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Wavelet-based beta estimation and Japanese industrial stock prices

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Abstract

This paper applies the multi-scale beta estimation approach based on wavelet analysis proposed in Gençay et al. (2002) to Japanese industrial stock prices. Betas are calculated based on the wavelet rough and smooth from the discrete wavelet transform (DWT) and it is argued that the conventional beta estimate is an ‘average’ of the wavelet-based beta estimates. Some empirical evidence is shown that implies that the multi-scale beta estimation approach is useful.

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Notes

For detailed explanations of wavelet analysis, see Gençay et al. (2002) and Percival and Walden (2000).