We share the Weekly Gamma Bands Update by Viking Analytics. The report uses options gamma to help you better manage risk and your equity allocations.

Gamma Band Update 11/23/20

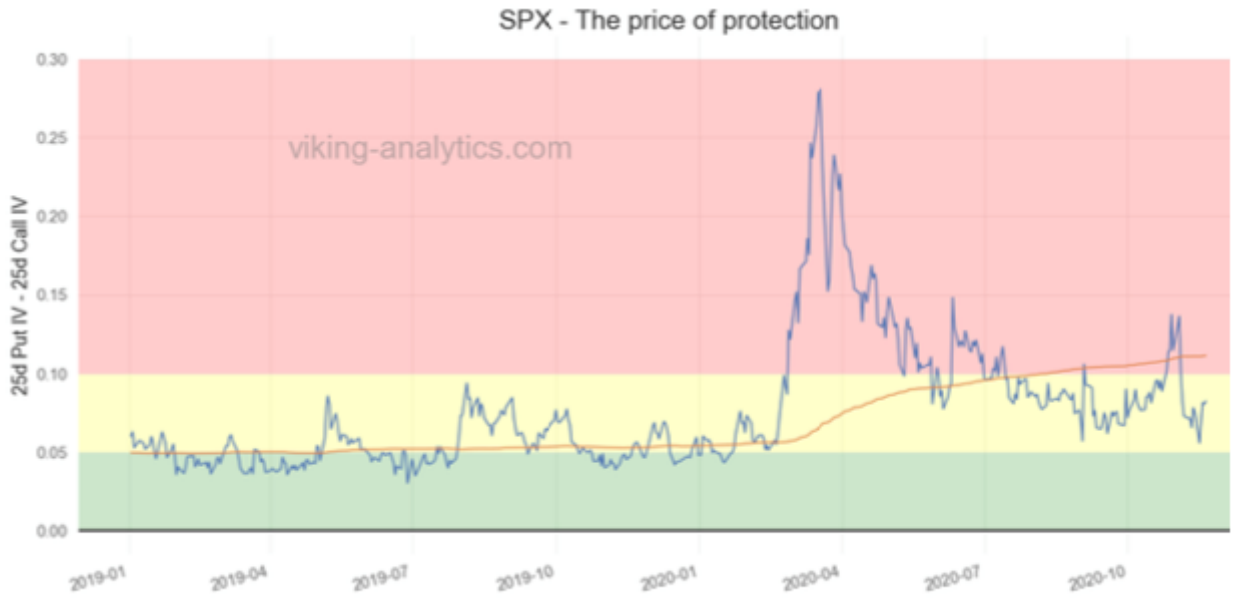
- The SPX Gamma Band model can be viewed as a long-only trend-following model that reduces exposure when options markets show elevated risk. Since 2007, following this model has similar returns to a long-only position in SPX, albeit with much lower risk exposure. The Gamma Band model has resulted in a 74% improvement in risk-adjusted return since 2007 measured by the Sharpe Ratio.
- The Gamma Band model has maintained a 100% exposure to the S&P 500 for nearly two weeks, as the market has rallied since the U.S. Presidential election. The value of SPX has been trading near or above the upper Gamma Band for over a week, and this does not reduce exposure in our model.
- The model will adjust to a partial SPX allocation when the value of the SPX closes on a daily basis below Gamma Neutral, which is currently at 3,479.
- Our binary Smart Money Indicator continues to have a full allocation; however, this index could be turning cautionary.
- SPX skew, which measures the relative cost of puts to calls, shows that risk appetite is in a middle range (neither bullish nor bearish).
- We publish several signals each day, ranging from a fast signal in ThorShield to a less active signal (as represented by the Gamma Bands and published in the daily SPX report). Samples of our SPX and ThorShield daily reports can be downloaded from our website.

Date	Prior Close	Upper Band	Gamma Neutral	Lower Band	Model Allocation
11-09-20	3,509.44	3,494	3,406	3,260	100%
11-17-20	3,626.91	3,581	3,495	3,351	100%

Smart Money Residual Index

This indicator compares ?smart money? options buying to ?hot money? options buying. Generally, smart money will purchase options to insure stable returns over a longer term. Smart money has in-depth knowledge and data in support of their options activity. In contrast, ?Hot money? acts based on speculation, seeking a large payoff.

At the moment, hot money is more cautious than smart money, and the back-test for this model supports a long position during this time. When the smart money turns more cautious than hot money, the Residual Sentiment Index in the second graph turns to red, then this model will cut all equity exposure to zero. When the market is in the red regime below, the market has an overall negative return.



