

SYNTHETIC ESTIMATION BASED ON INCOMPLETE INFORMATION

Thomas M. Gerig, North Carolina State University
Patrick H.A. Miller, Texas Christian University

The synthetic estimation method for providing small-area estimates requires full knowledge of the small-area totals for each of the subgroups of the chosen partition of the population. When this partition is defined by all possible combinations of levels of several symptomatic factors it is common that totals are not available for all combinations. However, the values of certain marginal totals may be known. For this case two estimators are proposed having efficiencies which compare favorably with that of the classical synthetic estimator. The estimators are improved upon by the introduction of some ecologic variables.

The application for which this approach was developed is described. It consists of an information system which allows the user to specify a combination of attributes and a subarea of the population. The system responds with an estimate of the prevalence in the chosen subarea of households with the given combination of attributes.

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