Regime-Adaptive PCA Statistical Arbitrage Backtest Results

Table 1: Strategy Performance Summary 2023-2025

Metric	**Value**
PSR	87.563%
Sharpe Ratio	1.413
Total Orders	1421
Average Win	0.44%
Average Loss	-0.28%
Compounding Annual Return	38.713%
Drawdown	14.100%
Expectancy	0.357
Start Equity	$1,000,000
End Equity	$1,925,851.76
Net Profit	92.585%
Sortino Ratio	1.928
Loss Rate	47%
Win Rate	53%
Profit–Loss Ratio	1.57
Alpha	0.187
Beta	0.222
Annual Standard Deviation	0.152
Annual Variance	0.023
Information Ratio	0.534
Tracking Error	0.171
Portfolio Turnover	22.48%
Drawdown Recovery (days)	116

Table 2: Strategy Performance Summary 2022-2024

Metric	**Value**
PSR	59.087%
Sharpe Ratio	1.038
Total Orders	1410
Average Win	0.42%
Average Loss	-0.33%
Compounding Annual Return	29.449%
Drawdown	10.400%
Expectancy	0.238
Start Equity	$1,000,000
End Equity	$1,673,325.12
Net Profit	67.333%
Sortino Ratio	1.238
Loss Rate	46%
Win Rate	54%
Profit–Loss Ratio	1.28
Alpha	0.177
Beta	-0.037
Annual Standard Deviation	0.171
Information Ratio	0.786
Tracking Error	0.240
Portfolio Turnover	21.30%
Drawdown Recovery (days)	187