

In This Issue

This issue is dedicated to Leslie Kish, who passed away this fall at the age of 90. It is remarkable to note that to the end of his life Professor Kish continued to propose and develop new ideas in statistics and survey methodology, as evidenced by his article "Cumulating/Combining Population Surveys" which appeared one year ago in the 25th anniversary issue of this journal. This issue of *Survey Methodology* opens with a reflection on his life and contributions to statistics written by Ivan Fellegi.

The paper by Haines, Pollock and Pantula examines the estimates of a total when two incomplete list frames are combined with an area frame. The authors give suggestions on appropriate population totals to account for the incompleteness of the frames. In addition, their models allow for the fact that larger sampling units are more likely to be included on the incomplete list frames.

Beaumont proposes an estimation method which reduces the bias induced by a response mechanism that depends on the variable of interest, known as a nonignorable response mechanism. The proposed method requires one model for the variable of interest and one model for the response probability. The method is considered robust with respect to the hypothesis of normality since it is constructed in such a way that there is no need to specify the error distribution of model involving the variable of interest, unlike the method of maximum likelihood. The author also proposes a simple method of verifying the validity of the hypothesis of error normality whenever nonresponse is not ignorable.

Spencer considers the problem of estimating the design effect due to weighting when the selection probabilities are correlated with the variable of interest. Using a regression representation of the population, Spencer presents an approximation to the design effect when the selection probabilities are correlated with the variable of interest.

Biemer and Bushery use the Markov assumption on labour force transitions to identify classification errors in labour force data. Using this methodology, they estimate response error rates in panels of monthly labour force data from the Current Population Survey (CPS). The general consistency of the results is taken as an indicator that Markov Latent Class Analysis is a useful method to assess the accuracy of responses in the CPS. Critical to this analysis is confirming the Markov assumption; the authors present some interesting empirical evidence for its validity over the short term in the CPS.

Many statistical offices use modified half-sample-replication (MHS) for estimating the sampling variance of medians. This is an important practical problem because direct calculation of sample medians can be computationally intensive. An alternative estimation method is to group the continuous data into discrete intervals and use linear interpolation over the interval containing the median. In their paper Thompson and Sigman compare the effects of no grouping (*i.e.*, the sample median), grouping with fixed-size intervals, and grouping with data-dependent-sized intervals on medians and associated MHS variance estimates. Their empirical study shows that the data-dependent-sized intervals yielded variance estimates with the smallest bias, the best stability, and the best confidence intervals.

McLaren and Steel consider the implications of different overlap patterns on the sampling variance of seasonally adjusted and trend estimates obtained from time series based on sample surveys by using the Census X-11 and X-11-ARIMA seasonal adjustment methods. They show that the "in for 8", "in for 6", "in for 4, out for 4, in for 4" rotation patterns are sensible if the one month change in seasonally adjusted estimates are the key statistics to be analyzed. If, however, the key statistics are the trend level and the difference between two consecutive trend estimates, then the "in for 1, out for 2, in for 1, for a total of 8 months" is a preferable rotation pattern to reduce the sampling variance. They also show that the "in for 2, out for 2, in for 2, for a total of 8 months is a reasonable compromise if the level and one months change in seasonally adjusted and trend estimates are both considered important.

You and Rao present hierarchical Bayes multi-level models for small area estimation. The models allow random regression parameters that also depend on small area level covariates. The small area mean is estimated by the posterior mean and the posterior variance is taken as a measure of precision. Three variance models are considered: fixed equal, fixed unequal, and random. Details of Gibbs sampling for these models are presented and used for inference. Procedures are illustrated using county level household income data from Brazil.

Okafor and Lee consider a two phase sampling scenario, where a subsample of the non respondents at the second phase are revisited according to a fixed sampling rate. Based on this scheme, modified versions of the ratio and regression estimators are suggested. Optimal values for the sample sizes and the fixed sampling rate are determined, based on cost functions, so as to minimize variance. In addition variances and their estimators are given. A small empirical study looks at the relative efficiencies of the modified ratio and regression estimators relative to the standard Hansen-Hurwitz estimator.

Pickery and Loosveldt bring an important analytical technique to the study of item non-response. Their models present a more complete picture of the factors affecting item non-response than in previous work in this area. One important aspect of this approach is that the authors make a separation between interviewer/respondent specific variation, variation attributable to interviewer/ respondent characteristics and error variance.

Fuchs investigates the affect that screen design and question order have on interviewer behavior in a Computer Assisted Interview (CAI) environment. Through the use of experiments under laboratory conditions, it has been shown that screen design and question order do affect interviewer performance. In his paper, Fuchs presents results from a field experiment which tests two different screen designs together with two different question orders in a 2x2 factor design. These results were based on time measures that were built into the CATI application and from 234 randomly selected interviews that were video taped and analyzed according to a coding scheme.

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