S&P 500 Weekly Forecast 11/28

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Hey everyone,

"Robot Jim" is—as you are already aware—our whimsical name for a bit of code that analyzes historical patterns in time-series data and derives a forecast. We've been really enjoying Robot Jim, and we've spoken well of him for a number of weeks now. Robot Jim is cool.

But last week, we lost some money—and we decided that since we lost some money, we should say *mean* things about Jim today instead. Besides, if we don't say mean things every so often, he'll get full of himself.

See, we've gotten this question a few times:

> *"Aren't you a bit skeptical of running a machine-learning black box strategy? How can you know what's really working and what isn't? Isn't this just bias-ridden data-mining, destined to fail?"*

And that's a problem with *anything* that starts doing our job for us. It might make us lazy, and it might make us do illogical things, and it might run amok and need to be reined in. After all, the robots in the movies invariably become sentient, and then bloodthirsty, and then [try to] murder us.

Which is, we think, more than enough reason to distrust Robot Jim.

Fortunately, we don't *need* to trust him. And so, by way of introducing some raw data, let's pick a couple representative stocks for which Robot Jim totally whiffed it in a backtest. But *then* let's apply the raw data, our weather maps, and some good old fashioned human intuition, to improve on Jim's awful performance.

Because at the end of the day, good old fashioned human intuition is always going to win human games.

But first...

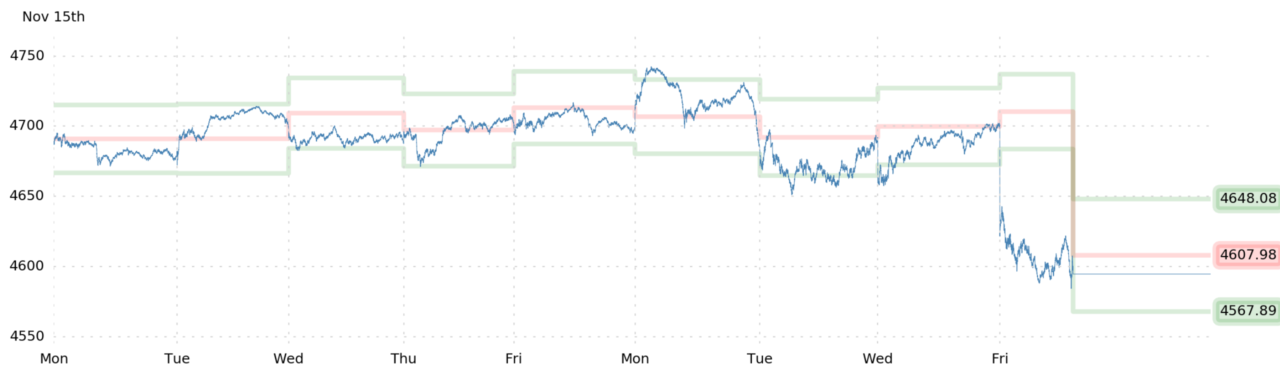
1. "Not bearish"
2. "Not bearish," Jr.
3. A to Z

"Not bearish"

From last weekend:

> Yes, sure, there's a left shoulder, but the probability of a >2.00% weekly loss is... quite small. That means that any SPX movement below 4600 would be exceptional. To boot, the mean and median weekly return are both +0.75%. *Not* bearish.

Well the index closed Friday at 4594.62, so we have to say that the week was pretty exceptional.

