Demetrescu, M. C.

APPLYING STATISTICAL TESTS TO THE STUDY OF DEMAND

(Aplicarea testelor statistice la studiul cererii)
Comerţul modern, (Romania) No. 2 and 3, 1969

Partial observation is used for estimating the characteristic features of a population on the basis of a sample or for testing the validity of a supposition or hypothesis about the population or, more often, for all these aims. However, if the signification of sample surveys is not checked, the estimations resulted are of no practical use. The data obtained from sample surveys, no matter how scientific the way they have been conceived, are of no great value if the degree to which one may rely on them is not adequately evaluated. Statistical analysis has worked out a number of methods for measuring the significance of some information resulting from a sample survey by comparing such information with certain values drawn out on the basis of certain hypotheses: this is of particular importance for estimating the data obtained from commercial and market investigations.

In each signification test a hypothesis is checked, which is accepted or rejected on the basis of experimental results, i.e. according to whether it exceeds or fits within the predetermined acceptable limits of appearance probability. When the experiment is based on the survey technique, the problem which arises is whether the result obtained represents or not a measure of the entire population from which the respective sample has been extracted, within the known and accepted limits of random error.

Signification tests also include variance analysis which, however, differs from the other tests since it permits signification testing to more than two variables simultaneously.

Variance analysis can be used in all statistical fields. In market study it is used for determining the contribution of the identifiable causes of the variations encountered to certain characteristics or attributes.

Variance analysis measures the effects observed compared to the null hypothesis, and finally produces a ratio of dispersions whose value is identified by means of the term F. The tables with F values show the signification of the respective value for various levels of probability — the 0.05 level is used in commercial analyses — for any number of degrees of freedom within the groups of data resulting from the sample, and between these groups.