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Wavelet improved option-implied moments: An empirical study (Article)

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Abstract

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This study investigates the performance of option-implied moments, realised from the model-free Bakshi-Kapadia-Madan (MFBKM) with an improvement using wavelet transform. So far, little attention has been paid in utilising continuous wavelet transform in denoising the option-implied moments, especially within the model-free hybrid framework. Thus, this study primarily seeks to outline the important steps involved in the continuous wavelet transform data-regenerating by assuming that the best fit among the values considered is the best fit model for all. The sample data extracted from Dow Jones Industrial Average index options data is empirically examined throughout this study. This study finds that the wavelet-denoised higher moments record smaller approximation error in most cases compared to the noisy higher moments. It is shown that wavelet transform improves both consistency and error approximation of the signal. © 2019, Akademi Sains Malaysia.

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