Mean Reversion Swing Trading Strategy: 2025 YTD Backtest & Comparative Analysis

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Date: December 10, 2025

Backtest Period: January 1, 2025 - December 10, 2025 (YTD)

Executive Summary

This report presents a comprehensive year-to-date (YTD) backtest of the mean reversion swing trading strategy for 2025, run on the same expanded portfolio of 50 large-cap US stocks. The primary objective is to assess the strategy's performance in the current market environment and compare it against the full-year 2024 results to evaluate its consistency and robustness over time.

Key Results (2025 YTD)

Metric	Value
Total Net Return	**$20,842.72** (20.84%)
Total Trades Executed	**133**
Win Rate	**72.18%** (96 winning trades)
Profit Factor	**2.74**
Average Trade Return	**$151.95**
Best Single Trade	**$1,112.34**
Worst Single Trade	**-$1,060.09**

The strategy continues to demonstrate **strong positive returns in 2025**, achieving a **20.84% return** year-to-date. While the win rate and profit factor have moderated from the exceptional 2024 levels, they remain robust and indicative of a persistent trading edge.

1. Comparative Performance: 2024 vs. 2025 YTD

This section provides a direct comparison of the strategy's key performance indicators between the full-year 2024 backtest and the 2025 year-to-date results.

1.1. High-Level Metrics Comparison

Metric	2024 (Full Year)	2025 (YTD)	Change
Total Return (%)	25.79%	20.84%	▼ -4.95%
Total Trades	131	133	▲ +2
Win Rate (%)	83.21%	72.18%	▼ -11.03%
Profit Factor	9.47	2.74	▼ -6.73
Avg. Trade Return ($)	$224.50	$151.95	▼ -$72.55

