Title: Short On Options (Volume Too): The Dip Before the Rip
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Intro

I’ve been reading back through /u/Zinko83 and /u/MauerAstronaut’s original variance swap DD’s, and every time I go down that rabbit hole, the picture of what is going on with the share price of GME gets a million times clearer. In my original post about options [here](https://www.reddit.com/r/Superstonk/comments/rzaj2l/short_on_options_the_afterhours_iv_pump_and_the/), I purposefully tried to leave variance swaps out of it; I think the concept is confusing, and even though these guys did an awesome job laying everything out, some of the details flew over a lot of our heads (including my own). But the more I learn, the more I realize that these swaps are ***so fucking important.*** Even /u/Criand tried to get us to understand these things, but there were 2 problems:

1. Variance swaps sound complicated and a lot of us are confused about their role
2. Shorts ***REALLY*** don’t want options catching on again

We all know that shorts have been manipulating the price of GME; they’ve been doing it since the beginning of time. But starting a few weeks ago, it’s become more obvious that shorts are actively controlling the price with tons of “near the money,” high delta puts. /u/gherkinit has talked about it several times in his daily posts. But in case you don’t like pickles, here is the 5-day change in OI:

[Raw data from MarketChameleon - Strikes binned every $20 and expirations binned by month to give a condensed visual](https://preview.redd.it/ptdvdd8z5wd81.png?width=2776&format;=png&auto;=webp&s;=288086a96226ee0469336912bbc59aea22eae9f8)

We’ve been talking about unusual options activity since forever ago; DOOMPs, for example, aren’t some new concept. But as you can see from that picture we’ve recently been seeing “put walls” being set up like crazy. The good news is, these are mostly short-dated puts – a ton of these puppies expired last Friday but the ones they are still actively piling into are weeklies. You can see in the picture that most expire by February, but when I dig into the detail it's obvious that most of them are before 2/18 in particular. In my opinion, these puts are being used to slowly push the price down further and further rather than more shorting because ETF FTD’s are catching up to MMs, but more importantly because ***whoever is buying them knows that the price will run back up by the next 90-day cycle.***

That’s why they are buying so many that expire on 2/18 or earlier. They need a way to push the price down without digging their hole deeper than it already is, and puts are a simple choice for accomplishing this. /u/MauerAstronaut even posted last month about shorts pushing down the price to free up more strikes for their future hedging, and he seems to have been dead on, at least anecdotally. That post is here in case you missed it: https://www.reddit.com/r/Superstonk/comments/rg5z3z/the_dip_caused_an_update_in_gmes_option_series/

The more I wrap my brain around this stuff, I want to do all I can to get everyone here on the same page. ***SFH’s have been using puts to control the price specifically because of the mechanics of these variance swaps. Personally, I believe that they are going to HAVE to let it run back up soon (no later than the next 90-day cycle which starts \~February 22nd). MOASS would be ignited if retail builds a gamma ramp that extends past this timeframe. The further out the better.***

Since I know a lot of Apes struggle to grasp the idea of these variance swaps, I want to articulate the theory as simply as possible. And here’s the good news: ***I’m kind of stupid, which puts me in the unique position to explain what's going on.*** Personally, I believe the original DD-writers like /u/Zinko83 and /u/MauerAstronaut are right; these things are a huge key to understanding price action on GME. So here's my quick attempt to get us all up to speed.

[Crayons out: take notes, dummies.](https://preview.redd.it/3654zil67wd81.jpg?width=297&format;=pjpg&auto;=webp&s;=ffd6f2dc1e740217310e866d44f3955e2cbd8db4)

Variance Swaps For Dummies

A variance swap is, at the end of the day, a bet on volatility. Volatility squared, to be precise. The thing to understand is that the swap buyer is betting that the underlying will swing hard; they are long on volatility. The seller is betting that it won't swing hard; they are short on volatility . I think most of you reading this probably get that part, in all honesty.

Based on what we've witnessed in options chains, what was happening even before the sneeze, was that Market Makers were BUYING variance swaps (going long volatility), and SHF were SELLING variance swaps (going short volatility). But there are 2 things about this trade. First, Market Makers generally don't like to make bets, so they aren't looking to be long volatility. They prefer to pocket the difference between spreads, not make big bets on specific stock movements. But more importantly, ***the Market Maker was well aware of the SHF playbook,*** which would ultimately push volatility to zero. So they **CAN'T** be long volatility, or they will lose massive amounts of money. Therefore, they **always** hedge their long volatility exposure by selling (going short on) a replicating portfolio. This isn't really a theory anymore. It's a mathematical fact that can be proven out in GME's options chains, and I've even seen some mods here acknowledge this. Since there is zero transparency around swaps, it's possible (but unlikely, IMO) that the counterparties here are backwards or inaccurate, but the point is that somebody is hedging volatility, one way or the other. In case you need further proof, check out the open interest on GME options for these 2 expiration dates, as of last week:

[Data from MarketChameleon again - I inversed Put OI for an easy comparison against Call OI across strikes. Puts are orange, Calls are blue.](https://preview.redd.it/n5xki09n9wd81.png?width=2374&format;=png&auto;=webp&s;=d2b9b388194c37e09f417278c4bb97d1e348d6bd)

To dumb down the idea of the replicating portfolio, think of it this way. Volatility (and Variance) can theoretically go to infinity; there's no hard limit. So, if you are short variance, think about what happens under different scenarios. Specifically, if volatility bursts really high, you are going to be losing huge sums of money come maturity. So how do you hedge that? You need a bet that makes a massive amount of money to balance things out. Deep OTM options accomplish this – If the price of GME shoots to $1,000, your deep OTM call options are going to be massively profitable and are going to offset a lot of the losses of your short on volatility. And conversely, if the price of GME tanks to $0 very quickly, you need as many DOOMPS as possible to offset your losses there.

