



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

Andre Sealy

Financial Engineering 800  
Stevens Institute of Technology

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.

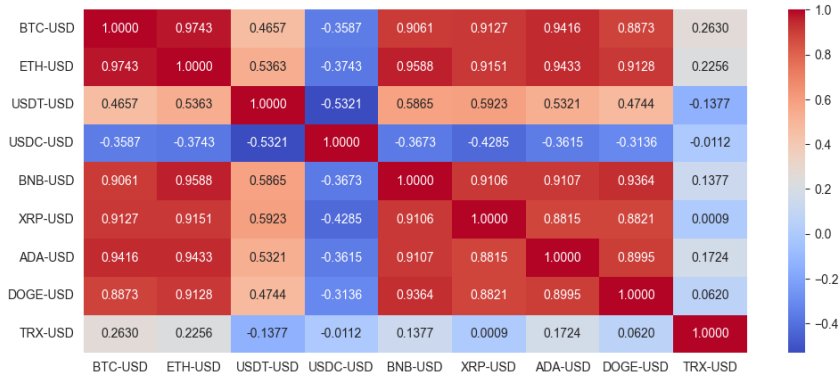
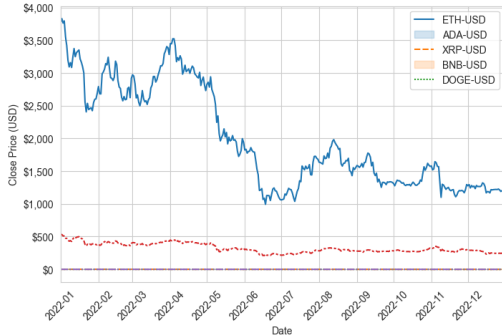
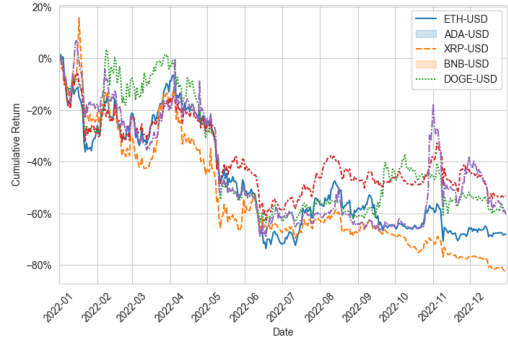


Figure 1: Correlation Matrix of the asset prices of Cryptocurrencies

# 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

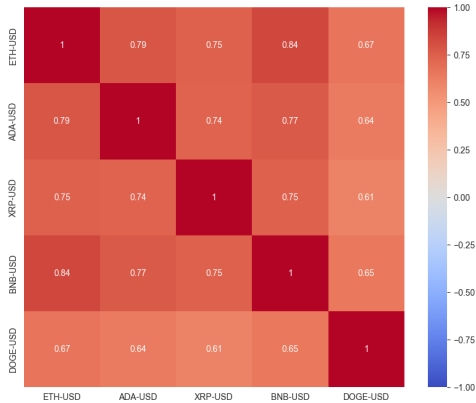


Figure 3: Correlation Matrix of the daily returns of the crypto market

# 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.

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

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