Analysis of Trader Behaviour vs. Market Sentiment

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1. Executive Summary

This report examines historical trading data from Hyperliquid and the Bitcoin Fear & Greed Index to see how trader behaviour connects with market sentiment. The analysis shows that while "Fear" generates the highest trading volume, "Greed" is linked to the highest average profits.

Key Findings:

- Greed is Most Profitable: Traders make the highest average profit per trade during "Greed" periods. This suggests they effectively capitalize on positive market trends.
- Fear Drives Volume, Not Just Panic: "Fear" days have nearly double the trading volume of other conditions, and they rank as the second-most profitable periods. This shows that volatile conditions create significant opportunities, not just losses.
- Extreme Greed as a Warning Sign: The lowest profitability outside of "Neutral" conditions appears during "Extreme Greed." This may point to a market peak, where latecomers are likely to incur losses.

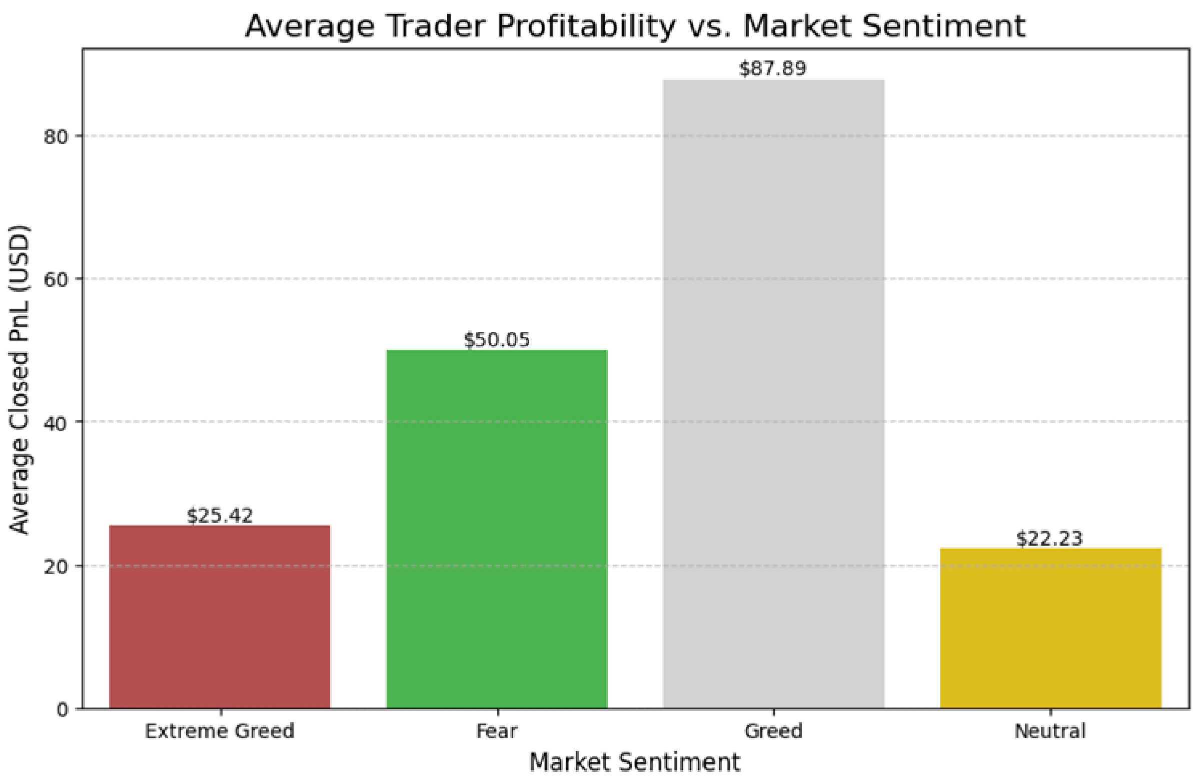
2. Introduction & Objective

The goal of this analysis is to explore how important trading behaviours, specifically profitability, volume, and risk, compare with current market sentiment. By identifying patterns in this relationship, we aim to uncover insights for better, data-driven trading strategies.

