

# State Street Global Advisors SPDR<sup>®</sup> ETFs Chart Pack

September 2018 Edition

## For Public Use

Please see Appendix D for more information on investment terms used in this Chart Pack.

**STATE STREET**  
**GLOBAL ADVISORS**  
**SPDR<sup>®</sup>**

# Chart Pack Table of Contents

## I. Market Environment

- Performance
- Investor Confidence
- Volatility
- Tail Risk
- Midterm Elections
- State Street Current Positioning

## II. Global Flows & Fundamentals, US Factors

- Asset Class Flows
- Global Economy
- Valuations
- US Factor Trends

## III. Sectors

- Flows & Returns
- Sector Scorecard
- GICS Sector Chart
- Sector Trends

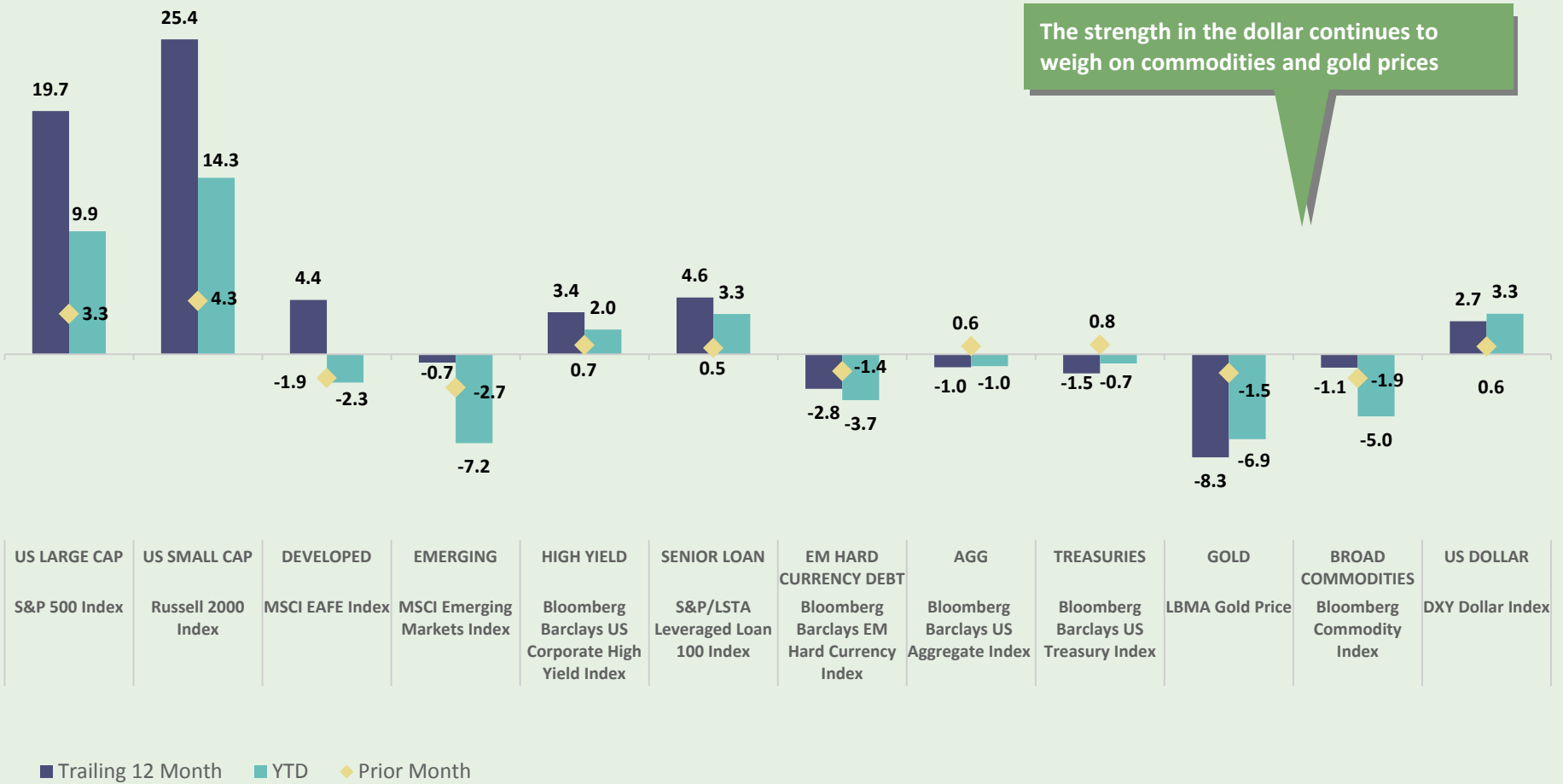
## IV. Fixed Income

- Yield Curve
- Inflation
- Treasury Positions
- Bond Markets
- Short Duration
- Credit Trends
- EM Debt

# Market Environment

# Asset Class Performance — Geopolitical turmoil jittered international equities, while US equities showed resilience given the strength in dollar and corporate earnings

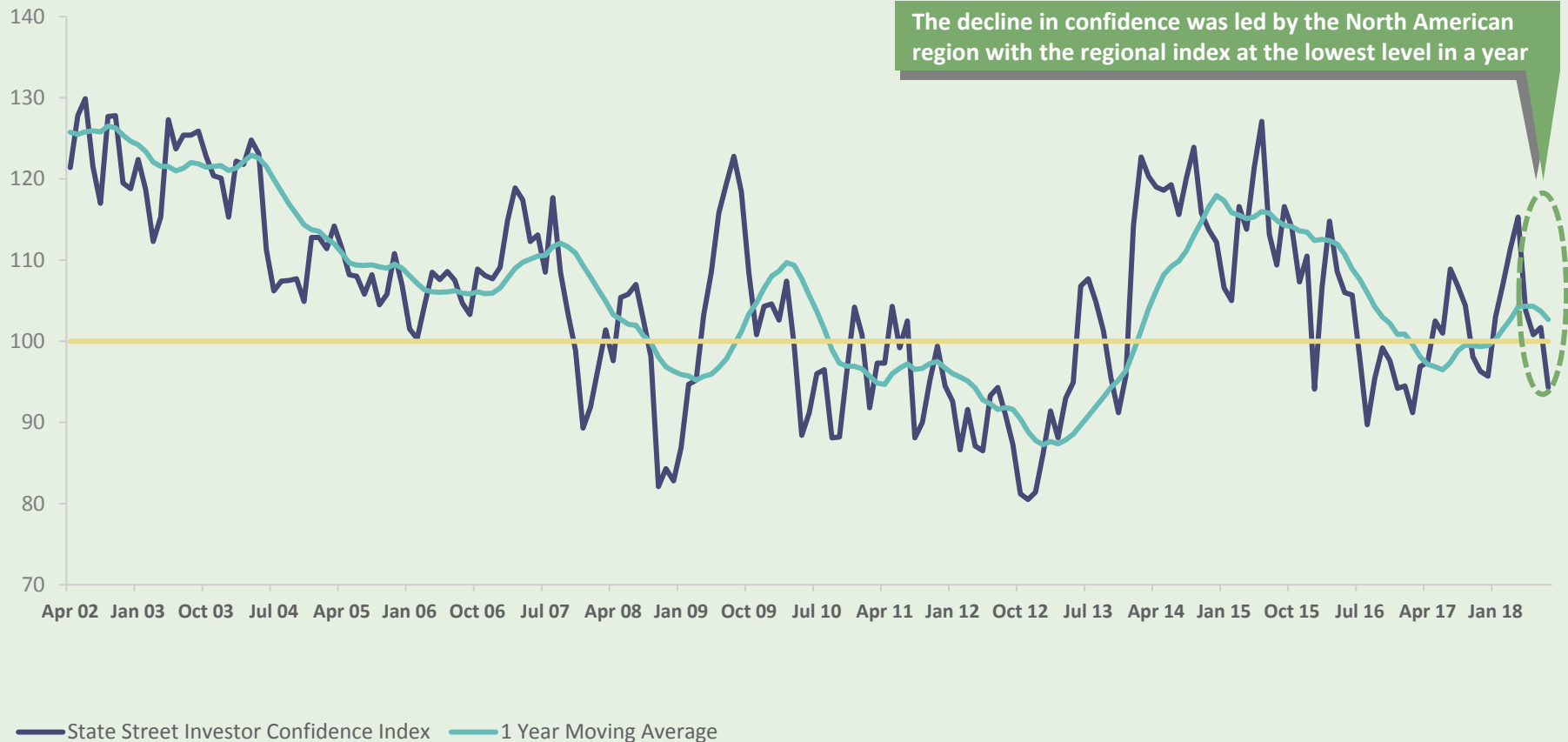
## Major Asset Class Performance (%)



Source: Bloomberg Finance, L.P. As of August 31, 2018. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Performance returns for periods of less than one year are not annualized.

# Investor Confidence — Institutional investors started displaying risk-averse behavior as they navigate through elevated trade uncertainty and geopolitical turmoil

## State Street Investor Confidence Index

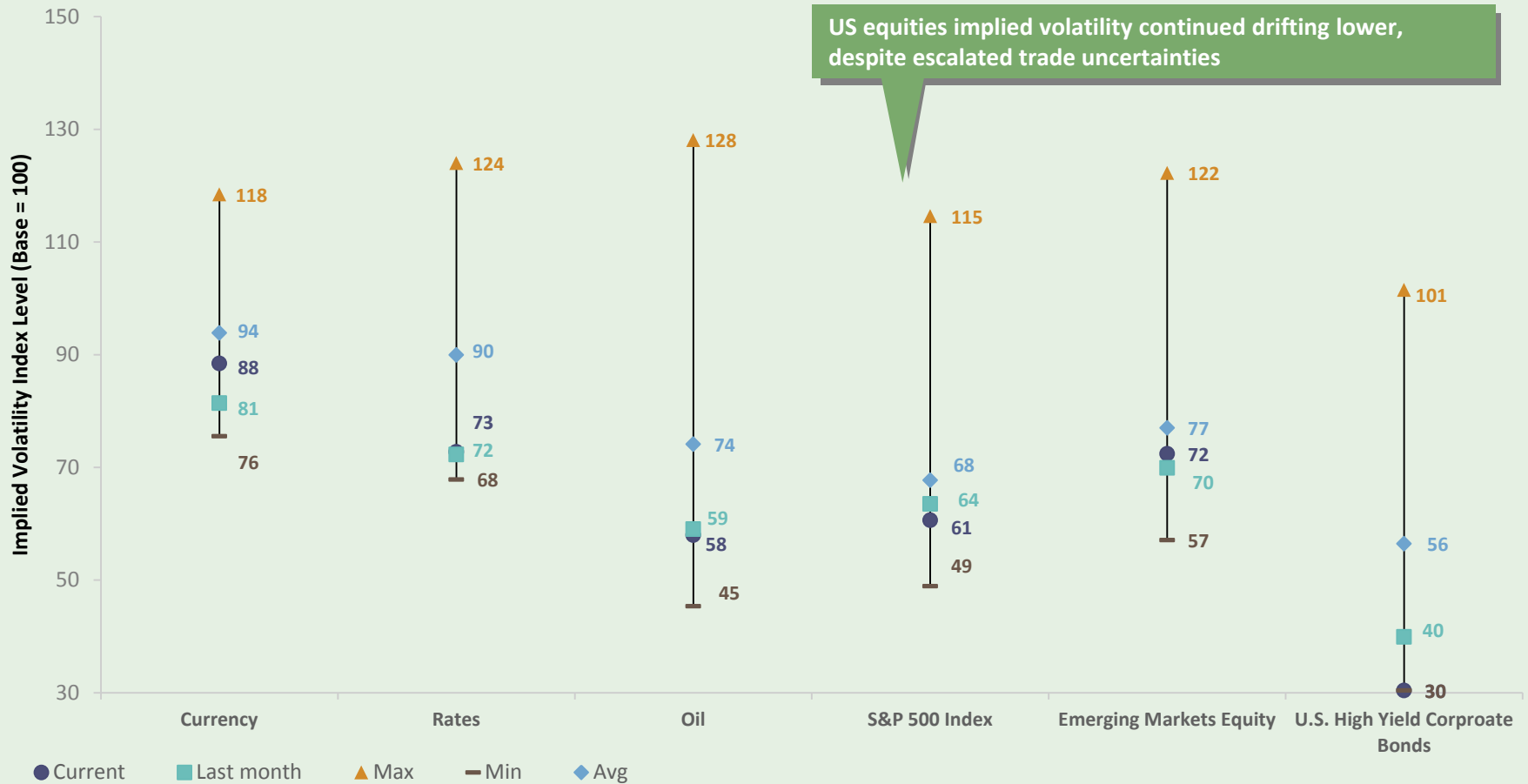


Source: Bloomberg Finance, L.P. As of August 31, 2018.

State Street Confidence Indexes Measures investor confidence or risk appetite quantitatively by analyzing the actual buying and selling patterns of institutional investors. The index assigns a precise meaning to changes in investor risk appetite: the greater the percentage allocation to equities, the higher risk appetite or confidence. A reading of 100 is neutral; it is the level at which investors are neither increasing nor decreasing their long-term allocations to risky assets. The results shown represent current results generated by State Street Investor Confidence Index. The results shown were achieved by means of a mathematical formula in addition to transactional market data, and are not indicative of actual future results which could differ substantially.

# Cross-Asset Volatility — Currency volatility jumped in the wake of EM turbulence, while US high yield implied volatility reached the lowest since 2015

Cross-Asset Implied Volatility (Daily Average, Since January 2016)

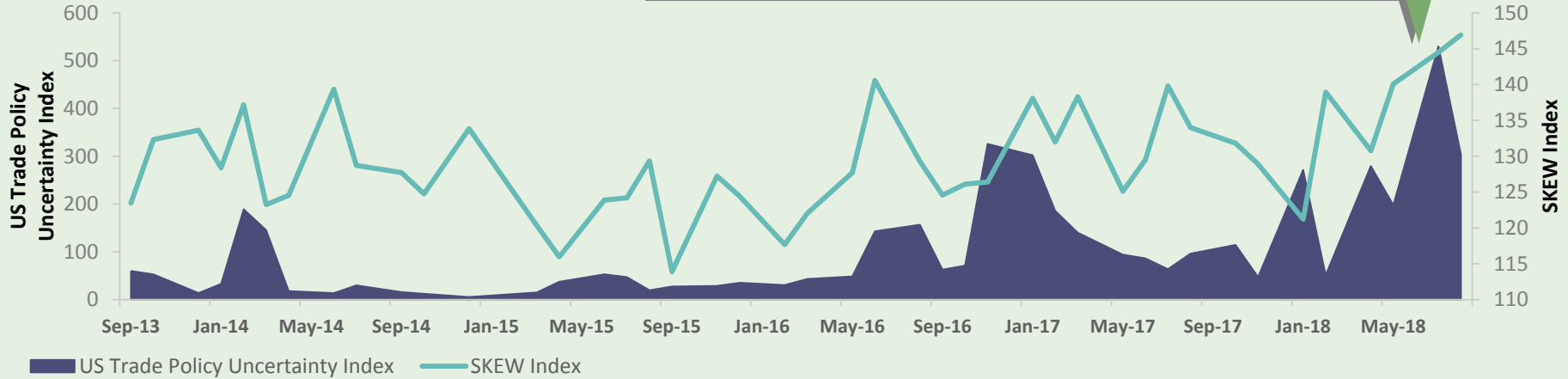


Source: Bloomberg Finance, L.P. As of August 31, 2018. **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Standard deviation is a historical measure of the volatility of returns. If a portfolio has a high standard deviation, its returns have been volatile; a low standard deviation indicates returns have been less volatile. Currency implied volatility is measured by the J.P. Morgan Global FX Volatility Index. Rates implied volatility is measured by the MOVE Index. Oil implied volatility is derived from oil future contracts. Emerging markets implied volatility is measured by the CBOE Emerging Markets ETF Volatility Index. High Yield bond implied volatility is measured by the CBOE High Yield Corporate Bond ETF Volatility Index.

