

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, August 16, 2005
Sequoia Hall Room 200
(Cookies at 3:45 in 1st Floor Lounge)

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Linearization procedures to test for breaks in nonlinear models

Abstract:

Testing for structural breaks in nonlinear and dynamic models might be quite involving. This seminar presents some easy to implement two-step procedures to test for constant parameters in nonlinear and dynamic models using a Wald type test and the Andrews sup Wald test. The first step obtains full sample consistent estimates under the null, and then the model is linearized. In the second step, the linearized model is recursively estimated and tested. Introducing the uniform consistency property, it is proved that the asymptotic distributions of the statistics to test for the existence of breaks in the linearized model are the same as those obtained for the nonlinear model. A Monte Carlo simulation example supports the relevance of the theory and shows the performance of the proposed procedures.

Joint work with Juan del Hoyo and Guillermo Llorente.