3. Analysis and Findings

3.1 Profitability vs. Sentiment

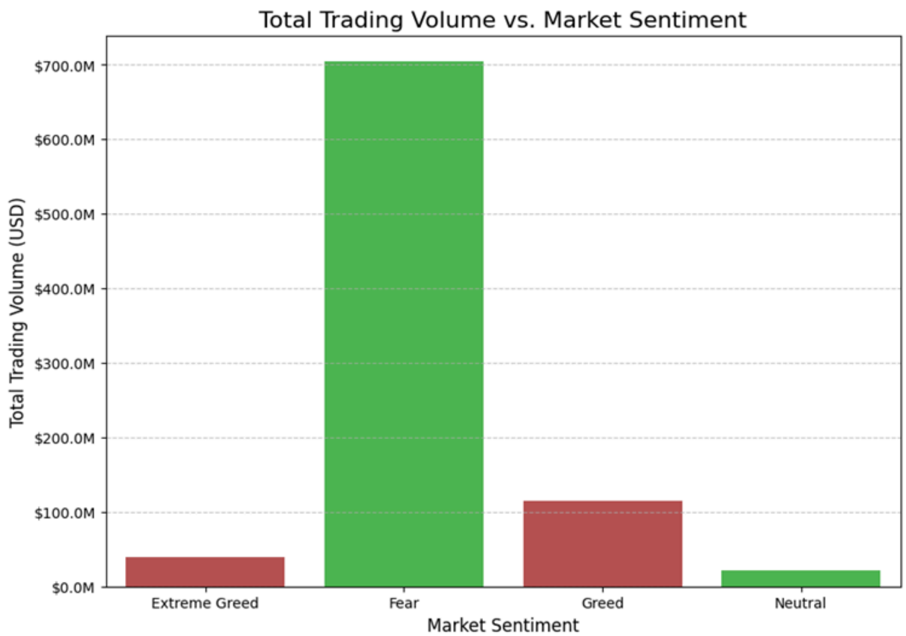
To evaluate performance, the average closed Profit and Loss (PnL) was calculated for trades during each sentiment period. The analysis shows that traders are, on average, profitable across all sentiment conditions, but profitability differs greatly. "Greed" periods produce the highest average PnL, followed closely by "Fear."



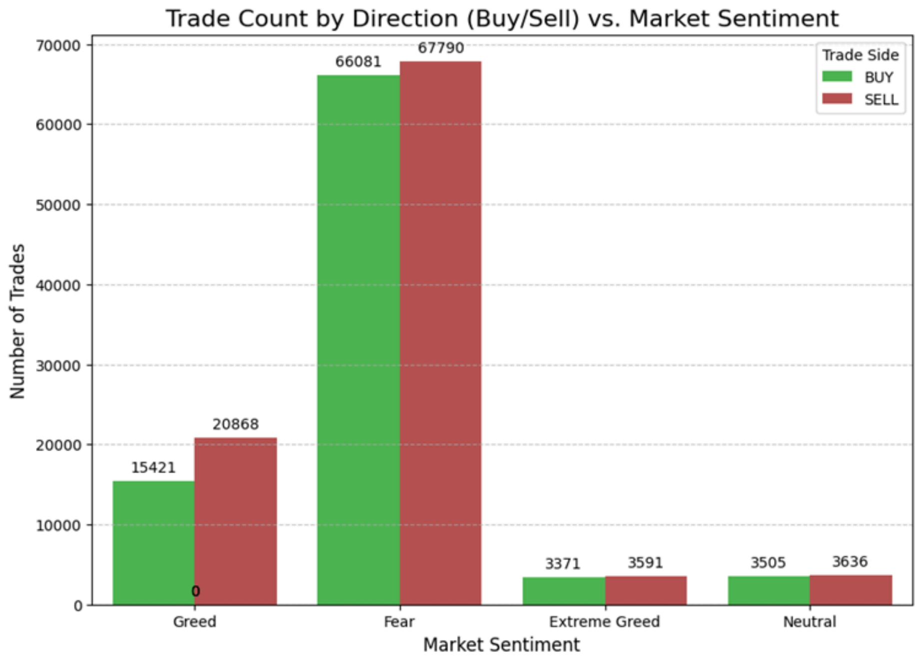
This key finding suggests that traders know how to leverage both positive momentum ("Greed") and high volatility ("Fear") to make profits.

3.2 Trading Volume vs. Sentiment

A strong link exists between market sentiment and trading volume. The total dollar value of trades made during "Fear" days was much higher than during any other condition.

