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The Relationship Between Financial Variables and Real Economic Activity: Evidence From Spectral and Wavelet Analyses

Sangbae Kim and Francis Haeuck In

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Many empirical studies find that financial variables possess a predictive power over real economic activity. To examine this relationship, we adopt two time-series techniques: spectral analysis and a newly developed method, wavelet analysis. The major innovation of this paper is to apply wavelet analysis to the investigation of the relationship between various financial variables and real economic activity. Spectral analysis reports that US industrial production and financial variables have a common component in the long run and a varying lead-lag relationship, depending on the cycles. It implies that the relationship between US industrial production and the financial variables is not constant over time. This result is consistently confirmed by wavelet analysis. The lead-lag relationship, in the sense of Granger causality, varies over time, depending on the wavelet time scale.

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