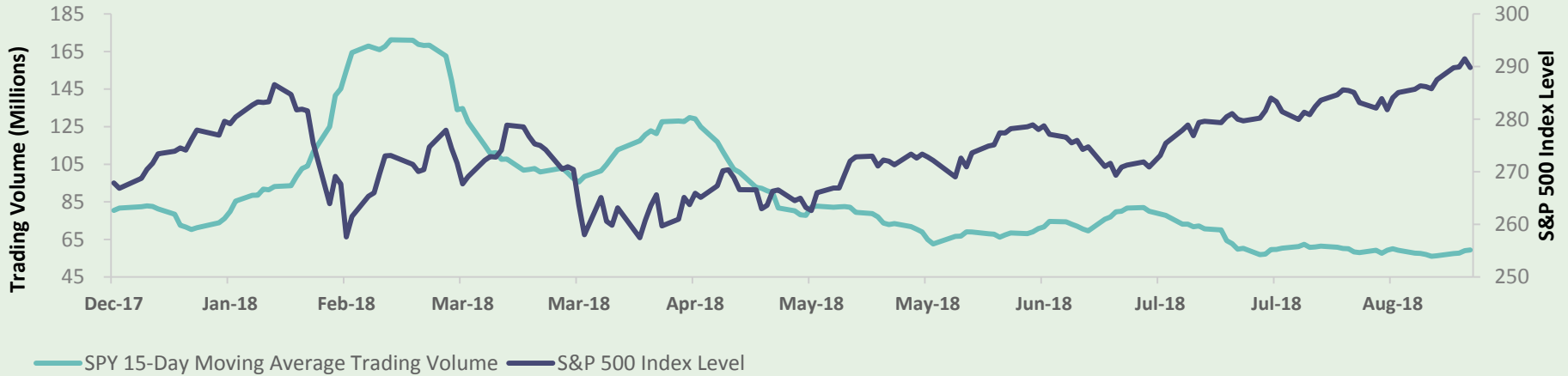
# Tail Risk — US Equities reached historical highs amid heightened trade tensions, elevated tail risks and low trading volumes

## Trade Uncertainty and Tail Risk

The trade impasse between US and China as well as ongoing NAFTA negotiations with Canada may escalate trade tensions in September



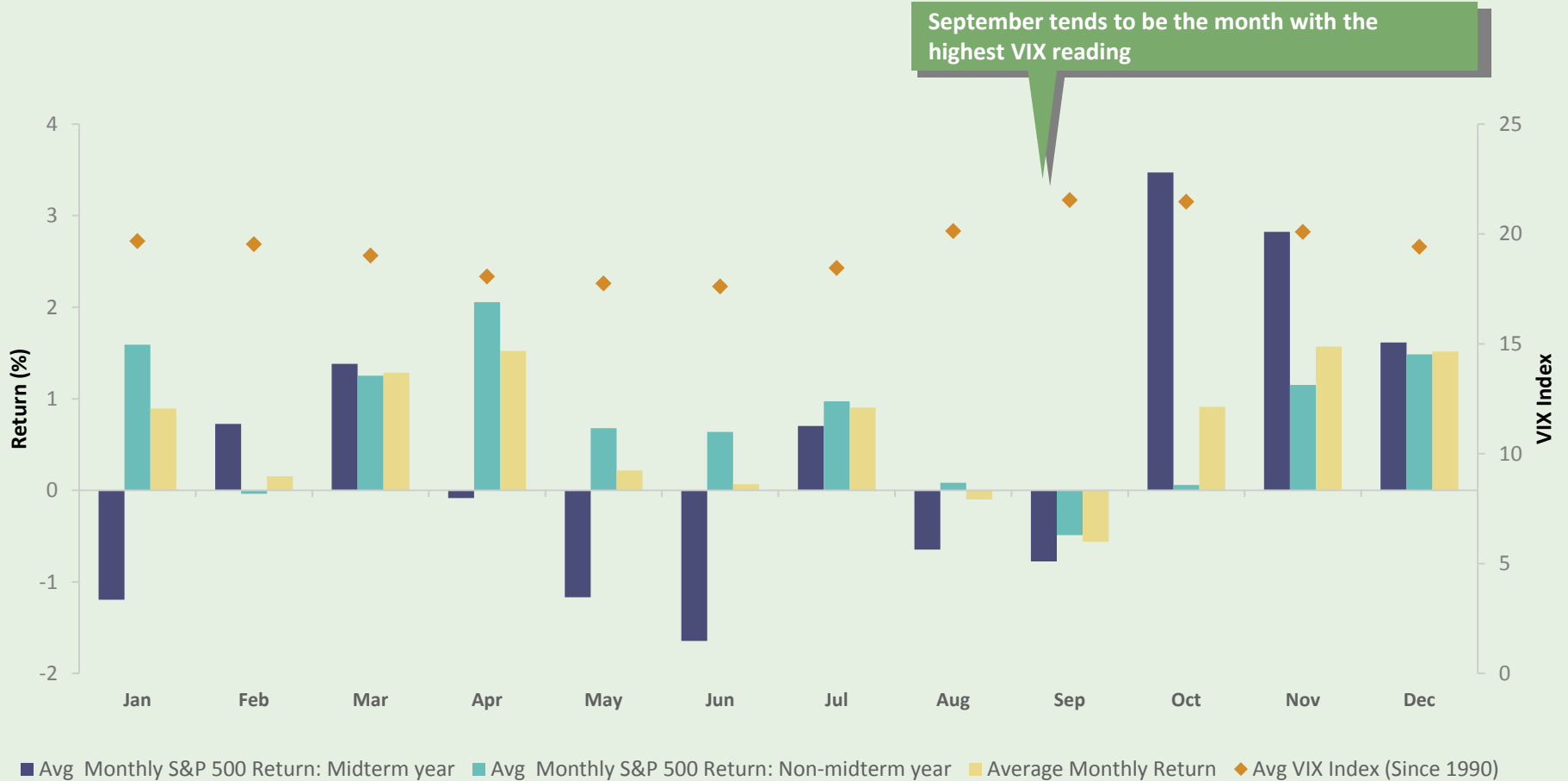
## SPY Trading Volume and the S&P 500 Index Level



Source: Bloomberg Finance, L.P. As of August 31, 2018.

# Midterm Elections — US equities have historically stumbled in September, especially during midterm elections, only before rebounding the rest of the year

S&P 500 Returns During Midterm and Non-Midterm Election Years Since 1954

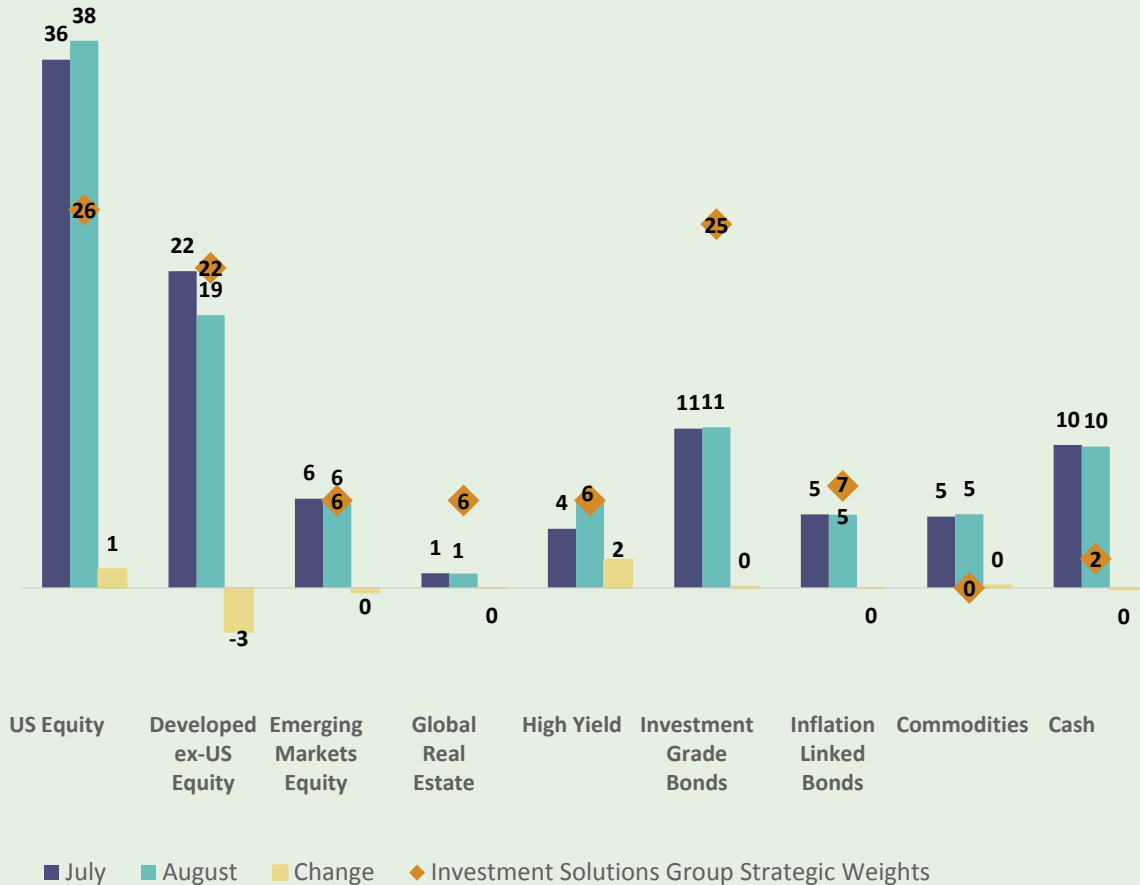


Source: State Street Global Advisors. As of August 31, 2018. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.



# State Street Current Positioning — State Street reduced exposures to international equities while adding high yield bonds due to positive US economic growth

## SPDR SSGA Global Allocation ETF [GAL] Current and Strategic Exposures (%)



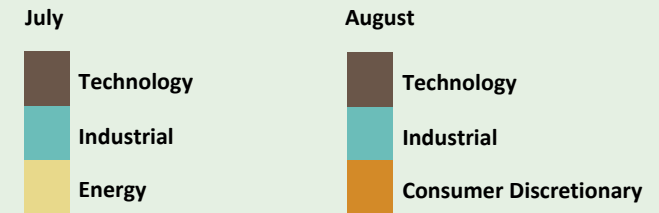
### August Tactical Rebalance Trades:

**Sold Developed ex US Equities**

**Bought US Equities**

**Bought High Yield Bonds**

### Sector Rotation Trades:



Positions are 2% Each for 6% of US Equity Allocation

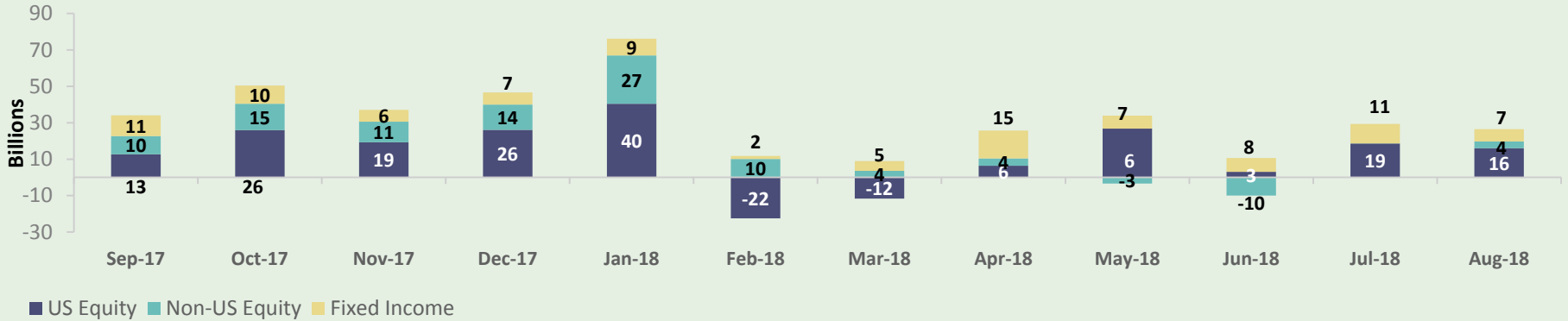
Sectors are included Based on their Relative Valuation, Momentum and Earnings Sentiment

Source: State Street Global Advisors. As of August 31, 2018. Exposures are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. This information should not be considered a recommendation to invest in a particular sector. It is not known whether the sectors shown will be profitable in the future. The information above is rounded to the nearest whole number.

