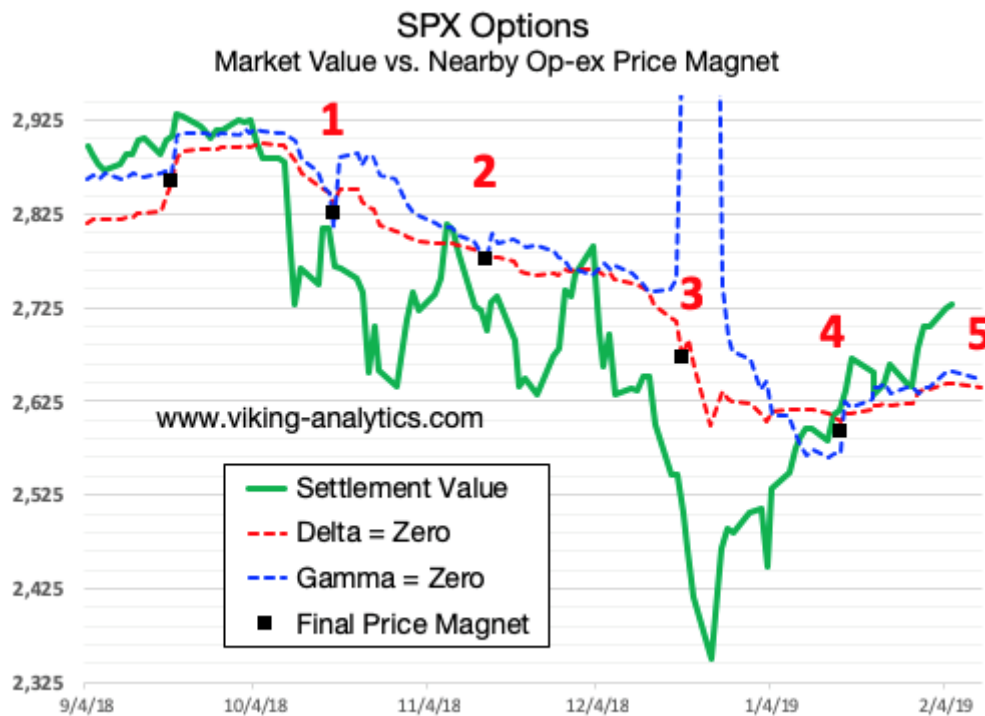


The stock market, measured by the S&P 500 index, has risen by 17% since late December. Despite the bullish sentiment, the options markets are pricing in a modest pull-back ahead of or into option expiration on Friday, February 15th. We study over a dozen key options markets and publish a morning report on investor sentiment in these markets. We use the word "sentiment," differently than other investment services. We are not talking about quantifying levels of greed or

calculate the ideal settlement
 their profits. Here is a
 is market delta (in red) and



Delta is a measure of the

change of option prices to changes in the underlying index, and gamma is a measure of the sensitivity of delta. Since market makers and large traders often maintain delta-neutral portfolios, there is often a convergence between the value of the S&P index and the value of total delta neutral in the SPX options market. Due to the regular convergence between price and delta-neutral, we call the point of delta- and gamma-neutral the "Price Magnets." It is our belief that the closer we are to option expiration, the more likely we should see convergence between price and the Price Magnets. This is due to order flow in the markets as the large traders and market makers adjust and unwind their trading positions. Because of the mechanics of CME and CBOE futures and options markets, all positions must eventually be unwound or cash-settled.

Historical Magnets

Let's examine the four most recent option expirations to evaluate the effectiveness of the Price Magnet tool. These option expiration dates are numbered above one through five (including the pending February expiration).

1. In October, the S&P traded to a settlement low near 2725, with the Price Magnets near 2900. Over the next week, the S&P rallied and the Price Magnets declined, resulting in

convergence right before the option expiration date.

2. In November, the S&P fell to a closing low near 2640 with divergence from the Price Magnet. The market rallied thereafter to a settlement high near 2800, a few days prior to option expiration.
3. December option expiration paints an interesting picture. After trading with significant volatility prior to and after the option expiration date, the S&P fell considerably as gamma spiked. • This shows the opposite polarity of the gamma Price Magnet. • If neutral gamma moves considerably out of range, it means that the aggregate option sellers ? may have been forced to cover or liquidate their positions. • This spike in gamma can also be seen in the natural gas market as we discussed in a recent article. • It is typical for quarterly expiration dates to see higher volatility and unexpected price movement. • The quarterly expirations have more open interest and volume and are often referred to as ?triple witching? events. • We do believe that the gamma spike and drop in S&P value are related.
4. After the December sell-off, the stock market value slowly converged back to the delta- and gamma-neutral price magnets, settling right near the Price Magnets at the January expiration.

Current Situation

Currently, the stock market continues to push higher and surpassing key technical levels as February option expiration approaches next week. • While we could see a modest pull-back in stocks in February, it is important to keep in mind that the March expiration for SPX has about twice the open interest as February. • Again, the quarterly expirations are more influential, and large traders and market makers have likely hedged their February exposure with March positions. The table below is an excerpt from our daily report showing intra-day values with a timestamp near 1:40pm on February 5th, 2019. Note the February magnet is about 80 points below the current level and the March magnet is nearly 100 below.

Future or ETF	Futures Contract	Opex Date	Intra-day Price 2/5/19	Op-ex Price Magnet	Upper Boundary	Lower Boundary	Magnet Premium To Price
SPX Options		2/15/19	\$ 2,728	\$ 2,649	\$ 2,699	\$ 2,599	-2.9%
		3/15/19	\$ 2,728	\$ 2,636	\$ 2,754	\$ 2,517	-3.4%

Final Notes

If you would like to learn more about Op-ex Price Magnets, please visit our website. • If you have any comments or questions, we would like to hear them! • Please e-mail any feedback to admin@viking-analytics.com.