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Letter from Editors

The three papers published in the fourth issue of volume 8 focus on specific statistical models and inference methods developed for three different issues of empirical economic modelling.

In the first paper, Piotr Kębłowski investigates small sample properties of unrestricted and restricted canonical correlation estimators of cointegrating vectors for a panel vector autoregressive process. His analysis is focused on cases with cross-sectional dependencies in the process generating nonstationary panel data. The comparison of performance of the restricted canonical correlation estimator of cointegrating vectors for the panel VAR and for the classical VAR applied independently for each cross-section reveals that the latter performs better in small samples when the cross-sectional dependence is limited to the error terms correlations, but it falls short in comparison to the former when there are cross-sectional dependencies in the short-run dynamics or in the long-run adjustments.

In the second paper, written by Jakub Boratyński, Bayesian inference is applied to estimate the transformation matrix that converts the vectors of industry outputs from one to another NACE classification. This issue represents the class of matrix balancing (updating, disaggregation) problems that arise in the field of multi-sector economic modelling and can be characterized by availability of partial, limited data and a strong role of prior assumptions. The likelihood function of the statistical model for such problems is specific, as it represents accounting restrictions in the form of an underdetermined system of equations. Building on Bayesian highest posterior density formulation for a similarly structured case, the author extends the model with specification of prior information based on the Dirichlet distribution and employs MCMC sampling. The main contribution, compared to alternative approaches, is in providing a clear account of uncertainty.

In the third paper, Jacek Osiewalski and Krzysztof Osiewalski discuss general hybrid MSV-MGARCH structures for modelling volatility and dependencies of prices on different financial and commodity markets. Basic characteristics that explain greater flexibility of such hybrid structures (with respect to the corresponding MGARCH models) are described. From the empirical perspective, the GMSF-SBEKK model specification is advocated; it uses as many latent processes as there are relatively homogeneous groups of markets (or assets in the portfolio). Full Bayesian inference for such models, with the use of an efficient MCMC simulation strategy, is presented. The proposed approach is applied to jointly model volatility and possible long-run relations among six daily time series, representing two stock indexes as well as the prices of gold, silver, oil and natural gas. Different model specifications are formally compared through the Bayes factor for each pair of competing models.