Structured Basis Divergence Arbitrage

Strategy Summary for Quanta Ventures

Strategy Thesis

This strategy captures persistent inefficiencies in BTC perpetual funding markets using a delta-neutral structure built on ETH-collateralized BTC exposure. By shorting BTC perpetual futures—where funding rates are structurally biased positive—and simultaneously going long BTC using ETH spot collateral via margin, the strategy generates positive expected funding yield with minimal directional exposure.

It employs volatility-aware rebalancing rules:

- Rebalance short BTC perp if BTCUSD rises by 30% from the last trigger
- Reallocate ETH collateral if ETHBTC falls by 30% from the last trigger

All fees (BTC borrow, exchange trading fees, slippage) are fully modeled. The strategy remains delta-neutral at all times and avoids overfitting by using threshold-based triggers rather than continuous optimization.

Performance Summary (Jan 2020 – Mid 2025)

Metric	Value
CAGR	28.58%
Max Drawdown	-1.85%
Sharpe Ratio	11.68
Calmar Ratio	15.48
Sortino Ratio	9.13
Total Return	264.00%

Assumptions and Modeling Notes

- BTC perpetual short earns funding (based on Binance rate history)
- ETH spot used as collateral; BTC borrowed at 1% APR
- Fees included: 0.28% BTC perp, 0.20% ETH spot
- All slippage and rebalancing costs modeled
- No lookahead bias or unrealistic execution assumptions

Visual Summary

Equity Curve with Rebalance Points

Drawdown Over Time