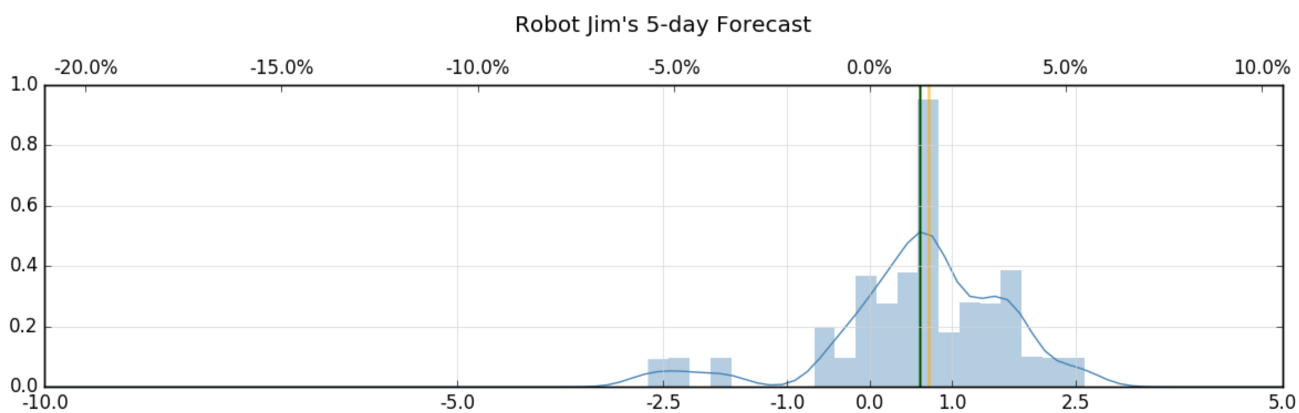


[At least SuMo did well!]

Having gone into Friday with a normal short VIX position (and ending Friday with a very *large* short VIX position), we found ourselves in the uncomfortable position of doubling down on a bullish thesis. Not only did we think that last week would more likely end flat or green—we also saw green pastures ahead. And that means we're *meaningfully* short VIX and currently in the red.

Luckily, nothing has changed to make us doubt that positioning.

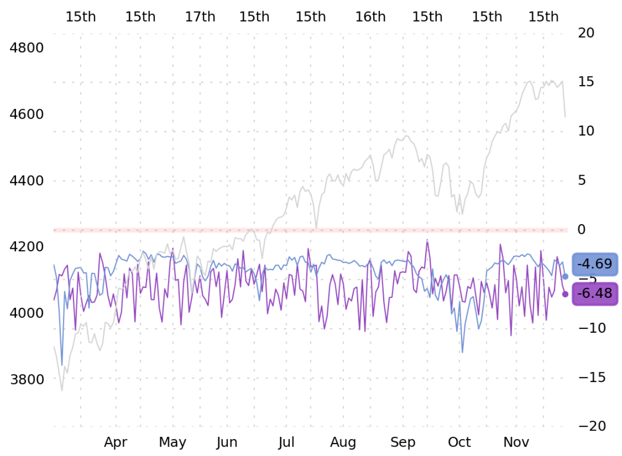
"Not bearish," Jr.
The fundamentally untrustworthy robot named Jim has this to say about the coming week:

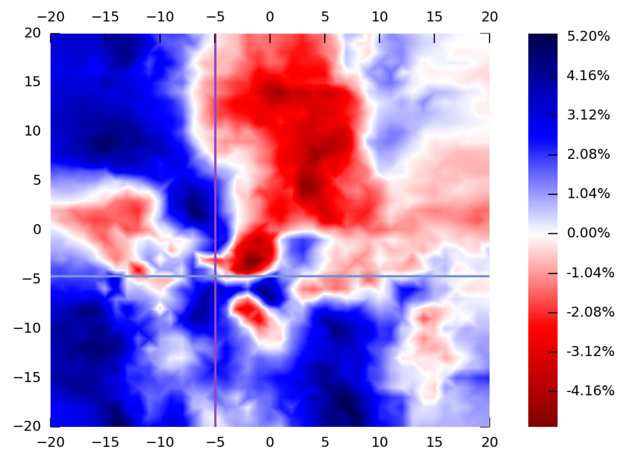


That's not bearish.