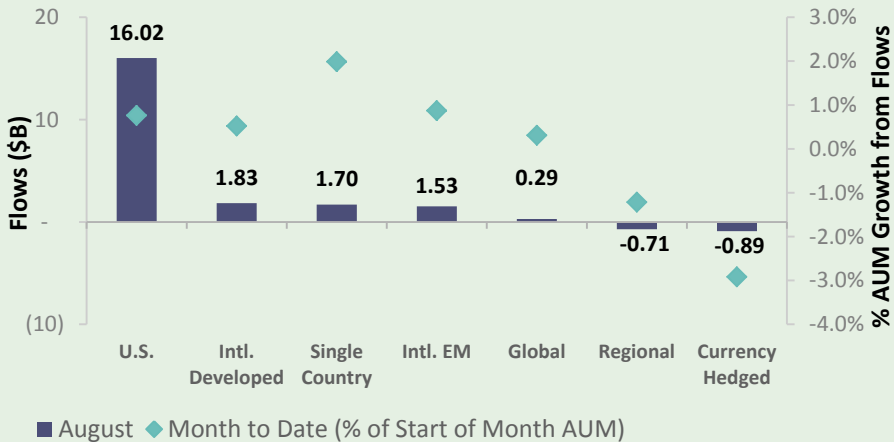
# Global Flows & Fundamentals, US Factors

# Flow Trends — With a supportive economic backdrop, investors continued to pile into US equities, while still adding bonds for income and to balance out equity risks

## Flows by Asset Class

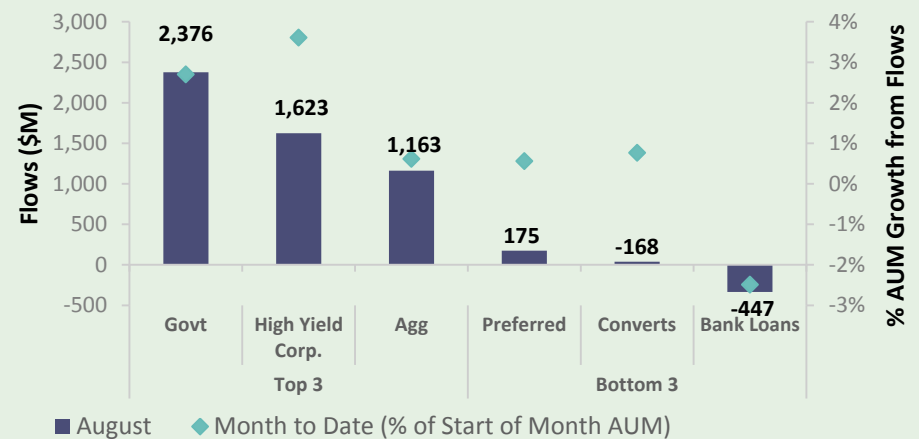


## Flows by Equity Regions



European regional funds posted their 6<sup>th</sup> consecutive month of outflows, but EM inflows were their highest since January

## Fixed Income Top and Bottom 3 Sectors by Flows

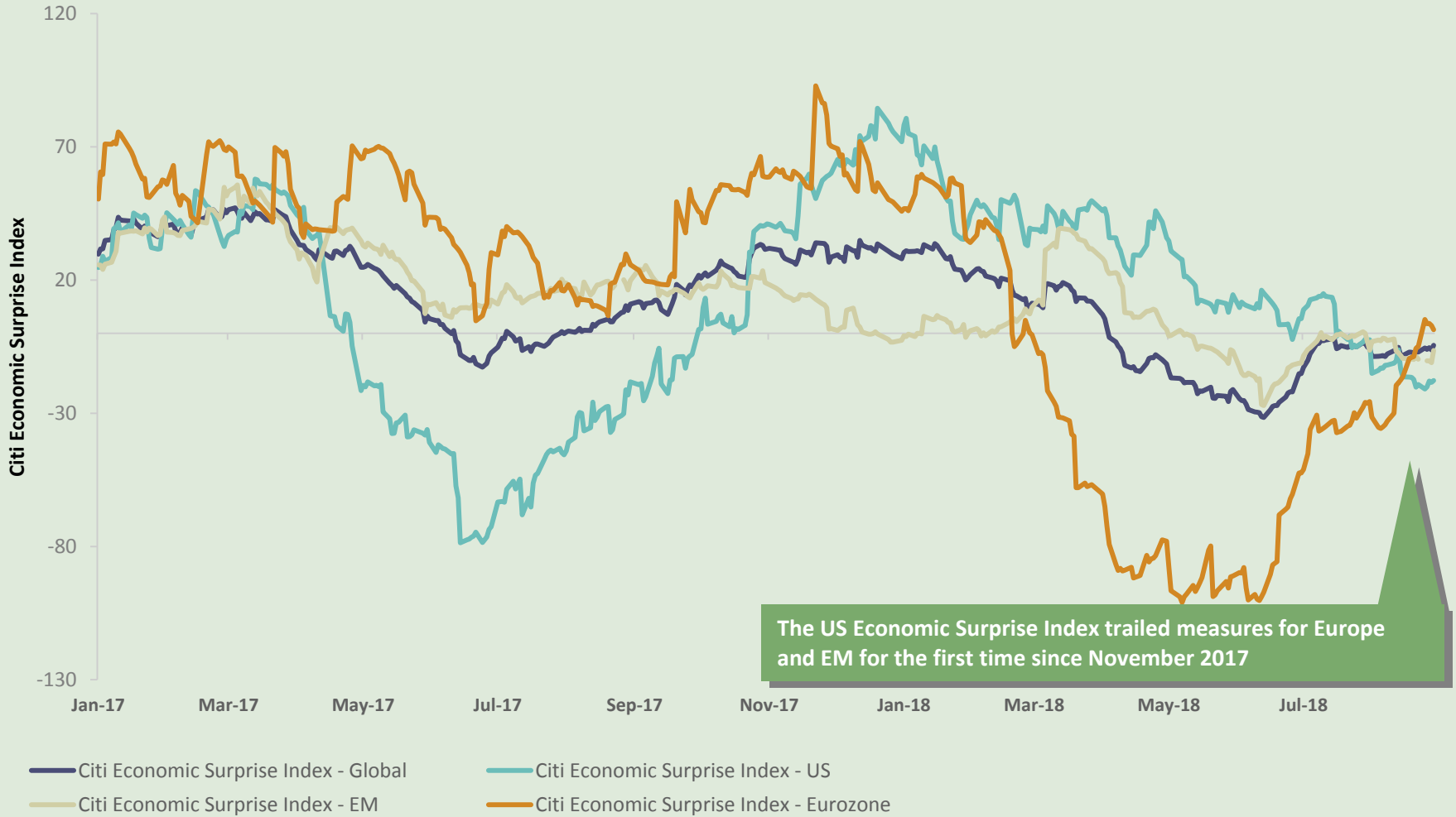


The Agg and Government exposures accounted for more than half of all bond ETF fund flows in August

Source: State Street Global Advisors, Bloomberg Finance, L.P. As of August 31, 2018. Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Global Economy — The US economy keeps falling short of high expectations, while other regions have beaten easier targets but economic data remains sanguine

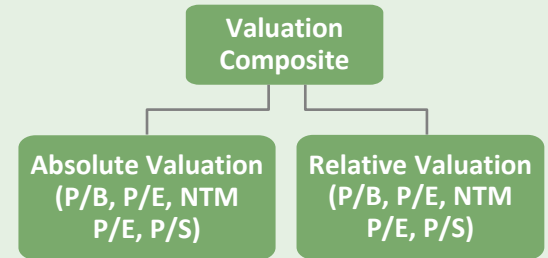
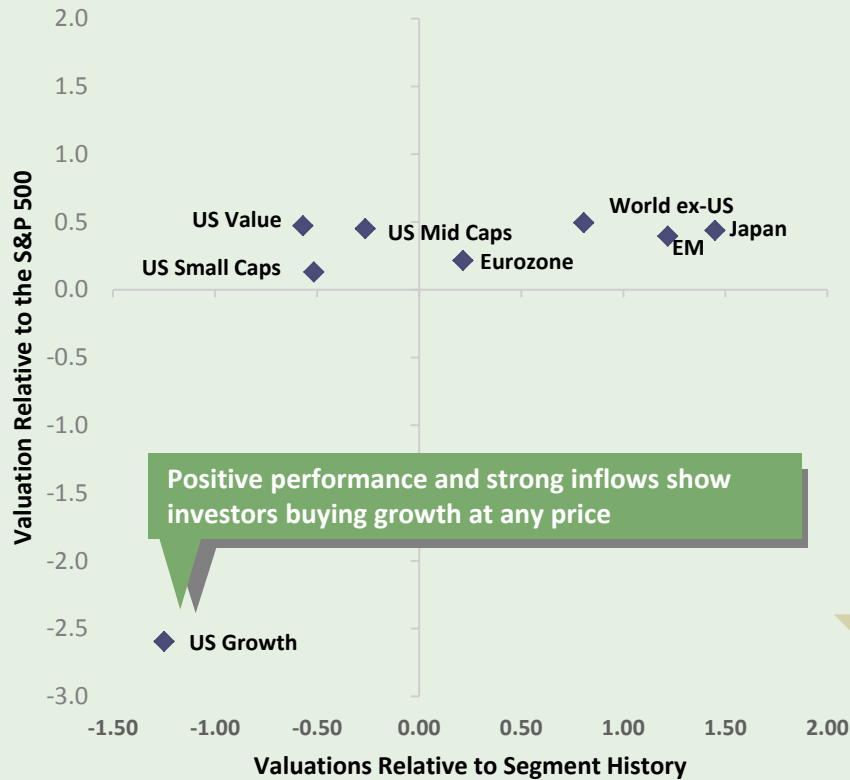
## Economic Surprise



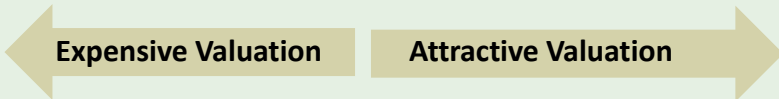
Source: Bloomberg Finance L.P. as of August 31, 2018.

# Global Valuation — Valuations outside the US appear attractive on an absolute and relative basis, while US mid caps show the most attractive valuations within the US

## Absolute and Relative Valuation Z-Score\*



	Absolute Valuation Relative to Regional History Composite Score	Valuation Relative to the S&P 500 Composite Score	Valuation Composite Score
US Large Cap	-1.09	N/A	N/A
US Mid Cap	-0.26	0.45	0.09
US Small Cap	-0.52	0.13	-0.19
US Value	-0.57	0.47	-0.05
US Growth	-1.25	-2.59	-1.92
Developed ex US	0.81	0.49	0.65
EM	1.22	0.40	0.81
Japan	1.45	0.44	0.94
Eurozone	0.21	0.22	0.21

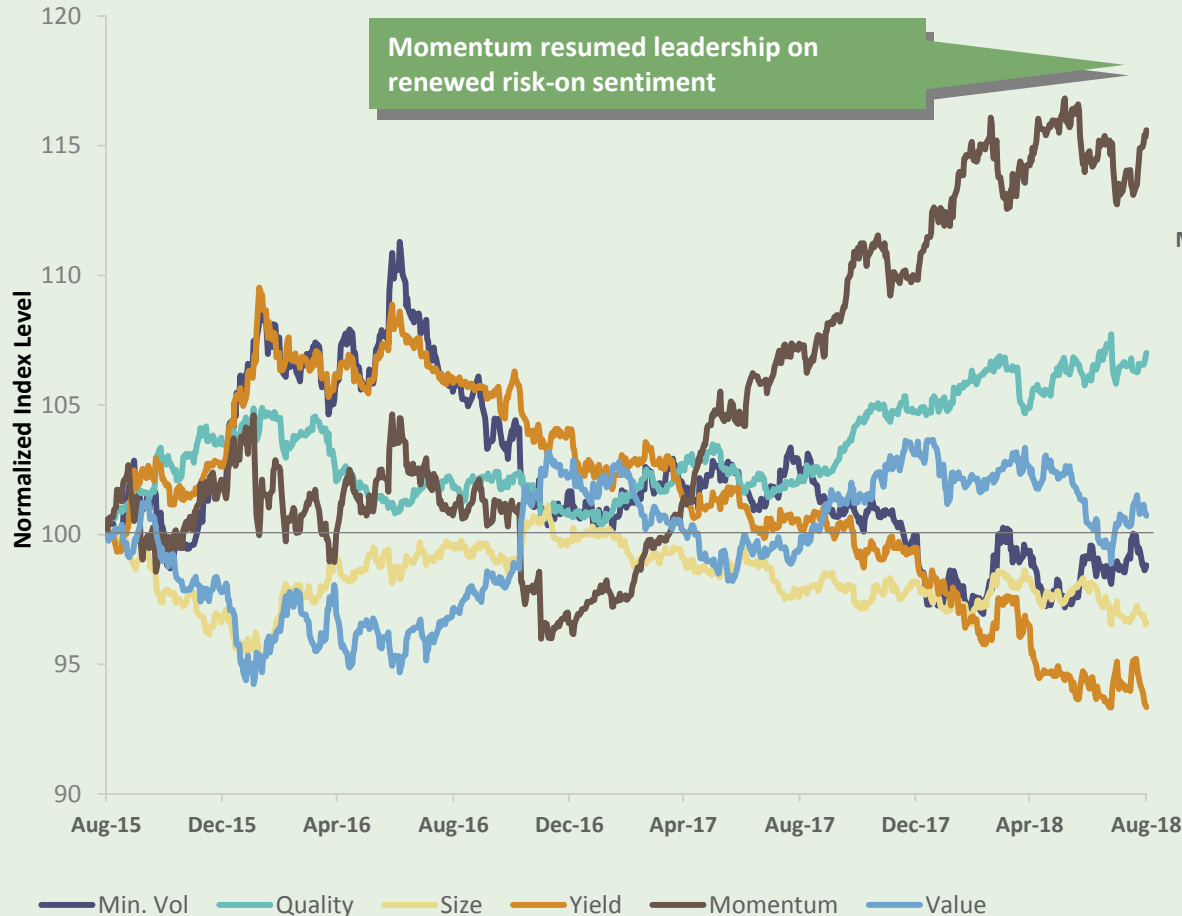


Source: State Street Global Advisors, FactSet, as of August 31, 2018.

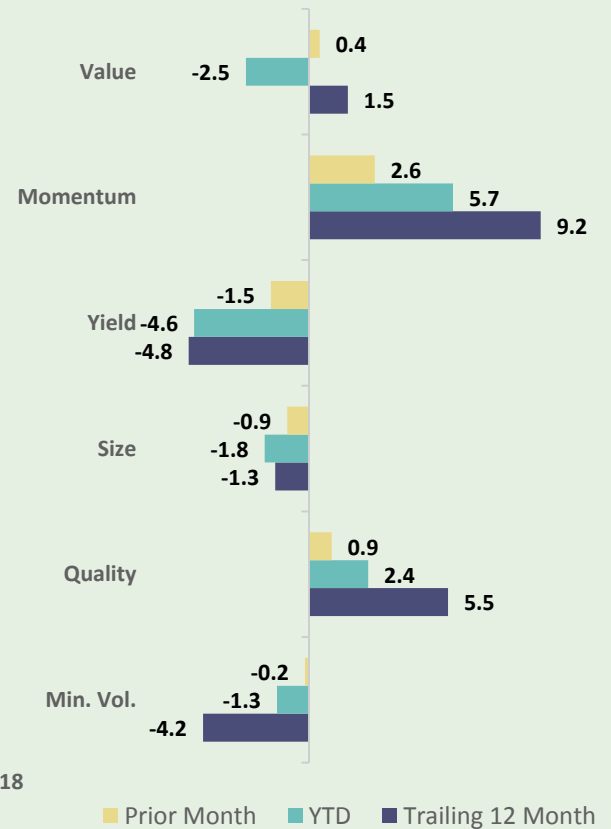
\*The z-score is calculated as the average z-score of percentile ranking of P/B, P/E, NTM P/E and P/S valuations last 15 years and valuations relative to the S&P 500 last 15 years. Z-score indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where z is the z-score, X is the segment valuation percentile.  $\mu$  is the mean of valuation percentile, and  $\sigma$  is the standard deviation of sectors' valuation percentile. Segment valuation are based on following indices: US Large Cap = S&P 500 Index, US Mid Caps = S&P MidCap 400 Index, US Small Caps=Russell 2000 Index, US Value=S&P 500 Value Index, US Growth=S&P 500 Growth Index, Developed ex-US = MSCI World ex-US Index, EM = MSCI Emerging Markets Index, Japan = MSCI Japan Index, Eurozone = Euro STOXX Index.

