

S&P 500 Weekly Forecast 1/3

From: SqueezeMetrics <info@sqzme.co>
To: SqueezeMetrics <info@sqzme.co>
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Hey everyone,

In last weekend's note, we spent some time talking about our ambitions for 2021, i.e., all the disparate threads of research that we want to be tying together. Stuff about vanna, VIX, probability densities, etc. One of the things we snuck in there was a bit different, though:

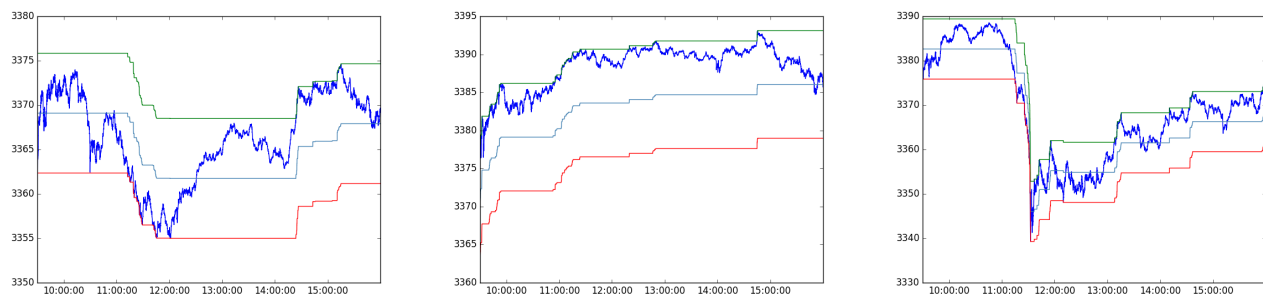
Bonus: We'd also like to be able to "triangulate" some intraday hedging bands for SPX, based on the prior day's ranges and likely delta-hedge points, since we're thinking this will come in handy for timing our long vol with a bit more precision.

And throughout the course of this past week, we've neglected to take a long volatility / short SPX position. Why? Because the index didn't go down enough.

We'll be buying that 15-ish delta 1-month SPX put if the index does break 3725, but otherwise, we sit on our hands.

But what the heck kind of "analysis" is this? Because it sounds an awful lot like some tautological nonsense a day-trading stock guru on StockTwits would say: "For the stock to fall to \$90, first it has to go below \$100."

Right? But what we're trying to get at here is something that we believe is real: That option market-makers hedge their deltas in "bands," and that we see the impacts of this hedging throughout the day. Below is an illustration of these bands and how they [theoretically] move around during the day. Green is the top band, where dealers have to sell, red is the bottom band, where they have to buy, and the blue thing is the middle.



The width of the band is determined by GEX+. It's the 1-day gamma-implied vol (GIV), expressed in terms of mean absolute deviation (MAD), and moving perfectly in lock-step with prices (for simplicity). And despite using our own data to describe what's going on here, it should be clear that this "theme" has been explored a thousand times before in "overbought/oversold" oscillators of all shapes and sizes, from RSI to Bollinger Bands.

The reason that we're interested in our own *gamma*-based iteration is that we think that the actual reason for the near-term mean-reverting behavior in the S&P 500 is delta-hedging, and that by using data which

acknowledges this, we should get a better result. So what we're going to test, to start with, is simple:

