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CORRECTION AND ADDENDUM

ON EFFICIENT ESTIMATION IN REGRESSION MODELS

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First we have some corrections. The first conclusion of Proposition 5.8 should read

$$\frac{1}{N_n}\sum_{j=1}^{n}\hat{w}_{n,j}\,\eta(\hat{\varepsilon}_{n,j}) = \frac{1}{N_n}\sum_{j=1}^{n}\hat{w}_{n,j}\Big(\eta(\varepsilon_{n,j}) + \int \eta(y-\delta_{n,j}) - \eta(y)\,dF(y)\Big) + o_{\xi_n}(n^{-1/2});$$

the first conclusion of Lemma 10.2 should be $\Sigma_{n,1} = \mathscr{O}_{\xi_n}(N_n^{-1}a_n^{-4}b_n^{-2})$; in Condition S, $\tilde{s}_{n,j,i}$ stands for $\mathbb{E}_{n,i}(\tilde{s}_{n,j})$; in Section 10, interpret $\mathbb{E}_{n,i}(\hat{\varepsilon}_{n,i})$ and $\mathbb{E}_{n,i}(\hat{\varepsilon}_{n,ij})$ as zero if they are not properly defined.

I would like to comment on the assumptions in Theorem 5.3.

Remark 1. The conclusions of Theorem 5.3 remain valid if (S2) is weakened to

(WS2) $$S_{n,2} = \sum_{j=1}^{n}\hat{w}_{n,j}\|\hat{s}_{n,j} - \tilde{s}_{n,j}\|^2 = o_{\xi_n}(1).$$

Indeed, (S2) is only used on page 1519 to conclude that $(\mathbb{E}_n(|C_{n,a}|))^2 = o_{\xi_n}(n^{-1})$, $a = 1, 2$; but a similar argument using (WS2) shows that $C_{n,a}^2 = o_{\xi_n}(n^{-1})$, $a = 1, 2$, which is all that is needed.

Remark 2. In addition, (S0) can be relaxed at the expense of a stronger version of Condition R. More precisely, the conclusions of Theorem 5.3 remain valid if (R1) and (R3) are strengthened to

(UR1) $$\tilde{R}_{n,1} = \max_{1\le j\le n}\hat{w}_{n,j}\mathbb{E}_n\big(|\hat{r}_{n,j} - \varrho(Z_j, \xi_n)|^2\big) = \mathscr{O}_{\xi_n}(n^{-2\alpha}),$$

(UR3) $$\tilde{R}_{n,3} = \max_{1\le j\le n}\hat{w}_{n,j}\sum_{i=1}^{n}\mathbb{E}_n\big(|\hat{r}_{n,j} - \hat{r}_{n,j,i}|^2\big) = \mathscr{O}_{\xi_n}(n^{-2\alpha}),$$

and (S0) is relaxed to

(WS0) $$\|\hat{w}_{n,j}\tilde{s}_{n,j}\| \le A_n\hat{w}_{n,j}t_{n,j}, \qquad j = 1,\dots,n,$$

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