# US Factor Trends — Factor leadership narrowed with only momentum and quality beating the market in 2018

MSCI USA Factor Index Price Returns versus MSCI USA Index (3 Years)



Period Excess Price Returns versus MSCI USA Index

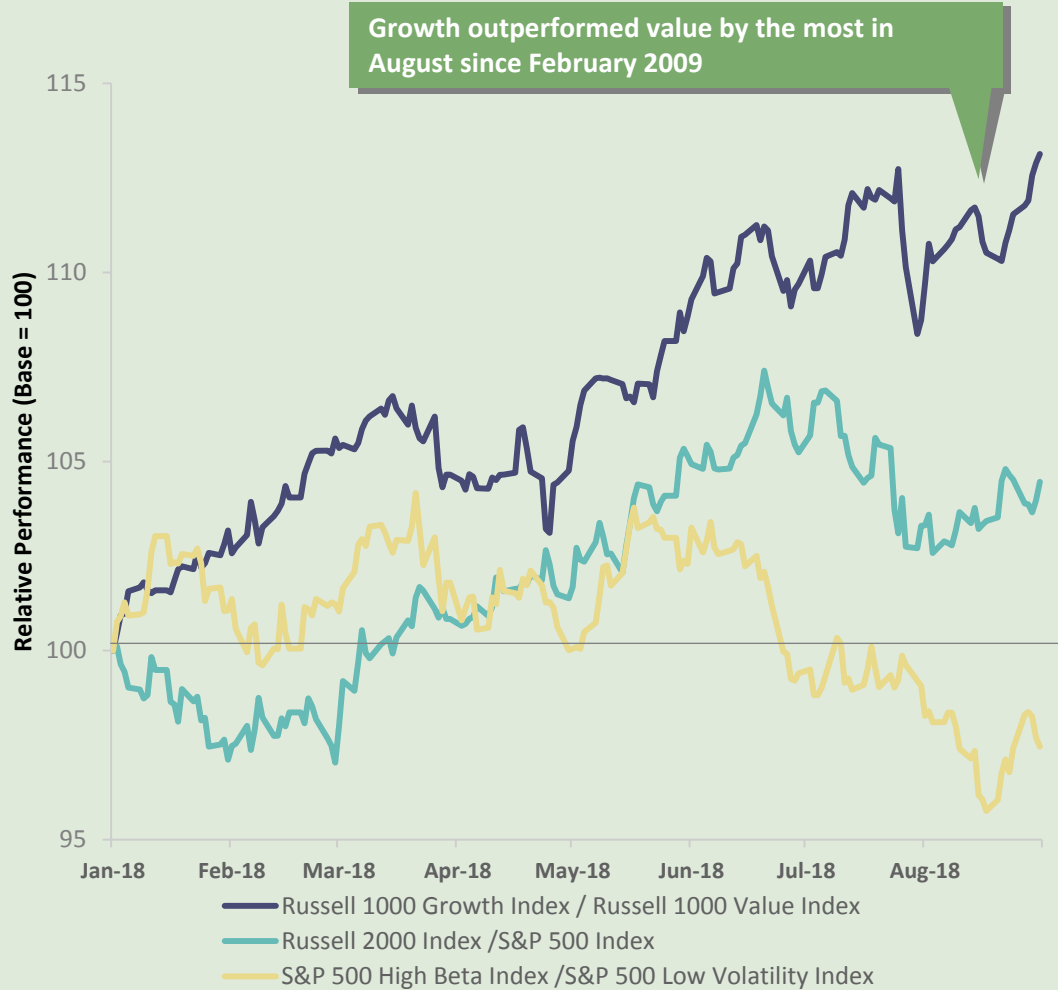


Source: Bloomberg Finance, L.P. As of August 31, 2018.

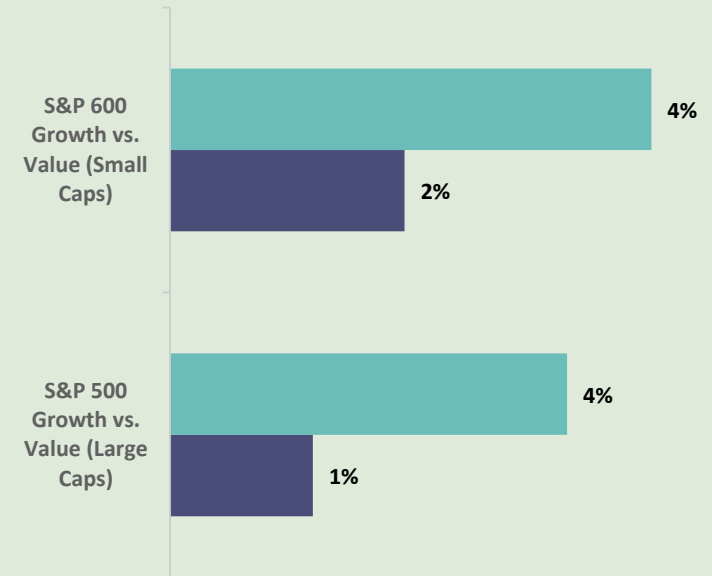
Past performance is not a guarantee of future results. MSCI USA Minimum Volatility Index, MSCI USA Enhanced Value Index, MSCI USA Quality Index, MSCI USA Equal Weighted Index, MSCI USA High Dividend Yield Index, and MSCI USA Momentum Index were used above compared to the MSCI USA Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

# US Factor Trends — The US has gone on the offensive, with growth outperforming value, high beta catching up to low beta, and small outpacing large caps

## Relative Performance



## Growth vs. Value Monthly Excess Returns



## Growth vs. Value Monthly Excess Return

- Aug-18
- Median Monthly Growth Outperformance Since 1995

Source: Bloomberg Finance L.P. as of August 31, 2018. Past performance is not a guarantee of future results.

# Sectors



# Sector Flow and Returns Heat Map — Top performing sectors for the year and the month — Tech, Health Care and Cons. Disc. — attracted the most flows in August

	Positioning				Returns		
	Prior Month Flow (\$M)	YTD Flow (\$M)	Current Short Interest (%)	1M Prior Short Interest (%)	Prior Month Return (%)	3-Month Return (%)	YTD Return (%)
Consumer Discretionary	939	123	10.6%	12.0%	5.13	10.93	19.37
Consumer Staples	116	505	7.9%	7.9%	0.51	9.32	-4.34
Energy	(1,123)	(914)	10.9%	11.2%	-3.30	-1.23	4.75
Financial	(824)	54	6.4%	6.6%	1.39	4.68	2.37
Health Care	2,237	3,026	11.0%	12.8%	4.37	13.08	13.31
Industrials	(284)	970	8.5%	11.8%	0.30	4.08	2.59
Materials	790	4,614	6.1%	5.6%	-0.45	2.85	-0.66
Real Estate	542	(580)	4.7%	5.5%	2.49	8.20	4.44
Technology	3,911	14,262	9.7%	9.4%	6.93	8.78	21.03
Telecommunications	248	788	1.0%	1.0%	3.05	7.95	-3.36
Utilities	(145)	17	25.1%	30.6%	1.12	5.86	3.33

Materials ranks second in terms of YTD flows as investors position for late cycle inflation

Cons. Disc., Health Care and Tech accounted 94% of the entire S&P 500's return in the month of August

Best Performing Sector  
Most Flows in Period

Worst Performing Sector  
Least Flows in Period



Source: State Street Global Advisors, Bloomberg Finance, L.P., as of August 31, 2018. Past performance is not a guarantee of future results.

# Sector Scorecard — Health Care ranked first overall given its strong earnings sentiment and momentum with reasonable valuations, followed by Tech and Materials

## Sector Composite Z-Score\*

	Valuation Composite Score	Momentum Composite Score	Earnings Sentiment Composite Score	Aggregate Score	Volatility Composite Score
Consumer Discretionary	1.21	0.93	-0.37	-0.65	0.40
Consumer Staples	0.47	-0.99	-0.25	-0.76	0.51
Energy	0.09	0.28	-1.45	-1.08	0.17
Financials	0.47	-0.98	-0.35	-0.86	-0.92
Health Care	0.06	0.50	0.95	1.51	-1.73
Industrials	0.02	-0.15	0.32	0.19	1.49
Information Technology	-1.09	1.46	0.38	0.75	0.37
Materials	0.80	-0.51	0.47	0.75	0.82
Real Estate	0.19	0.05	0.01	0.25	-0.51
Utilities	0.21	-0.59	0.28	-0.10	-0.59

Growth oriented sectors, like Cons. Disc. and Tech., continue to look expensive

Continuous trade policy uncertainty kept volatility elevated in Industrials

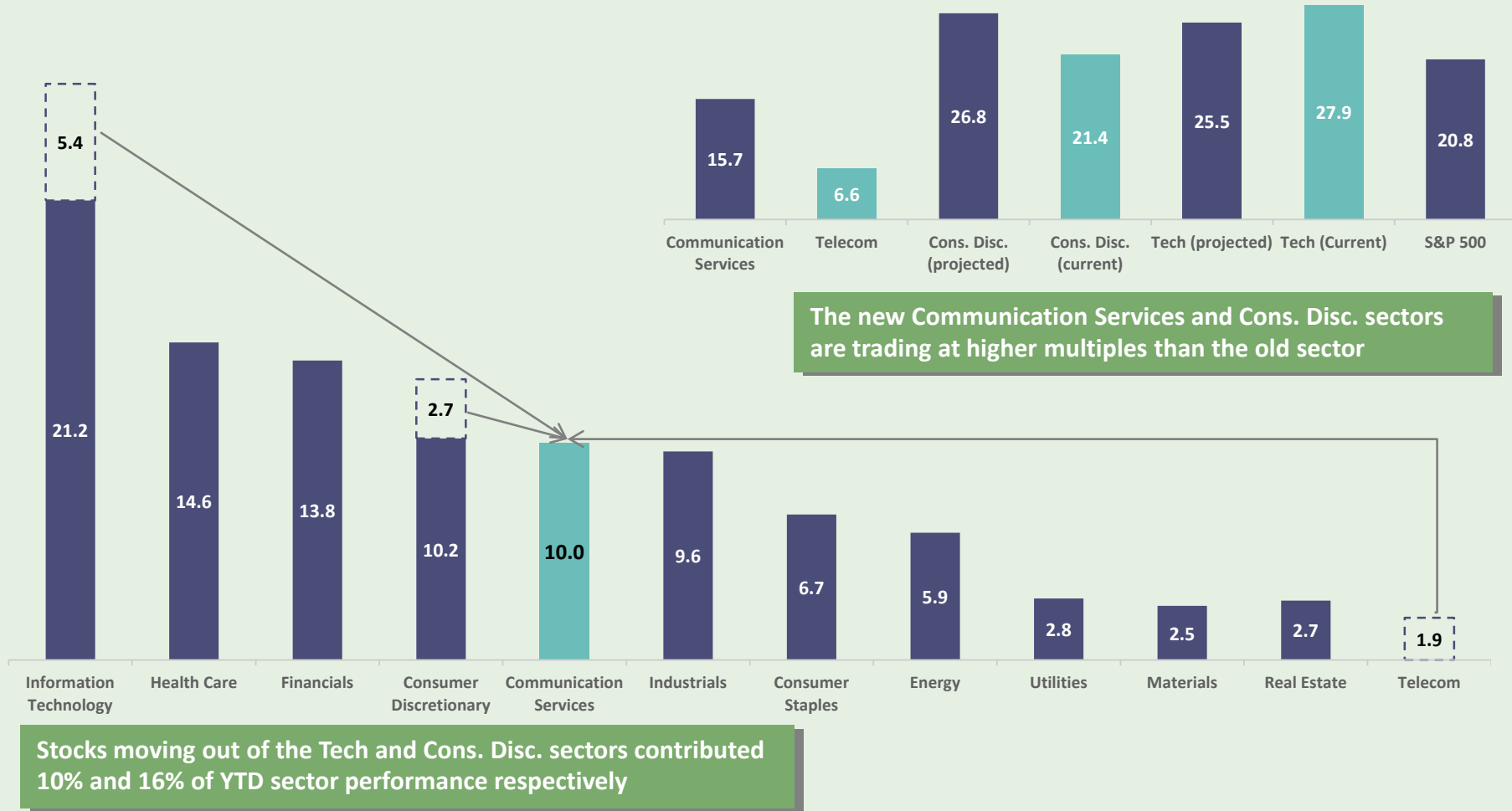
Source: State Street Global Advisors, FactSet, as of August 31, 2018. Green shading is top 3, red shading is bottom 3.

\*The scorecard uses z-score for each metric to standardize numbers across sectors and show relativeness among sectors. Composite score is calculated by equally weighting each metric in the same category. Z-score indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where X is the value of the sector,  $\mu$  is the mean of the eleven sectors.  $\sigma$  is the standard deviation of eleven sectors. S&P 500 sector indices are used to calculate sector scores. Please refer to Appendix C for the metrics used to measure valuation, momentum and earnings sentiment.

