy

The underemployed may come back at the right price

With the average hourly earnings picking up, people may come back to workforce for a high enough wage.

Chart 14: CRB Commodity Index (1/1994 – 10/2018)



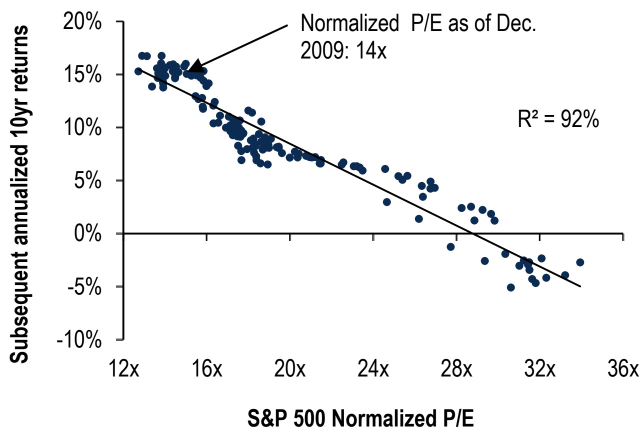
Source: BofA Merrill Lynch US Equity & US Quant Strategy, CRB

Input cost impact of raw materials has been contained versus 2007's late cycle.

S&P 500 at 4200?

Chart 15: Valuations at the end of 2009 suggest the S&P 500 could reach 4200 by year-end 2019 (10 years later)

Normalized P/E vs. subsequent 10-year returns (P/E from 7/1987-12/1999 with subsequent 10-year returns through 12/2009)



Source: BofA Merrill Lynch US Equity & US Quant Strategy, Haver/S&P

Back in December of 2009, our Long Term Valuation model was suggesting that based on a normalized P/E of 14x, annualized returns over the next 10 years should be +14%/year, putting the S&P 500 at 4200 by year-end 2019.

What if we're in a bear market?

Our bear market signposts briefly flagged 79% triggered in early October; whereas credit conditions, sentiment, positioning and the yield curve would suggest we're not done yet, it is worth considering that we are in a bear market now, and if so, what makes sense.

Bear market in context

Below we provide historical context of S&P 500 bear markets (20%+ price declines) since 1929. The market has seen a median peak-to-trough price decline of ~30%, with trailing P/E compressing to 12x at market trough from 18x at market peak. Bear markets have historically lasted about a year and half, and the peak of the market has generally preceded an economic recession (if one occurred) by three quarters. EPS peaks have varied but have occurred on average two quarters after the market peak. EPS recessions (which have not occurred in every bear market) have seen an average ~20% peak-to-trough decline.

Table 9: S&P 500 Bear Markets

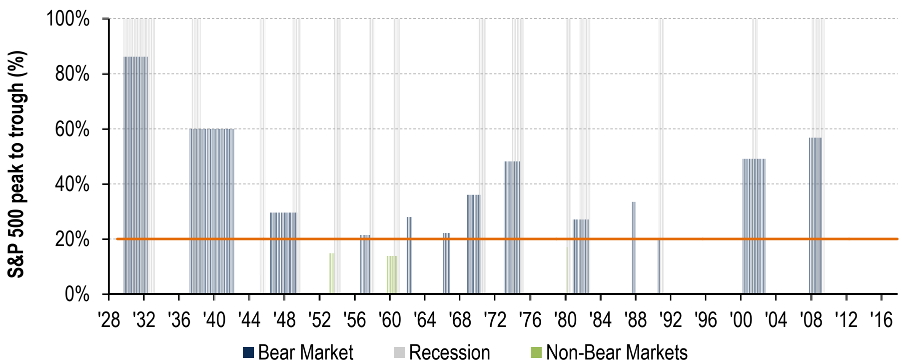
	1929-32	1937-38	1946-49	1956-57	1961-62	1966-67	1969-70	1973-74	1980-82	1987	1990-91	2000-02	2007-09	Median	Avg	Avg. ex-2007-09
S&P price at peak	31.86	18.67	19.25	49.74	72.64	94.06	108.37	120.24	140.52	336.77	368.95	1527.46	1562.47			
S&P price at trough	4.4	8.5	13.55	38.98	52.34	73.2	69.29	62.28	102.42	223.92	295.46	776.76	676.53			
Peak to trough % decline	-86%	-54%	-30%	-22%	-28%	-22%	-36%	-48%	-27%	-34%	-20%	-49%	-57%	-34%	-39%	-38%
Quarter of S&P peak	3Q29	1Q37	2Q46	3Q56	4Q61	1Q66	4Q68	1Q73	4Q80	3Q87	3Q90	1Q00	4Q07			
Quarter of S&P trough	2Q32	1Q38	2Q49	4Q57	2Q62	4Q66	2Q70	4Q74	3Q82	4Q87	4Q90	4Q02	1Q09			
Length of bear market in qtrs	11	4	12	5	2	3	6	7	7	1	1	11	5	5	6	6
Trailing 4-qtr EPS at S&P peak ($/sh)	1.61	1.11	0.84	3.46	3.19	5.34	5.76	6.80	14.82	18.57	23.57	51.02	84.56			
Trailing 4-qtr EPS at S&P trough ($/sh)	0.41	0.97	2.40	3.37	3.47	5.55	5.52	8.89	13.64	20.50	22.48	47.98	55.72			
Change in EPS (%)	-75%	-13%	186%	-3%	9%	4%	-4%	31%	-8%	10%	-5%	-6%	-34%	-4%	7%	11%
# of qtrs from S&P peak to EPS peak	n/a	2	18	-2	-9		3	6	4		-5	2	-2	2	2	2
Forward 4-qtr EPS ($/sh)	0.44	0.71	2.54	2.89	3.84	5.33	5.32	7.96	13.30	24.12	18.48	55.51	68.90			
Trailing 4-qtr PE at S&P peak	19.8	16.8	22.9	14.4	22.8	17.6	18.8	17.7	9.5	18.1	15.7	29.9	18.5	18.1	18.7	18.7
Trailing 4-qtr PE at S&P trough	10.7	8.8	5.6	11.6	15.1	13.2	12.6	7.0	7.5	10.9	13.1	16.2	12.1	11.6	11.1	11.0
Forward 4-qtr PE at S&P trough	10.0	12.0	5.3	13.5	13.6	13.7	13.0	7.8	7.7	9.3	16.0	14.0	9.8	12.0	11.2	11.3
Quarter of S&P trailing 4-qtr EPS trough	1932	3Q38	3Q52	3Q58	2Q61	3Q67	4Q70	4Q75	1Q83		4Q91	1Q02	3Q09			
Trough EPS ($/sh)	0.41	0.62	2.34	2.88	3.03	5.30	5.13	7.76	12.42		18.48	44.19	50.84			
Peak to trough EPS (%, chg)	-75%	-49%	-18%	-22%	-12%	-5%	-13%	-15%	-19%		-28%	-23%	-45%	-21%	-27%	-27%
Quarter of recession start	1930	3Q37	1Q49	4Q57	3Q60		1Q70	1Q74	2Q80		4Q90	2Q01	1Q08			
Quarter of recession end	1932	2Q38	4Q49	2Q58	1Q61		4Q70	1Q75	4Q82		1Q91	4Q01	2Q09			
# of qtrs from S&P peak to recession start		2	11	5	-5		5	4	-2		1	5	1	3	3	3
Quarter of GDP trough	1933	4Q38	2Q49	1Q58	4Q60		4Q70	1Q75	3Q82		1Q91	1Q01	2Q09			
Peak to trough Real GDP (%, chg)	-26.3%	-3.3%	-1.7%	-3.6%	-1.3%		-1.1%	-3.1%	-2.6%		-1.3%	-0.3%	-4.0%	-2.6%	-4.4%	-4.4%

Source: Haver Analytics, BofA Merrill Lynch US Equity & US Quant Strategy

Not every bear market coincides with a recession, but the most painful ones do

The S&P identifies 13 bear markets since 1928, 10 of which have coincided with US recessions. The exceptions were 1961, 1966 and 1987, which were relatively short-lived and followed by swift recoveries. The general rule of thumb is that the stock market leads the economy by 1-2 quarters, and on average, the market has historically peaked 7-8 months before a recession. But the range has been wide: for example, in 1948 the market peaked 2.5 years before the start of the recession.

Chart 16: S&P 500 bear markets and US recessions(1928 – present)

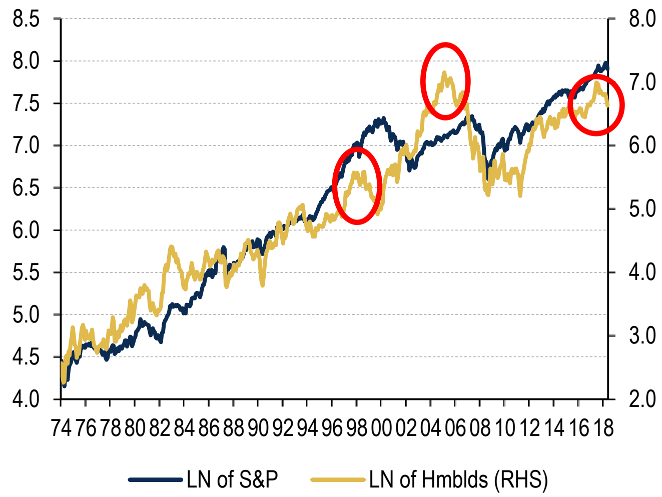


Source: BofAML US Equity & Quant Strategy, Bloomberg, S&P, Bureau of Economic Analysis

Lessons from the homebuilders - led market peaks by 2 years in last two cycles

Chart 17: Homebuilders last peaked in Nov 2017 on a monthly basis

S&P 500 vs. Homebuilders (natural log)



Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Table 10: Lead (lag) between Homebuilders peak vs. S&P peak (months)

Homebuilders	S&P 500	Lead (lag) in months
Mar-81	Nov-80	(4)
May-83	Jun-83	1
Mar-87	Aug-87	5
Jan-99	Aug-00	19
Jul-05	Oct-07	27
Nov-17	?	?

Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Sectors during bear markets

Bear market returns for sectors might be different this time

Historically, Health Care, Consumer Staples and Utilities have been the best performers during bear markets, while Industrials, Financials, Tech and Materials have fared most poorly. But the changing composition and fundamentals of sectors suggests that relationships for factors may be more consistent than sectors, and a historical framework may not necessarily apply. For example, as we show in the tables, below:

- Financials have typically lagged during bear markets, but held up better during non-financial driven downturns (e.g. +15% during the 2000 tech bubble). We think the sector can hold up better this cycle as well, with much healthier balance sheet and low risk of another financial crisis.
- Tech underperformed during 1990 and 2000 bear markets, but the sector is more mature and stable now. Valuations look more attractive at 16.7x forward P/E vs. 52.6x during the tech bubble and margins are double what they were in 2000-2007. It is the only sector with net cash, which can support stocks in the next downturn.
- Industrials have been a typical laggard during bear markets and were recently hit by escalating trade tensions with China and rising rates. We think the sector can outperform once trade issues resolve next year (our Econ team's base case). Our Aerospace & Defense team's Political Control Model shows the midterm election result of a Republican Senate and Democratic House was the best outcome for defense spending (we estimate Defense is about 16% of total Industrials revenue). A potential infrastructure bill could also boost the sector outlook.

Table 11: Annualized relative performance (vs. S&P 500) of sectors during S&P 500 bear markets since 1973

Bear Market	Length (mos)	Communication Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Technology	Materials	Real Estate	Utilities
1973-74	21	-3%	-10%	0%	8%	-9%	3%	-6%	-3%	15%	3%	-3%
1980-82	21	17%	20%	22%	-19%	5%	15%	-6%	5%	-8%	7%	13%
1987	3	16%	-12%	5%	-1%	-5%	5%	-3%	-6%	0%	27%	34%
1990	3	1%	-22%	12%	63%	-25%	16%	-15%	-19%	-2%	-5%	22%
2000-02	31	-16%	10%	28%	13%	15%	17%	7%	-25%	12%	22%	4%
2007-09	17	1%	1%	20%	7%	-24%	13%	-7%	2%	-4%	-17%	10%
	Avg:	3%	-2%	15%	12%	-7%	11%	-5%	-8%	2%	6%	13%
	Median:	1%	-5%	16%	8%	-7%	14%	-6%	-5%	-1%	5%	11%
	Hit Rate:	67%	50%	83%	67%	33%	100%	17%	33%	33%	67%	83%

Note: based on monthly sector and market returns using month-end closest to market peak and trough dates. Hit rate represents % of bear markets during which sector outperformed the market.
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Table 12: Sectors' fundamental and macro metrics today vs. prior peaks

	Communication Services				Consumer Discretionary				Consumer Staples				Energy				Financials				Health Care			
Financial Metric	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018
Net Debt/EBITDA	1.80	1.72	1.56	1.57	3.43	2.69	2.17	2.36	1.63	1.66	1.56	2.16	1.23	1.06	0.39	1.69	6.25	8.66	7.89	0.40	0.54	0.38	0.04	1.47
Net Debt/Market Cap	0.37	0.15	0.20	0.15	1.14	0.38	0.28	0.19	0.23	0.18	0.14	0.17	0.22	0.12	0.06	0.21	2.48	1.40	2.03	0.17	0.04	0.02	0.00	0.10
EBIT Margin	14.8%	20.1%	16.9%	14.8%	9.9%	8.5%	9.9%	10.2%	9.3%	11.1%	9.3%	8.8%	7.8%	8.9%	15.4%	5.7%	17.9%	36.3%	39.6%	25.7%	17.8%	16.0%	12.3%	13.5%
Net Margin	7.3%	9.3%	9.8%	16.1%	3.9%	4.2%	3.4%	7.1%	4.8%	6.2%	6.2%	6.9%	4.6%	5.7%	10.7%	6.1%	2.5%	12.3%	11.9%	15.6%	11.9%	11.7%	10.0%	10.3%
Long-term Growth	11.1%	18.8%	16.5%	17.5%	13.1%	15.6%	13.7%	31.1%	14.3%	12.9%	10.4%	7.6%	9.7%	10.8%	12.2%	49.4%	12.1%	13.3%	10.6%	13.4%	15.6%	15.4%	12.5%	11.3%
Trailing 12m Earnings Growth	9.6%	19.1%	25.1%	23.3%	(19.2%)	19.4%	(14.2%)	11.3%	16.6%	2.7%	5.9%	9.0%	(4.2%)	6.4%	3.7%	122.5%	(51.5%)	26.2%	17.7%	14.6%	11.4%	15.6%	7.9%	11.8%
Trailing 12m Sales Growth	11.0%	26.4%	17.4%	9.7%	3.8%	13.0%	0.1%	9.5%	9.5%	7.7%	9.5%	5.0%	7.4%	24.4%	(2.5%)	23.6%	10.3%	13.1%	15.0%	7.6%	12.6%	15.2%	9.8%	6.5%
Dividend Payout	64%	30%	42%	20%	46%	22%	(164%)	34%	39%	51%	48%	59%	83%	53%	17%	57%	58%	27%	35%	26%	50%	38%	38%	48%
Dividend+Buyback Payout	70%	(297%)	(82%)	(3%)	85%	24%	(778%)	76%	41%	71%	62%	82%	82%	(268%)	54%	48%	15%	16%	16%	67%	(84%)	60%	70%	89%
FCF Yield	4.0%	0.8%	4.6%	4.7%	2.7%	2.4%	2.5%	3.9%	3.4%	4.4%	3.6%	4.6%	2.9%	2.4%	3.4%	3.1%	N/A	N/A	N/A	N/A	2.8%	2.4%	5.4%	4.9%
Forward P/E	14.5	34.1	18.7	17.4	9.7	16.6	17.0	20.2	14.8	16.5	17.4	18.4	14.4	20.6	12.4	13.8	8.2	14.6	10.6	11.6	16.4	24.6	15.8	15.4
Relative Forward P/E	1.20	1.38	1.24	1.12	0.80	0.67	1.13	1.30	1.23	0.67	1.16	1.18	1.19	0.84	0.83	0.89	0.68	0.59	0.70	0.75	1.36	1.00	1.05	0.99
Macro Beta																								
GDP Beta	-2.96	1.35	1.00	0.48	-3.17	1.59	1.64	0.57	-4.06	0.91	0.26	0.37	-3.10	-0.35	2.28	1.22	-2.96	0.02	1.33	-0.19	-4.58	0.01	-0.29	1.12
Gold Beta	-0.56	0.10	-0.11	-0.11	-0.64	-0.03	-0.14	-0.11	-0.58	-0.25	0.00	0.03	0.02	0.01	0.38	0.01	-0.54	-0.09	0.03	-0.47	-0.25	-0.10	-0.10	-0.02
Inflation Beta	-1.91	0.55	0.11	-0.26	-1.72	0.46	-0.01	-0.03	-1.61	-0.68	-0.21	-0.07	-0.75	1.36	1.24	1.81	-2.25	0.33	0.07	0.06	-0.10	1.53	-0.39	-0.25
Nominal Rate Beta	-5.62	-3.48	4.35	2.01	-3.85	-0.30	4.03	4.18	-5.16	-2.08	0.15	-3.00	0.07	-2.75	1.22	9.51	-5.93	-4.50	2.49	14.02	-2.51	-5.24	0.81	1.12
Real Rate Beta			2.35	-3.15			2.26	0.40			-0.88	-3.27			-2.07	-0.89			0.99	12.14			0.85	-1.43
US Dollar Beta	0.40	0.09	-0.04	-0.43	0.59	0.10	0.26	-0.45	0.22	0.17	-0.06	-0.28	0.26	-0.32	-0.67	-0.83	0.67	0.61	-0.08	-0.18	0.13	0.35	-0.07	-0.22
WTI Oil Beta	-0.03	-0.04	-0.21	0.03	-0.11	-0.07	-0.17	0.01	-0.05	-0.17	-0.08	-0.03	0.20	0.23	0.27	0.37	-0.08	-0.11	-0.21	0.11	-0.03	-0.08	-0.15	0.00

Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy
Note: all fundamental metrics as of 10/31/2018 and macro betas based on rel. perf. vs. changes in macro variables (from 1979 for GDP; 1990 for gold; 1985 for inflation, oil, USD, and nominal rates; 1997 for real rates)

Table 13: Sectors' fundamental and macro metrics today vs. prior peaks (cont'd)

	Industrials				Information Technology				Materials				Real Estate				Utilities			
Financial Metric	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018	1990	2000	2007	2018
Net Debt/EBITDA	2.71	3.31	3.40	2.61	0.73	-0.09	-0.60	-0.24	1.71	2.52	1.29	2.32			6.86	6.56	3.52	4.11	2.99	5.52
Net Debt/Market Cap	0.56	0.30	0.39	0.22	0.12	0.00	-0.04	-0.02	0.45	0.32	0.16	0.23			0.61	0.38	0.94	0.90	0.51	0.77
EBIT Margin	9.7%	12.5%	15.2%	12.8%	9.5%	14.8%	15.4%	30.6%	12.3%	10.5%	13.1%	12.8%			36.0%	36.0%	18.8%	13.2%	17.2%	18.1%
Net Margin	4.4%	7.1%	8.7%	9.6%	5.3%	10.8%	12.5%	22.8%	6.7%	5.7%	8.2%	10.5%			24.7%	35.4%	8.4%	6.2%	8.6%	12.5%
Long-term Growth	12.3%	14.6%	12.9%	16.4%	13.0%	25.2%	15.0%	14.6%	10.1%	12.1%	17.1%	11.7%			8.7%	7.2%	5.1%	10.0%	19.2%	6.4%
Trailing 12m Earnings Growth	(10.1%)	7.6%	10.8%	12.8%	(22.3%)	35.3%	10.1%	22.0%	(11.5%)	1.5%	25.4%	32.8%			7.4%	2.2%	1.5%	11.3%	8.5%	9.1%
Trailing 12m Sales Growth	6.1%	6.4%	8.5%	9.5%	7.5%	14.4%	9.3%	13.5%	2.8%	14.5%	6.5%	22.4%			26.2%	8.8%	6.7%	21.8%	2.3%	2.7%
Dividend Payout	43%	36%	36%	50%	46%	10%	16%	37%	43%	52%	39%	39%			118%	63%	96%	59%	50%	71%
Dividend+Buyback Payout	66%	(57%)	78%	99%	34%	(241%)	78%	113%	60%	(184%)	19%	57%			55%	33%	74%	60%	57%	16%
FCF Yield	2.0%	2.8%	5.3%	3.9%	2.0%	1.0%	4.5%	5.3%	1.4%	5.4%	4.0%	5.7%			N/A	N/A	(1.7%)	(4.2%)	0.0%	(1.7%)
Forward P/E	12.0	21.5	16.2	14.7	11.0	52.6	19.9	16.7	10.4	16.1	16.6	13.2			18.9	16.9	10.5	13.5	16.7	16.6
Relative Forward P/E	1.00	0.87	1.07	0.95	0.91	2.13	1.32	1.07	0.86	0.65	1.10	0.84			1.25	1.09	0.87	0.55	1.11	1.06
Macro Beta																				
GDP Beta	-2.51	0.53	2.07	0.22	-1.06	1.98	2.13	0.95	-1.55	-0.38	2.09	0.52	-0.94	-0.44	1.40	-0.47	-1.99	-1.01	1.63	-0.31
Gold Beta	-0.38	0.06	-0.01	-0.11	-0.41	0.06	-0.06	-0.20	-0.23	0.28	0.25	0.06	-0.10	0.06	0.24	0.15	-0.31	-0.13	0.24	0.30
Inflation Beta	-1.94	0.70	0.24	0.31	-1.41	2.98	0.18	-0.26	-1.17	0.85	0.80	0.71	-0.32	0.51	0.34	-0.25	-1.14	0.24	0.16	-0.26
Nominal Rate Beta	-2.43	-2.40	4.08	5.23	-0.89	-4.51	4.77	4.03	-0.48	-1.05	6.37	7.04	-1.79	-1.58	-1.41	-10.28	-5.68	-5.09	-5.68	-11.02
Real Rate Beta			2.77	1.06			0.12	0.04			2.82	-1.14			-4.29	-12.92			-6.49	-11.05
US Dollar Beta	0.25	0.06	-0.07	-0.47	0.14	0.27	-0.03	-0.36	0.34	0.13	-0.37	-0.67	0.15	0.11	-0.22	-0.04	0.29	0.04	-0.67	-0.11
WTI Oil Beta	-0.04	0.02	-0.12	0.05	-0.04	0.16	-0.19	0.06	-0.05	0.04	-0.06	0.18	-0.05	0.05	-0.17	-0.07	-0.02	-0.05	-0.03	-0.07

Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy
Note: all fundamental metrics as of 10/31/2018 and macro betas based on rel. perf. vs. changes in macro variables (from 1979 for GDP; 1990 for gold; 1985 for inflation, oil, USD, and nominal rates; 1997 for real rates)

Factors and bear markets

The best-performing factors during the last four bear markets included low beta stocks, high dividend yielding stocks, and stocks with forecast positive earnings surprises (our BofAML vs. Consensus factor, which has generally performed well in all market environments. For valuation measures, those that incorporate the full capital structure, EV/EBITDA and FCF/EV, fared best. Meanwhile, the worst performers were risk factors (high beta and low price stocks) and low quality stocks. Small size also fared poorly.

Table 14: Average and median annualized performance and hit rate of S&P 500 top/bottom decile factors during the last four bear markets (since 1987)

Top 10				
Factor	**Category**	**Avg**	**Median**	**Hit rate**
Low Beta	(Low) Risk	19%	17%	100%
Positive EPS Surprise	Growth	4%	4%	100%
High Dividend Yield	Cash Deployment	6%	6%	75%
Low EV/ EBITDA	Valuation	5%	5%	75%
High Relative Strength - 5wk/30wk MA	Momentum	3%	3%	75%
High Share Repurchase	Cash Deployment	5%	1%	100%
High Price Return - 12-mth and 1-mth Reversal	Momentum	2%	2%	75%
High Free Cash Flow/ EV	Valuation	6%	1%	75%
High Earnings Yield	Valuation	3%	4%	50%
High Dividend Growth	Cash Deployment	0%	1%	75%
Bottom 10				
Factor	**Category**	**Avg**	**Median**	**Hit rate**
High Beta	Risk	-19%	-16%	0%
Low 1yr ROE	(Low) Quality	-14%	-14%	0%
Low Price	Risk	-12%	-10%	0%
High Proj. 5yr EPS Growth	Growth	-12%	-5%	0%
High Equity Duration	Growth	-9%	-11%	25%
Low Price/ Book Value	Valuation	-10%	-9%	25%
Small Size	Misc	-7%	-8%	25%
Most Active	Momentum	-11%	-6%	25%
High 5y ROE	Quality	-3%	-5%	25%
Neglect - Institutional Ownership	Misc	-3%	-5%	25%
High Foreign Exposure	Misc	-4%	-4%	25%

Note: excludes factors with <4 bear markets of data available. Includes top and bottom decile factors for all categories except Momentum and Valuation, where analysis includes just top decile (high momentum and inexpensive valuation). For full details on our factors, please see: Quantitative Profiles: Growth & Momentum hit hardest, Dividend Yield led in October's sell-off 09 November 2018

Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Recession probability low in the near-term

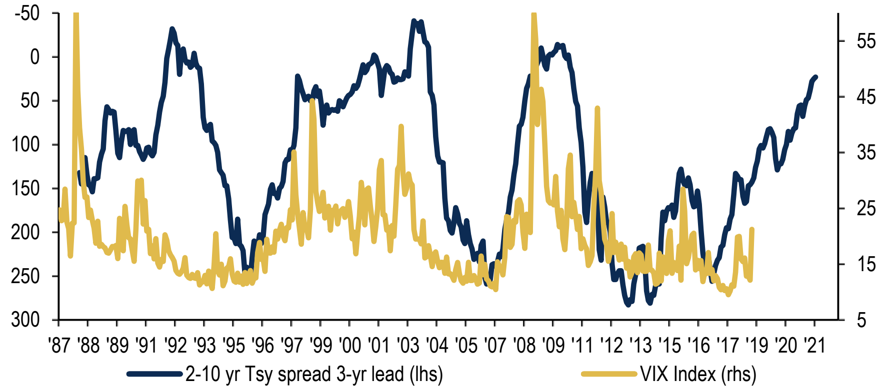
According to our economics team, by July 2019, this cycle will surpass that of the 1990s to become the longest in post-war history. Recession risk remains low, according to their models (the highest points to a 26% probability), though these can adjust rapidly. They recommend watching jobless claims (which has historically jumped double-digits ahead of recessions) as a key indicator. In their view, a recession likely originates in the corporate sector (where high leverage represents a sign of "excess"), vs. in the household sector where leverage and housing investment are low.

The VIX is likely to double by 2021

Since the mid-2000s we began using the yield curve as a forecast tool for volatility. A flattening yield curve signaled a withdrawal of liquidity and over the last three cycles has preceded rising volatility by a few years. Volatility is not always synonymous with equity losses. From 1993 to 1998, the VIX rose from ~15 to ~25 amid S&P 500 total returns of 21.6% per annum. Between Jan 94 and Aug 98 (trough to peak in vol), High Quality stocks (S&P Quality Ranks of B+ or Better) have outperformed the Low Quality stocks (B or Worse) by 19.3ppt, or 3.9ppt per annum.

Chart 18: Flattening yield curve suggests higher volatility through 2021

Yield curve (inverted: 2–10yr spread) vs. the VIX, with a three-year lead (1987-10/2018)

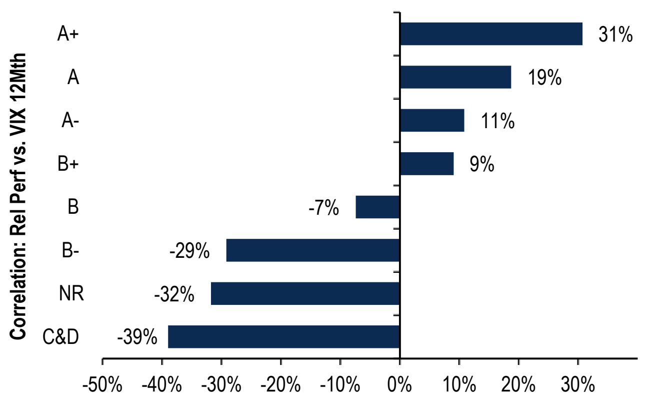


Source: CBOE/Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Best hedge against higher volatility? High Quality

Chart 19: High quality outperforms low quality when the VIX rises

BofAML Quality indices 12m performance correlation to 12m chg. in the VIX (1991-now)



Source: BofA Merrill Lynch US Equity & US Quant Strategy

The highest quality stocks (based on S&P Quality Ranks) have historically been most positively correlated to changes in the VIX, while the lowest quality stocks have been most negatively correlated.

Table 15: Staples & Industrials are high quality, under owned sectors

Sector quality attributes and fund positioning as of 10/2018

	DDM Alpha*	ROE	ROA	Weight in active funds relative to S&P weight	Cap wtd % of B+ or Better Stocks**
Cons. Staples	1.1	26%	9%	0.7	83%
Industrials	-0.5	27%	7%	0.9	80%
Technology	-1.4	35%	13%	1.1	79%
Financials	0.6	11%	1%	1.0	67%
S&P 500	**NA**	**19%**	**4%**	**NA**	**65%**
Utilities	3.1	12%	3%	0.5	63%
Health Care	0.1	25%	9%	1.1	62%
Cons. Disc.	-0.3	31%	8%	1.1	56%
Real Estate	1.6	18%	7%	0.4	52%
Comm Svcs	0.4	22%	8%	1.3	51%
Materials	-2.1	17%	7%	0.9	44%
Energy	0.2	9%	5%	0.8	31%

*The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model

**S&P 500 Quality Rankings

Source: FactSet, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

What sectors are high quality today?

Staples, Industrials, and Technology have the highest proportion of high quality stocks (based on S&P 500 quality rankings) and also have an above-market ROE and ROA.

Financials also has a high proportion of high quality stocks and has seen the biggest improvement in quality over the last 5 years (as we discuss in sector section).

Other factors for rising volatility: Low Risk

Table 16: Most positively/negatively correlated factors with volatility (based on historical relative 12m price performance correlation with 12m changes in the VIX, 1987-10/2018)

Most positively correlated factors		
Factor	**Group**	**Correlation**
Low Estimate Dispersion	(Low) Risk	45%
Low Beta	(Low) Risk	35%
Positive EPS Surprise	Growth	33%
High 1yr ROE	Quality	29%
High Dividend Discount Model Alpha	Valuation	27%
Most negatively correlated factors		
Factor	**Group**	**Correlation**
Low Price/ Book Value	Valuation	-47%
High Estimate Dispersion	Risk	-46%
High Forward Earnings Yield	Valuation	-39%
Low Price	Risk	-37%
Low 1yr ROE	(Low) Quality	-36%
High Earnings Yield	Valuation	-33%
Rising Short Interest	Misc.	-33%
High Beta	Risk	-32%
Small Size	Misc.	-31%
Low Price/ Sales	Valuation	-28%
Low P/E-to-Growth	GARP	-26%
Earnings Torpedo	(Negative) Growth	-25%
High Variability of Earnings	Risk	-20%

Note: excludes factors with <20 years of data and correlations <20%. For full details on our factors, please see: Quantitative Profiles 09 November 2018

Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Here we show the most positively and most negatively correlated factors that we track based on their historical relative performance sensitivity to changes in the VIX. (For complete details on our factors, see: Quantitative Profiles, 09 November 2018.)

Low risk strategies including Low Estimate Dispersion and Low Beta fared best when volatility was rising, along with Forecast Positive EPS Surprise (an all-weather factor), High ROE and High Dividend Discount Model alpha.

Risk factors, value factors (including Low Price/Book and Low Forward P/E), and low quality factors fared worst, along with Small Size and Rising Short Interest.

Large caps > Small caps

Table 17: Rising volatility favors larger over smaller stocks

Historical relative 12m performance correlation between Russell size indices and 12m changes in the VIX (1987-10/2018)

Size	Correlation
Large vs. Small (Russell 1000 vs. Russell 2000)	32%
Mid vs. Small (Russell MidCap vs. Russell 2000)	15%
Mega vs. Mid (Russell Top 200 vs. Russell MidCap)	37%

Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Large caps have historically outperformed small caps (and mega caps have historically outperformed mid caps) when the VIX rises.

Avoid momentum when the VIX is rising

Table 18: Rule of 25: buy momentum when VIX<25
Avg. 1m relative returns vs. equal-wtd. S&P 500, 1990-10/2018

Momentum Factor	VIX > 25	VIX < 25
30wk/75wk MA	-1.1%	0.5%
5wk/30wk MA	-0.5%	0.3%
10wk/40wk MA	-1.0%	0.4%
200 day Price to MA	-0.7%	0.3%
Price Return - 12-mth Perf.	-1.0%	0.5%
Price Return - 9-mth Perf.	-1.1%	0.5%
Price Return - 3-mth Perf.	-0.3%	0.2%
Price Return - 11-mth Perf.	-1.1%	0.5%
Price Return - 12-mth and 1-mth Perf.	-0.7%	0.2%
Price Return - 12-mth and 1-mth Reversal	-0.9%	0.5%
Average:	**-0.9%**	**0.4%**
Median	**-0.9%**	**0.4%**

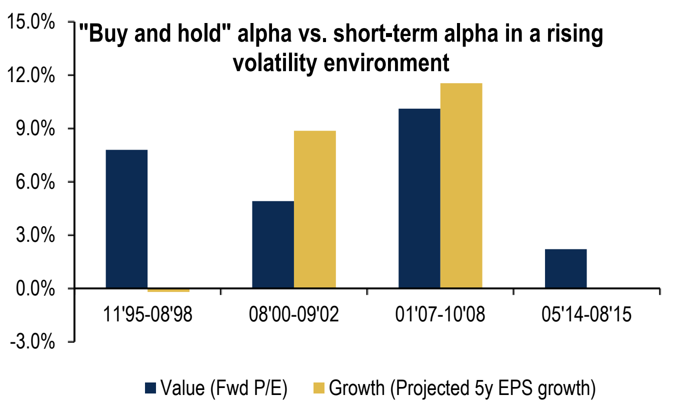
Note: for full details on our factors, please see: Quantitative Profiles 09 November 2018
Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

The Rule of 25

Momentum tends to outperform when the VIX index stays under 25, otherwise momentum tends to underperform.

Investing in volatile markets: buy-and-hold

Chart 20: Long-term investing rewarded more in volatile markets
Relative performance of Value (Low Forward P/E) and Growth (High Projected LTG) factors vs. equal-weighted S&P 500 in periods of rising volatility (since 1990), comparing buy-and-hold strategy vs. monthly rebalance strategy (see footnote)



Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy
Buy and hold based on median of rolling 12m excess returns of factor vs. equal-weighted S&P 500 over each full period.
Short-term alpha based on annualized chain-linked monthly returns of factor vs. equal-weighted S&P 500, with screens rebalanced monthly, over each full period
Note: Forward P/E and High Projected LTG factors based on top decile of S&P 500 stocks in each factor.

Investing in volatility markets: buy-and-hold

As volatility rises, patience is a virtue – history suggests that a longer-term "buy and hold" strategy (based on 12-month holding periods) outperformed a strategy of rebalancing one's holdings more frequently (monthly) in periods of a rising VIX (Chart 17)—with excess returns of ~5ppt for Growth stocks and ~6ppt for Value stocks.

We found the opposite was true during periods of a falling VIX—a buy-and-hold strategy has historically underperformed a more frequent rebalance strategy.

Deep-dive on Quality

High quality vs. low quality: buy high, sell low

The 15+ year risk bid is grinding to a halt

The US is in the process of a regime change, and we think high-quality stocks will be the biggest beneficiaries for the same reason that low quality won in the last regime: liquidity. Low-quality stocks thrive on access to inexpensive capital, and thus tend to be beneficiaries of fiscal and monetary stimulus.

Tightening of credit favors continued re-rating of high quality stocks. Assuming upward pressure on the cost of capital as the Fed and other central banks shift from quantitative easing (QE) to quantitative tightening (QT), cash-rich self-funded companies are likely to re-rate and trade at premia to their levered, super-cyclical counterparts. Investors should pay up for safety and be compensated for risk, and note that in the decades before the Tech Bubble, high quality stocks traded at fairly consistent premia to the market (and low quality traded at a discount) for the majority of that time (Chart 19).

Table 19: Quality has consistently outperformed

Relative price performance of B+ or Better vs. B or Worse stocks (as of 10/2018)

Period	Performance Spread (ppt)
1 month	4.3
3 months	3.6
6 months	1.8
12 months	3.1
Year to date	1.2
2 years	0.2
3 years	2.5
5 years	20.9

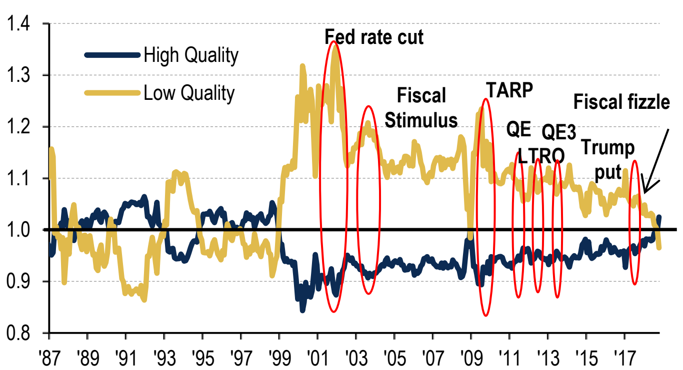
Source: BofA Merrill Lynch US Quantitative Strategy, Standard & Poor's

Quality has been outperforming…

High quality (B+ or higher) stocks have outperformed low quality (B or lower) stocks so far this year and over the past one, three and five years.

