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## Book and Software Review

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### Seppo Laaksonen (2018) *Survey Methodology and Missing Data*, Springer

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**Andrius Čiginas**

Vilnius University, Lithuania

#### **Abstract**

We find that the book might be useful for a wide auditorium facing with sample surveys because the author explains all necessary steps in a simple way. Ideas on the use of auxiliary information, weighting, and imputation, which are presented by examples of real social surveys, might be interesting for experienced statisticians as well.

*Keywords:* survey statistics, handbook, social survey, sampling design data file

Implementation of a sample survey is a process of manifold tasks that requires specific knowledge. To organize, coordinate, and accomplish the steps of a new survey, a good idea is to follow the best practices of other surveys. For this purpose the survey statistician may look at publicly available documentation of well-established surveys, to search for books of a handbook type, or to read *Survey Methodology and Missing Data*, where Seppo Laaksonen systematically explains the main survey points using real examples. Choosing the latter option, we can see that the author has the mandate to teach the reader because of his huge experience accumulated when working with multinational and national surveys practically and from the theoretical side as well.

The book covers all stages that are necessary to implement a social cross-sectional survey: from the questionnaire design, sampling, and weighting to advanced weighting, non-response treatment, editing, and imputation. The presentation of all the topics is not based on strict mathematics, that is, ideas are explained in words rather than using formulas, but the references are given for further reading and technical details. That form extends the reader circle to that including survey managers and students of social sciences, and thus increases the popularity of survey statistics.

To explain the principles of sample surveys by example, the author mainly uses two surveys: European Social Survey and Programme for International Student Assessment, known also as PISA. As the multinational surveys, these two ones have rich methodologies and auxiliary information is exploited in different ways. Seppo Laaksonen demonstrates the importance of auxiliary data taken from administrative and other sources and promotes to use them to increase the quality of surveys.

The imputation is perhaps the main topic, but the book should be considered as a whole. That is, the reader is prepared to understand the imputation questions that are discussed in Chapters 11 and

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12. As we know, the treatment of missing data is a hot topic in these times of low response rates, and therefore there are monographs devoted to imputation only. To handle missing data, the author presents an approach based on his own experience obtained in European Union research projects on survey methods. Another one original part of *Survey Methodology and Missing Data* is Chapter 6, where the new term 'sampling design (data) file' is introduced. The idea of that file is to describe the whole survey process by collecting information on the gross and net sample units that includes: sample data, auxiliary variables used at all survey stages, detailed sampling design information, weights, and so on. Some of us use similar files in practice, and now the name is proposed to them.

The book may serve as a good guide when carrying out the survey and can be useful for the experienced practitioner as well because the author gives a lot of useful advice born in real surveys.