

S&P 500 Weekly Forecast 7/19

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Hey guys,

So, if you go to the GammaVol page right now and download the historical GEX+ data CSV, you'll find that there are a few new columns. Among them,

- *GIV*; "gamma-implied volatility," i.e., the 1-day vol expectation derived from GEX+,
- *GIV(MAD%)*; same as GIV, but expressed in mean absolute deviation (MAD), i.e., 1-day average daily move,
- *VIX*; you know this one,
- *VIX(MAD%)*; expressing VIX as a 1-day average daily mean absolute deviation, and
- *CR(x)*; the "crash risk" multiple, i.e., how much higher the -10% GIV is than the -10% 30-day SPX IV (1x, 2x, 3x, etc.).

It should go without saying that, in the case of these derived metrics, the look-ahead bias from, e.g., 2004–2007, is such that the data can't be used seriously in a backtest (and arguably, the option market that we have today was only really introduced in 2016, so option strategies, specifically, don't travel well through time). GEX+ data is, of course, point-in-time, and will faithfully represent the gamma/vanna situation at the moment, without bias -- for what it's worth. (All in all, we hope you're going to use logic to derive your vol strategies rather than a mere backtest.)

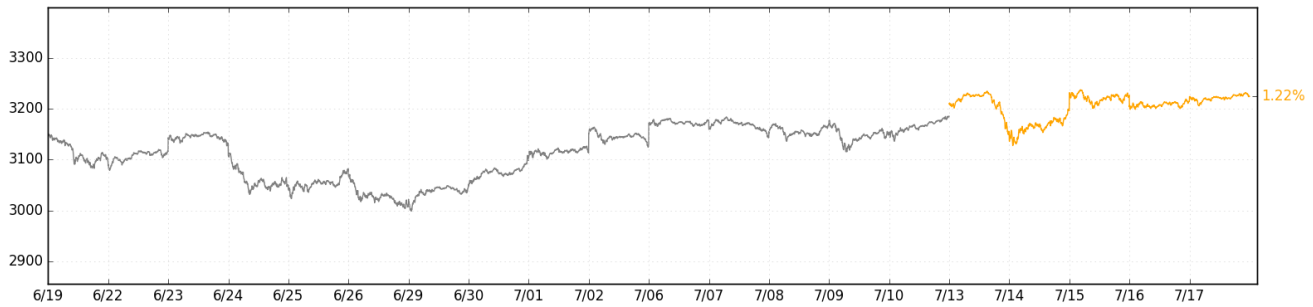
We really haven't tested much of this data ourselves. In what amounts to a radical lack of self-confidence (identifying biases in other people doesn't mean you can identify your own), our research tries to avoid mistaking a good backtest for the truth, so we're only just starting to think about some of the oblique correlations and strategy ideas. And in that vein, we want to take a minute to expand on a cool [Twitter comment](#) about something worth thinking about. And hopefully we can spark some ideas with that as you dig into the data.

But first,

1. Then
2. Now
3. Forever and always

Then

This past week was quite similar to the week prior. The week prior was flattish and mean-reverting, ending in +1.77%. This past week was flattish and mean-reverting, ending in +1.22%.



Unlike the week prior, though, *both* of our trades won: Short VXX had a modest gain, and our weekly iron flies performed admirably. We droned on about this last weekend, but there's a big difference between betting on "no realized weekly movement" (iron fly) and betting "that >30-day option prices will come down" (short VXX). And while we're usually more into trading the *realized* volatility, rather than the *implied*, now has been a pretty good time to be short VIX futures: A conspicuous lack of "crash risk" and a not-*super*-low VIX makes it pretty safe to bet against the volatility of VIX. It helps that it's easy. Easy is good.