Chart 21: After decades of stimulus, High Quality stocks are finally trading at a premium to Low Quality stocks

Relative Fwd. P/E high quality (B+ or better) and low quality (B or worse) stocks (1987-10/2018)



Source: S&P, BofA Merrill Lynch US Equity & US Quant Strategy

…But only recently started trading at a premium to Low Quality

Since the tech bubble (during which low quality was primarily Tech), risky, low-quality stocks have traded at a premium to high quality stocks – the opposite of financial theory that suggests investors should pay a premium for safety and be compensated for risk. Every sign of mean reversion between risk and safety was thwarted by liquidity, as indicated in the circled areas on the chart.

As a result of the outperformance in recent years, the valuation gap has closed, and High Quality started trading at a premium to Low Quality.

Table 20: High Quality stocks have outperformed in recent selloffs and in the last four bear markets

Price performance during prior bear markets

Period	B + or Better (annualized)	B or Worse (annualized)	Rel Perf B+ or Better vs B or worse (annualized)
Aug '87 - Nov '87	-74.9%	-79.2%	4.3%
Jun '90 - Oct '90	-53.1%	-61.7%	8.6%
Mar '00 - Sep '02	2.8%	-20.8%	23.6%
Oct '07 - Feb '09	-42.2%	-48.2%	6.0%
May '15 - Feb '16	-8.5%	-31.0%	22.5%
Jan '18 - Mar '18	8.9%	-61.9%	70.8%
Sep '18 - Oct '18	-1.4%	-70.1%	68.8%
Average	**-35.2%**	**-48.2%**	**13.0%**
Median	**-42.2%**	**-48.2%**	**8.6%**

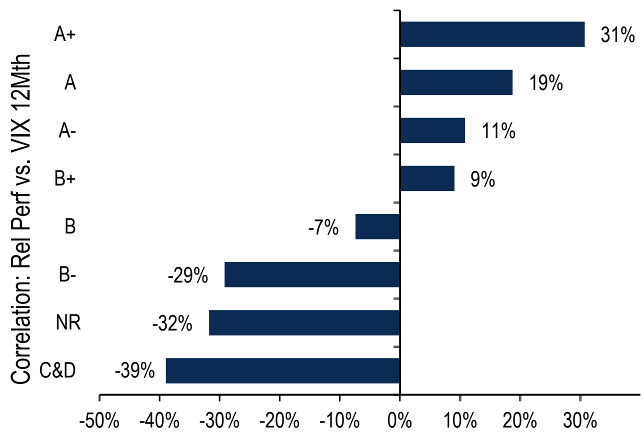
Source: BofA Merrill Lynch US Quantitative Strategy, Standard & Poor's

Good bear market hedge

High quality stocks have consistently outperformed in each of the last four bear markets and during the most recent market corrections.

Chart 22: High quality stocks are positively correlated with the VIX

BofAML Quality Indices 12m Performance Correlation to 12m Changes in CBOE VIX (1986 to present)



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, Standard & Poor's

The best hedge against volatility

High Quality is the best hedge against rising volatility.

Chart 23: Higher volatility favors higher quality

B+ or Higher vs. B or Lower and 3m Avg VIX (as of 10/31/2018)

Source: BofAML US Equity & Quant Strategy, S&P, FactSet, CBOE

Quality has been behaving in-line with historical trends

Nearly every spike in volatility has coincided with the outperformance of higher quality stocks over the last few years. This relationship has held true over the last 5 and 10 years.

Table 21: High Quality vs. Low Quality and 3-month average VIX

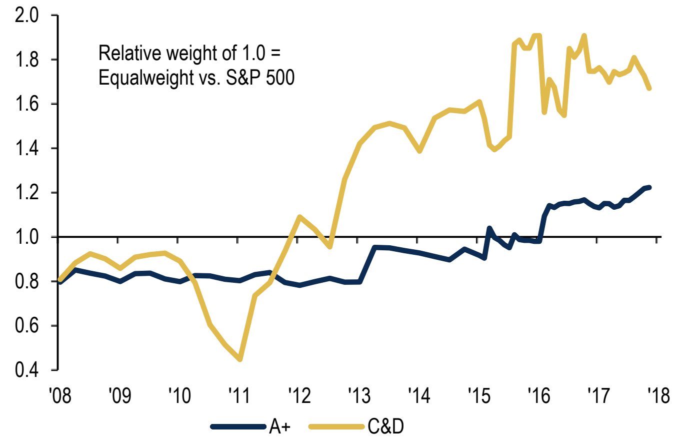
As of 10/31/2018

	Correlation
Since 1990	17.8%
Last 10 years	15.5%
Last 5 years	22.3%

Source: BofAML US Equity & Quant Strategy, S&P, FactSet, CBOE

Chart 24: Active funds' positioning in the lowest quality stocks is hovering near record levels

Relative fund positioning of stocks with A+ and C&D ratings



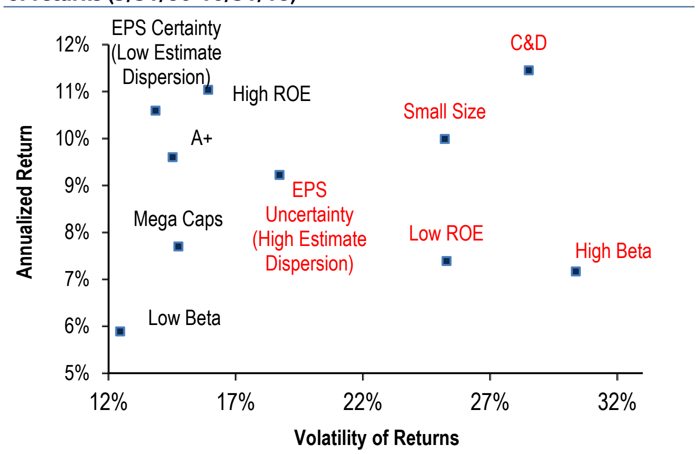
Source: BofA Merrill Lynch US Equity & US Quant Strategy, Lionshares, Standard & Poor's

Yet investors are overweight Low Quality

Large cap fund managers have become increasingly overweight Low Quality.

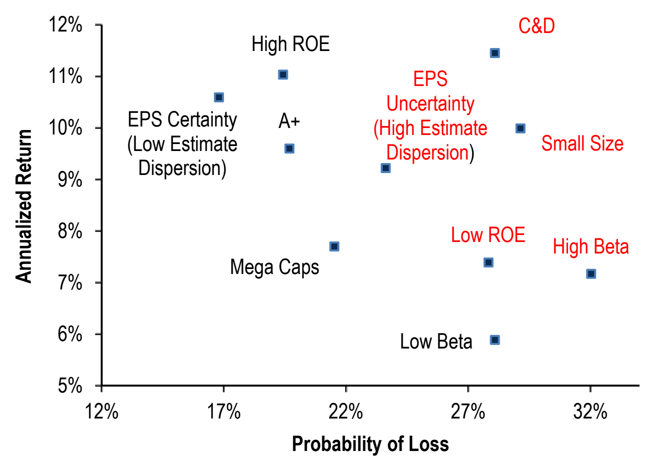
Low beta has historically had a much weaker risk-return profile than other high quality/low risk factors.

Chart 25: High and Low Quality Strategies Reward vs. Risk
Average annualized return vs. annualized volatility (standard deviation) of returns (3/31/86-10/31/18)



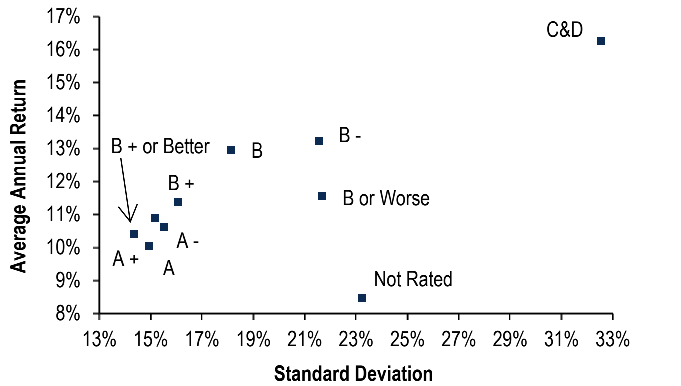
Source: BofA Merrill Lynch US Equity and Quantitative Strategy

Chart 26: High and Low Quality Strategies Reward vs. Downside Risk
Average annualized return vs. probability of loss (3/31/86-10/31/18)



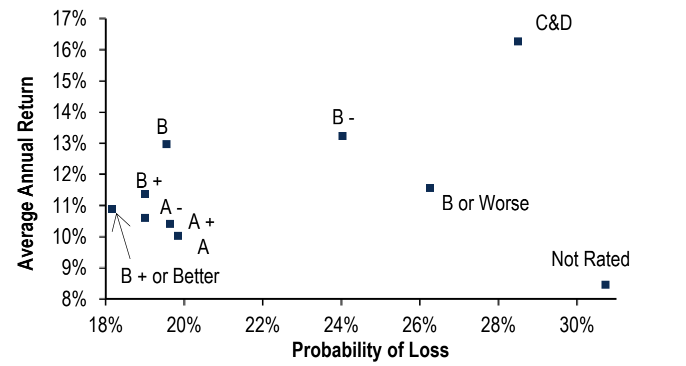
Source: BofA Merrill Lynch US Equity and Quantitative Strategy

Chart 27: Risk Reward Characteristics of Quality Ratings (1986 to 2018)



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet/S&P

Chart 28: Downside Risk Reward Characteristics of Quality Ratings (1986 to 2018)

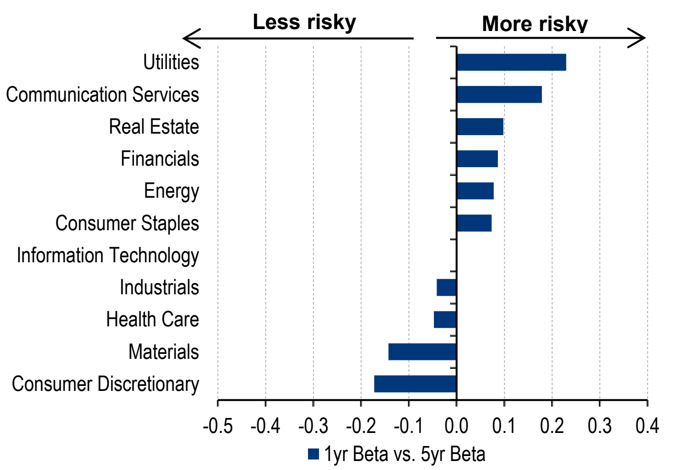


Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet/S&P

Beta tends to be inconsistently volatile over the course of a cycle, making it a less reliable defensive factor.

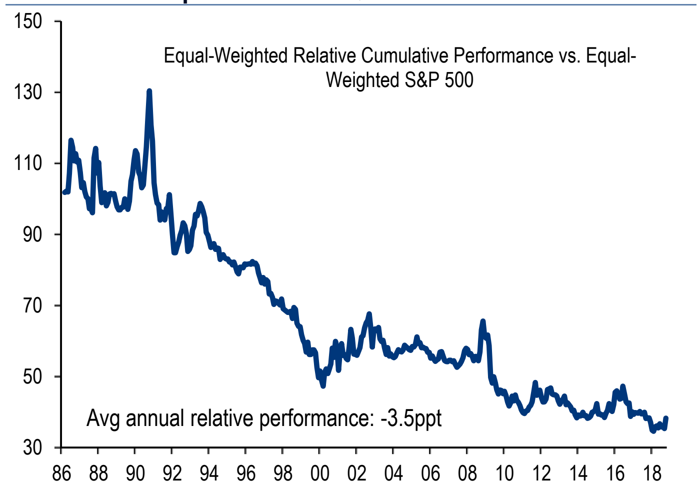
In fact, Low Beta strategies have underperformed most of the time.

Chart 29: 1yr vs. 5yr beta for S&P 500 sectors



Source: Factset, BofA Merrill Lynch US Equity & US Quant Strategy

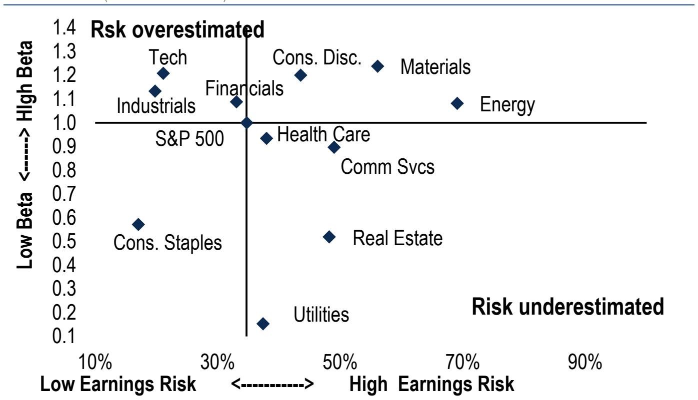
Chart 30: Relative performance of S&P 500 bottom beta decile stocks



Source: BofA Merrill Lynch US Equity & US Quant Strategy

Chart 31: Don't confuse beta with quality

Price risk (5yr beta) vs. earnings risk (market-weighted % of low quality stocks) for S&P 500 sectors (as of 10/31/18)



Note: Earnings risk based on S&P Quality Ranks (stocks ranked B or worse classified as low quality) based on last 10 years

Source: S&P BofA Merrill Lynch US Equity & US Quant Strategy

Comparing "fundamental beta" to price beta

While many investors use low beta as another measure of quality, we recommend assessing earnings volatility ("fundamental beta") instead of price volatility. When classifying a stock as "safe", we think investors should care more about the underlying earnings risk, as well as balance sheet quality, sustainability of dividends, and a host of other factors that play into the safety of an investment. Investors that equate low beta with earnings stability may be surprised to find that sectors that are penalized for being too cyclical, and thus trade at higher betas, have actually exhibited far more earnings stability over the last cycle than some of their lower beta counterparts, key examples being Industrials and Tech vs. Utilities and Comm Svcs, respectively.

Table 22: Low Beta is mispricing risk

Quality (fundamental stability) vs. Low Beta (price stability) as of 10/31/2018

Metric	Beta (Lowest Decile Median)	B+ or Better (Median)	Diff (%)
EPS Volatility	37.6%	25.5%	47.3%
EPS Stability (lower = more stable)	23.9	11.8	103.1%
DPS Vol	4%	6%	-25.9%
Max 5-yr EPS Decline	9%	0%	na
Max 5-yr Price Decline	20%	17%	15.9%
Net Debt/EBITDA	3.96	1.65	140.0%
ROIC	5%	12%	-57.6%
ROE	11%	19%	-43.9%
Beta	0.43	0.97	-55.7%
Quality Score (lower = higher quality)	4.00	3.00	33.3%

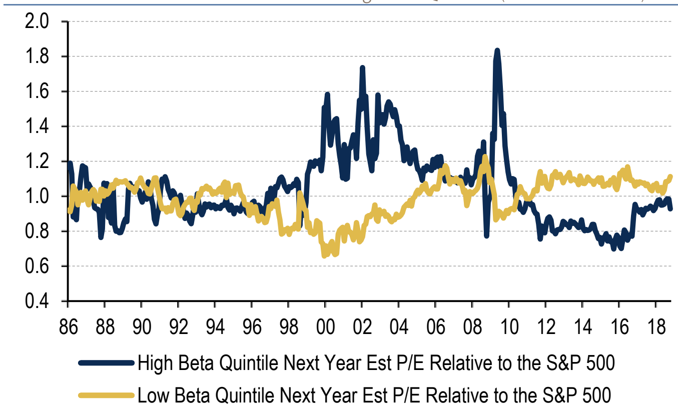
Source: BofA Merrill Lynch US Equity & US Quant Strategy, S&P, Compustat

Low Beta ≠ Quality

Stocks with the lowest price beta tend to have higher earnings volatility, more leverage and lower returns on investment than those based on "fundamental beta" (quality).

Chart 32: Low Beta has been consistently expensive

Relative Fwd. P/E of S&P 500 Low Beta and High Beta Quintiles (as of 10/31/2018)



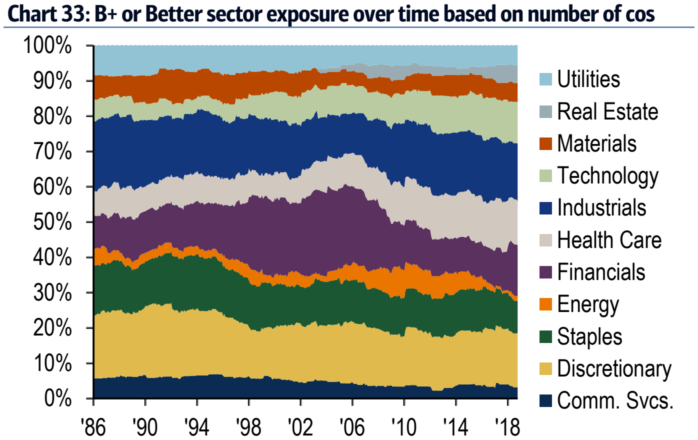
Source: BofA Merrill Lynch US Equity & US Quant Strategy

Low Beta has traded at a consistent premium this cycle

In contrast to High Quality, Low Beta has been more expensive than High Beta since the start of the cycle.

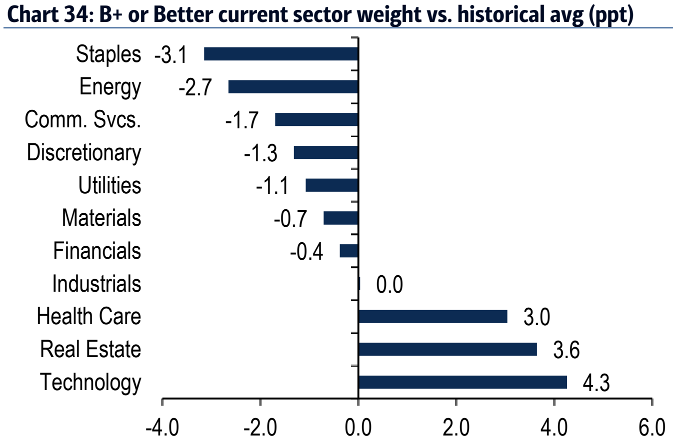
In the wake of the Financial Crisis, we have seen a substantial shift in the sector composition of stocks rated B+ or higher. In particular, the percentage of Technology and Health Care stocks are just off their all-time highs, at 12% each. Additionally, Industrials is now the sector with the most high quality stocks (16%), a title that the Financials held until 2009. Discretionary and Financials are second and third sectors with high quality stocks (15% each). Staples are at all-time lows (9.3%) vs its history and Energy is the lowest quality sector with only 1% of stocks rated B+ or better.

Chart 33: B+ or Better sector exposure over time based on number of cos



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, S&P

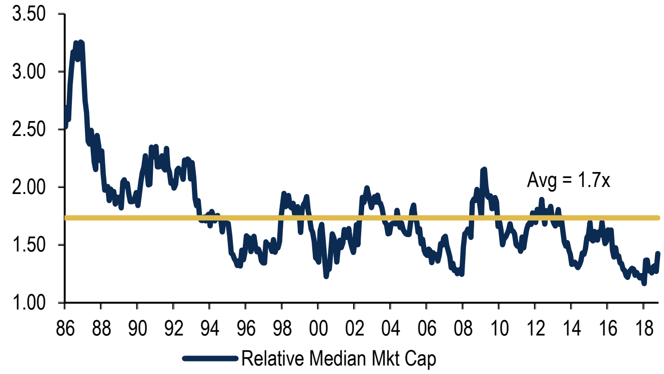
Chart 34: B+ or Better current sector weight vs. historical avg (ppt)



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, S&P

Chart 35: The market cap of High Quality stocks has been rising relative to Low Quality stocks

S&P 500 relative median mkt cap: B+ or Higher vs. B or Lower (as of 10/31/2018)



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, S&P

Higher quality is usually bigger...

The median High Quality stock has generally had a market cap 1.7x the size of the median Low Quality stock on average.

Large caps tend to work in late-cycle phases, as indicated by our US Regime Indicator (see Chart 161).

Table 23: High quality stocks have improved on a host of fundamental metrics

Median B+ or Higher stock attributes vs. historical average since July 1990

	B+ or Better	Historical Avg	Diff
EPS Volatility	25%	26%	-0.4%
EPS Stability (lower = more stable)	11.8	16.7	-5.0
DPS Vol	6%	6%	0%
Max 5-yr EPS Decline	0%	8%	-8%
Max 5-yr Price Decline	17%	24%	-7%
Net Debt/EBITDA	1.6	1.1	0.5
ROIC	12%	11%	1%
ROE	19%	17%	2%
Beta	0.97	0.94	0.03
5-yr Proforma vs. GAAP EPS	10.5%	5.8%	4.7%
5-yr Proforma vs. FCF/Sh	6.6%	29.8%	-23.3%
Quality Score (lower = higher quality)	3.00	3.22	-0.22

Note: Quality score based on assigning a numerical value to the S&P 500 quality rankings and calculating the median

Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, Compustat, IBES, S&P

...and consistent over time

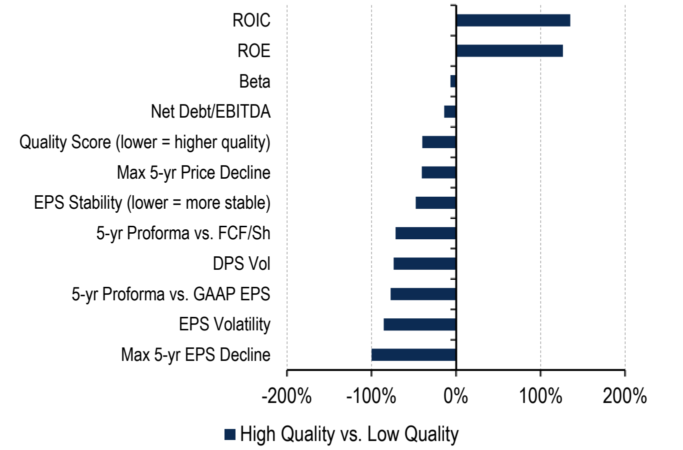
Relative to its historical average (since 1990), the median ROE and ROIC has increased while earnings volatility has declined and the median quality score has improved.

Meanwhile, beta and leverage have increased a bit.

Relative to Low Quality stocks, High Quality stocks have higher returns on investment and better EPS stability, lower leverage, lower beta and lower EPS volatility (Chart 34). Compared to history, the relative quality score and dividend volatility of High Quality vs. Low Quality stocks is better today (Chart 35).

Chart 36: Current B+ or Higher vs. B or Lower attributes (relative)

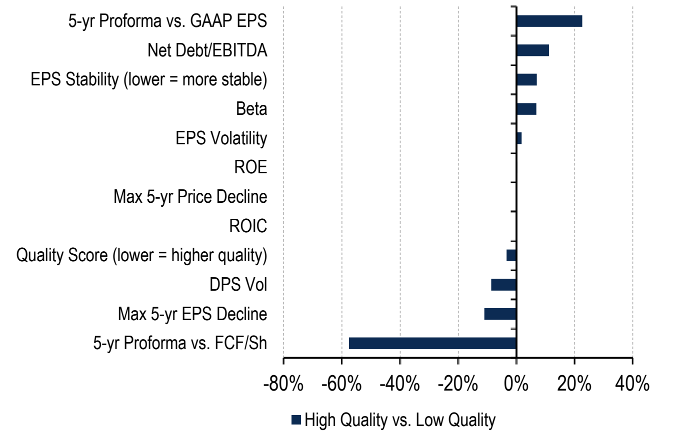
7/31/1990 – 10/31/2018



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, Compustat, IBES, S&P

Chart 37: B+ or Higher vs. B or Lower attributes (relative) vs. history

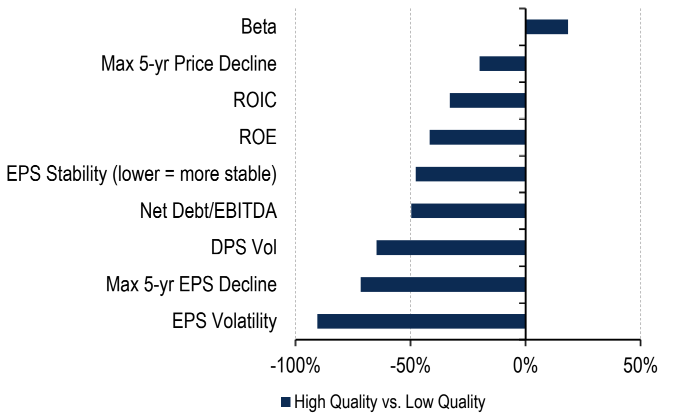
7/31/1990 – 10/31/2018



Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, Compustat, IBES, S&P

Chart 38: The standard deviation of various fundamental metrics for High Quality stocks tends to be lower compared to Low Quality stocks

B+ or Higher vs. B or Lower standard deviation of attributes since July 1990



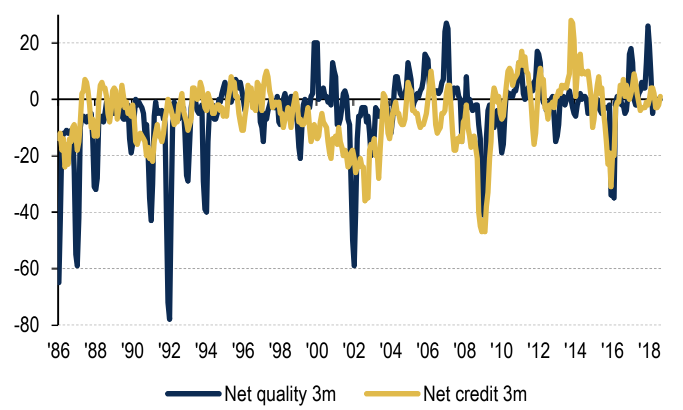
Source: BofA Merrill Lynch US Equity and Quantitative Strategy, FactSet, Compustat, IBES, S&P

Fundamentals within High Quality stocks tend to be stable

Most importantly, the characteristics of the high quality basket have been remarkably consistent over time, particularly relative to the lower quality basket, which sees its earnings volatility, leverage and earnings quality fluctuate significantly over the course of the cycle.

Chart 39: Quality and credit rating have a coincident relationship

Net quality and credit rating upgrades/downgrades (1986-10/2018)



Source: BofAML US Equity & Quant Strategy, S&P

Coincident relationship between quality and credit rating

Both the quality and credit rating are impacted by the underlying fundamentals of the companies. If profits decline meaningfully, it can reduce earnings and dividend stability of a company as well as the company's ability to meet financial obligations.

One signal of future quality: ESG

Exhibit 1: Examples of Environmental, Social & Governance (ESG) factors

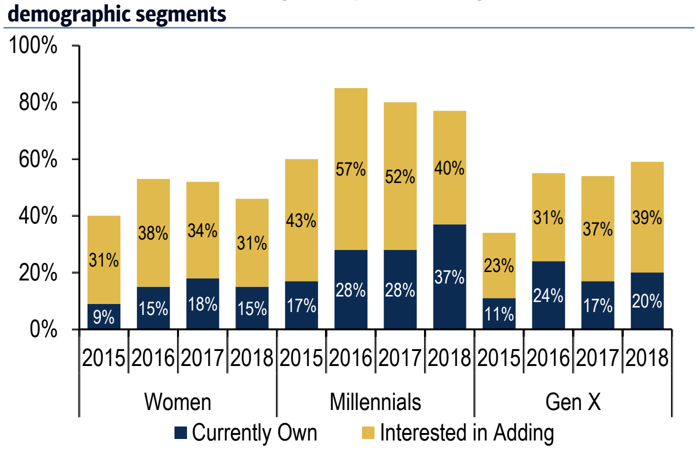
Environmental factors	Social factors	Governance factors
Natural resource use	Workforce health & safety	Board independence
Carbon emissions	Diversity/opportunity policies	Board diversity
Energy efficiency	Employee training	Shareholder rights
Pollution/waste	Human rights	Management compensation policy
Sustainability initiatives	Privacy/data security	Business ethics
	Community programs	

Source: BofA Merrill Lynch US Equity & US Quant Strategy (based on examples from MSCI ESG Research LLC, Sustainalytics, and Thomson Reuters data sets)

What is ESG investing?

ESG investing captures the notion of using non-financial factors that incorporate the environmental impact (E), social impact (S) and governance attributes (G) of a corporation. We here explore an approach which can be applied across sectors, and can be incorporated via both positive and/or negative screening; that is, by seeking out companies which rank well on ESG metrics, and avoiding companies which rank poorly on these metrics.

Chart 40: Momentum building for Impact Investing in bellwether demographic segments

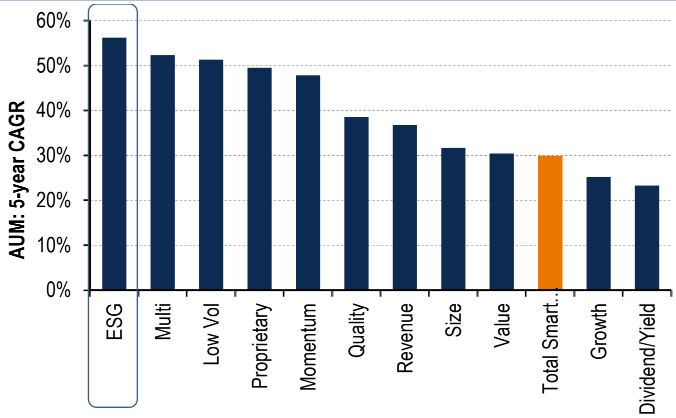


Source: 2018 U.S. Trust Wealth and Worth Survey

Future flows: trends among millennials indicate that over $20 trillion could be allocated to [ESG-oriented equity investments](), and thus to stocks that are attractive on ESG metrics.

Chart 41: ESG: the fastest-growing smart beta strategy

5-year CAGR in AUM growth (2012-2017) of smart beta ETF categories in Bloomberg

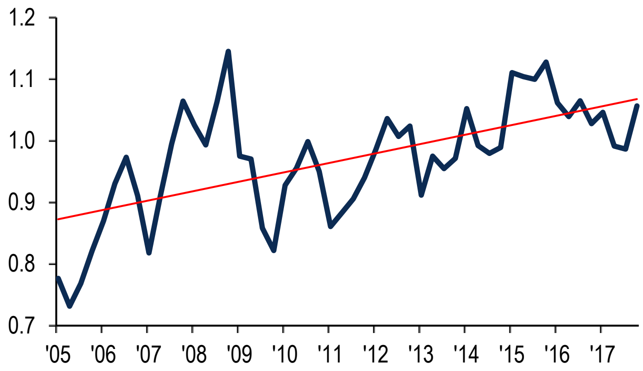


Source: Bloomberg Intelligence, BofA Merrill Lynch US Equity & US Quant Strategy

Growth in ESG smart beta ETFs has dwarfed growth in any other smart beta category over the last five years.

Chart 42: Multiple re-rating in the works, but hardly bubble like valuations

Median EV/EBITDA: of high vs. low ESG deciles based on Thomson Reuters overall ESG scores 4Q05-present (as of 3Q18)

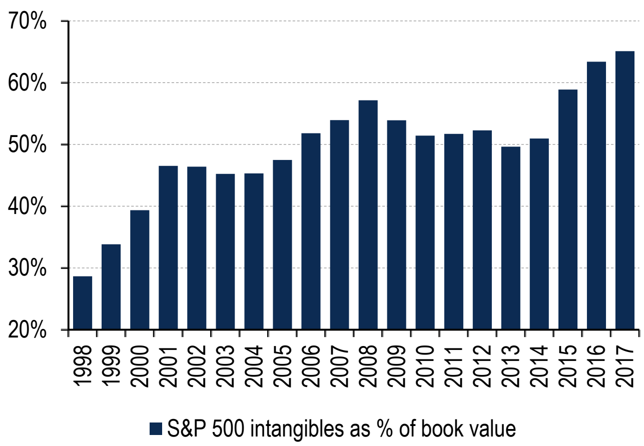


Source: Thomson Reuters, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Today, companies with attractive ESG ranks trade roughly in line with their poorly ranked counterparts, where they historically traded at almost a 20% discount to their weaker ranked counterparts. Valuations hardly look bubble-like.

Chart 43: Asset opacity in the US is at an all-time high

S&P 500 intangible assets as a percent of book value, 1998-2017

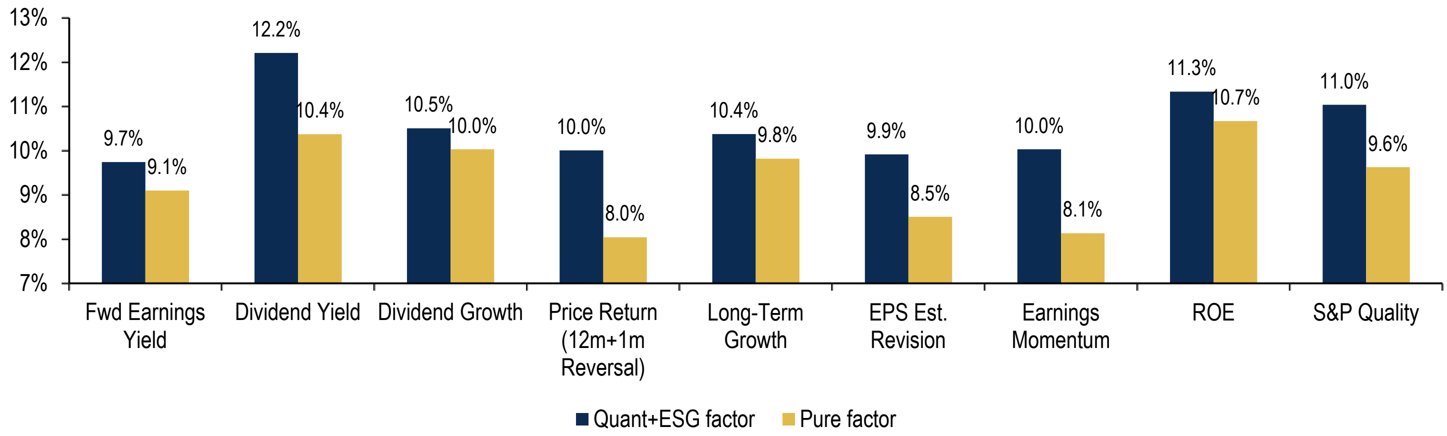


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Asset transparency in the US is at a 20-year low: S&P 500 intangible assets have gone from less than 30% book value in 1998 to 65% in 2017. Growth in intangible assets suggests that a more diverse evaluative framework is paramount.

Chart 44: Thomson Reuters ESG improved performance for all nine quantitative factors

Annualized total returns of top quintile stocks by each factor vs. ESG-blend factor based on Thomson Reuters ESG scores from 12/2005 through 12/2016



Source: BofA Merrill Lynch US Equity & Quant Strategy based on Thomson Reuters data

Based on the S&P 500 universe

Backtesting is hypothetical in nature and reflects application of the analytical approach prior to its introduction. It is not actual performance and is not intended to be indicative of future performance.

