

TITLE: A comparison of two modified stationarity tests. A Monte Carlo study

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Abstract: To specify an econometric model with time series data, it is important to determine the order of integration of the variables in the model. In this paper, using a complete set of Monte Carlo experiments, we compare the behaviour of two stationarity tests, the Xiao test (S_n) and the KPSS (Kwiatkowski, Phillips, Schmidt and Shin) test, using an alternative estimator of the long-run variance to those used in the original version of the tests, to recommend which one to use in practice. First, we compare the small sample properties of the original S_n test with those of its modified version. We conclude that this modified version has a better size versus power trade-off than the original test. So, second, we compare the finite sample properties of the modified S_n and the modified KPSS. Since the modified KPSS exhibits higher power and size, we conduct a second experiment determining the critical value of each test, in such a way that the power of both tests coincides at 0.5, and then we examine their size for some local-to-unity values. The results show that, in most cases, the performance of the modified KPSS test dominates that of the modified S_n test.

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