

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.

The article "Unpacking the Complexities of Cryptocurrency Prices Volatility in Times of Crisis: A Time Series Data with Long-term Memory or Long-range Dependence" used various time series models and statistical tests to analyze the volatility of cryptocurrency prices during times of crisis. They also examined the long-term memory or long-range dependence of cryptocurrency prices using fractional integration techniques. The empirical analysis results appear to be appropriate and well-supported by the data and analysis methods used. The authors use a variety of statistical tests and models to analyze the volatility of cryptocurrency prices during times of crisis, and they present their results clearly and comprehensively.

However, there are a few suggestions for modification that may improve the article:

1. Provide a clearer research question: The article's research question could be more focused and specific. It may be helpful to explicitly state the objectives and hypotheses of the research, as this will help the reader better understand the study's purpose and guide the analysis.
2. Improve the literature review: The literature review section could be improved by more thoroughly summarizing and synthesizing the existing literature on cryptocurrency prices volatility. It may also be beneficial to include more recent studies on this topic.
3. Model assumptions: The authors use various time series models and statistical tests to analyze the volatility of cryptocurrency prices. However, they do not provide a detailed explanation of the assumptions underlying these models and tests. It is important to ensure that the assumptions of the models and tests are met in order to ensure the validity of the results.
4. Data cleaning and pre-processing: The authors briefly describe the process of collecting data from various sources, but they do not provide a detailed explanation of how the data was cleaned and pre-processed prior to analysis. It is important to have a clear and well-documented process for data cleaning and pre-processing in order to ensure the accuracy and validity of the results.
5. Testing alternative models: The authors use several time series models to analyze the volatility of cryptocurrency prices, including GARCH and EGARCH models. While these models are commonly used in financial analysis, there may be alternative models that could provide additional insights or offer a better fit for the data. Testing a wider range of models could help to ensure the robustness and generalizability of the findings.
6. Clarify the methodology: The methodology section could be improved by providing more detailed explanations of the

statistical models used and their assumptions. Additionally, it may be helpful to provide a step-by-step explanation of the data analysis process. Additionally, the authors could have conducted further sensitivity analyses to test the robustness of their findings and conclusions. A sensitivity analysis would involve testing the results under different scenarios and assumptions to determine the extent to which the results are affected by these factors.

7.Improve the writing and organization: The article would benefit from clearer writing and organization. Some sentences are difficult to follow, and the flow between sections could be improved. Additionally, it may be helpful to use more subheadings to break up the text and make it easier to read.

Overall, the paper provides a valuable contribution to the literature on cryptocurrency prices and volatility during times of crisis, and the authors demonstrate a solid understanding of time series analysis techniques. The empirical analysis results presented in the paper are strong and well-supported However, there is room for improvement in terms of methodological transparency and sensitivity analysis.