Table 24: MSCI, Sustainalytics and Thomson Reuters ESG metrics that have been the most effective signals of future return on equity and earnings risk

Sector	Return on Equity	Earnings Risk
Consumer Discretionary	**Governance:** Board Structure / Diversity, Board Compensation Policy	**Social:** Human Capital Development / Workforce
Consumer Staples	**Social:** Health & Safety (a Consumer/Product focus social score)	**Environmental:** Packaging Material & Waste, Organic Products **Social:** Supply Chain Labor Standards, Chemical Safety
Energy	**Environmental:** Biodiversity & Land Use **Social:** Health and Safety Management System, Workforce	**Environmental:** Biodiversity & Land Use, Oil Spill Disclosure & Performance, Emissions
Financials	**Social:** Labor Management, Society & Community Incidents, Product Responsibility (a Consumer/Product focus Social score)	**Governance:** Compensation Policy, Anticompetitive Practices, Financial System Instability, Business Ethics and Fraud
Health Care	**Governance:** Anticompetitive Practices, Board Diversity	**Governance:** Animal Testing Policy, Clinical Trial Standards **Social:** Human Capital Development, Human Rights
Industrials	**Environmental:** Carbon Emissions, Toxic Emissions and Waste **Social:** Community, Workforce	**Environmental:** Raw Material Sourcing, Carbon Emissions, Waste Intensity, Environmental Fines & Penalties **Social:** Chemical Safety, Health and Safety Management
Information Technology	**Governance:** Business Ethics and Fraud, Whistleblower Programmes, Shareholder Rights	**Social:** Privacy & Data Security, Human Rights **Governance:** Shareholder Rights, Anticompetitive Practices, Board Diversity
Materials	**Environmental:** Carbon Emissions, Toxic Emissions and Waste, Waste Intensity, Environmental Innovation	**Environmental:** Toxic Emissions and Waste, Water Stress, Biodiversity & Land Use, CDP Participation, Environmental Supply Chain Incidents
Real Estate	**Environmental:** Sustainable Financial Initiatives **Social:** Health & Safety, Working Conditions Policy	**Environmental:** Waste Intensity, Opportunities in Green Building
Utilities	**Environmental:** Water Intensity, Toxic Emissions and Waste **Governance:** Business Ethics and Fraud, Political Involvement Policy	**Environmental:** Opportunities in Renewable Energy, Air Emissions, Water Intensity **Social:** Labor Management, Corporate Foundation

Source: MSCI ESG Research LLC, Sustainalytics, Thomson Reuters, BofA Merrill Lynch US Equity & Quant Strategy

S&P 500 EPS Outlook

EPS growth slows to +5% in 2019 from +23% in 2018

Raise 2018 EPS to $162.50 (from $162), lower 2019 EPS to $170 (from $172)

We expect 2018 EPS to come in at $162.50 (+23% YoY), slightly above our prior $162 forecast, with much-stronger- than-expected 3Q18 EPS helping to offset the downward revision we make to 4Q18 EPS on lower oil prices and a stronger dollar. We lower 2019 EPS to $170 (+5% YoY) from $172, reflecting the following variables:

- Our commodity strategists' downward revisions to oil prices, where they lowered their 2019 average WTI/Brent forecasts by 17%/13%, assuming WTI/Brent average $59/$70 next year vs. $66/$73 in 2018,

- Our economists' slight downward revisions to global GDP (now expecting 3.6% in 2019 vs. 3.7% previously), and

- Our FX strategists' forecasts for a weaker USD (avg. USD/EUR of 1.22, from 1.18 in our last-published update in Sept.) – a benefit to EPS for globally-oriented sectors.

Approximately 75% of the cut to our 2019 EPS comes from lower Energy sector earnings, where the sensitivity of S&P 500 earnings to changes in oil prices is ~0.25 (a 10% sustained decline in oil equates to a 2-3% hit to earnings). The sensitivity of S&P 500 earnings to moves in the dollar is roughly -0.35 (a 10% sustained decline in the USD vs. the EUR is a 3-4% benefit to earnings). Note that our sector earnings forecasts also now reflect the recent GICS change.

Table 25: S&P 500 EPS Outlook

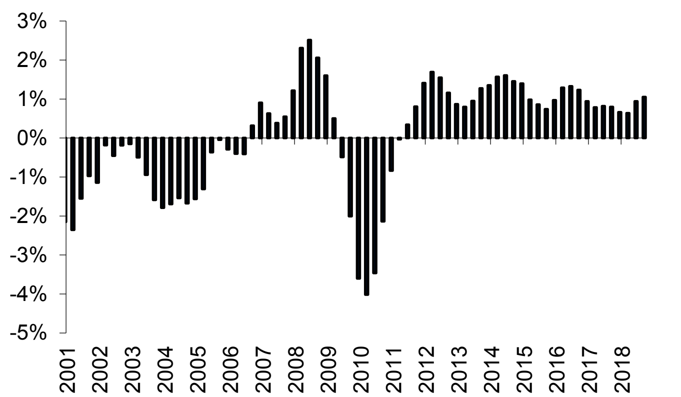
Based on current constituents (unless specified)							Bottom-up Consensus				BofAML Strategy			
	2013A	2014A	2015	2016	2017	*y/y*	2018	*y/y*	2019	*y/y*	*2018*	*y/y*	*2019*	*y/y*
S&P 500 Pro-forma EPS (Historical Index)	**$109.68**	**$118.78**	**$117.46**	**$118.10**	**$132.00**									
S&P 500 Pro-forma EPS (Current Constituents)	**$111.39**	**$119.09**	**$118.32**	**$118.83**	**$132.21**	***11%***	**$162.79**	***23%***	**$176.88**	***9%***	**$162.50**	***23%***	**$170.00**	***5%***
Sector ($ billions)														
Consumer Discretionary	64.8	69.3	78.8	86.7	89.2	*3%*	103.8	*16%*	115.2	*11%*	103.9	*16%*	108.5	*4%*
Consumer Staples	76.0	77.6	76.2	77.1	81.3	*6%*	88.6	*9%*	93.2	*5%*	87.2	*7%*	89.2	*2%*
Energy	105.2	104.3	39.4	8.8	36.4	*314%*	74.8	*105%*	94.8	*27%*	77.0	*111%*	73.9	*-4%*
Financials	177.7	177.8	188.6	184.6	197.2	*7%*	251.8	*28%*	274.0	*9%*	247.3	*25%*	256.4	*4%*
Health Care	123.8	143.1	164.0	174.1	185.6	*7%*	211.1	*14%*	226.0	*7%*	208.3	*12%*	217.9	*5%*
Industrials	99.2	111.6	111.4	109.2	111.1	*2%*	132.8	*20%*	146.6	*10%*	130.3	*17%*	135.5	*4%*
Information Technology	164.1	183.5	190.4	187.5	226.1	*21%*	269.5	*19%*	287.8	*7%*	266.4	*18%*	273.1	*3%*
Materials	25.3	25.0	27.7	22.8	27.3	*20%*	37.5	*38%*	41.2	*10%*	37.4	*37%*	34.8	*-7%*
Real Estate	19.3	23.5	26.3	28.9	30.7	*6%*	32.9	*7%*	34.6	*5%*	31.5	*2%*	32.3	*2%*
Communication Services	62.7	75.4	84.6	97.2	99.3	*2%*	126.7	*28%*	137.0	*8%*	128.8	*30%*	134.3	*4%*
Utilities	30.2	32.7	33.3	35.7	37.3	*4%*	40.6	*9%*	43.1	*6%*	40.0	*7%*	40.7	*2%*
S&P 500	**948.2**	**1,023.9**	**1,020.6**	**1,012.6**	**1,121.6**	***11%***	**1,370.1**	***22%***	**1,493.4**	***9%***	**1,358.0**	***21%***	**1,396.5**	***3%***
S&P 500 ex. Financials	770.6	846.0	832.1	828.0	924.4	*12%*	1,118.3	*21%*	1,219.4	*9%*	1,110.8	*20%*	1,140.1	*3%*
S&P 500 ex. Energy and Financials	665.4	741.7	792.6	819.2	888.0	*8%*	1,043.5	*18%*	1,124.6	*8%*	1,033.8	*16%*	1,066.2	*3%*
S&P 500 ex. Energy	843.0	919.6	981.2	1,003.8	1,085.2	*8%*	1,295.3	*19%*	1,398.6	*8%*	1,281.0	*18%*	1,322.6	*3%*
Energy Sector ($bn)	**105.2**	**104.3**	**39.4**	**8.8**	**36.4**	***314%***	**74.8**	***105%***	**94.8**	***27%***	**77.0**	***111%***	**73.9**	***-4%***
Avg. Oil Price ($/bbl, wtd. blend of Brent & WTI)	*$105/bbl*	*$97/bbl*	*$51/bbl*	*$43/bbl*	*$59/bbl*						*~$71/bbl*		*~$66/bbl*	
S&P 500 Dividends (Historical Constituents, $/share)	**$34.99**	**$39.44**	**$43.39**	***$45.70***	***$48.92***	***7%***					**$53.75**	***10%***	**$57.50**	***7%***
Key Macro Economic Forecasts														
Global GDP growth (real)	3.3%	3.3%	3.2%	*3.1%*	*3.8%*						3.8%		3.6%	
US GDP growth (real)	1.5%	2.4%	2.6%	*1.5%*	*2.3%*						2.9%		2.7%	
US Civilian Unemployment Rate	7.4%	6.2%	5.3%	*4.9%*	*4.4%*						3.9%		3.4%	
FX Rate: US$/Euro (average)	1.33	1.33	1.11	1.11	1.13						1.19		1.22	

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Our forecasts also assume that share buybacks in 2018 are lower than previously expected, and that some of the buybacks we were forecasting in 2018 are pushed out to 2019. We forecast that buybacks contribute ~1.5ppt to EPS growth both years, up from ~1ppt in each of the last few years. The all-time high level of announced vs. completed buybacks suggests that executions should rise over the coming quarters.

Chart 45: Buybacks have picked up, but the impact to 2018 EPS YTD has averaged only~1ppt in 1Q-3Q, less than expected

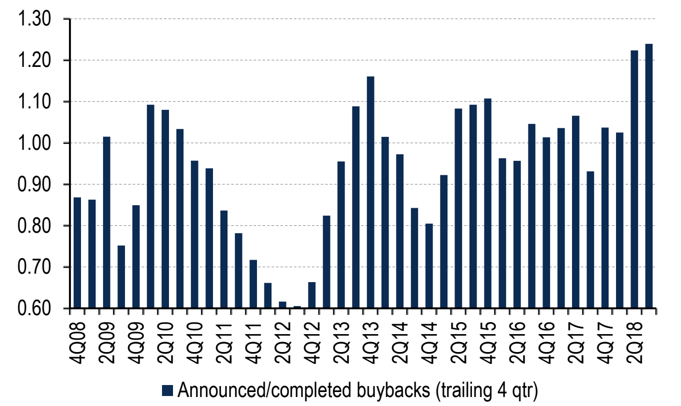
Net buyback impact to S&P 500 YoY EPS by quarter, 2001-3Q18



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 46: The all-time high ratio of announced vs. completed buybacks suggests buyback executions are likely pick up over the coming quarters

S&P 500 announced/completed gross buybacks (trailing 4 qtrs), 4Q08-3Q18



Source: Bloomberg, Haver/S&P, BofA Merrill Lynch US Equity & US Quant Strategy

S&P 500 quarterly EPS outlook

Table 26: S&P 500 qtrly EPS forecasts (BofAML Strategy vs. consensus)

	Btm-up analysts	YoY	BofAML Strategy	YoY
1Q18A	38.07	23%	38.07	23%
2Q18A	41.00	26%	41.00	26%
3Q18P	42.65	28%	42.65	28%
4Q18E	41.60	15%	40.75	13%
2018	**$ 163.3**	**23%**	**$ 162.5**	**23%**
1Q19E	40.92	7%	40.00	5%
2Q19E	43.83	7%	43.00	5%
3Q19E	45.47	7%	43.75	3%
4Q19E	46.51	12%	43.25	6%
2019	**$ 176.7**	**8%**	**$ 170.0**	**5%**

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

We lower our 4Q18 EPS by ~$1 to $40.75, chiefly due to lower than expected oil prices (our commodities team forecasts WTI/Brent average $64/74 vs. $69/$78 previously), as well as a slightly stronger than expected USD and slightly weaker than expected buybacks.

Our updated quarterly forecasts for 2019 are below-consensus and suggest a deceleration in earnings growth through 3Q19.

Escalation of trade tensions = key risk to EPS

Our economists' base case assumes the latest round of 10% tariffs on $200bn of Chinese goods rises to 25% at the start of 2019, but are only in effect for a short time before being reversed amid a de-escalation of trade conflict in 1H19 (where no new tariffs are put in place). But a key risk is if tensions do not de-escalate.

Our work suggests that if *all* import costs for US industries rose by 25% (an extreme scenario) and foreign sales fell by 5% (assuming no pass-through of costs), this could be a 10% hit to earnings, driving 2019 EPS growth into negative-mid-single-digit territory. This scenario would be extreme, as the amount of US import costs subject to tariffs would be much less than "all" – for example, while the BEA's input-out data does not segment by country, if we assumed the>$500bn in Chinese goods imports were all intermediate goods, or assumed a similar share of import costs as China goods imports represent of total (final+intermediate) goods, this would represent less than half of import costs for US industries (cutting the impact by more than half, which could suggest flattish EPS next year, assuming limited pass-through). So far, impacted companies have largely been able to pass through higher costs or shift supply, but they may be less successful in doing so as tariffs continue to rise or grow more broad-based.

Table 27: S&P 500 EPS sensitivity to higher import costs

	Impact on foreign sales					
Impact on imported input prices	**-10%**	**-8%**	**-6%**	**-4%**	**-2%**	**0%**
0%	-3%	-2%	-2%	-1%	-1%	0%
5%	-5%	-4%	-3%	-3%	-2%	-2%
10%	-6%	-6%	-5%	-5%	-4%	-3%
15%	-8%	-7%	-7%	-6%	-6%	-5%
20%	-10%	-9%	-8%	-8%	-7%	-7%
25%	-11%	-11%	-10%	-10%	-9%	-8%

Note: We estimate the impact based on the assumption that the S&P 500 derives 30% of sales overseas, has 15% operating margins and that imported goods make up 6% of operating costs (based on 2016 BEA Input-Output data for private industries)
Source: FactSet, BEABofA Merrill Lynch US Equity & US Quant Strategy

Sectors views

Given the risk we are already in a bear market, which our bear market signposts briefly flashed the risk of at the beginning of October, we **move Utilities to overweight from underweight**, and maintain more defensive positioning, consistent with rising volatility. We also **move Materials to marketweight from overweight**.

Our sector overweights are generally medium duration and/or reflect attributes that outperform when volatility rises – High Quality (Tech, Financials, Industrials) and Low Risk (Utilities).

Overweight: Health Care, Financials, Technology, Industrials, Utilities

Marketweight: Consumer Staples, Energy, Materials

Underweight: Consumer Discretionary, Communication Services, Real Estate

See the subsequent pages for key charts/views on each sector.

Table 28: BofAML US Equity Strategy sector views & themes

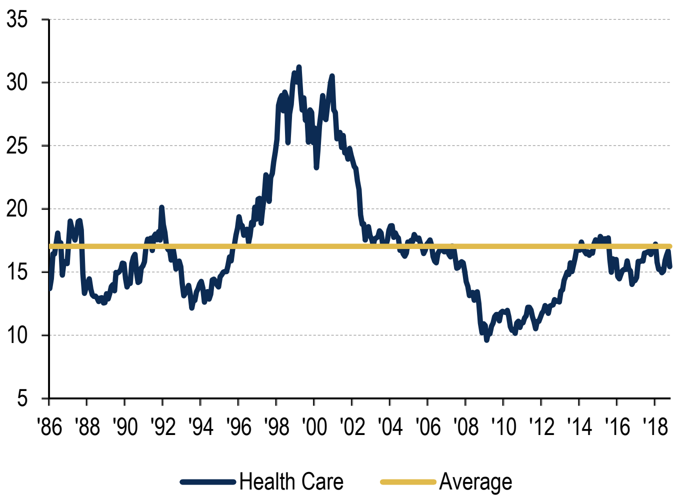
Sector	Weight in S&P 500	BofAML View	Details	Highlighted sub-sectors
Health Care	15.4%	OW	Remains one of the least expensive defensive sectors; cheap vs. history and trades at a discount to the S&P 500. Has outperformed in all of the last six bear markets. Strong fundamentals: earnings growth is gaining momentum, EPS and sales beats remain elevated, strong estimate revision trends. Fund manager positioning down substantially from 2014 highs. Ranks #3 in our tactical sector quant framework. Risks: Leverage near all-time highs. Wage inflation could hurt labor-intensive Providers & Services stocks. Drug pricing is a sentiment overhang to Biotech/Pharma.	Biotech & Pharma
Information Technology	20.2%	OW	Ranks #1 in our tactical sector quant framework. Strong revision & surprise trends. Biggest potential near-term EPS boost from buybacks. Still cheap vs. history on relative fwd. P/E. Strong balance sheets (only sector with more cash than debt). Cheaper, less crowded and less cyclical than the "Tech" stocks in Communication services. Less regulatory risk post GICS change. Risk: Most globally-exposed sector (risks from trade tensions). Expensive vs. history on sales-based metrics. Record margins.	Software; select Technology Hardware Storage & Peripherals
Financials	13.7%	OW	Beneficiary of higher rates, higher volatility, less regulatory overhang. Balance sheets much healthier today vs. in 2007. Financials' earnings risk is now lower than the S&P 500's. Buybacks have been picking up steam in a big way as companies have finally been allowed to increase cash payouts to shareholders. Margin expansion potential: just starting to automate. Cheap vs. history on relative P/B, but could re-rate based on dividend growth. In-line with history on relative fwd P/E. Risks: Lower for longer rate environment, macro slowdown, or deteriorating credit trends.	Banks; Capital Markets; Consumer Finance
Industrials	9.4%	OW	Closet quality: second highest quality sector after Staples. Heterogeneous (contains both defensive industries and ultra-cyclical industries). Return on equity (ROE) continues to accelerate and outpace that of the broader market, while longer term growth expectations soar. Leverage is still below-avg. and fund manager positioning is near record lows. Our analysts think Industrials is still closer to the mid-cycle. Cheaper valuation: fwd P/E has dropped from early 2018 highs and now trades at a discount to the S&P 500. Near record sales and earnings surprises and strong revisions. Risks: continued escalation of trade tensions (most (-) impacts so far), which could also stall capex recovery. Labor-intensive; margins at risk from tight labor market/rising wages.	Aerospace & Defense; Conglomerates
Utilities	3.1%	OW	Defensive hedge - historically outperforms in bear markets. Has attributes that outperform in rising volatility environments (Low Risk). Below-average payout ratio, above-average dividend growth. Higher yield vs. 10yr Tsy. yield. Ranks in top half of our tactical quant framework. Risks: Expensive vs. history on rel. fwd. P/E. Underperforms most when rates rise. Record margins are rolling over (gross & EBIT); peak net margins.	Regulated Utilities
Consumer Staples	7.4%	MW	High quality (hedge against volatility): highest proportion of B+ or better stocks by S&P Quality Rank, above-market ROE and ROA Mixed valuations: Slightly expensive vs. history on relative Fwd PE, cheap vs. history on relative P/B and P/OCF. Record underweight positioning by active funds. Defensive hedge against when the cycle ends; historically outperforms in bear markets. Both earnings and sales revision trends are the weakest for Staples. Risks: hurt by higher rates, a stronger dollar, and a pick-up in inflation.	
Energy	5.6%	MW	Valuations are cheap vs. history on P/B, P/OCF, and fwd P/E. Active funds remain neutral on oil-beta adjusted positioning. Oil prices expected to stay lower for longer: BofAML commodities team expects Brent/WTI to avg. $70/$59 per barrel in 2019 given geopolitics and demand/supply dynamics. Risk: too small to matter (near record low index weight). Secular risk to supply/demand dynamics from next generation solutions (energy efficiency/ rise of electric vehicles).	
Materials	2.7%	MW	China risk (most correlated with China); at risk from slowing global growth/trade tensions. Accelerating fundamentals (top-line growth), but revision trends are weakening. Improving but still near-record-low positioning by active funds. Hedge against inflation (most correlated with changes in our Inflation Composite); tariffs have benefitted steel prices.	
Consumer Discretionary	9.8%	UW	Most expensive sector vs. history across multiple relative valuation metrics. But "new" vs. "old" retail valuation gap is narrowing amid pricing power from "old" retail. Has consistently underperformed late cycle when the Fed is hiking. Overweight by large cap active funds. Most labor-intensive sector (record margins at risk from wage inflation). Some traditional retailers at risk from online retailer disruption.	Off price/retailers with pricing power
Communication Services	9.8%	UW	Rising rate risk: highly exposed to both long duration (Interactive Media & Services) and short duration (Telecom) stocks; we prefer medium duration (cyclical yield). Interactive Media & Services stocks are spending on capex; capex spenders historically underperform. Tech companies within the group are more cyclical vs. Tech sector. Most crowded sector by large cap active mutual funds. Regulatory risk due to privacy/data concerns in Interactive Media & Services. Weak EPS revision trends. Risk to underweight: strong balance sheets.	
Real Estate	2.9%	UW	High dividend yield; typically underperforms as rates rise (though can still earn return over cost of capital if rents are rising). Doesn't screen as one of the highest quality sectors on metrics such as S&P Quality ranks, ROE, etc. Dividend growth has slowed. Relative weight in fund holdings at record highs in our data history (but still underweight). More cyclical than the other bond-proxies/defensives (if we are entering a bear market, Utes/Health Care/Staples have historically fared better).	

Note: OW=Overweight, MW=Marketweight, UW=Underweight. Weights in S&P 500 as of 11/16/18; may not add to 100% due to rounding.
Source: BofA Merrill Lynch US Equity & US Quant Strategy

Overweight Health Care

Inexpensive, less crowded

Chart 47: Health Care forward Price/Earnings Ratio (1986-10/2018)

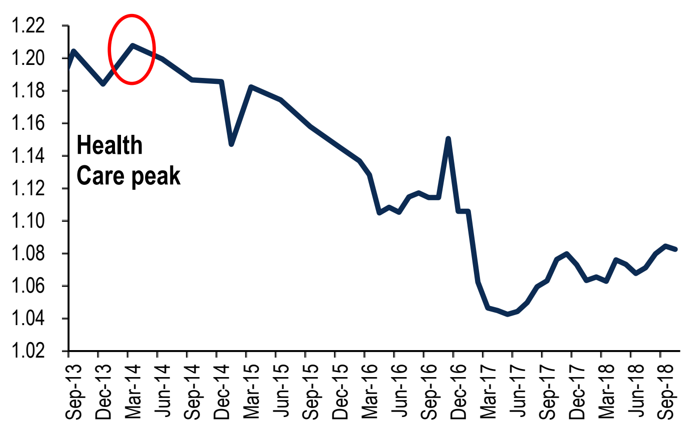


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Valuation is more attractive than other defensives

Health Care is cheap relative to its own history and trades at a discount to the S&P 500. It remains one of the least expensive classically defensive sectors.

Chart 48: Large cap active managers' relative weight in HC: 3Q13-10/2018



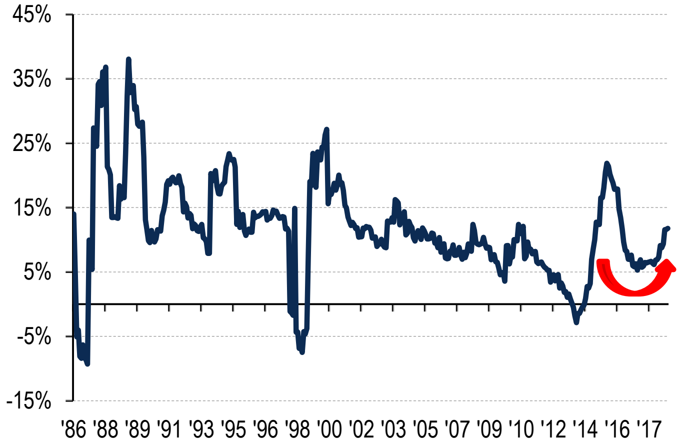
Source: Lionshares, BofA Merrill Lynch US Equity & US Quant Strategy

Positioning risk is gone

Fund manager positioning in Health Care has come down substantially vs. its 2014 peak, albeit remains a modest overweight.

Strong fundamentals

Chart 49: Health Care net income growth is accelerating again after having decelerated since 2015

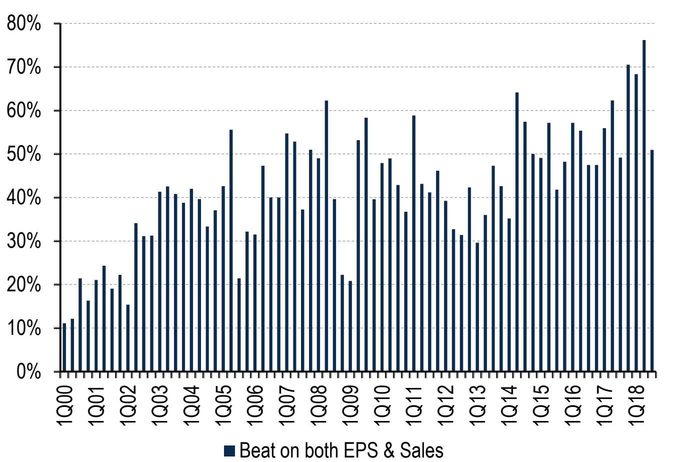


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Inflection in growth

Net income growth has inflected after 2+ years of deceleration. 2Q earnings growth was the highest since early 2015.

Chart 50: Health Care % of Sales and EPS earnings beats per quarter



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Positive surprises galore

More than half of companies still beat on both EPS and sales in 3Q, albeit down from a record 76% in 2Q.

Overweight Tech

Table 29: Tech is less cheaper, less crowded and less cyclical than the "Tech" stocks in Communication services

Tech sector (post GICS chg.) vs. Comm. Svcs. stocks previously in Tech (as of 10/31/18)

	Current Tech sector	Comm Svcs stocks previously in Tech
Large cap manager ownership	1.08x	1.53x
GDP sensitivity	0.26	0.92
Net Debt / EBITDA	-0.24x	-2.26x
Beta	1.21	0.92
Earnings volatility	1.0%	0.4%
Fwd P/E	16.7x	21.6x
EV/EBITDA	13.6x	17.5x
PEG	1.1x	1.2x
LTG	14.6%	17.4%

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

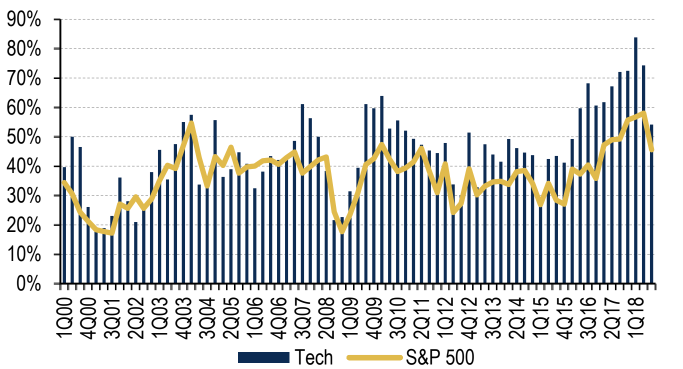
Note: GOOGL, GOOG, FB, TWTR, ATVI, EA, and TTWO moved from Tech to Comm Svcs in Sept 2018

Post GICS, cheaper, less crowded, lower cyclicality

Tech is now less crowded, less sensitive to GDP, and cheaper. But it now has a higher beta, lower long-term growth rate, and slightly higher earnings volatility.

Fundamental trends still strong

Chart 51: % Tech companies (and % of total S&P 500 companies) beating on both EPS & sales, 1Q00-3Q18



Note: as of 8/3/18; based on sector composition prior to the Communication Services GICS change

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

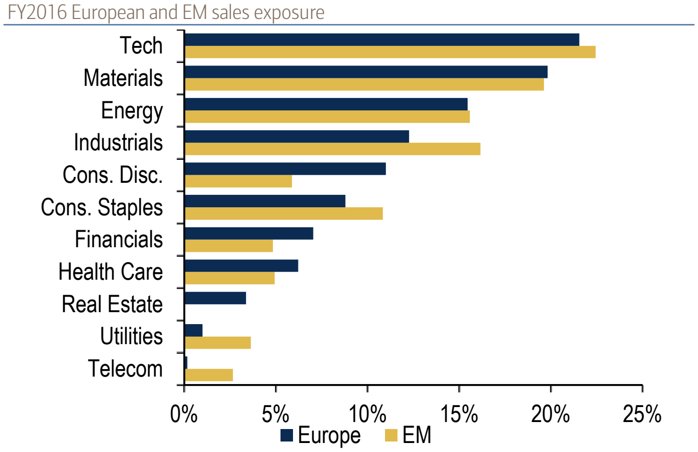
Among the highest EPS and sales beats of all 11 sectors

Despite high expectations, Tech has continued to surprise to the upside on EPS and sales, with surprise ratios at cycle highs and well above the overall S&P.

Fundamentals at risk from slowing global growth

Chart 52: Tech has the highest European and EM foreign sales exposure…

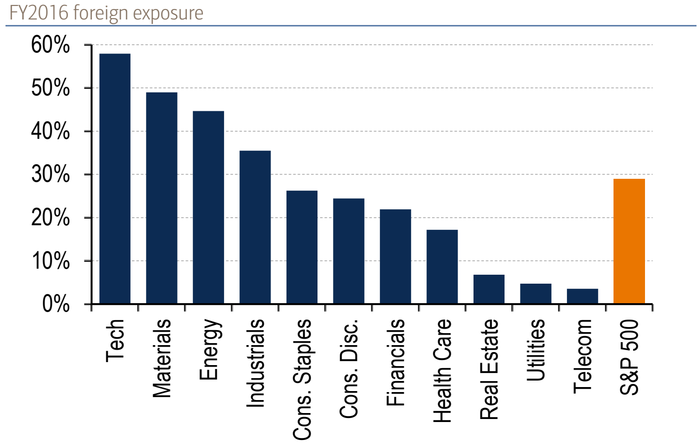
FY2016 European and EM sales exposure



Source: Company filings, Bloomberg, FactSet, or BofAML analyst estimates where available, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 53: …And the highest overall foreign sales exposure

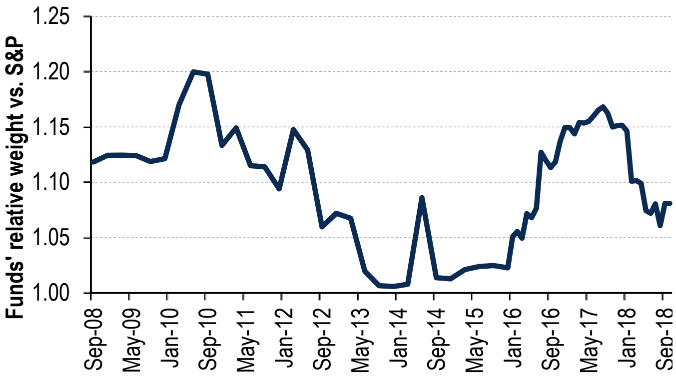
FY2016 foreign exposure



Source: Company filings, Bloomberg, FactSet, or BofAML analyst estimates where available, BofA Merrill Lynch US Equity & US Quant Strategy

Positioning less of a risk

Chart 54: Large cap active managers' Tech positioning over time (9/2008-10/2018)



Source: FactSet Ownership, BofA Merrill Lynch US Equity & US Quant Strategy

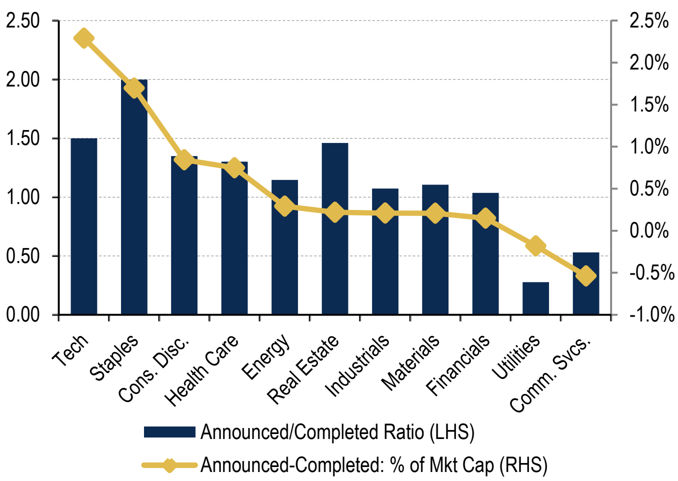
Post GICS, positioning risk is neutral to positive

Fund managers' positioning in Tech has been falling since 2017, and based on the new composition of the sector post GICS change, the sector is relatively underowned versus its own history.

Biggest potential near-term EPS boost from buybacks

Chart 55: Execution of announced buybacks should boost Tech EPS

Announced vs. completed buybacks by sector (trailing 4qtrs,4Q17-3Q18)



Source: FactSet, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

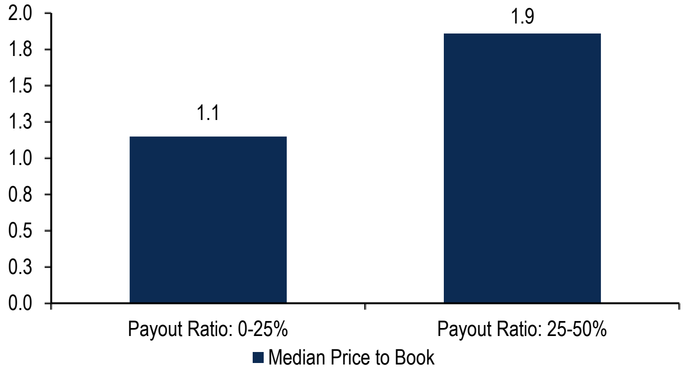
Execution of announced buybacks should boost EPS

The high ratio of announced to completed buybacks within Tech following the announcement of big plans after tax reform suggests that this should be a boost to EPS in the coming quarters as these announced buybacks are finally executed.

Overweight Financials

Capital return = multiple expansion

Chart 56: Historical median P/B for Financials based on payout ratios (since 1986)

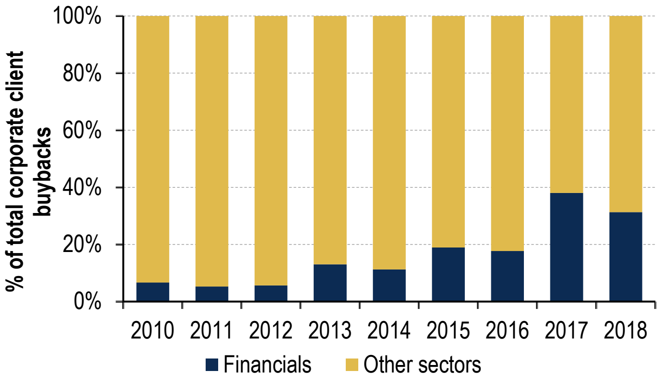


Source: BofAML US Equity & US Quant Strategy, Factset

A big driver of Price to Book re-rating is the payout ratio

Financials' dividend payout ratio is at the cusp between a low and a normal payout, and a move to normal has been associated with big bump in Price to Book ratios.

Chart 57: BofAML corporate clients' buybacks by sector: Financials vs. remaining sectors (% of total), 2010-2018 YTD (as of 11/9/18)



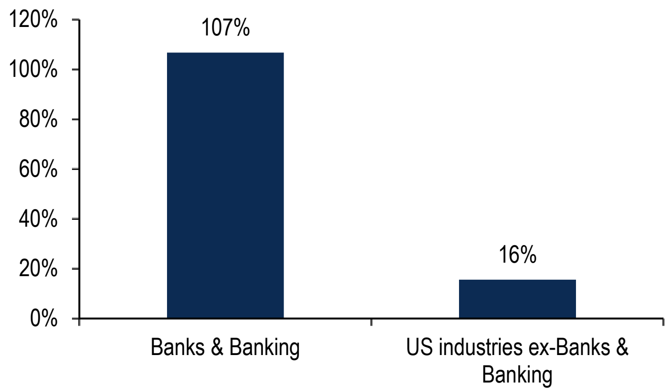
Source: Bank of America Merrill Lynch

Cash return is picking up steam in Financials

Whereas other sectors have been buying back shares for almost a decade, Financials were disallowed until recently. But Financials' share buybacks have ticked up substantially, and the sector has the second highest dividend growth in the S&P 500.

Benefits from less regulatory overhang

Chart 58: Increase in # of pages of Federal regulation over last decade (2016 vs. 2006)

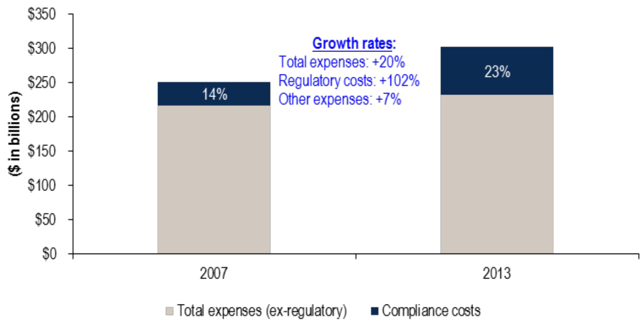


Source: gpo.gov, BofA Merrill Lynch US Equity & US Quant Strategy

Peak regulatory risk

The number of pages of federal regulation within the banking industry has shot up by over 100% since 2006, and the sector may be closer to peak regulatory risk than other areas of the market.

Exhibit 2: Regulatory/compliance costs for the top 6 biggest US banks doubled between 2007-13



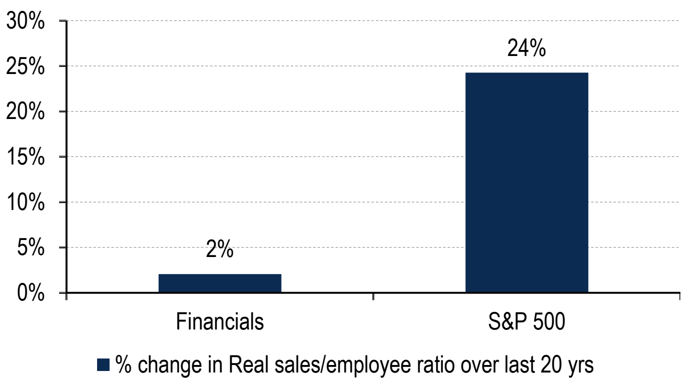
Includes top 6 US bank holding companies by total assets
Source: BofA Merrill Lynch Global Research, Federal Financial Analytics, company data, SNL Financial

Cost cutting potential from less compliance overhang

If regulation loosens (or even flat-lines), compliance costs may fall (note that many of the legal/consulting costs were one-time in nature).

