

S&P 500 Weekly Forecast 2/7

From: [SqueezeMetrics <info@sqzme.co>](mailto:info@sqzme.co)
To: [SqueezeMetrics <info@sqzme.co>](mailto:info@sqzme.co)
Subject: S&P 500 Weekly Forecast 2/7
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Hey everyone,

Last weekend, we talked about how the worst thing that can happen to the price-discovery process is... *people actually trading with each other*. Because when people trade with each other, *rather than with a market-maker*, the volatility-targeting behavior of the market-maker's trading activity no longer *anchors* the volatility of the stock. And without that anchor, there is a whole lot of "vol-of-vol." Which could also be described as "liquidity uncertainty."

When a market undergoes this "soft disintermediation" of the market-maker, the collective psychology of buyers and sellers becomes the primary driver of price, and the evolution of price becomes a pure function of human emotional states. Fear, regret, greed. *Ennui, schadenfreude, nostalgia*. Inadequacy, isolation, ellipsism. *Rückkehrunruhe, exulansis, weltenschmerz...*

cough

Sorry. The point is -- GameStop (GME) put a bunch of dumb human emotional states at center stage, and the extent to which this *terrifies* the market is well-described by how VIX spiked to 37 on very little realized volatility (and VIX quite literally tracked GME). There should be no doubt: "Liquidity uncertainty" is the market's One True Enemy, because it destabilizes volatility *itself*. So if liquidity uncertainty is largely a function of the *absence* of market-makers' influence, then it would be good to know when and where market-makers are, in fact, less influential.

Ok, now let's back up for a moment. This is a pretty unusual stance -- that more actual people trading with each other, without an intermediary, is *bad* for price-discovery. Academically, more participants with unique views sounds ideal, right? More liquidity, more interest, more information, all filtering into price! Efficient markets! Turns out it doesn't really work that way.

But is this merely a function of modern equity markets? Is this a post-Reg-NMS, post-HFT, post-VIX-futures phenomenon? Are we waxing philosophical about something that's actually an outlier, or some historical accident? Well, we can guess that a believer in "efficient markets" would tell us to find a market where market-makers are less-entrenched, and where we can more clearly see when they are active and when they are not -- so that we can then make a better judgment about their influence. A market without HFT. A market without crazy exchange rules. A market without options, and without tradable volatility. Something more "pure."

So... we started looking at OTC stocks.

We got data on all 38,000+ of them (OTCQX, OTCQB, Pink), from the past ten+ years, and we thought we'd do a big DIX-style analysis on it. In the case of DIX, relatively high levels of short volume tell us that market-makers are very active in filling passive customer buy orders, and this one-sided market results in liquidity certainty (lower vol-of-vol). I.e., VIX goes down, SPX goes up. When DIX is relatively low, though, there's at

least potentially more liquidity uncertainty, and SPX *volatility* outperforms. See [this](#) plot.

Will we see the same tendency in a *non*-exchange-traded asset with *weak* market-making, where liquidity uncertainty, and "people trading with each other," is actually more the norm? Will the increased presence of market-makers stabilize liquidity and improve returns? Let's find out. But first...

1. Dumping: Vol
2. Jumping: The gun
3. Pumping: Penny stocks

Dumping: Vol

Over the course of the week, volatility got smooched. This was great for us. We were *rather* substantially short February VIX. That vol dump fed directly into SPX: Customer long OTM puts lose deltas from vol crush, dealers buy SPX to hedge, SPX goes up, customer long OTM puts lose deltas from gamma, etc., etc.

We spent the week short February VIX, no frills.

This coming week may call for some frills, though.

Jumping: The gun

We got rid of most of our VIX short and bought a put spread on Friday, for next Friday. Struck at 3880/3830. This is not aggressive, but it was meant to take advantage of the fact that near-term vols are suddenly too cheap relative to GEX+, giving us this 1-week density comparison.

Whenever we see this, we want to be wary, because it means that 1-week market IVs are not pricing in a "buffer" like they ought to. This effectively means that the very near-term IVs are cheap -- and the way this tends to resolve is with a quick (usually shallow) correction. But then you may remember that we were betting on this a couple weeks ago, and it took two whole weeks to play out -- so we may be jumping the gun.

