

Review of: "Cryptocurrency market risk analysis: evidence from FZL function"

Ashis Kumar Pradhan¹

¹ Maulana Azad National Institute of Technology

Potential competing interests: No potential competing interests to declare.

Review of

Cryptocurrency market risk analysis: evidence from FZL function

The current paper analyses coherent risk measurement of seven cryptocurrencies (Bitcoin, Ethereum, Litecoin, Ripple, Das, Monero, and Steller) and provide empirical application of Fissler and Ziegel joint loss dynamic models (FZL) for joint Value-at-Risk (VaR) and Expected Shortfall (ES) in a cryptocurrency context at $\alpha=0.01$ and $\alpha=0.025$ risk levels. Results show Ethereum and Steller as less risky currencies followed by Monero, Das, Litecoin, Bitcoin, and largest for Ripple suggesting that Ethereum and Steller requires the least capital to absorb losses. Following this result, we argue that market participants interested in cryptocurrencies can follow the rankings in this study to hedge, calculate margins, and capital requirement to maximize utility whiles minimizing risk to ensure financial stability in the global economy.

The paper is a value addition to the current understanding about these advanced traded risky assets. However, I have a few following concerns regarding certain issues that needs to be addressed:

1. As I proceed to read further, I realized that the current paper has contributed from methodological viewpoint only. Hence, the authors need to highlight about other possible novelty associated with the work and motivation to do this empirical exercise.
2. The authors are requested to highlight the theoretical framework in a separate section.
3. Going by past literature, some studies also used other Expected Shortfall techniques such as Couperier and Leymarie (2020) and copula approach. As compared to the availability of these researches and methodologies why did the authors of the current paper rely on the methodology of Fissler and Ziegel joint loss dynamic models (FZL) for joint Value-at-Risk (VaR) and Expected Shortfall (ES). See Pradhan and Tiwari (2021).
4. The authors need to explain the reasons of choosing this time period (i.e. August 2015 to February 2019) of the study. Why not the COVID-19 period considered for the analysis since people preferred felt these assets safer as compared to traditional assets such as equities and precious metals? Which software was used to analyze the results?
5. The authors claim that the kurtosis value of most of cryptocurrencies used in the current study are leptokurtic. However, the out-of-sample forecasts of certain cryptocurrencies are evidenced to be platykurtic for Bitcoin, Euthereum,

and Monero. Why?

6. Further, if the results of the normality assumption were violated, how did the authors address this issue?

8. The paper requires further proofreading to improve the clarity and communication.

Add recent literature, which is referred in the reference section associated with the current study.

Reference

1. Pradhan, A. K., & Tiwari, A. K. (2021). Estimating the market risk of clean energy technologies companies using the expected shortfall approach. *Renewable Energy*, 177, 95-100.
2. Trucíos, C., Tiwari, A. K., & Alqahtani, F. (2020). Value-at-risk and expected shortfall in cryptocurrencies' portfolio: A vine copula-based approach. *Applied Economics*, 52(24), 2580-2593.
3. Fantazzini, D., & Zimin, S. (2020). A multivariate approach for the simultaneous modelling of market risk and credit risk for cryptocurrencies. *Journal of Industrial and Business Economics*, 47, 19-69.
4. Liu, Y., Tsyvinski, A., & Wu, X. (2022). Common risk factors in cryptocurrency. *The Journal of Finance*, 77(2), 1133-1177.
5. Platanakis, E., & Urquhart, A. (2019). Portfolio management with cryptocurrencies: The role of estimation risk. *Economics Letters*, 177, 76-80.
6. Pradhan, A. K., Mittal, I., & Tiwari, A. K. (2021). Optimizing the market-risk of major cryptocurrencies using CVaR measure and copula simulation. *Macroeconomics and Finance in Emerging Market Economies*, 14(3), 291-307.
7. Borri, N. (2019). Conditional tail-risk in cryptocurrency markets. *Journal of Empirical Finance*, 50, 1-19.