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CORRECTION

A MODIFIED KOLMOGOROV–SMIRNOV TEST SENSITIVE TO TAIL ALTERNATIVES

BY DAVID M. MASON AND JOHN H. SCHUENEMEYER

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W. Stute and G. Dikta have kindly pointed out to us an error in the part of the proof of our Theorem 1 which is based on inequalities (8) and (9). This error is corrected by the following argument, replacing on page 935, line -11 to the sentence ending on line -5: First we require an elementary lemma, which we state without proof.

LEMMA. *Let (X_n, Y_n), $n \geq 1$, be a sequence of pairs of random variables such that*

(i) $$Y_n \to_p 1 \quad as\ n \to \infty,$$

and

(ii) $$M_n := \max(X_n, Y_n) \to_d M \quad as\ n \to \infty,$$

where M is a random variable such that

(iii) $$P\{M > 1\} = 1.$$

Then

(iv) $$P\{M_n = X_n\} \to 1 \quad as\ n \to \infty.$$

The part of the proof of Theorem 1 indicated above should now be replaced by the following two applications of this lemma.

APPLICATION 1. Set $X_n = L_{n,1}(k_n)$ and $Y_n = \sup\{u/G_n(u): U_{k_n,n} < u < 1\}$. By Theorem 0 in Wellner (1978), $Y_n \to_p 1$ as $n \to \infty$. Now $M_n := L_{n,1} = \max(X_n, Y_n) \to_d M$, where M is a random variable with distribution $H(a, \infty)$ for $a > 1$. Since $H(1, \infty) = 0$ [see equation (2.10) of Rényi (1968)], $P\{M > 1) = 1$. Therefore by the lemma, $P\{L_{n,1} = L_{n,1}(k_n)\} \to 1$ as $n \to \infty$.

APPLICATION 2. Now set $X_n = L_{n,2}(k_n)$ and $Y_n := \sup\{G_n(u)/u: U_{k_n,n} < u < 1\}$. By (C1) and Theorem 0 in Wellner (1978), $Y_n \to_p 1$ as $n \to \infty$. Here, by Daniels (1945), $M_n := L_{n,2} = \max(X_n, Y_n) \to_d M$, where $P\{M > b\} = 1/b$ for $b \geq 1$. Again by the lemma, we see that $P\{L_{n,2} = L_{n,2}(k_n)\} \to 1$ as $n \to \infty$.

We are also very grateful to F. Calitz for making us aware of a mistake in our implementation of Noe's algorithm when we computed Table 1. A corrected Table 1 is presented here.

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