November 2017

Janus Henderson
—KNOWLEDGE. SHARED—

Tail Risk Report

An asset class outlook based on potential tail gains and losses

For professional investors only

Inflation Appearing on the Red Carpet

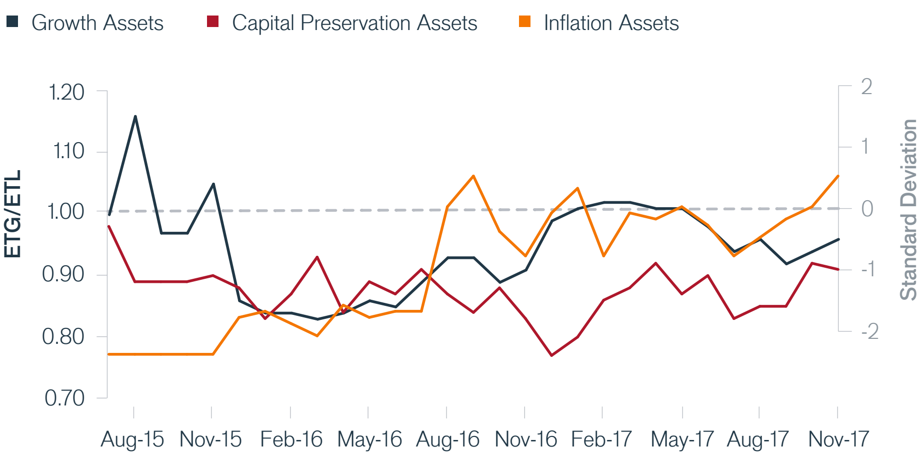
The option markets continue to signal new life for inflation, reversing its benign outlook, and showing signs of moderate price pressures going forward. Moderate is the operative word, as moderate inflation allows the Federal Reserve (Fed) to continue on its path of gradual normalization.

Gradual policy normalization removes a significant source of left tail risk caused by central banks draining liquidity too aggressively. Consistent with this, our option-implied signals do not show much concern about large downside risk brewing in the equity markets.

Nevertheless, we do see rates heading higher and bonds have become the most unattractive asset class. Longer maturity bonds look less attractive than shorter maturity bonds from the perspective of their expected "tail-based" Sharpe ratios, which are defined as the expected upside to expected downside. In other words, we see the interest rate curve steepening.

Recent Monthly Tail-Based Sharpe Ratios

(Expected Tail Gain* / Expected Tail Loss*)



Janus Henderson's Adaptive Multi-Asset Solutions team arrives at its monthly outlook using option market prices to infer expected tail gains (ETG) and expected tail losses (ETL) for each asset class. The ratio of these two (ETG/ETL) provides a signal about the risk-adjusted attractiveness of the asset class. We think of that ratio as a "tail-based Sharpe ratio." These tables summarize the tail-based Sharpe ratio of three broad asset class categories.

Current Tail-Based Sharpe Ratios (ETG/ETL)

Source: Janus Henderson Investors as at 31 October 2017.

Sharpe ratio: this measures risk-adjusted performance by qualifying excess return per unit of realised risk.

The historical tail-based Sharpe ratios utilise data sets for various asset classes, with each data set subject to historical availability and team adjustments.

Beginning in August 2016, the "tail-based Sharpe ratios" have been normalized to 1.00 to allow for easier comparison across the three macroeconomic asset categories.
*We define ETG and ETL as the 1-in-10 expected best and worst two-month return for an asset class.

Tail Risk Report

What could cause the curve to steepen? As rates have fallen and stayed low, investors have started to look for other ways to earn income, such as selling volatility. This behavior has caused a compression in volatility or risk. When rates rise, investors may revert to holding bonds for income, and normalization should unfold not just in the fixed income markets, but in the volatility markets as well, which will bring volatility back to normal levels. And when this happens, the ever-elusive term "premia" of the last few years likely will show itself, leading to curve steepening.

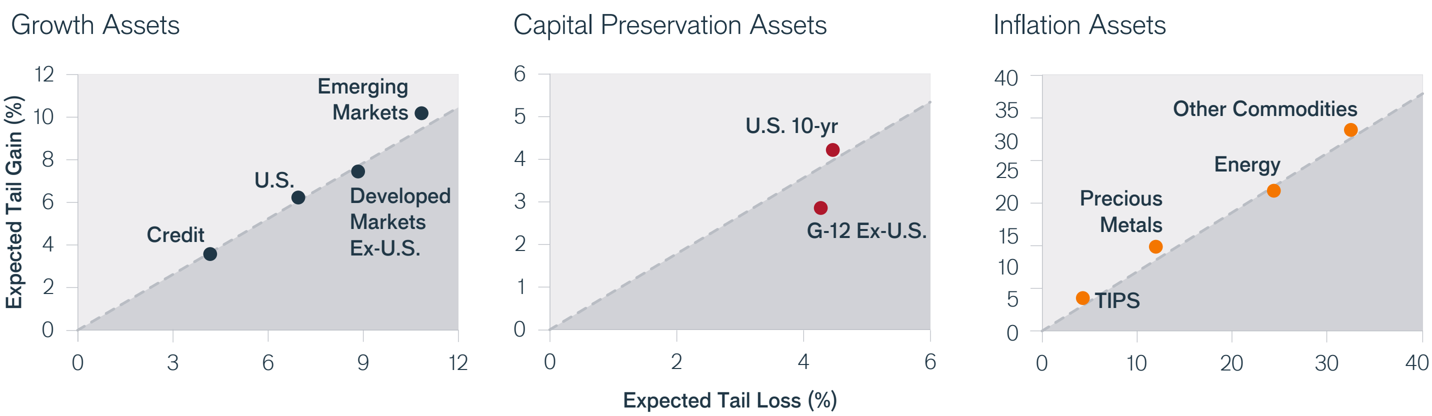
While the normalization process underway is progressing very smoothly, any time markets flirt with a transition to a new regime, we could find ourselves accelerating very quickly to this new paradigm. This would naturally lead to a sharp repricing of assets and a possible tail event. So again, selectivity, patience and watchfulness are key to help ensure that when opportunities arise investors are ready to capitalize on them.

In addition to our outlook on broad asset classes, Janus Henderson's Adaptive Multi-Asset Solutions team relies on the option markets to provide insights into specific equity, fixed income and commodity markets. The following caught our attention:

- **Growth Assets:** We see Japanese equities as a very attractive investment. As we learned since 2008, don't fight the central bank and underestimate its power to inflate financial prices. Prime Minister Abe's strong victory in last month's general election seals in a number of years of aggressive monetary stimulus. In the U.S., we see clear signals favoring value over growth and small caps over large caps, indicating the factor trends that have defined much of the last few years may be rotating. Additional highlights include attractive signals for Spanish and UK equity indices.
- **Bonds:** As mentioned above, we see rates selling off and the curve steepening. We may very well be entering a bear steepening environment.

Tail-Based Sharpe Ratio

(Expected Tail Gain / Expected Tail Loss)



Source: Janus Henderson Investors as at 31 October 2017.

G12= Australia, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, Switzerland, United Kingdom, United States.

TIPS= Treasury Inflation-Protected Securities.

For more information, please visit janushenderson.com.