

## S&P 500 Weekly Forecast 10/3

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**Subject:** S&P 500 Weekly Forecast 10/3  
**Date:** Sunday, October 03, 2021 9:01 PM  
**Size:** 1.9 MB

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Hey guys,

It has been brought to our attention—more than once—that it would be useful to have a "pre-print" of each of the NPD, VGR, and SuMo numbers: An educated guess at what the "official" 6:00am numbers will be. This way, folks can get positioned as early as possible with the new information. Good idea!

Well, two of these seem quite possible: The SPX Support-Momentum bands (SuMo) and the customer Vanna-Gamma Ratio (VGR). With only a small margin of error, both of these should be able to be generated early, as both rely primarily on market data that is more accessible, or data that changes slowly. Very cool!

But this past week, we decided to take on the mantle of the more *difficult* question: *Can we take an educated guess at Net Put Delta (NPD)?* After all, it seems like we *should* be able to gauge—by viewing changes in the volatility surface, or spot price, or the combination of spot and vol—the day's demand for put delta (even if it's with a large margin of error). Heck, it's only a question of finding *something* that correlates.

So we did a whole bunch of work on that. And, spoiler alert:

*It was an absolute dud.*

We tried vol surface movements we tried spot-vol co-movement (we really thought this might work) we tried an analysis of intraday realized volatility, etc., etc. We even tried VVIX! It was remarkable—nothing even came *close*. Which, in a way, reminds us of how cool NPD really is. It's hard, or impossible, to replicate.

So with NPD off the table, let's talk about the practical problem of delivering an early SuMo and VGR. Because something is better than nothing.

But first...

1. Ac-count-ability
2. Count-ability
3. Ability

### **Ac-count-ability**

We came into the week neutral. From last weekend:

And in our estimation, that just means we should expect a directionless market. No new highs, no new lows, no new anything, but the potential for some swings (useful, no?). So we still don't have a position, and we won't until something changes that gives us a clearer picture.

So on Monday, we sat on our hands. By Wednesday morning, though, we mentioned that we'd taken on a normal-sized short VIX position on Tuesday in response to VIX rising above 24—which seemed too high. And through the rest of the week, we held on to that, as data *gradually* got more bullish. As of Friday, that October VIX position was tidily profitable. Hurray, good for us.

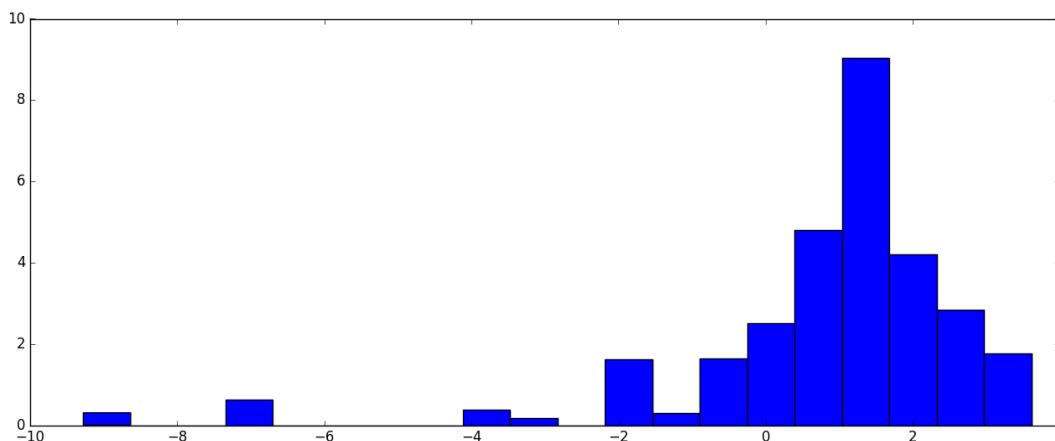


But when we look back at the distribution of returns that Robot Jim suggested last weekend, we realize that he was betting that a weekly close around SPX 4365 (-2.00%) *was something we should bet against*, in favor of betting on either a larger loss, or a weekly gain. So Robot Jim didn't do so well this week, on that metric.

