

# Report



## Trade Size and Fee Dynamics

The relationship between trade size and the associated fee is clear but non-linear:

- **Fee vs. Trade Size (USD):** The scatter plot shows a strong, positive correlation between trade size (USD) and the fee incurred, which is expected—larger trades generally cost more. However, the linearity is only true for the majority of smaller trades. The highest fees (over \$800) are associated with some of the largest trades (around \$3.5 million to \$4 million), but there are many large trades with a \$0 fee, suggesting a segmented fee structure where some transactions (perhaps internal transfers, special order types, or high-volume institutional deals) are exempt. This is reinforced by the Correlation Matrix, which shows a very high correlation of 0.75 between Size USD and Fee.
- **Average Trade Size by Side (Pie Charts):** Overall, the average trade size is split almost equally between Buy and Sell trades, whether measured in Tokens (Buy  $\approx$ 51.4%, Sell  $\approx$ 48.6%) or USD (Buy  $\approx$ 51.1%, Sell  $\approx$ 48.9%).

## The Influence of Market Sentiment

Market sentiment heavily influences trade frequency, average size, and the profitability of the trade side.

Trade Counts and Frequency

- **Number of Trades Over Time:** There has been a massive, sharp increase in the number of trades, particularly starting around the end of 2024 and continuing into 2025, indicating a significant recent surge in market activity.
- **Number of Trades by Sentiment and Side:** Fear and Greed classifications have the highest trade counts. Interestingly, during Fear and Extreme Greed, SELL trades are more numerous than BUY trades. During Greed, SELLS are slightly more frequent, while in Neutral and Extreme Fear, the counts are more balanced.

## Average Trade Size by Sentiment

- **Average Trade Size (Tokens) by Classification and Side:**
  - Greed has the largest average trade size for both BUY (7,115.2 tokens) and SELL (6,025.9 tokens), indicating large capital deployment during bullish periods.
  - In Fear, BUY trades (2,744.0 tokens) are slightly larger than SELL trades (2,566.0 tokens).
  - In Neutral sentiment, SELL trades (4,923.5 tokens) are significantly larger than BUY trades (3,850.4 tokens).

## Trade Direction and Profitability (PnL)

Trade Direction

- **Trade Size (USD) by Direction:** Most trade activity (Buy, Sell, Open Long, Close Long, etc.) is concentrated near the lower trade size values. However, complex or leveraged trade types like Open Long, Open Short, Close Long, Close Short, and Settlement all show a wide distribution of large outliers up to the \$4 million range. This suggests that the largest individual trades are often associated with opening, closing, or settling positions rather than simple market/limit orders. Buy and Sell (likely representing simple market/limit execution) have a relatively contained size distribution.

## Profit/Loss (PnL) and Fees

- Average PnL by Sentiment and Side (Two Charts): The two charts show nearly identical PnL results, confirming that SELL trades are significantly more profitable on average than BUY trades during periods of Extreme Greed (115 vs 10.8 average PnL), Greed (60 vs 25 average PnL), and Neutral (40 vs 30 average PnL). Fear is the only classification where BUY trades (64 average PnL) are notably more profitable than SELL trades (45 average PnL).
- Average Fee per Trade by Sentiment and Side:
  - Fees are highest in Fear and Greed periods.
  - In Extreme Fear, Extreme Greed, Neutral, and Greed, SELL trades incur a higher average fee than BUY trades.
  - The only exception is Fear, where BUY trades incur a slightly higher average fee.

The PnL findings suggest that while high fees are associated with high-volume periods (Greed/Fear), the most successful *selling* occurs during peak optimism (Extreme Greed), likely reflecting large-scale profit-taking, whereas the most successful *buying* happens during Fear, suggesting successful 'buy the dip' strategies.

## Trade Size and Sentiment Distribution

### Trade Size (USD) vs. Fear/Greed Index

The scatter plot shows no clear linear correlation between the numerical value of the Fear/Greed Index (the x-axis) and the size of the trade (Size USD).

