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Erratum to: Local Statistical Modeling via a Cluster-Weighted Approach with Elliptical Distributions

Salvatore Ingrassia

Università di Catania, Italy

Simona C. Minotti

Università di Milano-Bicocca, Italy

Giorgio Vittadini

Università di Milano-Bicocca, Italy

In the statement of Proposition 6, the symbol $\sigma^{2*}_{\epsilon,g}$ was used but not defined before. Actually, it should be $\sigma^2_{\epsilon,g}$, rather than $\sigma^{2*}_{\epsilon,g}$, and $\sigma_g^{2(y)}$, rather than $\sigma^2_{\epsilon,g}$, where $\sigma_g^{2(y)}$ is defined according to (7). Some detail has been clarified too. Then, the statement of Proposition 6 needs to be amended as follows.

Proposition 6 Let $\mathbf{Z}$ be a random vector defined on $\Omega = \Omega_1 \cup \cdots \cup \Omega_G$ with values in $\mathbb{R}^{d+1}$ and set $\mathbf{Z} = (\mathbf{X}', Y)'$, where $\mathbf{X}$ is a d-dimensional input vector and Y is a random variable defined on Ω, and the parameters of $\mathbf{Z}$ are defined according to (7). Assume that the density of $\mathbf{Z} = (\mathbf{X}', Y)'$ can be written in the form of a *linear* t-CWM (22), where $\mathbf{X}|\Omega_g \sim t_d(\boldsymbol{\mu}_g, \boldsymbol{\Sigma}_g, \nu_g)$ and $Y|\mathbf{x}, \Omega_g \sim t(\mathbf{b}_g'\mathbf{x} + b_{g0}, \sigma^2_{\epsilon,g}, \zeta_g)$, $g = 1, \ldots, G$. For any fixed $\mathbf{x} \in \mathbb{R}^d$,

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Authors' Addresses: S. Ingrassia, Dipartimento di Economia e Impresa, Università di Catania, Corso Italia 55, Catania, Italy, e-mail: s.ingrassia@unict.it; S.C. Minotti, Dipartimento di Statistica, Università di Milano-Bicocca, Via Bicocca degli Arcimboldi 8 - 20126 Milano, Italy, e-mail: simona.minotti@unimib.it; G. Vittadini, Dipartimento di Metodi Quantitativi per l'Economia e le Scienze Aziendali, Università di Milano-Bicocca, Via Bicocca degli Arcimboldi 8 - 20126 Milano, Italy, e-mail: giorgio.vittadini@unimib.it.

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if $\zeta_g = \nu_g + d$ and $\sigma^2_{\epsilon,g} = \sigma_g^{2(y)}[\nu_g + \delta(\mathbf{x};\boldsymbol{\mu}_g,\boldsymbol{\Sigma}_g)]/(\nu_g + d)$, then the *linear t*-CWM (22) coincides with the FMT for suitable parameters $\mathbf{b}_g, b_{g0}$ for $g = 1,\dots,G$.

Accordingly, the *linear t*-CWM in (22) defines a wide family of densities and is not strictly equivalent to FMT (different from the Gaussian case).