

Testing for Multiple Structural Changes with Non-Homogeneous Regressors

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Abstract

This paper investigates tests for multiple structural changes with non-homogeneous regressors, such as polynomial trends. We consider the exp-type, the sup-type and the average-type tests as suggested in the literature. We show that the limiting distributions depend on regressors in general and we need to tabulate critical values depending on them. Then, we focus on the linear trend case and obtain the critical values of the test statistics. The Monte Carlo simulations are conducted to investigate the finite sample property of the tests proposed in the paper and it is found that the specification of the number of breaks is an important factor for the finite sample performance of the tests. Since it is often the case that we cannot prespecify the number of breaks under the alternative but can suppose only the maximum number of breaks, the weighted-type tests and the double maximum tests are useful in practice.

JEL classification: C12, C22

Key words: multiple breaks, exponential-type test, sup-type test, average-type test

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