SPX Skew ? the Price of Protection

In evaluating equity market risk, we also consider the cost of buying puts versus the cost of buying calls. When puts command a larger-than-usual premium to calls, then the market will have higher volatility (in the red zone below), and this might be a signal to reduce equity exposure.

Heading into the U.S. election, investors were paying a meaningful insurance premium, and that risk premium has been meaningfully reduced.

Gamma Band Background

Market participants are increasingly aware of how the options markets can affect the equity markets in a way that can be viewed as the ?tail wagging the dog.?

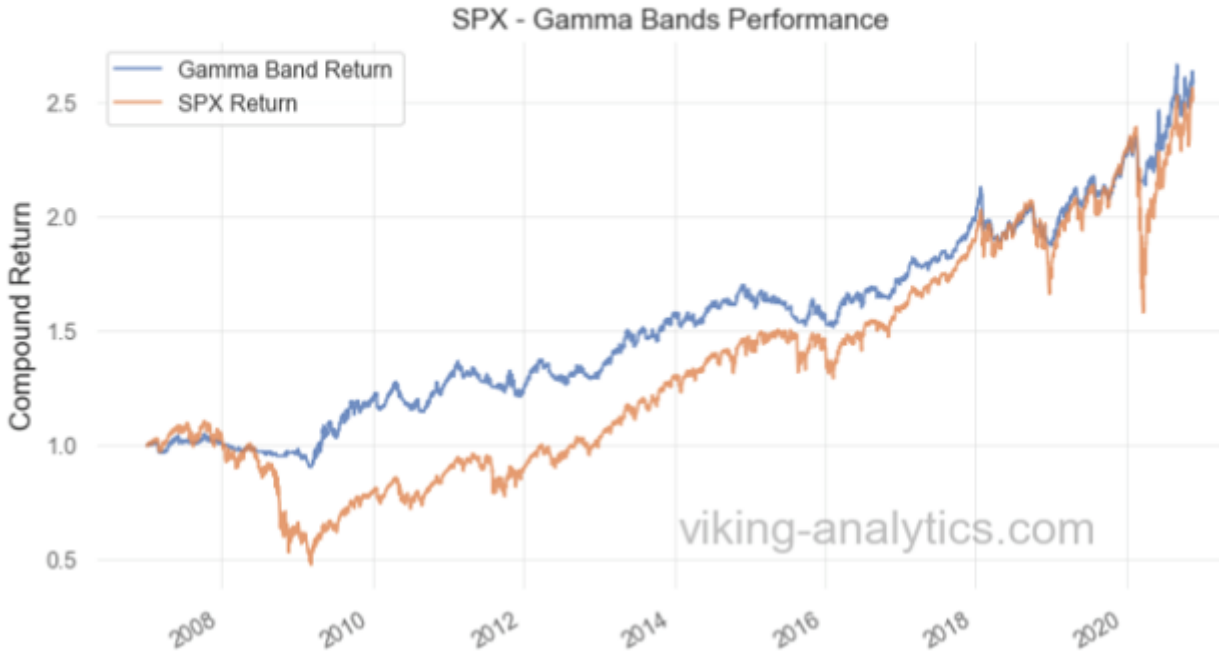
We created a Gamma Band indicator to demonstrate the effectiveness of the Gamma Neutral level in reducing equity tail risk. In our model, we compare the daily close of the SPX to the Gamma Neutral and Lower band levels to adjust our equity exposure allocation from 0% to 100%.

We back-tested this strategy from 2007 to the present and discovered a 74% increase in risk-adjusted returns (shown below). The Gamma Band model is a relatively slow but reliable signal if

one?s goal is to increase risk-adjusted returns. We also publish a faster, daily signal in a portfolio model which we call Thor?s Shield. Thor Shield has a 20-year Sharpe of 1.5 and a rolling 1-year Sharpe of over 3.4. Free samples of our daily SPX report and Thor?s Shield model can be downloaded from our website.

	sharpe	kurtosis	annual_vol
Gamma Band Return	0.73	8.13	0.10
SPX Return	0.42	12.61	0.21

* Gamma Bands improve backtested Sharpe by: 73.6%



Authors

Viking Analytics is a quantitative research firm that creates tools to navigate complex markets. If you would like to learn more, please visit our website, or download a complimentary report.

Erik Lytikainen, the founder of Viking Analytics, has over twenty-five years of experience as a financial analyst, entrepreneur, business developer, and commodity trader. Erik holds an MBA from the University of Maryland and a B.S. in Mechanical Engineering from Virginia Tech.

Rob McBride has 15+ years of experience in the systematic investment space and is a former Managing Director at a multi-billion dollar hedge fund. Furthermore, he has deep experience with market data, software, and model building in financial markets. Rob has a M.S. in Computer Science from the South Dakota School of Mines and Technology.