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CORRECTION

SIGNAL EXTRACTION FOR NONSTATIONARY TIME SERIES

BY WILLIAM BELL

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We correct results of the above paper for the particular case of Assumption A when $\delta_s(B)$ and $\delta_n(B)$ have a common zero or zeroes. For this case the general solution to (4.9) in the paper can be written

$$\begin{bmatrix} E(\mathbf{s}_*|\{z_t\}) \\ E(\mathbf{n}_*|\{z_t\}) \end{bmatrix} = [H_1 \quad H_2]^- \{H_2\mathbf{z}_{(dn)} + H_3\mathbf{R}_{(m)}\} + E(\boldsymbol{\zeta}_*|\{z_t\}),$$

where $[H_1 \quad H_2]^-$ is a generalized inverse of $[H_1 \quad H_2]$ and $\boldsymbol{\zeta}_* = [\boldsymbol{\zeta}_s' \quad \boldsymbol{\zeta}_n']'$ is a $(ds + dn) \times 1$ zero mean random vector (partitioned conformably with $[\mathbf{s}'_* \quad \mathbf{n}'_*]'$) such that $[H_1 \quad H_2]\boldsymbol{\zeta}_* = \mathbf{0}$. For this case we must extend Assumption A to include an assumption that $\boldsymbol{\zeta}_*$ is independent of $\mathbf{z}_*$, u_t and v_t. Then $E(\boldsymbol{\zeta}_*|\{z_t\}) = E(\boldsymbol{\zeta}_*) = \mathbf{0}$, and (4.9) and Theorem 3 of the paper still hold. However, results in Section 5.1 of the paper on variances of signal extraction errors need to be modified: $H_{1t}\boldsymbol{\zeta}_s$ should be added to (5.6) on page 659, and $H_{1t}\,\mathrm{Var}(\boldsymbol{\zeta}_s)H_{1t}'$ should be added to (5.7) on page 659 and to the expression in Theorem 5 (page 660) for $\mathrm{Var}(s_t|\{z_t\})$. Notice that $\mathrm{Var}(\boldsymbol{\zeta}_*)$ needs to be known. Kohn and Ansley (1987) pointed out the problem in this particular case and took a different approach to get results analogous to the (corrected) Theorems 3 and 5.

An unrelated error on page 659 of the paper is that the zero matrix in the expression for K_2 should be of dimension $t \times (t - d)$ not $t \times (t - d + ds)$.

REFERENCE

KOHN, R. and ANSLEY, C. F. (1987). Signal extraction for finite nonstationary time series. *Biometrika* **74** 411–421.

STATISTICAL RESEARCH DIVISION
BUREAU OF THE CENSUS
ROOM 3000—FOB #4
WASHINGTON, D.C. 20233

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