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MARKOV SIMULATION REPORT
Date: 2025-02-20
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VOLATILITY ENERGY:
  Real Vol: 0.000627
  Sim Vol:  0.001173
  (Ratio: 1.87x - Target ~1.0)

TAIL RISK (CRASH CAPTURE):
  Real VaR (99%): -0.1495%
  Sim VaR (99%):  -0.3623%
  Real CVaR:      -0.2368%
  Sim CVaR:       -0.5269%

DISTRIBUTION SHAPE:
  Real Kurtosis: 72.28
  Sim Kurtosis:  16.99
  KS Test P-Val: 0.0000

DRAWDOWN PERFORMANCE:
  Real MDD: -10.56%
  Sim Avg MDD: -11.07%

FINAL HEALTH CHECK:
  Final Z-Score: -0.92
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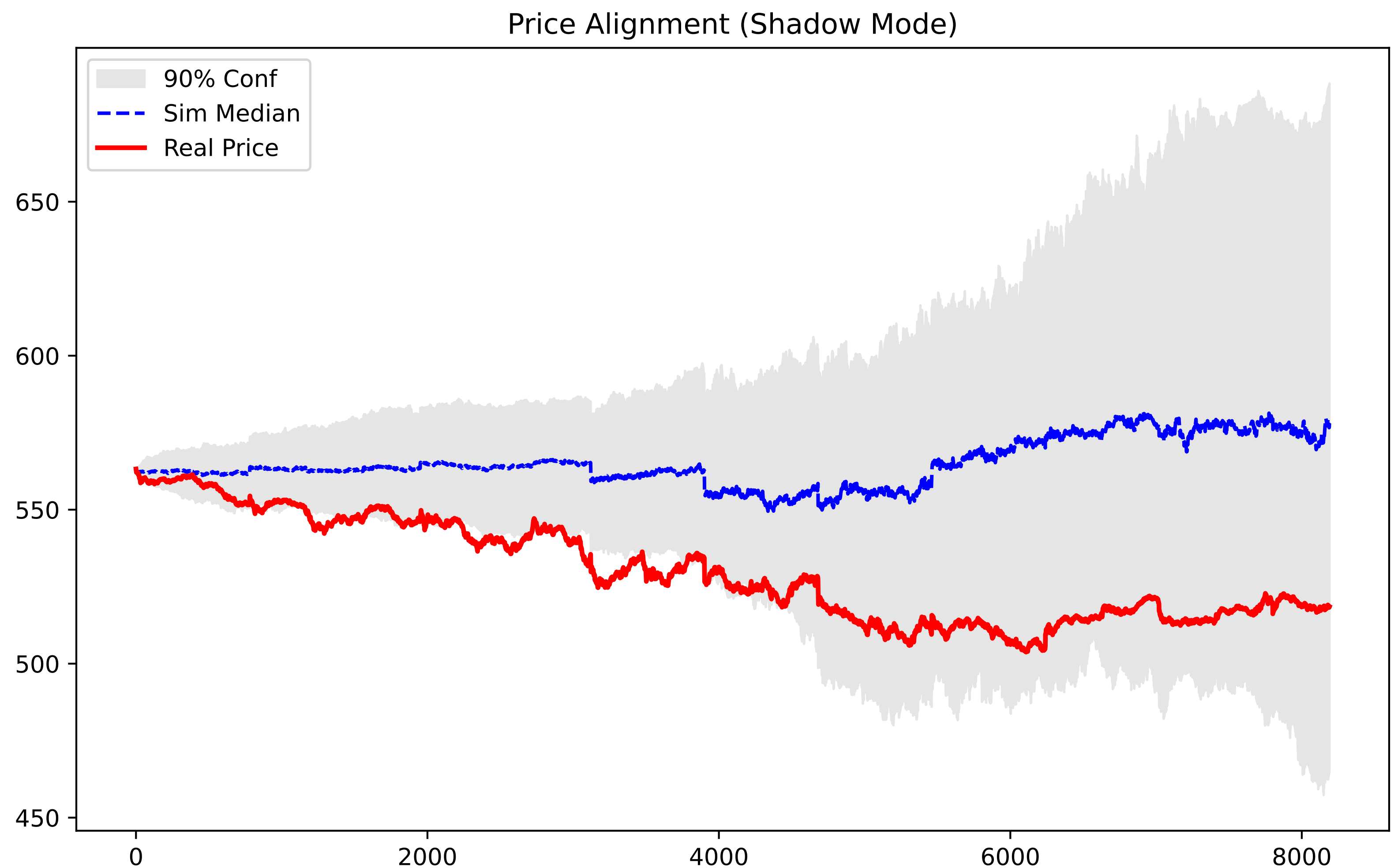
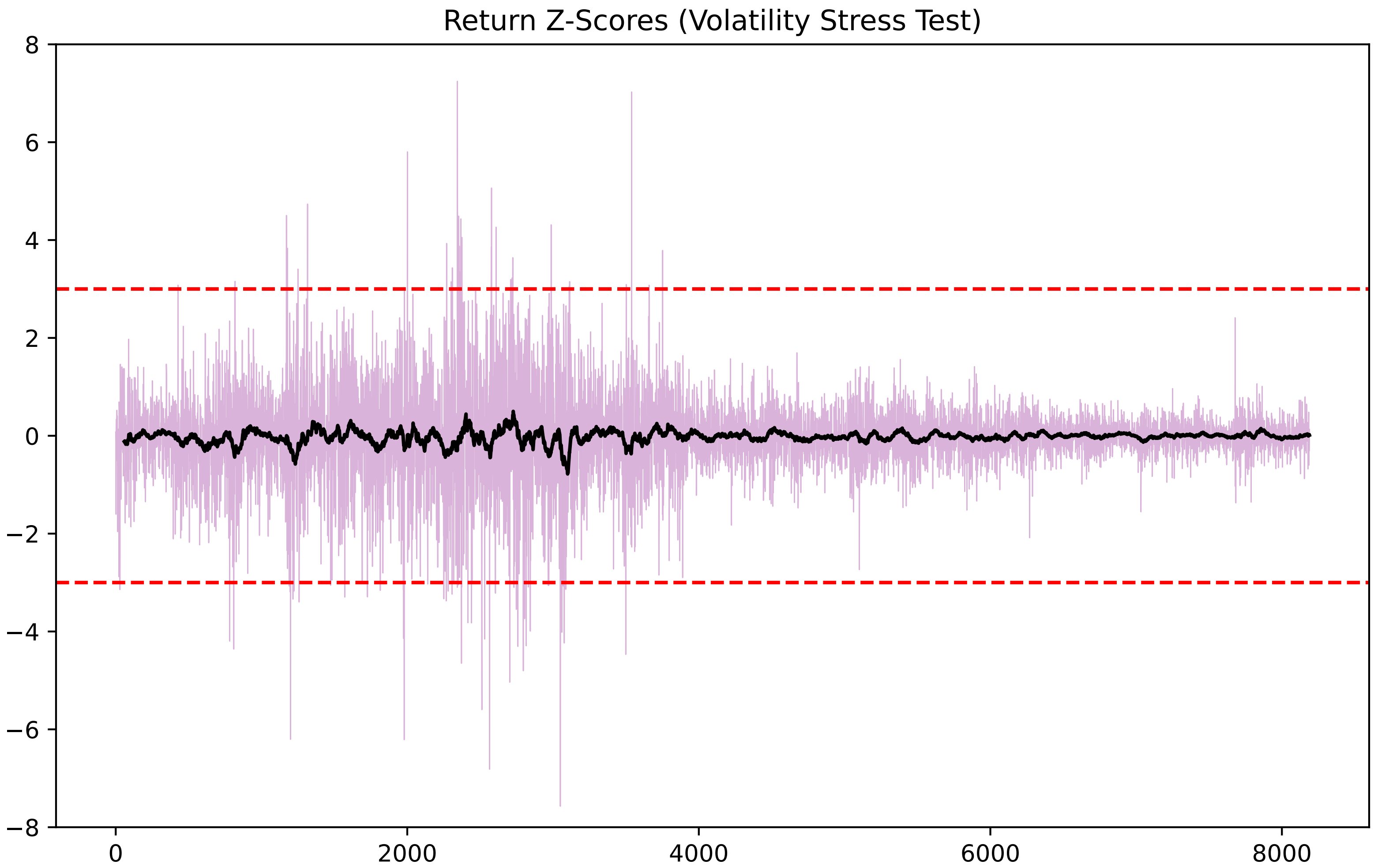