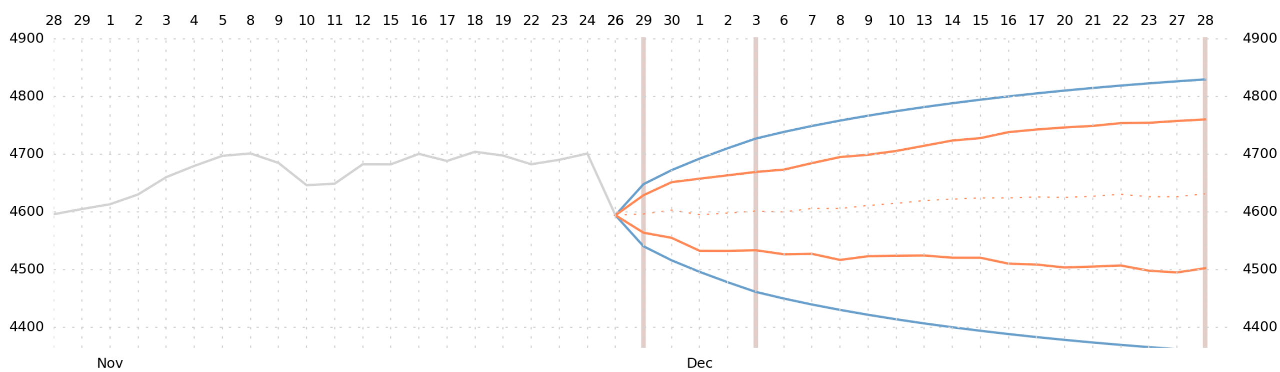
Mean MAD gain of 0.60, which translates to something like a +1.00% expected return. That's substantial. And nor is the left tail terribly scary.

Friday's DIX of 46.3% has a long history of outperformance over the following month, and the NPD/VGR situation is quite tame.





While GEX+ necessarily took a hit, at $480mm it's still quite a long way from trouble. And then, lastly, the Probability Page suggests that IVs, in relation to gamma-implied vols (GIV), are much, much too high.

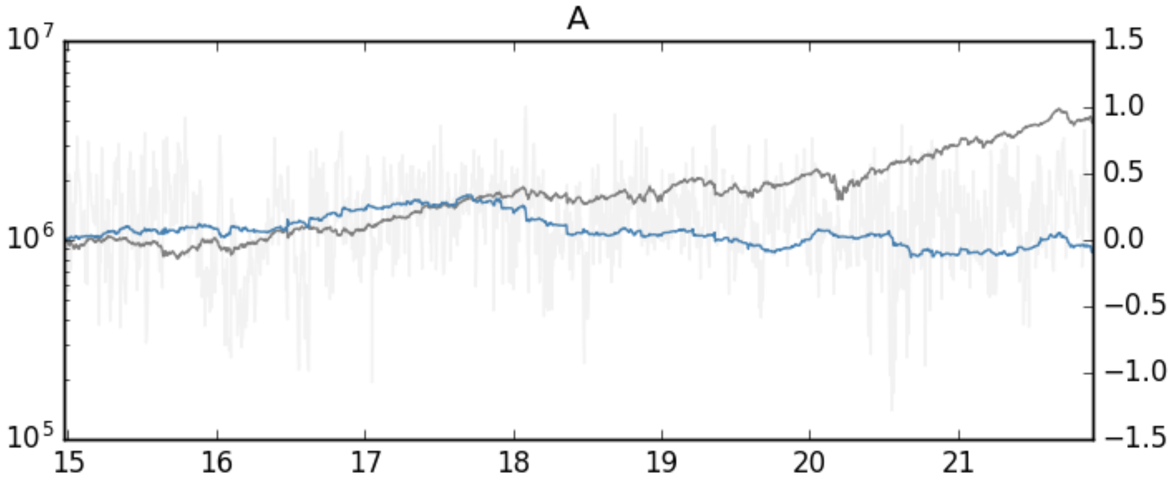


So we're perfectly happy being very short VIX here. All of our data, and Robot Jim, agree that it's the right call.