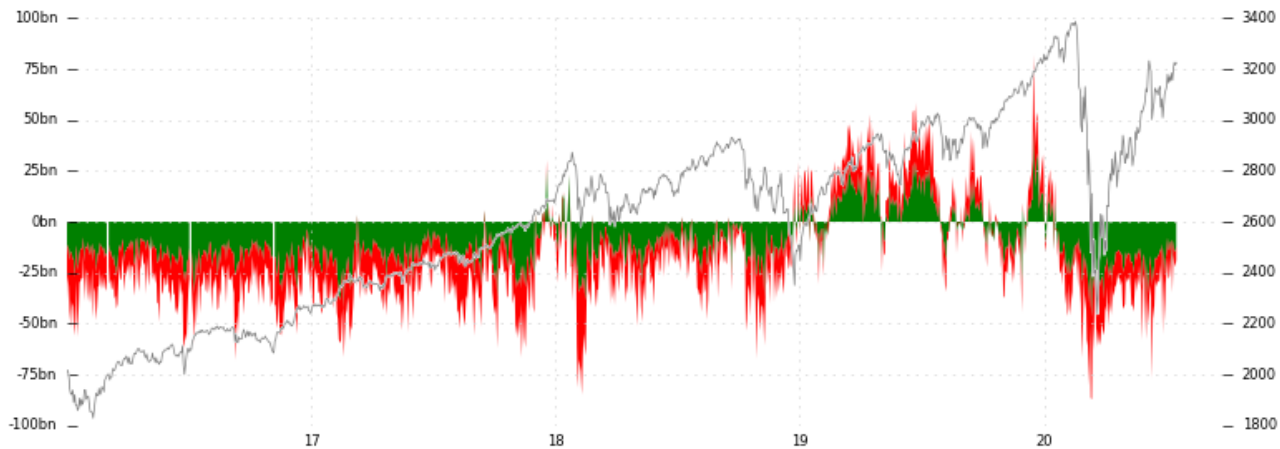
Now

The setup for this coming week feels just as summer-y as the two prior. No, we can't hope for another 1.22% move to accommodate our iron flies so beautifully, but we *can* say that (a) liquidity is still good, though (b) the market is still very cagey about that. Which has been giving us this (a) upside drift with (b) a few fleeting scares, where liquidity-taking temporarily overwhelms GEX+.

A lot of smart vol traders will probably say that 25 VIX is absurd right now, and will buy vol on principle. That's fine -- enough people may agree with that to make the trade successful. But the reality is that 25.68 VIX (which, as you can see from the spreadsheet, implies 1.29%), is pretty reasonable. The average daily move from 6/16 to 7/16 was 0.95%. July, so far, has had an average of 0.85% daily moves. Whether VIX implying 1.29% is too much, too little, or just the right amount of premium is for you to decide. In any case, we're going to halve our short VXX position, as it's no longer sufficiently "meaty" for us to suffer all the volatility. It had a great run.

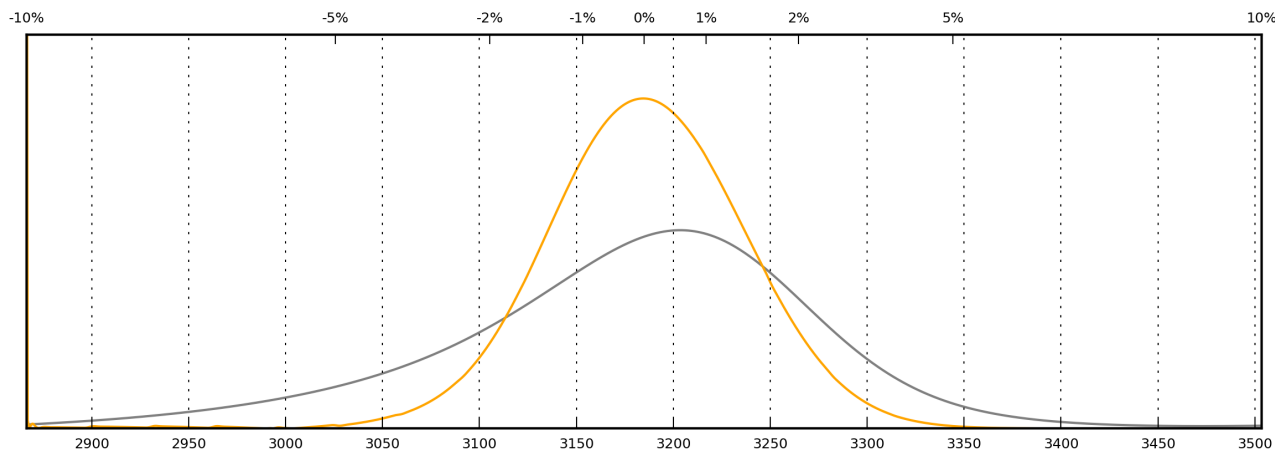
NYSE Composite volume is stable around 4mm lately, which is historically pretty average. For context, we had lots of 7mm and 8mm days recently, which implies a lot of liquidity-taking activity. That seems to be dying down. Another thing that's "normalizing" is DIX, which, though still high (in the 45% area), is no longer 50% every day. This most recent quarter of DIX data, beginning in late March / early April, was the most bullish the market's *ever* seen, implying a truly historic grab for index products (and prices reflect that, don't they?). So it had to taper a bit eventually!