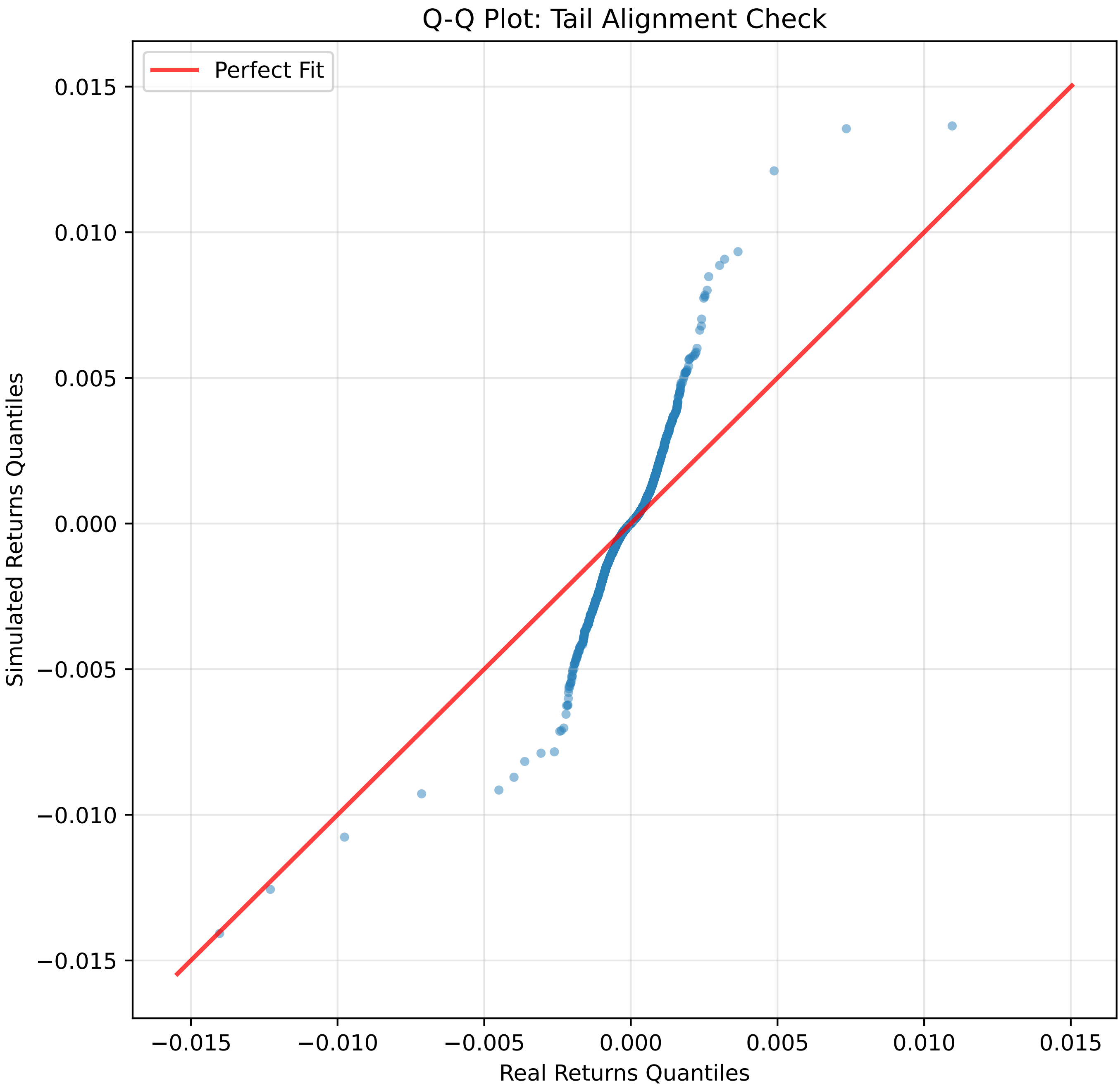

Price Alignment (Shadow Mode)
90% Conf
Sim Median
Real Price
650
600
550
500
450
0
2000
4000
6000
8000



Return Z-Scores (Volatility Stress Test)
8
6
4
2
0
−2
−4
−6
−8
0
2000
4000
6000
8000



Q-Q Plot: Tail Alignment Check
Perfect Fit
Simulated Returns Quantiles
Real Returns Quantiles
0.015
0.010
0.005
0.000
−0.005
−0.010
−0.015