Just starting to automate

Chart 59: % change in Real Sales/Employee ratio over last 20 years (as of 2017): S&P 500 vs. Financials



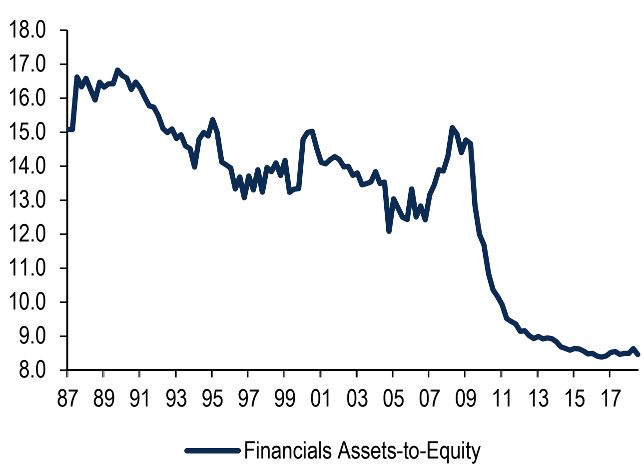
Source: BofAML US Equity & US Quant Strategy, Factset

Get ready for margin expansion from automation/Tech

S&P 500's real sales to labor ratio improved 24% over last 20 years, while that of Financials only improved 2% during the same period. We believe there is more room for improvement in Financials from automation.

Balance sheets are healthier

Chart 60: S&P 500 Financials: Total Assets/Equity (1987-present)



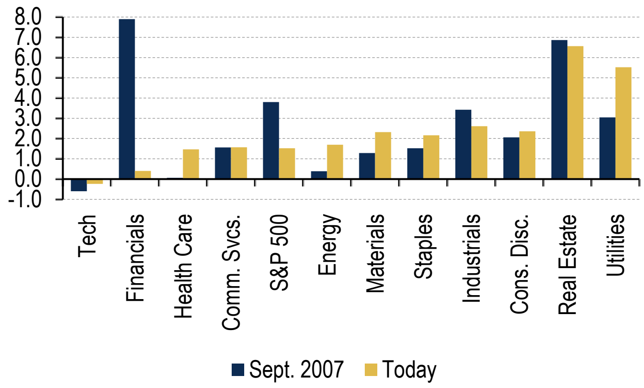
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Lessons learned from the crisis? Leverage is evil

Financials' total assets-to-equity ratio stands at record lows.

Chart 61: Financials saw the biggest drop in leverage since 2007

Net debt/EBITDA of S&P 500 sectors: Sept. 2007 vs. today (as of 10/31/18)



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

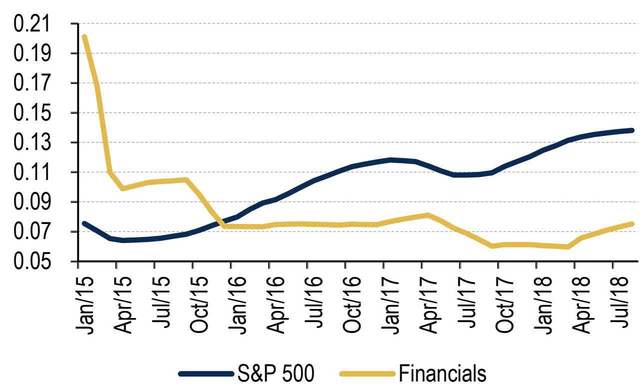
Biggest drop in leverage of any other sector; now 2nd best

Since the financial crisis, leverage ratios for Financials have fallen significantly relative to other sectors and the sector sits at the second lowest leverage ratio today (versus the highest in 2009).

The new high quality sector

Chart 62: L:ower earnings risk than that of the S&P 500

Rolling 3-year standard deviation of trailing 12m YoY GAAP earnings growth: Financials vs. S&P 500 (2015-now)



Source: S&P, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Financials now = earnings stability

Financials' earnings risk is now lower than that of the S&P 500's, by EPS growth volatility.

Table 30: Then vs now: Financials have lower valuations, lower leverage, further room to raise dividends, and lower earnings volatility than prior to the crisis

Fundamental and valuation metrics of Financials today versus history

	Pre-crisis 12/31/2004	Relative performance peak 12/31/2006	Financials earnings peak 6/30/2007	Today 10/31/2018
Price/Book	2.0	2.0	2.0	1.5
Dividend Payout Ratio	33%	30%	30%	26%
Net Buyback Payout Ratio*	-97%	-21%	6%	41%
Total Payout Ratio**	-64%	9%	35%	67%
5yr EPS Variability	0.19	0.21	0.20	0.13
Assets/Equity	13.0	13.2	13.9	8.5

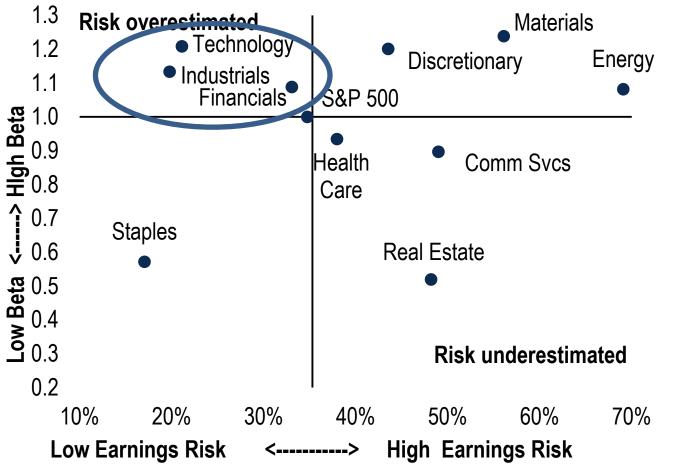
Source: Negative values indicate issuances outpaced buybacks; **Sum of Dividend Payout Ratio and Net Buyback Payout Ratio

Source: S&P, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Overweight Industrials

Chart 63: Only Staples has lower earnings risk than Industrials

Earnings volatility (cap-wtd. % of low quality B or Worse stocks) vs. 5-yr price beta (as of 10/2018)

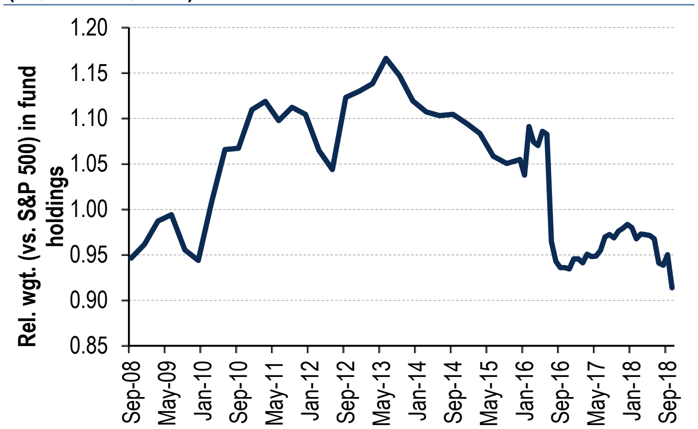


Source: S&P, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Closet quality

Industrials offer exposure to improving US capex trends and general economic strength, while offering surprisingly stable earnings. Only Consumer Staples has seen lower earnings volatility than Industrials

Chart 64: Large cap long-only funds' relative weight in Industrials (10/2008-10/2018)



Source: FactSet Ownership, BofA Merrill Lynch US Equity & US Quant Strategy

More underweight than ever

Large cap long-only funds' relative weight in Industrials has fallen to a near record low level, based on our data history since 2008.

Despite late-cycle concerns, still closer to mid-cycle

Table 31: Our analysts think Industrials is still closer to the mid-cycle

BofAML Industrials analysts' view of stage in cycle (1=Trough, 2=Early Recovery/Bottoming, 3=Mid Cycle, 4=Slowdown/Early Downturn, 5=Peak)

Industries	Weighted avg. exposure	Stage in cycle (1-5)
Transportation	18.1%	4.3
Defense	16.2%	2.8
Aerospace	11.4%	3.0
Other Industrials (General)	8.6%	3.0
Construction (General, non-res)	5.6%	3.7
HVAC/Refrigeration/Security	5.1%	3.0
Airlines	4.9%	3.0
Trucking/Rail/ Transportation (Manufacturing)	3.3%	5.0
Oil & Gas	3.2%	2.5
Power	3.0%	1.0
Residential	2.4%	3.5
Autos	2.3%	4.0
Agriculture	1.7%	2.5
Telecom / Electronics / Data Centers, etc	1.4%	2.8
Metals & Mining	0.9%	2.0
Chemicals	0.8%	3.0
Non-Industrial	11.1%	3.5
Total	**100.0%**	**3.3**

Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Note: Based on revenue exposure of S&P 500 Industrials constituents

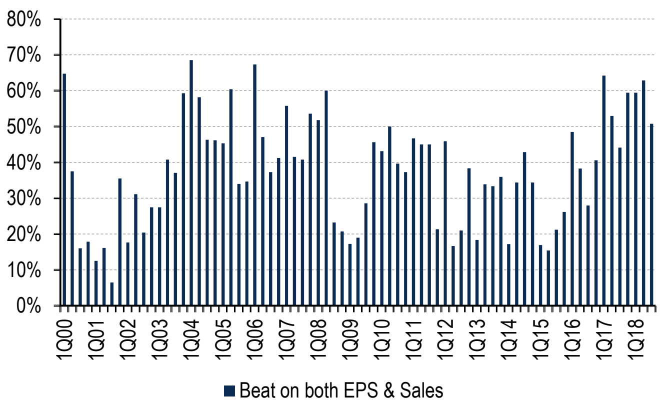
Industrials cycle still intact, led by Aerospace & Defense

Despite late-cycle concerns for a number of industries, such as Transportation, Construction, and Autos, we view that the overall Industrials sector is only just past the mid-cycle on average, led by Aerospace & Defense and more upside from Oil & Gas capex.

Strong earnings revision & surprise trends

Chart 65: Industrials % of Sales and EPS earnings beats per quarter

1Q00-3Q18

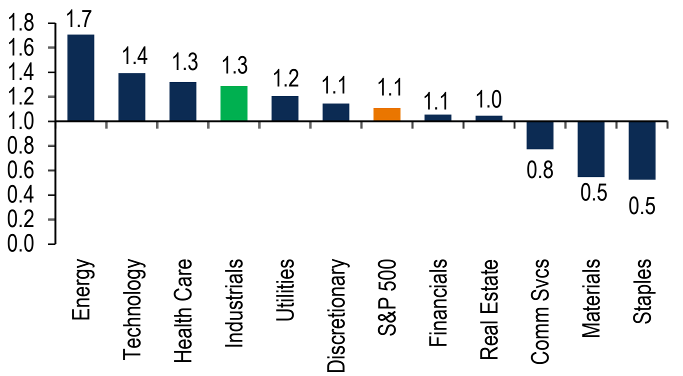


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Near record sales and earnings surprises

EPS & sales surprises are near record levels.

Chart 66: S&P 500 Three-Month Earnings Estimate Revision Ratio – 10/2018

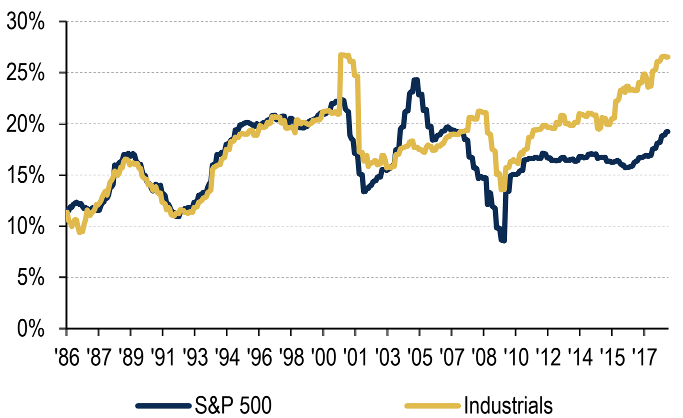


Source: BofA Merrill Lynch US Quantitative Strategy

Earnings estimate revision trends for Industrials are also better than the S&P 500.

Improving ROE and growth

Chart 67: Return on Equity: Industrials vs S&P 500



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

ROE accelerating, decoupling from the S&P 500.

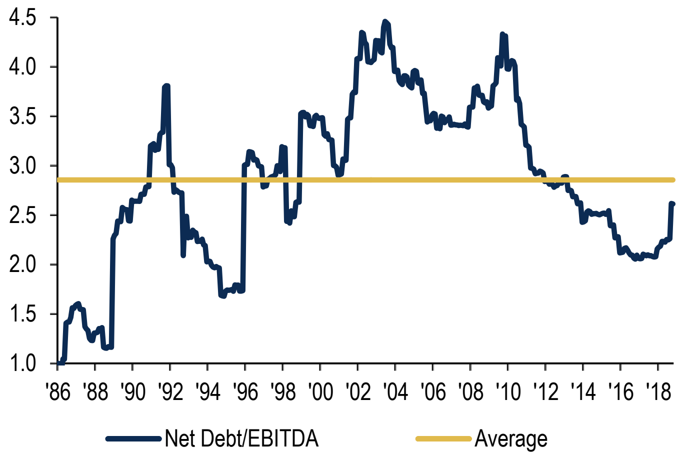
Chart 68: Forward P/E (LHS) vs Long Term Growth (5-Year EPS growth expectations) (RHS)

Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Getting cheaper as long-term growth improves.

Chart 69: Industrials' financial leverage remains below average

S&P 500 Industrials: Net-debt-to-EBITDA (1/1986-10/2018)



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Note: GE completed the separation of Synchrony Financial (part of GE Capital) in 2015.

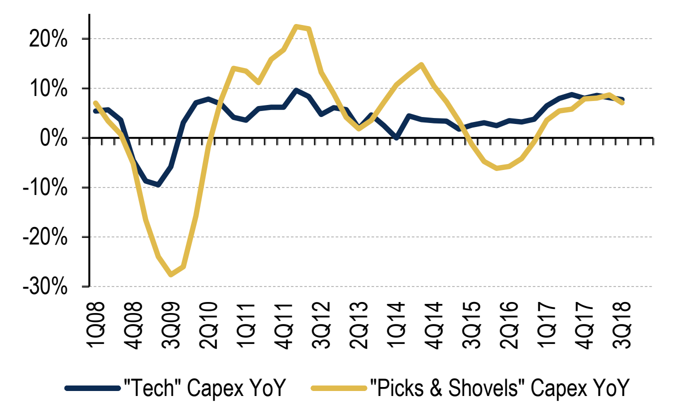
Delevered as rates begin to rise

Leverage ratios ticked up in past two months due to GE, but remain below the historical average.

Capex cycle a tailwind

Chart 70: Spending on Tech flat-lined, "picks & shovels" capex up

US private non-res fixed investment spending on Technology equipment +software vs. "picks & shovels" (other non-Tech equip. including machinery, transport equip., industrial equip., oilfield equip., plus structures), 2008-2Q18



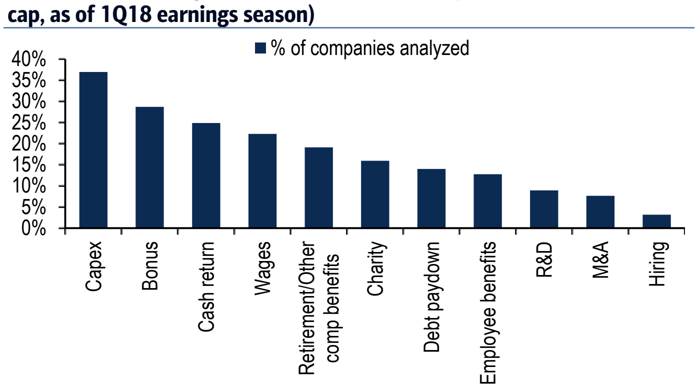
Source: BEA, BofA Merrill Lynch US Equity & US Quant Strategy

Picks and shovels capex on the rise

Capex trends have picked up, driven by Tech spending on "picks & shovels" capex plus Energy spending, key to our analysts' optimism on engineering and construction firms. Trends have slowed again recently; trade remains a key risk.

Note that the most frequent use of excess cash from tax reform proceeds has been capex.

Chart 71: Announced spending plans for S&P 500 companies as a result of the tax reform legislation (based on 157 companies / ~50% of market cap, as of 1Q18 earnings season)



Source: Company disclosures, BofA Merrill Lynch US Equity & US Quant Strategy

Capex comeback in 2019

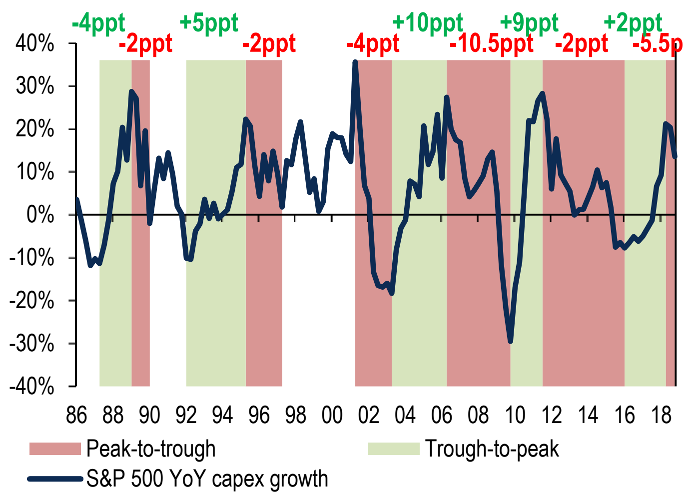
Corporate America finally started to spend on something besides buybacks: the most prevalent guidance from S&P 500 companies around tax reform proceeds? "More capex". Capex was up >20% YoY in 1Q & 2Q and +14% YoY in 3Q.

The key risk is that trade friction suppresses business sentiment, and here the capex guidance ratio has begun to soften - the three-month ratio of above-consensus vs. below-consensus guidance on planned capex declined to 1.1x in October, now below the long-term average of 1.4x (since 2007).

Bank of America Merrill Lynch

Chart 72: Capex cycle is turning, but stocks may have overreacted

S&P 500 quarterly YoY capex growth, 1987-3Q18



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Underreaction on the way up, overreaction on the way down

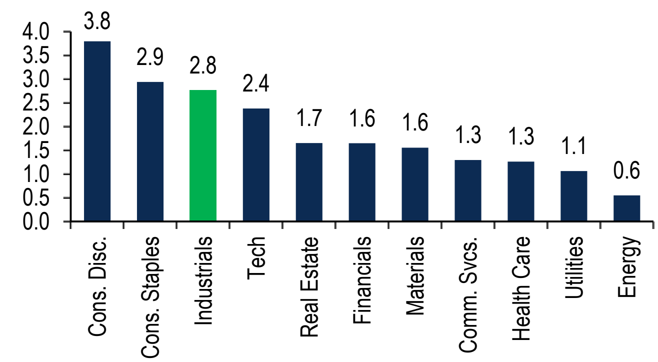
Industrials typically benefits from capex cycles (the sector has outperformed the S&P 500 four out of the last five capex pickups), but the most recent upcycle provided the smallest alpha to Industrials, outperforming the S&P by just 2ppt.

Capex started to decelerate in 2Q18 and since then, Industrials underperformed the S&P by 5.5ppt. The only period Industrials underperformed by a similar magnitude in the first two quarters of capex deceleration was during 2006 (-5.6ppt), after which it outperformed by 5.5ppt over the next four quarters.

Key risk: tight labor market, wage inflation

Chart 73: Industrials is one of the most labor-intensive sectors

Employees/sales ($mn) by S&P 500 sector as of 10/17/18



Note: Employee data is based on data as of latest fiscal year, sales are latest twelve month

Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

We see labor costs as a risk to labor-intensive companies' margins within Industrials (transports, construction and manufacturing) given continued labor shortages amid accelerating wage growth.

Both the jobs openings rate (openings / total employment + openings) and the ratio of openings / hires are the most above-average in industries like Construction, Manufacturing, and Transports (Table 2).

Table 32: JOLTS job openings rate & openings/hires ratio by industry vs. history

Industry	Openings rate (% of total employment + openings)	% above avg.	vs. '08-'09 recession	# of openings (,000)
Construction	3.7	88%	213%	278
Mining & Logging	4.0	83%	89%	32
Manufacturing	3.7	76%	149%	484
Trade, transportation & utilities	4.4	68%	122%	1,294
Accommodation & food services	6.4	67%	114%	961
Health Care & Social Assistance	5.8	44%	65%	1,223
Professional & Business Svcs	5.6	38%	70%	1,256
Real Estate & Rental & Leasing	3.6	33%	47%	84
Information	4.1	24%	77%	117
Arts, entertainment & recreation	3.6	24%	69%	87
Finance & Insurance	4.1	22%	68%	272
Educational Services	2.0	-7%	5%	76

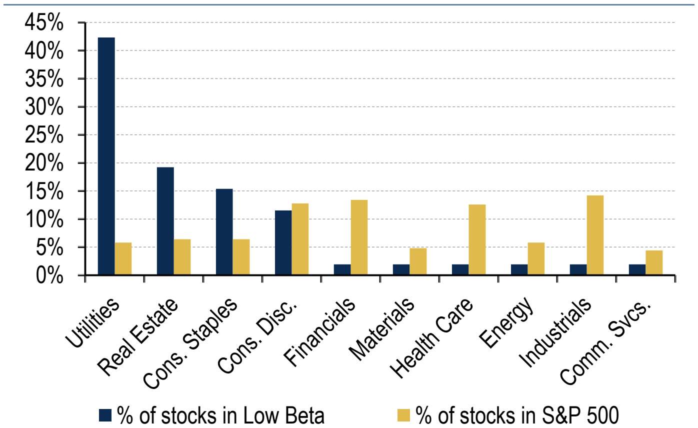
Industry	Openings/Hires	% above avg.	vs. '08-'09 recession
Construction	0.7	106%	216%
Accommodation & food services	1.1	65%	98%
Manufacturing	1.5	64%	109%
Trade, transportation & utilities	1.1	59%	91%
Professional & Business Svcs	1.1	32%	38%
Health Care & Social Assistance	1.9	31%	48%
Real Estate & Rental & Leasing	1.1	31%	44%
Finance & Insurance	1.9	22%	58%
Arts, entertainment & recreation	0.5	20%	38%
Mining & Logging	0.7	15%	3%
Information	1.4	8%	25%
Educational Services	0.8	-14%	-3%

Source: Bureau of Labor Statistics, BofA Merrill Lynch US Equity & US Quant Strategy

Overweight Utilities

We raise Utilities to Overweight from Underweight

Chart 74: Percent of stocks in Low Beta factor versus percent in S&P 500



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Utilities has Low Beta exposure

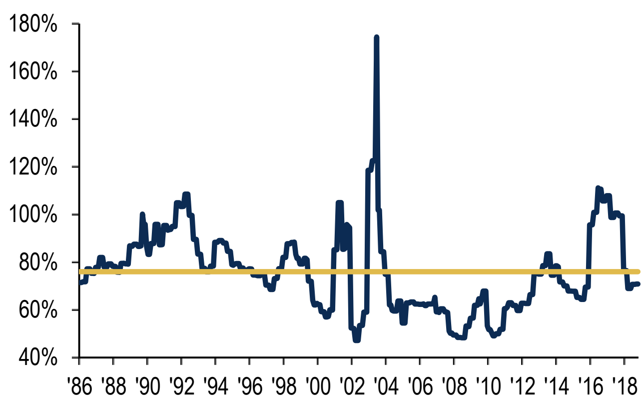
Low Beta was one of the top-performing factors during bear markets.

While Low Beta doesn't equate to quality, Utilities could hold up well as a defensive/low beta hedge if we're in the first year of the bear market.

Room for more dividends

Chart 75: Utilities currently has a below average dividend payout ratio…

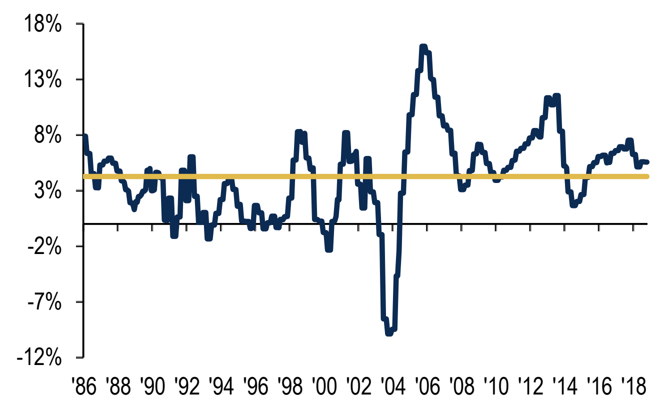
Utilities dividend payout ratio



Source: FactSet, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 76: …And an above average dividend growth ratio

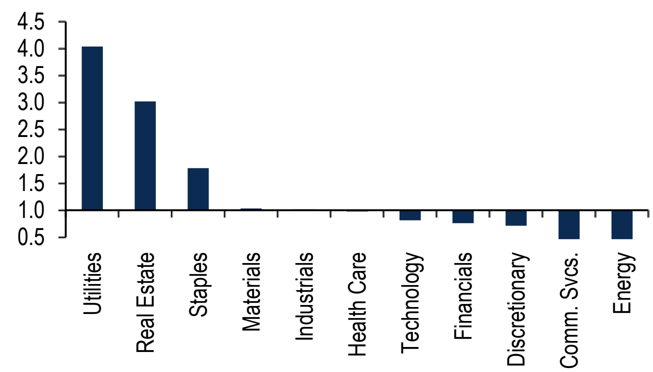
Utilities dividend growth



Source: FactSet, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 77: Low vol funds are overweight Utilities relative to the S&P 500

Holdings data as of Sep 2018



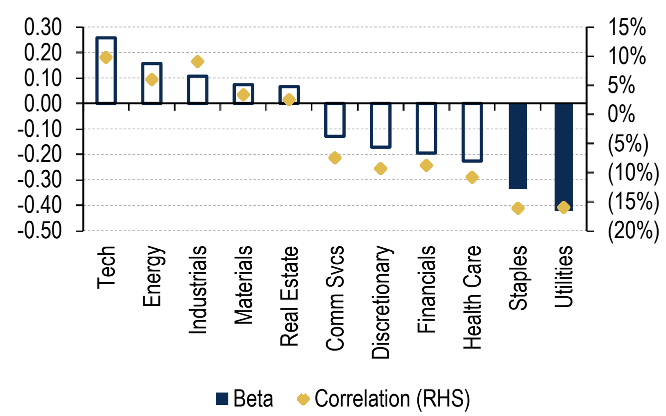
Note: Based on aggregated holdings of S&P 500 stocks in "low volatility" ETFs and mutual funds

Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Low volatility ETFs and mutual funds are 4x overweight Utilities stocks relative to the S&P 500, but the risk is limited: Utilities float shares held by low vol funds account for less than 1% of the total Utilities float cap.

Chart 78: S&P 500 sectors' relative performance sensitivity to US GDP

1979-3Q18



Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

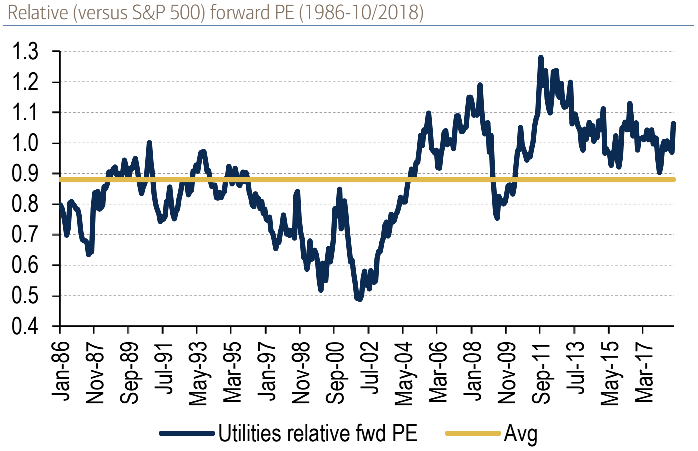
Note: Empty bars indicate not statistically significant

Our Econ team forecasts 2.7% U.S. GDP growth in 2019, down from 2.9% expected in 2018. They do not see an imminent recession in the U.S., but with rising late-cycle concerns, we may see a further rotation into defensive sectors, such as Staples and Utilities that have historically outperformed in recessions.

Utilities is expensive relative to the S&P 500, but its yield remains above the 10 year US Treasury yield.

Chart 79: Utilities trades at a premium relative to the market...

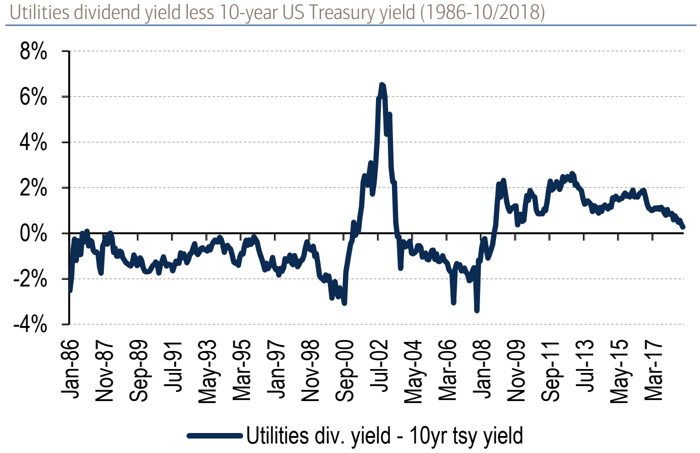
Relative (versus S&P 500) forward PE (1986-10/2018)



Source: FactSet, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 80: ...But its dividend yield remains above the 10yr US tsy yield

Utilities dividend yield less 10-year US Treasury yield (1986-10/2018)



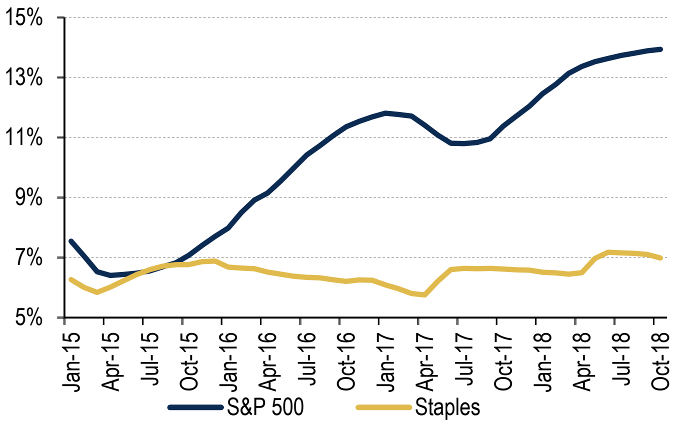
Source: FactSet, FRB, BofA Merrill Lynch US Equity & US Quant Strategy

Marketweight Consumer Staples

Highest quality sector

Chart 81: Staples has stable earnings...

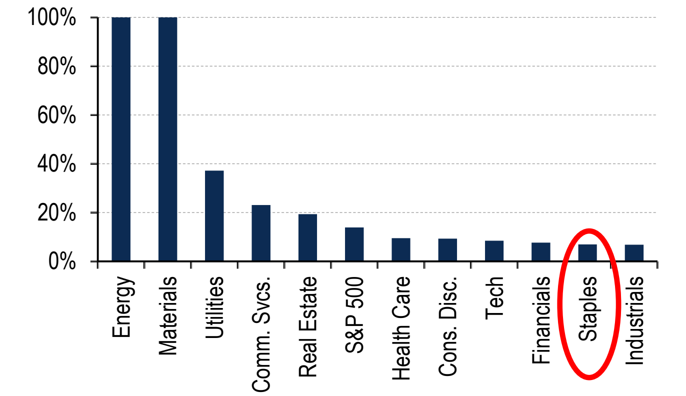
Rolling 3-year standard deviation of trailing 12m YoY GAAP earnings growth: Staples vs. S&P 500 (2015-now)



Source: S&P, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 82: ...And is one of the most stable sectors

Rolling 3-year standard deviation of trailing 12m YoY GAAP earnings growth (2015-now)



Source: S&P, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Table 33: Staples has above market ROE and ROA, and the highest proportion of B+ or better S&P quality rating

S&P 500 sectors by quality metrics

Sector	Cap wtd % of B+ or Better Stocks**	ROE	ROA
Cons. Staples	83%	26%	9%
Industrials	80%	27%	7%
Technology	79%	35%	13%
Financials	67%	11%	1%
S&P 500	**65%**	**19%**	**4%**
Utilities	63%	12%	3%
Health Care	62%	25%	9%
Cons. Disc.	56%	31%	8%
Real Estate	52%	18%	7%
Comm Svcs	51%	22%	8%
Materials	44%	17%	7%
Energy	31%	9%	5%

**S&P 500 Quality Rankings

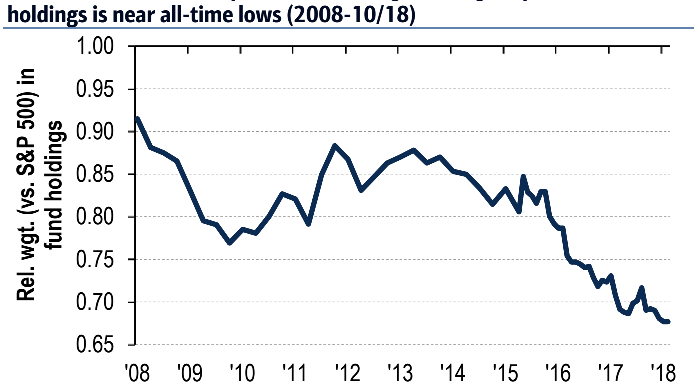
Source: S&P, FactSet, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

A good hedge against rising volatility

Quality stocks typically outperform at the end of bull markets and when volatility rises.

Limited positioning risk: record underweight by active funds

Chart 83: Consumer Staples' relative weight in large cap active fund holdings is near all-time lows (2008-10/18)



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

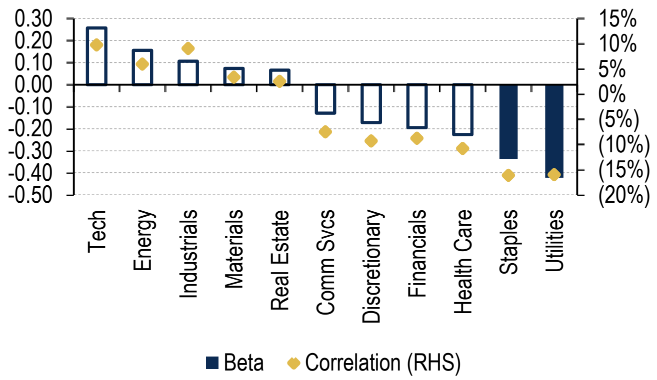
Upside risk: everyone is cautious

Consumer Staples is near all-time lows in active funds' positioning.

Defensive that outperforms late cycle

Chart 84: S&P 500 sectors' relative performance sensitivity to US GDP

1979-3Q18



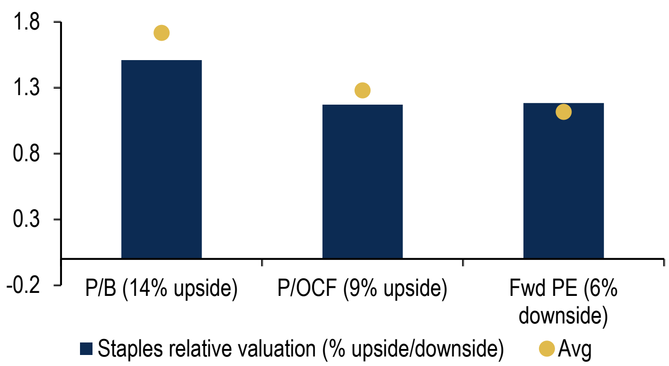
Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Note: Empty bars indicate not statistically significant

Our Econ team forecasts 2.7% U.S. GDP growth in 2019, down from 2.9% expected in 2018. They do not see an imminent recession in the U.S., but with rising late-cycle concerns, we may see a further rotation into defensive sectors, such as Staples and Utilities that have historically outperformed in recessions.

Chart 85: Staples' relative valuation is cheap vs. history on P/B and P/OCF but expensive on Fwd PE

Relative valuations of Staples (versus S&P 500) and percent upside/downside versus historical average as of 10/31/2018



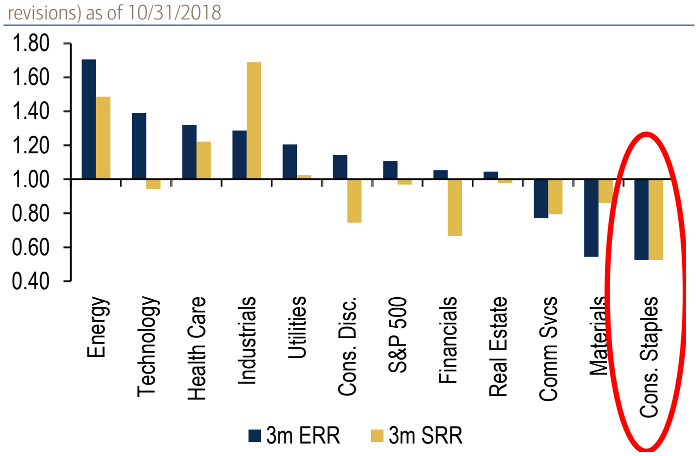
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Attractive valuations

Staples is cheap versus history against the S&P 500.