- Large Trades are Sporadic: Very large trades (>2.5 million) are scattered across the index, with notable clusters appearing in the Fear range (index values  $\approx 20$  to 40) and the Greed range (index values  $\approx 55$  to 65).
- Small Trades Dominate: The majority of trades, both Buy and Sell, are concentrated below the \$1 million mark across the entire index spectrum, demonstrating that smaller trades constitute the high-frequency trading activity.
- SELL Outliers: There appears to be a slightly higher concentration of the absolute largest SELL outliers compared to BUY outliers in the higher end of the index (Greed territory).

### Trade Size (USD) Distribution by Sentiment

The box plot reveals the median and interquartile range (IQR) for trade sizes across sentiment classifications.

- Low Median, High Outliers: The central box (median and IQR) for trade size is extremely small and close to zero for all classifications. This confirms that most trades are small.
- Highest Trade Sizes in Fear and Neutral: The largest absolute outliers (trades up to \$4 million) occur during Fear and Neutral sentiment classifications.
- Tightest Distribution in Extreme Greed: Extreme Greed has the most restricted distribution of large outliers, suggesting that, while the median is low everywhere, large trades are less varied or frequent in this extreme bullish phase compared to Fear or Neutral periods.

### Average Size Contribution by Sentiment (Pie Charts)

These charts break down how each sentiment contributes to the total average size of Buy and Sell trades, in both Tokens and USD.

Trade Side Metric Largest Contributor Smallest Contributor

BUY	Tokens	Greed (51.9%)	Fear (20.0%)
SELL	Tokens	Neutral (36.4%)	Fear (19.0%)
BUY	USD	Fear (45.1%)	Neutral (23.8%)
SELL	USD	Fear (41.6%)	Greed (24.6%)

- **Contradiction in Metrics:** There is a significant difference between the Token and USD metrics. For BUY trades, Greed dominates the average size when measured in Tokens, but Fear dominates when measured in USD. This implies the asset's price (USD/Token) was likely higher during the Fear period when these large USD trades occurred, or the trades in the Fear period involved higher-value tokens.
- **Neutral's Role in Selling:** Neutral sentiment is the largest contributor to average size for SELL trades measured in Tokens, suggesting a significant portion of token liquidation occurs outside of emotional periods.

Trade Direction and Profitability

Trade Direction Count by Sentiment

This chart shows the total count of specific trading actions across different sentiment classifications.

- **Dominant Actions:** Buy and Sell actions (representing simple market/limit orders) are the highest frequency directions across all sentiments.
- **Fear Drives Volume:** The Fear classification sees the highest count for most trading directions, particularly Sell and Close Long, suggesting a high-volume phase dominated by traders liquidating long positions due to market anxiety.
- **Open vs. Close:** In Extreme Fear, Open Long is the most frequent action, suggesting a "buy the dip" mentality. In contrast, in Fear, Close Long is highly frequent, indicating a market-wide reversal of those positions or panic selling.

Profit/Loss Distribution by Sentiment

The box plot illustrates the distribution of the Closed PnL (profit and loss).

- **Low Median PnL:** The median PnL (the line inside the box) is very close to zero for all sentiment classifications, meaning the average (or typical) closed trade results in a minimal profit or loss.
- **Large Loss Outliers in Greed:** The largest single loss (below −\$100,000) occurs during the Greed classification, indicating that the most catastrophic losses happen when the market is euphoric or overleveraged.

- Large Profit Outliers in Fear: The largest single profit (above +\$100,000) occurs during Fear, suggesting that highly successful trades capitalize on market bottoms or volatility during periods of panic.
- Balanced Extremes: Other classifications (Extreme Greed, Extreme Fear, Neutral) show large outliers on both the profit and loss sides, but the absolute extreme values are confined to Greed (Loss) and Fear (Profit).