

Abstract

In this thesis, we propose a unit root test based on Johnson SU density when the AR-coefficient is very close to one (local-to-unity) in the true data generating process. Through extensive simulations, we find that the proposed test, in finite samples, is as powerful as Dickey-Fuller test for normal errors and is significantly more powerful than many existing tests for non-normal errors. The proposed test has been applied on the Nelson and Plosser data set and on the nominal monthly interest rate of India. The proposed test performs better than several other tests available in literature.

A strategy has been developed for unit root test that helps practitioners to decide whether they should use time trend in the model or drift in the model. This strategy has shown pretty good small sample performance, especially for the case with asymmetric errors.