What makes us think we *aren't* jumping the gun is that NPD and VGR also got more bearish on Friday. NPD came in at -3.86. It's been a month since there's been so little put-buying (and last time it happened, SPX corrected a wee bit). Meanwhile, VGR has climbed to -2.43, which suggests *significant* vol-sensitivity among customer positions.

Last time short-term vols seemed too cheap, we mentioned the possibility of a short calendar spread, betting on some near-term movement, but getting the benefit of steep volatility rolldown (term structure is, erm, vertical right now). You can delta-hedge it fully, partially, or not at all (depending on how much directional risk you're willing to take). It's functionally similar to being long a weekly put spread and short some VIX, but you may prefer the potential for precision afforded by the calendar.

Oh yeah, and DIX is looking rough. Nobody's "actually" buying this rally. And yeah, we know that doesn't mean it can't go on like this for a couple weeks, but it's interesting.

Where last week was a great time to short vol and press the snooze button, this week will demand a bit more attention.

Pumping: Penny stocks

You may know that over-the-counter (OTC) stocks are not listed on exchanges. That's why they're "over the counter." A network of dealers maintains an order book and facilitates transactions in these stocks, using largely manual processes and tools from the OTC Markets Group. This is not a market with "liquidity certainty." Stocks often become suddenly "in play" as paid pumpers drive interest, or when the CEO's uncle tells his friends that ZVVZTJKTIX is "the next hot stock." It's pretty much like GameStop, nonstop.

So, in this Hobbesian state of nature, we should be able to see pretty clearly the impact of market-makers. *If indeed* market-maker intermediation is a source of stability, then we would expect that when MMs are the counterparty to one-sided customer buying interest, that should have a notably bullish and stabilizing impact on price over the course of the following weeks to months -- in the same way that the S&P 500 DIX tells us about the long-term stabilizing impact of one-sided customer buying. Similarly, a low "OTC DIX" should result in "meh" returns (because it's not telling us anything in particular).

Of course, as with DIX, our proxy for one-sided customer buying is FINRA short volume. Because when you see short volume, it almost always means that a market-maker is selling stock that they don't own in order to facilitate customer buying interest. One difference is that, because OTC stocks are... well... OTC, that means *all* of the trading volume gets reported to FINRA. Basically, OTC stock trading is *all* done in a dark pool. This should actually clarify any signal, since we get to see 100% of the short volume that occurs in trading.

As for devising the test, we want to keep it as stupid-simple as possible. Across all(!) OTC stocks' daily data from 2010 to present, *what were 1-week mean returns following daily short volume ratios of 0 to 100%*? No normalization to realized volatility, no lookback period or moving average, no volume-weighting, no cap-adjustment... nothing like that. We're just trying to isolate the impact of the short volume ratio here.

And so all we want is the plot below -- warts and all -- which charts short volume (x-axis) against mean 1-week returns (y-axis).

You'll note, first of all, that higher short volume (0.50 to 1.00) is associated with substantially higher weekly returns (2.5% to 4.5%). Except for the spikes right at 0.50 and close to 0.00, the lower short volume is associated with around 2.0% returns. Those spiky anomalies are probably attributable largely to fraction-of-a-penny-stocks (the stuff that trades at \$0.0001, with really low volume, where 10,000 shares traded [\$1] is an exciting day and the short volume ratio invariably ends up being a round number like 0.5).

Apart from those warts, the pattern seems pretty clear -- as with DIX, higher short volume is associated with buying and dealer intermediation, and more dealer intermediation means more liquidity certainty (less "liquidity uncertainty"). And liquidity certainty is a reason for a stock to rise -- especially in the case of an OTC stock, where the base assumption is that there's hardly any liquidity at all.

No option markets, no complex derivatives, no passive investment flows and ETFs. Just raw buying and selling with an overall weak market-making presence. Like cavemen must have traded. And as far as we can tell, the data confirms our bias: Market-maker involvement means stability (more liquidity certainty), and stability means positive returns. More professional intermediation means things turn out better, overall. Fancy that.

