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CORRECTIONS

A QUADRATIC MEASURE OF DEVIATION OF TWO-DIMENSION DENSITY ESTIMATES AND A TEST OF INDEPENDENCE

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J. Ghorai has noted that part of the argument leading to the proof of Theorem 1, in particular formula (37), is invalid. The basic argument in part C of the paper can be corrected as follows. Let

$$Z = \int_D \left[\frac{n^{1/2}}{b(n)} \int w\left(\frac{x-u}{b(n)}\right) d\{F_n^*(u) - F(u)\} \right]^2 a(x)\, dx\,,$$

where D is any fixed open set. As in the argument leading to (38), one can show that

$$\sigma^2(Z) = O\left(b(n)^2 \int_D a^2(x)\, dx \right).$$

This implies that

$$\sigma^2[\textstyle\sum'(V_{j,k} - EV_{j,k}) - \{S_n(R) - ES_n(R)\}] = O\left(\frac{b^3(n)}{\Delta}\right)$$

where $\sum'$ denotes summation over $V_{j,k}$ arising from integrals in R. This estimate shows that $\sum'(V_{j,k} - EV_{j,k})/b(n)$ and $\{S_n(R) - ES_n(R)\}/b(n)$ asymptotically have the same behavior. As in the paper $\sum'(V_{j,k} - EV_{j,k})/b(n)$ is shown to be asymptotically normal by (39) and the Liapounov theorem. Also the estimate of $\sigma^2(Z)$ given above implies that for any fixed $\varepsilon > 0$, for $r = r(\varepsilon)$ sufficiently large $\sigma^2[b(n)^{-1}\{S_n - S_n(R)\}] < \varepsilon$. The asymptotic normality of $b(n)^{-1}(S_n - ES_n)$ follows.

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