Chart 86: Risk: both earnings and sales revisions are the weakest for Staples

Three-month Sales and Earnings revision ratio (# of upward revisions / # of downward revisions) as of 10/31/2018



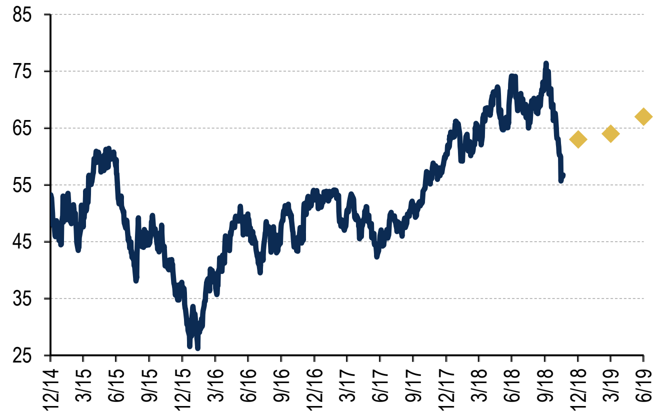
Source: FactSet, IBES/Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

Risk: deteriorating earnings and sales revisions

Staples is seeing more cuts than raises to earnings and sales forecasts more so than any other sector

Marketweight Energy

Chart 87: WTI Crude Oil spot price with BofAML end-of-period forecasts for 3Q18-2Q19



Source: BofA Merrill Lynch Global Research estimates, Bloomberg

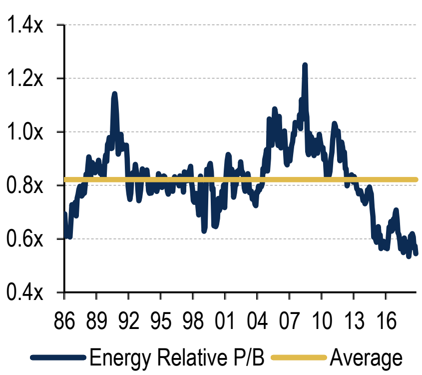
Oil prices taking a hit yet again

Oil prices have been under pressure in recent weeks, falling into a bear market territory with concerns around the U.S. supply overshooting expectations, Iran sanction waivers, and slowing global demand.

Our commodities team cut their oil price outlook for 2019 and 2020 as a result of those negative headwinds. They expect WTI reaching a peak of $67/bbl by 2Q19, fueled by seasonal demand, but falling to an average $56/bbl by 4Q19 vs. the current $57/bbl level.

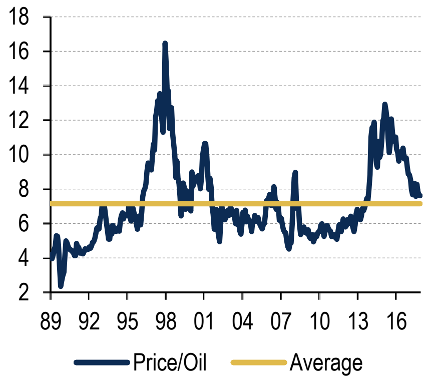
Cheap, but risks being "too small to matter"

Chart 88: Energy relative Price/Book at 30-year lows (1986-10/31/18)



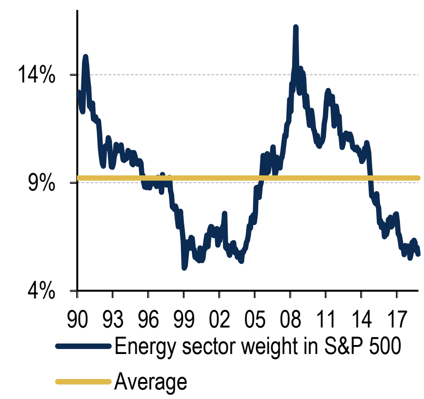
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 89: Energy sector price to WTI oil price (1986-10/31/18)



Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

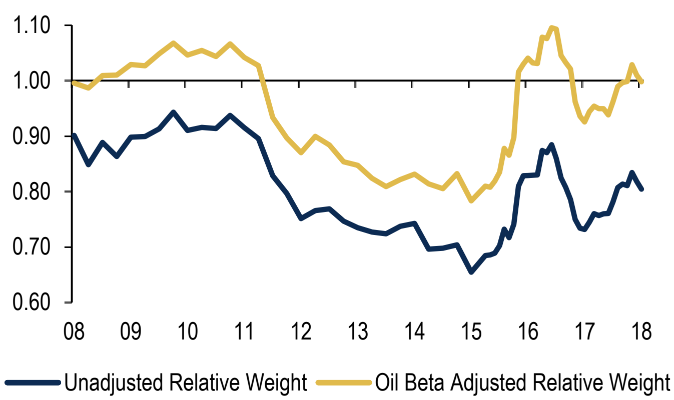
Chart 90: Energy sector weight in the S&P 500 Index (1990-10/31/18)



Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Neutral positioning

Chart 91: Fund manager's relative weight in Energy and the relative weight adjusted for oil beta (12/08-10/18)



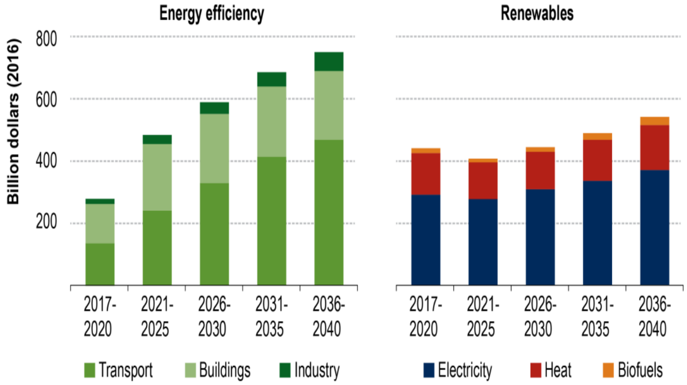
Source: Factset, BofA Merrill Lynch US Equity & US Quant Strategy

Neutral on beta-adjusted positioning

Active funds remain underweight Energy, but not on a beta-adjusted basis.

Exhibit 3: Projected average annual global energy efficiency and renewables investments

Investment in renewables is broadly constant to 2030 and then increases, while investment in energy efficiency ramps up to exceed renewables by the early 2020s



Source: IEA World Energy Outlook 2017

Risk to demand

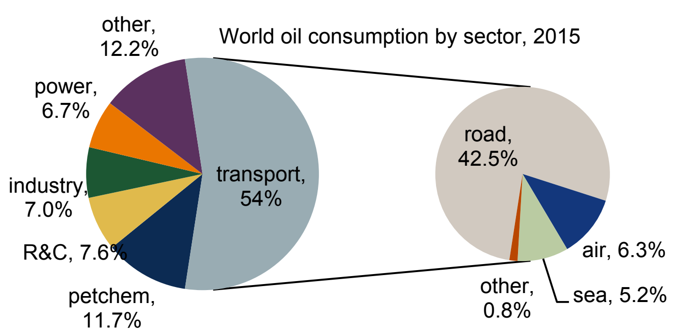
Nextgen solutions (i.e., investments in energy efficiency/renewables, rise of electric vehicles (EV), countries pledging to reduce carbon emissions) are putting downward pressure on fossil fuel demand, particularly within coal and oil.

By 2023, average annual spending in energy efficiency solutions is expected to rise to nearly $500bn annually, or nearly double that of the 2017-2020 period (source: IEA World Energy Outlook 2017).

Risks of supply shock from alternatives/disruption: EVs crush demand by 2020s

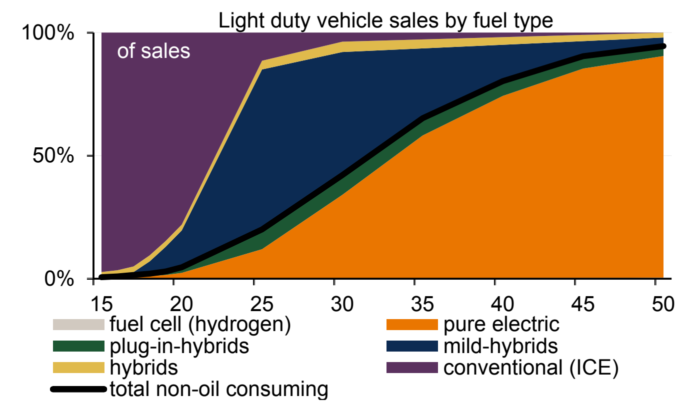
54% of global oil demand is consumed in transport (Source: IEA). EVs will likely start to erode this last bastion of oil demand growth in early 2020s.

Chart 92: Oil is a transport fuel, and for the past five decades growth in oil demand has primarily been driven by growth in demand for transport



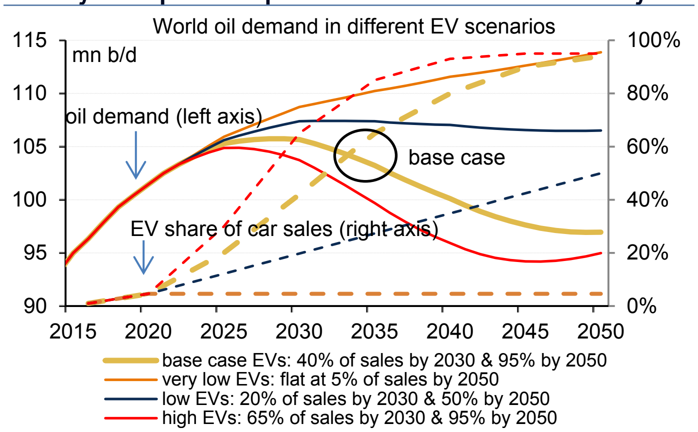
Source: IEA

Chart 93: Our auto analysts expect EVs to take off very rapidly in the early 2020s, rising from 5% of sales in 2020E to 40% of sales by 2030E



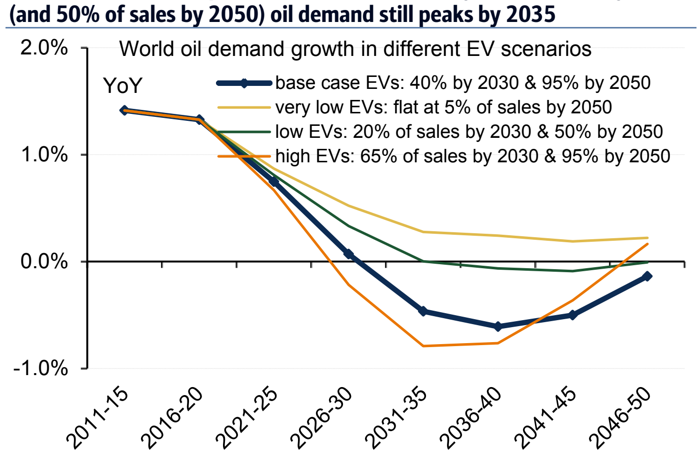
Source: BofA Merrill Lynch Global Research Estimates

Chart 94: Scenario analysis is still key as no one can really say with much certainty how rapid the adoption of EVs will be in the 2020s and beyond



Source: IEA, BofA Merrill Lynch Global Research Estimates

Chart 95: In a low EV penetration scenario of only 20% of sales by 2030 (and 50% of sales by 2050) oil demand still peaks by 2035



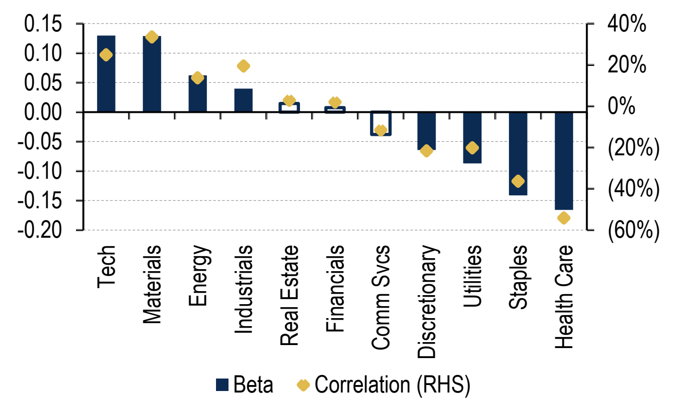
Source: IEA, BofA Merrill Lynch Global Research Estimates

Marketweight Materials

Risk: slowing global growth and trade

Chart 96: S&P 500 sectors' relative performance to MSCI China

May 1996 to present



Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Note: Based on MSCI China index on a YoY basis; Empty bars indicate not statistically significant

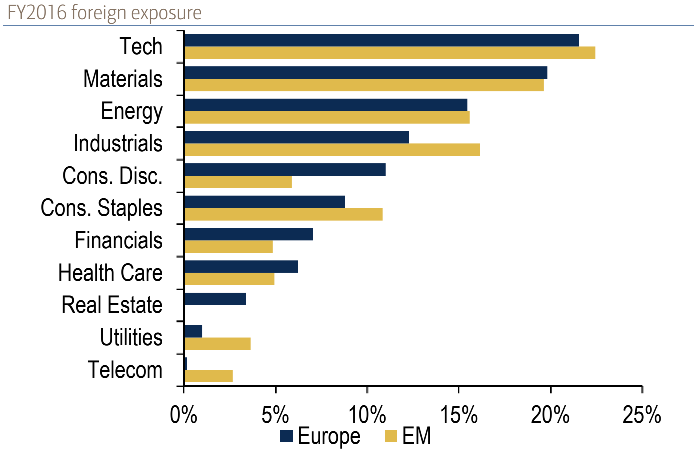
Materials & Tech most sensitive to China

Materials and Tech are most sensitive to China (based on sectors' historical relative performance sensitivity to China equity market performance), while Health Care, Staples, and Utilities look more defensive in the event of rising trade tensions with China, or a slowing Chinese economy.

At risk from slowing global / EM growth

Chart 97: Materials has the second highest Europe and EM foreign sales exposure…

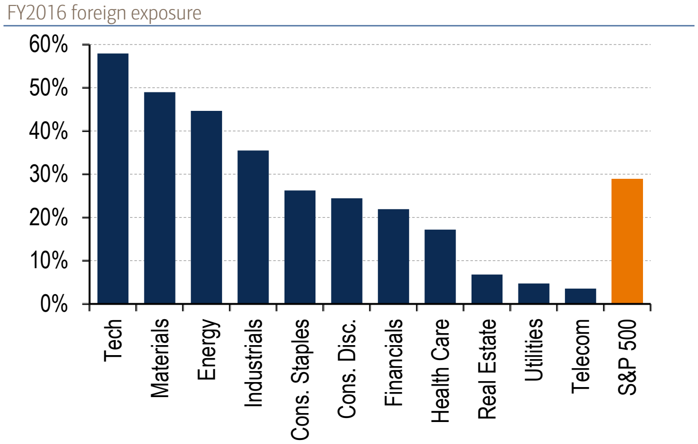
FY2016 foreign exposure



Source: Company filings, Bloomberg, FactSet, or BofAML analyst estimates where available, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 98: …And the second highest on overall foreign sales exposure

FY2016 foreign exposure

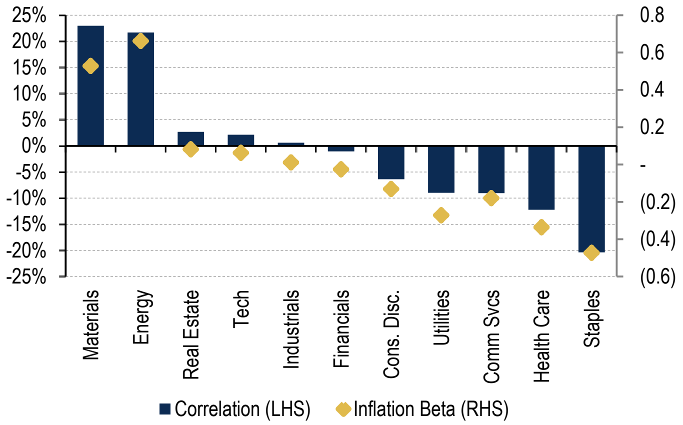


Source: Company filings, Bloomberg, FactSet, or BofAML analyst estimates where available, BofA Merrill Lynch US Equity & US Quant Strategy

Hedge against inflation

Chart 99: Materials: Best hedge against rising inflation

Sectors' rel. perf. correlation (since '74) with our BofAML Inflation Composite



Note: for a full description of our Inflation Composite, please see the Appendix

Source: BofA Merrill Lynch US Equity & US Quant Strategy

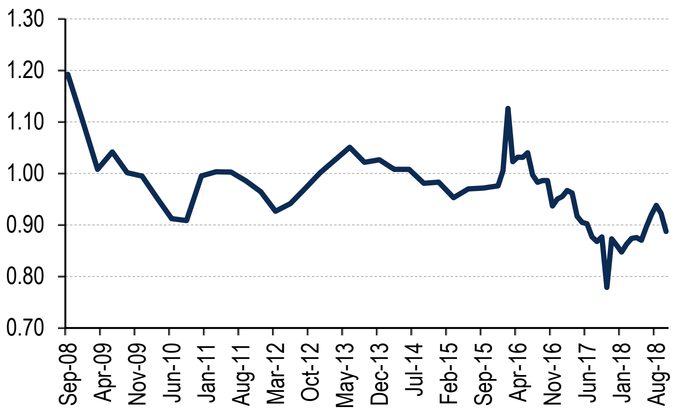
#1 hedge against inflation

Inflation has been subdued this cycle but could pick up in the later stages of the economic recovery given cycle-low unemployment, elevated consumer confidence, and labor shortages/percolating wage pressures.

And Materials has the highest performance correlation with inflation of any sector.

Positioning improving, but still near lows

Chart 100: Materials relative weight in large cap active fund holdings is near the lowest level in a nearly a decade (as of 10/18)

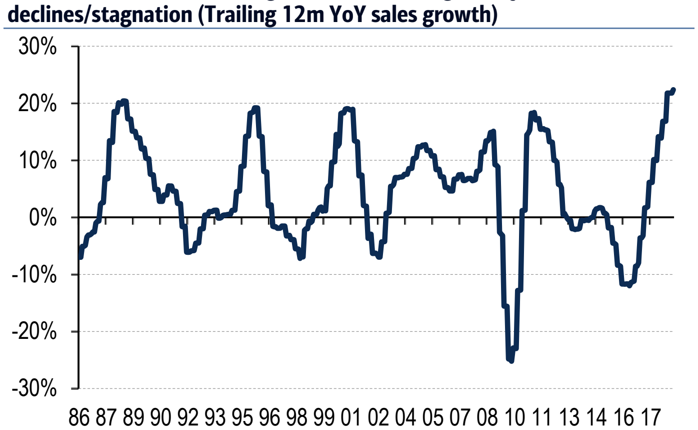


Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership.

Fund managers have been increased their positioning in Materials, but it still remains underweight, both on an absolute basis and relative to its own history (z-score of -1.1).

Accelerating fundamentals, tariff beneficiary

Chart 101: Materials: Sales growth accelerating after years of declines/stagnation (Trailing 12m YoY sales growth)



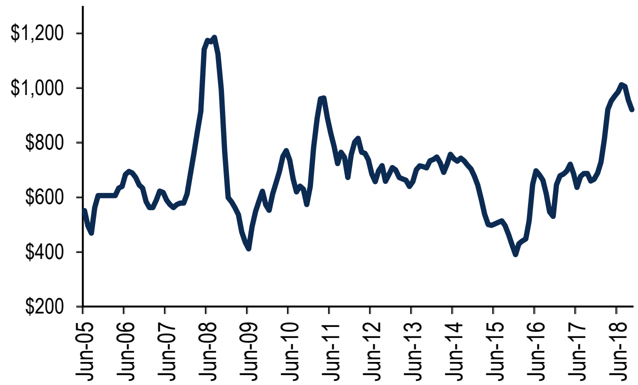
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

Fundamental improvement

Fundamentals are improving, with sales growth accelerating after years of decline.

Chart 102: US Hot Rolled Coil Steel Prices

US Domestic fob Midwest US$/tonne



Source: CRC

The positive side of tariffs

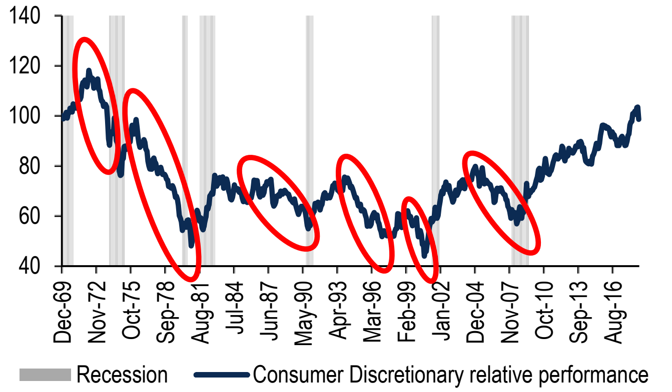
Tariffs unequivocally have benefited steel, but prices have not yet hit prior peak levels.

Underweight Consumer Discretionary

Late cycle risk

Chart 103: Fed hikes (circled) haven't been good to Cons. Discretionary

Relative performance of Consumer Discretionary vs. S&P 500, 1970-10/31/18



Source: BofAML US Equity & Quant Strategy

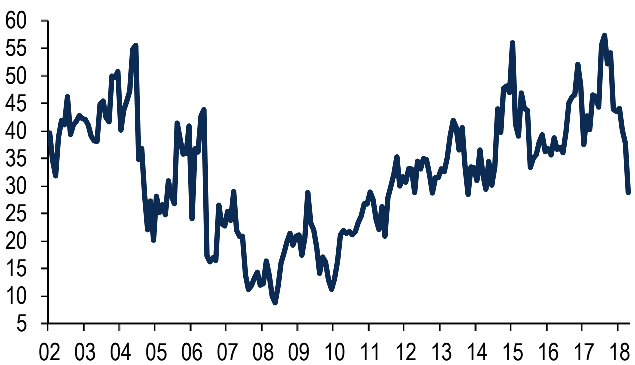
Note: based on historical sector returns 1990-present and historical constituents using 1990 sector classifications prior to 1990

Not the best place to be when the Fed is tightening

Consumer Discretionary consistently underperforms mid-to-late cycle.

Chart 104: Out with new retail, in with old retail: pricing power at last

Spread (in multiple points) of New Retail vs. Old Retail fwd. P/E



Note: We compare Internet & Direct Marketing Retail ("New Retail") vs. the composite of Multiline Retail, Specialty Retail, and Textiles Apparel & Luxury Goods ("Old Retail"), based on S&P 500 GICS industry classifications

Source: FactSet, BofAML US Equity & US Quant Strategy

"New" vs. "old" retail valuation gap narrowing amid pricing power from "old retail"

New Retail makes up over half of total retail's market cap, but only 28% of current earnings. Over 35% of Old Retail's current earnings would eventually need to shift to New Retail to square up valuations. This seems reasonable to us, and suggests New Retail could continue to win.

Table 34: Consumer Discretionary is the most expensive sector vs. history on all three relative valuation metrics

Relative valuation (vs. S&P 500) by sector (based on data from 1986-10/31/18)

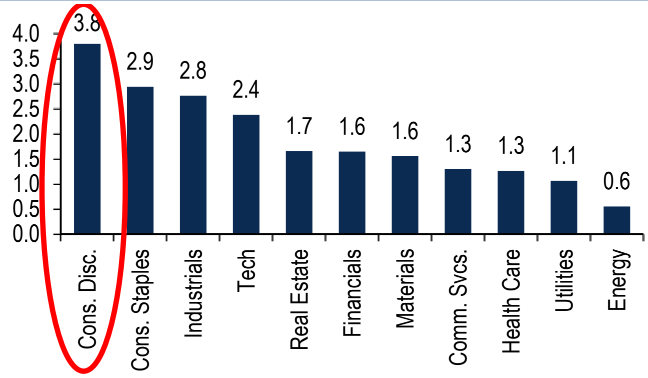
	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
Sector	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
S&P 500 (absolute metrics)	**3.31**	**2.81**	**-15%**	**12.98**	**10.67**	**-18%**	**15.57**	**15.30**	**-2%**
Consumer Discretionary	2.06	1.23	-40%	0.99	0.89	-10%	1.30	1.02	-21%
Consumer Staples	1.51	1.72	14%	1.17	1.28	9%	1.18	1.12	-6%
Energy	0.54	0.82	51%	0.69	0.76	10%	0.89	1.05	19%
Financials	0.44	0.60	36%	N/A	N/A	N/A	0.75	0.76	2%
Health Care	1.30	1.75	35%	1.29	1.66	29%	0.99	1.11	12%
Industrials	1.44	1.11	-23%	1.06	0.99	-6%	0.95	1.01	7%
Information Technology	2.04	1.37	-33%	1.12	1.23	9%	1.07	1.13	5%
Materials	0.72	0.92	28%	0.79	0.90	14%	0.84	1.00	18%
Real Estate	0.96	0.96	0%	N/A	N/A	N/A	1.09	1.17	8%
Communication Services	1.02	1.02	0%	0.88	0.86	-3%	1.12	1.21	8%
Utilities	0.57	0.64	11%	0.60	0.63	5%	1.06	0.88	-17%

Note: Financials excludes Real Estate historically. Relative forward P/E for Real Estate uses P/FFO for REITs and Fwd P/E for Real Estate Management & Development, relative to the S&P 500 forward P/E over time. All Real Estate valuations are from 2001-present. Valuations for Telecom are less meaningful given the small number of companies in the sector and constituent changes over time.

Source: FactSet/FirstCall, Compustat, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 105: Discretionary is the most labor-intensive sector…

Employees/sales ($mn) by S&P 500 sector as of 10/17/18



Note: Employee data is based on data as of latest fiscal year, sales are latest twelve month

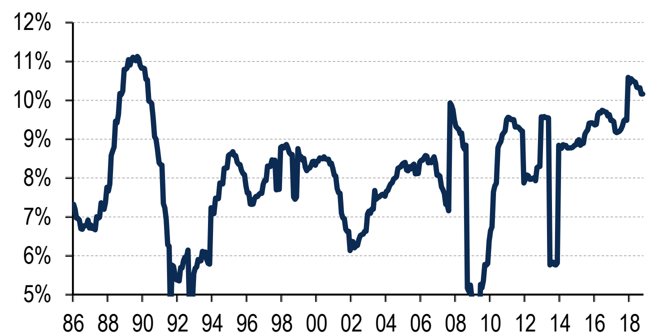
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

Higher wages hurt rather than help Discretionary

Consumer Discretionary is the most labor-intensive sector measured by the employees/sales ratio.

Chart 106: …and record operating margins are at risk from higher wages

S&P 500 Consumer Discretionary sector: EBIT Margin (1986-present)



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

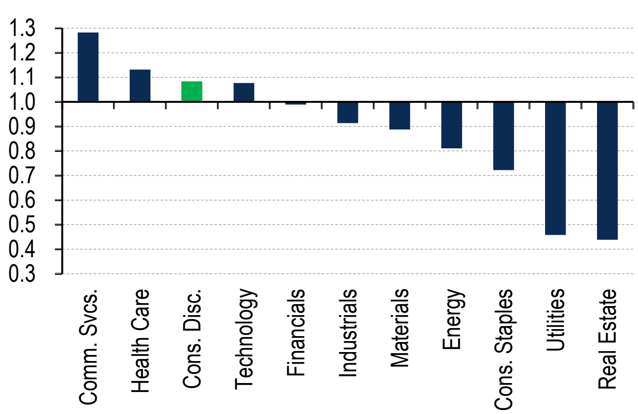
Rising cost pressures coincide with near peak margins

Unless disinflationary pressures abate and retailers are able to pass through cost pressure, margins could get squeezed.

Our Restaurants analyst notes restaurant margins were expanding until 2017 and have since been dropping on strong wage pressure. The issue for restaurants (and retailers) is that the labor input is on the low-income side where inflation is running 4-5% but the customer is broad on the income spectrum (average wage inflation is 3% YoY) making it difficult to pass through the full rise in labor costs.

Still crowded

Chart 107: Large cap active managers' relative positioning in sectors (as of 10/18)



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership

Everyone's already there

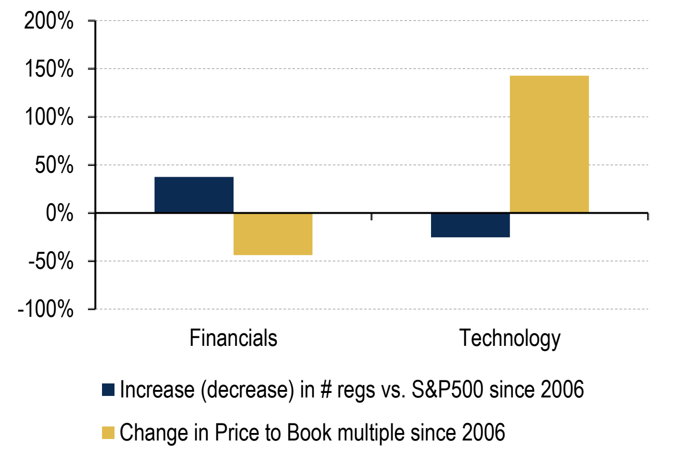
Consumer Discretionary is the second most overweight sector by fund managers.

Underweight Communication Services

Regulatory risk

Chart 108: US Financials vs. Tech: more regulations led to lower multiples (and vice versa)

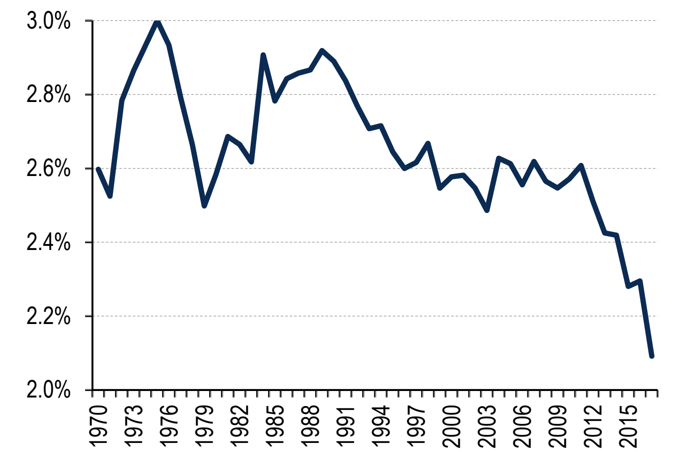
# of regulations vs. change in Price to Book Value, 2006 vs. 2017



Source: BofA Merrill Lynch US Equity & Quant Strategy, quantGov

Chart 109: Despite its increasing proportion of the S&P 500, Tech has seen a shrinking number of regulations relative to the market

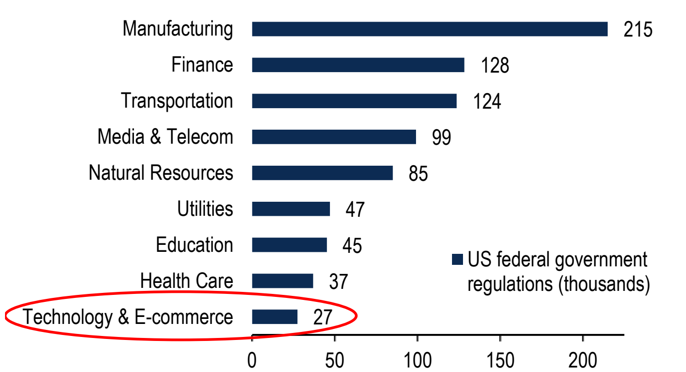
# of restrictions for Tech vs S&P 500, 1970 to 2017



Source: BofA Merrill Lynch US Equity & Quant Strategy, quantGov

Chart 110: Tech/e-commerce has been among the least-regulated sectors

US federal government regulations by sector, thousands



Source: BofA Merrill Lynch Global Investment Strategy, McLaughlin & Sherouse (2017)

Free pass on the regulatory front until now

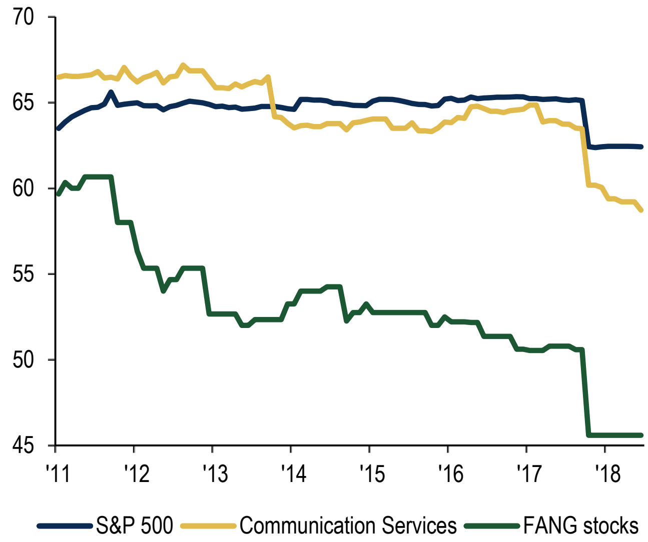
Communication Services has increasingly drawn regulatory scrutiny (e.g. data privacy.)

Technology & e-commerce companies have been among the most lightly regulated: just 27K regulations for tech; by comparison manufacturing is regulated by 215K rules and financial sector by 128K.

Deteriorating Governance scores a risk

Chart 111: Corporate Governance deteriorating for the sector and FANG stocks* relative to the S&P 500

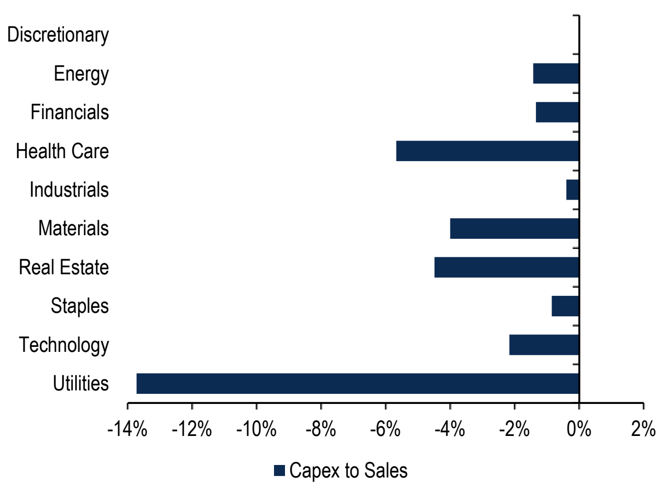
Based on average Sustainalytics Governance scores (1/2011-6/2018)



Source: Sustainalytics, BofAML US Equity & Quant Strategy
*includes FB, AMZN, NFLX and GOOGL

Chart 112: High capex to sales consistently destroys alpha

Annualized sector-relative total return performance of cash deployment factors within sectors* (1986-2017)



*Based on total return performance of top quartile of S&P 500 companies within each sector by high capex/sales, relative to the equal-weighted total return of each sector. Based on sector composition prior to the Communication Services GICS change.
Source: Factset, BofA Merrill Lynch US Equity & US Quant Strategy

ESG has been an effective indicator of companies' long-term financial performance. Deterioration in Governance scores for the sector and FANG stocks may be signaling potential earnings/price risk in the future.

For more details on ESG, see our ESG Primer.

FAANG companies are ramping up capex

Interactive Media & Services companies within the Communication Services sectors have been some of the biggest contributors to a recent pickup in capex (new headquarters, data centers, etc.)

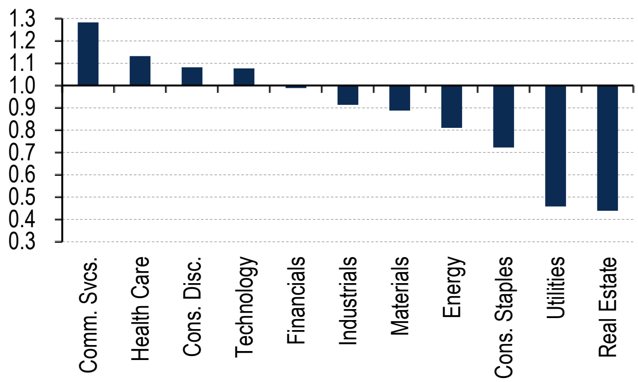
Heavy spenders have chronically underperformed across all sectors of the market.

We would prefer sectors that get the sales from increased capex–Industrials, old Tech.

