CRY02: Global Exchange Liquidity Analysis

Technical Analysis Report | February 01, 2026

1. Data Overview

Subject: Binance (BNB)
Analysis Period: 2021-02-01 to 2026-01-30 (~7.2 years)
Total Observations: 21,081 rows across 4 datasets
Stock Data: 1,825 daily OHLCV observations
Data Sources: Yahoo Finance API, CoinGecko, exchange APIs (synthetic operational data)

2. Methodology

2.1 Metrics Computed

- Spot vs derivatives volume split
- Order book depth analysis (1% depth)
- Slippage estimation by trade size
- Open interest tracking
- Funding rate analysis
- Liquidation volume monitoring
- Cross-exchange arbitrage spreads

2.2 Risk Analytics (CFA Standards)

- **Sharpe Ratio:** (Return - Rf) / Volatility (Rf = 0)
- **Sortino Ratio:** Return / Downside Deviation
- **Value at Risk (VaR):** Historical 95% and 99% confidence
- **Maximum Drawdown:** Peak-to-trough decline

2.3 Crypto-Specific Indicators

- **Volume Analysis:** On-chain vs exchange volume
- **Volatility:** Rolling 30-day realized volatility
- **Correlation:** BTC/ETH correlation, equity beta

3. Risk Metrics Summary

Ticker	Total Return	Ann. Return	Volatility	Sharpe	Max DD
BNB	1561.1%	47.4%	69.3%	0.68	-70.8%

4. Detailed Risk Profile

Return Distribution

Metric	Value
Positive Days	52.4%
Best Day	69.76%
Worst Day	-33.27%
Sortino Ratio	1.04

Value at Risk

Confidence	Daily VaR
95%	-5.71%
99%	-10.07%

5. Data Quality Assessment

Completeness: All trading days covered for analysis period
Stock Data: Yahoo Finance adjusted prices (splits, dividends)
Market Data: Synthetic/illustrative for portfolio demonstration

6. Key Observations

• Crypto equities exhibit extreme volatility compared to traditional assets

• High correlation with Bitcoin price movements

• Regulatory developments significantly impact valuations

• Trading volume and liquidity vary significantly across exchanges

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