UNIT ROOT TESTING WITH STATIONARY COVARIATES AND A STRUCTURAL BREAK IN THE TREND FUNCTION

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ABSTRACT

The issue of testing for a unit root allowing for a structural break in the trend function is considered. The focus is on the construction of more powerful tests using the information in relevant multi-variate data sets. The proposed test adopts the generalized least squares detrending approach and uses correlated stationary covariates to improve power. As it is standard in the literature, the break date is treated as unknown. Asymptotic distributions are derived, and a set of asymptotic and finite sample critical values are tabulated. Asymptotic local power functions show that power gains can be large. Finite sample results show that the test exhibits small-size distortions and power that can be far beyond what is achievable by univariate tests.

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