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CORRECTION

BAYESIAN STRUCTURED ADDITIVE DISTRIBUTIONAL REGRESSION WITH AN APPLICATION TO REGIONAL INCOME INEQUALITY IN GERMANY

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The analysis of conditional income distributions in "Bayesian structured additive distributional regression with an application to regional income inequality in Germany" [Klein et al. (2015)] was based on the comparison of four distributional assumptions for the conditional distribution of incomes: The log-normal distribution, the gamma distribution, the inverse Gaussian distribution and the Dagum distribution. In the original analysis, the log-normal distribution seemed to provide a considerably deteriorated fit compared to the competitors both in terms of the deviance information criterion and the predictive proper scoring rules. Unfortunately, the analysis with the log-normal distribution was flawed since the sampling and cross-validation weights were not appropriately taken into account in the original analysis. This issue only arose for the case of the log-normal distribution, while all other three distributions (gamma, inverse Gaussian, Dagum) were not affected.

Corrected results from the log-normal analysis of conditional incomes are presented and discussed in Supplement C [Klein et al. (2016)]. This supplement also contains corresponding corrected figures and tables. The main outcome is that the log-normal distribution is closer to (but still slightly worse than) the gamma distribution, but now outperforms the inverse Gaussian distribution in terms of its fit and predictive ability. However, the Dagum model remains the best choice based on the DIC and the scoring rules such that the results discussed in the original paper remain valid.

SUPPLEMENTARY MATERIAL

Supplement to "Correction: Bayesian structured additive distributional regression with an application to regional income inequality in Germany" (DOI: 10.1214/16-AOAS922SUPP; .pdf). The supplementary material contains corrected results from the log-normal analysis including corrected figures and tables.

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