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Financial News Predicts Stock Market Volatility Better Than Close Price

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Comment 1

Reviewer: Drop the superscript citation method throughout this manuscript. For example, page 2 line 6: compared to just 15% in 2003¹. Change it to “compared to just 15% in 2003 (see Glantz and Kissell (2013)).”

Response: Having spoken to one of the editors (Wang Liping), they have confirmed that we should follow the guide for authors and use the superscript citation instead of making this change. <http://www.keaipublishing.com/en/journals/the-journal-of-finance-and-data-science/guide-for-authors/>

Comment 2

Reviewer: Brief introduction part on review prediction methods. Introduction should be focus on what the manuscript's contributions are, and what the differences between this manuscript and other literature as well as the advantage and disadvantages among those methods for your purpose.

Response: The penultimate and final paragraphs explain in detail the contributions of the manuscript:

1. The empirical study to show evidence in support of the hypothesis that news-derived information is a greater predictor of market volatility than close price
2. Predictions are made using news-derived information alone, as opposed to integrating with a time series model
3. Our work goes beyond other research by using a much larger data set than what we find as usual in the literature
4. We take account for non-stationarity systematically in two ways:
 - a. We train and test over sliding temporal windows
 - b. We apply a decay function to weight more recent news higher, and less recent news lower

For the differences with literature, this is also covered in contributions, contrasting the extent of our empirical analysis with the work of ‘H. Asgharian, S Sikstrom, et al’. We also relate our work to the work of ‘R. B. Zadeh, A Zollman’ on market volatility prediction from federal reserve minutes in paragraph 7 of the ‘Introduction’. The most in depth comparison is with the work of ‘Bollen et al.’ in paragraphs 5 and 6 of the ‘Introduction’, where we offer a critique of their work and assert that we address the concerns of their methodology by testing on large, heterogeneous data sets (end of paragraph 6).

We have added a few sentences to briefly mention the prediction methods used and their shortfalls (see the end of the penultimate paragraph of the ‘Introduction’ section on page 4). “We construct a Latent ... assumption of feature independence”. Section 2.4 ‘Machine Learning’ reviews the prediction methods in more detail. We’ve added a sentence to include the decay function as a novel contribution, which was previously omitted (final paragraph of ‘Introduction’).

Comment 3

Reviewer: Page 6 Section 3, How to determine the financial terms for the text analysis? Are they verified to be more or most common used financial terms effecting the stock returns or stock volatility?

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