

Abstract. The literature on panel cointegration is extensive but does not cover data sets where the cross-section dimension, n , is larger than the time-series dimension T . This paper proposes a novel methodology that filters out the short-run dynamics using sub-sample time averages as deviations from their full-sample counterpart, and estimates the number of long-run relations and their coefficients using eigenvalues and eigenvectors of the pooled covariance matrix of these sub-sample deviations. We refer to this procedure as pooled minimum eigenvalue (PME). We show that the PME estimator is consistent and asymptotically normal as n and $T \rightarrow \infty$ jointly, such that $T \approx n^d$, with $d > 0$ for consistency and $d > 1/2$ for asymptotic normality. Extensive Monte Carlo studies show that the number of long-run relations can be estimated with high precision, and the PME estimators have good size and power properties. The utility of our approach is illustrated by micro and macro applications using Compustat and Penn World Tables.