Identification of Approximate Factor Models Through Heteroskedasticity

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Abstract

This paper proposes new identification scheme for stationary large dimensional factor models through heteroskedasticity of factors based on the idea of Rigobon (2003). Our model assumes there exists a one break in the the variance-covariance matrix and autoregressive coefficients of factors, and we employ this information as identifying restrictions to estimate latent factors from estimates of rotated factors. It is noteworthy that our identification scheme does not require zero restrictions that are frequently used in the previous literature, with sign restrictions being imposed. Monte-Carlo simulation gives us encouraging evidences that finite sample properties of our estimator are plausible ones.

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