

Correction

The Probabilities of Large Deviations for a Certain Class of Statistics Associated with Multinomial Distributions

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There are misprints in the statements of Theorem 2.1 and 2.2 of the article.

In the relations (2.7) and (2.8) it must be written $R_N(\eta)$ instead of R_N , and $O\left(\frac{1+x_N}{\sqrt{N}}\right)$ instead of $o\left(\frac{1+x_N}{\sqrt{N}}\right)$.

The initial sentence of condition (ii) of Theorem 2.2 was omitted. The corrected variant is

Theorem 2.2. Let $n \rightarrow \infty$, $N \rightarrow \infty$, $p_{\max} \rightarrow 0$ and the functions $h_m(\cdot)$ be non-negative. If

(i) For each integer $s \in [3, k_n]$ there exist non-negative a_1, a_2 and b_1, b_2 such that

$$E\left((\xi_m - np_m)^2 h_m^s(\xi_m)\right) = O\left(s^a (np_m)^b E h_m^s(\xi_m)\right), \quad (2.9)$$

where $a = a_1$, $b = b_1$ for all $m \in \mathcal{N} \subseteq (1, 2, \dots, N)$, and $a = a_2$, $b = b_2$ for all $m \in (1, 2, \dots, N) \setminus \mathcal{N}$, and

$$k_n = o\left(\min(p_{\max}^{-1}, K_n(a_1, b_1), K_n(a_2, b_2))\right), \quad (2.10)$$

(ii) For each integer $s \in [3, k_n]$ there exists $\omega_m^2 > 0$ and a sequence of positive numbers V_n such that for some $\nu \geq 1$

$$|\mathcal{C}_s(h_m(\xi_m))| \leq (s!)^{1+\nu} V_n^{s-2} \omega_m^2, \quad m = 1, \dots, N, \quad (2.11)$$

then for all x_N such that

$$0 \leq x_N = o\left(\min\left(W_N^{1/(1+2\nu)}, k_n^{1/2}\right)\right), \quad (2.12)$$

where $W_N = V_n^{-1} \sigma_N \min(1, \omega_N^2)$, $\tilde{\omega}_N^2 = \omega_1^2 + \dots + \omega_N^2$, it holds

$$P\{R_N(\eta) > x_N \sigma_N + A_N\} = (1 - \Phi(x_N)) \left(1 + O\left((x_N + 1) W_N^{-1/(1+2\nu)}\right)\right), \quad (2.13)$$

and

$$P\{R_N(\eta) < -x_N \sigma_N + A_N\} = \Phi(-x_N) \left(1 + O\left((x_N + 1) W_N^{-1/(1+2\nu)}\right)\right). \quad (2.14)$$

At last, Corollary 3.6 should be read as Theorem 3.6, proof of which follows from Theorem 2.2 alike to proofs of Theorems 3.5 and 3.7.