

Gamma Exposure: An Important Update

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Subject: Gamma Exposure: An Important Update
Date: Thursday, March 12, 2020 9:11 PM
Size: 172 KB

Hey guys,

It has been an immensely frustrating two weeks. And believe it or not, this has nothing to do with taking losses on short volatility, or with anxiety about the S&P 500's protracted journey into oblivion -- it has *everything* to do with GEX being ostensibly incapable of quantifying this action.

We opined, in the Sunday note immediately following the initial volatility, that GEX becomes "secondary" to volume when GEX goes negative. I.e., when dealers are short gamma, their delta-hedging acts as a *multiplier* on volume, but not as a trigger. Thus, in a way, we have to throw up our hands and accept uncertainty. This is mostly true, and we thought that it was acceptable at the time to shrug it off, take some risk off the table, and wait for GEX to return to positive territory where we have an edge on the market again -- where option open interest is the clear, primary force in determining volatility.

But in the relentless action since (and despite many kind words from folks about gamma still being a helpful metric), the knowledge that we can do better has been, in a word, vexing.

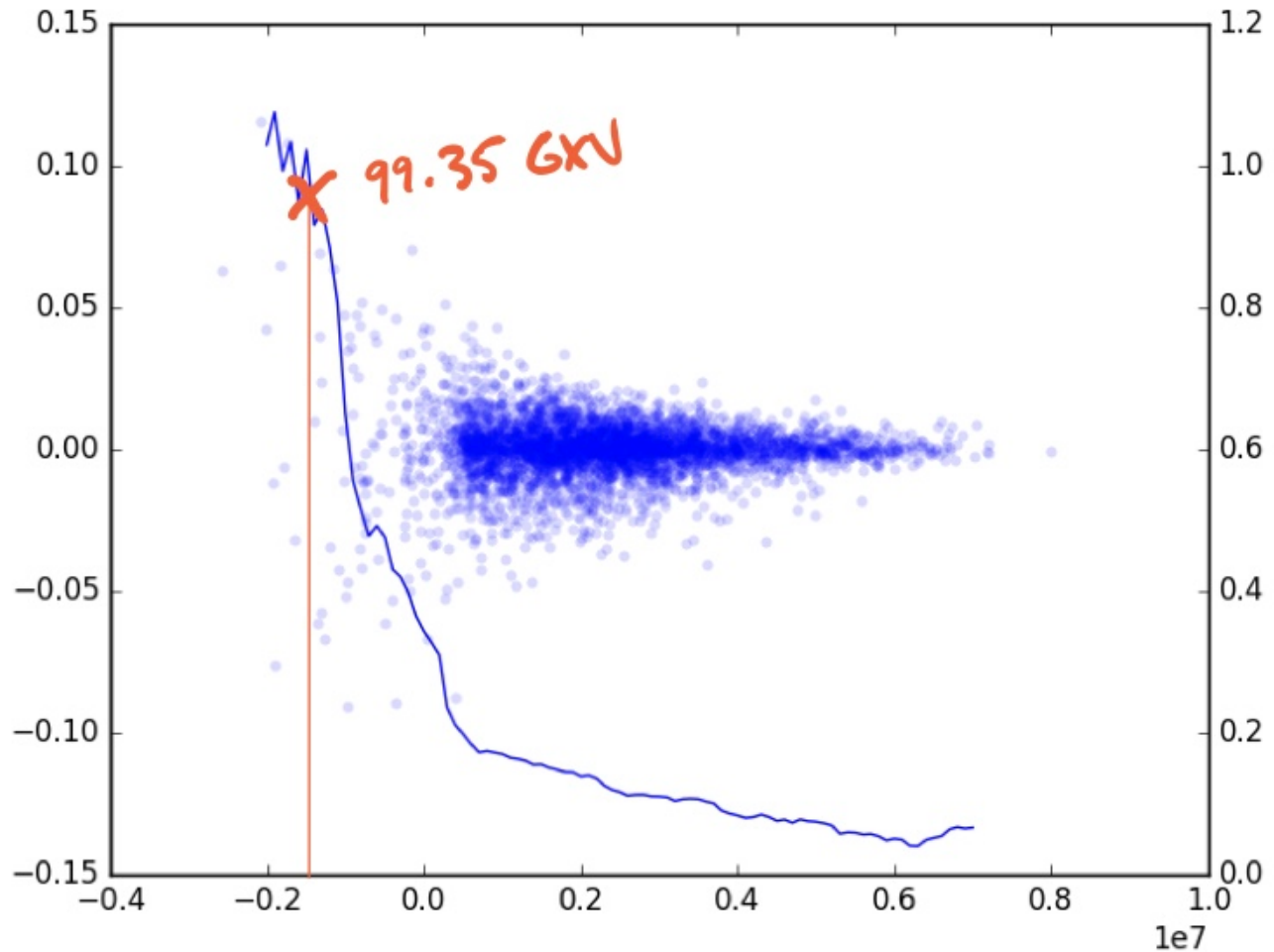
We said that we'd start rolling out GEX 2.0 within a matter of months. But after looking at today's daily PDF document just an hour ago, we know that have to start talking about it even though it's far from ready. Because *this market* is when GEX 2.0 really matters, and even the *small amount* that we have ready for analysis is vastly superior to the original formulation of GEX for such deeply negative dealer gamma territory. GEX, in its original form, works when *calls* are the options with all the gamma (even a low-level analysis reveals that 2x as many calls are sold as are bought, meaning that GEX is "mostly right").