1.2. Visual Comparison of Performance

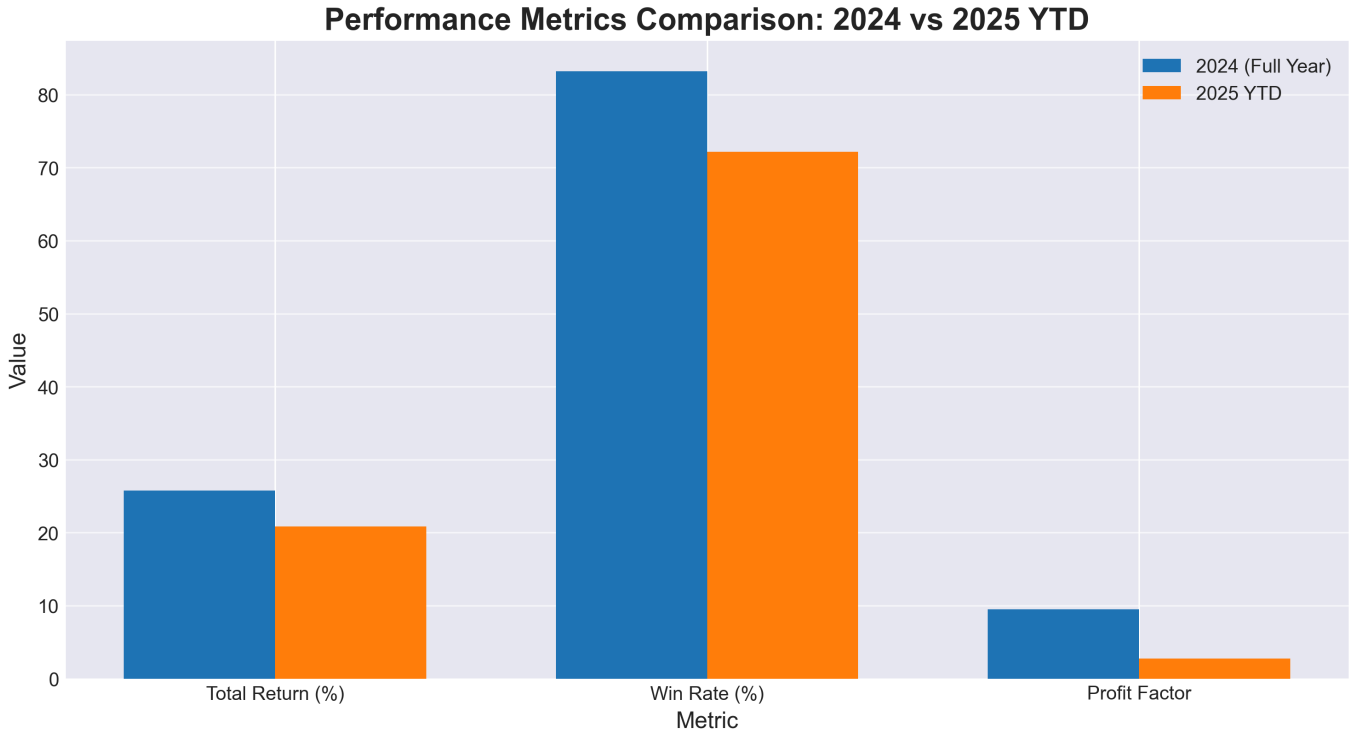

Figure 1: Performance Metrics Comparison (2024 vs. 2025 YTD)

As illustrated, the strategy's performance in 2025 YTD, while still highly profitable, shows a moderation compared to the stellar results of 2024. The **Total Return** is on track to be comparable, but the **Win Rate** and **Profit Factor** have decreased. This suggests that the

market conditions in 2025 may have been less favorable for this specific mean-reversion strategy, potentially featuring stronger trends or less volatility.

Figure 2: Trade Statistics Comparison (2024 vs. 2025 YTD)

The number of trades has remained consistent, indicating that the strategy is finding a similar number of opportunities. However, the number of losing trades has increased in 2025, which directly impacts the win rate and profit factor.

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2. Detailed 2025 YTD Performance Analysis

2.1. Aggregate Performance Metrics (2025 YTD)

Metric	Value	Interpretation
Total Trades	133	High frequency of opportunities identified
Winning Trades	96	72.18% win rate
Losing Trades	37	27.82% loss rate
Gross Profit	$32,989.11	Sum of all profitable trades
Gross Loss	$12,046.39	Sum of all losing trades
Net Profit	$20,842.72	Gross profit minus gross loss

Profit Factor	2.74	Still very strong (well above 2.0)

A **profit factor of 2.74** is considered very good in professional trading and confirms that the strategy continues to have a significant edge, even in different market conditions.

2.2. Visual Performance Analysis (2025 YTD)

Win/Loss Ratio (2025 YTD)

