

Managing Risk in Tesla using r/WallStreetBets data

Predicting volatility events based on the daily discussion within the online forum.

Alpha Provider: Quiver Quantitative

Company Overview: A retail investment platform and data provider focused on democratizing alternative data for all.

Highlighted Dataset: r/WallStreetBets daily discussion sentiment and summary statistics on \$TSLA.



QUIVER QUANTITATIVE

<https://www.quiverquant.com/>

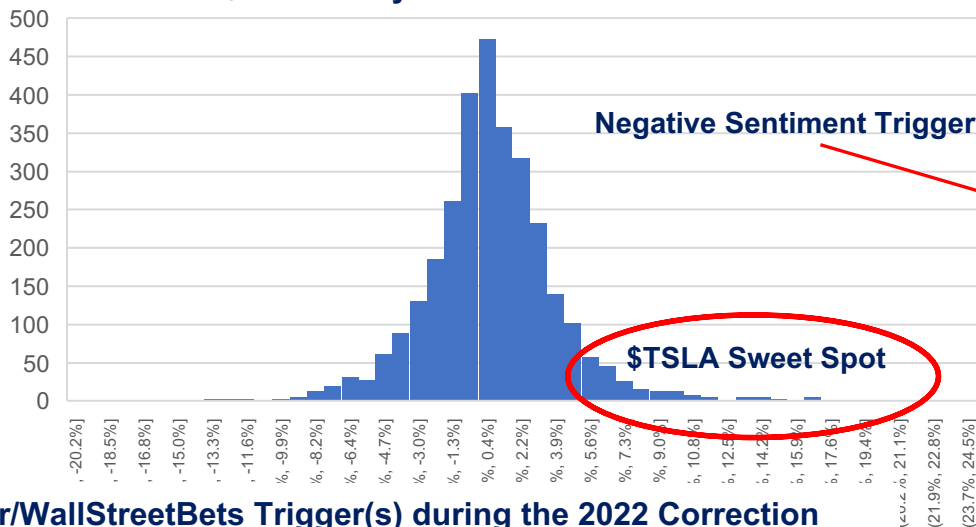
The Tesla Conundrum: Everyone “mis-owns” Tesla in a deteriorating macro and fundamental backdrop.

The larger Tesla gets, it becomes increasingly de-risked, breaking the underlying thesis of the \$TSLAQ faction that plagued the stock for so many years. After what could be considered from a relative market cap standpoint the most epic short squeeze of all time, Tesla still boasts a \$700+ billion market capitalization even as the Chinese auto market weakens and Mo’ Town steps up the press with competitive EV offerings.

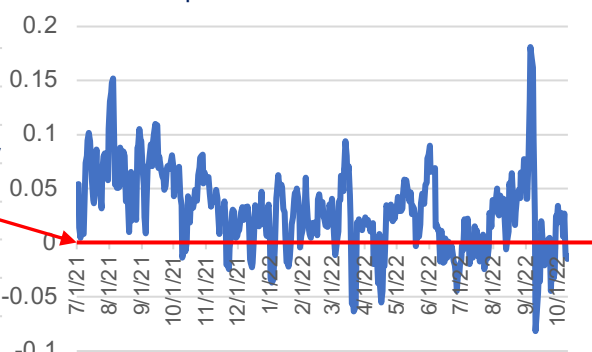
After analyzing Tesla’s price history, we identified 187 trading days (~6% of TSLA’s trading history) where Tesla shares rose by greater than 5%. An investor owning Tesla only on these trading days would have returns 25,000 times higher than owning Tesla outright. Taking into account this “fat” right tail of Tesla’s daily return distribution, Volos designed a strategy using options that would provide investors with direct exposure to upside participation in Tesla on the days that Elon Musk is accumulating the most wealth while simultaneously seeking to protect an investor’s downside.

Following initial strategy development, Volos began testing Quiver Quantitative’s daily discussion data on Tesla and found a significant performance boost when using signals derived from Quiver’s data to drive the options strategy.

Distribution of \$TSLA Daily Returns



r/WallStreetBets \$TSLA Discussion Sentiment



Signal Summary

Volos and Quiver designed a risk signal for Tesla that is designed to trigger when r/WallStreetBets discussion indicates an adverse volatility event is or is about to occur in Tesla’s stock.

The signal triggers when:

