

S&P 500 Weekly Forecast 10/4

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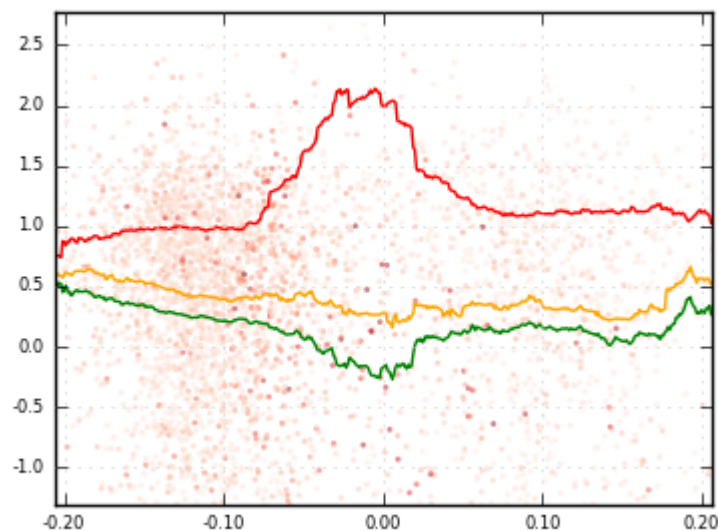
Hey guys,

Last week, we found that daily net SPX put-buying (customer short delta) is associated with strong 1-week returns, that net SPX put-selling (customer long delta) is, er, confusing, and that when net put delta flows sum to zero, that's when mean returns are below 0%. That's true on a 1-day, 1-week, and 1-month timeframe. Since we've been on the hunt for a "sentiment" indicator, this was stacking up nicely, because it's easy to explain: When investors buy puts, they're less likely to deleverage in the future; and when investors don't buy puts, or actually net sell puts, they're *more* likely to deleverage in the future. Thus, more put-buying would reduce future market downside. So simple, so elegant!

Of course, that wasn't good enough for us, because despite wanting to come up with a sentiment indicator, we simultaneously want to discredit every sentiment indicator, because deep down, we don't even like the *idea* of sentiment indicators, because more often than not, it just feels like intellectual laziness to ascribe market dynamics to *feelings* and mushy stuff like that, and anyway, the *feelings*-value of a market or limit order is already *indelibly printed in its immediacy and the way it was routed and where it filled and so the "sentiment"-value of most any dataset seems redundant doesn't it, unless it somehow forecasts sentiment and what does that even mean?!*

Sorry. Anyway...

We found something else very interesting in the data. This plot below is similar to what we showed you last weekend. It's the 1-month returns associated with the different levels of daily SPX put delta (on x-axis). Notice that around 0.00, the green line (mean 1-month returns) is negative, and as customer deltas get lower (toward -20 delta), returns go up. Same stuff as before.



Two *new* things: (1) The y-axis is expressed in the mean absolute deviation (MAD) implied by 1-month IVs, and (2) there's a red line, which is realized volatility (expressed in MAD, of course). So, if the red line is at 1.0, that means that the options were ultimately priced correctly (they realized, on average, the average implied move, or 1.0 MAD). If the red line is lower than 1.0, that means options were too expensive. If the red line is higher, that means options were too cheap. If the red line is all the way up at 2.0 MAD, that means that volatility realized 2x what was implied by the options.

So, ever since 2005, whenever SPX net daily put deltas were close to zero (as many buyers as sellers), subsequent 1-month market volatility was, on average *twice what was implied by option prices*.

More on that below, including where we're at on that plot right now. But first...

