
SPDR[®] ETFs Fixed Income Chart Pack

Charts for the Latest Bond Market Insights and Analytics
Q4 2019

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

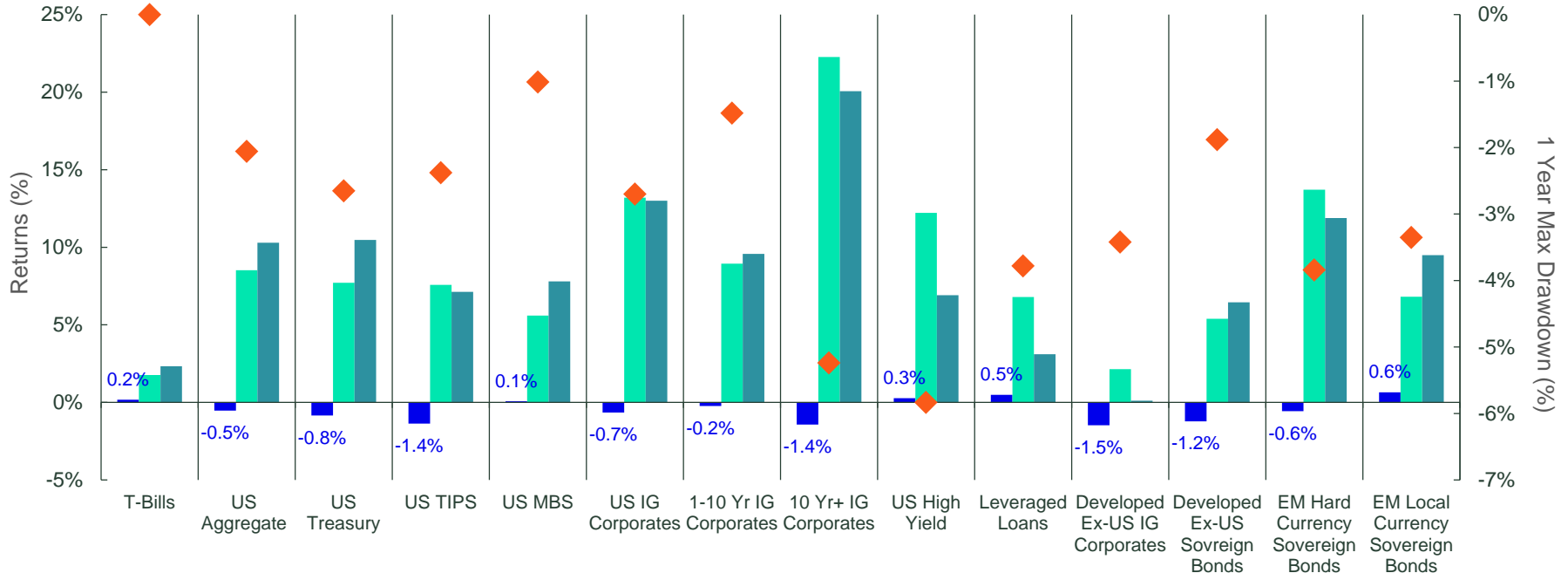
Bond Market Performance

With interest rates rising modestly, rate sensitive sectors posted losses in September. Below investment grade credit gained, however.

Bond Sector Performance

■ September ■ YTD ■ 1 Year ◆ 1 Year Max Drawdown

Long-term IG Corporates have had the best returns year to date and over the past year, but it has come with drawdowns similar to US High Yield



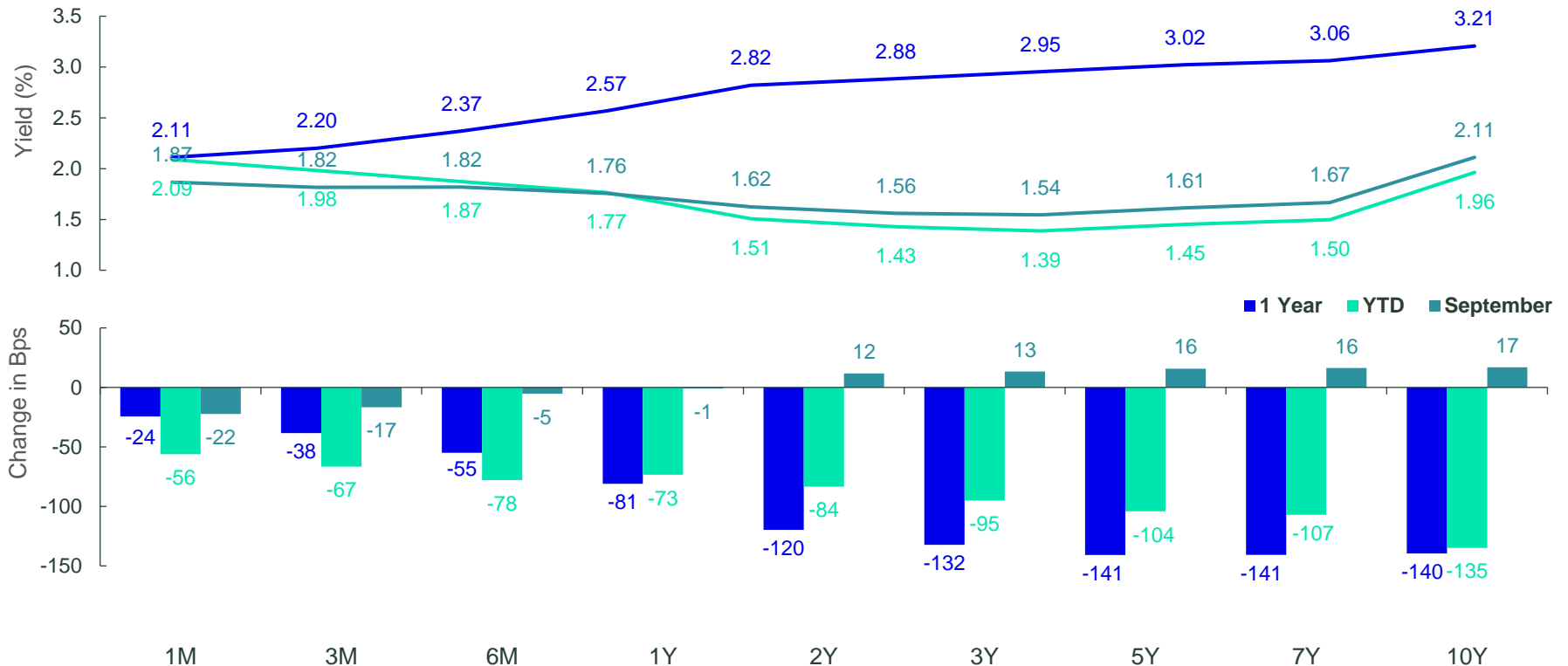
Source: Bloomberg Finance, L.P. As of September 30, 2019. **Past performance is not a guarantee of future results.** T-bills - Bloomberg Barclays U.S. Tr Bills: 1-3 Months Index, US Aggregate - Bloomberg Barclays US Agg Index, US Treasury - Bloomberg Barclays US Treasury Index, US TIPS - Bloomberg Barclays Global Inflation-Linked: U.S. TIPS Index, US MBS - Bloomberg Barclays US MBS Index, US IG Corporates - Bloomberg Barclays US Corporate Index, 1-10 YR IG Corporates - Bloomberg Barclays Intermediate Corporate Index, 10 Yr+ IG Corporates - Bloomberg Barclays Long U.S. Corporate Index, US High Yield - Bloomberg Barclays VLI: High Yield Index, Leveraged Loans - S&P/LSTA Leveraged Loan Index, Developed Ex-US IG Corporates - Bloomberg Barclays Global Agg Corporate ex USD \$1B+ Index, Developed Ex-US Sovereign Bonds - Bloomberg Barclays Global Treasury ex-U.S. Index, EM Hard Currency Sovereign Bonds - J.P. Morgan EMBI Global Core Index, EM Local Sovereign Bonds - Bloomberg Barclays EM Local Currency Govt Diversified Index.