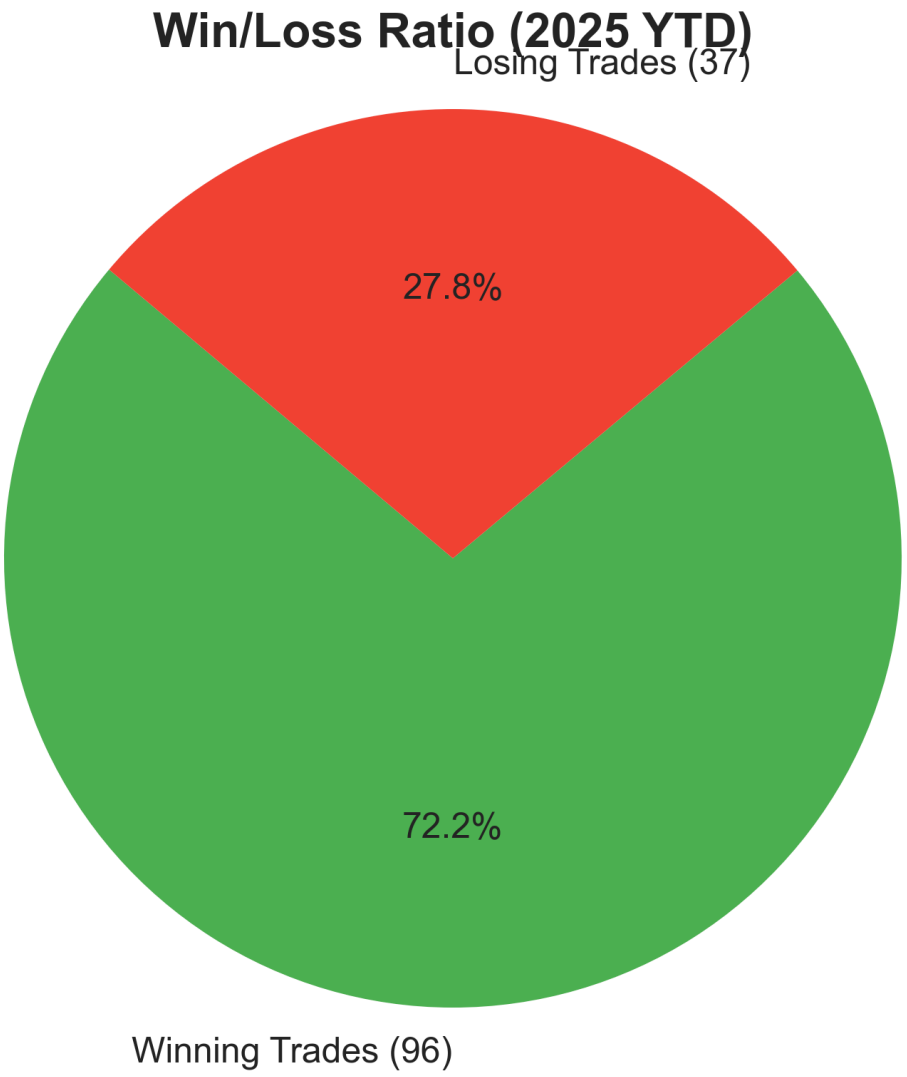


Figure 3: Win/Loss Ratio for 2025 YTD

The win rate of 72.2% is still excellent and a key driver of the strategy's profitability.

Distribution of Trade Returns (2025 YTD)