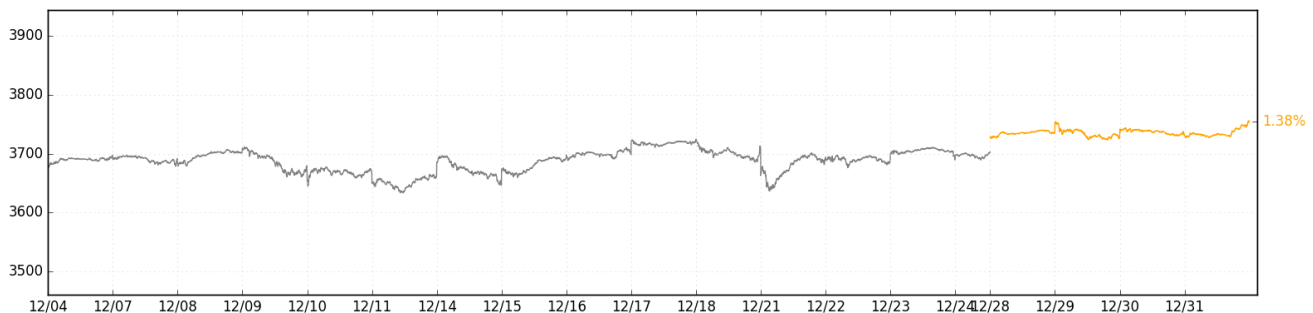
If SPX closes above the midpoint of the hedging band, are tomorrow's close-to-close returns going to see the impact of a nearby "wall" of selling pressure? Similarly, if SPX closes below the midpoint, shouldn't tomorrow be a tad more bullish, given the nearby support?

But first...

1. Rear
2. Front
3. Bumpers

Rear

It was the second unremarkable week in a row. It was also the second *holiday* week in a row. Index was up **1.38%**.



During both weeks (except for Sunday into Monday the 21st, where we had a long VIX position for a bit), our only position was a long 3800 SPX call position, betting on the off-chance of some melt-up action. Despite seeing some concerning numbers coming from NPD and VGR, we were of the mind that we should let them "ripen," and during this past week, our reasoning for that was that SPX needs to overcome some of the "gamma floor" under the index before it really destabilizes -- so why not wait until that actually happens?

And, well, this was the rationale behind getting to know hedging bands a bit better. So far, so good.

Front

Next week is the first week of January 2021. Based on what we're seeing in NPD, VGR, GEX+, and DIX data (sans Tesla), we "feel" like there should be an increase in volatility some time in the first two weeks of January. NPD has been mostly in the shallow negatives and so has VGR. GEX+ has given us probability densities that are very similar to the market's (suggesting that near-term vols are too low / oversold). DIX, without Tesla in the calculation, has been sub-40%.

But again, we're doing our best to not take our volatility bets too early, which is why we currently have no position at all, and why we're trying to predicate any bearish bet on the dealer hedging band situation.

But before we talk a bit more about that, consider how Friday's price-action influences dealers' hedging bands. See how that 2pm ramp ended up moving above the "average expected daily move" barrier?



That will have caused some dealers to re-hedge their deltas, and it would probably move the lower hedging band (where you see forced buying) up around 10 points.

We'd guess that this makes it more likely that tomorrow is a flattish-to-slightly-down kind of day, since any move up will be accompanied by a greater-than-usual selling pressure coming from dealers.