1. That week
2. This week
3. That's weak

That week

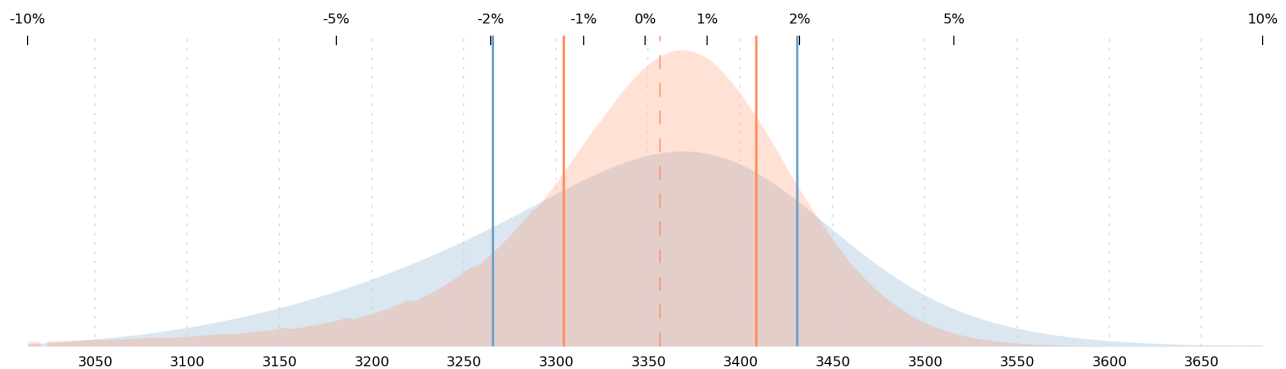
This past week gapped up, then flatlined, for a **1.49%** gain (to SPX 3348). The usual bet against weekly movement was profitable. Our iron flies, centered at 3315, didn't do as well as those of you who struck 'em higher -- a wholly sensible move, given that the initial proposed center-strike was 3320, and that was *before* the gap up. (Perhaps our "drift down toward the election" bias informed a bit of our strike choice. Oh well.)



Still, what matters is that just about any iron fly should have been profitable, as anticipated (recall that a full-Kelly position was expected to get you a 3.79% average weekly portfolio return according to the Juice algo). Our winning streak remains uninterrupted!

This week

Ok, so from the perspective of GEX+ and the Probability Page, we're in a very similar situation to last week. Here are the 1-week densities.



This seems to be telling us that GEX+ believes SPX will, on average, close between ~3300 and ~3410 (the orange lines). The market disagrees, expecting a full 2.00% weekly move on average (blue lines). We can guess, just from looking at these densities, that the Juice algorithm will probably want us to sell an iron fly centered above 3350. Indeed, it will probably look exactly like last weekend's position (as the densities look the same).

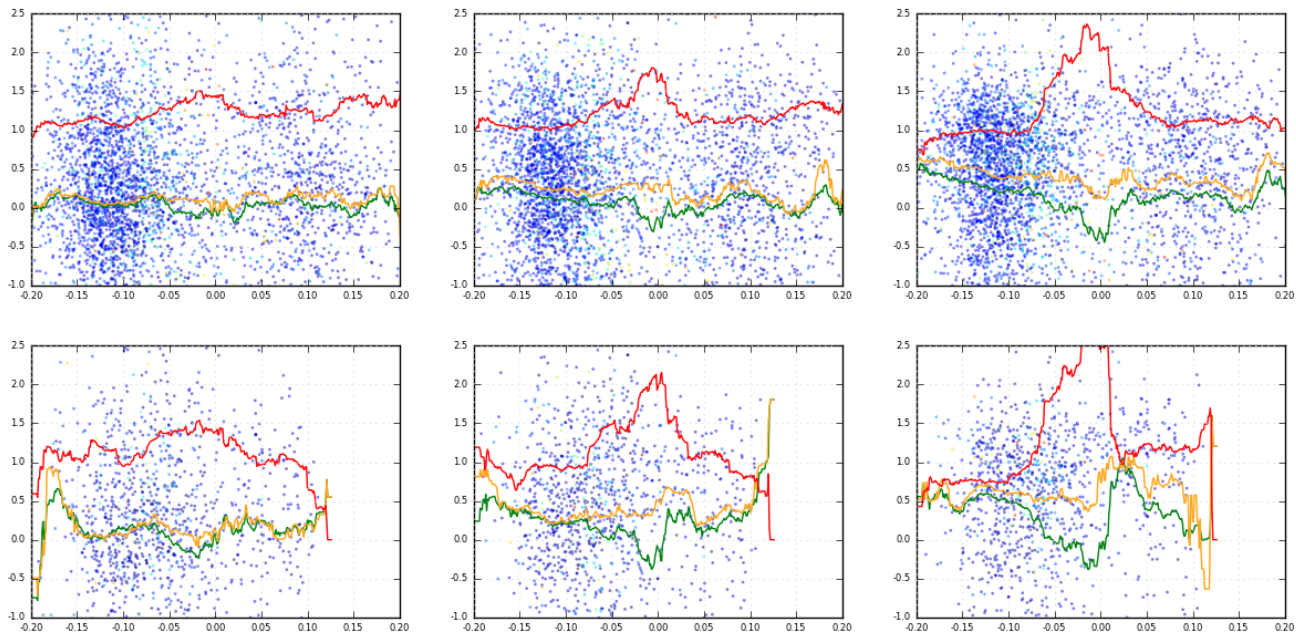
Aaaand there it is. The spread is the Friday 3375-centered, 100-wide iron fly (**+3275lp -3375sp -3375sc +3475lc**). According to the algorithm, a \$1mm account should sell 90 of these SPX spreads, and will in turn receive a **4.84%** average portfolio return. Like last week's, this is, we think, a "normal" sort of edge. Perhaps worth executing on, but not worth really sizing up on.

