



School of Business

Crypto Market Analysis, ChainSure+, FOMC Sentiment Analysis and Rate Predictions

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December 9th, 2025

Overview

1. Crypto Currency Ecosystem and Interlinkages
2. ChainSure+
3. FOMC Sentiment Analysis and Rate Predictions

Crypto Currency Ecosystem and Interlinkages

Overview of the Crypto Market

Table 1: Market Comparisons of the Top Ten Cryptocurrencies on December 30th, 2022

Company Name	Market Cap	Last Price	1D Pct Chg	1M Pct Chg
Bitcoin (BTC-USD)	\$320 B	\$16,600	-0.3%	-3%
Ethereum (ETH-USD)	\$145 B	\$1,200	+0.5%	-7%
Tether (USDT-USD)	\$66 B	\$1.00	0.0%	0%
USD Coin (USDC-USD)	\$44 B	\$1.00	0.0%	0%
BNB (BNB-USD)	\$39 B	\$245	-0.5%	-11%
XRP (XRP-USD)	\$17 B	\$0.34	-1.0%	-15%
Cardano (ADA-USD)	\$9 B	\$0.24	-0.5%	-18%
Dogecoin (DOGE-USD)	\$10 B	\$0.07	-1.0%	-18%
TRON (TRX-USD)	\$5 B	\$0.055	-1.0%	-12%

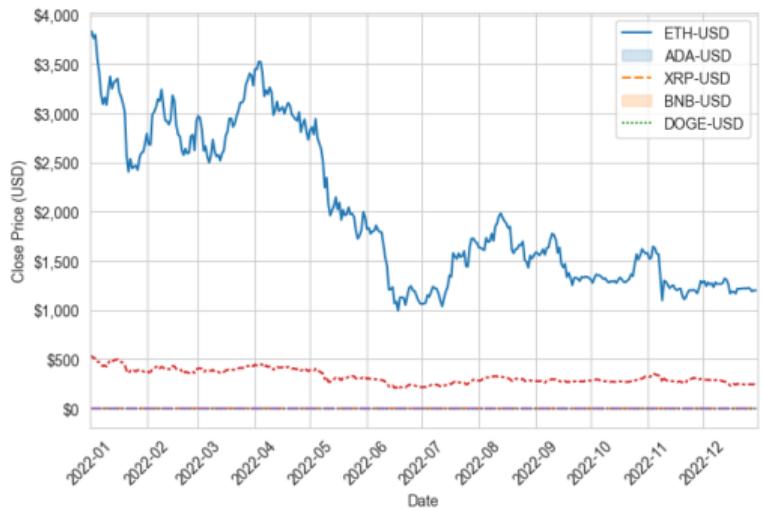
Overview of the Crypto Market

We find the ETH, ADA, XRP, BNB, and DOGE are the most correlated with BTC, so we use these crypto-assets.

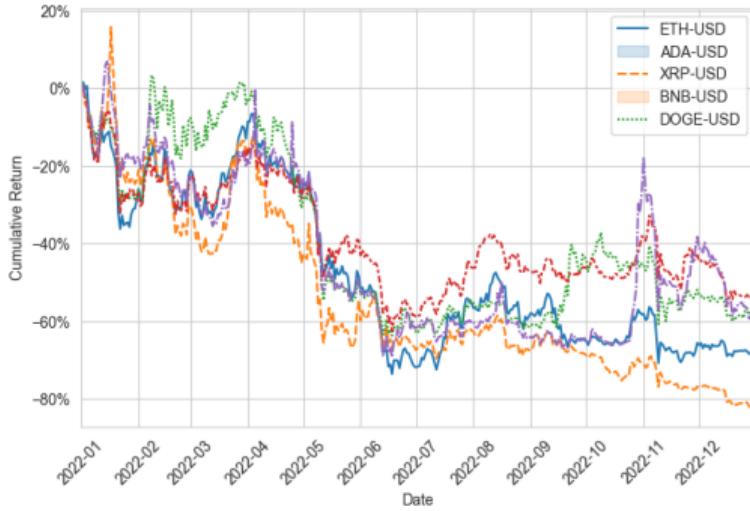


Figure 1: Correlation Matrix of the asset prices of Cryptocurrencies

Overview of the Crypto Market



(a) One-year trend of crypto-assets



(b) Cumulative returns of crypto-assets

Figure 2: Trends of crypto asset prices and cumulative returns

Overview of the Crypto Market

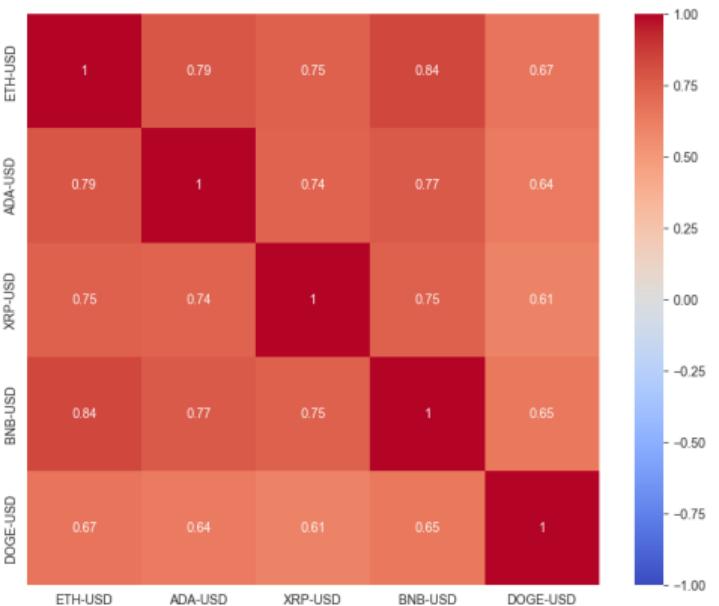


Figure 3: Correlation Matrix of the daily returns of the crypto market

Overview of the Crypto Market

Overall Trend

- ▶ We find the most crypto coins are highly correlated with each other, with the exception of stable coins and niche/utility coins.
- ▶ Similar to equities, most crypto coins are highly correlated with one another. Trends in the largest coins tend to lead to trends in all coins.

Descriptive Statistics of the Crypto Market

We use the following descriptive statistics to analyze the crypto market.

$$\text{Sample Mean : } \hat{\mu}_x = \frac{1}{T} \sum_{t=1}^T x_t,$$

$$\text{Sample Standard Deviation : } \hat{\sigma}_x = \sqrt{\frac{1}{T-1} \sum_{t=1}^T (x_t - \hat{\mu}_2)^2},$$