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References

Davison et al.: Bootstrap methods and their application **Davison-Hinkley-1997**

Anthony Christopher Davison and David Victor Hinkley. *Bootstrap methods and their application.* Cambridge Series in Statistical and Probabilistic Mathematics. Cambridge and New York, NY, USA: Cambridge University Press, 1997. ISBN: 9780521573917. DOI: 10.1017/CBO9780511802843.

Abstract: Bootstrap methods are computer-intensive methods of statistical analysis, which use simulation to calculate standard errors, confidence intervals, and significance tests. The methods apply for any level of modelling, and so can be used for fully parametric, semiparametric, and completely nonparametric analysis. This 1997 book gives a broad and up-to-date coverage of bootstrap methods, with numerous applied examples, developed in a coherent way with the necessary theoretical basis. Applications include stratified data; finite populations; censored and missing data; linear, nonlinear, and smooth regression models; classification; time series and spatial problems. Special features of the book include: extensive discussion of significance tests and confidence intervals; material on various diagnostic methods; and methods for efficient computation, including improved Monte Carlo simulation. Each chapter includes both practical and theoretical exercises. S-Plus programs for implementing the methods described in the text are available from the supporting website.

Library: QA276.8 .D38 1997.

K. H. Li, Trivellore Eachambadi Raghunathan, and Donald B. Rubin. "Large-sample significance levels from multiply imputed data using moment-based statistics and an F reference distribution". In: *Journal of the American Statistical Association* 86.416 (Dec. 1991), pp. 1065–1073. DOI: 10.1080/01621459.1991.10475152.

Abstract: We present a procedure for computing significance levels from data sets whose missing values have been multiply imputed data. This procedure uses moment-based statistics, $m \leq 3$ repeated imputations, and an F reference distribution. When $m = \infty$, we show first that our procedure is essentially the same as the ideal procedure in cases of practical importance and, second, that its deviations from the ideal are basically a function of the coefficient of variation of the canonical ratios of complete to observed information. For small m our procedure's performance is largely governed by this coefficient of variation and the mean of these ratios. Using simulation techniques with small m, we compare our procedure's actual and nominal large-sample significance levels and conclude that it is essentially calibrated and thus represents a definite improvement over previously available procedures. Furthermore, we compare the large-sample power of the procedure as a function of m and other factors, such as the dimensionality of the estimand and fraction of missing information, to provide guidance on the choice of the number of imputations; generally, we find the loss of power due to small m to be quite modest in cases likely to occur in practice.