With MM's, since they are technically long on volatility, they hedge by ***SELLING*** the replicating portfolio. Probably to their Brazilian buddies if I had to guess, but who knows who owns these things. But here's the issue. Strike prices are limited, and like I mentioned before, volatility isn't. And remember; they aren't just trading volatility – they are trading volatility ***squared***. That number is going to climb to insane levels as volatility rises and at a certain point, their hedge isn't enough to offset their losses. This is the crux of their problem; even with their hedging, ***MMs are a teensy, weensy bit short gamma***. Gamma is the rate of change of delta based on one point of change on the underlying stock price, and that teensy weensy bit turns into an ***absolute fuck-ton*** if volatility gets high enough, In fact, at a certain point, it actually starts to approach ***infinity***. And this is why shorts absolutely, unequivocally ***CANNOT*** deal with a gamma squeeze. DRS is slowly chipping away at the NSCC's lendable shares, and is also reducing liquidity in general, so I'm very confident that clearing houses are concerned about that issue in the long-term. But in the near-term, ***a gamma ramp is the one thing that they fear most.***

MM Delta-Hedging; Dispelling the FUD

There is a ton of FUD and confusion that's been spread around about MMs delta-hedging, and we need to clear this up bigtime.

[I'm so sick of hearing this line lol](https://preview.redd.it/6klbcr3zawd81.jpg?width=541&format;=pjpg&auto;=webp&s;=7d2a07109be863603c22b734e49bfb7eb0722473)

It is ***absolutely correct*** that Market Makers don't ***always*** have to delta-hedge appropriately. In fact, I believe this is exactly what was happening leading up to the sneeze and part of the reason they needed to turn off the buy button. The entire options chain was going in the money, so volatility was going to be even more outrageous since MM's were insufficiently hedged. As I talked about in my last post, there gets to be a point where statistically a bunch of ITM call options are going to be exercised and brokers will be forced to deliver shares, and I believe that's where we stood back then, which was causing everyone to shit themselves.

But with this theory on variance swaps, the belief is that MM's are selling these slews of options that make up the replicating portfolios. And these **HAVE** to be delta-hedged before the maturity of the variance swap. If they aren't, the hedge to their variance swaps isn't maintained appropriately, and they become long on variance. They **HAVE** to maintain this hedge. Like I said before, if SHF win this war, volatility goes to zero. Market Makers ***CAN'T AFFORD*** to be long on volatility squared in this situation. If their entire scheme works out as intended and GME goes to zero, they'd be committing suicide being long on variance. They can't have their cake and eat it too. ***Either they stay neutral on variance, or they abandon the suppression of GME.***

I actually think this was a big part of their playbook to squeeze out as much profit as possible. They don't have to delta-hedge immediately – only by the time the variance swap matures. And they knew that SHF's would be knocking down the price slowly but surely over time, so why would you hedge now at the higher price rather than waiting until the last minute, when you know it will be cheaper? It's why the 90-day cycles can actually be seen before the sneeze even started – SHF's would sell the MM's a variance swap, MM's would sell a replicating portfolio out into the market, and then they'd wait until the last minute to delta-hedge, when the price of the underlying was as low as possible. Everyone wins as long as the SHF's plan is successful.

[Now take a deep breath, fellow smooth-brain](https://preview.redd.it/jrajv2vycwd81.jpg?width=284&format;=pjpg&auto;=webp&s;=7fcd1de44dba1a1325ef86a4a863e16abdf39a0d)

Back to the Options FUD

If you read that and understood at least some of it, congratulations – you now realize that ***SHF's are probably/definitely short volatility, and MM's are technically short Gamma***. Their last-minute delta-hedging explains the 90-day cycles, it explains the reason they need the price as low as possible right now, it explains why they are using a reverse gamma ramp to accomplish this, and it even explains why things were so dire for Citadel back during the sneeze. If you understand the basic mechanics of these variance swaps, you understand why GME runs every time the list of available option strikes shrinks. It's been a gradual a-ha moment for me, and it also explains why ***EVERY FUCKING TIME someone brings up options, it gets pushback and is in some cases mass downvoted/suppressed by bots.*** It explains the DD-writers' frustration that ***SO MANY FOLKS SEEM TO FIGHT THEM WITH FUD***, and it explains why the CFTC "temporarily" stopped requiring swaps reporting. It explains the suppression of GME on the OG degenerate sub. It even explains why, potentially the Chicago SEC twitter account is now tossing out the idea of halting trading. The one thing that a halt can accomplish is killing a short-dated gamma ramp. ***It explains almost everything you see.***

Slowly but surely, ***I AM DETERMINED TO KILL THIS GODDAMN ANTI-OPTIONS FUD***. DRS is the way, again and again and again and again. BUT. ***THE FACT IS, A GAMMA RAMP STARTS THE MOASS***. And yes, they might halt trading, but think about this; the further out the date of call options retail buys, the longer they must “halt trading” to stop the ramp. There is no way they can just halt it indefinitely. That’s why buying only far-dated expirations with as high delta as you can afford makes the most sense, in my opinion (obligatory NFA).

TLDR: FIGHT THE ANTI-OPTIONS FUD. DRS AND LONG-DATED CALL OPTIONS ARE NOT MUTUALLY EXCLUSIVE. SHORTS NEED RETAIL TO STAY OFF OF CALL OPTIONS AND HAVE SO FAR BEEN VERY SUCCESFUL IN THIS ENDEAVOR.

GME is my favorite stonk of all time. And that is why, like DFV, I’d like to be able to buy more of them later, even when the price goes vertical. As a sub, anytime someone mentions long-dated call options, we should be actively cheering along. Anyone who says otherwise is full of shit.