

## Janus' Hedged Equity ETFs

**SPXH:** Janus Velocity Volatility Hedged Large Cap ETF **TRSK:** Janus Velocity Tail Risk Hedged Large Cap ETF

#### September 2014

The Janus Velocity Volatility Hedged Large Cap and Velocity Tail Risk Hedged Large Cap Exchange Traded Funds (Hedged Equity ETFs) represent the next frontier in hedged equity exposures. Investors have long faced the challenge of efficiently hedging the downside risk of an equity portfolio, and these new ETFs are designed to provide a systematic solution to that problem: an 85% exposure to large capitalization equities and a 15% exposure to a volatility component designed to efficiently hedge against large market declines.

The Janus Hedged Equity ETFs seek to replicate the VelocityShares Volatility Hedged Large Cap Index (SPXHID) and the VelocityShares Tail Risk Hedged Large Cap Index (TRSKID) (the Indices). The Indices have an 85% allocation to an equity component and a 15% allocation to a volatility component.

The equity component of the Indices is comprised of Exchange Traded Funds (ETFs) designed to replicate the performance of the S&P 500<sup>®</sup> Index. The Hedged Equity ETFs replicate this portion of index returns by owning the underlying S&P 500<sup>®</sup> ETFs.

The volatility component of the Indices was designed to solve the problem of the high cost of traditional volatility hedges. The volatility component is intended to take advantage of the following three fundamentals:

- The VIX Futures Index is negatively correlated with the S&P 500, making it a potentially useful hedge;
- The VIX Futures Index tends to exhibit a "spike and bleed" pattern: infrequent, large, and abrupt upward spikes, followed by very long periods of sustained negative returns, a feature which presents a substantial challenge for investors and;
- Daily-resetting leveraged and inverse exposures deliver convex returns, which can potentially be used to try to generate positive returns from "spikes" while mitigating losses from "bleed".

The Janus Hedged Equity ETFs replicate this portion of index returns through swaps.

#### Negative Correlation with the S&P 500<sup>®</sup> Index

The VIX Index is negatively correlated with equities (the VIX tends to spike when equities sell-off, and fall when equity markets rally), and therefore, in theory, an exposure to VIX added to an equity portfolio would reduce portfolio risk and improve return. As shown in Exhibit 1, the theoretical combination of VIX and the S&P 500 has historically resulted in a more attractive risk/return profile than an un-hedged exposure to the S&P 500.

EXHIBIT 1:



Historical volatility and excess return of 4 different portfolios each composed of combinations of the S&P 500 and the VIX. For example, the highlighted portfolio had an excess return of 9.0% with an annualized volatility of 10.1%. 12/31/05 - 8/29/14.

**Source:** Bloomberg, VelocityShares. Past performance does not guarantee future results.

Unfortunately it is not possible to own the VIX – it is a mathematical construct, not an investible instrument. Long-only exposures to VIX futures and VIX-related Exchange Traded Products (ETPs) tend to be costly, and an efficient hedge must balance effectiveness with cost. The primary reason that hedging with long-only exposures to VIX futures can be expensive is the upward slope of the VIX futures curve (contango).

#### Contango: The Cost of Being Long Volatility

Although the VIX historically tends to "spike" when equity markets have substantial declines, there is usually substantial "bleed" (i.e., losses) in the periods between those spikes. The VIX futures curve is generally in contango (upward sloping) meaning longer dated futures contracts are higher priced than shorter dated contracts, which in turn are higher than the VIX. Since futures contracts expire, an investor must sell shorter dated contracts and buy longer dated contracts to maintain a long exposure.

It is not unusual for the roll-down in short term VIX futures to "cost" 5% per month: since 2005, contango has averaged 5% and has frequently been as much as 15-20% per month.

The steeper the slope of the futures curve the more expensive it is to hold a long position: all else being equal, the spot price has to rise to meet the futures price in order for the holder of the futures position to break-even. So, if the difference between the VIX and the 1st month futures contract is 5% then, all else being equal, the VIX must increase by 5% in a month in order for the owner of the 1st month contract to break even. In fact, it is not unusual for the contango in short term VIX futures to "cost" 5% per month (since 2005, contango has averaged 5% and has frequently been as much as 15-20% per month). This is what causes the "bleed" in the long periods between VIX "spikes". The effect of this very costly roll down is not only to reduce but actually to reverse the positive theoretical benefit of adding VIX to an S&P 500 portfolio.

Exhibit 2 shows that adding a long only exposure to VIX futures into an S&P 500 portfolio is actually detrimental to risk adjusted returns: it is a hedge that comes at far too high a price.