# GICS Sector Changes — The upcoming changes will be the biggest in GICS history, given more than 10% of the S&P 500 market cap will be re-classified

Percent of S&P 500 Index Market Cap (%)

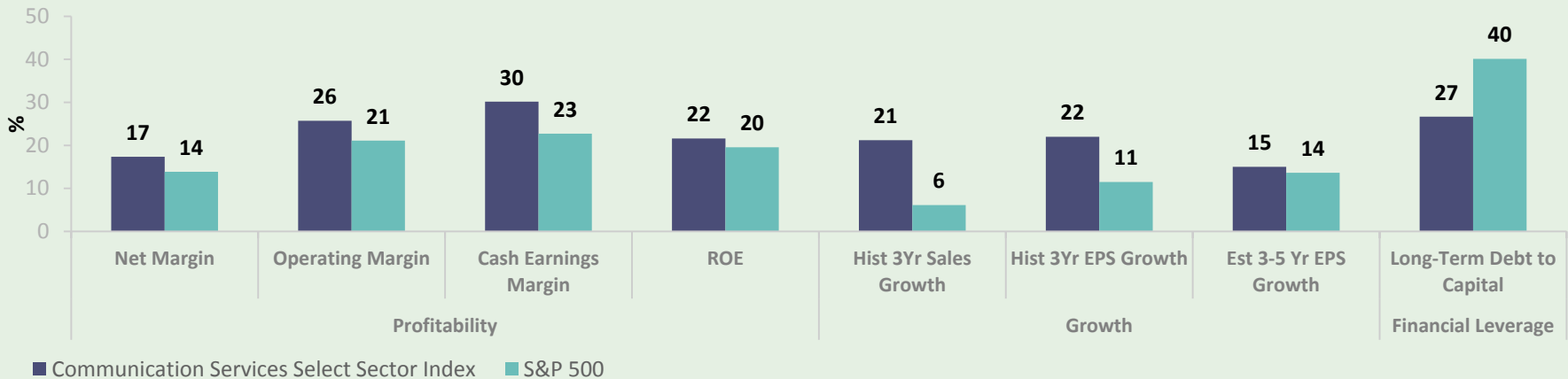
P/E Valuations: New vs. Current GICS Sectors



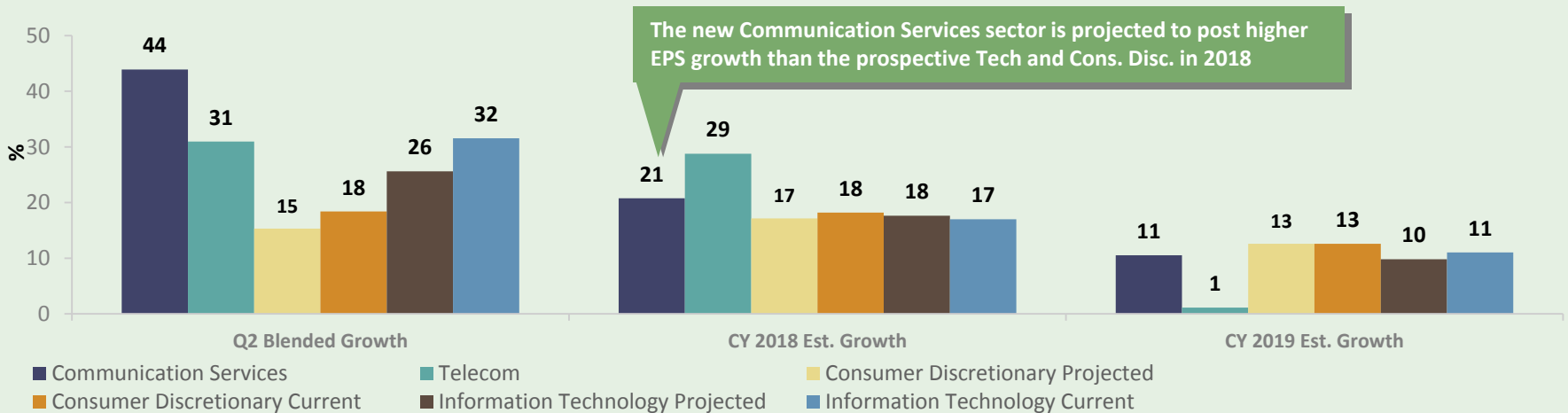
Source: Bloomberg Finance, L.P., S&P/Dow Jones, SSGA, as of August 31, 2018. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Sector Trends — The new Communication Services sector has exhibited higher profitability, greater growth potential with healthier balance sheets than the broader market

## Communication Services vs. the Broader Market



## Estimated and Q2 Blended EPS Growth

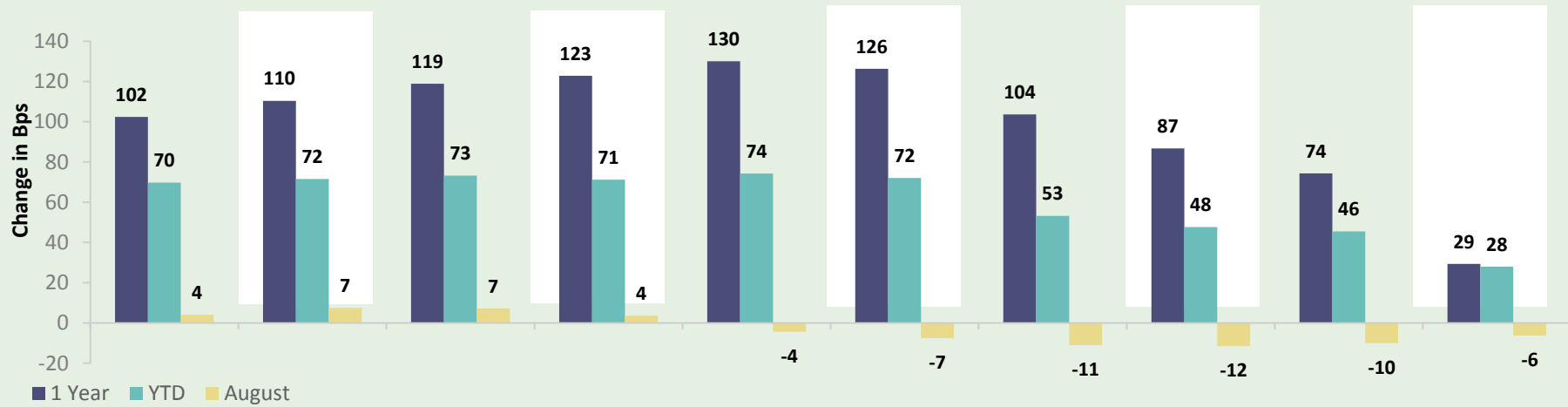
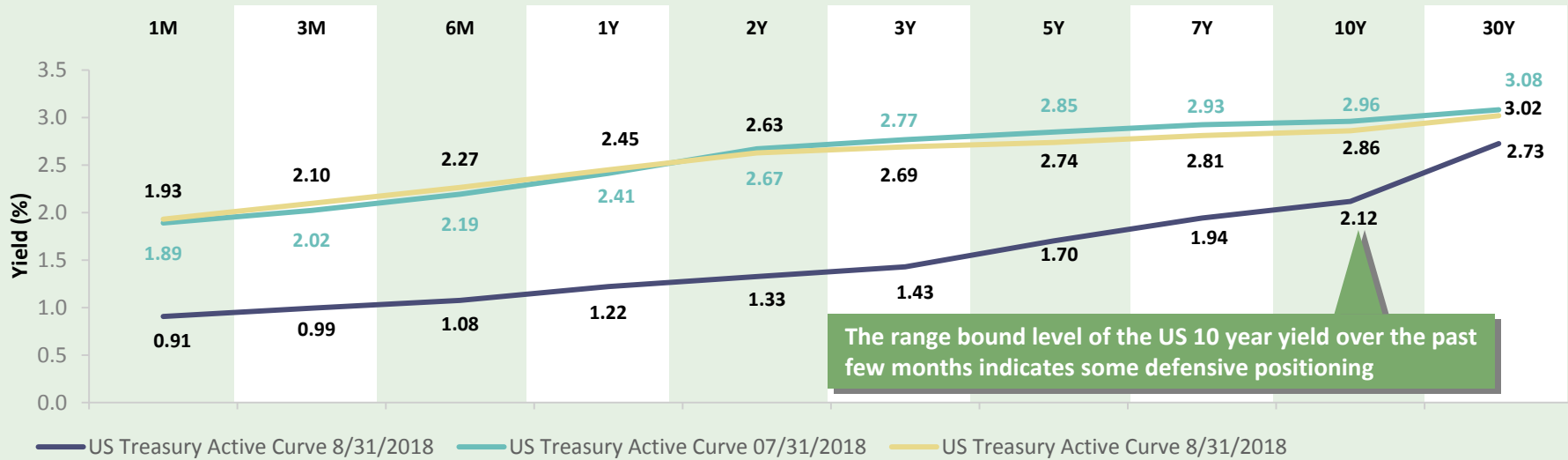


Source: FactSet. As of 7/31/2018. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Fixed Income

# Yield Curve — Yield curve flattening resumed, as fiscal stimulus did not change expectations of long-term growth, while the Fed guided short-term rates higher

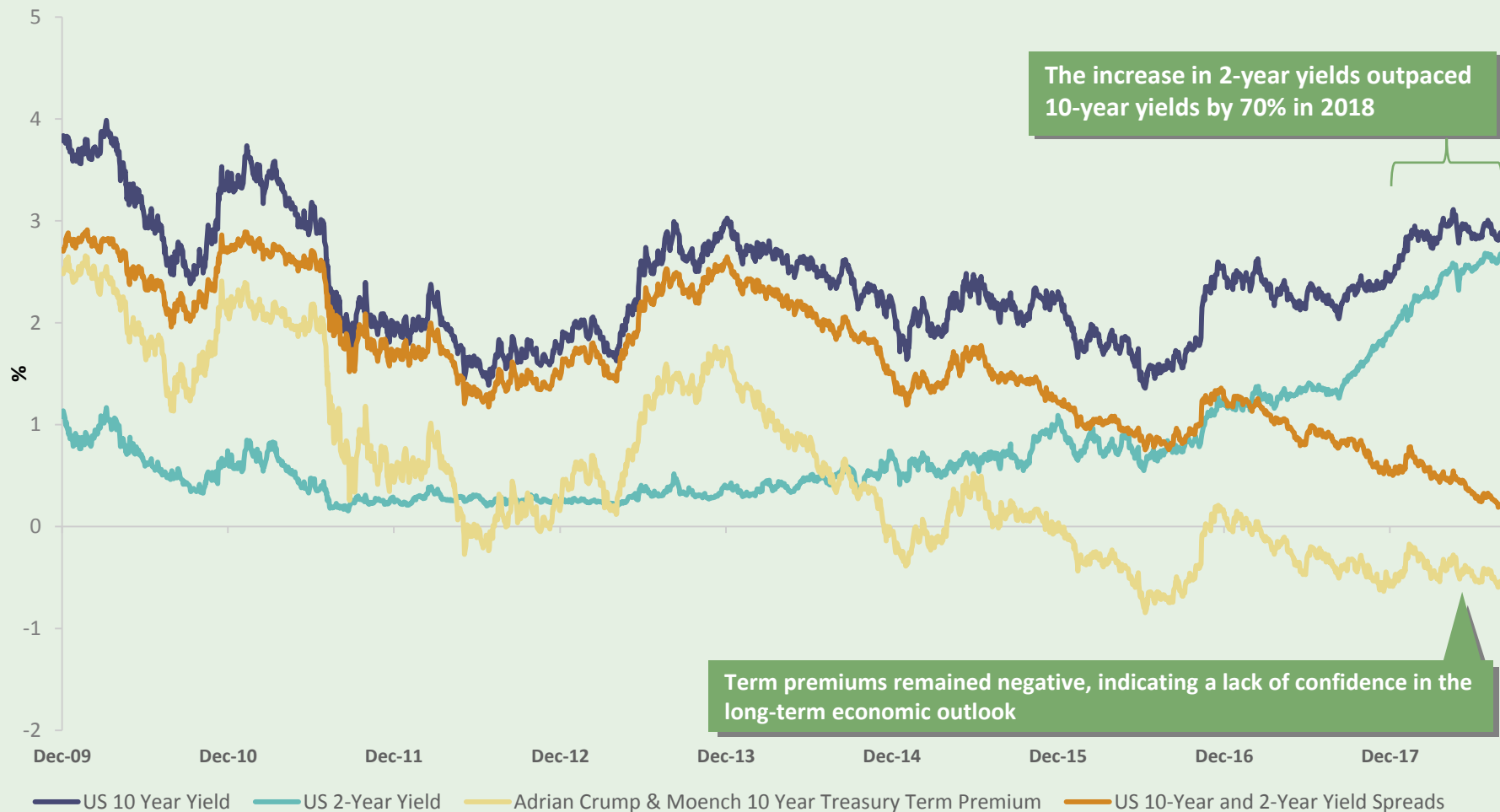
## US Treasury Curve



Source: Bloomberg Finance, L.P. As of August 31, 2018. Past performance is not a guarantee of future results.

# Yield Curve — The Fed keeps lifting the short end of the curve, while the long end has been range bound, as term premiums continue to stay low

## US Treasury Curve (10-and-2 Year Spreads) and Term Premium

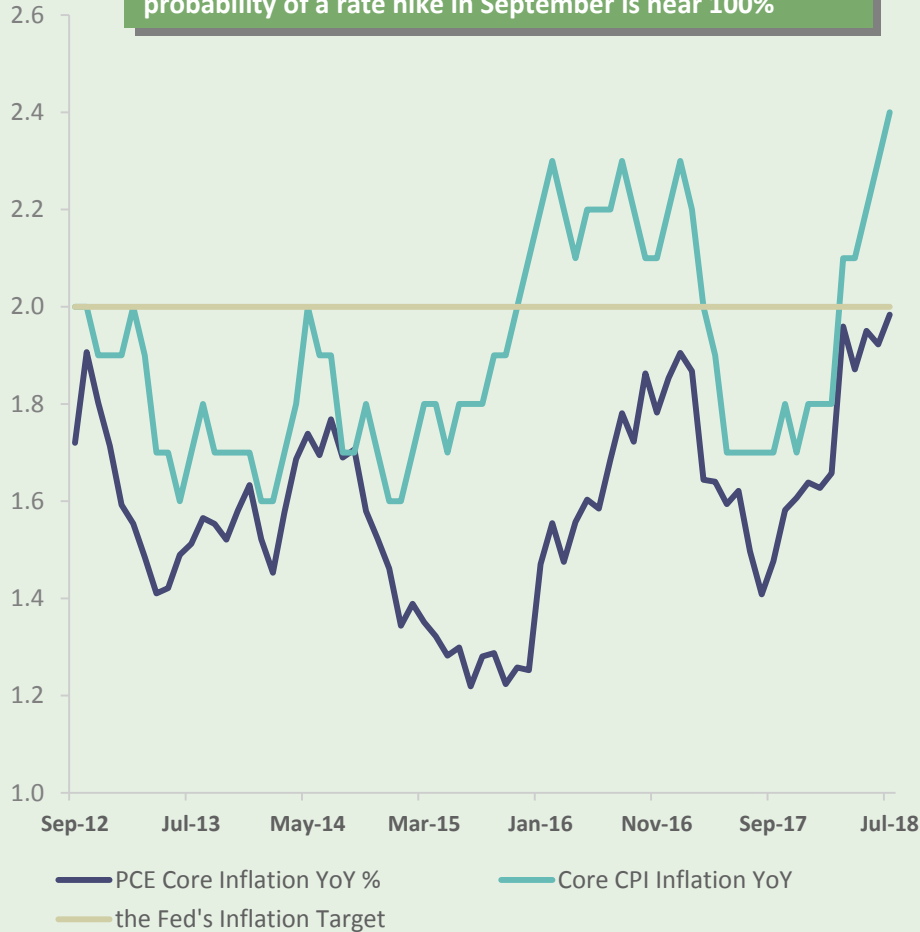


Source: Bloomberg Finance, L.P. As of August 31, 2018. Past performance is not a guarantee of future results. The term premium is the excess yield that investors require to commit to holding a long-term bond instead of a series of shorter-term bonds.