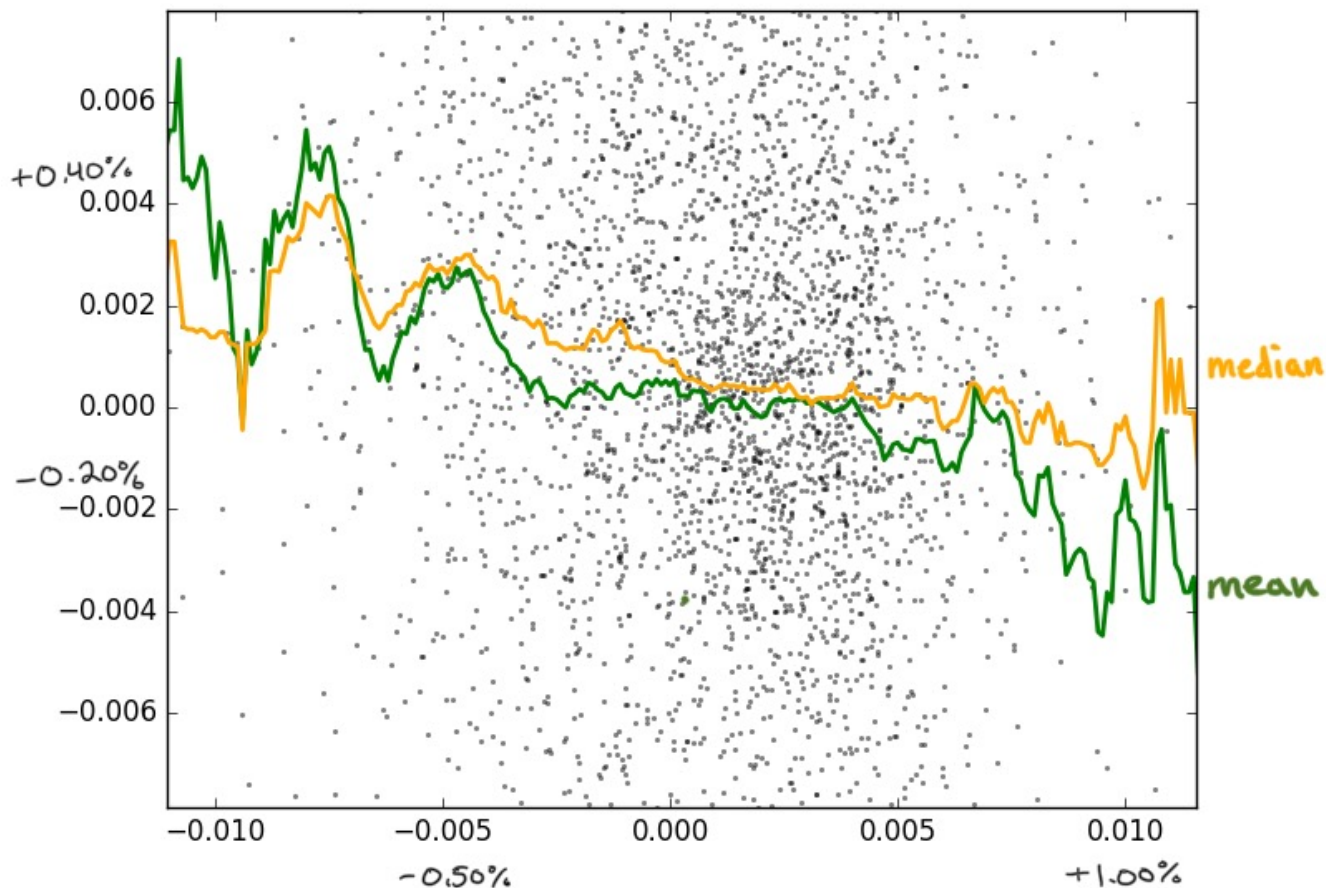
Does that make sense, in isolation? Because we think so. But without further ado...

Bumpers

If dealers' delta-hedging bands are at all like the "bumpers" that we're hypothesizing that they are, then the simple test that we proposed above should come back with a clear -- if not huge -- tendency.

If SPX closes above the midpoint of the hedging band, are tomorrow's close-to-close returns going to see the impact of a nearby "wall" of selling pressure? Similarly, if SPX closes below the midpoint, shouldn't tomorrow be a tad more bullish, given the nearby support?

And even with our rather simplistic model of hedging bands, it seems we're on to something. Below, see how percent distance from the midpoint of the hedging bands (x) influences next-day close-to-close returns (y).



Makes sense, right? If the index closes at the top of dealers' hedging bands, then the lower (buying) band is farther away than the upper (selling) bumper. In the plot above, median SPX close-to-close returns are pretty much flat if the index closed above the hedging band; returns improve when the index closes closer to the lower (buying) band.

Is the effect itself enough to be interesting? Maybe... but what we're *really* concerned about here is whether the theory is sound -- because that means it may be worth exploring further, and that we're not completely wrong about our "hedging band" theory. So far, we're seeing a modest "price bumpers" impact, and that's cool.

With all this in mind, we probably won't be getting long vol tomorrow. Sorry.

We'll build on all this throughout the week.

Happy 2021!

The SqueezeMetrics Team
