DISSERTATION ABSTRACTS

Arturo Yukong Pacificador, Jr. (1991). Some solutions to nonsampling errors (NSE) in the annual survey of establishments (ASE). Ph.D. dissertation, University of the Philippines Los Baños, Laguna

Abstract

The effects of coverage errors on the quality of survey results and estimates were investigated and in particular, it turned out that coverage error introduces some bias. A form of the bias was derived under a certain framework. Solutions to problems due to coverage error under conditions of the Annual Survey of Establishments (PSE) are proposed. Difficulties in the measurement and evaluation of nonsampling errors in ASE were also pointed out.

Emeterio S. Solivas (1991). Conditional and extended predictions in growth curve models with uniform and serial covariance structures. Ph.D. dissertation, University of the Philippines Los Baños, Laguna

Abstract

Some aspects of conditional and extended predictions on growth curve models with uniform and serial covariance structures are considered for data having uniform and serial covariances generated using different values. For the conditional prediction with uniform covariance structure (CONUNIF). The following predictors are investigated: (1) The approximate mean predictor P_{um}, (2) the adjusted weighted least squares predictor P_{uz}, (3) the marginal predictor P_{um}, (4) the weighted combination of P_{um} and P_{uz} as the ad hoc predictor P_{uh}, and (5) the weighted combination of P_{ua} and P_{uz} as the ad hoc predictor P_{ul}. For the conditional prediction with serial covariance (CONSERIAL) the corresponding predictors are investigated: P_{sa}, P_{sz}, P_{sm}, P_{sh} and P_{sl}. For the extended prediction with uniform covariance (EXUNIF) and with serial covariance (EXSERIAL), the adjusted weighted predictors P_{ux} and P_{sx}, respectively, are investigated. The following conclusions follow from the results:

For all the types of prediction and data, the predictors, except P_{uz} and P_{sz}, are practically unbiased. The MSE of all the predictors decreases as the increases.

On data with uniform covariance, the P_{ua} and P_{ui} are the two best predictors. The relative efficiencies (RE) of P_{ua} and P_{ui} are almost equal at the low and moderate values of ρ but P_{ua} is more efficient than P_{ul} at the high value of ρ. They are efficient for predicting the next two periods. On data with serial covariance, the best predictor is P_{ul}. Predicting the value of the second period ahead is largely not as efficient as the first one.

On data with serial covariance, the P_{sh}, P_{sl} and P_{sa} are alternatively the best predictors although P_{sa} may be a little more efficient than P_{sl}. The prediction may not go much further than the second period ahead. On data with uniform covariance, P_{sa} is the best predictor.

On data with uniform covariance P_{ux} has very small mean MSE's. It performed well also on data with serial covariance but performed better on data with uniform covariance. The P_{sx} has smaller MSE on data with uniform covariance than on data with serial covariance: thus, extended prediction may not be appropriate for data with serial covariance.