Before we continue, consider also that DIX has moved up, printing an almost-bullish 44.7%. That's on the verge of being "supportive" of prices, so that would make us a tad more comfortable with the above trade.

Now for the part that makes us a tad uncomfortable...

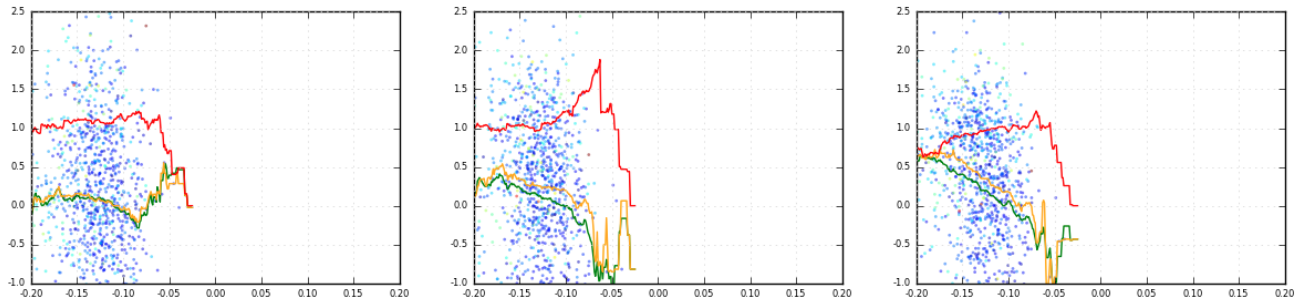
That's weak

Six plots below. Top row is historical daily SPX customer put delta data to MAD-normalized returns on the 1-day, 1-week, and 1-month basis, left to right. Data is from 2005 to present. Bottom row is the same data, but from 2016 to present.



Note that when net put deltas are -10 (-0.10) or lower, subsequent realized volatility is pretty much in line (1.0 MAD) with prices. When it's closer to -5 or 0 delta, however, realized volatility is invariably higher than implied. The impact is, as expected, more apparently in the 2016+ data, as there's a bigger derivatives tail wagging the index dog in more recent history. What's stunning, we think, is that on a 1-month timeframe in the 2016+ data, customer net deltas around -5 to 0 are associated with realized moves at least *2x higher than implied*.

Want to look exclusively at a less-volatile period so as to eliminate those "crash" outliers? Here's 2012 to 2016, a nice calm period with lots of net put-buying (as evidenced by the lack of data above 0.00 delta).



Same deal. Higher volatility (and worse returns) when there's less put-buying.

What makes us uncomfortable is that as of Friday, this indicator printed -4.08 (-0.048) delta. Which, if you look at the 1-week data (all the middle plots above), has historically resulted in volatility being underpriced by something like 25% to 50% (i.e., realizing 1.25 to 1.50 MAD). This is... interesting. Especially since the last couple weeks have all been around -6 to -9 delta. Naturally, this is still something we're investigating, so we can't weight it too heavily, but we can't un-see those plots up there -- so we're probably going to go *very* light on any short vol position this week.

So, *why?* Why would it be that when customers buy fewer (or sell more) puts, there ends up being more volatility? The stupid-sentimental explanation is that bought puts reduce investors' need to deleverage and make the market truly more stable, and maybe that's a good enough explanation. But we want to barrage you guys with some other thoughts and see what sticks.

1. When folks sell puts, IVs go down because dealers back off the bid real fast. The new, lower IVs are simply not representative of likely future volatility, though. It's just "a technicality" that IVs went down.
2. As dealers become longer puts, they become longer gamma. When dealers are long gamma, they hedge with wider hedging bands, thus "allowing" more volatility.
3. Whenever the dealer is *not* the sole arbiter of option prices (i.e., when there's a natural put buyer for every seller), IVs fall, simply because put sellers are systematic (sell-at-any-price) and put buyers are tactical.

Do any, or all, of the above make sense? What might be the major contributors? In any case, it looks like somewhere around 0 net customer delta is a good place to be tactically long vol on just about any timeframe.

Sorry. We go down a lot of rabbit holes.

And we don't think we can call this "SUMO" anymore. Just doesn't fit. Sad.

Have a great week!

The SqueezeMetrics Team