Yield Curve

The yield curve steepened in September, as the geopolitical unrest that pushed yields to three year lows in August slightly abated and the Fed cut short term rates.

US Treasury Curve

US Treasury Active: 9/30/2018 8/30/2019 9/30/2019



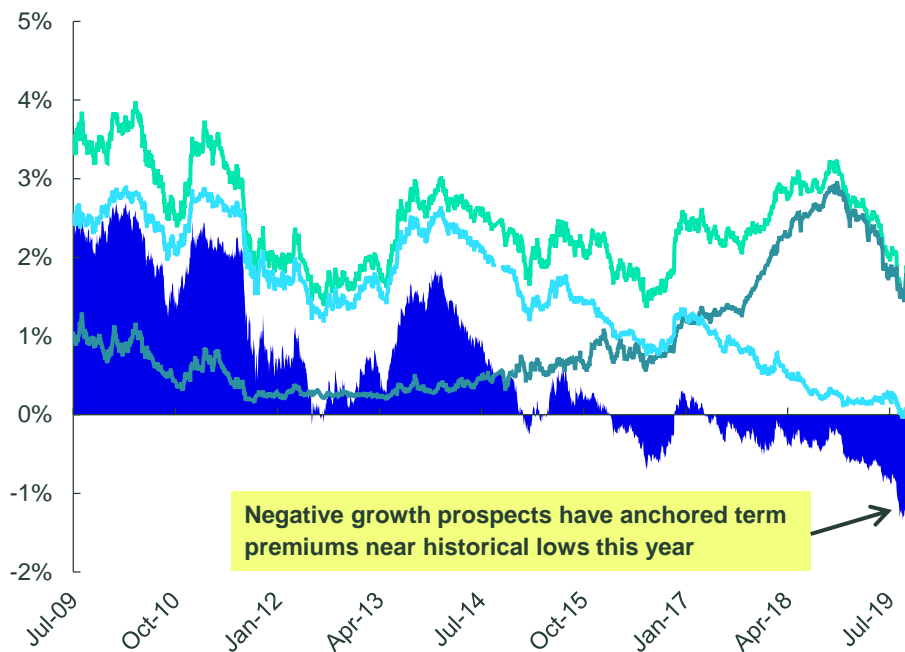
Source: Bloomberg Finance, L.P. As of September 30, 2019. Past performance is not a guarantee of future results.

Yield Curve (continued)

While the yield curve steepened in September, it still remains flat as the long end remains constrained by slow growth dynamics.

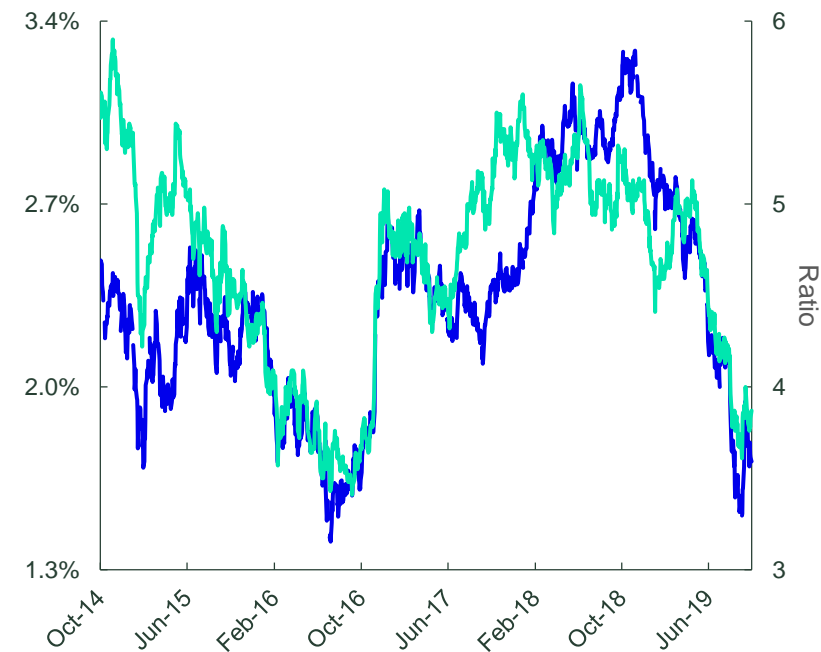
US Treasury Curve (10-and-2 Year Spreads) and Term Premium

- Adrian Crump & Moench 10 Year Treasury Term Premium
- US 10 Year Yield
- US 2-Year Yield
- US 10-Year and 2-Year Yield Spreads



US 10 Year Yield versus the Copper to Gold Ratio

- US 10 Year Yield (%)
- Copper to Gold Ratio

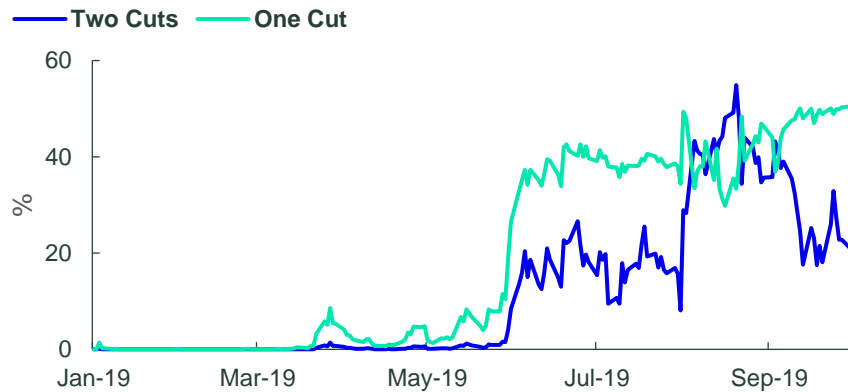


Source: Bloomberg Finance, L.P. As of September 30, 2019. **Past performance is not a guarantee of future results.** The term premium is the excess yield that investors require to commit to holding a long-term bond instead of a series of shorter-term bonds. The copper-to-gold ratio indicates the potential of economic growth as gold is more of a defensive asset while copper is more cyclical.

