Market-Neutral Strategy Cheat Sheet

What is a Market-Neutral Strategy?

Market-neutral strategies aim to remove market direction exposure, generating alpha through relative mispricings, hedged positions, or arbitrage.

Why Use Market-Neutral?

- Low correlation to market
- Hedge against crashes
- Consistent performance
- Risk-adjusted returns
- Hedge fund standard

Core Strategy Types

- Pairs Trading (Stat-Arb)
- Beta-Neutral Long/Short
- Volatility Arbitrage
- Index Arbitrage
- Merger Arbitrage

Key Concepts

- Beta Neutrality: portfolio beta ~ 0
- Cointegration: long-term relationship between assets
- Z-score: measure of spread deviation
- Dollar Neutrality: equal dollar exposure on both sides

Metrics to Track

- Sharpe Ratio
- Max Drawdown
- Win Rate
- Volatility
- Market Correlation

Example Strategy: Pairs Trading

1. Choose asset pair (e.g. AAPL/MSFT)
2. Calculate spread and z-score
3. Enter long/short when z-score exceeds ±2
4. Exit when z-score reverts to 0

Tools & Libraries

- Python, Pandas, NumPy

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- statsmodels, scikit-learn
- yfinance, ccxt, cryptofeed
- Backtrader, Streamlit, Matplotlib

Tips for Success

- Backtest rigorously with realistic assumptions
- Track all trades and logs
- Use a modular framework
- Monitor risk at all times