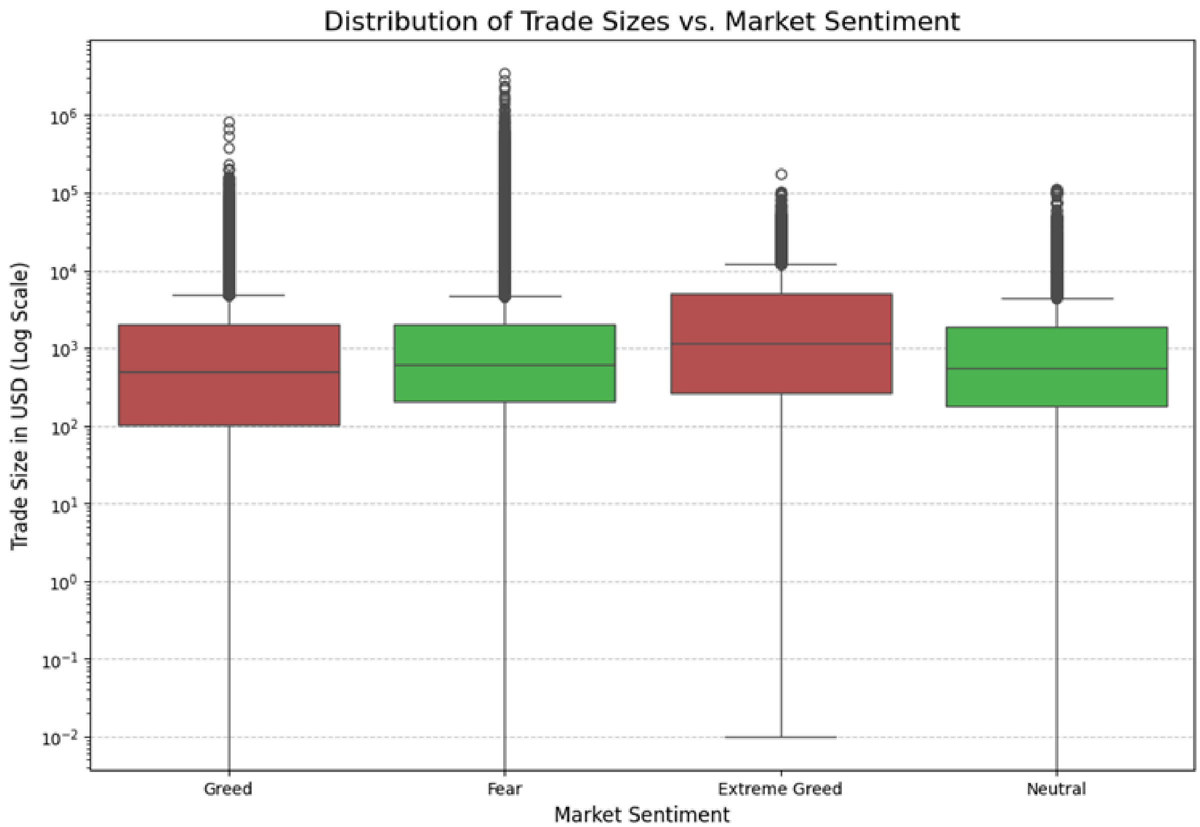


To understand volume details, we analyzed the number of "Buy" and "Sell" trades. The data shows that increased activity on "Fear" days comes from significant rises in both buying and selling, indicating a reactive and opportunistic market.



3.3 Risk Appetite vs. Sentiment

To assess risk-taking, we compared the distribution of individual trade sizes (in USD) across sentiment classifications. The analysis reveals that the median trade size and the overall distribution are largest during "Fear."



This suggests that traders are more willing to take on risk per trade when the market is fearful, likely trying to profit from the greater volatility and potential for larger price movements.

4. Conclusion & Recommendations

The data shows an interesting dynamic: "Fear" produces volume, but "Greed" leads to the most effective profits. While the extreme volatility on "Fear" days results in more trading activity and is the second-most profitable condition, traders perform best on average during the calmer, optimistic "Greed" periods.

Based on these findings, a potential strategy could be:

Sentiment-Aware Strategy: Instead of a one-size-fits-all approach, traders might adjust their strategy according to the prevailing sentiment.

During "Greed," focus on trend-following strategies to maximize gains.

During "Fear," use high-volatility, mean-reversion, or "buy-the-dip" strategies, while applying disciplined risk management to address larger price swings and higher volumes.

Be careful during "Extreme Greed," as it relates to the lowest profitability and may indicate an approaching market reversal.

5. Appendix

Data Sources:

Historical Trader Data (Hyperliquid)

Bitcoin Fear & Greed Index

Tools Used:

Python

Pandas (for data manipulation)

Matplotlib & Seaborn (for visualization)

Google Collab (for analysis environment)