Gotta keep the robots accountable.

### Count-ability

But let's give Jim another chance. Here's his SPX forecast for this week:



Now *that's* a strong opinion! Jim thinks that the mean 1-week SPX return will be +0.80 MAD, which, with VIX around 21.15, means *an SPX gain of 1.90%, on average*. And the median and mode are even higher! But note, also, the presence of that long left tail.

We could argue all day about the likelihood of that tail, or we could just trade in our short VIX futures position for a fixed-risk long SPX call spread and stop worrying about it. And that's probably what we'll do, because we think Jim is right.

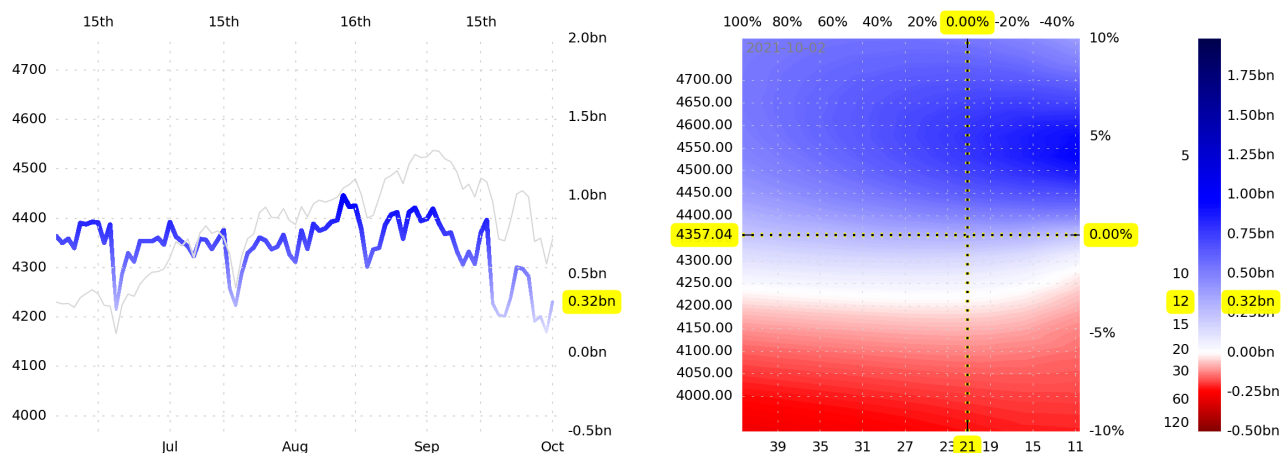
How does Jim arrive at all these conclusions? In a way, he's just adding together all the things we know and talk about on a regular basis (DIX, GEX, VEX, NPD, VGR). He's just able to "add" in a way that we're not—with lots of dimensions. But, with that said, Jim doesn't get a lot of fresh air (he is locked in a machine for all eternity), so let's check his work.