The volatility component of the indices employs long positions in both a 2x leveraged VIX futures exposure and a 1x inverse VIX futures exposure. The inverse position is intended to increase when VIX futures returns are negative and therefore is intended to offset the cost of the long volatility position during periods of falling volatility or upward sloping futures curve.



Historical volatility and excess return of 4 different portfolios each composed of combinations of the S&P 500 and VIX Futures. For example, the highlighted portfolio had an excess return of 2.7% with an annualized volatility of 9.5%. 12/31/05 - 8/29/14.

**Source:** Bloomberg, VelocityShares. Past performance does not guarantee future results.

#### Convexity of Daily-Resetting Exposures

Daily-resetting leveraged and inverse exposures exhibit positive convexity: the returns increase more rapidly and decrease less rapidly than an equivalent linear exposure (i.e. one which did not reset back to a fixed multiple each day). This is a powerful driver of returns in a trending market (where the market is generally moving in the same direction each day), but can be costly in a choppy market (where the market is moving in opposite directions most days). As volatility spikes are generally associated with equity sell-offs, a daily-resetting leveraged exposure linked to VIX futures can be a very effective hedge.

The returns of VIX futures themselves are combining with the mechanics of daily resetting exposures, to cause the volatility exposure to automatically and continuously adjust to the pattern of VIX futures returns, without relying on trading signals or market timing. As equity volatility rises, the daily-resetting process causes the net exposure to VIX futures to grow rapidly. This occurs because the magnitude of the 2x leveraged position is growing proportionally faster than a linear exposure, while the magnitude of the inverse position is decreasing proportionally faster than a linear exposure. Similarly, during prolonged periods of VIX futures "bleed", the inverse exposure will tend to increase more rapidly than the leveraged exposure decreases, resulting in a net negative exposure to VIX futures and making the persistent contango work in favor of the strategy.



Historical net volatility exposure for TRSKID and SPXHID. This is equal to the net volatility position of each vol component index, times each index's allocation to the vol component, it is therefore the total volatility exposure on each day. 5/1/12 to 8/29/14.

**Source:** VelocityShares. Past performance does not guarantee future results.

Exhibit 3 shows the net volatility exposure of the Indices since inception. While SPXHID targets a net neutral volatility, the tendency of VIX futures to "bleed" keeps the index generally short volatility, while infrequently but rapidly moving into a long volatility position when VIX futures begin to "spike." TRSKID has a more long volatility bias, and so is generally less short. It also gets long volatility more frequently than SPXHID and does so in response to smaller VIX futures movements. The returns of VIX futures themselves are combining with the mechanics of daily resetting exposures, to cause the volatility exposure to automatically and continuously adjust to the pattern of VIX futures returns, without relying on trading signals or market timing.

#### Putting it all Together

The VIX index exhibits a negative correlation with the S&P 500, making it a potentially effective hedging tool. VIX futures maintain a negative correlation; unfortunately, persistent contango makes them undesirable as a long term hedging instrument. However, their tendency to "spike and bleed" makes them uniquely suitable to be used in conjunction with the convexity of daily-resetting leveraged and inverse exposures. The volatility component of the Indices is designed to preserve the negative correlation to the S&P 500, while utilizing the convexity of daily resetting inverse and leveraged exposures to mitigate the detrimental impact of contango.

The volatility component of each of the Indices is comprised of two ETFs: (1) a 2x leveraged exposure to the VIX Futures Index and (2) a 1x inverse exposure to the VIX Futures Index. The target weighting of the two exposures is shown in the table below.

SPXH and TRSK each utilize these same fundamentals to build hedged equity portfolios, and as with any hedging strategy there is a question of degree. The volatility component of TRSK has a 35% net long volatility target exposure, while the volatility component of SPXH has a net neutral target exposure. While both are intended to perform well in a tail risk event, TRSK is intended to react more strongly, and for smaller equity events, its bias towards a long volatility position makes it more likely to provide a hedge. As discussed, it can be expensive to be long volatility and therefore TRSK is likely to have more of a drag on returns during normal market conditions. Similarly, while SPXH is intended to provide higher returns during normal market conditions (when VIX futures are in contango) its tendency to have a short exposure to VIX futures means it is less likely to provide an effective hedge during small to moderate equity sell-offs. Ultimately, investors need to determine the hedge that best meets their objectives by providing them with a high likelihood of hedging the magnitude of equity declines they are concerned about, and exhibiting a negative carry from VIX futures which is proportional to that hedge.