Bank of America Merrill Lynch

Most crowded sector by fund managers

Chart 113: Large cap active managers' relative positioning in sectors (as of 10/18)



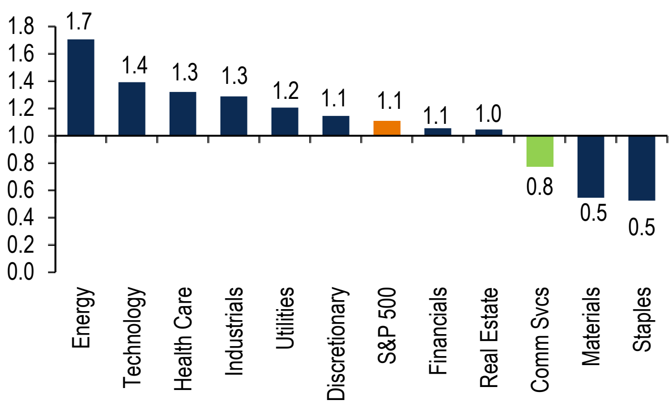
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership

Overweight by a wide margin

Communication Services is the most crowded sector by fund managers.

Negative earnings revisions

Chart 114: S&P 500 Three-Month Earnings Estimate Revision Ratio – 10/2018



Source: BofA Merrill Lynch US Quantitative Strategy

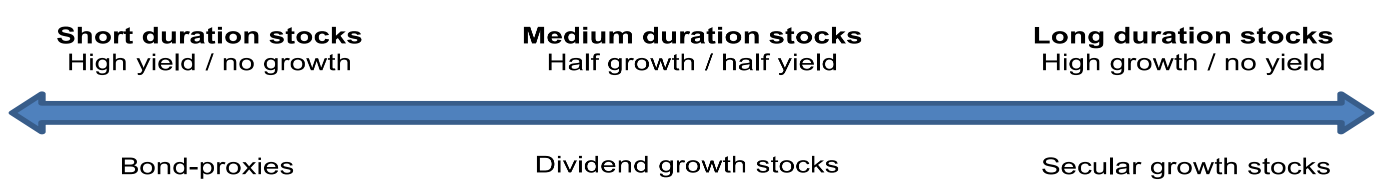
Fundamental deterioration

The 3-month earnings revision ratio (ERR) for Communication Services is the third lowest of all sectors.

Long duration & short duration stocks

More than half of Communication Services stocks are long duration (Interactive Media & Services) driving up the duration aspects of the group. Another 20% are short duration (Telecom); we prefer medium duration.

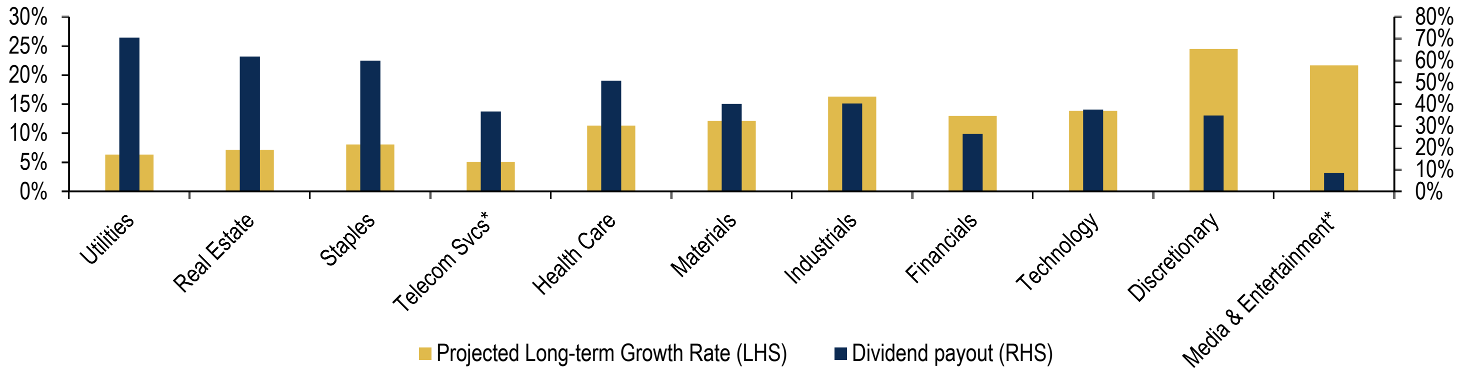
Exhibit 4: Equity duration



Source: BofA Merrill Lynch US Equity & US Quant Strategy

Chart 115: From short duration (high payout/low growth) to long duration (high growth/low payout)

Consensus long-term EPS growth (5yr) and dividend payout by sector and Communication Services industry groups



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

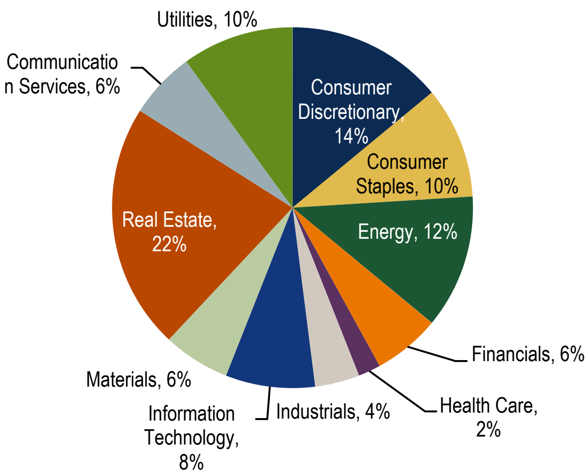
*Showing industry groups for Communication Services; Excludes Energy

Underweight Real Estate

Wrong quant attributes, slowing growth

Chart 116: Real Estate has the highest weight in our Dividend Yield factor

Sector weights in S&P 500 Top Decile by Dividend Yield as of 10/31/18



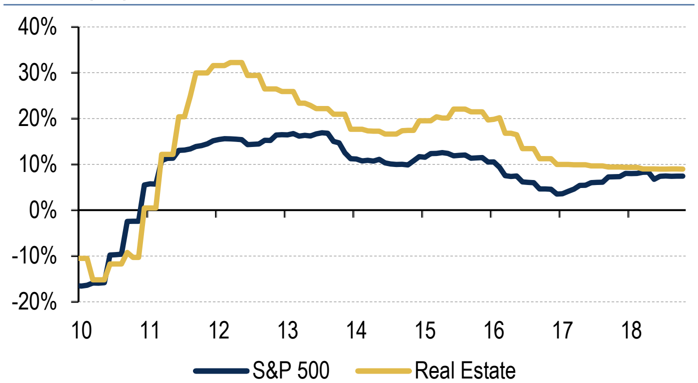
Source: BofA Merrill Lynch US Equity & Quant Strategy

High dividend yield is hit by rising rates

Real Estate has the highest weight of any sector in our High Dividend Yield factor – one of the worst-performing factors at the end of bull markets (and at risk of rising rates).

Our analysts highlight, however, that investors can still earn a health return over the cost of capital if rents are rising.

Chart 117: S&P 500 and Real Estate trailing 12m YoY dividend growth, 2010-10/31/18



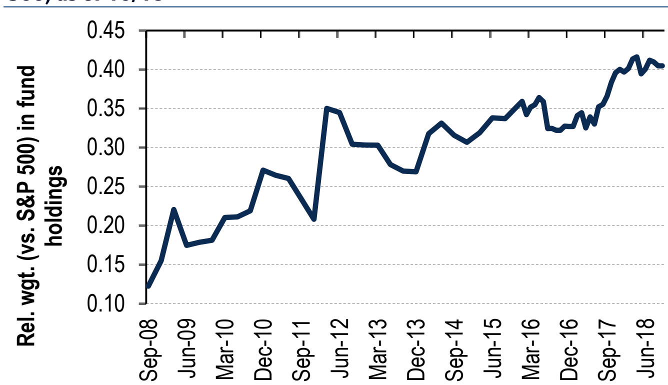
Source: FactSet, S&P, BofA Merrill Lynch US Equity & Quant Strategy

Waning dividend growth

Distribution growth has slowed and is in-line with the overall S&P 500 level.

Record relative weight in funds

Chart 118: Large cap active funds' relative weight in Real Estate (vs. S&P 500) as of 10/18



Source: FactSet, S&P, BofA Merrill Lynch US Equity & Quant Strategy

Never less underweight

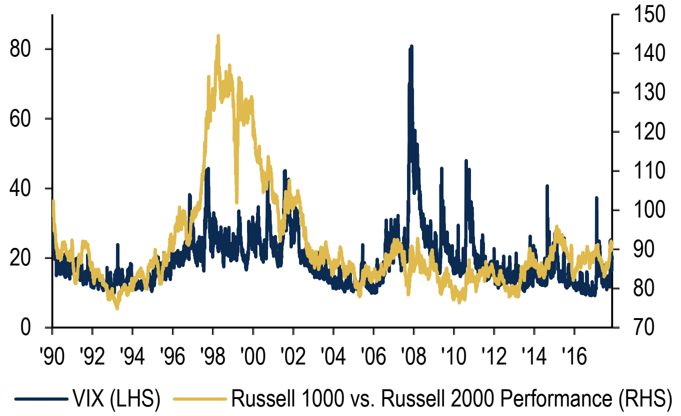
Still underweight by active funds, but positioning near all-time highs

Large caps over small caps

We continue to prefer large caps over small caps in 2019. Fundamentals have deteriorated: small caps have posted weaker trends than large caps the past few earnings seasons, management is guiding more below than above consensus on earnings, and small caps have seen more earnings estimate cuts than raises by analysts. Leverage is also a key risk, where small cap leverage is near record levels and the makeup of its debt also puts small caps at risk from rising rates and widening credit spreads. Small caps tend to also underperform late in the economic cycle, in a rising volatility environment, and throughout bear markets (see pg. 14 for our section on what works in a rising volatility regime). See below for more details.

Chart 119: Large outperforms small when volatility rises

Relative performance of R1000 vs. R2000 vs. VIX, 1990-present

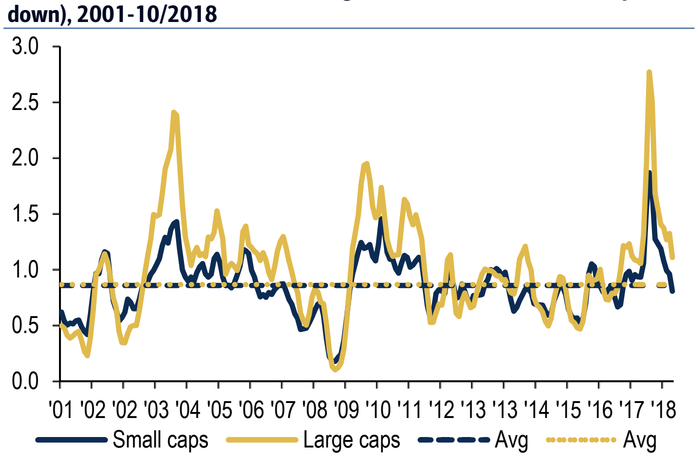


Source: FactSet, BofA Merrill Lynch US Equity and US Quant Strategy

Volatility has risen over 80% since the start of October which has coincided with small caps lagging large caps by over 2ppt.

We expect higher volatility throughout 2019.

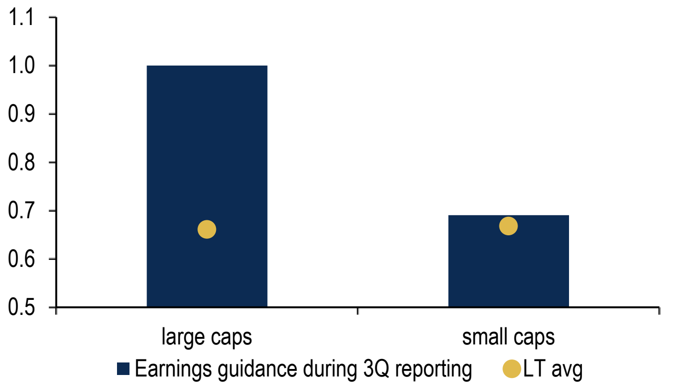
Chart 120: S&P 500 and 600 earnings estimate revision ratio (# up / # down), 2001-10/2018



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Small caps are seeing more cuts than raises to earnings estimates and the ratio is currently below the long-term average. It is also below that of large caps, an environment in which [large caps typically outperform small caps](#).

Chart 121: Management guidance ratio (# above-vs. below consensus): S&P 500 vs. 600 for October + November to date (11/9/2018)

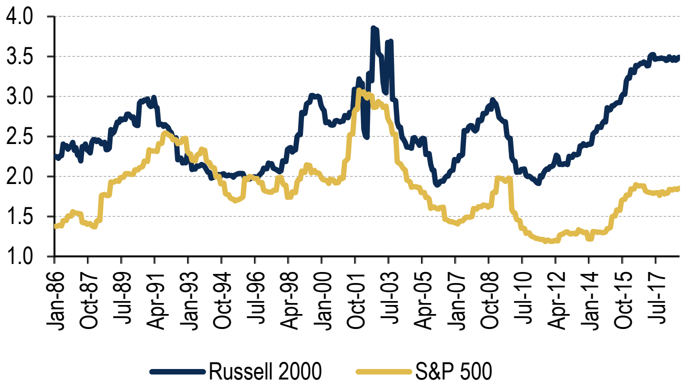


Source: Bloomberg, BofAML US Equity & US Quant Strategy

Guidance has similarly been weaker down the cap spectrum – so far this earnings season within the S&P 600 (small caps), management has been guiding below consensus more than above, and the ratio is currently in-line with the long-term average versus above average for large caps (where we're seeing an equal proportion of above- and below-consensus guidance).

Chart 122: Small caps are close to record leverage ratios

Net Debt to EBITDA (ex-Financials) of small caps vs large caps,1986-present



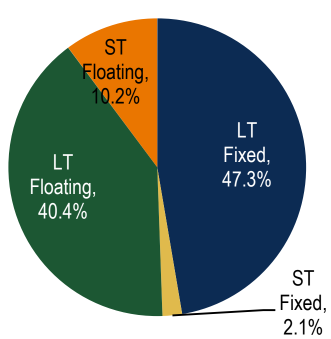
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Leverage is at all-time highs for small caps.

Small caps have a much higher proportion of floating-rate debt and shorter debt maturity, which makes them more sensitive to rising rates and widening credit spreads

Chart 123: More than half of small cap debt is floating-rate; less than half is long-term fixed…

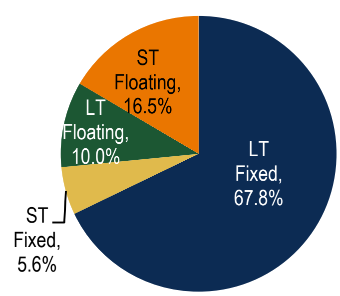
Russell 2000 debt by maturity (2017)



Source: FactSet, BofAML US Equity & US Quant Strategy

Chart 124: …Versus less than 30% of large cap debt is floating-rate & nearly 70% is long-term fixed

S&P 500 debt by maturity (2017)



Source: FactSet, BofAML US Equity & US Quant Strategy

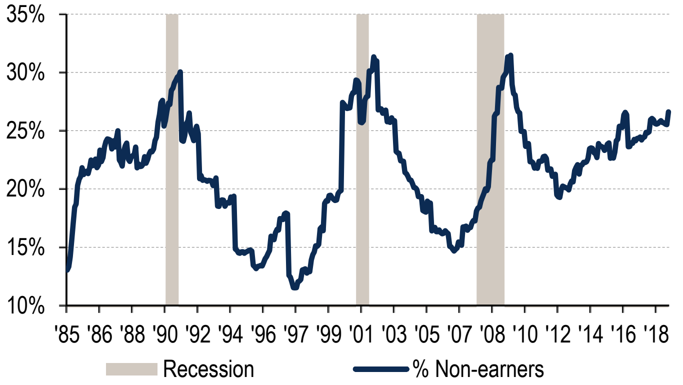
Table 35: Small caps have almost half the maturity of large

Weighted average debt maturity in years (2017)

Sector	Russell 2000	S&P 500
Cons. Disc.	4.8	7.1
Cons. Staples	4.6	7.3
Energy	5.2	8.8
Health Care	4.2	8.2
Industrials	4.4	8.2
Materials	4.2	8.4
Technology	5.0	7.5
Telecom	5.0	14.0
Utilities	9.0	12.5
Total	**5.0**	**8.9**

Source: FactSet, BofAML US Equity & US Quant Strategy

Chart 125: % of non-earners in the Russell 2000 (1986-present)



Source: FactSet, Haver, BofA Merrill Lynch US Equity & US Quant Strategy

Small caps are deteriorating in quality: the proportion of non-earners is at levels typically not seen outside of (or leading into) recessions. We expect high quality to be a rewarded attribute.

Small caps also historically underperform later in the cycle, and in later stages of Fed tightening cycles.

Table 36: Small caps have underperformed over late-cycle and recession periods

Relative performance of small caps vs. large caps during each phase of the cycle

		Small Size - Large Size factor relative return	Russell 2000 - Russell 1000 relative return
Phase 1 Early Cycle	Avg:	29%	4%
	Median:	13%	4%
	Hit Rate:	86%	86%
Phase 2 Mid Cycle	Avg:	3%	4%
	Median:	6%	4%
	Hit Rate:	75%	75%
Phase 3 Late Cycle	Avg:	-3%	-3%
	Median:	-6%	-4%
	Hit Rate:	29%	29%
Phase 4 Recession	Avg:	-6%	-4%
	Median:	-10%	-3%
	Hit Rate:	17%	17%

Note: Small Size and Large Size factors are top and bottom decile of stocks within the S&P 500 by market cap, rebalanced monthly

Source: Russell Investment Group, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Table 37: Small caps tend to lag large caps in periods when the Fed is raising interest rates

Small cap (price) performance relative to S&P 500 during Fed tightening cycles

	last 12 months
Jan-87 - Sep-87	-11.8%
Apr-88 - May-89	-1.0%
Feb-94 - Feb-95	-7.6%
Jun-99 - May-00	-0.4%
Jun-04 - Jun-06	6.7%
Dec-15 - present	-4.7%
Average	**-2.8%**
% of times small beat large	**20.0%**

Note: present as of 10/31/2018, average excludes current tightening cycle

Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Table 38: Small cap relative performance is most positively correlated with the ISM and most negatively correlated with credit conditions

Historical relative and absolute performance correlations of small caps (Russell 2000) vs. macro variables (top 3 most positive and most negative correlations)

Macro factor	Correlation of Rel. Perf. (R2 vs. R1) w/ indicator	Correlation of absolute Perf. (R2) w/ indicator	Data since
Top three positively correlated			
ISM Mfg.	38%	52%	12/31/79
UMich Consumer Sentiment	29%	54%	12/31/79
Housing starts	26%	46%	12/31/79
Top three negatively correlated			
VIX Index	-28%	-56%	1/31/91
HY Credit Spreads	-29%	-74%	12/31/97
SLOOS - Net % tightening (Lg/Mid-size firms)	-31%	-47%	6/30/91

Note: based on monthly performance for all indicators except the SLOOS (Senior Loan Officer Opinion Survey) which is quarterly. All analysis since the inception of the Russell indices in 1979, or whenever the macro indicator became available.

Source: ISM, FRB, BEA, University of Michigan, EIA/CME, ICE BofAML US corporate indices, Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Risks: high volatility and credit spreads, rollovers in ISM, housing, consumer sentiment

The ISM is hovering near the highest levels since 2004, and may have more downside than upside risk from here, especially if trade tensions worsen. Consumer Sentiment is also at solid levels but appears to have rolled over and has come off its recent near-record highs. And our Economists have become more cautious on housing, where they recently revised down their housing starts forecast.

And while credit conditions are still supportive (the latest FRB Senior Loan Officer Survey suggests banks continue to loosen credit standards), the risk is that this reverses next year. High yield credit spreads are still benign but have been rising and the yield curve is forecasting higher volatility.

Table 39: large caps do better than small caps during a bear market

Peak to trough bear market performance of large caps vs small caps

Peak	Trough	# mos	Large caps	Small caps	Relative large vs. small
9/7/1929	6/1/1932	33	-82%	-88%	7%
3/6/1937	4/29/1942	63	-39%	-41%	2%
5/29/1946	6/14/1949	37	-13%	-35%	23%
8/2/1956	10/22/1957	15	-9%	-14%	5%
12/12/1961	6/27/1962	7	-23%	-24%	1%
2/9/1966	10/7/1966	8	-14%	-19%	5%
11/29/1968	5/26/1970	18	-25%	-45%	20%
1/11/1973	10/3/1974	21	-44%	-51%	7%
11/28/1980	8/12/1982	21	-27%	-22%	-5%
8/25/1987	12/4/1987	3	-34%	-39%	5%
7/16/1990	10/11/1990	3	-20%	-29%	9%
3/24/2000	10/9/2002	31	-49%	-43%	-6%
10/9/2007	3/9/2009	17	-57%	-59%	3%
				Average:	**6%**
				Median:	**5%**
				Hit Rate:	**85%**

Note: Based on Russell 2000 and S&P 500 since 1980, and CRSP®Center for Research in Security Prices. Graduate School of Business, The University of Chicago size classification prior to 1980

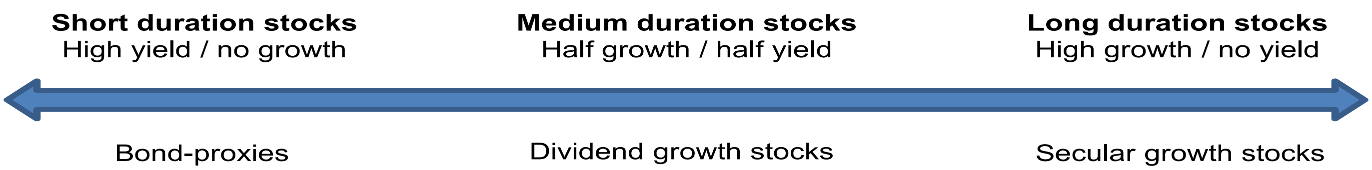
Source: Bloomberg, CRSP, BofA Merrill Lynch US Equity & US Quant Strategy

Large caps generally do better than small caps when large caps sink into a bear market. Large caps have outperformed in 11 out of the last 13 (85%) bear markets.

Growth vs Value: prefer medium duration

Similar to in 2018, we believe the Growth vs. Value call is more nuanced, and instead prefer medium-duration equities – dividend growth stocks with some cyclicality that can raise payout ratios as rates rise.

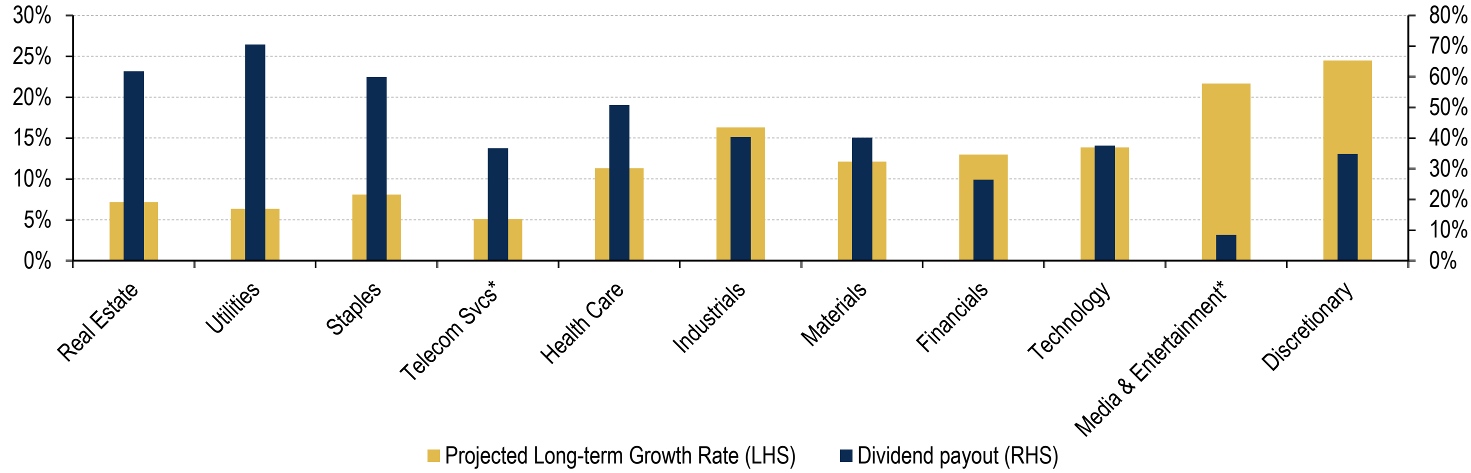
Exhibit 5: Equity duration



Source: BofA Merrill Lynch US Equity & US Quant Strategy

Chart 126: From short duration (high payout/low growth) to long duration (high growth/low payout)

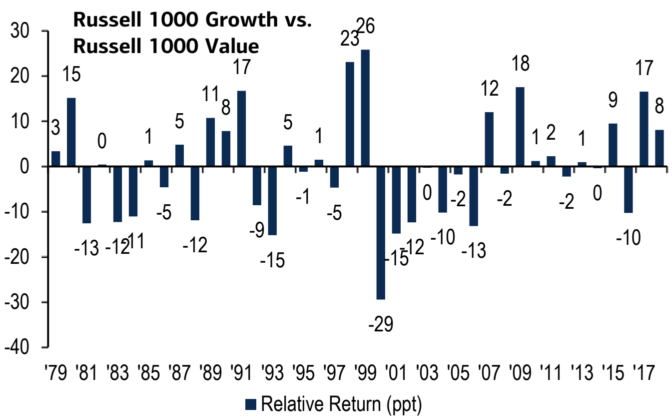
Consensus long-term EPS growth (5yr) and dividend payout by sector and Communication Services industry groups



Source: FactSEt, BofA Merrill Lynch US Equity & US Quant Strategy

*Showing industry groups for Communication Services; Excludes Energy

Chart 127: Relative total return of the Russell 1000 Growth Index vs. Russell 1000 Value Index, 1979-10/31/2018

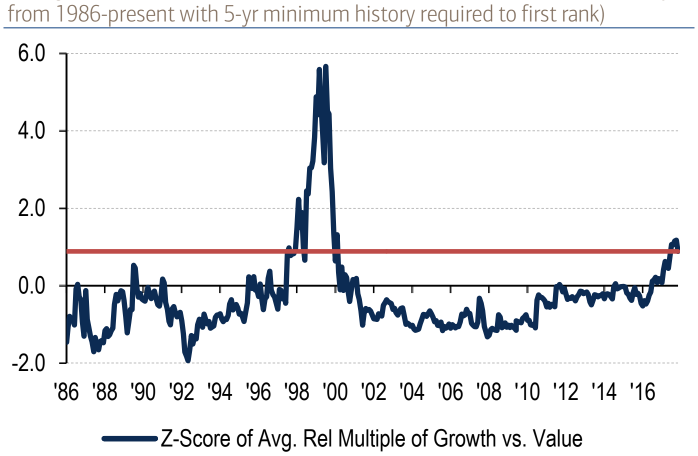


Source: Russell, BofA Merrill Lynch US Equity & US Quant Strategy

In 2017, Growth beat Value by 17ppt, the widest spread since 2009; Growth is outperforming Value so far this year by 8ppt.

Chart 128: Growth vs Value Relative Valuation is one standard deviation above its long-term average

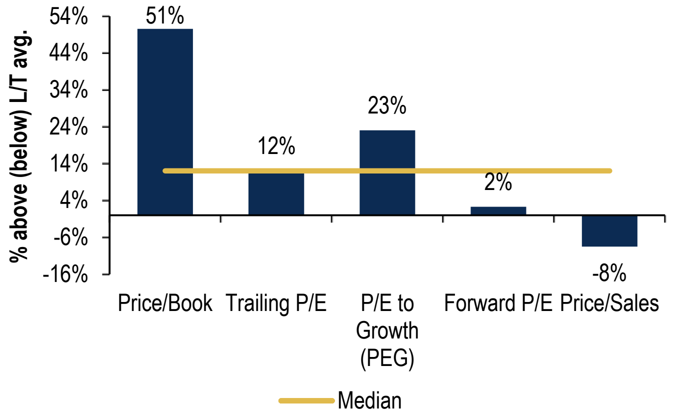
Z-score of Relative Multiple of Russell 1000 Growth vs. Value indices using average of Price to Book, Fwd P/E, Trail P/E & Price to Sales (based on history from 1986-present with 5-yr minimum history required to first rank)



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet, FTSE Russell

Growth has rerated but is nowhere near Tech Bubble levels.

Chart 129: Russell 1000 Growth vs. Russell 1000 Value relative valuations: % above (below) long-term average (since 1979) as of 10/31/18



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet, FTSE Russell

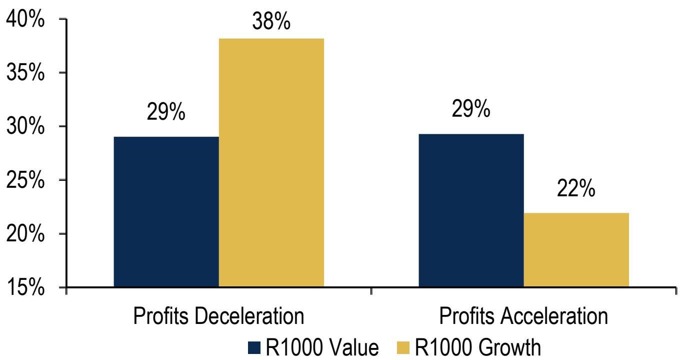
Table 40: Russell 1000 Growth vs. Russell 1000 Value relative valuations (as of 10/31/18)

Metric	Relative multiple: R1G vs. R1V	L/T Avg.	% above (below) avg.
Price/Book	3.63	2.41	51%
Trailing P/E	1.68	1.50	12%
P/E to Growth (PEG)	1.07	0.87	23%
Forward P/E	1.45	1.41	2%
Price/Sales	1.78	1.94	-8%
Median:			**12%**

Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet, FTSE Russell

Chart 130: Theory meets practice: growth really does win when profits decelerate, and vice versa

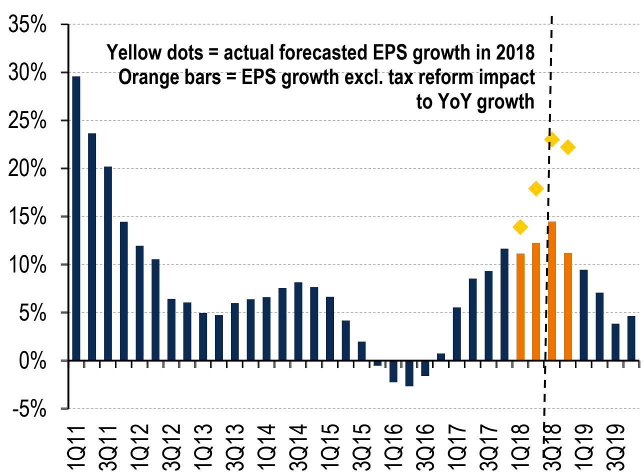
Style index performance during periods of decelerating and accelerating S&P 500 earnings growth (1982-present)



Note: Excludes the Tech Bubble
Source: S&P, Russell, BofA Merrill Lynch US Equity & US Quant Strategy

When profits grow is scarce, investors pay a premium for growth. But if growth picks up, investors seek out cheap growth opportunities.

Chart 131: S&P 500 trailing YoY profits growth, 1Q11-2Q18 and BofAML forecasts for 3Q18-4Q19, with and ex-tax reform



Note: EPS growth excluding tax reform (orange bars) based on subtracting the de-annualized YoY growth impact of our forecasted annual benefit to 2018 growth from tax reform (10% or $13), applying the same quarterly seasonality as in our overall EPS forecasts
Source: BofA Merrill Lynch US Equity & US Quant Strategy

Both including and excluding the impact of tax reform, profits growth is slated to peak in late 2018 and slow through 3Q 2019.

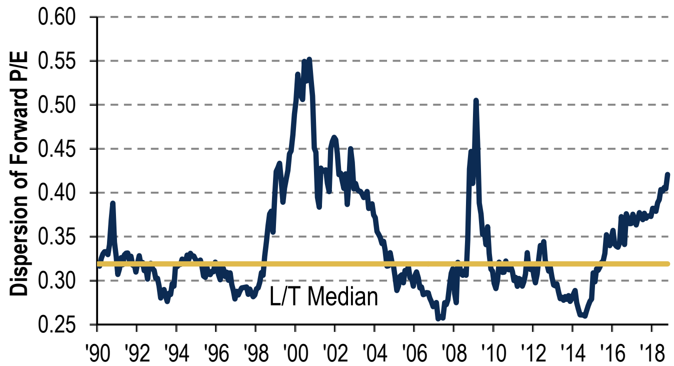
Table 41: Profits matter more than rates for Value vs. Growth
Value vs. Growth annualized average quarterly performance during different profit and rates regimes –1926 to today

	Rising Rates	Falling Rates
Accelerating Profits	8.5%	6.9%
Decelerating Profits	0.9%	1.0%

Note: Growth and Value indices based on Fama-French measure of Growth and Value
Source: BofA Merrill Lynch US Equity & US Quant Strategy, Fama-French Benchmark Portfolios historical returns, Federal Reserve Board

What doesn't matter for style rotations? Interest rates.

Chart 132: S&P 500 valuation dispersion is at post-'09 highs
Valuation dispersion (on forward earnings yield) of S&P 500 stocks, 1990 – 10/31/18

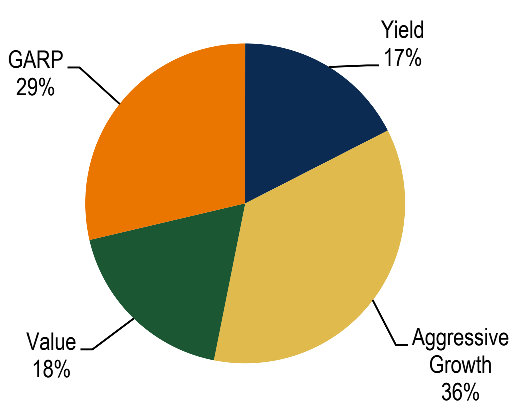


Note: excludes outliers (observations outside of 2 z-scores). Based on standard deviation/absolute value of avg. of stocks' Fwd. EPS yield.
Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Opportunities abound: valuation dispersion within the S&P 500 is at cycle highs.

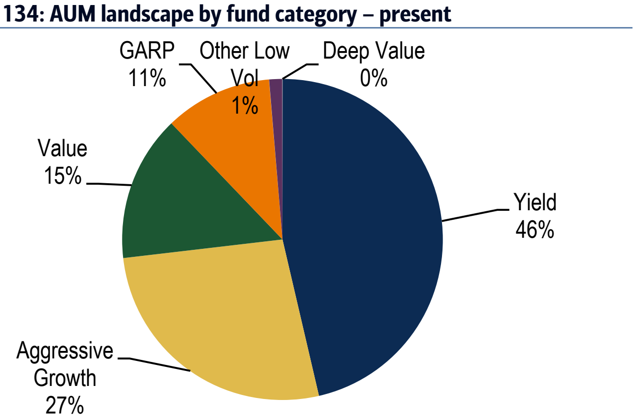
The short duration bubble: income managers make up 46% of actively managed money, an all-time high.