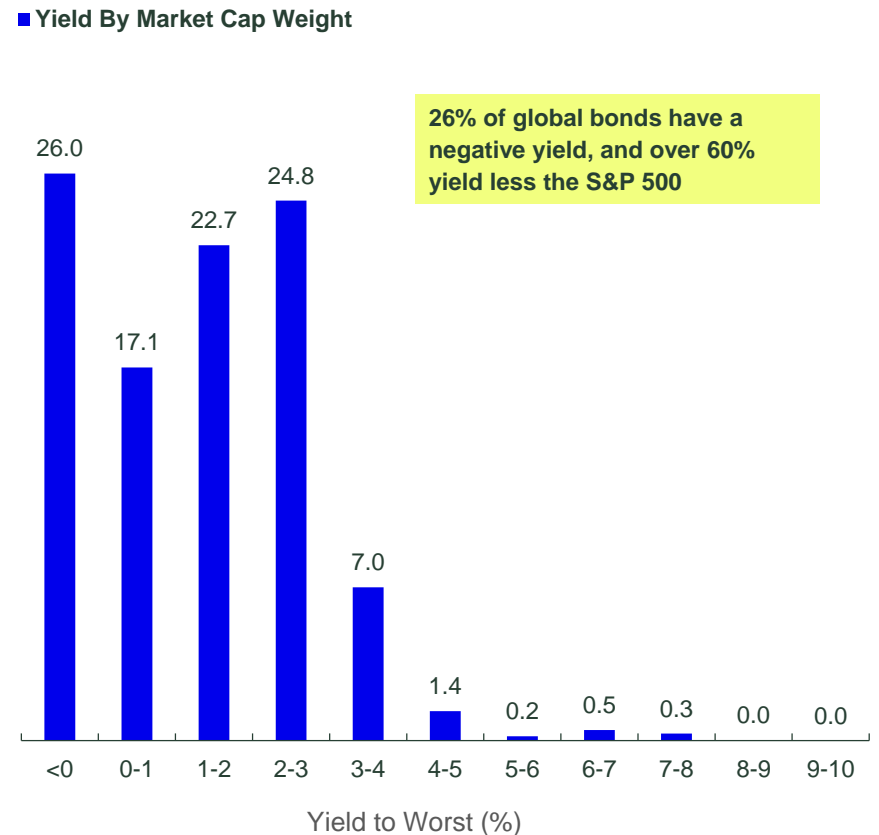
Low Rates & Rate Uncertainty

Global rates are low and both the market as well as policy makers lack consensus on the path for short term US rates for the remainder of 2019.

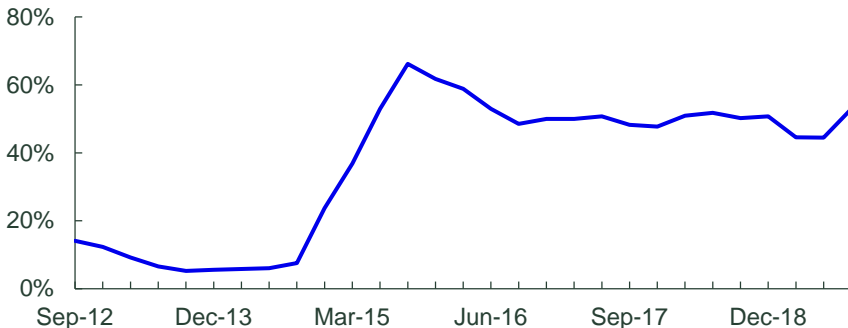
Market Implied Probability of Fed Actions by the end of 2019



Bloomberg Barclays Global Agg Index Allocation by Yield (%)



% of Fed Members with Different 2019 Policy Rate Projections than the Majority



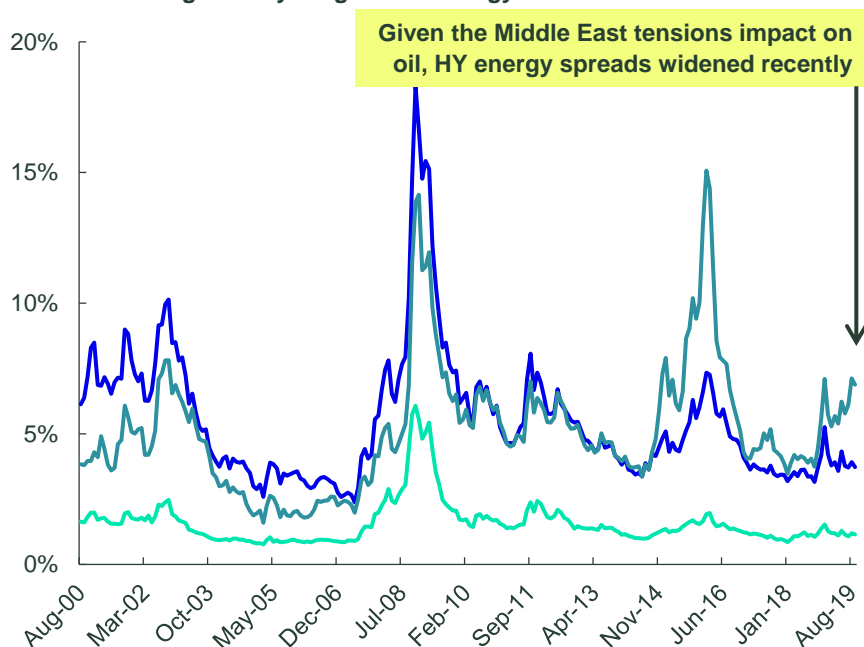
Source: Bloomberg Finance, L.P. As of September 30, 2019. Past performance is not a guarantee of future results.

