Preliminary and Incomplete Draft

Testing the Semiparametric Box-Cox Model with the Bootstrap

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July 23, 2001

Abstract

This paper considers testing the transformation parameter of the Box-Cox model when the distribution of the error is unknown. The transformation parameter indexes the most commonly used functional forms. The null hypothesis is tested using Wald and Lagrange Multiplier (LM) statistics constructed from GMM estimators. The finite sample performance of the tests with asymptotic and bootstrap critical values is investigated in a Monte Carlo study. The LM test with asymptotic critical values satisfactorily controls the Type I error for sample sizes available in practice. The numerical performance of the Wald test with bootstrap critical values is disappointing.

JEL Classification: C13, C14

Field Designations: 17