A to Z

But what about when Robot Jim *doesn't* seem so smart?

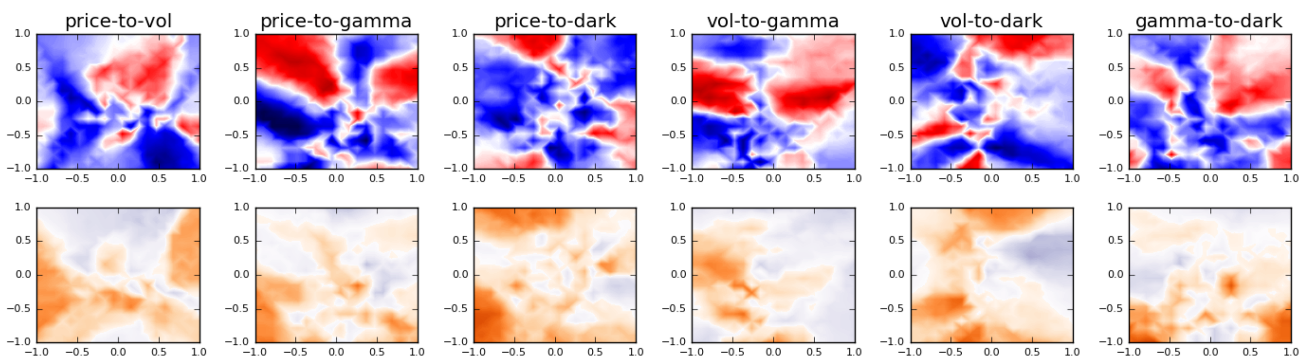
Take, for instance, Agilent (A). Data is here. If you were to look at Robot Jim's forecasts for A over time, you would find that he really botched it. Below is a strategy that takes Jim's signals and trades at the close. It's either 100% long or 100% short from close to close, based solely on whether the MEAN value is above or below zero (yeah, it's a stupid strategy, but it's illustrative).



We can be kind to Jim and acknowledge that a systematic long/short strategy based on history, performed on a stock that triples in short order—is a tough crowd. But still, this is a sub-par performance. The buy-and-hold turns $1mm into $3.8mm, and Jim turns it into $600k.

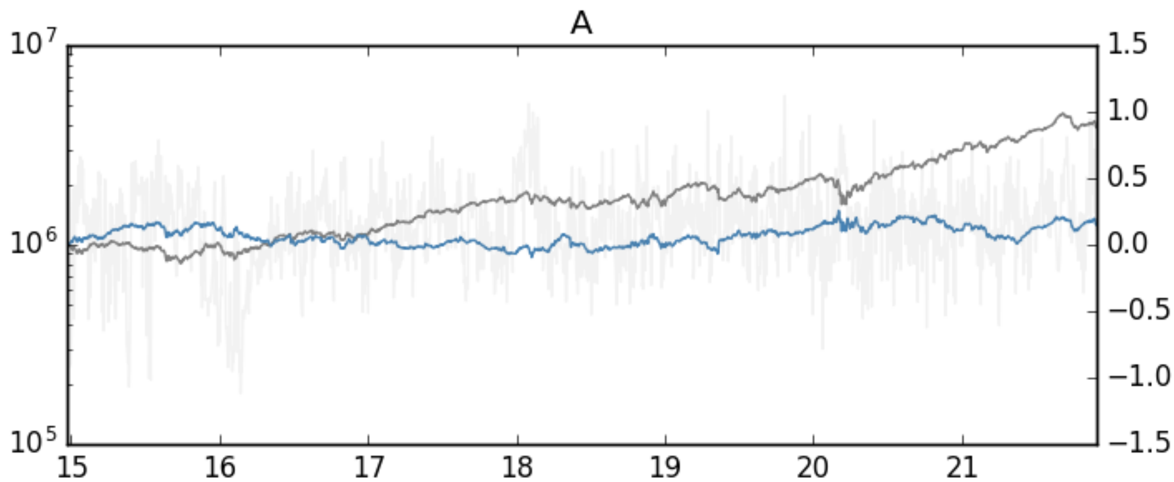
Can we perhaps mitigate this damage just a wee bit by applying a split-second of human intuition to the problem? Let's try.