Credit Trends

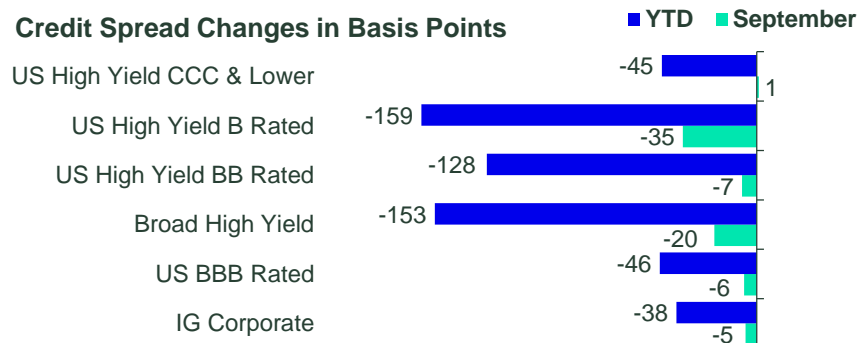
The dovish tone among global central banks drove risk-on sentiment in credit markets, with high yield spreads tightening further below long-term averages.

Credit Spreads

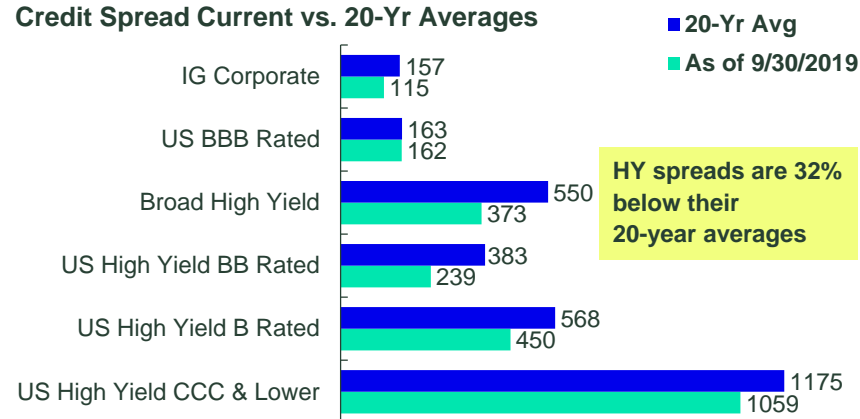
- Bloomberg Barclays US Corporate High Yield Index
- Bloomberg Barclays US Corporate Index
- Bloomberg Barclays High Yield Energy Index



Credit Spread Changes in Basis Points



Credit Spread Current vs. 20-Yr Averages

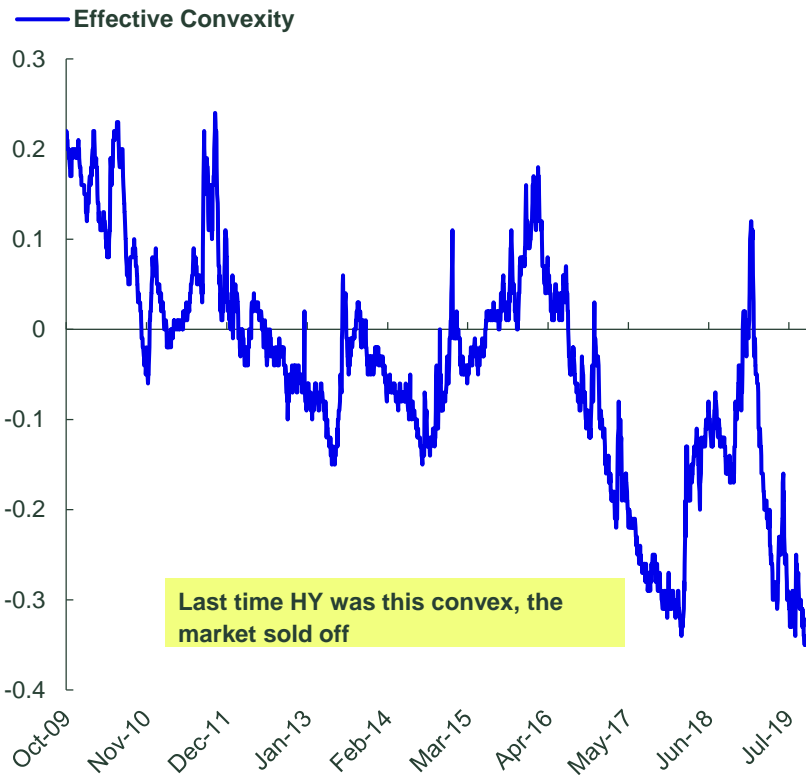


Source: Bloomberg Finance, L.P. BofA Merrill Lynch, As of September 30, 2019. US High Yield CCC & Lower = BofA ML US High Yield CCC & Lower Rated Index. US High Yield B Rated = BofAML US High Yield B Rated Index. BBB Rated = BofA ML US Investment Grade BBB Rated Index. Broad high yield = Bloomberg Barclays US Corporate High Yield Index. IG Corporate = Bloomberg Barclays US Corporate Index. **Past performance is not a guarantee of future results.**

Credit Trends (Continued)

Due to the sizeable spread compression for fixed rate high yield, it now trades at the most negatively convex level ever. Loans, however, yield more than fixed rate HY.