Lastly, SPX deltas.



Recent data has all indicated that daily short delta coming through SPX options has been around \$-25bn. This, too, is more in keeping with the historical average. And to the extent that large short delta moving into SPX can [sometimes, anyway] increase volatility, this doesn't look like a real scary vector. But then our understanding of SPX deltas isn't exactly fleshed out yet, so take that with a grain of salt.

In any case, here's what the week's probability densities look like, with GIV in orange and market IV in gray.



It's similar to the last couple weeks. And though we're not too sanguine about having *another* good week for iron flies, it's still a rational bet, and we'll be taking it. 'Cause that's what you gotta do.

Forever and always

OK, more vanna. Vanna is "the gamma of IV." It is a distinct, interesting, and persistent feature of the option market. In a way, it's actually more intuitive than gamma, because vanna has more to do with *optionality* itself: "Of *course* the probability of an event changes when the distribution of outcomes (IV) widens or narrows." This is, in a way, obvious. What's *not* so immediately obvious, though, is the impact of these changes on dealers' deltas. That's why we drew that "cheat sheet" on page 7 of the vanna paper. So take a look at that again.

Now back to the tweet we mentioned before:

VXN getting smashed while FAANGM down...sounds like vanna

So, for the last two weeks, we've been talking about how the "Big Tech" / Nasdaq-100 / FAANGM stocks

have a lot of calls bought OTM, and that's what's influencing their trajectory, and the bullishness and volatility of the NDX. We've been expecting lots of moves in those stocks, but we've also been careful to not equate *that* volatility with *real* volatility risk in the S&P 500. The volatility that you see in these FAANGM stocks isn't indicative of real risk -- it's just a formality, really. Hedgers gotta hedge.

And so we've basically been saying, "ignore the noise."

But that's no way to have fun, and the above tweet woke us from our stupor. On Friday, VXN was down 10%. Normally, you'd associate a huge drop in index volatility with a super-bullish, no-holds-barred rally -- the total dispelling of fear. But this time, NDX was flat, and the FANG index was *down*. Why?

In one way, it's intuitive. If volatility became associated with upside, then a drop in volatility would be associated with downside. Logical, right? This is kind of the essence of vanna. But the *exact* mechanism is what interests us.

If a bunch of people were long OTM calls, any decrease in implied volatility would decrease the delta of those calls (it's all on the cheat sheet!). Decreasing the delta of those calls would force dealers to sell the underlying. So, if there are lots of long OTM calls out there, we'd actually expect a *decrease* in IV to cause *selling*.

And this actually has little to do with the monthly option expiration. Indeed, if the monthly OpEx were the cause of this behavior, then we'd expect to see Friday responding to *gamma* effects (big intraday swings as dealer short gamma takes over). But this wasn't what happened. Longer-term vol fell, and with it, the stocks with the most call OI fell a bit. That's vanna.

Even better, overlay VXN on each of the FAANGM stocks and look at what happened. The big move down in VXN (which was all in the AM) largely coincided with FAANGM downside.

Volatility traders will tell you that one of the reasons to trade vol is that it's much more predictable than the underlying. It mean-reverts. It moves in a range. It exhibits particular behaviors. So, what we want you to noodle on is, "If vanna sometimes causes IV and the underlying to be directionally tied together due to the size of the option market and its effects, what sort of cool things can we do with that?"

And we want you to noodle on that because we're honestly not sure where that thought is going yet -- but it seems pretty cool.

Have a lovely week!

The SqueezeMetrics Team