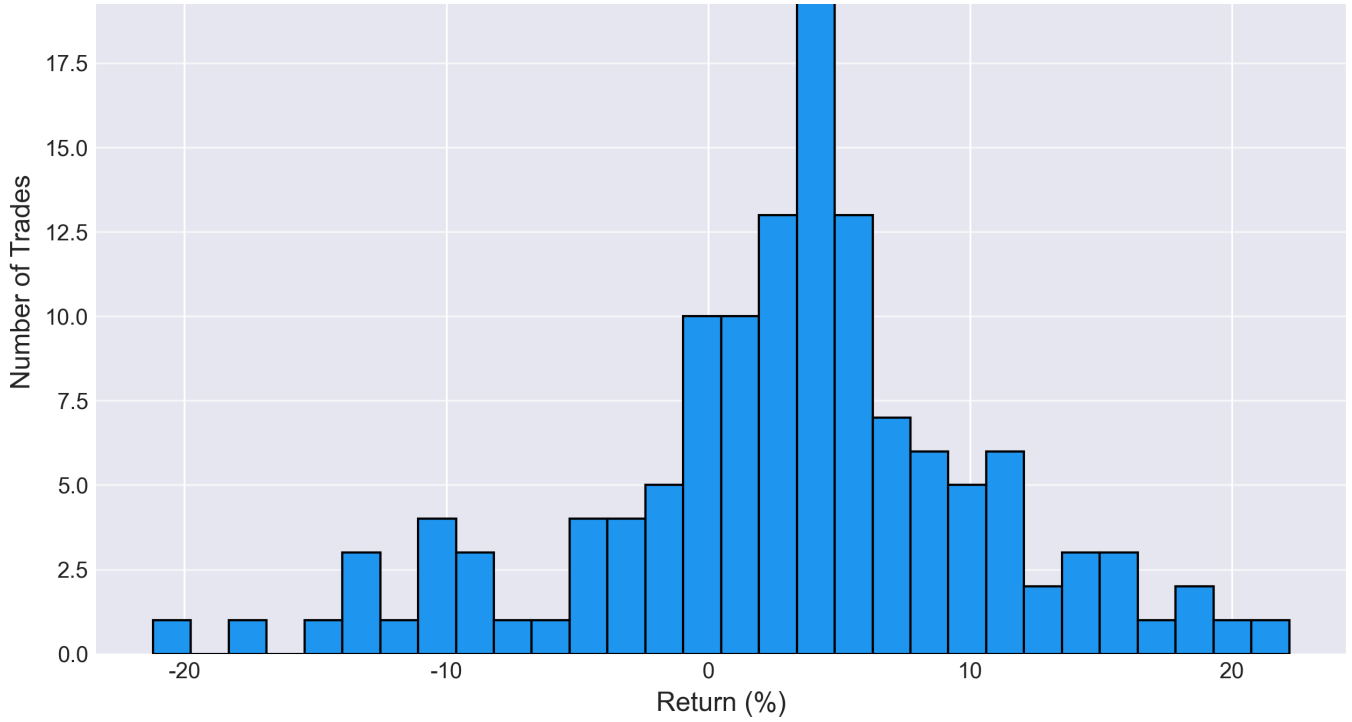
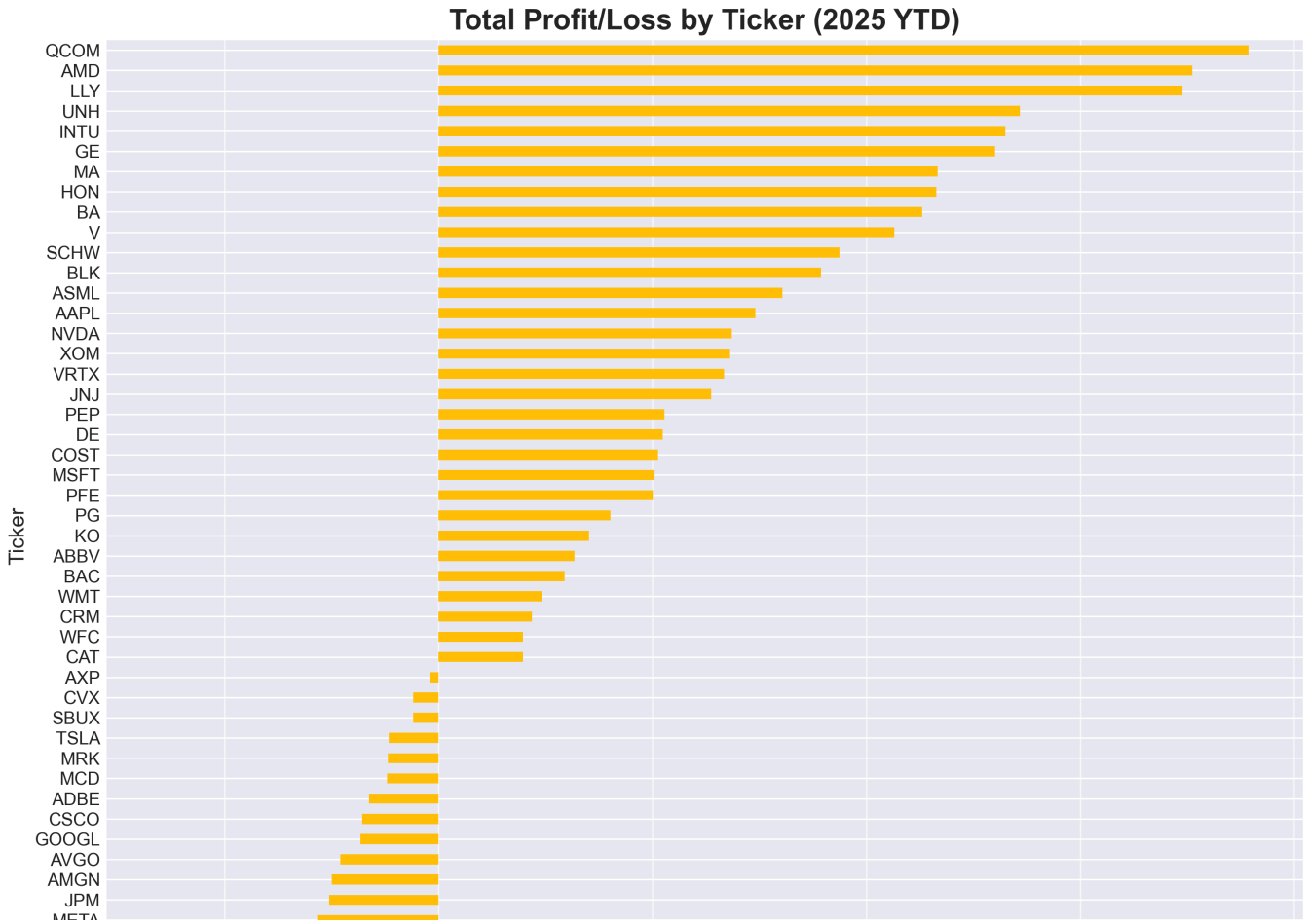


