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Bootstrap-Based Inference for Cube Root Asymptotics

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This publication reports simulation results in Section 5, Table 1. For the case of the m-out-of-n bootstrap in Table 1, the results reported were computed incorrectly: the scaling used was $n^{1/3}$ when it should have been $m^{1/3}$ instead. All other results in Table 1 are correct as originally reported. Table 1 reports the corrected simulation results. The latest, corrected version of the simulation code can be found here: https://github.com/mdcattaneo/replication-CJN_2020_ECMA.

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Table 1: Simulations, Maximum Score Estimator, 95% Confidence Intervals.

(a) $n = 1,000$, $S = 2,000$, $B = 2,000$

	DGP 1			DGP 2			DGP 3		
	h, ϵ	Coverage	Length	h, ϵ	Coverage	Length	h, ϵ	Coverage	Length
Standard									
		0.625	0.472		0.651	0.477		0.656	0.242
m-out-of-n									
$m = \lceil n^{1/2} \rceil$		0.888	0.539		0.898	0.558		0.981	0.600
$m = \lceil n^{2/3} \rceil$		0.844	0.550		0.858	0.569		0.924	0.336
$m = \lceil n^{4/5} \rceil$		0.785	0.518		0.792	0.530		0.822	0.281
Plug-in: $\tilde{\mathbf{H}}_n^{\mathtt{MS}}$									
$h_{\mathtt{MSE}}$	0.620	0.954	0.511	0.580	0.960	0.524	0.150	0.962	0.277
$h_{\mathtt{AMSE}}$	1.108	0.972	0.590	0.480	0.953	0.518	0.123	0.942	0.263
$\hat{h}_{\mathtt{AMSE}}$	0.443	0.940	0.508	0.409	0.947	0.518	0.154	0.956	0.278
Num Deriv: $\tilde{\mathbf{H}}_n^{\mathtt{ND}}$									
$\epsilon_{\mathtt{MSE}}$	1.400	0.936	0.483	1.360	0.940	0.486	0.290	0.940	0.249
$\epsilon_{\mathtt{AMSE}}$	0.537	0.880	0.414	0.573	0.898	0.426	0.224	0.904	0.227
$\hat{\epsilon}_{\mathtt{AMSE}}$	0.518	0.876	0.413	0.512	0.886	0.421	0.367	0.948	0.270

Notes:
(i) Panel **Standard** refers to standard nonparametric bootstrap, Panel **m-out-of-n** refers to m-out-of-n nonparametric bootstrap with subsample size m, Panel **Plug-in:** $\tilde{\mathbf{H}}_n^{\mathtt{MS}}$ refers to our proposed bootstrap-based implemented using the example-specific plug-in drift estimator, and Panel **Num Deriv:** $\tilde{\mathbf{H}}_n^{\mathtt{ND}}$ refers to our proposed bootstrap-based implemented using the generic numerical derivative drift estimator.
(ii) Column "h, ϵ" reports tuning parameter value used or average across simulations when estimated, and Columns "Coverage" and "Length" report empirical coverage and average length of bootstrap-based 95% percentile confidence intervals, respectively.
(iii) $h_{\mathtt{MSE}}$ and $\epsilon_{\mathtt{MSE}}$ correspond to the simulation MSE-optimal choices, $h_{\mathtt{AMSE}}$ and $\epsilon_{\mathtt{AMSE}}$ correspond to the AMSE-optimal choices, and $\hat{h}_{\mathtt{AMSE}}$ and $\hat{\epsilon}_{\mathtt{AMSE}}$ correspond to the ROT feasible implementation of $\hat{h}_{\mathtt{AMSE}}$ and $\hat{\epsilon}_{\mathtt{AMSE}}$ described in the supplemental appendix.