Nerd note: What about the cases where a customer is selling to a dealer? There's a dealer intermediary, so will that end up being "stable?" Is that still a scenario with "liquidity certainty?" If so, what does it mean for price? Yes. Good questions. When the short volume ratio is really high, like 0.5 to 1.0, we know that one party to the day's transactions was short-selling a lot. This is really really really likely to be a dealer, so in

these cases, we can infer that a customer is more likely to be buying. But there are two other interesting situations that we can't distinguish from this data: When are customers selling to dealers, and when are customers trading with each other? Both of these scenarios are described by low short volume (0.0 to 0.5), and we simply can't tell them apart using this data. If we could, we expect that we'd find that the times when customers trade directly with each other make for some choppy-volatile, and ultimately bearish scenarios (see GME), as it's bad for liquidity certainty; and that the times when customers sell to dealers end in lower prices, but not in an "unstable" way. Does that make sense? If you can come up with a way to isolate customer-to-customer trading (where dealers don't end up having to manage inventory) let us know!

Anyway, the reason that we even went down this weird rabbit hole is because, after spending years trying to measure what we think market-makers have to do, we're starting to realize that it's just as interesting to measure what they *don't* have to do.

Recall that when SPX net put delta (NPD) is close to zero, that means that customers are swapping put option deltas *with each other* instead of with an option dealer (remember what that looks like?). This results in incredibly high vol-of-vol (i.e., liquidity uncertainty) because the dealer no longer needs to play an active role in hedging. He stands back and lets the emotional cavemen figure it out.

That a low DIX, or a rapid drop in GEX, can actually be telling us about the same thing (dealers suddenly disintermediating), makes this all the more fascinating. Real, capital-R Risk in markets (lit or dark, optionable or not, NASDAQ:AAPL or Pink:ZVJLAKRTJ) seems to be a function of dealer intermediation, and when customers make the dealer redundant for any reason, crazy stuff can happen, 'cause that's when the pros take a smoke break and customers' idiosyncrasies take over.

Ok. Enough. Let that simmer.

And enjoy the week!