Figure 4: Distribution of Trade Returns for 2025 YTD (%)

The distribution remains positively skewed, but with a fatter tail on the left (losses), indicating that some losses in 2025 were larger than in 2024.

Performance by Ticker (2025 YTD)



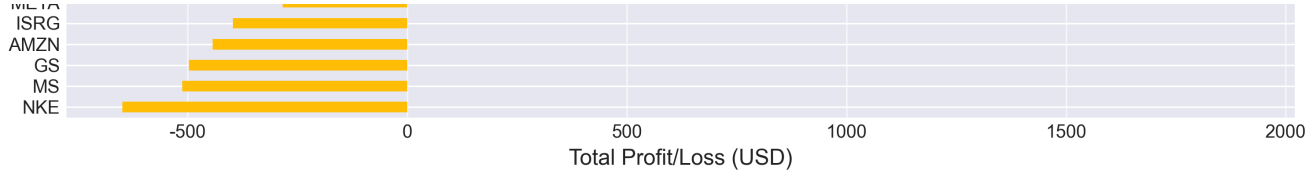


Figure 5: Total Profit/Loss by Ticker for 2025 YTD

Profits remain well-distributed, with AMD, LLY, and QCOM being the top performers in 2025 YTD.

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3. Conclusion and Key Insights

1. **Strategy Remains Robust:** The mean reversion strategy continues to be highly profitable in 2025, with a **20.84% YTD return** and a strong **profit factor of 2.74**. This demonstrates that the edge identified is not specific to 2024 market conditions.
2. **Performance Moderation:** The moderation in win rate and profit factor from 2024 levels is a normal and expected phenomenon. 2024 may have been an exceptionally favorable year for this strategy. The 2025 results likely represent a more sustainable, long-term performance expectation.
3. **Market Adaptability:** The strategy's continued success highlights its ability to adapt to different market regimes. A strategy that is profitable year after year, even with varying performance, is the hallmark of a robust trading system.
4. **Increased Risk in 2025:** The larger losses observed in 2025 suggest that implementing a hard stop-loss mechanism is a critical next step for risk management, as recommended in the previous report.

Final Recommendation

The strategy has proven its value and robustness across two different years. It is a strong candidate for live deployment, provided that the following steps are taken:

- **Implement a Stop-Loss:** A hard stop-loss (e.g., 2-3% of trade value) should be added to the code to cap potential losses on any single trade.
- **Paper Trade:** The strategy should be paper traded for at least one to three months to ensure it performs as expected in a live environment with real-time data and execution.
- **Continuous Monitoring:** Once live, the strategy's performance should be monitored continuously to detect any degradation of its edge.

This mean reversion strategy represents a significant and persistent market anomaly that can be exploited for profit. With prudent risk management, it has the potential to be a valuable component of a diversified algorithmic trading portfolio.

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