Chart 133: AUM landscape by fund category – Aug 2010



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership

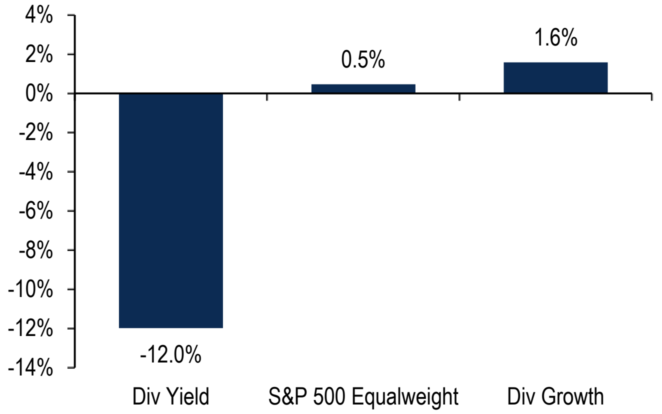
Chart 134: AUM landscape by fund category – present



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership

Chart 135: Short duration is hurt by rising rates, medium duration is immune

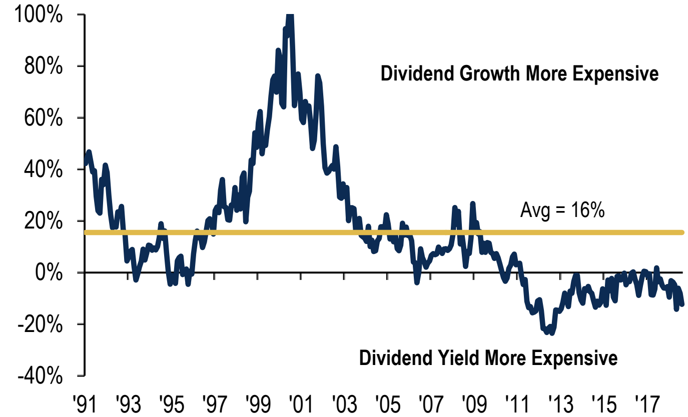
Correlation of monthly total returns for S&P 500 top decile factors vs. changes in 10-year Treasury yields, 1986-present



Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 136: Medium duration (div gth) still trades at a relative discount to short duration (high yield)

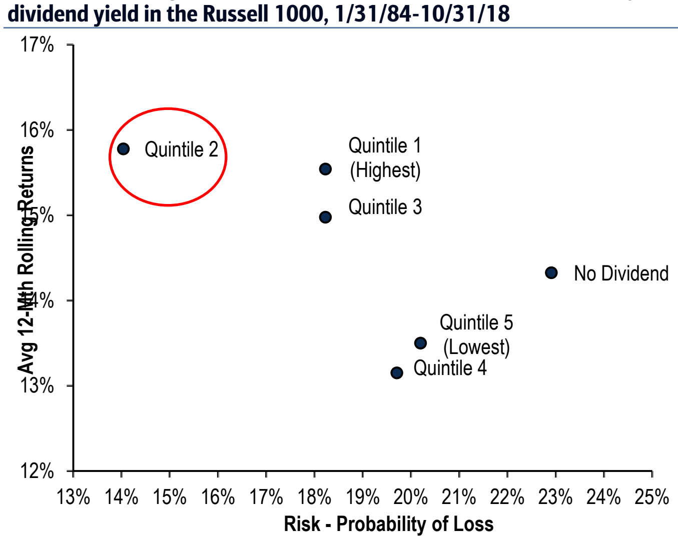
Relative premium (discount) of High Dividend Growth vs. High Dividend Yield, based on median forward P/E of top decile of S&P 500 by each factor (1990-10/31/2018)



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Sustainable yield over high yield: Quintile 2

Chart 137: Average annual returns vs. downside risk of quintiles by dividend yield in the Russell 1000, 1/31/84-10/31/18



Note: Average 12-month performance in the above chart is based on backtested results from 1/31/84 through 9/28/10. Actual performance is from 9/28/10-present. The performance results are the results of a model; not the results of an actual advisory account. The performance results do not reflect transaction costs, tax withholdings or any investment advisory or custodial fees that would normally be associated with an investment advisory account. If such fees and costs were reflected the performance would be lower. Source: Russell, BofA Merrill Lynch Research Equity Strategy & US Quant Strategy

Backtesting is hypothetical in nature and reflects application of the screen prior to its introduction. It is not actual performance and is not intended to be indicative of future performance. The back-tested performance results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for all financial risks that may affect the performance of the screen going forward.

Disclaimer: The screen identified as Quintile 2 is intended to be an indicative metric only and may not be used for reference

purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Merrill Lynch Global Research. This screen was not created to act as a benchmark.

Table 42: Total Returns (as of 10/31/18)

	Quintile 2	Eq. Wtd. Russell 1000
1m	-5.9%	-8.1%
3m	-4.8%	-5.7%
6m	0.2%	0.1%
YTD	-3.1%	-2.9%
12m	0.9%	1.8%
Since Inception*	161.0%	157.0%
Annualized		
3yr	9.5%	10.2%
5yr	8.8%	8.6%
Since Inception	12.6%	12.4%

*Returns prior to inception represent backtest period. Backtesting is hypothetical in nature and reflects application of the screen prior to its introduction. It is not actual performance and is not intended to be indicative of future performance; the inception date on the model is 9/28/2010.

Source: BofA Merrill Lynch US Equity & US Quant Strategy.

2019's "What ifs?"

Heading into 2019, we list a number of macro risk factors that can move the market one way or the other. We think the biggest risks are trade tensions with China and rising interest rates, while upside risks to USD and cost inflation outpacing companies' pricing power can also put pressure on margins. Oil is also on watch, falling into a bear market territory in recent weeks. Our Econ team forecasts 2.7% U.S. GDP growth in 2019, down from 2.9% expected in 2018. They do not see an imminent recession in the U.S., but with rising late-cycle concerns, we may see a further rotation into defensive sectors, such as Staples and Utilities that have historically outperformed in recessions. Consumer Staples and Utilities have historically been relative laggards when GDP rises, while Energy and Industrials have been beneficiaries from the booming economy.

Table 43: 2019 Bull/Bear case

	Bull case	Bear case
Trade tensions with China	- Positive trade resolution/de-escalation bullish for equities - Multinationals and companies that source from China directly benefit	- Further trade tensions hurt sentiment/global growth - Can squeeze corporate margins from rising costs - Inflation could slow economic activity
Inflation	- Low oil prices could drive margin expansion - Slower wage growth / inflation from rate hikes boosting margins	- Rising wage and material cost inflation hurts margins
USD	- Weakening USD benefits multinational earnings (FX translation), commodity prices, and exports	- Strengthening USD hurts multinational earnings (FX translation), commodity prices, and exports
Infrastructure bill	- Possible infrastructure bill benefits Industrials / Materials	
Peak of market	- Our 10yr valuation framework (which has strong predictive power over subsequent returns) was forecasting +14% annualized returns 10yrs ago, putting the S&P 500 at 4200 by year-end 2019	- We could already be in bear market territory; historically 80-100% of our bear market signposts are flashing red at market peaks, we reached 79% in early Oct. 2018
Credit	- Credit conditions remain benign, with a muted rise in credit spreads and no significant tightening of credit conditions as companies continue to pay down debt	- A surge interest rates, investment grade (IG) migration to high yield (HY), heightened funding costs, economic slowdown, or a significant credit event could rapidly shift risk appetite in credit markets
Economy/cycle	- Our economists see a low probability of a recession - Our US regime indicator suggests we continue to hover between mid and late cycle	- Recessions typically occur ~3 quarters after the market peaks, where we see risk the market peaks in 2019 - Rising late cycle concerns suggest defensive sectors could outperform

Source: BofA Merrill Lynch US Equity & US Quant Strategy

Exhibit 6: S&P 500 sectors' relative performance sensitivity to macro factors

	GDP	Inflation	Nominal Rates	Real Rates	USD	Oil	China
Comm Svcs	-0.13	-0.18	-0.81	0.71	0.07	-0.02	-0.04
Discretionary	-0.17	-0.13	-0.08	0.56	0.14	-0.08	-0.06
Staples	-0.34	-0.47	-1.56	-1.61	0.04	-0.07	-0.14
Energy	0.16	0.66	2.05	-0.94	-0.19	0.23	0.06
Financials	-0.20	-0.02	-1.38	2.71	0.06	-0.05	0.01
Health Care	-0.23	-0.34	-0.49	-2.07	0.04	-0.04	-0.17
Industrials	0.11	0.01	0.62	0.71	-0.03	-0.02	0.04
Technology	0.26	0.06	1.29	0.67	0.02	0.02	0.13
Materials	0.07	0.53	1.31	-0.72	-0.16	0.03	0.13
Real Estate	0.07	0.08	0.48	-2.62	-0.08	-0.03	0.01
Utilities	-0.42	-0.27	-2.37	-2.78	0.05	-0.02	-0.09

Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Note: Horizontal bars indicate statistically significant betas; China based on MSCI China index on a YoY basis; GDP beta from 1979; China beta from 1996; Inflation, Nominal Rates and USD from 1972; Real Rates from 1997; WTI Oil from 1973

Exhibit 7: S&P 500 sectors' absolute performance sensitivity to macro factors

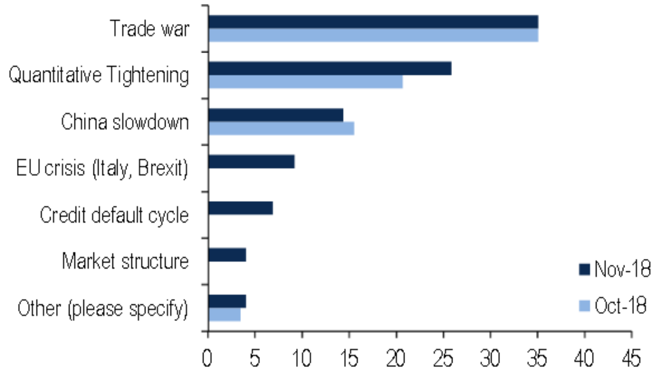
	GDP	Inflation	Nominal Rates	Real Rates	USD	Oil	China
Comm Svcs	0.28	0.28	-2.11	0.68	-0.15	0.01	0.17
Discretionary	0.23	0.33	-1.38	0.54	-0.08	-0.05	0.15
Staples	0.07	-0.01	-2.86	-1.63	-0.18	-0.03	0.07
Energy	0.56	1.12	0.75	-0.97	-0.41	0.26	0.27
Financials	0.21	0.44	-2.68	2.69	-0.16	-0.01	0.22
Health Care	0.18	0.13	-1.79	-2.09	-0.18	-0.01	0.05
Industrials	0.51	0.47	-0.68	0.68	-0.25	0.01	0.25
Technology	0.66	0.53	-0.01	0.65	-0.20	0.06	0.34
Materials	0.48	0.99	0.01	-0.74	-0.38	0.07	0.34
Real Estate	0.47	0.55	-0.82	-2.64	-0.30	0.00	0.23
Utilities	-0.02	0.19	-3.68	-2.80	-0.17	0.01	0.13
S&P500	**0.40**	**0.46**	**-1.30**	**-0.02**	**-0.22**	**0.03**	**0.21**

Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Note: Horizontal bars indicate statistically significant betas; China based on MSCI China index on a YoY basis; GDP beta from 1979; China beta from 1996; Inflation, Nominal Rates and USD from 1972; Real Rates from 1997; WTI Oil from 1973

Trade risk

Exhibit 8: What do you consider the biggest "tail risk"?

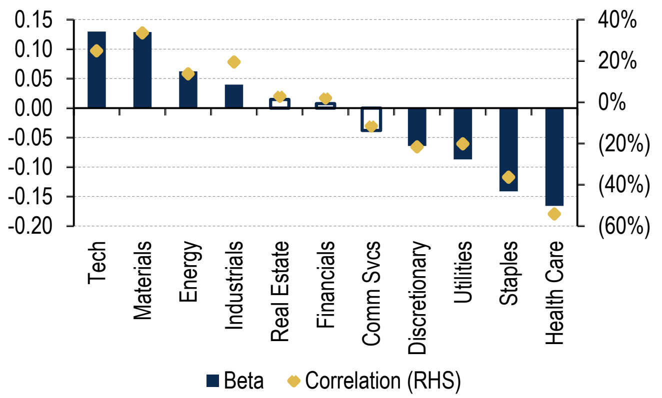


Source: BofA Merrill Lynch Global Fund Manager Survey

Investors view trade war, China slowdown as key risks

Investors surveyed in the Fund Manager survey have indicated a China slowdown as their #3 concern, after a trade war (#1) and quantitative tightening (#2).

Chart 138: S&P 500 sectors' relative performance sensitivity to MSCI China (1996-10/2018)

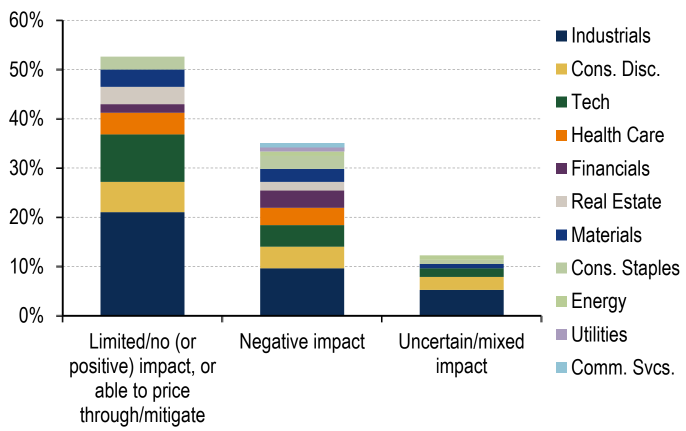


Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Based on MSCI China index on a YoY basis; Empty bars indicate not statistically significant

Materials & Tech most exposed to China, Health Care & Staples more defensive

On an absolute basis, all 11 sectors of the S&P 500 have had statistically significant positive betas against MSCI China index. On a relative basis, Materials and Tech showed the largest exposures to China, while Health Care, Staples, and Utilities look more defensive in the event of rising trade tensions with China, or slowing Chinese economy.

Chart 139: S&P 500 companies mentioning tariffs/trade on earnings calls (% of total companies): our read on their impact



Source: Company earnings call transcripts (via FactSet), BofA Merrill Lynch US Equity & US Quant Strategy

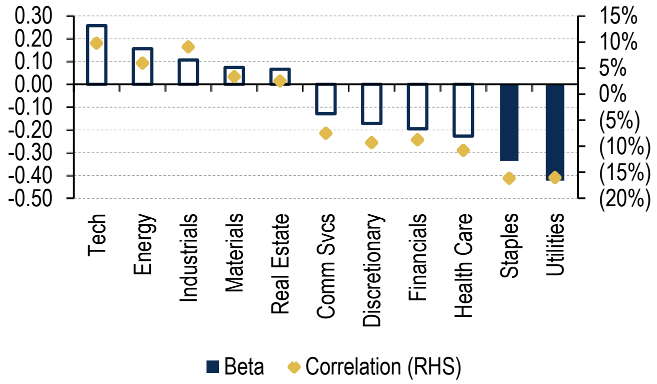
A majority of co.'s sees limited/no impact from tariffs

A majority (slightly over half) of the ~115 companies that have mentioned tariffs/trade on earnings calls indicated limited/no impact, or that they were able to mitigate it via pricing or shifting supply. Nearly 40% of these mentions were by Industrial companies, while another 30% split between Tech and Discretionary. About a third noted a negative impact (chiefly Industrials, followed by Tech and Discretionary), with the remainder noting a mixed impact or being vague on the details.

That said, we think the indirect impact from trade tensions could outweigh the direct impact in the form of rising inflation pressuring economic activity, slowing China, etc.

GDP risk

Chart 140: S&P 500 sectors' relative performance sensitivity to US GDP (1979-3Q18)



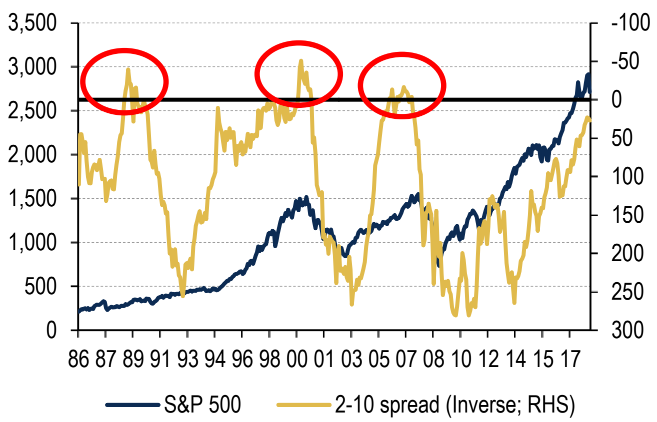
Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Empty bars indicate not statistically significant

Our Econ team forecasts 2.7% U.S. GDP growth in 2019, down from 2.9% expected in 2018. They do not see an imminent recession in the U.S., but with rising late-cycle concerns, we may see a further rotation into defensive sectors, such as Staples and Utilities that have historically outperformed in recessions.

Interest rate risk

Chart 141: Market peaks have been preceded by inverted yield curves

S&P 500 vs. 2yr/10yr treasury yield spread



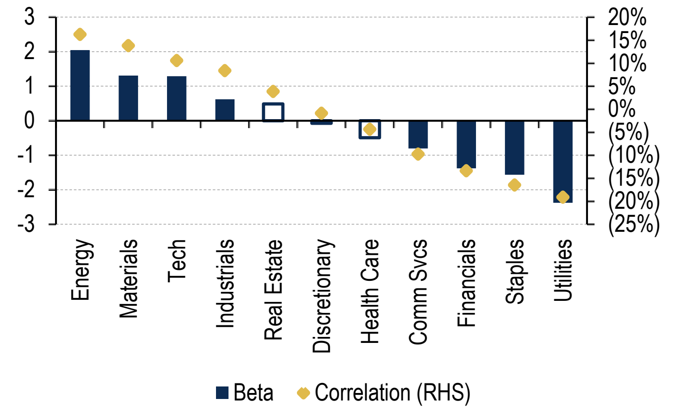
Source: Bloomberg, BofA Merrill Lynch US Equity & US Quant Strategy

Our Rates team forecast the yield curve inverting in 2H19

With the Fed expected to hike rates 4 times in 2019, our Rates team forecast the yield curve becoming completely flat by 2Q19 and inverting in 2H19, due to limited new fiscal stimulus and market participants focusing on recession risks in 2020.

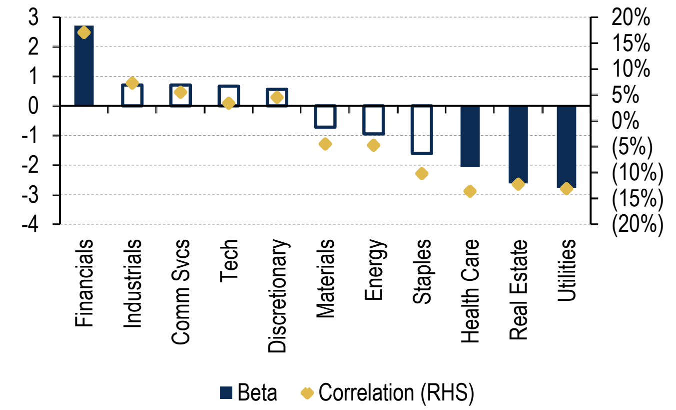
We highlight that previous three market peaks (including a 16% fall in 1990) have been preceded by inverted yield curves.

Chart 142: S&P 500 sectors' relative performance sensitivity to nominal rates (1972-10/2018)



Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Empty bars indicate not statistically significant

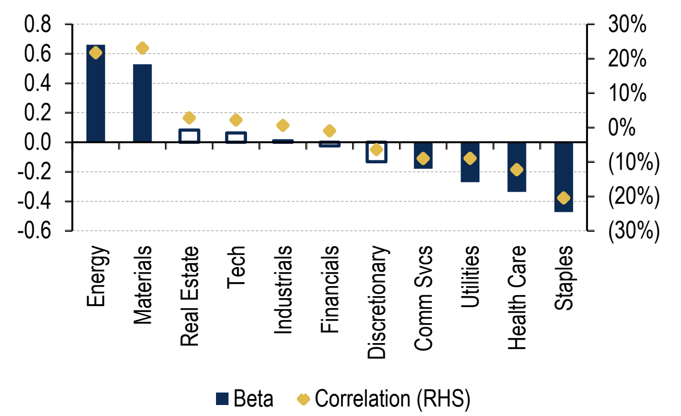
Chart 143: S&P 500 sectors' relative performance sensitivity to real rates (1997-10/2018)



Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Empty bars indicate not statistically significant

Inflation risk

Chart 144: S&P 500 sectors' relative performance sensitivity to inflation composite (1972-10/2018)

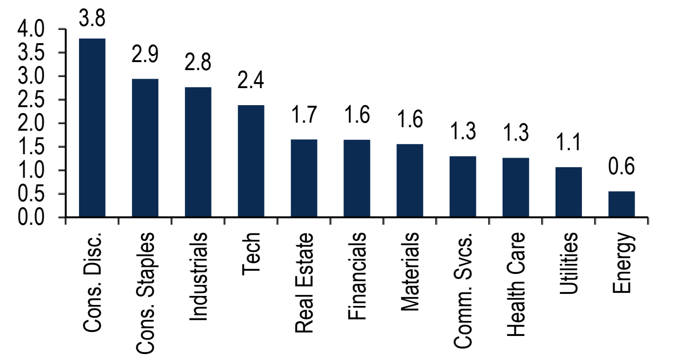


Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: For a full description of our Inflation Composite, please see the Appendix; Empty bars indicate not statistically significant

Energy & Materials outperform in an inflationary environment

On an absolute basis, seven out of 11 S&P sectors have had statistically significant positive betas to inflation. On a relative basis, Energy and Materials screen as biggest winners in an inflationary environment, while Staples and Health Care have lagged the most.

Chart 145: Employees/sales ($mn) by S&P 500 sector as of 11/12/18



Note: Employee data is based on data as of latest fiscal year, sales are latest twelve month
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet

Key risk: tight labor market, wage inflation

We see labor costs as a risk to labor-intensive sectors, such as Discretionary, Staples, and Industrials, as measured by employees per sales, given continued labor shortages amid accelerating wage growth.

Both the jobs openings rate (openings / total employment + openings) and the ratio of openings / hires are the most above-average in industries like Construction and Manufacturing (Table 4).

Table 44: JOLTS job openings rate & openings/hires ratio by industry vs. history (2000-9/2018)

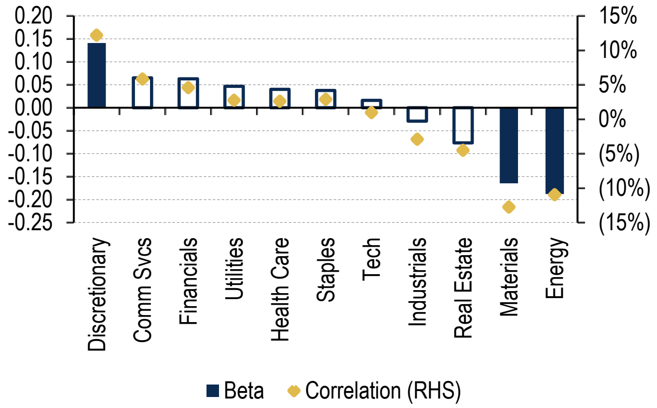
Industry	Openings rate (% of total employment + openings)	% above avg.	vs. '08-'09 recession	# of openings (,000)
Construction	3.7	88%	213%	278
Mining & Logging	4.0	83%	89%	32
Manufacturing	3.7	76%	149%	484
Trade, transportation & utilities	4.4	68%	122%	1,294
Accommodation & food services	6.4	67%	114%	961
Health Care & Social Assistance	5.8	44%	65%	1,223
Professional & Business Svcs	5.6	38%	70%	1,256
Real Estate & Rental & Leasing	3.6	33%	47%	84
Information	4.1	24%	77%	117
Arts, entertainment & recreation	3.6	24%	69%	87
Finance & Insurance	4.1	22%	68%	272
Educational Services	2.0	-7%	5%	76

Industry	Openings/Hires	% above avg.	vs. '08-'09 recession
Construction	0.7	106%	216%
Accommodation & food services	1.1	65%	98%
Manufacturing	1.5	64%	109%
Trade, transportation & utilities	1.1	59%	91%
Professional & Business Svcs	1.1	32%	38%
Health Care & Social Assistance	1.9	31%	48%
Real Estate & Rental & Leasing	1.1	31%	44%
Finance & Insurance	1.9	22%	58%
Arts, entertainment & recreation	0.5	20%	38%
Mining & Logging	0.7	15%	3%
Information	1.4	8%	25%
Educational Services	0.8	-14%	-3%

Source: Bureau of Labor Statistics, BofA Merrill Lynch US Equity & US Quant Strategy

Dollar risk

Chart 146: S&P 500 sectors' relative performance sensitivity to USD (1972-10/2018)

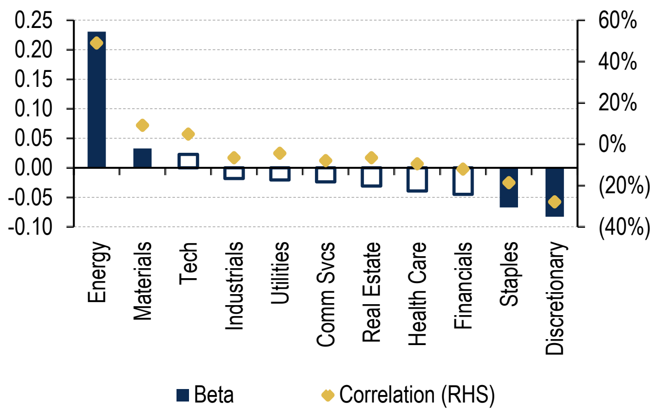


Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Empty bars indicate not statistically significant

Sectors exposed to commodities (Energy and Materials) historically underperformed when USD appreciates, while Discretionary outperformed. Our FX team forecasts USD weakening in 2019 on unsupportive fundamentals, with near-term upside risks from a still-strong economy, somewhat hawkish Fed and bullish event risks.

Oil price risk

Chart 147: S&P 500 sectors' relative performance sensitivity to WTI (1973-10/2018)



Source: Bloomberg, FactSet, BofA Merrill Lynch US Equity & US Quant Strategy
Note: Empty bars indicate not statistically significant

Energy has been an obvious winner in a rising oil price environment, while Consumer sectors tend to underperform as higher fuel costs hurt consumer spending. Our commodities team cut their WTI/Brent forecasts in 2019 by 17%/13%, assuming WTI/Brent average $59/$70 next year vs. $66/73 in 2018.

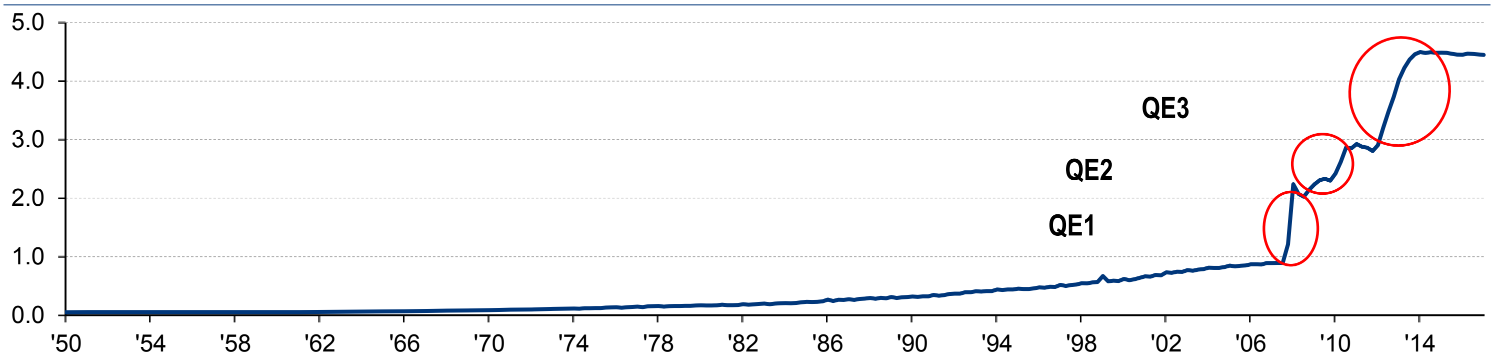
What's different this time?

History says stay long stocks, but something is always different this time. We explore some of these including (1) the Fed balance sheet, (2) disinflation / demographics / disruption, (3) protectionist policies, (4) a new and low corporate tax regime, (5) a change in economic and market cycles, (6) the budget deficit, (7) record low interest rates and (8) the growth of passive investing.

The Fed

While the size of the Fed's balance sheet is unprecedented, we looked at historical instances of Fed balance sheet shrinkage for implications on asset class returns (see Table 8 earlier): stocks outperformed bonds, large caps outperformed small caps and value outperformed growth.

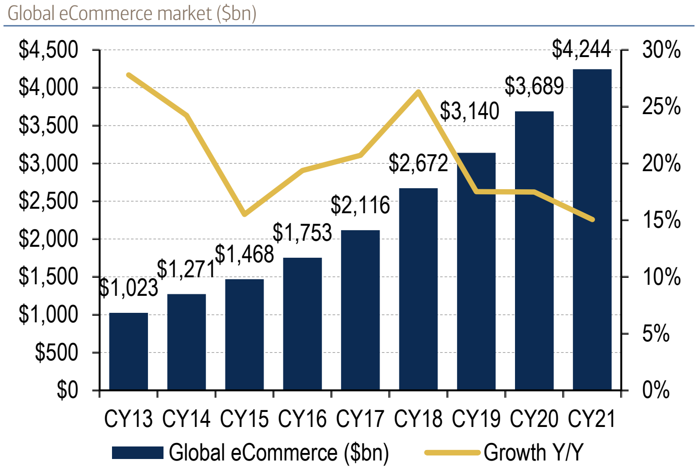
Chart 148: The size of the Fed's balance sheet has grown to unprecedented levels
Federal Reserve balance sheet since 1950



Source: BofAML US Equity & Quant Strategy, Federal Reserve Board

Disruption

Chart 149: Our Internet team expect the global eCommerce market to grow at 17% per annum through 2021
Global eCommerce market ($bn)



Source: Euromonitor, BofA Merrill Lynch Global Research

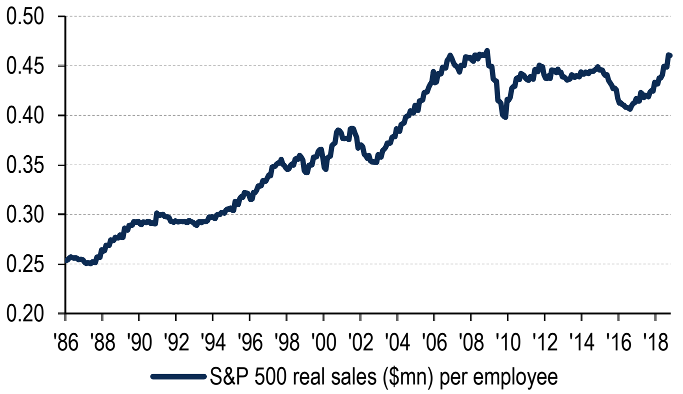
Strong technological tailwinds

Our Thematic Investing team believes Big Data & AI, Future Mobility, Cybersecurity, Robots and Sharing Economy themes have the strongest tailwinds today. Sub themes-wise: artificial intelligence, semiconductors, sensors, smart devices, nextgen autopart suppliers, VR/AR devices and telco infrastructure also have strong tailwinds today.

Our US Internet team estimates that the global eCommerce market is expected to grow from US$2.67tn in 2018 to US$4.24tn by 2021E. The area continues to see structural growth where today 75-89% of commerce is still offline globally (source: Euromonitor).

Chart 150: More machines, less labor

S&P 500 real sales ($mn)/employee ratio, 1986-present



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

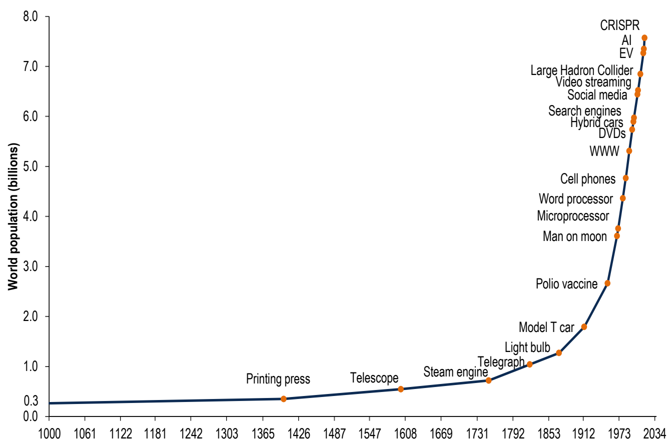
Automation and A.I. revolution

The global market for robots is expected to reach $83bn by 2020E (from $45bn in 2014).

Secular disinflationary pressures

Exhibit 9: Tech disruption is deflationary and the pace of change is speeding up

Technological change and world population (bn) since 1000AD



Source: BofA Merrill Lynch Global Investment Strategy, Global Financial Data

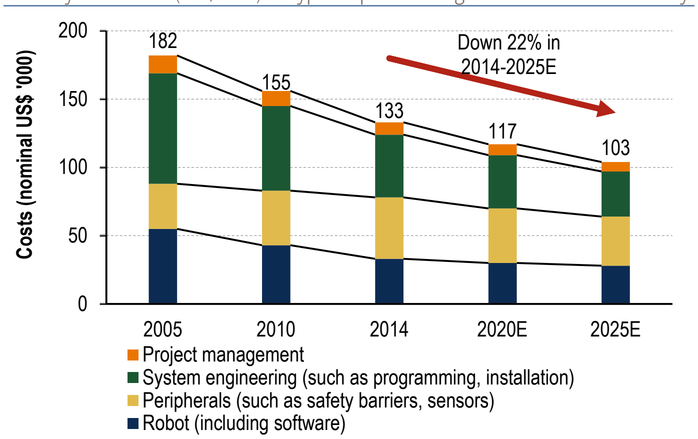
"Techceleration" - pace of change is speeding up

It took the aerospace industry 64 years to get to 50 million users, it took smartphones 12 years, it took Facebook 4 years but for Pokémon Go it was only 19 days.

The pace at which themes are transforming businesses is unprecedented today and our Thematic team expects the rate of technological change will be faster still over the next 5Y.

Exhibit 10: Costs of robots is expected to decline 22% from 2014-2025

Total system costs (US$'000) of typical spot-welding robot in US auto industry



Source: Source: ABB, Economic Justification for Industrial Robotic Systems, 2007; International Federation of Robotics, World Robots; expert interviews; BCG analysis

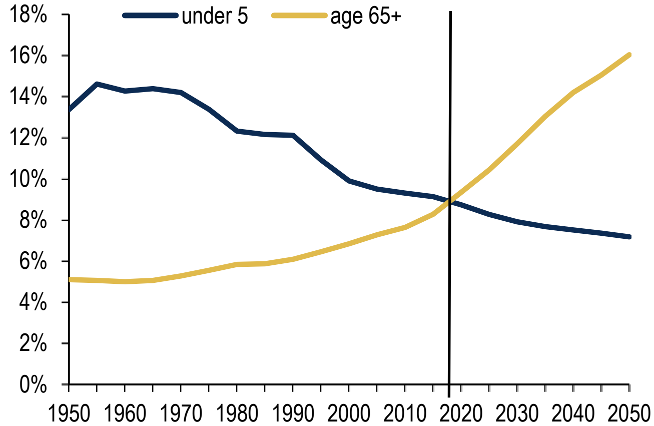
Tech disruption is deflationary

According to our Thematic Investing team, by 2025 robot costs are expected to have decreased 22%, improving performance at 5% per annum and enabling a rise in penetration from 10% to 45% of robot use in manufacturing.

Changing demographics

Exhibit 11: Downside demographic risk is "peak youth"

Number of 65+ will overtake those aged <5 before 2020



Source: UN

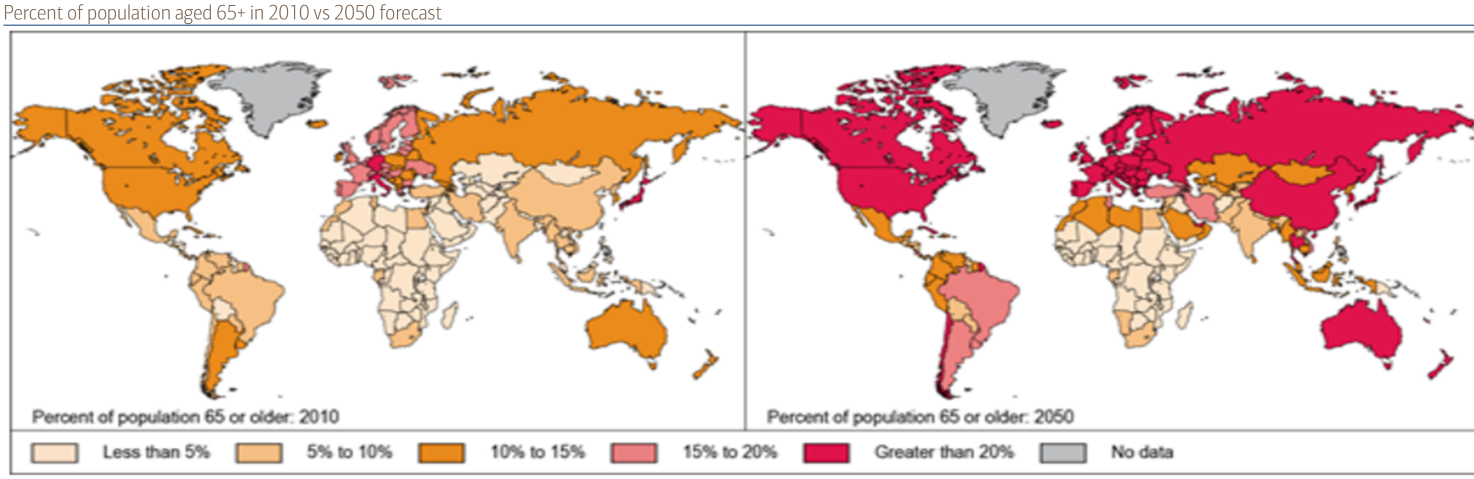
Longevity risk

We've reached peak youth. For the first time in history, people aged 65Y+ will outnumber children <5Y before 2020E.

66% of the increase in 60+ population between 2015 and 2050E will occur in Asia. China will see the fastest increase in the world: +21%. The proportion of 60+ will rise from 15% of the population today (209mn) to 36% (c.500mn) by 2050E (source: UN).