# Inflation — Although core inflation readings moved above 2%, inflation expectations over the next few years have trended lower recently

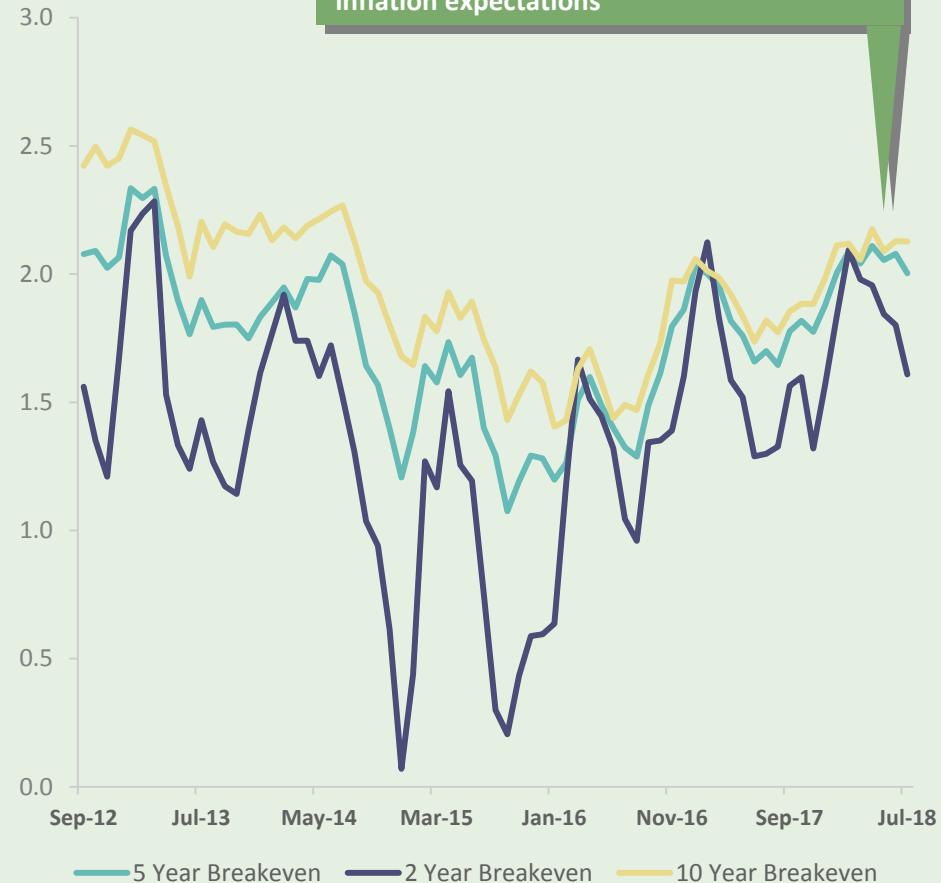
## US Core Inflation Measures

With the core PCE inflation reaching the Fed's target, the probability of a rate hike in September is near 100%



## Inflation Expectation

A stronger dollar dampened short-term inflation expectations

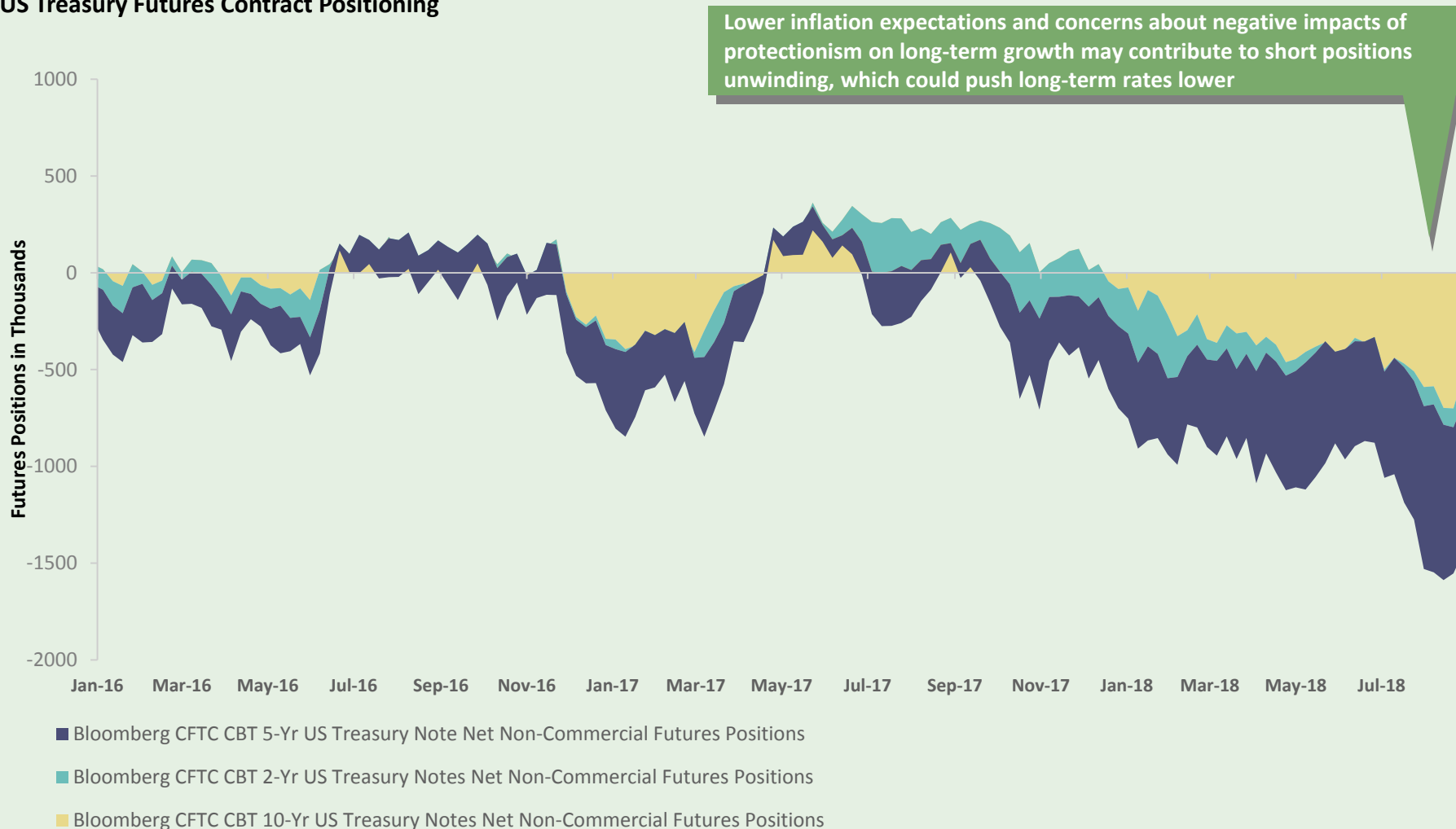


Source: Bloomberg Finance, L.P. As of August 31, 2018.



# Treasury Positions — Short positions in long-dated Treasury futures started unwinding in August, but remain near the most bearish level since 2001

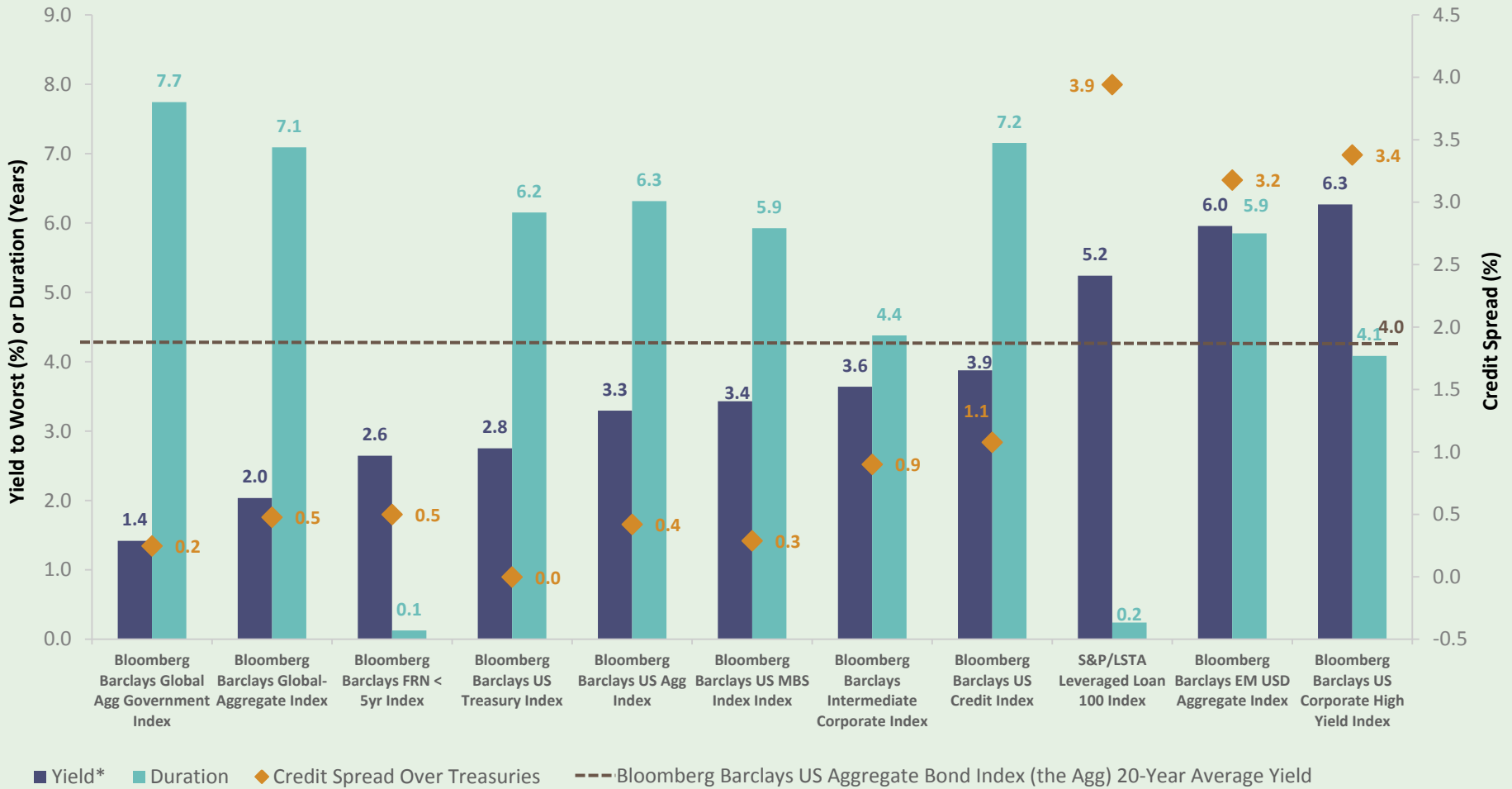
## US Treasury Futures Contract Positioning



Source: Bloomberg Finance, L.P. As of August 31, 2018. Treasury futures positions are combined of 10-year, 5-year and 2-year Treasury positions.

# Bond Market — As yields on traditional bonds remain below historical averages, investors may have to turn to other fixed income sectors when allocating portfolios

## Bond Market Segment Yield, Duration and Spreads

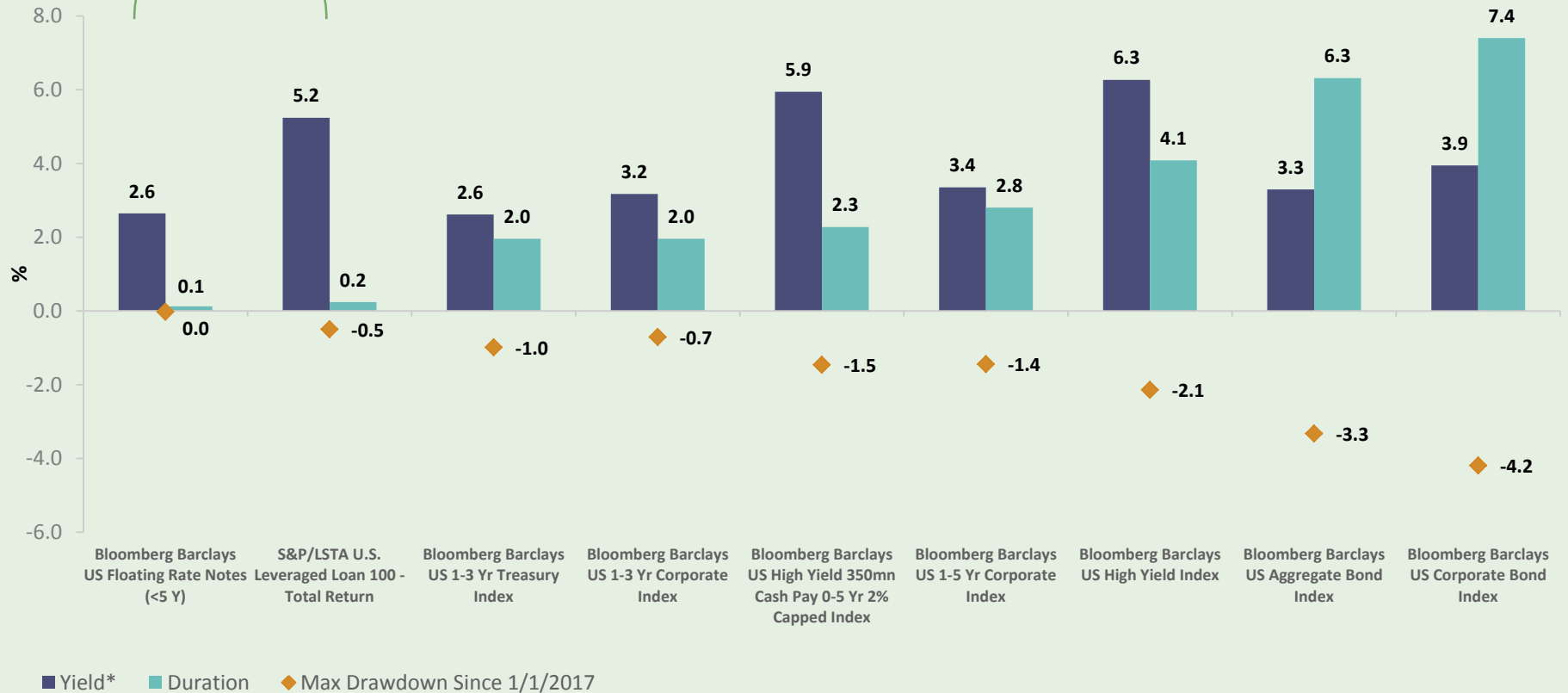


Source: Bloomberg Finance, L.P. As of August 31, 2018. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. \*Yield to maturity is used for the S&P/LSTA Leveraged Loan 100 Index. Yield to worst is used for other indices.

# Short Duration — With the Fed continuing to hike rates, short duration exposures have become attractive sources of income while also limiting drawdowns

## Short Duration Bond Market Segment Yield, Duration and Drawdown

Investors may be well served to focus on floating rate structures that have the most optimal yield per unit of duration



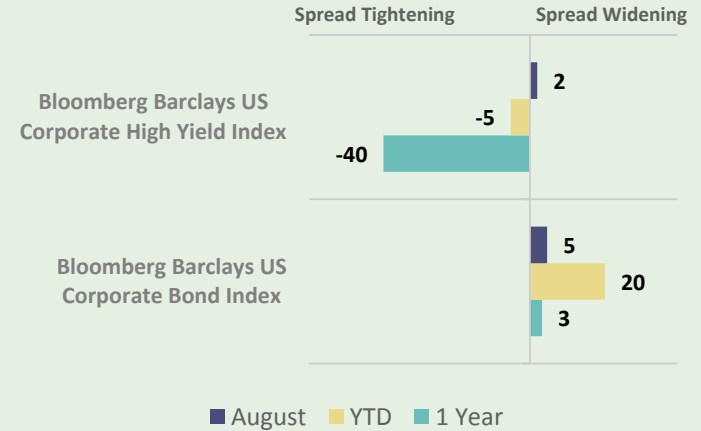
Source: Bloomberg Finance, L.P. As of August 31, 2018. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. \*Yield to maturity is used for the S&P/LSTA Leveraged Loan 100 Index. Yield to worst is used for other indices.

