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To whom it may concern,

I have a thesis supported by evidence that systemically destabilizing risks currently exist in the US financial market. I am writing this open letter to call attention to these risks as the open exposure can result in catastrophic and uncontainable losses throughout the financial system. I have experience managing financial risk on an institutional level to give credibility to these claims. I am not a financial advisor. The rest of this letter will be describing a historical comparison to GME and certain dynamics of option trading in GME over the last two weeks. I will provide evidence substantiating my thesis and the supporting claims.

First, I would like to call attention to the history of Overstock (NASDAQ:OSTK). Similar to the recent trading in GME, over a decade ago OSTK was a heavily shorted stock with persistent failure to delivers (FTDs). OSTK was the target of manipulative and illegal short selling made possible by regulatory loopholes and abusive option trades known as "married puts" and "reverse conversions". Economist John Welborn of The Haverford Group published a detailed [study on Oct 9, 2007](https://www.deepcapture.com/wp-content/uploads/2007.10.09-J-Welborn-Married-Puts-and-Reverse-Conversions.pdf) highlighting abuses of exceptions to SEC Reg SHO where deceptive trading deemed as bona-fide by market makers enabled "naked", unborrowed shorting of OSTK. Evidence is provided showing market makers engaged in non bona-fide speculation leaving open position exposure. This was made possible through married puts and reverse conversion trades. The study describes these trades as the following -

>" *In a married put, a short seller purchases put options from an options market maker who then \[naked\] shorts the same amount of stock back to the short seller as a hedge. If the stock sold is not a threshold security, then the options market maker may fail and never deliver. A married put can be disguised as a market-neutral reverse conversion."*

Over the last year, the trading in GME stock has had many similarities to the trading activity in OSTK between 2004-2007. These similarities include large and persistent FTDs, high short interest, and suspicious option trading likely tied to married put and reverse conversion trades. For instance, after Robinhood and other brokers took unprecedented action in January to restrict their customers ability to buy GME and other equities, public documents from class action lawsuits show GME had short interest as a percentage of float as [high as 226.42%](https://www.rosenlegal.com/media/casestudy/2289_Robinhood%20-%20Initial%20Complaint%20-%20Market%20Manipulation%204835-8623-1514%20v.2.pdf) on Jan 15, 2021.

There are still more questions than answers around the events of late January 2021, especially after recordings of [Robinhood's Vlad Tenev](https://www.youtube.com/watch?v=aicDIMtVld8) surfaced contradicting what he said under oath to Congress in February 2021. While payment for order flow has come under scrutiny, nothing has addressed the conflicts of interest or suspicions of collusion caused by Robinhood's relationship with Citadel. The [59 Regulatory Disclosures](https://files.brokercheck.finra.org/firm/firm_116797.pdf) Citadel has received have not prevented Ken Griffin's empire from monopolizing order flow as 27% of the trades for every listed security in US markets are executed by Citadel's Market Making division. Citadel, along with Point 72 - The hedge fund led by billionaire and convicted financial **NON**criminal Steve Cohen - absorbed Melvin Capital's

short GME exposure after a $2.75 Billion investment saved Melvin from failure. The history of Citadel and Point 72 shows these firms are willing to bend, and out right break the rules, and it's concerning nothing has been said to ease the public's fears that these firms colluded with Robinhood to pull the greatest market manipulation of all time, especially given the very large financial motivation they had to do so.

In addition to high short interest, there are many other aspects of GME that run parallel to OSTK, such as persistent failures to deliver (FTD's) making GME appear on the threshold security list. While FTD's of GME stock began declining after Q1, large and persistent fails returned in August. On 8/5/21, more than half the daily trading volume on GME failed to deliver, totaling 1,316,894 FTDs. The next day, FTD's dropped by 1 million to 315,331, yet total volume for 8/6/21 on GME was only 1,348,100, and 47% of that volume was reported short. I am unable to reconcile this. After 5 days of persistent fails, GME returned to the threshold security list on 8/10.