GEX 2.0, though, works when puts are dominant too. Obviously, puts are dominant right now.

Again, we are not prepared to start this conversation. So please understand that this data can't quite do what we want it to do yet. This is, as it were, an emergency measure to provide guidance for this market -- a market that we weren't expecting to transpire for a few more months, and a market that we are uncomfortable facing without a better GEX. So we apologize in advance for the chaos that this note brings, and we hope that you'll be patient as we work to bring this to you in a more civilized way.

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Proto-GEX-2.0 is **-\$1.47bn** right now. That's *very very very* negative. Historical analogs are uncommon, but the data is consistent. If we were to derive a 1-day GXV volatility forecast from this level of GEX, it would be **99.35%**.

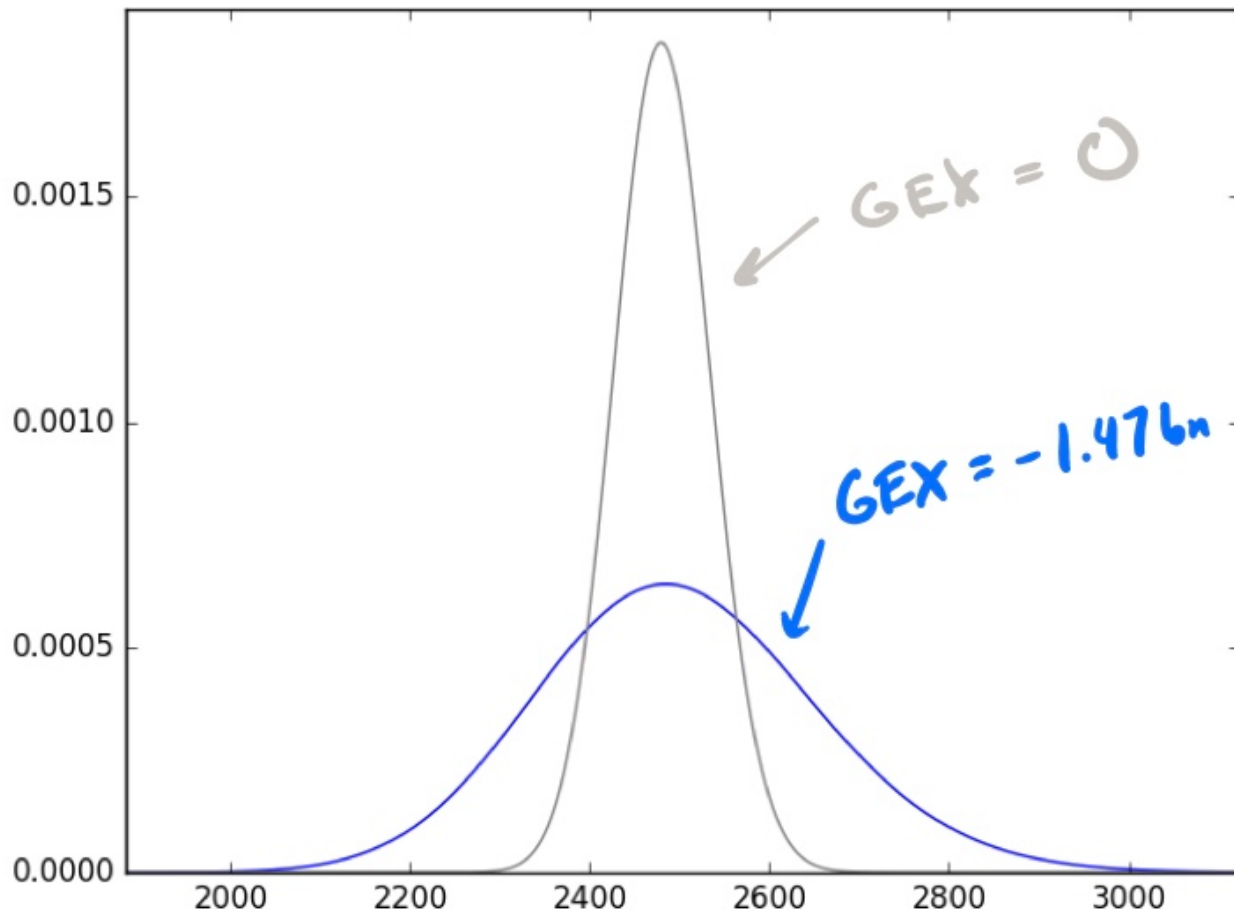


That, in terms of a 252-day year, implies a 1-day standard deviation of **6.25%** on SPX.

We have not come close to doing a comprehensive test on the "new" Gamma Vol numbers, but suffice it to say that 99.35% GXV is nearly as high as a volatility forecast can go. This market is indeed comparable to 2008 in terms of option positioning and its impact. You may think that this sounds a tad dramatic, but it's due to the fact that -- over ten years after the financial crisis -- there's a great deal more option open interest in the market. And option open interest, though the enormous delta-hedging complex, is truly where volatility comes from.

