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Janus Henderson
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Tail Risk Report

An outlook on asset classes based on potential tail gains and losses

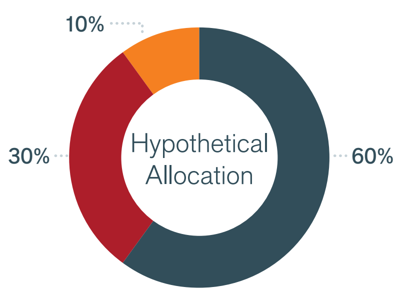
Steady as you go...but stay vigilant

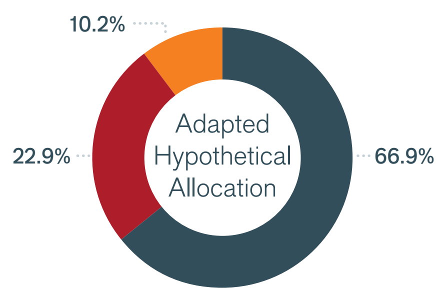
The theme of "steady as you go" continues to be alive and well in capital markets. Despite continuing talk of "late-cycle risk" and "recession and inverted yield curves," our signals do not indicate any warning signs of a slowdown in economic activity. Actually, quite to the contrary, equity attractiveness remains firm and above its historical average. At the risk of sounding like a broken record, it is important to note that real interest rates still remain low, despite the fact they have risen from their troughs of several years ago.

Impact of Tail Risk Signals on Hypothetical Asset Allocation

Using proprietary technology, **Janus Henderson's Adaptive Multi-Asset Solutions Team** derives tail risk signals from options market prices on three broad asset classes. Given our current estimates of tail risks, we illustrate how those signals would impact a 60/30/10 allocation.

- **Growth Assets**
  U.S. Equities, Non-U.S. Equities, EME, IG/HY Credit Spread
- **Capital Preservation Assets**
  G12 Sovereign Debt
- **Inflation Assets**
  Commodities, Linkers, Break-even Inflation





Current Tail-Based Sharpe Ratios (ETG*/ETL*)

Our Adaptive Multi-Asset Solutions Team arrives at its monthly outlook using options 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 signals about the risk-adjusted attractiveness of each asset class. We view this ratio as a "Tail-Based Sharpe Ratio." These tables summarize the current Tail-Based Sharpe Ratio of three broad asset classes.

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.

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Tail Risk Report

We have remarked time and time again that a key source of tail risk today is inflation. Should inflation unexpectedly spike to the upside, the Federal Reserve (Fed) and other central banks likely will be forced to abandon their gradual withdrawal of liquidity and adopt a more accelerated pace in unison with a more hawkish rate-hike campaign. This, in our view, would lead to a rapid rise in real rates that the economy may not be able to handle. This scenario would pose a very real threat of a market correction. Fortunately, our signs point to contained – rather than hyper – inflation ahead.

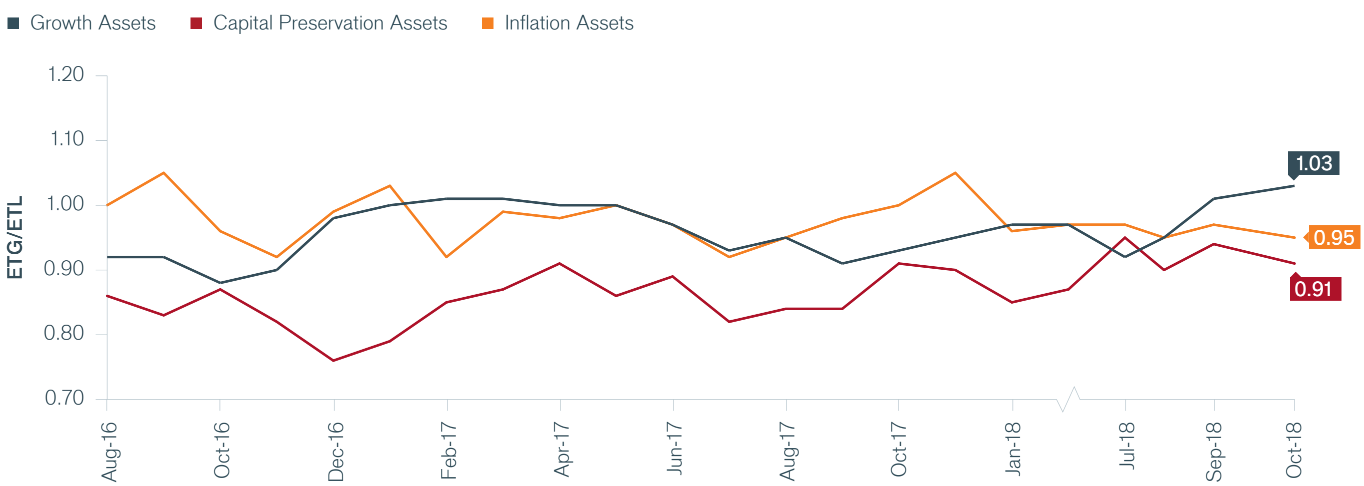
It may well be the case that the Fed's proactive rate-increase policy is keeping a lid on inflation, and we believe that the central bank will stay the course as evidenced by the continued unattractiveness of bonds, according to our signals.

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

- **Growth:** A key observation is that equity attractiveness has rotated regionally. While our signals have generally lauded the U.S. to be the most attractive region to gain equity exposure, we have recently witnessed international equities taking over, particularly so with Japan and emerging markets. Within the latter, China and Brazil are showing larger expected upside-to-downside ratios, pointing to higher-than-average attractiveness; Brazil, in fact, is showcasing the highest expected upside-to-downside ratio of any country globally.
- **Fixed Income:** We do not observe any absolute attractive duration opportunities globally, though on a relative basis, the U.S. duration appears more attractive than the international counterparts.
- **Commodity and Currency:** The euro appears quite unattractive versus the U.S. dollar, while ironically the Japanese yen is becoming more attractive. The options market may be pricing in concerns about Italy's deficit pains. Separately, oil is also showing higher-than-average attractiveness.

Historical Monthly Tail-Based Sharpe Ratios

(Expected Tail Gain* / Expected Tail Loss*)



For more information, please visit **janushenderson.com.**

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