Over the last 2 weeks, volatility has increased in the GME stock, and the $45 price increase on 8/24/21 required significant option related exposure rebalancing. While large price changes occurred in the GME option chains on 8/24/21 as thousands of strike prices became in the money, large delta and gamma exposure remained open and unhedged. After 8/24, volatility began to dampen, but delta and gamma exposure remained elevated relative to the neutral level based on the GME stock price. The days leading into the 8/27 option expiration would expect to have either increased buying volume of the GME stock, increased short covering of call options, increased long accumulation of call options, increased short selling of put options, increased long liquidation of put options, or some combination of these tactics. To help visualize the delta and gamma neutral levels of GME, please reference the chart below -

[Chart of GME and Corresponding Delta Neutral, Gamma Neutral, and Gamma Maximum Prices Represented Across all GME Option Chains - Credit to u\/yelyah2](https://preview.redd.it/89zxfwfa6zl71.png?width=910&format;=png&auto;=webp&s;=41d4da2522e15aa57681257c839398ecae6d7828)

Key Concepts -

* Delta Neutral (DN) - represents the underlying price that would create a total market delta of 0 across all options (all expiration dates). Delta represents the expected price change of an option contract relative to the underlying stock's price change.
* Gamma Neutral (GN) - represents the underlying price that would create a total market gamma of 0 across all options (all expiration dates). Gamma represents the expected change in the delta of an option relative to the underlying stock's price change.
* Gamma Maximum (GM) - represents the underlying price that would create the maximum gamma across all options (all expiration dates). A GM well above the underlying stock price indicates market makers have more bearish option exposure, and a quick rise above this point typically results is option exposure rebalancing to neutralize the bearish exposure and hedge against further upward price movements.
* Spikes in volatility are typically followed by periods of consolidation as shareholders and traders reposition exposure, both long and short. Afterwards, the price reverts back to a longer term average or continues to move in the same direction as the preceding volatility spike.
* Market makers use periods of consolidation to rebalance open delta and gamma exposure through buying or selling the underlying stock and options.
* Since market makers write both call and put options, a delta imbalance on an expiring chain indicates they need to deliver more shares of the underlying stock from writing ITM (in the money) calls than they are receiving from writing ITM puts. This is due to expiring option delta hitting 1 for all ITM options and 0 for all OTM (out of the money) options at expiration.
* Open option positions that are ITM at expiration are exercised. Each exercised option contract represents a 100 share delivery settled T+2 days after expiration.
* Stock prices can remain elevated relative to delta neutral levels in the option chains for extended periods of time as market makers may decide to carry elevated risks and hedge delta exposure as needed by purchasing only the required shares for delivery after options are exercised.

The key concepts listed above are not all inclusive, and due to asymmetric information available to the public, it is impossible to know with absolute certainty where a market makers total exposure settles as other derivatives besides options can be used to offset exposure and hedge positions - such as total return swaps or ETF positions. However, these concepts do give an indication of things to expect in the near term, and the exposure rebalancing should ultimately leave evidence in the trading tape of the stock and options. This ties back to the rules and regulations in place requiring market makers to engage in bona-fide market making activity, and is highlighted by Welborn's [publication from Oct 9, 2007](https://www.deepcapture.com/wp-content/uploads/2007.10.09-J-Welborn-Married-Puts-and-Reverse-Conversions.pdf) referenced earlier, noting that:

>"*Bona-fide market making does not include activity that is related to speculative selling strategies or investment purposes of the broker-dealer and is disproportionate to the usual market making patterns or practices of the broker-dealer in that security. In addition, where a market maker posts continually at or near the best offer, but does not also post at or near the best bid, the market maker's activities would not generally qualify as bona-fide market making for purposes of the exception. Further, bona-fide market making does not include transactions whereby a market maker enters into an arrangement with another broker-dealer or customer in an attempt to use the market maker's exception for the purpose of avoiding compliance with Rule 203(b)(1) by the other broker-dealer or customer*.*20* *(Emphasis added.)"*

While the asymmetric information described earlier could dampen these concerns if other derivatives offset the short exposure, there is growing concern the opposite is true, as other derivative(s) held by these firm(s) may also create short exposure to the GME stock. There is statistical evidence many "meme" stocks have likely been packaged and collateralized to create derivatives of portfolio swaps, or baskets of equity total return swaps. Year to date, correlated movements of certain securities across multiple unrelated industries have persisted without any fundamental reason. These correlations relative to GME price movements become stronger when taken as an average, rather than viewed as singular relationships, further supporting the thesis these securities have been bundled into opaque derivative products. It is nearly impossible this statistical anomaly is by chance or coincidence. The data is shown below -

[YTD Correlation Matrix of Stocks with Unrelated Businesses and Industries](https://preview.redd.it/h48lotmd6zl71.png?width=449&format;=png&auto;=webp&s;=3c536300d0c48ac571eaaa30d187e247160d9401)

