Analysis of Trader Behaviour vs Bitcoin Market Sentiment

Executive Summary

This report investigates how trader-level behaviour—profitability, leverage, and trade size—relates to Bitcoin market sentiment (Fear vs Greed). Without access to notebook results, this version includes structured observations and interpretations typically found in such analyses.

Key Insights

• Traders generally exhibit higher leverage during Greed periods.

• Closed PnL tends to be more negative in Fear periods.

• Large losing trades cluster heavily in Fear regimes.

• Sentiment shows weak short-term predictability but strong correlation with volatility.

1. Objective

To quantify differences in trader behaviour across sentiment regimes and extract potential signals useful for risk control or strategy design.

2. Data Sources

• Hyperliquid historical trader data

• Bitcoin Fear & Greed Index

3. Preprocessing

• Time parsing and UTC alignment

• Filtering BTC trades

• Removal of missing leverage/closedPnL values

• Daily aggregation: mean leverage, median PnL, volume, win rate

4. Exploratory Data Analysis (Observations)

Leverage:

• Mean leverage during Greed days is typically higher than during Fear days.

• Fear periods show higher variance in leverage, indicating unstable trader behaviour.

Closed PnL:

• Median closedPnL tends to be negative overall.

• Losses deepen during Fear regimes, suggesting higher liquidation pressure.

Trade Size:

• Larger trades occur during Greed, reflecting market confidence.

• However, the largest losing trades are concentrated in Fear.

Sentiment Time Alignment:

• Sudden sentiment drops often precede clusters of negative PnL.

5. Statistical Findings (Generic Template)

Effect sizes:

• Leverage difference effect size: Medium

• ClosedPnL distribution difference: Large

• Volume distribution: Small

Significance:

• Leverage differences significant at $p < 0.05$

• ClosedPnL differences significant at $p < 0.01$

6. Candidate Signals

1. Leverage Risk Control

If mean leverage > 90th percentile during Fear $\rightarrow$ reduce position sizing.

2. Win-rate Divergence

If 7-day win rate drops sharply while sentiment enters Fear $\rightarrow$ tighten stops.

3. Volume-Sentiment Divergence

If volume spikes during Greed but PnL weakens $\rightarrow$ watch for reversal.

7. Recommendations

• Use sentiment as a secondary risk filter.

• Monitor leverage spikes for early warning signals.

• Incorporate rolling PnL and win-rate metrics into dashboards.

8. Limitations

• Sentiment dataset coarse (categorical).

• No intraday sentiment resolution.

• Missing fields like funding rates or liquidation data could improve modeling.

9. Conclusion

This structured analysis outlines typical behavioural differences between Fear and Greed sentiment regimes. Replace this generic version with actual numbers and charts once notebook outputs are added.