### DIX

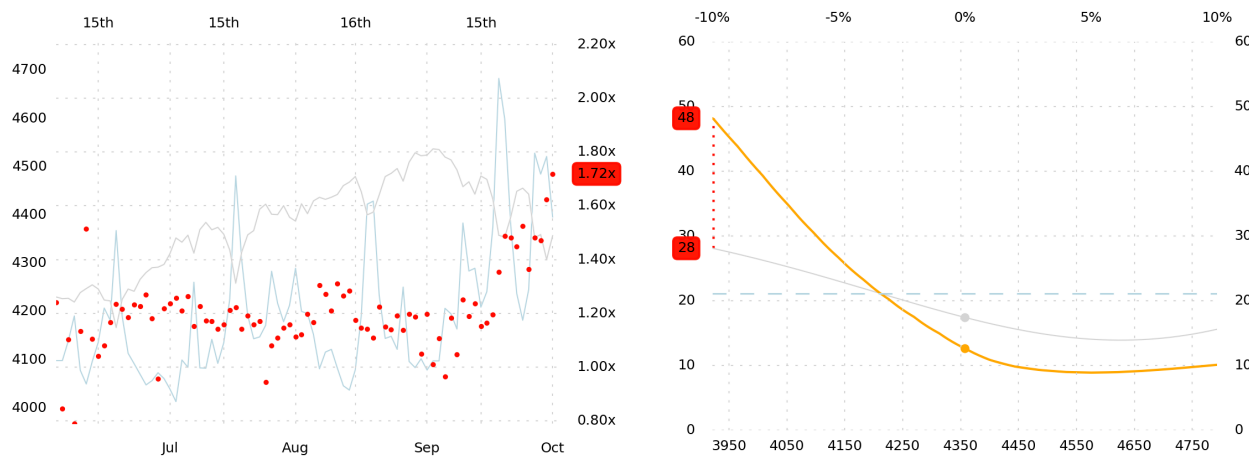
The Dark Index printed 43.7% on Friday, which is slightly bullish-leaning (42% is "neutral"). The 5-day average is 43.43%, so it's not an anomaly. A bit of overall bullishness here.

### GEX/VEX

Lots going on here, actually. SPX GEX+ is lower than it's been in a long time (+\$320mm per SPX point), and the red "illiquidity zone" has been well in view.

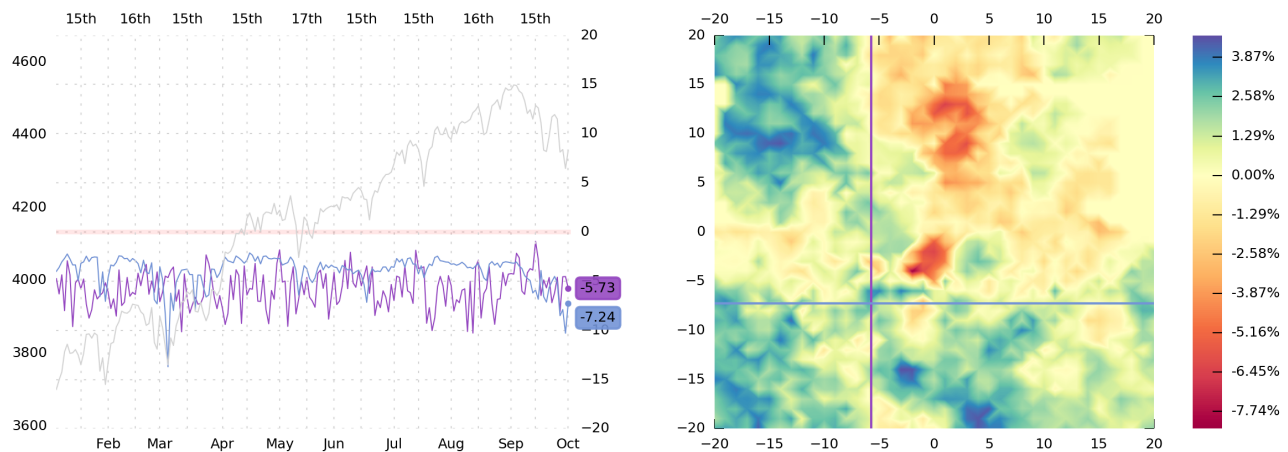


This tends to make the distribution of returns more left-skewed (longer left tail, more tail risk), but also—at the same time—to increase the probability of a gain (median return is higher, moving toward the blue zone is more likely). And we can see from the GIV-IV comparison on the Risk Report that tail risk (and by extension Crash Risk) hasn't been this high in a while.



Note that we like to see the Crash Risk multiple at around 3.00x (not 1.72x) before getting freaked out. So this isn't anything crazy. It's more of a normalization, really.