# Credit Trends — Spreads tightened in August against a supply constrain coupled with strong earnings growth

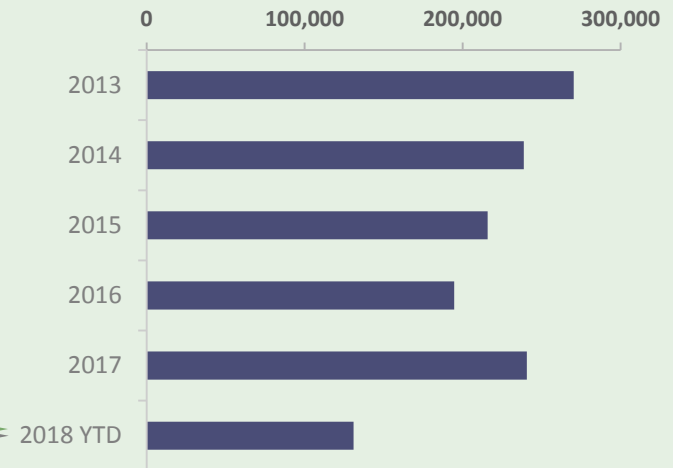
## Credit Spreads



## Credit Spread Changes in Basis Point



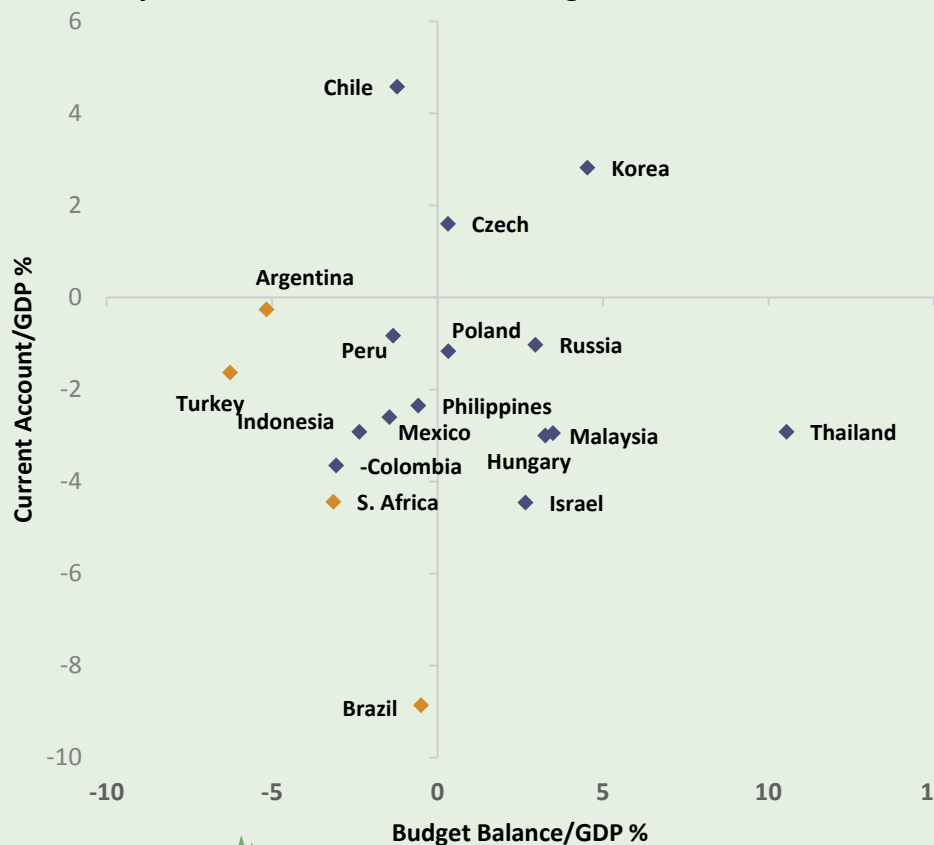
## High Yield Bond Issuance (US\$ mn)



Source: Bloomberg Finance, L.P. as of August 31, 2018,.

# EM Debt — EM countries with high current account and budget deficits have been more vulnerable to the EM debt selloff and currency depreciation this year

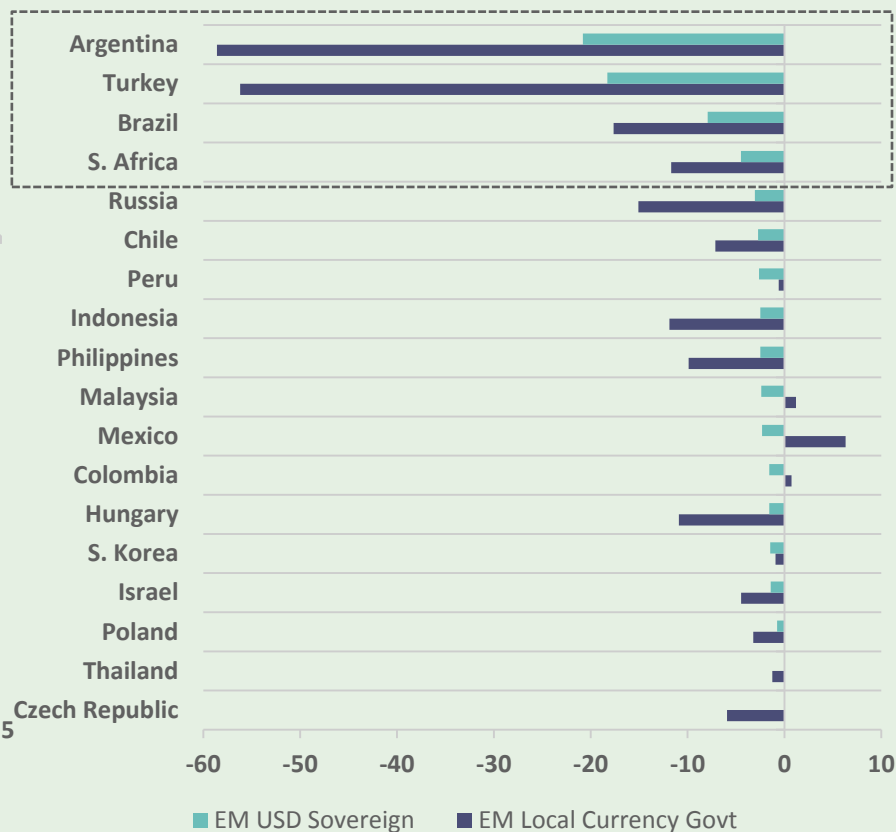
EM Country Current Account/GDP and Budget Balance / GDP



◆ Top 4 Worst performing EM Debt markets

Argentina, Turkey, Brazil and South Africa are particularly under pressure given their high government or trade deficit

EM Local Currency and USD Sovereign Debt YTD Return



Source: Bloomberg Finance L.P. as of 8/31/2018. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Country returns in the Bloomberg Barclays EM Local Currency Government Index and Bloomberg Barclays EM USD Sovereign Index are used to calculate EM local and USD denominated debt returns.

# Appendix A: Flow Summary

# Fund Flow Summary

## Asset Category

Equity Region	Prior Month (\$M)	Year to Date (\$M)	Trailing 12 Month (\$M)
US	16,018	76,809	156,579
Global	293	13,408	21,608
International-Developed	1,832	29,476	55,737
International-Emerging Markets	1,530	7,617	18,269
International-Region	-709	-8,378	-5,485
International-Single Country	1,695	3,410	6,353
Currency Hedged	-894	-10,805	-12,579

## U.S. Size and Style

Broad Market	1,892	14,891	23,705
Large-Cap	3,118	19,667	58,456
Mid-Cap	1,548	6,818	12,959
Small-Cap	2,686	17,773	27,222
Growth	4,482	14,731	20,591
Value	2,824	9,912	20,150

## Fixed Income Sectors

Aggregate	1,163	18,050	32,066
Government	2,376	23,259	27,447
Inflation Protected	202	4,780	7,248
Mortgage-Backed	391	3,681	5,703
IG Corporate	358	7,439	14,474
High Yield Corp.	1,623	-2,033	-592
Bank Loans	-335	910	545
EM Bond	232	2,302	4,122
Preferred	175	562	1,278
Convertible	39	478	462
Municipals	481	3,474	5,846

## Government ETF Maturity Focus

Ultra Short	461	9,618	11,921
Short Term	1,046	7,534	8,869
Intermediate	651	4,715	5,225
Long Term (>10 yr)	244	1,659	1,733

Source: State Street Global Advisors, Bloomberg Finance, L.P. As of August 31, 2018.

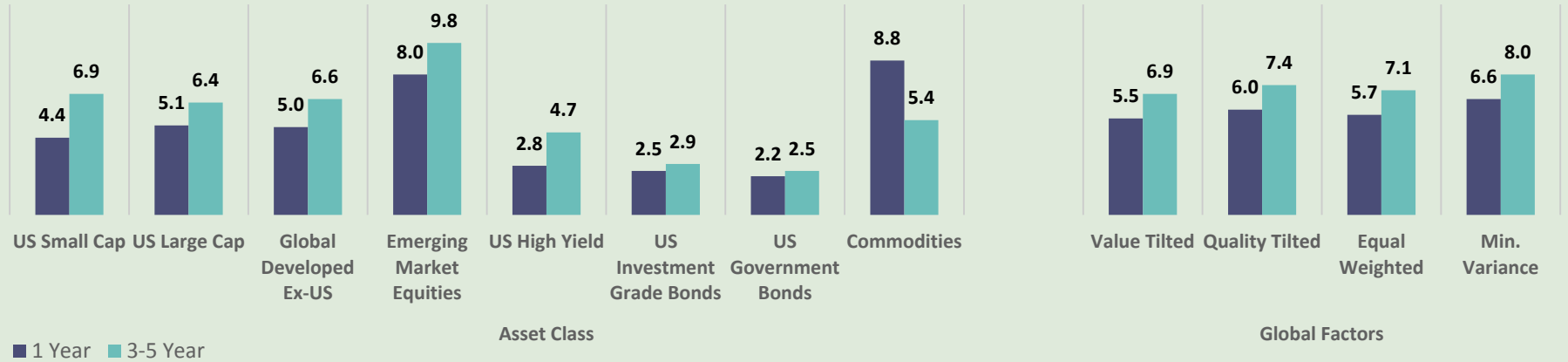
Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Appendix B: Asset Class Forecast

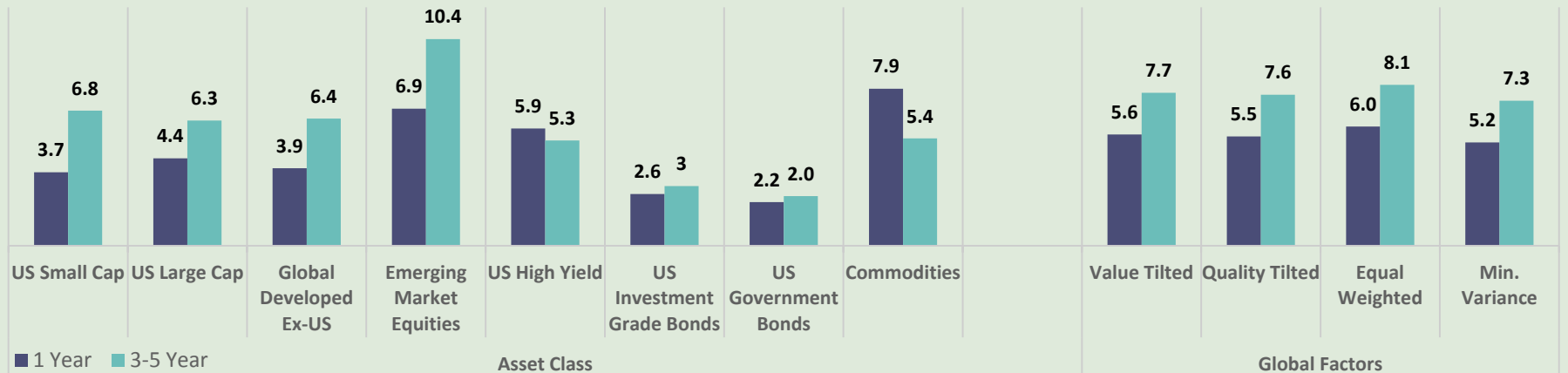


# SSGA Asset Class Forecasts

## Forecasted Return (%) as of March 31, 2018



## Forecasted Return (%) as of June 30, 2018



Source: State Street Global Advisors (SSGA) Investment Solutions Group. The forecasted returns are based on SSGA's Investment Solutions Group's June 30, 2018 forecasted returns and long-term standard deviations. The forecasted performance data is reported on a gross of fees basis. Additional fees, such as the advisory fee, would reduce the return. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting return would be reduced from 61% to 54%. The performance includes the reinvestment of dividends and other corporate earnings and is calculated in the local (or regional) currency presented. It does not take into consideration currency effects. The forecasted performance is not necessarily indicative of future performance, which could differ substantially. Please reference Appendix B for the assumptions used by SSGA Investment Solutions Group to create asset class forecasts.

# Asset Class Forecast Assumptions

## Forecast Assumptions

### For Fixed Income:

Our return forecasts for fixed income derive from current yield conditions together with expectations as to how real and nominal yield curves could evolve relative to historical averages. For corporate bonds, we also analyze credit spreads and their term structures, with separate assessments of investment-grade and high-yield bonds.

### For Equities:

Our long-term equity forecasts begin with expectations for developed market large capitalization stocks. The foundation for these forecasts are estimates of real return potential, derived from current dividend yields, forecast real earnings growth rates, and potential for expansion or contraction of valuation multiples. Our forecasting method incorporates long run estimates of potential economic growth based on forecast labor and capital inputs to estimate real earning growth.

