S&P 500 Weekly Forecast 3/1

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Hey guys,

We talk about tails, and we talk about kurtosis. We talk about how the long gamma on option dealers' books creates *excess* kurtosis (high peak, long tails) in market returns. We talk about how you should expect low-volatility upside drift until the GEX floor breaks -- whether that's from an OpEx, a selloff, or both.

It's all very real, and a lot of people are figuring out that the market works this way -- but it's still hard to "feel" kurtosis.

Except when you get to see a tail event happen in real-time.

That's a relentless **11.47%** drop for the S&P 500. In true-to-GEX form, it followed a whole quarter of very calm, upside drift; and with a flourish of dramatic irony, wiped out *all* the gains from that quarter. *This is the definition of excess kurtosis.*

Giving it a name doesn't make it hurt any less, though. Indeed, the only salve is that we knew we were entering negative GEX territory at this time last week (post-OpEx), and we knew we needed to prepare for it. Still, nothing could have prepared us for 11.47% (even that "laundry list of geopolitical risks" we keep mentioning). This is literally off the chart.

And that leads to the overarching point of this note: *This wasn't all about GEX.*

You all know by now that GEX has a great deal of predictive power. The market for SPX options is fairly regular in its customer-to-dealer relationship, and the enormous "implied order book" of invisible dealer delta-hedging obligations tells us more about market volatility than perhaps anything else. It tells us where dealers have to buy and sell, and approximately how much (and it's a lot). We also know that this has gotten more powerful over time as more customers use options, and we know that this all contributes to the ON or OFF nature of volatility.

But an 11.47% loss in a week isn't just GEX doin' its usual thing. Nor was it some kind of unfortunate accident, where market microstructure allowed price to go too far. This was *real* selling. Liquidation-selling. Unfortunately, GEX stays mostly silent on the matter of whether the global economy might disappear for a few months -- the matter being weighed by the S&P 500 right now.

How can you tell, though, when something is *real* selling? Well, if you recall, last weekend we were thinking that a *3% loss* on the week would be quite possible (see the forecasted distribution above). That's something that could happen simply due to transactional selling, and negative GEX adding some fuel to the fire. But 11%? No.

To understand how you get to 11%, you have to understand that GEX isn't the *primary* force in the market when it's negative -- it's secondary to volume: A *multiplier* on volume. If there were no volume to push prices around, GEX would have no movement to exacerbate. I.e., the market *needn't* be volatile when GEX is negative, but when there is a push, it magnifies the effect. (Whereas when GEX is positive, it's truly primary. It *per se* determines how much the index can move before hitting resistance.)

That means that, if we want to take on the difficult task of forecasting volatility in negative GEX land, we want to add a volume input to our volatility forecasts whenever GEX is negative, and we want the volume data in question to help measure "real" volume rather than just noisy "transactional" volume (like HFTs trading with themselves). We want to actually take a guess at how much real buying or selling is entering the market, so we can then combine that with GEX to see how much volatility to expect.

To illustrate that this can be done, below is a scatterplot of the NYSE Composite volume (x) versus next-day S&P 500 returns (y), from 2004 to present -- the same timeframe that we analyze GEX on.

Higher volume predictably leads to higher next-day price variance. The function that describes this relationship between stock volume and subsequent volatility thus becomes a factor in our volatility estimate. Right now, volume is at 0.8 on the x-axis of that plot. That's extraordinary, and historically, it has led to a very wide next-day variance.

What's more, if you've been following the Dark Index (DIX), you'll know that this past week, featured uniformly bearish data from dark pools. While we, unfortunately, don't have any data from 2007/8, we can imagine that the combination of liquidation in dark pools and high stock volume, market-wide, was a feature of the more volatile days from that period.

So, again, *this isn't all about GEX*. On its own, negative GEX can't tell us much about the situation that we saw this week, except that it magnified the effect of the uniformly bearish volume that came into the market to sell. And, given that GEX is at -$1.1bn right now, we can expect it to continue magnifying the effects of any incoming volume. Of which there will be plenty.

Since we've rambled on enough, let's cut straight to the forecast. Historically, this is what the current combination of volume and GEX looks like:

In numbers, this 5-day distribution has a mean return of **0.21%**, a median of **0.62%**, and a standard deviation of **3.78%**. In volatility terms, that's a 1-week vol of **26.8%**. Further out, we see a more modest 1-month volatility of **22.7%**. And since this is an exceptional moment, let's see *exactly* what those 1-month returns look like.

The current combination of real volume and negative GEX gives us this scary prospect (that tail!). But as scary as this may be, recognize that VIX at 40 is *still* overpriced (GXV1D, the measure of tomorrow's volatility, is 30.72), and so the prospect of selling volatility via VIX ETPs is still appealing -- as long as you are willing to shoulder the risk of VIX continuing to price in crazy high variance. This is the disadvantage of trading VIX products. It doesn't *have* to converge with reality if it doesn't want to. And that pain is felt acutely during

these events.

In contrast, consider the more concrete opportunities in SPX/SPY options. This is more clear-cut: If you look at the 5-DTE vertical skew plot at the bottom of the attached PDF, you'll note that the market was last pricing 5-day volatility at around 55%. We estimate it to be worth more like 25%. That's tradable, and if you have the discretion to do so, consider using fixed-risk structures here, like iron flies or butterflies -- for your own sanity.

Indeed, the only way to bounce back from weeks like these is with very well-defined risk, and a granular view of your position's exposures.

And this leads us to something else, which has been a long time coming:

In the next few months, our measure of SPX GEX will be overhauled. You already know that the basic assumptions that underpin the GEX computation (the paper goes into detail) are illustrative, and provide an edge in pricing options and volatility -- but with enough of the right data, we can do even better. And if we can, we should.

That is to say, in the coming months, we will roll out a proprietary re-formulation of GEX that, above all, *tracks which SPX options were bought, and which were sold*. This will allow for much more granular forecasts in both positive and negative GEX scenarios, and, ultimately, all sorts of things that we think you'll find fun. It will also strongly distinguish what is available to you Yacht Club people from the proliferation of imitation gamma measurements that you may have been seeing, especially from the banks who've been doing gamma stuff lately.

To the extent that the next formulation of GEX will be proprietary, we hope you understand when we don't divulge every detail of the process. You already know that the concept works. This will just make the whole thing work better.

And it will be a lot of fun.

Fresh Picks
The 139 low-GEX picks have a mean 20-day projected return of **1.86%** and a standard deviation of **7.38%**. There aren't any high-GEX picks. Snippets of charts are attached, as always.

It is, quite naturally, a low-GEX bonanza out there. So we're just going to reiterate last weekend's sentiment, but with the addition that, at this point, a call seems like a better idea, and given how high IVs are across the board, a call spread would probably be even better. That is, if something so unsophisticated can work its way into your portfolio.

> We're not going to highlight any picks in particular this week, since none are *particularly* interesting to us. But it's worth mentioning that any trade that you want to be long -- now's a decent time to get long convexity (buy a call). Same goes for something you'd be interested in shorting (buy a put). Now is the right time to be taking advantage of single-stocks' collectively low GEX. That is, if you're not too distracted by the excitement in the index itself (which we are!).

Same time next week.

The SqueezeMetrics Team

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