Corrigendum to Central Limit Theorems For Dependent Variables. I

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N. Herrndorf has pointed out to me that in Theorem 2.1 the condition

$$\liminf \sigma_N^2/n > 0 \quad (1)$$

should be added to condition (A) (since $n \leq (k+1)(p+q)$ is assumed in the bound for $E\zeta_k^2$ in Lemma 3.4 (a)), and also that the condition

$$C_N(q_N) \rightarrow 0 \quad \text{if } q_N \rightarrow \infty \quad (2)$$

should be added to (B). This holds, for example, if for some constants $a > 1$ and $b < \infty$,

$$\tilde{c}_N(i) \leq bi^{-a}. \quad (3)$$

An example of a set of conditions for Theorem 2.1 not requiring (1) (or $\varepsilon > 0$, $\gamma \geq 0$ or $\theta = 2\gamma/\varepsilon$) is

(C): $\varepsilon + 2\gamma > 0$, $n/\sigma_N^2 = O(n^\lambda)$, $C_N(0) n/\sigma_N^2 = O(n^\nu)$,

$$\theta = 1 + (1 - \nu)/\Delta, \quad \text{where } \Delta = \min(1 - 2\nu, \{(1 - \lambda)(2 + \varepsilon) - 1\}/(\varepsilon/2 + \gamma) - \nu) > 0$$

(that is λ, ν are not too large), and (3) holds with $a > 1 + \max(0, \lambda/\Delta)$.

For example, (C) holds if $\gamma = 0$, $\varepsilon = 2$, $\sigma_N^2/n \approx K n^{-\lambda}$ where $\lambda < \frac{1}{2}$, (3) holds and a, θ are sufficiently large.

In the proof of Theorem 2.1 use $k = [n/(p+q)]$ and replace σ_N^2 by n .

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