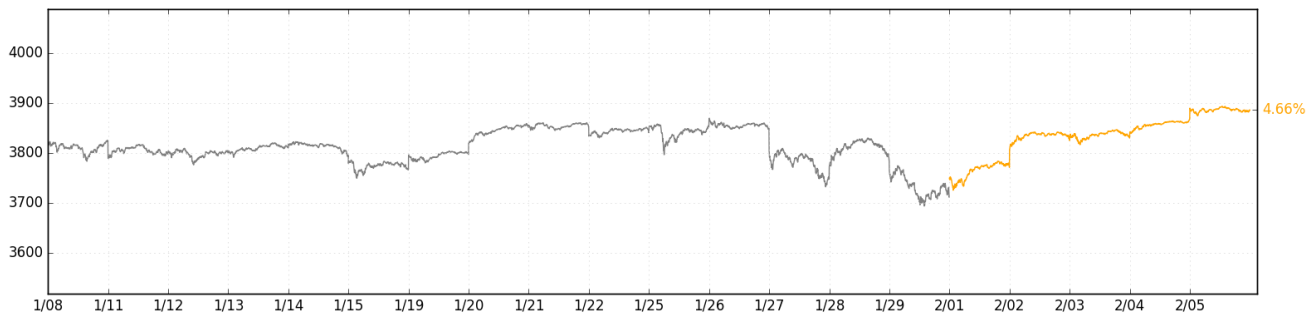
The SqueezeMetrics Team

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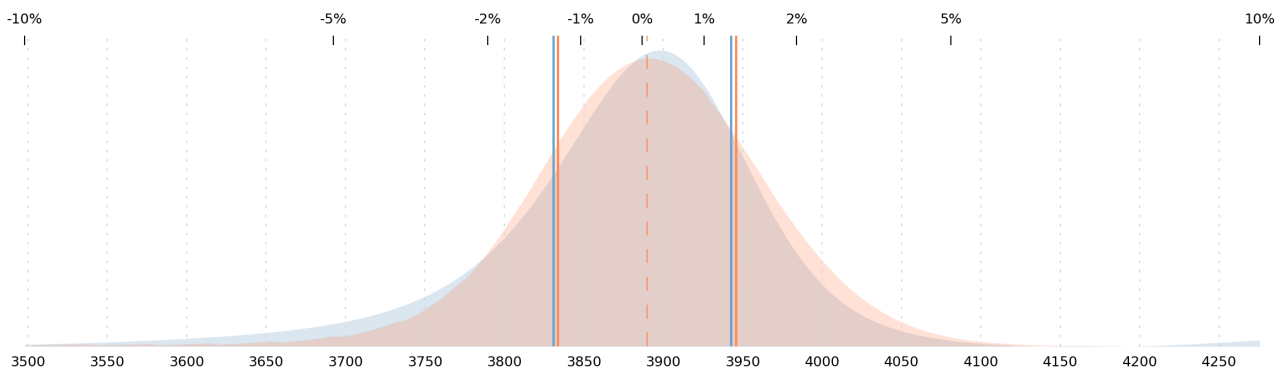
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Charts that didn't feel like attaching:

1.



2.



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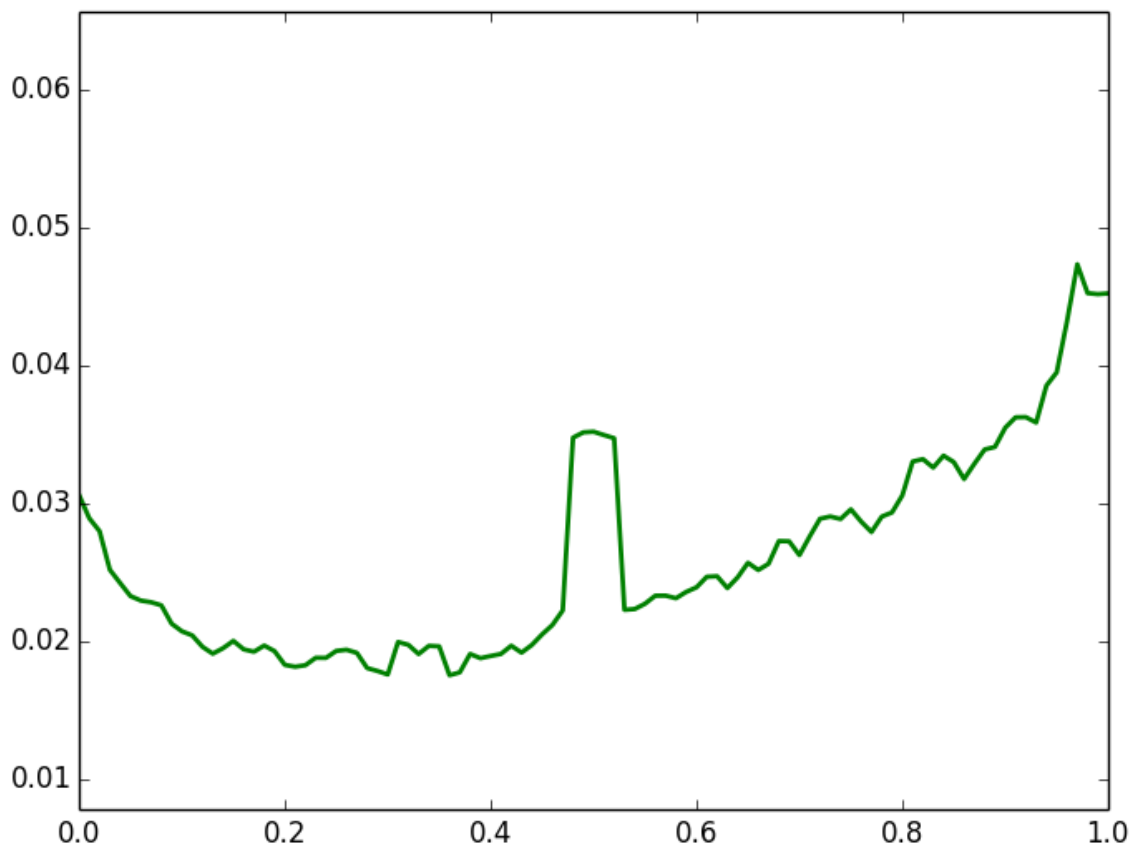
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And last, but not least, the most important chart...

3.



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1.