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ERRATUM TO: LINKING ITEM RESPONSE MODEL PARAMETERS

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The following argument should have been added to the proof of Theorem 3 to show that the linking function $\boldsymbol{\xi}^* = \varphi(\boldsymbol{\xi})$ has to be separable in the components of $\boldsymbol{\xi}$: as the linking problem is symmetric in $\boldsymbol{\xi}^*$ and $\boldsymbol{\xi}$, φ has to be bijective (i.e., has an inverse that returns the same unique $\boldsymbol{\xi}$ from which the linking departs). In addition, to allow for the fact that the two calibrations may yield the same value for some of the parameters, φ should always be able to return $\xi_j^* = \xi_j$, $j = 1, \ldots, d$, for all values of $\boldsymbol{\xi}$. The separable form of $\varphi(\boldsymbol{\xi})$ in (31) does have both properties: each of its component functions is monotone and thus has an inverse, while the identity function is a special case of a monotone function. Now, if $\varphi(\boldsymbol{\xi})$ would not be separable in its components, it would hold that $\xi_j^* = \varphi_j(\xi_1, \ldots, \xi_d\})$ for some $j = 1, \ldots, d$. However, $\xi_j^* = \varphi_j(\xi_1, \ldots, \xi_d)$ is only able to always return $\varphi_j(\xi_1, \ldots, \xi_j, \ldots, \xi_d) = \xi_j$ when it is independent of $(\xi_1, \ldots, \xi_{j-1}, \xi_{j+1}, \ldots, \xi_d)$, that is, does not vary as a function of any of the other parameters. It follows that $\boldsymbol{\xi}^* = \varphi(\boldsymbol{\xi})$ has to be separable in its components.

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