High Yield Bond Convexity



Yields on High Yield versus Loans

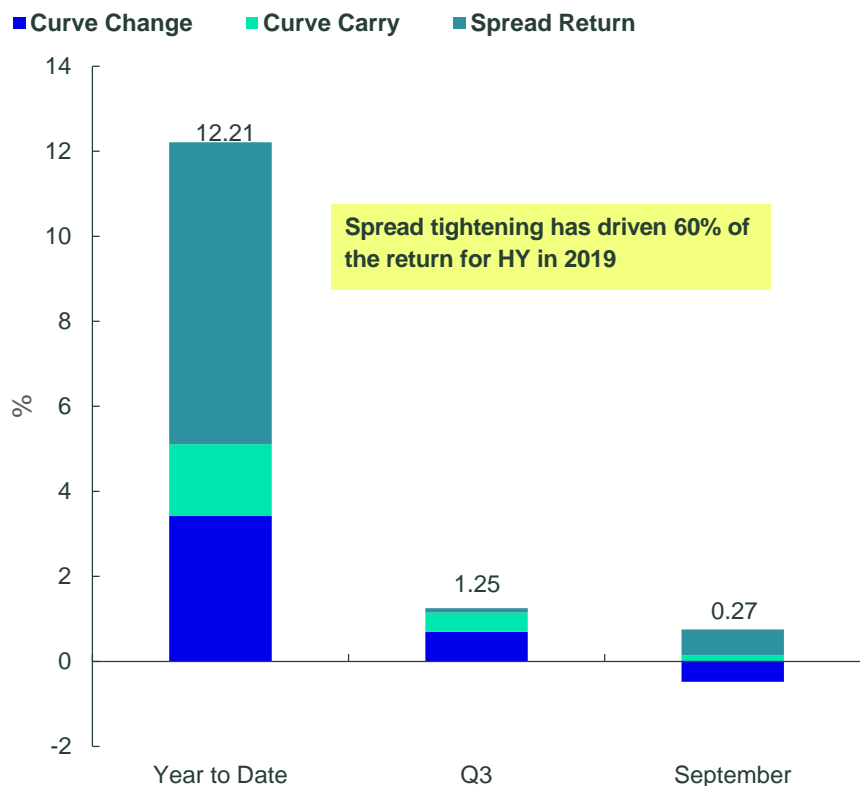


Source: Bloomberg Finance, L.P. As of September 30, 2019. **Past performance is not a guarantee of future results.** Senior loans: S&P Leveraged Loan 100 Index; High Yield Bonds: Bloomberg Barclays U.S. Corporate High Yield Index.

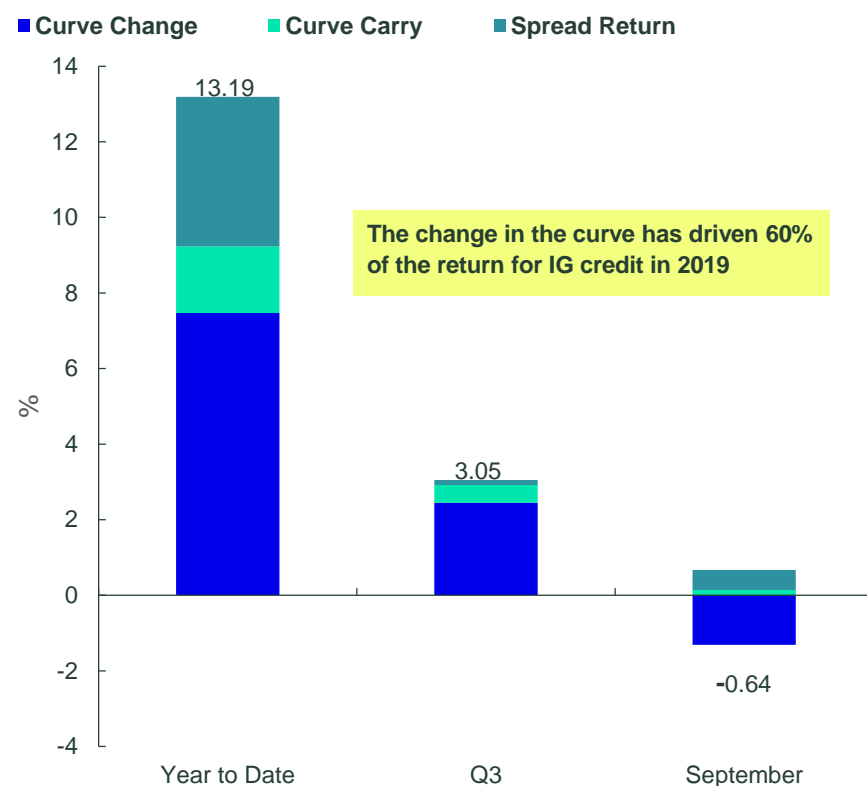
Credit Attribution

High yield credit registered a gain in September as the positive spread return offset the negative impact from the curve change. IG, however, was not as lucky.

US High Yield Attribution



US IG Corporate Attribution



Source: Bloomberg Finance, L.P. As of September 30, 2019. **Past performance is not a guarantee of future results.** US IG Corporates - Bloomberg Barclays US Corporate Index, US High Yield - Bloomberg Barclays VLI: High Yield Index.

Convertibles Attribution

As a result of increased issuance after high levels of equity sensitivity in 2018, convertibles now have more bond-like characteristics — despite a 13% return in 2019.

US Convertibles Liquid Bond Index – Average Stock Delta



US Convertibles Liquid Bond Index – Premium to Parity

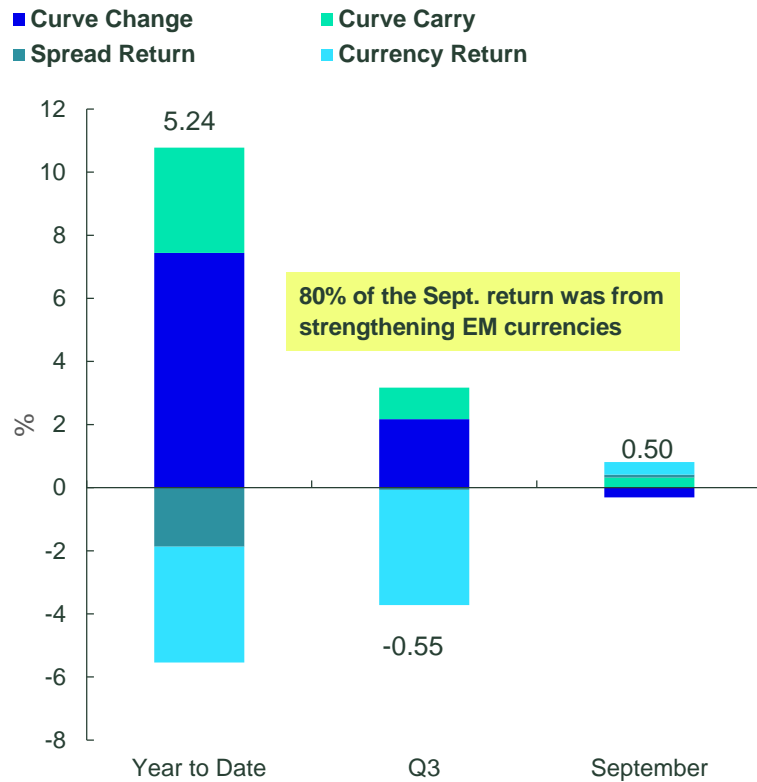


Source: Bloomberg Finance, L.P. As of September 30, 2019. Past performance is not a guarantee of future results.

