

# THE BIASED-BOOTSTRAP FOR GMM MODELS

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## Abstract

In this talk, I present some theoretical and empirical properties of the uniform and biased-bootstrap for generalized method of moments (GMM) models. The version of the biased-bootstrap used in this paper is a form of weighted bootstrap with weights chosen to satisfy some constraints imposed by the model. A typical biased-bootstrap resample is obtained by resampling from a member within a pseudo-parametric family of weighted empirical distributions on the sample. Because of its parametric nature, importance sampling can be successfully used when the biased-bootstrap is iterated, by re-weighting the first level bootstrap resamples. The resulting procedure yields an efficient and computationally feasible bootstrap recycling algorithm. I will present some consistency results of both the uniform and the biased-bootstrap estimators of the distributions of GMM estimators and the J-test statistic. An application to the bootstrap calibrated confidence intervals shows some empirical results on the finite sample properties of the proposed method.

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*Key words and phrases.* Generalized method of moments, the biased-bootstrap, the J-test, convergence in probability and weak convergence of random probability measures