

Title: The Black Swan Event Through the Lens of Options Activity and Other Data Points (Part One)

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****Notes:****

* Time Period Analyzed: 11/27/2020 to 2/19/2021

* Options data was pulled from contracts that had expiration dates from January 8th until February 19th, 2021.

****Disclaimers and Constraints:****

* This information does not constitute financial advice.

* The information used in these analyses was extracted from chartexchange.com and is available to the public.

* The total amount of calls and puts for the period analyzed is understated: there is volume for calls and puts that were purchased and held (open interest) for contract expiration dates later than February 19th 2021. This statement is especially true for out of the money puts that were purchased on January 26th, 27th, and 28th of 2021 for contracts that expired after February 19th 2021. This part of the analysis will be conducted in a separate post as it brings to light an important phenomenon that did not happen prior to the black swan event - the abundant purchasing of OOTM puts at < \$5 strike prices.

[**Daily High Stock Price vs Max Option Strike**](https://docs.google.com/spreadsheets/d/e/2PACX-1vTWcAfvXsB5M-cLw2_y5Xdy4MyyVYoYXp27XgLI7YGglu7E8zAkPPEHTyi4WDrzWu5npWitJ6k80VN/pubchart?oid=788511918&format=interactive)

Notable Dates on This Graph:

* 1/13/2021: The stock price nearly doubles (+89.46%) but market makers only increased the max strike by 25% (from 40 to 50). At this point, the daily high was 77% of the max strike price, which was unprecedented for the time period analyzed up to that point. This date is also important as the daily stock volume increased almost 20x (1946%) along with a massive increase in call volume (+1065.87%) and put volume (+1845.14%) respectively.

* 1/22/2021: The daily high of the stock price (\$76.76) passes the maximum strike of 75, thereby making every single call on that date in the money (ITM) for a short period of time. In premarket on 1/25/2021, the price pushed to \$136.

* 1/25/2021: The daily high of the stock price (\$159.18) once again passes the now doubled maximum strike of 150, once again making every single call on that date ITM for a short period of time and later that day the price is promptly shut down to 50% of the maximum price to a low of \$75.51.

* No other dates observed does the daily high stock price pass the maximum strike price, but there were close attempts on 1/26/2021 and 1/27/2021.

* On 1/29/2021, market makers set the options strike price to its maximum of 800 for options out for the remainder of the time period analyzed.

[**Options Call Volume and Options Put Volume**](https://docs.google.com/spreadsheets/d/e/2PACX-1vTWcAfvXsB5M-cLw2_y5Xdy4MyyVYoYXp27XgLI7YGglu7E8zAkPPEHTyi4WDrzWu5npWitJ6k80VN/pubchart?oid=1838106191&format=interactive)

Notable Dates on This Graph:

* Highest Call Volume: 1/22/2021 (909,500)

* Highest Put Volume: 1/22/2021 (968,102)

[**Ratio Volume of Calls vs. Puts**](https://docs.google.com/spreadsheets/d/e/2PACX-1vTWcAfvXsB5M-cLw2_y5Xdy4MyyVYoYXp27XgLI7YGglu7E8zAkPPEHTyi4WDrzWu5npWlTj6k80VN/pubchart?oid=1149290022&format=interactive)

Notable Dates on This Graph:

- * Highest % Ratio of Puts:
- * 12/11/20 (79.54% of total volume was puts)
- * 1/27/21 (73.26% of total volume was puts)
- * Highest % Ratio of Calls:
- * 12/2/2020 (82.58% of total volume was calls)
- * 1/11/2021 (76.77% of total volume was calls)

In the news:

So, something significant happened on January 13th. [Here is a video of Keith Gill's input on the market forces driving that volume and other insights at the end of that day](https://www.youtube.com/watch?v=_UhhgpNFKPQ). Note this was the first day that the stock hit nine digit volume and was up 20x volume from the previous day (January 12th).

A common reason why the buy volume behavior increased significantly on January 13th:

- * Subscribers of HedgeEye saw GME newly added to the "investing long" bucket.
- * Ryan Cohen had only just been recently announced as heading the GME ship and the market may have finally gotten a chance to fully digest that information.
- * News sources started using the "short squeeze" language and (speculation: >!momentum traders likely dogpiled in hoping to swing trade the stock!<). The first instance of "short" language appeared on January 13th [via a Bloomberg article](https://www.bloomberg.com/news/articles/2021-01-13/heavily-shorted-game-stop-soars-most-ever-as-day-traders-circle).
- * This is the same day that Keith Gill posted his first famous green GME YOLO update on reddit. He posted a green GME YOLO update two days prior, but it wasn't met with nearly as much visibility.
- * Other search results for the week leading up to Jan 13 (but not Jan 13 inclusive) with the search phrase "GME" are scant (only one page of search results for Jan 5th to Jan 12th via the wayback machine). Although in the other subreddit, people were already calling the squeeze on Jan 12th.