G. Mihoc, V. Urseanu

SONDAJE ȘI ESTIMAȚII STATISTICE

(Samplings and Statistic Estimates)

Editura Tehnică, 1977, pp. 351.

Devoted to one of the most important and frequently requested chapters of mathematical statistics, the reviewed work is a real monography — the first of this kind in the Romanian literature — written in such a way as to allow the reader to find all the elements substantiating the theory and the techniques of sampling. Thus, the work performances this purpose by presenting the subject-matters in two parts. The first part deals with the examination of the theoretical basis of sampling and estimate; the second one, much more developed, deals with the methods and techniques of sampling and estimate.

The logics quiding the entire work is outlined from the very beginning. In the first part, there are analysed the notions of probability and distribution, of sampling and estimate and the control of statistical hypothesis. There are shown the concepts of event, field of events, probability and field of probability, the low of lot numbers, the main-distribution met in the practice of sampling. Then, it is added the sampling typology, typology of statistical hypothesis, their testing, theory of errors and control tests.

After establishing this theoretical general framework, the book analyses in detail the main methods and techniques of sampling and estimate. It is widely presented the simple sampling from populations having a single quantitative characteristic, with whose opportunity the reader finds the necessary information about the typical values of sampling distributions, about standard errors and implication criteria. The next problem is that of simple sampling from multi-dimensional populations, where alongside typical values we meet correlation coefficients. Then, it goes on with sampling from populations with a single qualitative characteristics involving particular problems for the standard mean and error.

The transition to more complex types of sampling is illustrated by mixt samplings with its sampling advantages which are stratified in a single representative optimum way. In relation to finite or infinite population — and sampling proceeding — repeated or non-repeated — the work devotes a large space to non-repeated simple sampling from finite populations and to non-repeated stratified sampling. In both cases, there is studied the way in which the necessary chosen volume of the sample must be determined, different estimation methods outlining the economic character of each type of sampling. The sampling in two or several stages is presented too. The researcher will notice that the problem of small samples is profound presented due to the great updating of researches using samples with reduced fractions. The last chapter

devoted to the estimates for dependent variables, is remarkable by an original contribution of the authors, important also for the applications to the statistic control of quality, fiability and technological processes.

We have to mention that the didactic presentation is permanetly accompanied by applications, this fact ensuring a great accessibility and utility of the work. Rich selected references offer to those interested in, the possiblity of going deeper into the subject-matter of sampling and estimate. The applications refer both to the economic field and especially to the technical one which, in the last years has become an important user of sampling.

The work addresses to a large class of readers and sampling users. Both economists, engineers and technicians will find the necessary working tools in a scientific treatment, so important for their activities. It can be used by the students from higher mathematical technical and economic educations and by all which need in their work sampling and estimates.

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