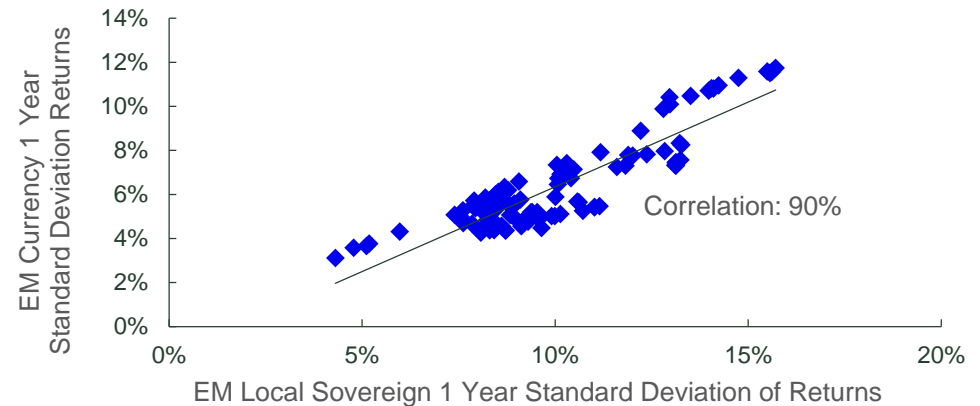
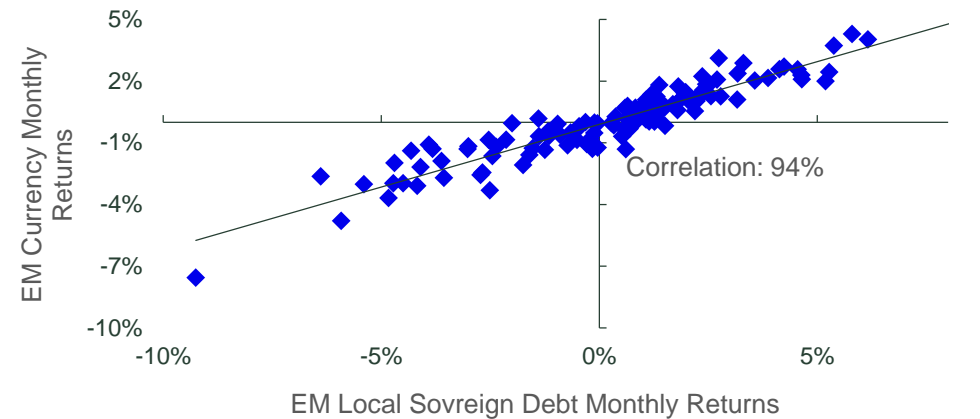
EM Debt Attribution

A softening of trade tensions and a Federal Reserve rate cut boosted emerging market (“EM”) currencies in September, benefiting EM local debt returns.

EM Local Sovereign Debt Attribution



EM Local Sovereign Debt Return Correlation to EM Currencies (2009–2019)

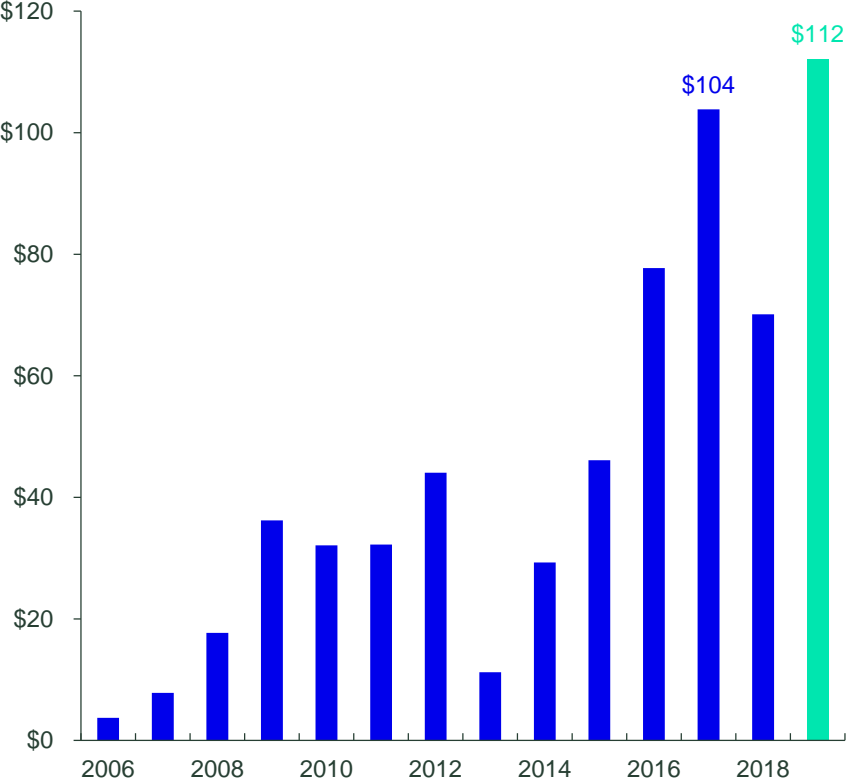


Source: Bloomberg Finance, L.P. As of September 30, 2019
 EM Local – Bloomberg Barclays EM Local Sovereign Bond Index.
Past performance is not a guarantee of future results.

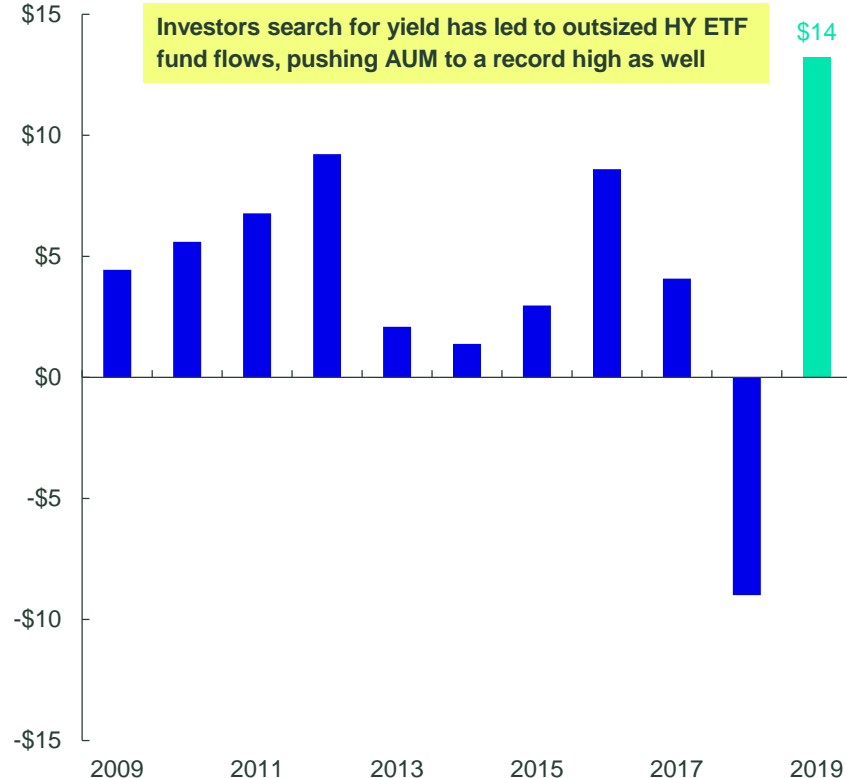
ETF Fund Flow Trends

Fixed Income ETF flows are 8% ahead of 2017's record setting pace, and one year after posting their first year of outflows HY ETFs have a record inflow total.

