

Cryptocurrencies and the risk-free rate

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Research Question

Is there a relationship between cryptocurrencies and the 10 year treasury rate?

Overview

1 Data

2 Methodology

3 Results

4 Conclusion

Data

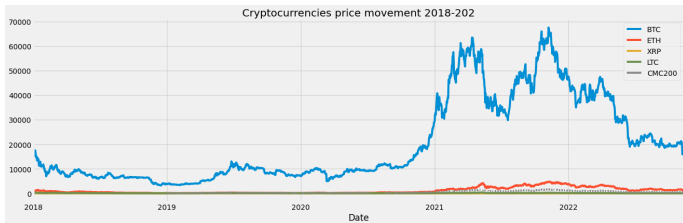
Through an API we accessed price data from yahoo over a period of 5 years (2018-2022). Finally, the data set comprises:

- 4 cryptocurrencies:

Bitcoin , Ethereum , XRP , Litecoin 

- CMC Crypto 200 Index
- 10 Year US Treasury Rate

Data



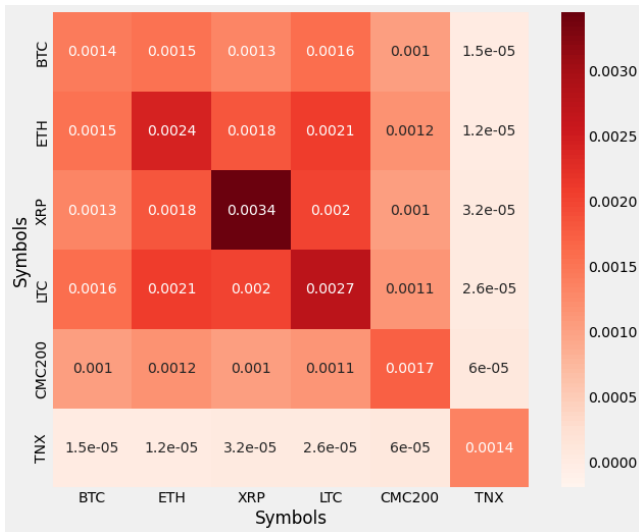
Note. Own representation.

Methodology

We measure the relationship through:

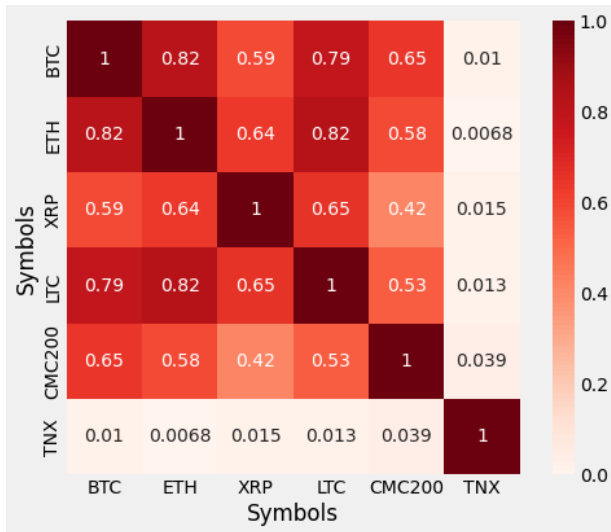
- 1 Covariance
- 2 Pearson's Correlation (linear)
- 3 Spearman's Correlation (monotonic)

Results - 1. Covariance



Note. Own representation.

Results - 2. Pearson's Correlation (linear)



Note. Own representation.

Results - 3. Spearman's Correlation (monotonic)

(The Spearman's correlation did not give further insights.)

Conclusion

- Close-to-zero covariance
- Negligible correlation (<0.1)

No significant correlation between hikes in the risk-free rate and cryptocurrency returns.

Thank you!

This presentation is part of the final project for Digital Tools for Finance (L) (03SMDFOEC008) by Igor Pozdeev, Department of Banking and Finance, University of Zurich. Refer to GitHub for the full project.