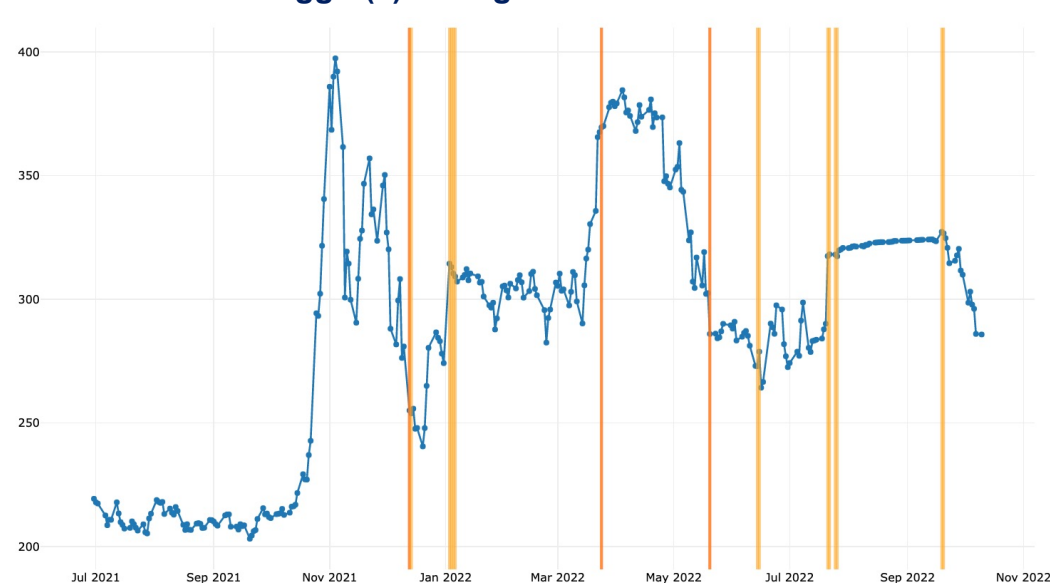
1. Daily Discussion of \$TSLA on r/WSB increases sharply.
2. The Sentiment of the \$TSLA discussion is negative.

Strategy Rules

Using [Volos’ Strategy Engine](#), a no-code options back-testing web application, we designed a risk managed Tesla options strategy that:

1. Generates income through selling a [Short Put Spread](#) (SPS).
2. Uses the proceeds of the SPS to purchase out of the money call options.
3. Takes defensive measures when the r/WSB Tesla Risk Signal Triggers.

r/WallStreetBets Trigger(s) during the 2022 Correction



Source: Volos, Quiver Quantitative, OptionMetrics

Historical and simulated index performance is not necessarily indicative of future results. These products do not offer investment advice. The company is not an investment advisor. The company accepts no responsibility whatsoever for any loss or damage of any kind arising out of the use of all or any part of the company products and the information contained therein.

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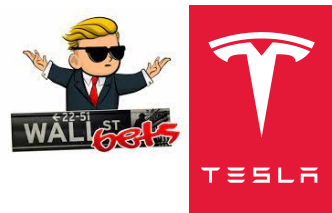
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Results

- Initial findings indicate that incorporating r/WallStreetBets Daily Discussion data as a novel social sentiment and risk indicator may yield alpha in the dataset's ability to identify sharp changes in forward volatility at the stock and market level.
- Volos originally focused efforts on building strategies using r/WallStreetBets data post-Gamestop viewing it as a measure of whether retail driven hyper-volatility events were efficiently priced into options data which might prevented us from extracting alpha from the signal.
- Employing opportunistic evasive measures when the r/WSB Tesla Risk Signal Triggers appears to be highly effective in terms of capital preservation during highly uncertain market moments for Tesla. These derived signals have potential wide applications across stocks, market indices, and asset classes.

Summary of Performance ([View Interactive](#))

Invest in r/WSB Risk-Managed Tesla

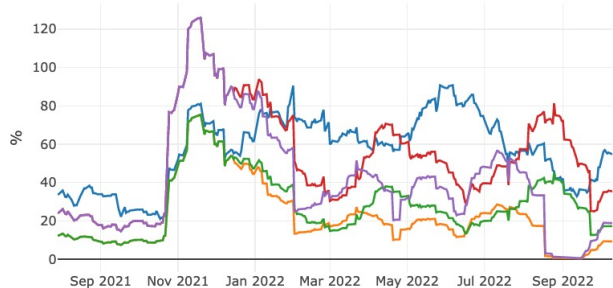


Total Returns



— Long Tesla
— 3-month Risk Managed Tesla (w/ WSB Trigger)
— 3-month Risk Managed Tesla
— 3-month Risk Managed Tesla (Levered)
— 3-month Risk Managed Tesla (Levered w/ WSB Trigger)

30 Day Volatility

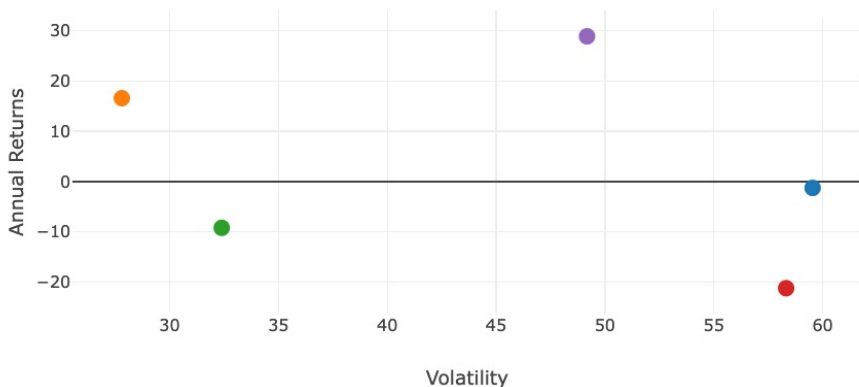


Analyzing the Efficient Frontier

Max Drawdown



Efficient Frontier



Source: Volos, Quiver Quantitative, OptionMetrics

About Volos: Allocators, investment managers, and advisors use [Volos' Strategy Engine](#), to tailor options programs to meet their organization or end client's investment objective. **Volos' Strategy Engine** enables the design of both simple passive and sophisticated active options strategies. Please email jeff.corrado@volossoftware.com to learn more on our enterprise solution.