## NPD/VGR



Not in the danger zone anymore. Crosshairs are in green/blue, predicting decent 1-month returns. Both NPD and VGR are below -5, which tends to be bullish. Nice.

So we fully endorse Jim's bullishness, and we're pleased to be positioned as we are now. With futures up a touch, we're going to plan on scaling *out* of short VIX and *into* long SPX, via call spreads. Thinking long leg ~4350, short leg ~4450, probably in the Friday-expiring options.

### Ability

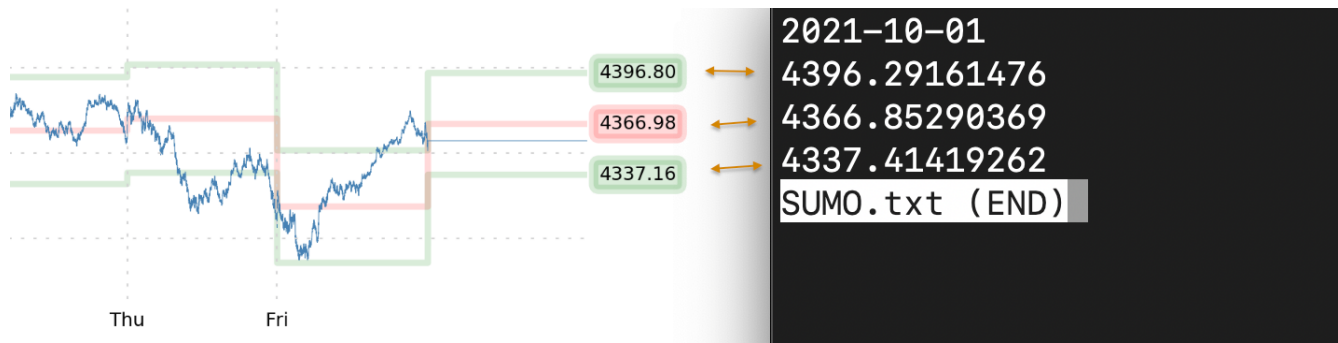
Despite the disappointment re: NPD, we still want to have two things:

1. A SuMo reading before midnight, so you pajama traders can toy around with the bands before the next day's cash open.
2. A parameterization of next-day VGR closing values so we can take vol trades with an idea of where VGR is at any moment.

#### 1. SuMo

We can get SPY closing vols, interpolate them, and get something pretty darn close to the SPX vol interpolation that we use as a basis for the SuMo bands. For now, we'll start placing these numbers in a link to a text file on the GammaVol page. Check that link around 6:01pm on Monday. We should be able to derive Tuesday's SuMo bands. Let us know if it works.

Using Friday's data, the SPY IVs, using a slightly different method, gave us a very similar result to the "official" numbers:

