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A consistent bootstrap procedure for the maximum score estimator

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Abstract

In this paper we propose a new model-based smoothed bootstrap procedure for making inference on the maximum score estimator of Manski [1975, 1985] and prove its consistency. We provide a set of sufficient conditions for the consistency of any bootstrap procedure in this problem. We compare the finite sample performance of different bootstrap procedures through simulations studies. The results indicate that our proposed smoothed bootstrap outperforms other bootstrap schemes, including the m-out-of-n bootstrap. Additionally, we prove a convergence theorem for triangular arrays of random variables arising from binary choice models, which may be of independent interest.

JEL classification: C14; C25

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