Index	2x Leveraged Long (%)	1x Inverse (%)	Target vol exposure in vol component	Average vol exposure of vol component since index inception (April 2012)
VelocityShares Tail Risk Hedged Large Cap Index	45%	55%	35% Long	10.00%
VelocityShares Volatility Hedged Large Cap Index	33%	67%	Neutral	-20.43%

As of August 29, 2014. Source: VelocityShares

#### ► For more information please call 877.583.5624 or visit www.VelocitySharesETFs.com.

#### **Glossary of Terms**

**Convexity:** The property of having returns that are proportionally larger in magnitude as returns increase, and proportionally smaller in magnitude as returns decrease.

**Correlation:** A statistical measure of how two securities move in relation to each other. Negative correlation is a relationship in which one security tends to increase as the other decreases, and vice versa. It does not mean they will always move in opposite directions without exception.

**Daily resetting leverage or inverse exposure:** An exposure which provides either a multiple (for example 2 times) or the inverse of the DAILY performance of an underlying Index. Such exposures do not provide a fixed multiple of the underlying return over periods longer than a single day and are subject to significant risks due to the effects of compounding returns.

**Inverse exposure:** Exposure to an underlying asset which provides the opposite return of the asset.

Leveraged exposure: Exposure to an underlying asset which provides a multiple of the return of the asset.

Negative carry: A situation in which the cost of holding an asset exceeds the return it generates.

**Net exposure:** The difference between the long and the short exposure. For example if there was a 2x long position of 33% and an inverse position of 66%, the net exposure would be zero. (2x 33%-66%=0%).

**S&P 500**<sup>®</sup> **Index:** The Standard & Poor's composite index of 500 stocks, a widely recognized, unmanaged index of common stock prices.

**Spot price:** The price of an asset or commodity purchased or sold for immediate delivery or settlement (as opposed to a contract to buy or sell an asset or commodity for a future price).

**Swap:** A bilateral agreement to exchange cash flows at specified intervals (payment dates) during the agreed-upon life of the transaction (maturity or tenor).

**Tail risk events:** Market events which occur rarely but may result in severe negative market performance when they do occur.

**VelocityShares Volatility Hedged Large Cap Index(SPXHID):** An index which combines an 85% exposure to a large cap equity portfolio with a 15% exposure to a volatility strategy intended to hedge against large declines in the S&P 500 Index.

**VelocityShares Tail Risk Hedged Large Cap Index(TRSKID):** An index which combines an 85% exposure to a large cap equity portfolio with a 15% exposure to a volatility strategy intended to hedge against tail risk events in the S&P 500 Index.

**VIX Index:** The CBOE Volatility index, a measure of market expectations of near-term volatility conveyed by S&P 500 index option prices.

**VIX Futures Index:** The S&P 500 VIX Short-term Futures Index (SPVXSP) which replicates a position that rolls the nearest month VIX futures to the next month on a daily basis resulting in a constant one-month rolling long position in first and second month VIX futures contracts.

# An investor should consider the investment objectives, risks, charges and expenses of the Fund carefully before investing. To obtain a prospectus containing this and other information, please call 1-866.675.2639 or download the file from www.VelocitySharesETFs.com. Read the prospectus carefully before you invest. Past performance does not guarantee future results.

**Risks:** There are risks involved with investing, including possible loss of principal. Investing in the Janus Velocity Volatility Hedged Large Cap ETF and the Janus Velocity Tail Risk Hedged ETF (Ticker symbols: **SPXH** and **TRSK** respectively. Together the "Hedged ETFs") involves fund of funds risk, underlying ETFs risk, market risk, stock market risk, equity investing risk, investment style risk, swap risk, compounding risk, non-correlation risk, non-diversified fund risk, risk of leveraged and inverse investment, liquidity risk, and cash redemption risk. The Hedged ETFs are subject to risks similar to those of stocks, including those regarding short selling and margin account maintenance. The inception date of SPXH and TRSK is June 21, 2013. Please see the prospectus for a discussion of risks.

Past performance is not a guarantee of future results. Investment return and value of the Hedged ETFs will fluctuate so that an investor's shares, when sold, may be worth more or less than their original cost.

Derivatives may be more sensitive to changes in economic or market conditions than other types of investments, this could result in losses that significantly exceed the Hedged ETFs' original investment.

Exposure to an asset class is available through investable instruments based on an index. An investor cannot invest directly in an index. Index returns do not represent fund returns. There is no assurance that investment products based on the index will accurately track index performance or provide positive investment returns.

### The ALPS ETF Trust will issue and redeem shares at Net Asset Value ("NAV") only in a large specified number of shares called a "Creation Unit" or multiples thereof. A Creation Unit consists of 50,000 shares. Creation Unit transactions are typically conducted in exchange for the deposit or delivery of in-kind securities included in the Fund's underlying index and/or cash. Only Authorized Participants may trade directly with the Hedged ETFs.

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