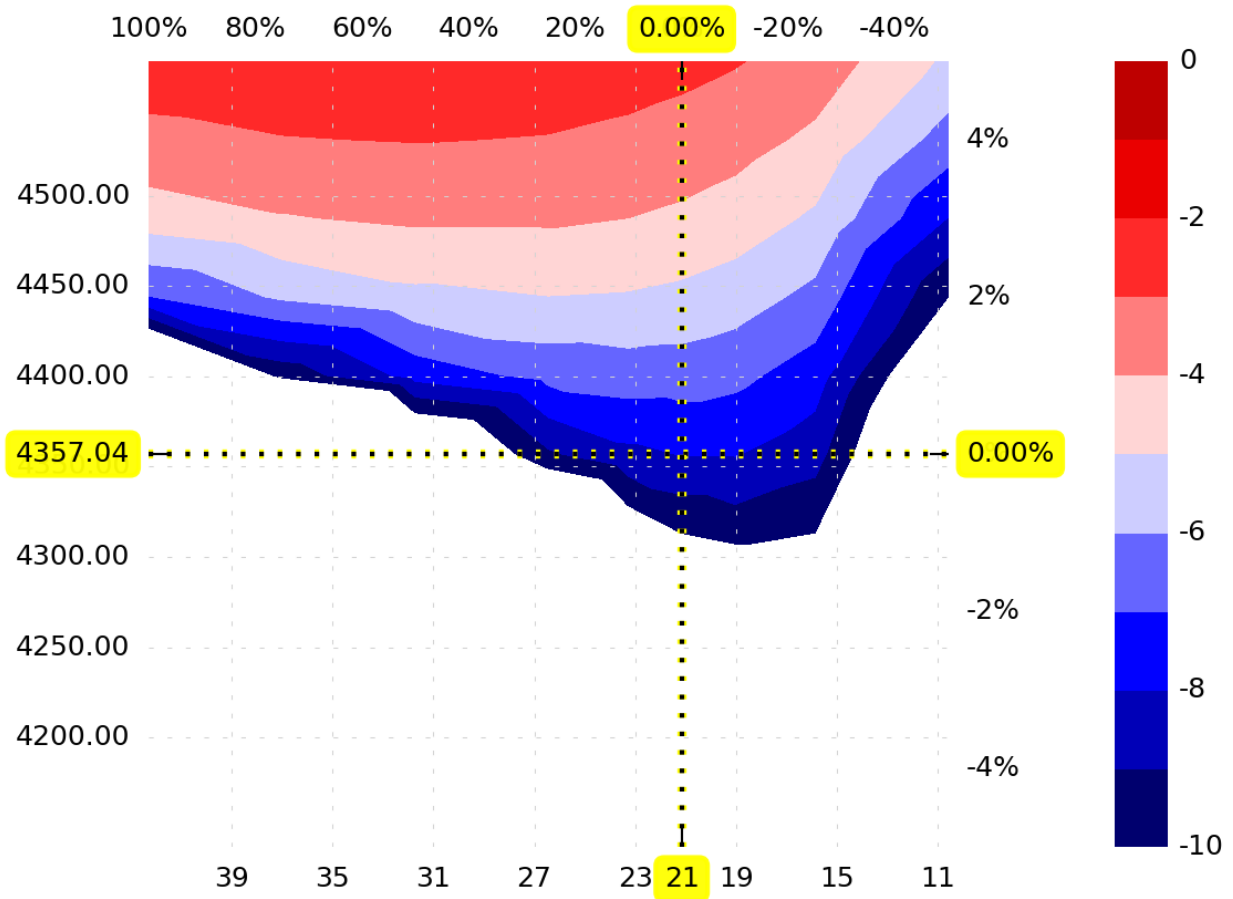


So we're hopeful this will do the trick for the pajama traders.

## 2. VGR

We've already been down the path of forecasting VGR, actually. In the 11/15/20 weekly note, we talked about VGR as an "attractor landscape." In the same way that GEX+ can be mapped and forecasted, VGR can be mapped and forecasted.

So here's what we made for tomorrow:



Since most of the action occurs between  $[-10, 0]$  VGR (in color), that's the stuff we're zoomed in on, where -10 is pretty bullish for SPX and 0 is pretty bearish. This contour map, which can be generated in the morning and will still be relevant by 4pm, will give us a pretty good idea of where VGR is likely to print. The model

runs the clock on all existing SPX options held between customers by one full day, so it takes into account expiration and time decay, in addition to price (y-axis) and VIX (x-axis) changes.

E.g., if nothing at all happens tomorrow (no change in SPX, no change in VIX), it looks like VGR will be around -8.00 (right between those two blue colors). Which makes sense, since VGR as of the Friday close was -7.24. Or if you suppose that SPX rises 2.00% tomorrow and VIX falls to 17, then VGR will be around -6.00. (More bullish things!)

Should we put this VGR contour map on the Sentiment Sheet for daily reference? Let us know what you think.

In the meantime, enjoy the week!

The SqueezeMetrics Team

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