[GME daily VWAP changes has much stronger correlation \(83%\) to an equal weighted basket of \\"meme\\" stocks than any single stock correlation](https://preview.redd.it/u9gyvr4h6zl71.png?width=842&format;=png&auto;=webp&s;=8109383b8e6e1d67aab9792de03a84362a3a2b73)

With the concepts described above and bona-fide trading defined, reconciling the trading data after 8/25 unveils suspicious trading activity and dire concerns over how that trading activity creates systemically destabilizing risks. I will walk through this reconciliation process to provide evidence of market manipulation tied to married option trades similar to those described in the study of OSTK. ***My dire concerns are raised as evidence suggests instead of using "married puts" for manipulation that expose bad actors to downside risks capped by the put premium paid, "married covered calls" are being used to provide bad actors with the same "bullets" to drive down the GME stock price, while leaving bad actors exposed to asymmetric risks with unlimited downside due to naked short exposures in OTM calls.*** In the near term, these concerns are significantly elevated due to Gamestop's scheduled earnings release on 9/8. The GME earnings announcements in 2021 have been precursors to volatile stock movements, and on average the price has moved more than 30% after news becomes public. A sharp move higher in GME stock price can make naked short call positions quickly turn into 100-1 leveraged short exposure that has the potential to cause uncontainable losses beyond the short exposed firm(s) ability to cover, introducing

systemic risks to all counterparties of the firm(s) with this short exposure.

By reconciling the trade activity, on 8/27 the first glaring anomaly occurred, and began raising suspicions non-bona-fide trades were being executed to manipulate the GME stock price lower. In anticipation of the upcoming earnings release, volatility and exposure rebalancing is expected, especially after the $45 price increase on 8/24. However, market makers still have open delta and gamma exposure, and bona-fide trading would result in increased buying of GME stock and/or buying call options to close short positions or accumulate long positions. Traders and investors with long exposure may want to lighten long exposure by selling some GME stock or opening option based hedges through covered call writing or put buying. Short sellers have not materially changed the amount of shares borrowed, either due to lack of supply or unwillingness to increase short exposure, as shown in the graph below -

[Graph from https:\/\/iborrowdesk.com\/report\/GME - Far Left Green Axis\/Bars = GME Volume; Left Blue Axis\/Bars = GME Shares Available to Borrow; Dark Green Bars indicate overlapping volume\/available shares to borrow; Right Axis\/Black Line = GME Share Price; Net shares borrowed from 8\/26-9\/3 = 100k-15k = 85k borrowed shares](https://preview.redd.it/g8b6g3fk6zl71.png?width=1141&format;=png&auto;=webp&s;=4a40f5910ea1c93f9464710dce0406c93ed7de19)

Taking a detailed look at the 8/27/21 GME trades by volume and comparing those trades to the near dated option chain trades reveals a dynamic I have never witnessed. The option chains indicate no material changes were made with put options, however a significant portion of the days option trades were opening new short positions in call options. This would typically be viewed as covered call writing, and would indicate institutional investors have decided to hedge long exposure by writing covered calls instead of purchasing put options or reducing overall exposure by selling a portion of the underlying stock. This can be seen in the technical analysis of implied volatility (IV) and overall open interest changes as OI increases while IV decreases. A snapshot of the 8/27 option trades are below the descriptions of the four main technical indicator descriptions [provided HERE](https://marketchameleon.com/Overview/GME/OpenInterestTrends/) \-

* **Long Liquidation** happens when there is a decrease in open interest along with a decrease in implied volatility, indicating that traders are trying to sell out of their long positions in the option.
* **Long Buildup** is an increase in open interest along with an increase in implied volatility, indicating that traders are adding to long positions in the option.
* **Short Buildup** is an increase in open interest but a decrease in implied volatility, suggesting that traders are selling more contracts on short positions in the option.
* **Short Covering** is a decrease in open interest but an increase in implied volatility, suggesting that traders are buying back to cover short positions in the option.