Yearly US-Listed FI ETF Fund Flows Through September (\$ Billions)



High Yield Yearly Fund Flows (\$ Billions)

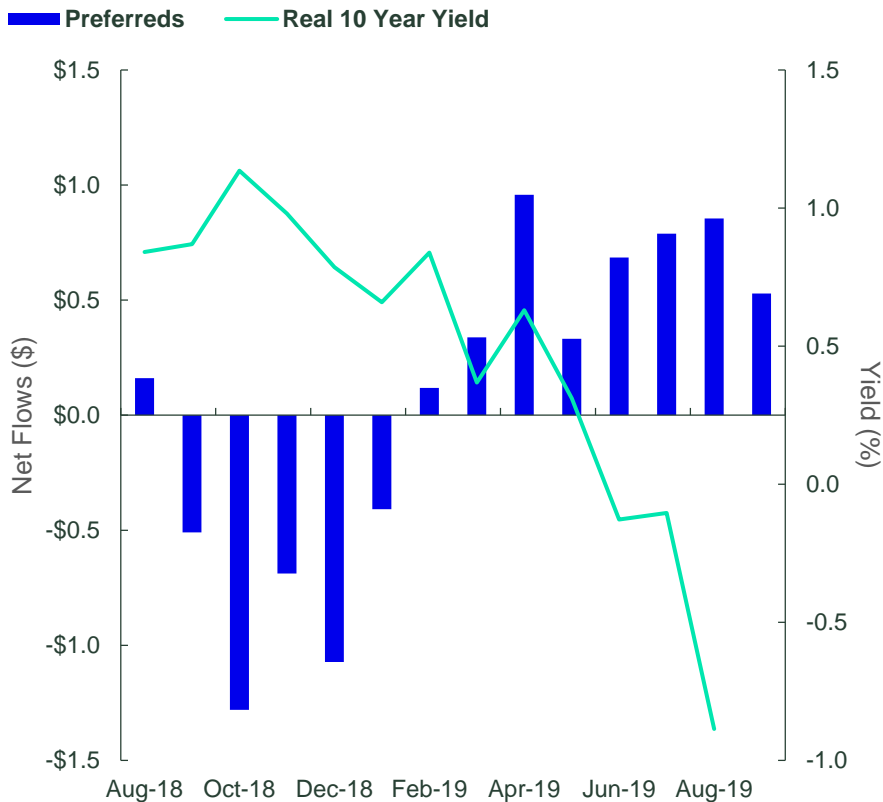


Source: Bloomberg Finance, L.P. As of September 30, 2019. Past performance is not a guarantee of future results.

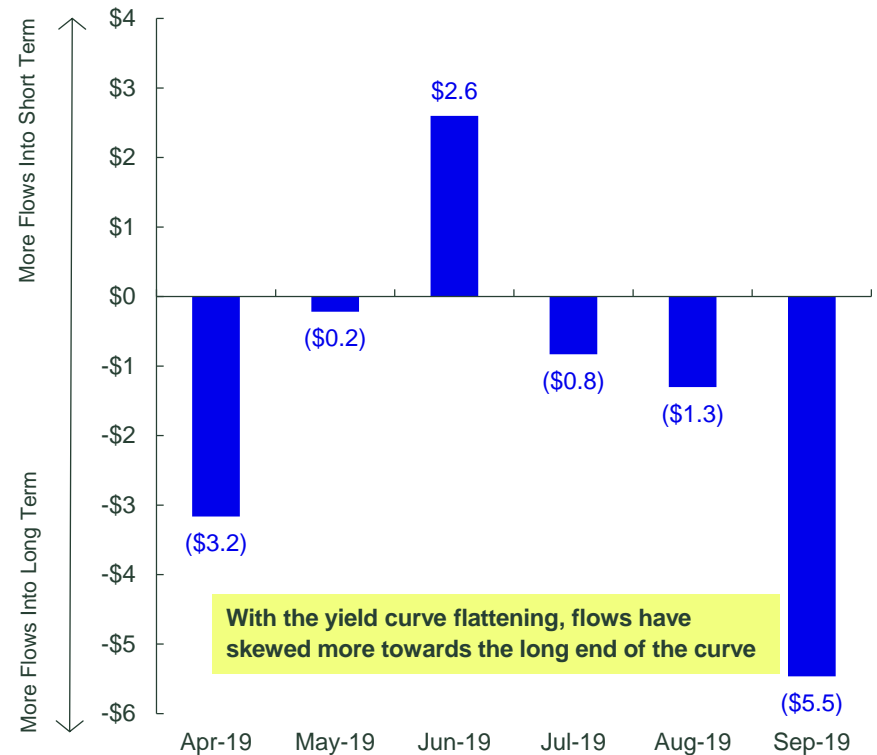
ETF Fund Flow Trends (continued)

With rates falling, the demand for higher levels of income has led to renewed interest in preferred securities.

