

# Linear admissible estimation revisited

**Augustyn Markiewicz**

Poznań University of Life Sciences

The problem of admissible linear estimation under the Gauss-Markov model was extensively studied by Rao (1976). Rao's work stimulated further research in this area. Baksalary et al. (1992, 1995) studied this problem in a possibly singular model, while Baksalary and Mathew (1988) and Markiewicz (1998) studied it in a possibly misspecified model. Another subject of research considered by Markiewicz (1996) and Markiewicz and Puntanen (2009) was a specified subclass of admissible estimators that are in addition linearly sufficient. The purpose of this paper is to present the development of the theory and its state-of-the-art, along with some new supplementary results.

## **Literatura**

- [1] J.K. Baksalary and T. Mathew (1988), *Admissible linear estimation in a general Gauss-Markov model with an incorrectly specified dispersion matrix*, Journal of Multivariate Analysis 27, 53–67
- [2] J.K. Baksalary, C.R. Rao, and A. Markiewicz (1992), *A study of the "natural restrictions" on the estimation problems in the singular Gauss-Markov model*, Journal of Statistical Planning and Inference 31, 335–351
- [3] J.K. Baksalary, A. Markiewicz, and C.R. Rao (1995), *Admissible linear estimation in the general Gauss-Markov model with respect to an arbitrary quadratic risk function*, Journal of Statistical Planning and Inference 44, 341–347
- [4] A. Markiewicz (1996), *Characterization of general ridge estimators*, Statistics & Probability Letters 27, 145–148
- [5] A. Markiewicz (1998), *Comparison of linear restricted models with respect to the validity of admissible and linearly sufficient estimators*, Statistics & Probability Letters 38, 347–354
- [6] A. Markiewicz and S. Puntanen (2009), *Admissibility and linear sufficiency in linear model with nuisance parameters*, Statistical Papers, 50, 847–854
- [7] C.R. Rao (1976), *Estimation of parameters in a linear model*, Annals of Statistics, 4, 1023–1037