

COVARIATE UNIT ROOT TESTS WITH GOOD SIZE AND POWER

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ABSTRACT

The selection of the truncation lag for covariate unit root tests is analyzed using Monte Carlo simulation. It is shown that standard information criteria such as the BIC or the AIC select lag orders that are too small and can result in tests with large size distortions. Modified information criteria select higher lag orders and can be used to construct covariate unit root tests with good size and power. A strategy to select the lead and lag orders that yields tests with better power is discussed. When unit root tests are constructed for the United States inflation rate using macroeconomic variables as covariates and the BIC to select the lag order, the unit root hypothesis can be rejected. On the other hand, when modified information criteria are used, the unit root hypothesis cannot be rejected. (C) 2011 Elsevier B.V. All rights reserved.

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