Preferred ETFs Net Flows vs. Real 10 Year Yields



Ultra-Short/Short Term Treasury Minus Interm./Long Term Flows

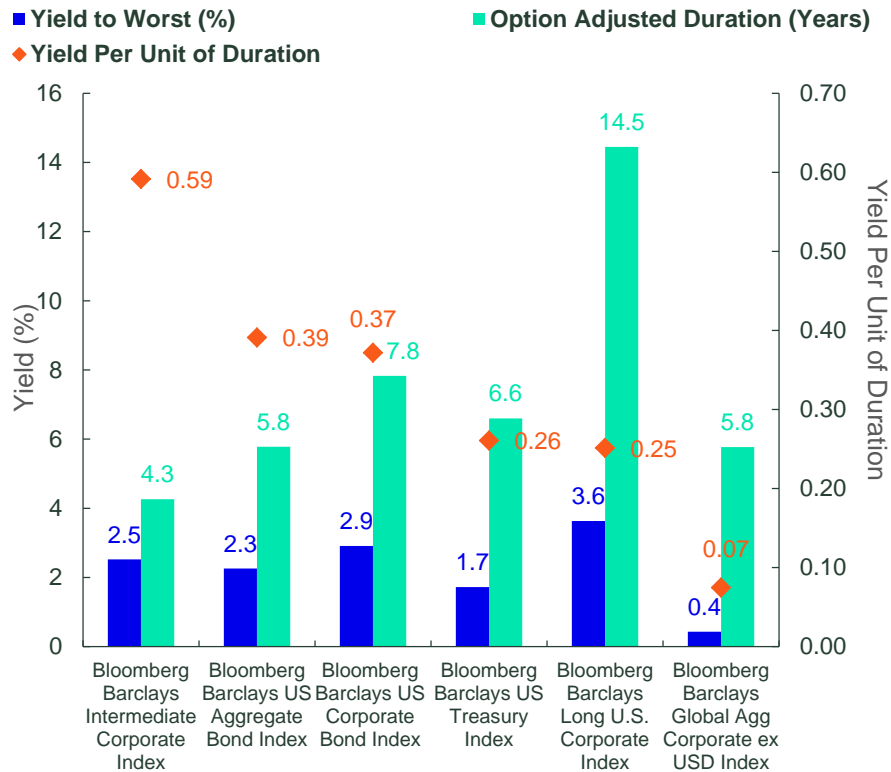


Source: Bloomberg Finance, L.P. As of September 30, 2019. Past performance is not a guarantee of future results.

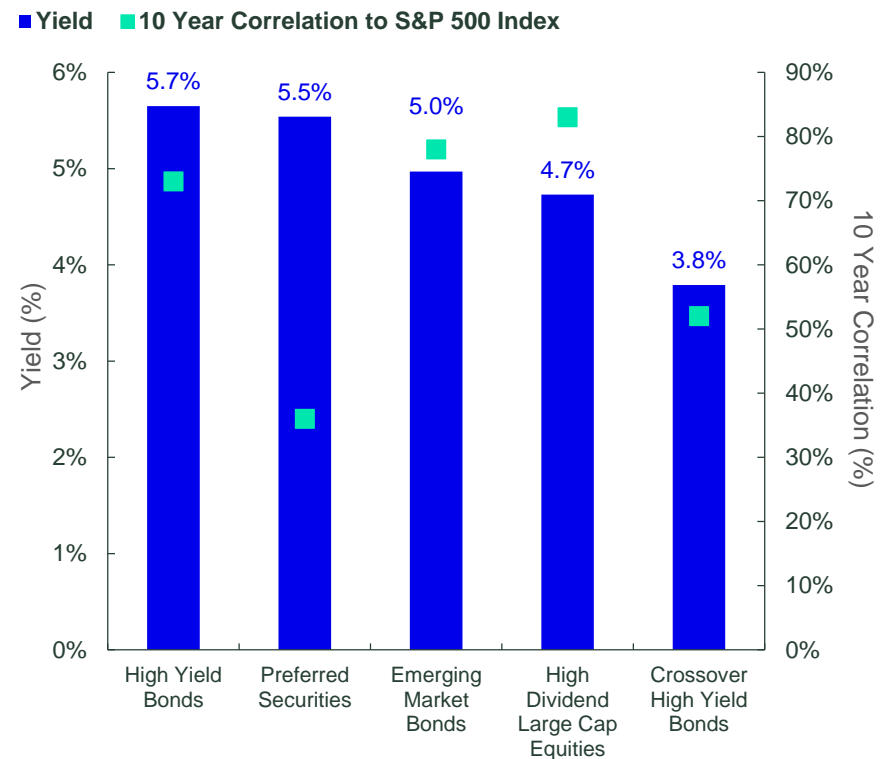
Bond Market Outlook

Striking a balance between yield and duration is a daunting task within the core of portfolios with investment grade global fixed income sectors.

Bond Market Yield and Duration Profiles



Yield and Equity Sensitivity for High Income Opportunities



Source: Bloomberg Finance, L.P. As of September 30, 2019. **Past performance is not a guarantee of future results.** Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses High Yield Bonds: Bloomberg Barclays U.S. Corporate High Yield Index; Emerging Market Bonds: Bloomberg Barclays Emerging Markets Hard Currency Aggregate Index; High Dividend Large Cap Equities: S&P 500 High Dividend Index; Crossover High Yield Bonds: ICE BofAML Crossover Corporate Bond Index. Correlation analysis from 09/30/2009 to 09/30/2019 based on monthly frequency of returns. Past performance is not a guarantee of future results.

Appendix A

Definitions

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

The Bloomberg Barclays US Treasury Bill Index tracks the market for treasury bills issued by the US government. US Treasury bills are issued in fixed maturity terms of 4-, 13-, 26- and 52-weeks. The US Treasury Bill Index is a component of the US Short Treasury Index along with US Treasury notes and bonds that have fallen below one year to maturity.

The Bloomberg Barclays Global Aggregate Index is a measure of global investment grade debt from 24 local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

The Bloomberg Barclays US Mortgage Backed Securities (MBS) Index tracks agency mortgage pass-through securities (no longer incorporates hybrid ARM) guaranteed by Ginnie Mae (GNMA), Mae (FNMA), and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA-deliverable MBS pools into aggregates or generics based on program, coupon and vintage.

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 Barclays US Corporate 1–3 Year Index: The Index includes publicly issued US dollar denominated corporate issues that have a remaining maturity of greater than or equal to 1 year and less than 3 years, are rated investment grade.

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.

The Bloomberg Barclays Emerging Markets Local Currency Liquid Government Index is a country-constrained, more liquid version of the flagship Emerging Markets Local Currency Government Index, which is designed to provide a broad measure of the performance of local currency Emerging Markets (EM)

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.

The Bloomberg Barclays US Convertible Liquid Bond Index is designed to represent the market of U.S. convertible securities, such as convertible bonds.

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.

Parity The value of the underlying equity if the convertible is converted. It is equal to the current stock price multiplied by the number of shares for which the bond may be exchanged.

S&P/LSTA US Leveraged Loan 100 Index: The S&P/LSTA US Leveraged Loan 100 Index is designed to reflect the largest facilities in the leveraged loan market.

Delta: The sensitivity of one asset to an underlying derivative

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

Parity The value of the underlying equity if the convertible is converted. It is equal to the current stock price multiplied by the number of shares for which the bond may be exchanged.

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.

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

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.

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.

Appendix B

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.

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