Title: A Deep-Dive into the Volumetric Information-Volatility of GME, Related Stocks, and ETF's
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[Link to the post which mathematically describes my indicator.](https://www.reddit.com/r/Superstonk/comments/ugzprm/charting_gmes_entropy_now_with_highlow_and_volume/)

Greetings fellow internet strangers!

This one is going to be a long one with several sections, so the way I'm going to format each section is: explanation first, then charts. With that, grab a beverage and some snacks and let's get going!

**Grossly-Terse TL;DR** \- Liquidity is not good in the stock market, and we are about to take a big roller-coaster ride. Clench factor high, but fear-factor low. Don't forget to make your voice heard based on how you invest!

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# 1: GME Short-Term Update

As if on-queue, we had another dip and bounce during the first two trading days of the week. The bounce happened at a higher high, and it looks like this week was a period of serious consolidation on the stock. Thursday and Friday look like an extended version of what happened on May 24th, which has me pretty pumped for next week.

It must be noted that we have one **ABSOLUTE UNIT** of an OPEX coming up soon, to the tune of $2T for the broader market, which is certainly going to be an inflection point for many stocks and ETFs. My personal prediction is that it is going to be like watching gladiatorial combat between the AP's and ETFs, and I'm excited as FUCK to watch it unfold. Because this is also when quarterly ETF rebalances (I'll get to this later) are happening, there is a very real risk presented to those who rely on the liquidity of ETF's for maintaining their positions/portfolios.

It looks like liquidity is still an issue on GME. My hypothesis is that what we are witnessing is a shift in priority for whomever may be on the hook for all of this. When liquidity in the broader market was doing well, authorized participants (AP's) were able to generate artificial liquidity on individual securities by shorting ETF's with relative ease due to the low volatility and therefore low risk associated with borrowing against your portfolio of assets. Now that market-volatility has picked up markedly, it has gotten harder for AP's to borrow against their portfolios, which can lead to a feedback loop that very-well could result in the melting of some bigger players' assets.

[GME 5-minute candles, 13-day timespan](https://preview.redd.it/fz8njp24f9591.png?width=1817&format;=png&auto;=webp&s;=cb5d09510076cedab2caf0cd3dca7967968fd820)

[GME 1-day candles, 8-month timespan](https://preview.redd.it/p4r6b6y5f9591.png?width=1818&format;=png&auto;=webp&s;=c752744a033a44858b732cc175488055e6524693)

# 2: 5-Year Micro-Basket Analysis

Based on the indicator, it looks like underlying securities of XRT have become less liquid over the past three years. This is temporarily resolved through the excessive borrowing of XRT shares (see XRT indicator chart in the next section to observe this borrowing), which can be inferred by the indicator's reversions to elevated levels, rather than consistently dropping off (see Wally World chart - FY2019, a period of high ETF liquidity).

The peaks and drop-offs you see in WMT are something found consistently among stocks that don't have a high short-interest as a percentage of the free float, i.e. they aren't heavily-manipulated stocks. If you look at that same period of FY2019 on AAPL, you will see that the indicator dropped off more steeply, followed by a flat period of equilibrium on the indicator, and much better price-recovery during that period.

[GME 1-day candles, 60-month timespan](https://preview.redd.it/6motvtl7f9591.png?width=1821&format;=png&auto;=webp&s;=e45ed997e79f5aae753408c1573ce7e558123c49)

[BBBY 1-day candles, 60-month timespan](https://preview.redd.it/lunq80b9f9591.png?width=1819&format;=png&auto;=webp&s;=4217c4b4f94f6e417976650d5a1d049be82d7c04)

[Shitcorn 1-day candles, 60-month timespan](https://preview.redd.it/bbxokx8bf9591.png?width=1819&format;=png&auto;=webp&s;=f0a185e23fa66ad3dcbe39c3a5e38b0a6d382b9f)

[WMT 1-day candles, 60-month timespan](https://preview.redd.it/hvtibxmcf9591.png?width=1815&format;=png&auto;=webp&s;=529f83f8ea2ec010f10fb498cb883be32a2b7400)

# 3: 5-Year ETF Analysis

Since the economy is still catshit wrapped in dogshit and the Fed is starting to be forced into the situation of tightening into and through a recession, market sentiment is deteriorating rapidly and more and more people aren't participating in the market. The effect of this is reduced buy-pressure on ETF's due to reduced investment by diversified traders into these funds. Because they aren't putting money (Assets) into the ETF, shares of that ETF aren't being created in order to maintain Net-Asset Value (NAV) every quarter during their quarterly rebalancing. This ultimately leads to higher ~~risks~~ costs associated with borrowing (shorting) these shares, as there are less of them available for the AP to use to cover obligations on the underlying securities. This problem is compounded further when there is also selling on the ETF, causing NAV and liquidity to fall off in tandem, which has the potential to create a feedback loop if uncontrolled.

