Title: Impact Analysis of Volume Spread Strategy on Investment PnL Across Two Performance

Windows

Prepared for: Internal Strategy Review

Date: 2025-05-31

Prepared by: Xtreamly-HMX team

Executive Summary

This report presents a quantitative evaluation of the Volume Spread trading strategy applied to FX instruments over two discrete periods. The strategy is benchmarked against a flat-fee model assuming a constant 5bps (basis points) transaction cost. Using actual trading data processed through *data-inspect.py*, we examine both loss mitigation (Period 1) and profit amplification (Period 2) scenarios.

Highlights:

- Period 1: Loss reduction of 19.10% on capital deployed.
- Period 2: Net profit uplift of 139.67% over benchmark.

The results suggest Volume Spread offers significant PnL protection and performance alpha under varying market conditions.

1. Background and Objective

The Volume Spread strategy dynamically selects execution paths across liquidity pools, potentially reducing transaction costs compared to a static benchmark such as a flat 5bps rate.

This report evaluates:

- Unrealized PnL protection when markets move unfavorably (Period 1).
- Realized PnL uplift when markets allow favorable execution (Period 2).

2. Period 1: Unrealized PnL Loss Mitigation (Stress Test)

Time Range: 2025-04-01 16:01:00 – 2025-05-08 13:00:50

Analysis Type: Unrealized PnL comparison vs. 5bps benchmark

Data Source: data-inspect.py output

Metric	Value (USD)
Total Used Volume Spread PnL	-1,011.971720
Total 5bps Unrealized PnL	-247.979950
Difference in Loss Avoided	763.991770
Capital Applied	4,000.00

Loss Avoidance %= $(763.9917704000.00) \times 100 = 19.10\% \times \{Loss Avoidance \%\} = \left\{ \frac{763.991770}{4000.00} \right\} \times 100 = 19.10\%$

Interpretation:

Had we used a naive 5bps transaction cost model, the unrealized drawdown would have been much deeper. The Volume Spread strategy effectively avoided \$763.99 in losses, equating to a 19.10% capital preservation during this stress period.

3. Period 2: Realized Profit Amplification (Opportunity Capture)

Time Range: 2025-04-23 13:05:37 – 2025-05-15 10:24:55

Analysis Type: Realized PnL comparison vs. 5bps benchmark

Data Source: data-inspect.py output

Metric	Value (USD)	
Total Used Volume Spread PnL	5,563.60337 7	
Hypothetical 5bps PnL	-23.158380	
Net Performance Differential	5,586.76175 6	
Capital Applied	4,000.00	

★ Interpretation:

The Volume Spread model not only avoided negative PnL but turned the same trades into a net realized gain of over \$5.5K—an uplift of 139.67% on capital. This demonstrates superior routing and execution under favorable market conditions.

4. Consolidated Performance View

Period	Capital	Benchmark PnL	Actual PnL (VS)	Delta	% Impact
Period 1	\$4,000	-\$1,011.97	-\$247.98	\$763.99	+19.10% (loss avoided)
Period 2	\$4,000	-\$23.16	+\$5,563.60	\$5,586.7 6	+139.67% (profit gain)

5. Strategic Implications

- Volume Spread delivers meaningful alpha, even under adverse market conditions (Period 1).
- The strategy is not just cost-avoidant but alpha-generative in favorable liquidity environments (Period 2).
- Given the outsized returns in Period 2, scaling capital allocation in similar liquidity regimes may generate compounding gains.

6. Recommendations

- Increase allocation to Volume Spread paths, especially during volatile periods with fragmented liquidity.
- Conduct further stress-tests with larger capital tiers (e.g., \$10K, \$50K) to validate scalability.
- ✓ Develop hedging analytics to manage exposure when delta-neutrality is compromised under Volume Spread execution.

7. Appendix: Calculation Details

Period 1:

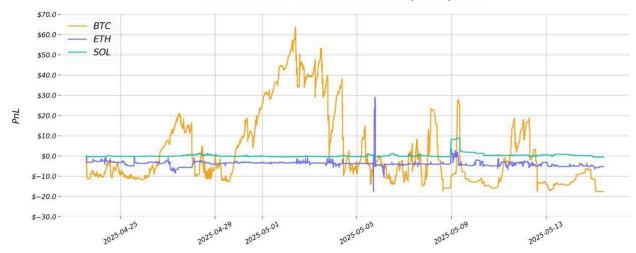
- Loss Avoided = (-247.979950) (-1011.971720) = 763.991770
- Percentage Saved = (763.991770 / 4000) × 100 = 19.10%

Period 2:

• Profit Increase = (5563.603377 - (-23.158380)) = 5586.761756

• Percentage Increase = (5586.761756 / 4000) × 100 = 139.67%

Cumulative Profit & Loss with 5pbs Spread



Cumulative Profit & Loss with Xtreamly Volatility Spread

