The Conditional 50 Cent Tail Hedge

A ship in a harbor is safe, but that is not what ships are used for ~ J.A. Shed (1928)

Long volatility is an essential element to a well-managed portfolio. Incorporating a hedge using long volatility strategies is a capital-efficient way to build in protection.

After backtesting several strategies, we've settled on a simple and capital-efficient strategy to deliver adequate protection using the VIX index, covering magnitudes between an "air pocket" drawdown or a "deep six" drawdown. We've decided to structure our hedging into two tiers, conditional upon the VIX index and our Trifecta Lense Framework a.k.a. our TL Score.

Hedging

The VIX Index (in both spot and future terms) has a mean-reversion tendency. Over a long enough timeframe, it tends to decay in an exponential or a gamma fashion. As this strategy aims to capitalize on a rapid movement in VIX, we want to apply our hedge when "all is quiet on the western front". If the 100d VIX (not spot VIX) is below a value of 20, and the TL score has just dropped below a reading less than or equal to negative three, we purchase DOTM calls on VIX:

- **Strike:** Select the strike price where the cost is $50/contract
- **Expiry:** Select the date that is closest to 100 days to expiry.
- **Size:** At discretion based on the environment, but no less than 50bps.

You can watch our video on the "50 Cent" hedging strategy here.

Procedure:

Hold until expiry, unless the following conditions are observed:

- If 20R is observed, sell 50%. Let the remaining half ride. (Total: +10R)
- If 30R is observed, sell the remaining half. (Total: +17.5R)

This is a hedge, designed to lose more often than not but protect a portfolio during large downturns, as reflected in the figure below:

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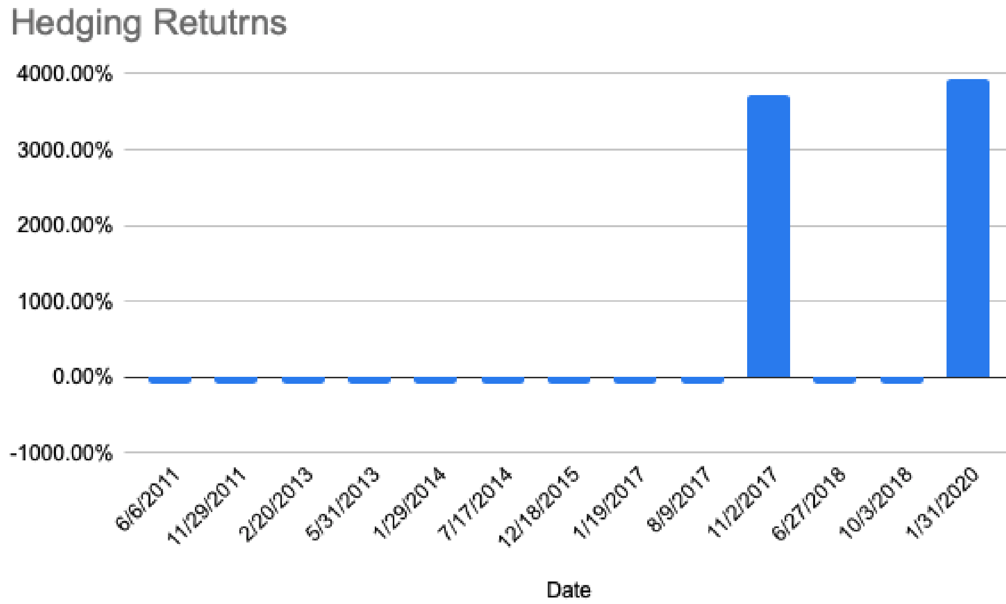
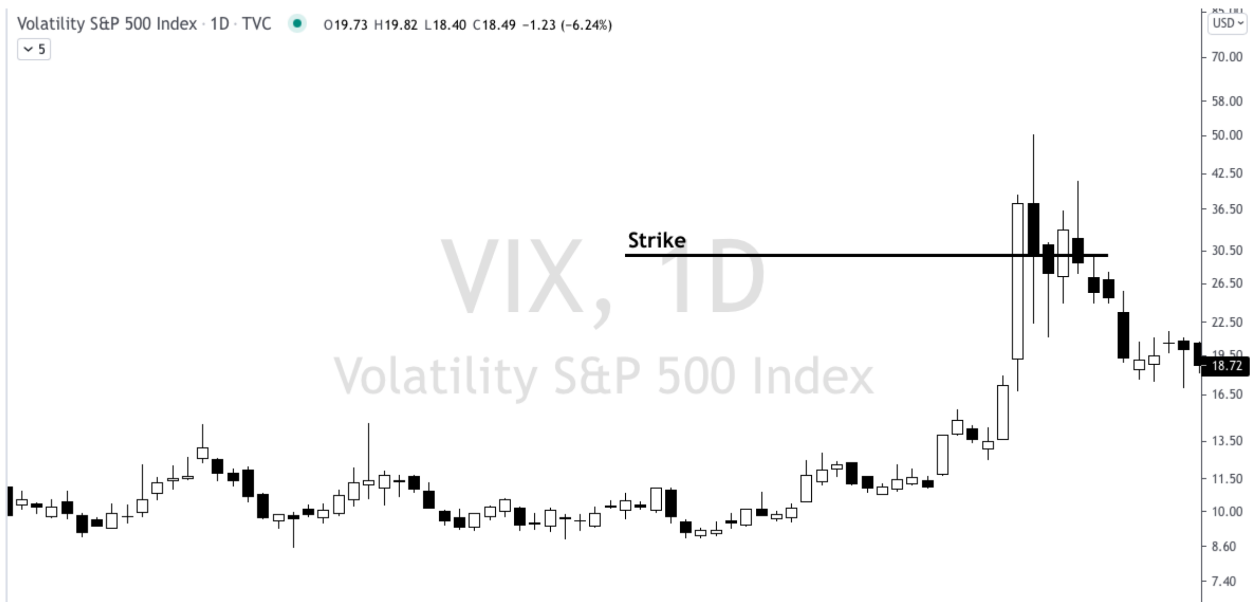


Below are a few case studies indicating the effectiveness of this strategy:

Event One | 11/02/2017



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Event One Summary:

Contract: VIX $0.50 cent DOTM call option with a strike at 30.00 (02/13/2018 contract ~100DTE)

Result: It wasn't until close to expiration that VIX jumped higher, an increase of 200%

Conclusion: Being that $0.50 calls are essentially DOTM plays on VIX, we don't want to play the expected value game too much within the contract lifecycle and if the contract falls OTM. Take half profits at the aforementioned value of 20R, and keep the other half of the contract open until expiry.

Event Two | 01/31/2020

Contract: VIX $0.50 cent DOTM call option with a strike at $32.50 (04/15/2020 contract ~100DTE) with initial VIX ~16

Result: Soon after our TL score had a negative three reading, equity indexes corrected dramatically due to Covid-19; VIX increased 400%.

Conclusion: In rapid drawdowns like these, a 30R event would be realized wherein full profits would be taken.

Having a core position of positive risk convexity not only produces returns but provides liquidity in market dislocation events. This dynamic lowers risk, provides us with dry powder in the event of large market dislocations, and increases our longer-term compound returns.

Your Quant Operators,

Steve & Octavio

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