

Review of: "Unpacking the Complexities of Cryptocurrency Prices Volatility in Times of Crisis: A Time Series Data with Long-term Memory or Long-range Dependence"

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Potential competing interests: No potential competing interests to declare.

Important questions:

There are hundreds of volatility models, so the main question is not which is the best volatility model in different time periods. If we consider more and more models, with more and more possible lag terms, and if we cut the out-of-sample period in different ways, the results of this paper would change.

In my view, the main question should be:

1. Which aspects of volatility are important and should be considered in the modeling process.
2. Are there structural changes after some events, and this question should be answered by the result of formal tests.
3. How do the important events mentioned in this paper (pandemic, war) affect the volatility of the BTC/USD exchange rate? This should be confirmed by empirical hypotheses and specific dataset.
4. Based on the best volatility model found in this paper, what can we do?

Minor questions:

Figure 1 shows that the exchange rate of BTC/USD may not be an $I(1)$ process, it could be an $I(2)$ process, please check.

In section 3, the author introduced EGARCH and IGARCH, both of which are popular volatility models, but did not use them in the empirical study.

The author did not mention TGARCH (also known as GJR-GARCH) and NGARCH, both of which are important GARCH models.

It is well known that GARCH(1,1) is usually good enough in empirical studies. I am not sure why the author uses GARCH(2,1) in the empirical study.