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THE INFORMATION BOUND OF A DYNAMIC PANEL LOGIT MODEL WITH FIXED EFFECTS — CORRIGENDUM

JIAYING GU
University of Toronto

JINYONG HAHN
University of California, Los Angeles

KYOO IL KIM
Michigan State University

In Hahn (2001), an entry in Table 1 contains an algebraic mistake, and as a consequence, Theorem 1 is incorrect. The problematic entry appears in the last row of Table 1, which reads

$$E\left[g(z)z^5\right]+2\cdot E\left[g(z)z^4\right]+E\left[g(z)z^3\right]$$
$$=E\left[\frac{z^3}{(1+bz)^2(1+z)}\right]-E\left[\frac{2bz^4}{(1+bz)^3(1+z)}\right].$$

The first term on the right should be multiplied by 2, that is, it should be $E\left[2z^3/\left((1+bz)^2(1+z)\right)\right]$. Related to this, the term r^B defined in the technical appendix should be changed as the last element of r^B should be $E\left[2z^3/\left((1+bz)^2(1+z)\right)\right]-E\left[2bz^4/\left((1+bz)^3(1+z)\right)\right]$. This implies that the last equation on p. 918 should read $\left(1,-1,-2,-b,-1,-1-b,-b^2\right)r^B=0$, and as a consequence, there is no contradiction, contrary to the statement at the bottom of p. 918. This further implies that the conclusion of Theorem 1 is incorrect; using the same method as in the proof for Theorem 2, it can be shown that there exists a $K(\cdot)$ with $E[K(u)]=0$ that satisfies the equality $E\left[\ell^B\middle|y_3,y_2+y_1\right]=E\left[K(u)\middle|y_3,y_2+y_1\right]$ for all (y_3,y_2+y_1), as long as the density of the fixed effect u is bounded away from zero on an open interval. Therefore, the conditional maximum likelihood estimatior is semiparametrically efficient under such conditions on the distribution of u.

REFERENCE

Hahn, J. (2001) The information bound of a dynamic panel logit model with fixed effects. *Econometric Theory* 17, 913–932.

Email: hahn@econ.ucla.edu