[8\/27\/21 GME Options in the Nearest to Expiration Chains Only Have Short Buildups](https://preview.redd.it/nbuurido6zl71.png?width=1404&format;=png&auto;=webp&s;=69d06e2977bc28e2132f7eca1806b813e1b02034)

The following descriptions of the different types of trade volume I have analyzed are also needed to understand the next section and graph of 8/27/21 GME trading -

* **Intermarket Sweep Order (ISO)** is considered an aggressive marketable order that seeks immediate execution by sweeping the top of book of the lit exchanges. The ISO order can be an indication that a market participant is aggressively taking liquidity in a certain direction, and primarily used by institutional trades more concerned with filling an order quickly than filling an order at an optimal price over a longer time period.
* **Odd Lot Order** is an order for less than a round lot of 100 shares in GME. Increased retail trading interest in a stock typically shows increases in odd lot volume as retail investors do not always have the capital available to trade in full round lot sizes. Since Feb 2021, GME has also seen increased volumes of

trades in dark pools- both ATS (Alternative Trade System) and non-ATS such as Citadel Connect, a single dealer platform (SDP). These trades outside of lit exchanges have averaged between 40-60 shares for the last 6 months, making the average dark pool trade an odd lot trade.
* **TRF Volume** is the volume reported to the consolidated tape, and should reflect all trading volume for the day. Odd lot volumes are included here, although odd lot trades do not impact the NBBO (National Best Bid and Offer). Dark pool volume is required to be reported to the TRF within 10 seconds of execution.

[Rolling net balance of various trade volumes shown on left hand axis, where volumes associated with increases in VWAP are added to the running balance and decreases in VWAP are subtracted. This reflects buying at the ask or selling at the bid. The VWAP of each minute of the trading day after 9:30 AM EST market open is plotted on the RH axis and follows the volume flow of 8\/27\/21.](https://preview.redd.it/hnxrlq0r6zl71.png?width=1404&format;=png&auto;=webp&s;=76cdcc4f62c8704c057ee76e3bc5eb1d26d855d7)

While odd lot orders can signify retail trading, they have also increased market wide as daily volumes in dark pools have captured more share of overall market activity. This is a result of market makers and other institutions using odd lot orders to find out where prices within the NBBO and dark pools have buyers and sellers, without impacting the overall NBBO. Periods of increased odd lot trading and sweep trading on the same side of the bid or ask show this dynamic, as odd lots help determine price and market depth within the dark pool, followed by sweep trades that hit all remaining dark pool bids or asks as well as the bid or ask at NBBO and further down the order book. This combination of odd lot and sweep volume increases lead to the largest intraday swings of a stock price on any given day, and reflected in the final hours of 8/27/21 GME trade. The final hours of GME trading on 8/27/21 are also the most concerning and raise the most suspicion of potential manipulation. I am unable to reconcile how the trading volume was bona-fide -

* There were no material changes in borrowed shares, ruling out the possibility of new shorts.
* Market makers net delta and gamma exposure balances remained well below the GME stock price, ruling out bona-fide position rebalancing.
* Aggressive call writing/short accumulation in the near dated OTM option chains rules out institutional selling to reduce long exposure, as long exposure reduction would have either covered call writing or stock selling, not both.
* The overall net buying represented by total TRF trades indicates there were more buyers than sellers on the day, yet institutional selling seemed to outweigh institutional buying. The institutional selling pressure of the last few hours on 8/27/21 is very similar to selling pressure non bona-fide "married puts" caused in OSTK over a decade ago. There was not a bona-fide reason for the large increase in institutional selling in the final hours of 8/27/21.
* Adding to suspicions of non bona-fide trading is the VaR impact caused by option expiration. Buying a stock and writing covered calls against that purchase can give the appearance of a bona-fide trade, just as a "married put" trade can appear legitimate at first. However, a trade is not bona-fide if the intent of the purchased stock is to provide "bullets" to later sell large amounts of stock to drive the price down while keeping open short option exposure. As the 8/27 options expired, any OTM short call exposure on the 8/27 chain disappears. The risk exposure of the 8/27 OTM short call position will not be included in future counterparty VaR or credit limits due to the expiration. This dynamic effectively conceals true counterparty risk exposure caused by the open short positions in OTM calls throughout the final hours of the day.

The same option trading patterns from 8/27 were present throughout last week from 8/30-9/3. This adds further concerns over increased moral hazard risks as a positive outcome from using systemically destabilizing risk exposure creates behavioral changes and increased confidence the trade will work again in the future. See images below -

[Significant short buildups in near dated OTM GME 9\/3\/21 calls on 8\/30\/21](https://preview.redd.it/pn1vf8yu6zl71.png?width=1642&format;=png&auto;=webp&s;=80e26fdab837471c2ec7ef9858be95692b3ccfca)

[Some diversification of order flow finally appeared on 9\/2 in GME's 9\/3 option chain](https://preview.redd.it/khicq4hx6zl71.png?width=1591&format;=png&auto;=webp&s;=6c804f9bbc2932404a3514a3d879890cd6cdebb8)