Pull up the weather maps for Agilent. Do any of these pairs look particularly useful? Do any of them have easy-to-discern patterns, or especially bold colors?



We think that the obvious answer is that the "price-to-gamma" map is the boldest, and has the clearest demarcations. So we'd guess that the relationship between price and gamma is especially meaningful for Agilent.

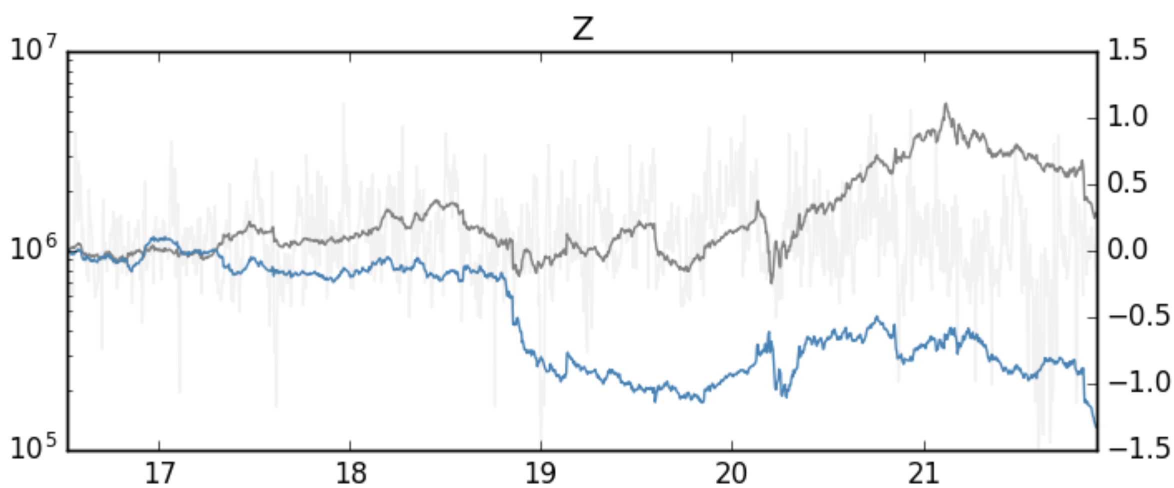
Now, instead of testing on Jim's holistic MEAN return, let's use the PG_MEAN (price-to-gamma mean) column in the attached data. This will only refer to the "price-to-gamma" relationship and history at that point in time, and it will derive a forecast *solely* from that.



Ending balance *over twice* that of Jim's default. Ultimately, a small *gain* (25%) instead of a large loss. Huge difference.

