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ERRATUM

Erratum to: The stochastic guaranteed service model with recourse for multi-echelon warehouse management

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In the proof of Theorem 1 in the appendix of the original article, the validity of the optimality conditions

$$s_i^{\text{in}} \left(\sum_{j:ji \in A(G)} \rho_{ji} - \sum_{\omega \in \Omega} \sigma_i^{\omega} \right) = 0 \tag{114}$$

for all $(\sigma_i^{\omega})^{\text{SGSM}}$ and ρ_{ji}^{SGSM} is proved by scaling the optimality conditions

$$s_i^{\text{in}} \left(\sum_{j:ji \in A(G)} \rho_{ji} - \sigma_i \right) = 0 \tag{89}$$

which are, by assumption, valid for σ_i^{GSM} and ρ_{ji}^{GSM}, by the factor

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$$\frac{\bar{\alpha}_i}{\alpha_i^* \bar{n}} \quad \text{with} \quad \bar{n} := \sum_{\omega > \omega^*} p^\omega > 0 \quad \text{and} \quad \bar{\alpha}_i := \sum_{\omega > \omega^*} \alpha_i^\omega p^\omega > 0.$$

Equation (114) emerges from (89) this way, in general, only if

$$\rho_{ji}^{\mathrm{SGSM}} = \frac{\bar{\alpha}_i}{\alpha_i^* \bar{n}} \rho_{ji}^{\mathrm{GSM}} \qquad \forall ji \in A(G).$$

The definition of $\rho_{ji}^{\mathrm{SGSM}}$, however, in the original proof is, up to the reversal of i and j,

$$\rho_{ji}^{\mathrm{SGSM}} := \frac{\bar{\alpha}_j}{\alpha_j^* \bar{n}} \rho_{ji}^{\mathrm{GSM}} \qquad \forall ji \in A(G). \tag{130}$$

The theorem and the proof in the original article are therefore true, if $\frac{\bar{\alpha}_j}{\alpha_j^* \bar{n}}$ does not depend on the node j. This holds, in particular, in the following cases:

- There is only one node; this is, e.g., the case in the example of Theorem 2 so that the asymmetry between the sets of optimal solutions of the SGSM and the GSM is retained.
- For each pair of nodes, the ratio between their demands is a constant independent of the scenario; this is, e.g., the case, if the demands for all nodes are identical in each demand scenario.

We conjecture that there are weaker assumptions for which Theorem 1 holds, but they require a modified proof. We apologize for our inadvertent omission.