A simple likelihood-based panel cointegration rank test in the presence of a linear time trend and cross-sectional dependence

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Abstract

This paper proposes a new likelihood-based panel cointegration rank test which allows for a linear time trend and cross-sectional dependence. The testing procedure for a common cointegrating rank among the panel units is based on Simes's (1986) intersection test and requires only the p-values of the individual likelihood-ratio trace statistics of Saikkonen and Lütkepohl (2000). A Monte Carlo study demonstrates that this simple test is robust to cross-sectional dependence and has reasonable size and power properties in panels with dimensions typically encountered in macroeconometric analysis.

Keywords: panel cointegration rank test, cross-sectional dependence, common factors, likelihood-ratio, time trend
JEL classification: C12, C15, C33

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