

CORRECTION AND ADDENDUM

ON EFFICIENT ESTIMATION IN REGRESSION MODELS

BY ANTON SCHICK

The Annals of Statistics (1993) **21** 1486–1521

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

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

the first conclusion of Lemma 10.2 should be $\Sigma_{n,1} = \mathcal{O}_{\xi_n}(N_n^{-1} a_n^{-4} b_n^{-2})$; 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 $\mathbb{E}_{n,i}(\hat{\varepsilon}_{n,i,j})$ 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

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

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

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

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

and (S0) is relaxed to

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

Received December 1994; revised February 1995.

1862

where $t_{n,j}$ are random variables based on \mathbf{Z}_n such that

$$S_{n,0} = \frac{1}{N_n} \sum_{j=1}^n \hat{w}_{n,j} t_{n,j}^2 = \mathcal{O}_{\xi_n}(1).$$

Details are available from the author upon request. This new set of conditions is useful in situations when the $\hat{s}_{n,j}$'s are based on \mathbf{Z}_n . In this case (WS0) holds with $A_n = 1$ and $t_{n,j} = \|\hat{s}_{n,j}\|$.

DEPARTMENT OF MATHEMATICAL SCIENCES
BINGHAMTON UNIVERSITY
BOX 6000
BINGHAMTON, NEW YORK 13902-6000