Note that this effect also works in reverse, which is why market corrections are usually concluded with a very steep bounce in price, and a drop on the indicator back to equilibrium.

The following charts suggest that the amount of information known about this market correction is much smaller than it was in prior years, as can be seen by a lack of a sharp peak having formed on the indicator. Once a liquidity-catalyst presents itself, we will see another very steep peak, which will dwarf the one seen during the March crash. Once the sharp peak forms, the odds of a bounce are pretty good, but not definite. It takes that consistent decline back to significantly lower level for a bounce to be definitively confirmed by the indicator.

[SPY 1-day candles, 60-month timespan](https://preview.redd.it/fkchk0dgf9591.png?width=1823&format;=png&auto;=webp&s;=0e4d4526ef728735ca02607347c75be5a5e903c0)

[XRT 1-day candles, 60-month timespan](https://preview.redd.it/jcsxvsqhf9591.png?width=1821&format;=png&auto;=webp&s;=556f5fbeb735beb1a48b2de68243aad9bc5561eb)

[QQQ 1-day candles, 60-month timespan](https://preview.redd.it/097pm6tif9591.png?width=1817&format;=png&auto;=webp&s;=bc8c6c2fbe3327f55dd3a5004a43cede6c4923c4)

[DIA 1-day candles, 60-month timespan](https://preview.redd.it/fnvzxspjf9591.png?width=1823&format;=png&auto;=webp&s;=88af3c8d7830d9750070a4133801ffafbb8de812)

[IWM 1-day candles, 60-month timespan](https://preview.redd.it/b3w6ch7pf9591.png?width=1821&format;=png&auto;=webp&s;=ea212a9080186f98776db485b2948a45475ca8de)

# 4: Examining a Prior Crisis-Level Liquidity Event on ETFs and Securities

To broadly describe a market crash, I charted a broad-market ETF, a catalyst-specific sector ETF, two strong companies' stocks, and a weak company's stock (at the time) during the Great Financial Crisis of 2008 (GFC). The reason for doing this was that I wanted to present the differences in how the indicator behaves for each category.

As the GFC was approached, it can be seen that the indicators on the ETF's undergo a significant increase in information-volumetric volatility. Once the catalyst of the crash was realized ("banks r fuk"), you can see a very marked increase in rate of change of the indicator, until a sharp peak formed. There was a secondary peak formed after the first, which was only formed once the central banks and federal government got involved and started bailing everybody out (i.e. the "bounce-catalyst" was realized). This secondary peak was much lower than the primary peak, and turned over much faster than the first, which implies to me that this was where the liquidity issues in the ETFs were starting to be definitively resolved across the broader securities market.

Examining WMT and AAPL through the height of the GFC shows how the liquidity of an underlying security with strong fundamentals is more tame and quickly resolved because they are the first to be bought once market sentiment starts turning around.

Examining GME through the height of the GFC shows how the liquidity of an underlying security with weak fundamentals (AT THE TIME) is more slowly resolved, because they are some of the last stocks to recover investment interest.

Because ETFs are amalgamations of stocks both like AAPL and GME, the result you get on the ETF-side is a damped price-reaction to liquidity-resolution and less-defined periods of equilibrium.

[SPY 1-day candles, 60-month time spanning the GFC](https://preview.redd.it/4r7pfzbqf9591.png?width=1817&format;=png&auto;=webp&s;=98db59563919b942e57ab2f3a08334270330bc42)

[XLF 1-day candles, 60-month time spanning the GFC](https://preview.redd.it/rdr3vg0sf9591.png?width=1817&format;=png&auto;=webp&s;=090a6cae4e54999021a8b43418506bac1e2d56cd)

[WMT 1-day candles, 60-month time spanning the GFC](https://preview.redd.it/16ndq9gtf9591.png?width=1813&format;=png&auto;=webp&s;=1c963102f3199faac9f8d347193798d9363f362c)

[AAPL 1-day candles, 60-month time spanning the GFC](https://preview.redd.it/2fo26fquf9591.png?width=1819&format;=png&auto;=webp&s;=bbd92b41f0fc601f53009275923ea69cf46f7239)

[GME 1-day candles, 60-month time spanning the GFC](https://preview.redd.it/rk8ht0rvf9591.png?width=1817&format;=png&auto;=webp&s;=855d601c642d5a429d4afb74e96e740058cb219c)

# 5: Conclusion

When the market experiences a crisis-level liquidity event, AP's are fuk...

And it looks like AP's are soon to be fuk.

DORK out.