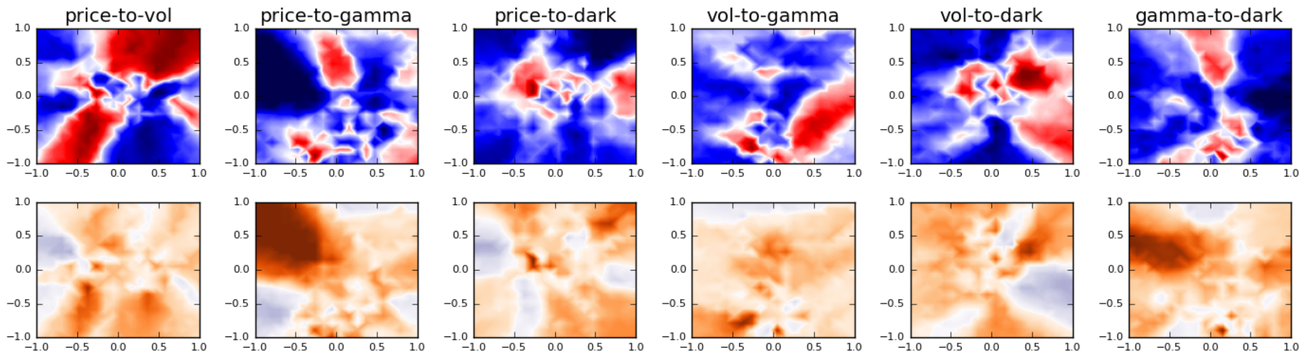
Humans: 1
Robots: 0

Here's another Robot dum-dum: Zillow (Z). Data is here.



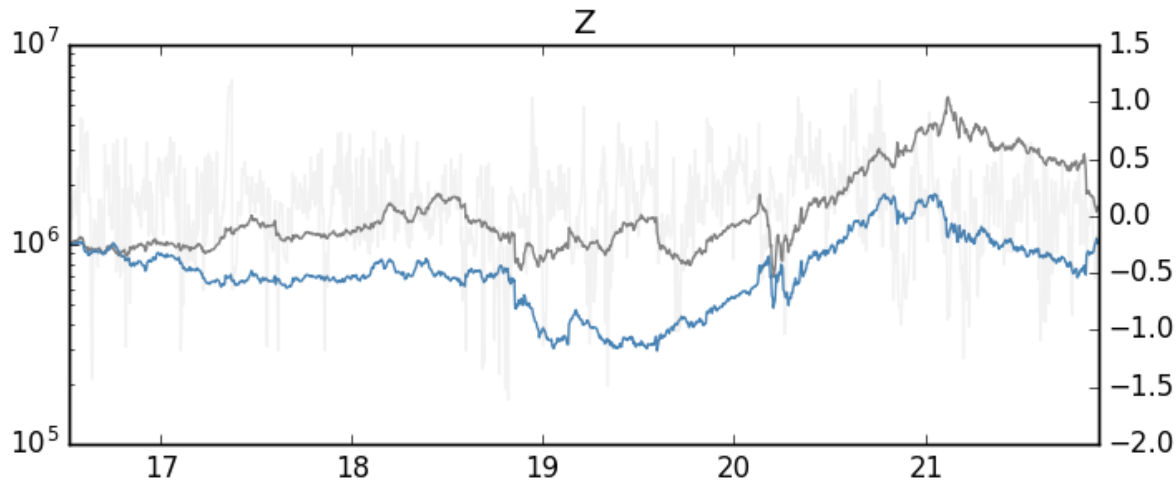
Ouch. *Brutal*. Jim takes our account balance from $1mm to $132k, while buy-and-hold ends up, at $1.5mm. Is there a way that we can use our mushy human brains to avert an 87% loss? Because if so that would be great.

Well, let's do the same thing, but for Zillow. Pull up the weather maps.



Easy. The "price-to-vol" map has the most clear demarcation between blue and red, and the colors are bold. There should be some easily-discerned signal here, just like with A.

So let's do the Zillow backtest again, except let's only use the PV_MEAN (price-to-vol mean) in the attached data.



Ending balance of $1.02mm! A world of difference.

Crisis [largely] averted!

Humans: 2
Robots: 0

Please take a minute to play with the data, if that's the sort of thing you like to do. There are lots of columns. Some may need some additional explanation, but being that we've only generated about five of these full data histories (and are in the arduous process of generating more), we're not prioritizing the documentation just yet.

Hopefully, in the meantime, you find appealing the idea of looking at the "weather maps" and gaining some real insight into the way a security trades. For our part, we're loving it, and we're looking forward to continuing to roll this out.

Enjoy the week!

The SqueezeMetrics Team