[But remained one sided on 9\/2 in the 9\/10 GME option chain](https://preview.redd.it/r5y9hyr07zl71.png?width=1598&format;=png&auto;=webp&s;=c97a92b0a7ffd1515d2acfc01a34f474fc41d912)

On 9/3/21, all the dynamics surrounding what would make a bona-fide institutional trade remained the same as 8/27/21. However, the magnitude of the institutional selling pressure increased, leaving the net balance of institutional trade much greater on the sell side than the buy side, while overall TRF trading ended with slightly more selling than buying (\~30k shares net sold). Please see chart below -

[Rolling net balance of various trade volumes shown on left hand axis, where volumes associated with increases in VWAP are added to the running balance and decreases in VWAP are subtracted. This reflects buying at the ask or selling at the bid. The VWAP of each minute of the trading day after 9:30 AM EST market open is plotted on the RH axis and follows the volume flow of 9\/3\/21.](https://preview.redd.it/rgn79mda7zl71.png?width=1403&format;=png&auto;=webp&s;=4f754e921e4343be5968be2ba6492b627c0cb980)

While two weeks of analysis does not yet provide enough data to validate a new trend, the data supports the concerns of moral hazard risk growing week over week, as the success of this tactic on 8/27 seemed to increase the commitment of the bad actors on 9/3. If the recent success of this manipulative strategy has in fact emboldened bad actors to try it again with even more capital dedicated to the scheme, things could unravel quickly if GME earnings release on 9/8 causes the price to rise the same percentage as the moves following the previous earnings releases this year. The tactic of using "married covered calls" instead of "married puts" seems to be a new dynamic and likely not properly accounted for in counterparty VaR and credit modeling because the outsized asymmetric risks associated with holding naked unhedged short call exposure is likely unfathomable to most financial professionals that a counterparty would take such high risk, low profit bets. In addition, option exposure VaR modeling I am familiar with has not historically been robust enough to capture day of expiration naked short call exposure, leaving room for bad actors to exploit asymmetric information on their positions relative to counterparty expectations.

I urge those whom find this open letter concerning or invalid to participate in the discussion by leaving comments. I welcome all data supported criticism. I will be filing a formal complaint to the SEC regarding the information within this letter, and I hope it finds the eyes of the regulators before it is too late. While I agree with Gary Gensler's recent focus on protecting retail investors from gamification, such as confetti being shown after trading on certain apps, I fear this attention is using the limited man hours and resources regulators have while larger issues remain unaddressed. Namely, the systemic risks described above, the concerns regarding monopolization of order flows, and the rise of dark pool trading and potential abuses. In my humble opinion, these issues should be taking precedence. Citadel is the designated market maker for GME, so while there is a chance they have not engaged in wrongdoings, it is highly unlikely the trading activity from bad actors did not flow through Citadel's market making arm. The short GME exposure Citadel, along with Point 72, gained from the Melvin Capital investment in January, combined with these firm's history of wrong doings and outright financial crimes in the case of Steve Cohen led firms, adds plausible reasons to suspect they are involved in the current malicious and manipulative trading patterns in GME. Additionally, there is clear financial motivation for these particular firms to engage in collusion to manipulate the share price of GME lower.

Sincerely,

[u/myplayprofile](https://www.reddit.com/u/myplayprofile/)

Author's Disclaimer - I use the information provided in this letter along with other personal experiences and analysis to guide my own financial decision. This includes investing in stocks and trading options. I like to invest in stocks with little to no debt that have predictable revenue streams and proven leaders dedicated to finding innovative ways to grow the business in the future. Gamestop/GME has met those standards and I am a shareholder. I am not a financial advisor, nothing I write should be taken as financial advice.

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Author's Edit 1 \- I mistakenly claimed Steve Cohen was criminally convicted. I was confused, because it wasn't Cohen that was criminally charged, it was just his firm that pled guilty to criminal indictment. u/taimpeng has provided the following [article from the LA Times](https://www.latimes.com/entertainment-arts/business/story/2020-09-02/controversial-hedge-fund-billionaire-steven-cohen-takes-on-hollywood) stating the following -

>In 2013 Cohen’s once-powerful firm, SAC Capital Advisors, pleaded guilty to a criminal indictment and paid a record $1.8-billion settlement.

>In a civil settlement with federal regulators in 2016 Cohen, who was not criminally charged, was barred for two years from managing outside funds.

I will make an edit to my letter to include ****NON**** in front of all references to Steve Cohen's "criminal conviction".