Exhibit 12: Ageing is not only a DM phenomenon with EMs rapidly ageing

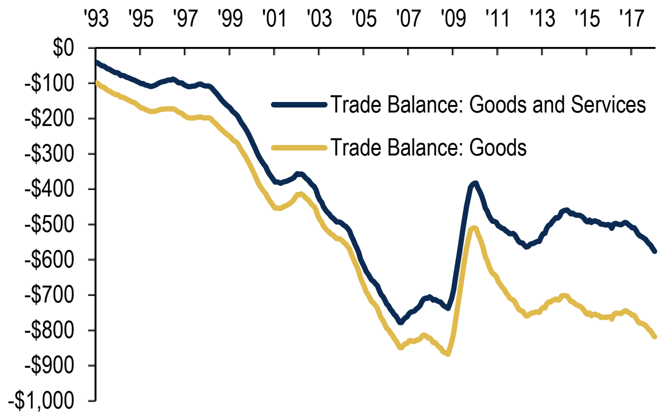
Percent of population aged 65+ in 2010 vs 2050 forecast



Source: UN

Protectionism vs. globalization

Chart 151: US trade balance ($bn, 12-month moving total)

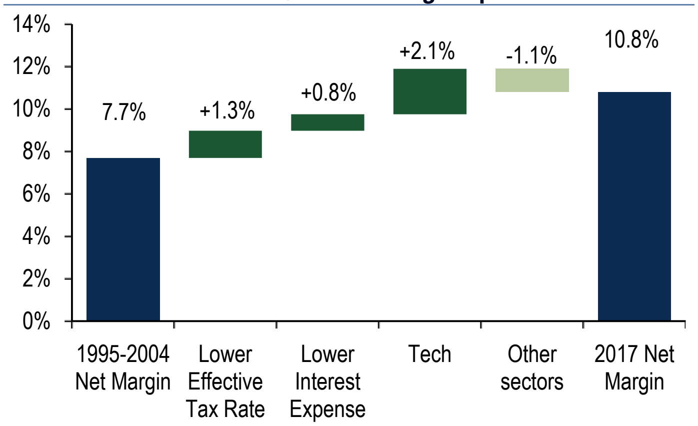


Source: Census Bureau

Trump is focused on trade

The US trade deficit continues to widen, and has been a focus for President Trump since his campaign.

Chart 152: Contribution to S&P 500 net margin expansion

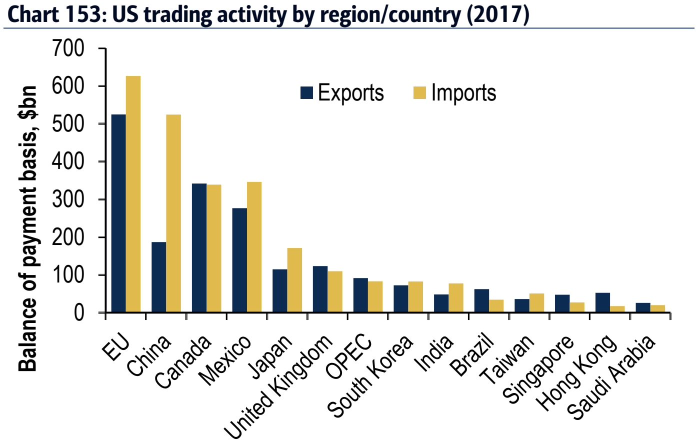


Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

Globalization has been a key driver of margins

About 40% of the margin expansion for the S&P 500 non-Financials over the last 1-2 decades has come from globalization (i.e. a lower effective tax rate, labor arbitrage, etc.).

Chart 153: US trading activity by region/country (2017)

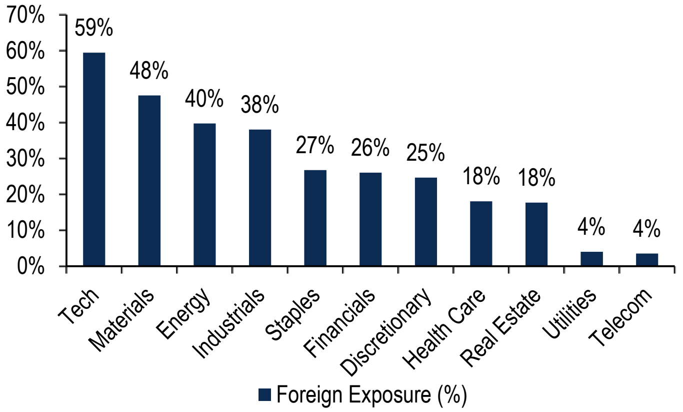


Source: Census data, US Equity & Quant Strategy

Trump is focused on the US' major trading partners

The US's biggest trading partners are the EUR and China, followed by Canada and Mexico.

Chart 154: S&P 500 companies' foreign exposure by sector

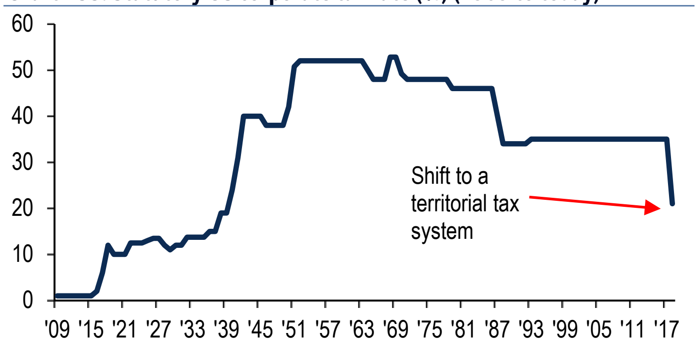


Source: FactSet, US Equity & Quant Strategy
Note: This screen is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decisions.

Foreign exposed companies and those with globally integrated supply chains are at risk
Tech has the highest foreign sales exposure and a globally integrated supply chain, making a trade war a key risk for the sector. Materials, Energy and Industrials also have high global exposure.

Tax rate equalization

Chart 155: Statutory US corporate tax rate (%) (1909 to today)



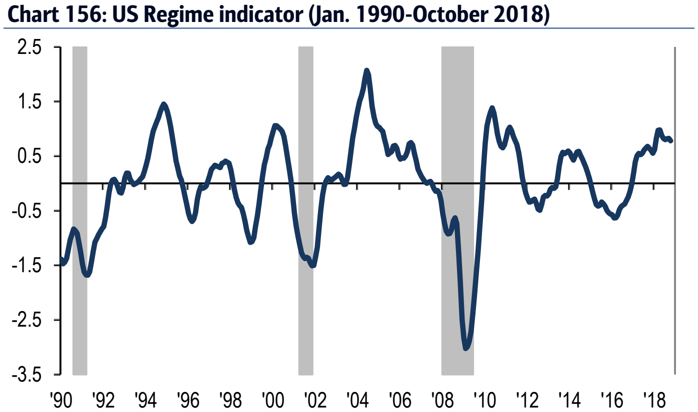
Source: IRS

Tax reform ushered in a new era
Corporate tax rates have dropped to a post-WWII low, we now have a territorial tax system.

Cycles are smoother

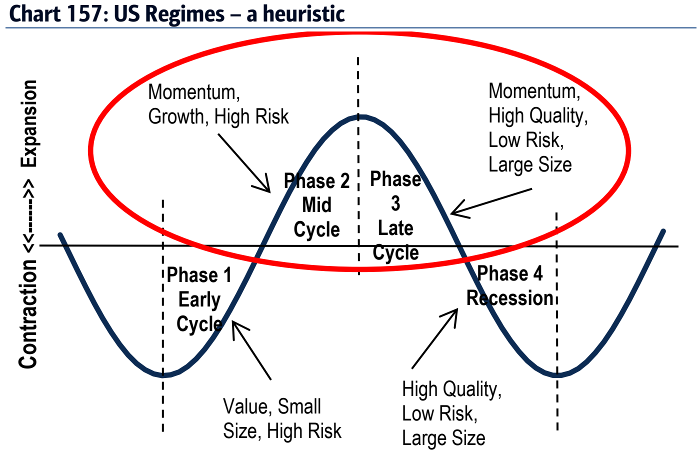
Our US Regime indicator highlights mini-cycles within the current broader cycle, a phenomenon not seen in the prior cycle which saw a more traditional boom/bust cycle.

Chart 156: US Regime indicator (Jan. 1990-October 2018)



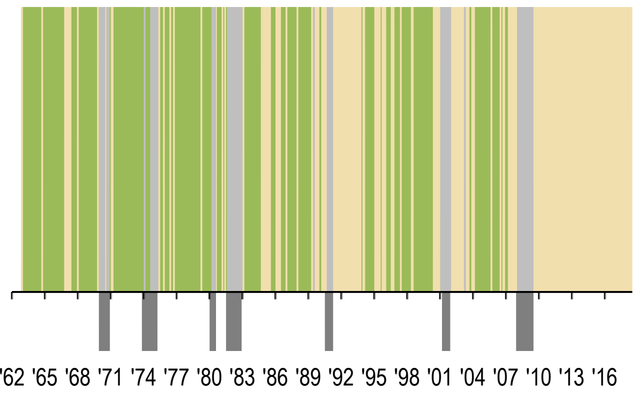
Source: BofAML US Equity & Quant Strategy, Thomson Reuters, ICE/BofA Merrill Lynch, ISM, Bureau of Labor Statistics, Federal Reserve
Note: We aggregate 8 top-down variables capturing corporate earnings, economy, inflation, credit, etc. to identify four phases. See Methodology for details.

Chart 157: US Regimes – a heuristic



Source: BofA Merrill Lynch US Equity & US Quant Strategy

Chart 158: The phases of the business cycle according to big data



Source: BofA Merrill Lynch Global Research, FRB St. Louis

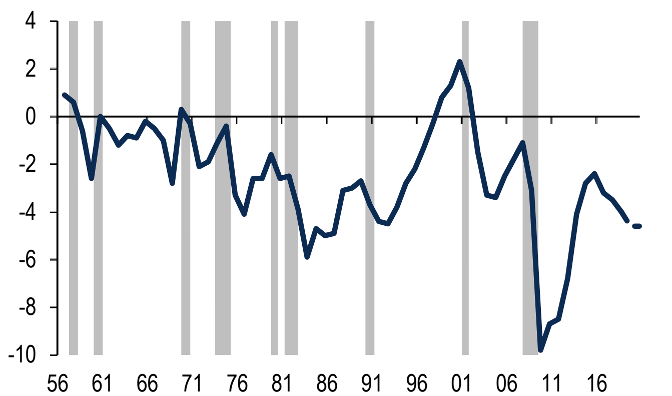
On track for the longest economic expansion in history

Similar to our regime model, our economists' machine-learning algorithm applied to a large macroeconomic dataset of over 100 variables shows no signs that a recession is imminent. The current expansion has been a very long soft patch, and standard peak business-cycle conditions remain elusive.

A growing budget deficit

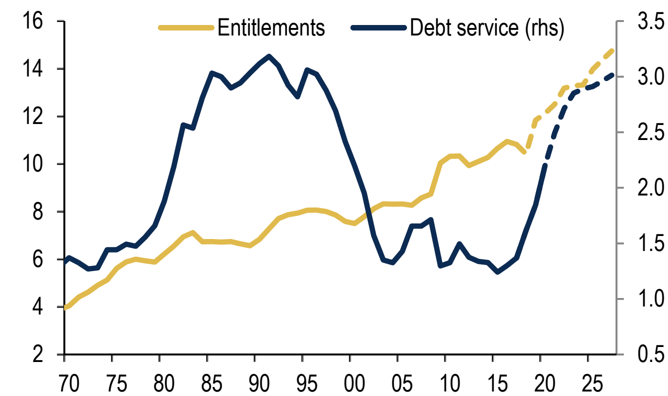
Our house view is that the deficit will increase from $586 bn in FY2016 to just over a trillion dollars or 5.0% of GDP by FY2019.

Chart 159: US deficit as a % of GDP (Fiscal Year)



Source: CBO, BLS

Chart 160: Projected debt service and entitlements outlays (% of GDP)

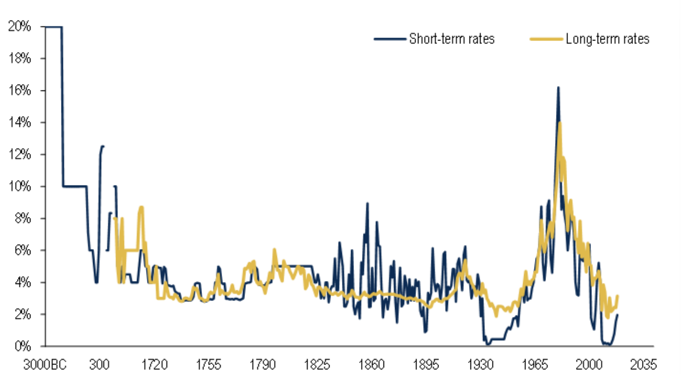


Source: OMB, CBO

Near record low interest rates are just starting to rise

Exhibit 13: The 10yr Treasury yield is currently in the 15th percentile since 1962

Interest rates since 3000BC



Source: BofA Merrill Lynch Global Investment Strategy, Bank of England, Global Financial Data, Homer and Sylla "A History of Interest Rates" (2005)

A new rising rate regime

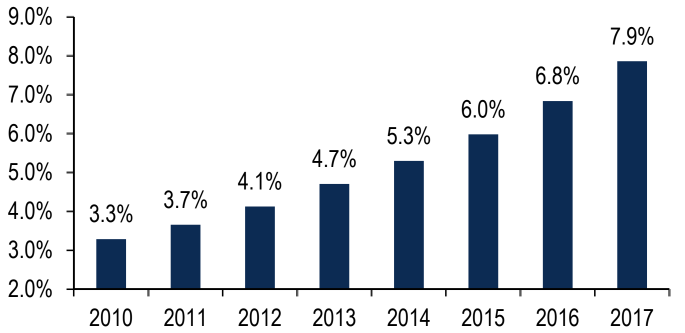
Interest rates have been at multi-thousand-year-lows, and are now beginning to rise.

Growth of passive investments

The S&P 500 may not be as liquid as it seems.

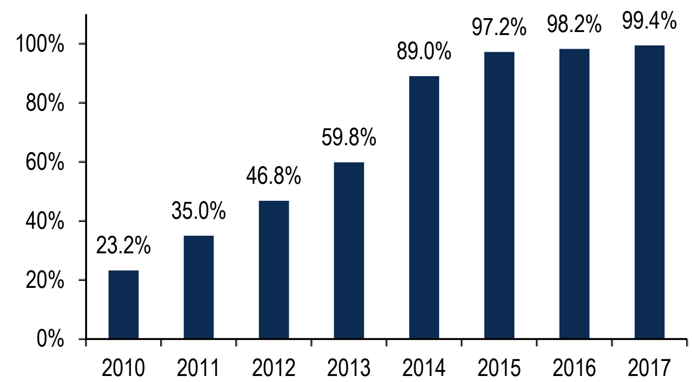
Chart 161: The percentage of S&P 500 market cap held by Vanguard alone has more than doubled since 2010

% S&P 500 market cap owned by Vanguard



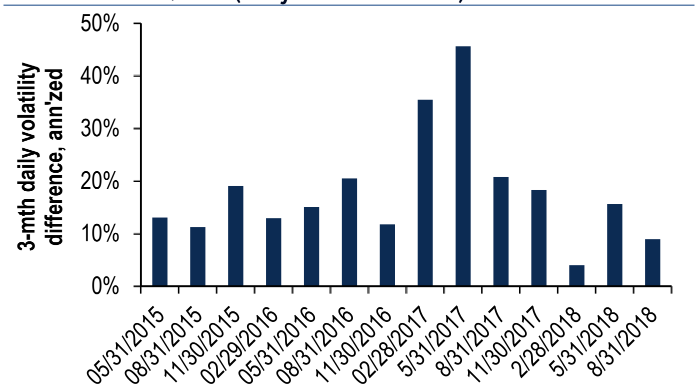
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership.

Chart 162: % Stocks where Vanguard owns > 5% of float



Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership.

Chart 163: Excess Volatility of Top 100 by % of passive ownership vs. the rest of the S&P 500 (analysis excludes REITs)



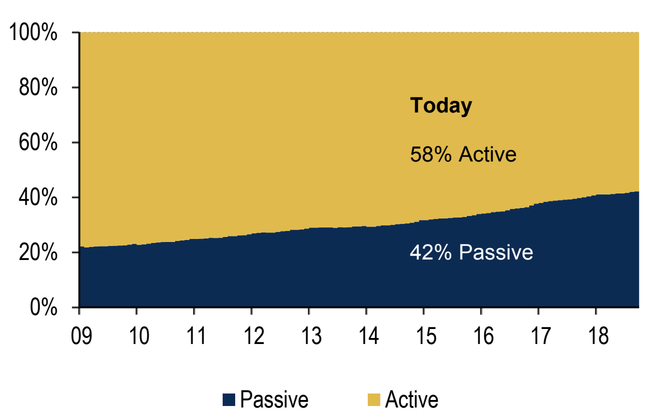
Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership.

Higher volatility in stocks held by passive funds

The volatility of stocks (measured by both standard deviation & price declines) with more shares held by passive is higher than that of the remaining S&P 500.

Chart 164: Still less than 50% passive

AUM split of US funds: active vs. passive, 2009 – 9/30/18



Source: Strategic Insight SimFund, BofA Merrill Lynch US Equity & US Quant Strategy

How big can passive get? Bigger.

Passive exposure in Japan suggests that the tipping point in the US may be further out. Japan has a functioning equity market, but passive inflows are now ~80% of total assets.

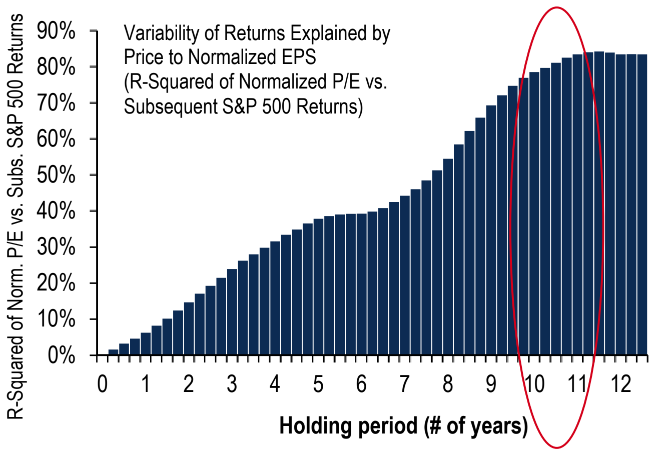
Time horizon arbitrage

Long-term (10yr) target (year-end 2028): 4900 (+6%/year)

Our work suggests that valuation is a poor short-term signal of returns, but is almost all that matters in the long-run – the predictive power of Normalized P/E vs. subsequent 10-year S&P 500 returns is~80% (Chart 149), with a similar case across many valuation measures we track. We use this framework, based on a simple linear regression of historical valuation (Normalized P/E) vs. historical subsequent returns, to forecast a long-term (10-year) return for the S&P 500. Today, valuations suggest the S&P 500 should reach 4900 by year-end 2028 (+6% annualized price returns).

Chart 165: Valuation is all that matters in the long-term

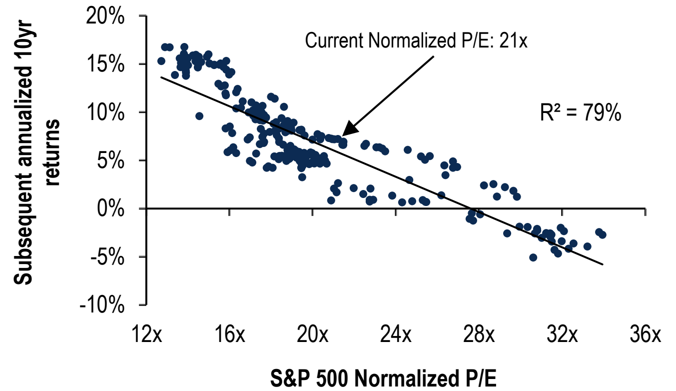
Normalized P/E's predictive power of S&P 500 returns (7/1987-present)



Source: Haver/S&P, BofA Merrill Lynch US Equity & US Quant Strategy

Chart 166: Current normalized P/E of 21x suggests annualized returns of +6%/yr over 10 years

S&P 500 Normalized P/E vs. subsequent annualized 10yr returns (7/1987-present)

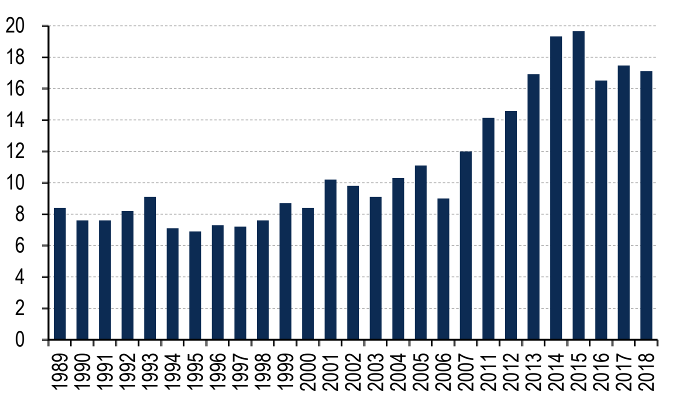


Source: Haver/S&P, BofA Merrill Lynch US Equity & US Quant Strategy

Long-term investing = the most contrarian strategy today

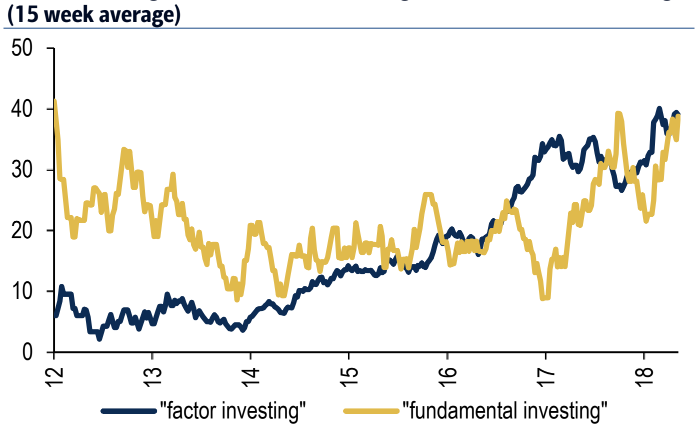
Short-term quantitative investing has been on the rise, as evidenced by the growing number of factors investors use in their frameworks, as well as the rise in Google search trends for "factor investing" over the last several years (though searches for "fundamental investing" are finally starting to pick up again).

Chart 167: BofAML Institutional Factor Survey: average number of factors used by investors over time



Note: 2008-2010 excluded (insufficient responses)
Source: BofA Merrill Lynch US equity & US Quant Strategy

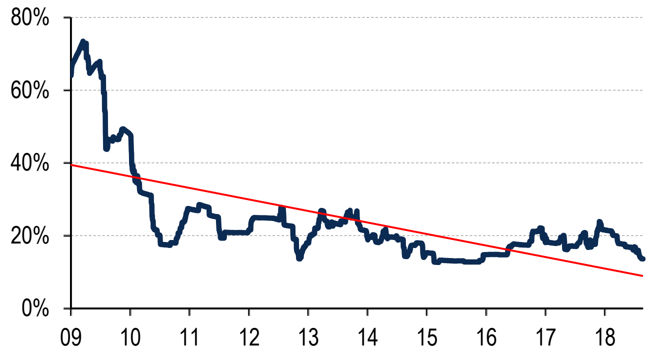
Chart 168: Google trends: "factor investing" vs "fundamental investing" (15 week average)



Source: Google

Chart 169: Range of short-term market opportunities has shrunk

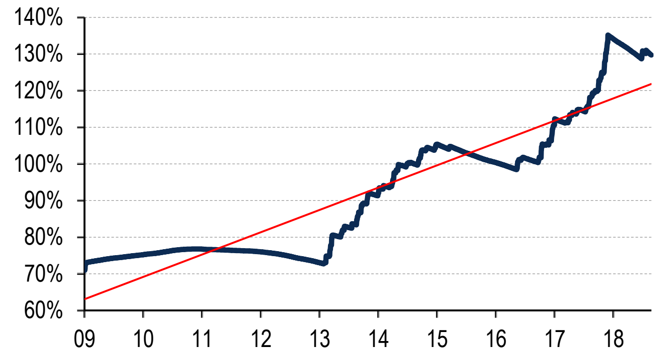
S&P 500 1-year price range [(Max-Min)/Avg], March 2009 to Oct 2018



Source: FactSet, BofA ML US Equity & Quantitative Strategy

Chart 170: Range of long-term market opportunities has expanded

S&P 500 10-year price range [(Max-Min)/Avg], March 2009 to Oct 2018



Source: FactSet, BofA ML US Equity & Quantitative Strategy

Table 45: Total Returns by Decade (1930s -2000s): rarely negative

Decade	Total Return	Avg Annual Return
1930s	-1%	-0.1%
1940s	149%	9.5%
1950s	486%	19.3%
1960s	112%	7.8%
1970s	77%	5.9%
1980s	404%	17.5%
1990s	431%	18.2%
2000s	-9%	-0.9%

Source: BofA Merrill Lynch Us Equity & US Quant Strategy

Over a 10-year time horizon, negative returns are rare: outside of the 1930s, the 2000s was the only decade with negative total returns.

Table 46: Market timing can lead to missing out on the best days

S&P 500 returns by decade excluding the 10 best and 10 worst days

Decade	Price return	Excluding best 10d per decade	Excluding worst 10d per decade	Excluding best/worst 10d per decade
1930	-42%	-79%	39%	-50%
1940	35%	-14%	136%	51%
1950	257%	167%	425%	293%
1960	54%	14%	107%	54%
1970	17%	-20%	59%	8%
1980	227%	108%	572%	328%
1990	316%	186%	526%	330%
2000	-24%	-62%	57%	-21%
2010	95%	34%	200%	106%
Since 1930	**10055%**	**31%**	**1124980%**	**14442%**

Source: S&P, BofA Merrill Lynch US Equity & Quant Strategy

Market timing is difficult: the best days usually follow the worst days for the market, which one may miss out on if panic-selling/pullback timing.

Appendix

US Regime Indicator methodology

Inputs for the US regime model include the following eight macroeconomic or top-down variables:

- **Earnings Revision ratio**: Calculated as the ratio between the number of companies in the S&P 500 for which Thomson Financial consensus earnings estimates have been raised versus those that have been lowered. A rising ratio indicates an improving economic cycle.
- **ISM PMI:** ISM PMI Institute for Supply Management Manufacturing Purchasing Managers Index, represented as the Z-Score. The ISM Manufacturing Index monitors economic activity as reported by 300 supply management professionals. The reading of the index above (below) 50 indicated economic expansion (contraction).
- **Inflation**: The 12-month change in the BofAML Inflation Composite (see methodology further below), represented as the Z-Score. Rising inflation indicates improving economic conditions.
- **GDP Forecast:** The next 12-month US GDP growth forecast from the Federal Reserve Bank of Philadelphia Survey, represented as the Z-Score.
- **Leading Economic Indicators index**: The 12-month change in the Conference Board US Leading Index of Ten Economic Indicators, represented as a Z-Score. A rising Z-Score indicates improving economic conditions.
- **US Capacity Utilization**: The 12-month change in US capacity utilization, represented as the Z-score. The capacity utilization rate indicates the percentage of total economic capacity currently utilized. Rising capacity utilization implies improving economic conditions. Rising capacity utilization suggests more expanding economic cycle and potentially rising inflationary pressure.
- **10-yr US Treasury Bond Yield**: The 12-month change in the bond yield, represented as the Z-Score. Rising yields indicate improving economic conditions.
- **High Yield corporate bond credit spread**: The 12-month change in the US High Yield credit spread of the ICE BofAML US High Yield Index, represented as a Z-score. Falling spreads indicate improving economic conditions.

Styles

Using the phases identified by the US Regime Indicator, we assess performance of broad style categories using the following factors based on top decile S&P 500 stocks (please see our Quantitative Profiles publication for full factor definitions).

Value: an equal-weighed combination of the following factors: Trailing EPS Yield, Forward EPS Yield, Price/Book, Price/Cash Flow, Price/Free Cash Flow, Price/Sales, EV/EBITDA, FCF/EV.

Growth: an equal-weighed combination of the following factors: EPS Momentum, Projected 5-year Growth and EPS Estimate Revisions.

Momentum: 12-month Price Momentum.

High Quality: an equal-weighed combination of the following factors: 1-year Return on Equity, 5-year Return on Equity, Debt Adjusted 1-year Return on Equity, Debt Adjusted 5-year Return on Equity, Return on Capital, Return on Assets.

High Risk: an equal weighed combination of the following factors: Beta, EPS Variability, EPS Estimate Dispersion, Price.

Small / Large Size: Market capitalization.

Definitions of quality metrics

- **"A+" vs. "C&D":** Highest vs. lowest quality stocks within the BofAML US coverage universe based on the S&P Common Stock Rankings. These rankings are based on a quantitative assessment of long-term growth and the stability of a company's earnings and dividends over a 10-year period.

- Note: we also sometimes define high quality vs. low quality in our work as "B+ or Better" vs. "B or Worse" ranked stocks when a broader sample of stocks is needed.

- **ROE**: Top and bottom deciles of the S&P 500 on Trailing 4-quarter return on equity where return is measured as trailing twelve month earnings, equity is measured by book value.

- **Beta**: Top and bottom deciles of the S&P 500 based on five-year (60-month) adjusted beta vs. S&P 500.

- **Earnings Certainty**: Bottom decile of the S&P 500 based on dispersion of next year's consensus estimates, where low dispersion or clustered estimates suggest a higher level of certainty. **Earnings Uncertainty**: Top decile of the S&P 500 based on dispersion of next year's consensus estimates, where most dispersed estimates suggest a lower level of certainty.

- **Nifty 50 / Small Size**: Top and bottom deciles of the S&P 500 based on current market capitalization.

Strategies of investing in quality by various measures have generally behaved similarly over time.

As the table below illustrates, baskets of high and low quality stocks corresponding to each of these measures generally behave similarly over time based on correlations of monthly returns. Whereas some strategies are more similar than others, most display reasonably high correlations in returns.

Exhibit 14: Correlation between High-Low Quality Performance Spreads (1989 to 10/2018)

	High ROE vs. Low ROE	Low Beta vs High Beta	Certain vs Uncertain Earnings	Nifty 50 vs. Small Size	"A+" vs. "C&D"
High vs. Low ROE	100.0%				
Low s. High Beta	62.5%	100.0%			
Certain vs Uncertain Earnings	60.1%	63.3%	100.0%		
Nifty 50 vs. Small Size	65.1%	48.3%	52.7%	100.0%	
"A+" vs. "C&D"	59.8%	64.4%	64.1%	39.7%	100.0%

Source: BofA Merrill Lynch US Equity and US Quantitative Strategy

Note: while we track the performance of Debt to Equity and Altman Z-Scores, which may be considered quality measures as well, we excluded them from this analysis as they behave quite differently from the other measures we examine, and appear to have different drivers for returns. Moreover, Altman Z-Scores exclude Financials, so comparisons would be unfair.

BofAML Inflation Composite methodology

Given that inflation can stem from consumer, producer, wage and commodity price fluctuations, we aggregated these measures into one composite, which we first published in December 2010. In order to gauge the overall level of actual inflation, we constructed a composite indicator based on four measures of inflation that are intended to capture the diverse aspects of the economy, including finished goods, inputs, labor and commodities. These particular measures were selected based on their lower correlations with one another, using data since 1975. The components are as follows:

- **Finished goods –** The CPI measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

- **Inputs** – The Producer Price Index core crude measures the month-to-month percent change in a producer price index for intermediate and crude materials excluding food and energy.

- **Wages** - Average Hourly Earnings is based on the average hourly earnings of production or non-supervisory workers on non-agricultural payrolls.

- **Commodities** - The Commodity Research Bureau (CRB) constructs an equal-weighted index of 23 commodities. The CRB is the most volatile of all inflation measures included.

BofAML Pro-Inflation and Anti-Inflation baskets

In December 2010, we created two baskets of stocks: the Pro-Inflation Basket, comprised of S&P 500 stocks whose historical relative performance is positively correlated with inflation, and the Anti-Inflation Basket, comprised of S&P 500 stocks whose historical relative performance is negatively correlated with inflation.

To examine the effects of inflation on the performance of stocks, we modeled excess stock returns vs. the percentage change in our Inflation composite (defined on pg 4) by using the regression analysis shown below. We used the stocks' 12-month return minus the S&P 500 return as the dependent variable and the 12-month changes in the inflation composite as the independent variable, using monthly data since 1975. The resulting regression coefficient can be interpreted as the "inflation beta", or the sensitivity of the stock to inflation.

$$\text{Return}_{\text{stock}} - \text{Return}_{\text{S\&P500}} = \beta_{\text{Inflation}} * \Delta_{\text{Inflation Composite}} + \varepsilon$$

We included only stocks with statistically significant inflation betas in our analysis by selecting results which were significant at the 95% confidence level and where the stock had more than 20 years of data available. Finally, we screened those stocks with inflation betas greater than one for the Pro-Inflation screen, and those stocks with inflation betas less than one for the Anti-Inflation screen. This resulted in 70 stocks for the Pro-Inflation screen, and 48 stocks for the Anti-Inflation screen.

We rebalance these screens based on constituents as of 1/31/17 in Strategy Snippet: Reflategate 13 February 2017, subject to the same methodology outlined above, which results in 74 stocks on the Pro-Inflation screen and 38 stocks on the Anti-Inflation screens. They were previously rebalanced as of 9/30/15 and published in US Equity Strategy in Pictures: Murky signals, but clear opportunities 30 October 2015 . This resulted in a list of 75 stocks for the Pro-Inflation screen and 45 stocks for the Anti-Inflation screen. Our prior rebalance was in our February 15 2013 "Inflation Fixation" report (Equity Strategy Focus Point, 15 February 2013), based on current constituents of the S&P 500 index as of 1/31/2013, which resulted in 75 stock in the Pro-Inflation screen and 45 stocks in the Anti-Inflation screen. Rebalancing is conducted on an ad-hoc basis subject to our discretion; we seek to rebalance the baskets every one to two years.

Performance Calculation

Performance calculations for each basket are conducted each month, using data and closing prices corresponding to the market's close on the last business day of each month. The performance of each basket is computed on the basis of equal-weighted price return, and does not include dividends. The performance presented within this report is the performance of the Pro-Inflation Basket relative to the Anti-Inflation Basket. The performance since inception is as of December 29, 2010. See the performance table below.

The performance results do not reflect transaction costs, tax withholdings or any investment advisory fees. The baskets followed here may differ from the S&P 500 in that each is significantly less diversified, and as such, the performance is more exposed to specific stock or sector results. Investors following the strategy may therefore experience greater volatility in their returns.

The performance results of individuals following the strategy presented here will differ from the performance contained in this report for a variety of reasons, including differences related to incurring transaction costs and/or investment advisor fees, as well as differences in the time and price that securities were acquired and disposed of, and differences in the weighting of such securities.

This report includes the performance of the Pro Inflation and Anti Inflation baskets for informational or descriptive purposes, and inclusion here is not equivalent to a recommendation of the strategy.

Table 47: Price performance of BofAML Pro-Inflation and Anti-Inflation Baskets (as of 10/31/18)

	Pro-Inflation Screen	Anti-Inflation Screen	Relative Performance (Pro-Inflation Screen vs. Anti-Inflation Screen (ppt)	S&P 500 Index	Equal-Weighted S&P 500 Index
1 month	-11.2%	-6.5%	-4.7	-6.9%	-7.3%
3 months	-11.5%	-3.2%	-8.3	-3.7%	-5.7%
6 months	-4.8%	4.1%	-9.0	2.4%	-0.8%
12 months	-0.2%	12.4%	-12.6	5.3%	2.6%
YTD	-4.9%	2.2%	-7.1	1.4%	-1.9%
5 years	15.7%	64.3%	-48.6	54.4%	45.5%
Since inception on 12/31/10	55.2%	161.0%	-105.8	115.3%	109.1%

Source: BofA Merrill Lynch US Equity & US Quant Strategy

Methodology – BofAML Quality indices

For the BofAML Quality indices, we created stock screens by using Standard and Poor's quality ranking for companies in the BofA Merrill Lynch research coverage. At the end of each month, the companies in the universe are grouped by their quality rankings. We then created quality ranking screens showing stocks in quality rank. We tracked the output of these screens for the subsequent month.

Note that no adjustment was made to remove stocks that were on the firm's restricted list from our backtest analysis.

Returns Calculation

For each of the factors analyzed, rebalancing and performance calculations were conducted each month, using data and closing prices corresponding to the market's close on the last business day of each month. The results of each screen were computed on the basis of price return.

Our backtest results do not reflect transaction costs, tax withholdings or any investment advisory fees. Had these costs been reflected, the results would have been lower. The results of individuals replicating the analysis presented here may differ from the results contained in this report for a variety of reasons, including different assumptions related to incurring transaction costs and/or investment advisory fees, as well as differences in the time and price that securities were acquired and disposed of, and differences in the weighting of such securities. The results may also differ based on differences in assumptions of treatment of dividends received, including the amount received and whether and when such dividends were reinvested.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. *VOLATILITY RISK RATINGS*, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. *INVESTMENT RATINGS* reflect the analyst's assessment of a stock's: (i) absolute total return potential and (ii) attractiveness for investment relative to other stocks within its *Coverage Cluster* (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

***INCOME RATINGS*, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend.** *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Merrill Lynch report referencing the stock.

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