### For Factor Returns:

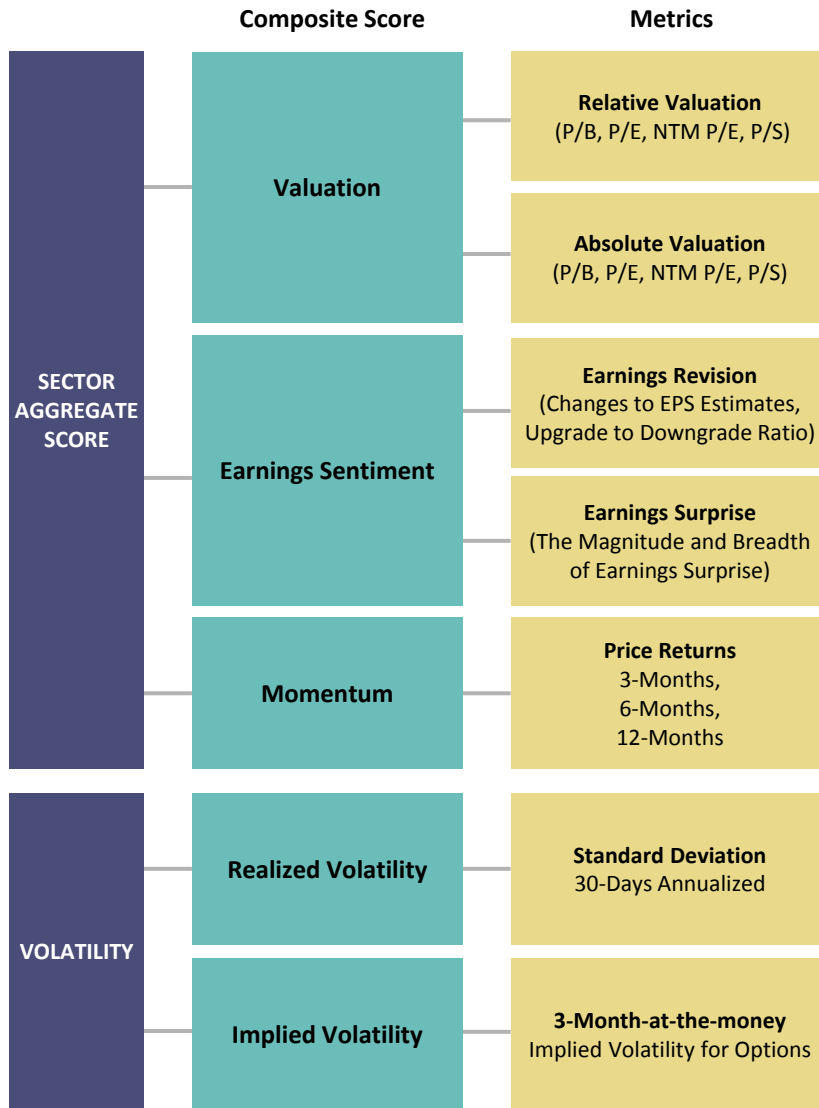
Over a one to three-year forecast horizon, we look to see how cheap each factor is relative to its own history. Specifically, we focus on book/price spreads for each factor and relate that to their subsequent returns. We find that valuation ratios are useful for forecasting market returns.

### For Commodities:

Our long-term commodity forecast is based on the level of world GDP, as a proxy for consumption demand, as well as on our inflation outlook. Additional factors affecting the returns to a commodities investor include how commodities are held (e.g., physically, synthetically, or via futures) and the various construction methodologies of different commodity benchmarks.

# Appendix C: SPDR Sector Scorecard

# SPDR Sector Scorecard



The metrics shown are z-scores, which are calculated using the mean and standard deviation of the relevant metrics within S&P 500 sectors. Using Z-scores to standardize results across all sectors allows for easier relative assessment. Sectors with cheaper valuation, higher price momentum, higher sentiment and higher volatility will have higher z-scores.

We calculate a composite score by equally weighting each metric z-score in the same category.

The scorecard does not represent the investment views of State Street. Metrics used in the scorecard have not been backtested for any sector strategies by State Street. These are for illustrative and educational purposes as we seek to bring greater transparency to the sector investing landscape and the due diligence required to build sophisticated portfolios to meet specific client objectives.

Source: SPDR America Research.

# Appendix D: Definitions

# Definitions

**S&P500 Index:** A popular benchmark for US large-cap equities that includes 500 companies from leading industries and captures approximately 80% coverage of available market capitalization.

**CBOE VIX Index:** The Chicago Board Options Exchange (CBOE) Volatility Index shows the market's expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options.

**Implied Volatility:** A way of estimating volatility of a security's price based on a number of predictive variables. Implied volatility rises when the market is falling when investors believe that the asset's price will decline over time, and it falls when the market is rising when investors believe that the security's price will rise over time. This is due to the common belief that bearish markets are riskier than bullish markets.

**MSCI Emerging Market Index:** The MSCI Emerging Markets Index captures large and mid-cap representation across 23 emerging markets countries. With 834 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**Russell 2000 Index:** A benchmark that measures the performance of the small-cap segment of the US equity universe.

**MSCI EAFE Index:** An equities benchmark that captures large- and mid-cap representation across developed market countries around the world, excluding the US and Canada.

**Bloomberg US High Yield Index:** The Bloomberg USD High Yield Corporate Bond Index is a rules-based, market-value weighted index engineered to measure publicly issued non-investment grade USD fixed-rate, taxable, corporate bonds. To be included in the index a security must have a minimum par amount of 250MM.

**Bloomberg Barclays US Aggregate Index:** A benchmark that provides a measure of the performance of the US dollar denominated investment grade bond market, which includes investment grade government bonds, investment grade corporate bonds, mortgage pass through securities, commercial mortgage backed securities and asset backed securities that are publicly for sale in the US.

**Bloomberg US Treasury Index:** The Bloomberg US Treasury Bond Index is a rules-based, market-value weighted index engineered to measure the performance and characteristics of fixed rate coupon US Treasuries which have a maturity greater than 12 months. To be included in the index a security must have a minimum par amount of 1,000MM.

**Bloomberg Commodity Index:** Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.

**MSCI Europe Index:** The MSCI Europe Index is a free-float weighted equity index designed to measure the equity market performance of the developed markets in Europe.

**Euro STOXX 50 Index:** Europe's leading blue-chip index for the Eurozone, provides a blue-chip representation of super-sector leaders in the Eurozone. The index covers 50 stocks from 12 Eurozone countries.

**MSCI Japan Index:** The MSCI Japan Index is a free-float weighted equity index designed to measure the equity market performance of the developed markets in Japan.

**Bloomberg Dollar Spot Index:** The Bloomberg Dollar Spot Index tracks the performance of a basket of ten leading global currencies versus the US Dollar. Each currency in the basket and their weight is determined annually based on their share of international trade and FX liquidity.

**Bloomberg Barclays Global Aggregate Bond Index:** A benchmark that provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the U.S. Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities, and USD investment-grade 144A securities.

**State Street Confidence Indexes:** Measures investor confidence or risk appetite quantitatively by analyzing the actual buying and selling patterns of institutional investors. The index assigns a precise meaning to changes in investor risk appetite: the greater the percentage allocation to equities, the higher risk appetite or confidence. A reading of 100 is neutral; it is the level at which investors are neither increasing nor decreasing their long-term allocations to risky assets. The results shown represent current results generated by State Street Investor Confidence Index. The results shown were achieved by means of a mathematical formula in addition to transactional market data, and are not indicative of actual future results which could differ substantially.

**Yield to worst:** Yield to worst is an estimate of the lowest yield that you can expect to earn from a bond when holding to maturity, absent a default. It is a measure that is used in place of yield to maturity with callable bonds.

# Definitions

**MSCI USA Index:** The MSCI World Index, which is part of The Modern Index Strategy, is a broad global equity benchmark that represents large and mid-cap equity performance across 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country and MSCI World benchmark does not offer exposure to emerging markets.

**MSCI USA Minimum Volatility Index:** The MSCI USA Minimum Volatility (USD) Index aims to reflect the performance characteristics of a minimum variance strategy applied to the MSCI large and mid cap equity universe. The index is calculated by optimizing the MSCI USA Index, its parent index, for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI World Index.

**MSCI USA Enhanced Value Weighted Index:** The MSCI USA Enhanced Value Weighted Index captures large and mid-cap representation across the US equity markets exhibiting overall value style characteristics. The index is designed to represent the performance of securities that exhibit higher value characteristics relative to their peers within the corresponding GICS® sector.

**MSCI USA Quality Index:** The MSCI USA Quality Index is based on MSCI USA, its parent index. The index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage.

**MSCI USA Equal Weighted Index:** The MSCI USA Equal Weighted Index represents an alternative weighting scheme to its market cap weighted parent index, the MSCI USA Index. At each quarterly rebalance date, all index constituents are weighted equally, effectively removing the influence of each constituent's current price (high or low).

**MSCI USA High Dividend Yield Index:** The MSCI World High Dividend Yield Index is based on the MSCI USA Index, its parent index, and includes large and mid cap stocks. The index is designed to reflect the performance of equities in the parent index (excluding REITs) with higher dividend income and quality characteristics than average dividend yields that are both sustainable and persistent. The index also applies quality screens and reviews 12-month past performance to omit stocks with potentially deteriorating fundamentals that could force them to cut or reduce dividends.

**Price-to-book ratio (P/B Ratio):** The price-to-book ratio (P/B Ratio) is a ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share. Also known as the "price-equity ratio.

**Price-earnings ratio (P/E Ratio):** The price-earnings ratio (P/E Ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The price-earnings ratio can be calculated as: Market Value per Share/Earnings per Share.

**Russell 1000 Growth Index:** The index is a style index designed to track the performance of stocks that exhibit the strongest growth characteristics by using a style-attractiveness-weighting scheme.

**Russell 1000 Value Index:** The index is a style-concentrated index designed to track the performance of stocks that exhibit the strongest value characteristics by using a style-attractiveness-weighting scheme.

**Russell 1000 Defensive Index and Russell 1000 Dynamic Index:** The index measures a portion of the market based on the sensitivity to economic cycles, credit cycles, and market volatility, referred to as stability. Stability is measured at the company level in terms of volatility (price and earnings), leverage, and return on assets. The more stable half of the index is called the Defensive Index® and the less stable half is called the Dynamic Index®.

**Z-score:** It indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where z is the z-score, X is the sector relative performance,  $\mu$  is the mean of the eleven sector relative performance, and  $\sigma$  is the standard deviation of sectors' relative performance.

**Implied Volatility:** The estimated volatility of a security's price. In general, implied volatility increases when the market is bearish and decreases when the market is bullish. This is due to the common belief that bearish markets are more risky than bullish markets.

**Minimum Volatility Factor:** A category of stocks that are characterized by relatively less movement in share price than many other equities.

**Quality Factor:** One of the six widely recognized, research-based smart beta factors that refers to "quality" equities. Companies whose stocks qualify exhibit consistent profitability, stability of earnings, low financial leverage and other characteristics consistent with long-term reliability such as ethical corporate governance.

**Size Factor:** A smart beta factor based on the tendency of small-cap stocks to outperform their large-cap peers over long time periods.

**Yield Factor:** A factor which screens for companies with a higher than average dividend yield relative to the broad market, and which have demonstrated dividend sustainability and persistence.

**Momentum Factor:** The tendency for a security to maintain a certain direction of price trajectory. This tendency is well documented in academic research, which has made "momentum" one of the six smart beta factors that are systematically being isolated in new-generation strategic indexes.

**Value Factor:** One of the basic elements of "style"-focused investing that focuses on companies that may be priced below intrinsic value. The most commonly used methodology to assess value is by examining price-to-book (P/B) ratios, which compare a company's total market value with its assessed book value.

# Definitions

**Standard Deviation:** Measures the historical dispersion of a security, fund or index around an average. Investors use standard deviation to measure expected risk or volatility, and a higher standard deviation means the security has tended to show higher volatility or price swings in the past.

**Excess Returns:** A security's return minus the return from another security in the same time period.

**Current Short Interest (%):** The percentage of tradable outstanding shares which have been shorted. Used as a measure of investor sentiment.

**Yield:** The income produced by an investment, typically calculated as the interest received annually divided by the investment's price.

**Basis Point:** One hundredth of one percent, or 0.01%.

**Yield Curve:** A graph or line that plots the interest rates or yields of bonds with similar credit quality but different durations, typically from shortest to longest duration. When the yield curve is said to be flat, it means the difference in yields between bonds with shorter and longer durations is relatively narrow. When the yield curve is said to be steepened, it means the difference in yields between short term and long term bonds increases.

**Spread Changes:** Changes in the spread between Treasury securities and non-Treasury securities that are identical in all respects except for quality rating.

**Bloomberg Barclays Global Aggregate Bond Index:** The Bloomberg Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

**Bloomberg Barclays US Corporate High Yield Index:** The index consists of fixed rate, high yield, USD-denominated, taxable securities issued by US corporate issuers.

**Bloomberg Barclays EM USD Aggregate Index:** The index is a hard currency emerging markets debt benchmark that includes US dollar-denominated debt from sovereign, quasi-sovereign, and corporate issuers in the developing markets.

**Bloomberg Barclays US Corporate Bond Index:** The Bloomberg Barclays US Corporate Bond Index measures the investment grade, US dollar-denominated, fixed-rate, taxable corporate and government related bond markets. It is composed of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

**Bloomberg Barclays Pan-European High Yield Index:** The Index measures the below investment grade, fixed-rate, taxable corporate bonds.

**The Global Industry Classification Standard (GICS):** An industry taxonomy developed in 1999 by MSCI and Standard & Poor's (S&P) for use by the global financial community. The GICS structure consists of 10 sectors, 24 industry groups, 67 industries and 156 sub-industries [1] into which S&P has categorized all major public companies.

**Credit Spread:** A credit spread is the difference in yield between a US Treasury bond and a debt security with the same maturity but of lesser quality.

**S&P 500 Health Care Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® health care sector.

**S&P 500 Consumer Discretionary Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® consumer discretionary sector.

**S&P 500 Consumer Staples Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® consumer staples sector.

**S&P 500 Financial Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® financial sector.

**S&P 500 Utilities Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® utilities sector.

**S&P500 Information Technology Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® information technology sector.

**S&P 500 Industrial Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® industrial sector.

**S&P 500 Materials Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® materials sector.

**S&P 500 Real Estate Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® real estate sector.

**S&P 500 Telecommunication Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® telecommunication services sector.

**Breakeven Inflation Rate:** It is a market based measure of expected inflation. It is the difference between the yield of a nominal bond and an inflation linked bond of the same maturity.



# Appendix D: Important Disclosures

# Important Disclosures

The views expressed in this material are the views of SPDR Americas Research Team and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

**Bonds** generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

The values of **debt securities** may decrease as a result of many factors, including, by way of example, general market fluctuations; increases in interest rates; actual or perceived inability or unwillingness of issuers, guarantors or liquidity providers to make scheduled principal or interest payments; illiquidity in debt securities markets; and prepayments of principal, which often must be reinvested in obligations paying interest at lower rates.

**Equity securities** may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Investments in **small-sized companies** may involve greater risks than in those of larger, better known companies.

Investments in **mid-sized companies** may involve greater risks than in those of larger, better known companies, but may be less volatile than investments in smaller companies.

Companies with **large market capitalizations** go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

**Value stocks** can perform differently from the market as a whole. They can remain undervalued by the market for long periods of time.

**Foreign investments** involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Because of their narrow focus, **sector funds** tend to be more volatile.

**Commodities** investing entail significant risk as commodity prices can be extremely volatile due to wide range of factors Bond funds contain interest rate risk (as interest rates rise bond prices usually fall); the risk of issuer default; issuer credit risk; liquidity risk; and inflation risk.

**Asset Allocation** is a method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss.

# Important Disclosures (continued)

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