Jackknife, small bandwidth and high-dimensional asymptotics

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Abstract

This paper proposes a general perspective and inference approach for non-standard asymptotic problems based on the jackknife empirical likelihood method. Main examples are (i) small bandwidth asymptotics for average derivative estimator, (ii) many-weak IV asymptotics, and (iii) many covariates asymptotics for regression models. We find that lack of pivotalness of the jackknife empirical likelihood under non-standard asymptotics is caused by Efron-Stein inequality and propose a modification to recover the pivotalness.