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"Analyzing business and financial cycles using multi-level factor models" (with Joerg Breitung, University of Bonn)

Abstract

This paper considers maximum likelihood estimation procedures for multi-level factor models which imply blocks of zero restrictions on the associated factor loading matrix. We suggest a simple iterative algorithm for minimizing the total sum of squared residuals that is much simpler and faster than Bayesian approaches previously employed in the literature. Monte Carlo simulations suggest that the least-squares estimator performs well in typical sample sizes encountered in the factor analysis of macroeconomic data sets. We apply our methodology to study international comovements of business and financial cycles as well as asymmetries over the business cycle in the US.