Much of what we see in this new GEX validates our naive intuitions better than GEX 1.0 was able to, especially that an increasingly negative GEX results in greater volatility (and zero GEX is still approximately where things "shift gears").

To illustrate how dramatic the forecast of a deeply *negative* (-\$1.47bn) number is to zero GEX, consider the derived probability density below. While GEX = 0 and GEX = -\$1.47bn have essentially the same volatility forecast with the current implementation of GEX, a more robust, accurate model sees a huge distinction.



With GEX at this level, it would be quite reasonable to expect **5%** moves as the norm. (Also note, if you look closely, a slight right skewness.)

Indeed, it excites us that distributions derived from sub-zero GEX with this formulation are *platykurtic* (flat-topped), which is the *opposite* of the defining characteristic of a high-GEX market (*leptokurtic* -- pointy peak and long tails). In other words, price moves very easily within a very wide range, but the tails are not nearly as significant (again, this fits our intuition about volatile markets and how negative GEX should influence them).

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Apologies for the confusion, the hurried nature of this note, and for the fact that this data wasn't ready in time for when it was needed. It's frustrating to be drafting this message -- with years of methodical work behind this analysis -- without being able to give it the presentation it deserves.

In the coming months, we will do our best to balance the methodical, careful process of deriving GEX 2.0 with the emergent need to get the data out there.

Thank you for your understanding -- and thank you, as always, for supporting this research.

Good luck.

The SqueezeMetrics Team

