

The title of my talk is - Taming Non-Response in Finite Population Sampling with Auxiliary Information.

Synopsis

Non-response in surveys is a fact of life. To reduce non-response bias, traditional NSO responses are to "throw money at the problem" by converting as many non-respondents into respondents as possible. With budget pressure facing NSOs, including the ABS, the traditional approach is becoming non-affordable, and a different approach to managing non-response is required. In this talk, Siu-Ming will explain that if the non-response mechanism is non-informative, given the benchmarking variables, the GREG estimator has an automatic adjustment feature for non-response bias. However, if it is only non-informative, given the benchmarking variables, AND an additional X variable known only for those units in the sample (ie not known for the non-sampled units), then we can (a) still use the GREG estimator provided that we follow up a supplementary sample of the non-respondents to achieve "balance" on the X variable; or (b) adjust the GREG estimator for this balance if supplementary sample is followed up. Siu-Ming will show, in either case, the quantifiable increase in the uncertainty of the GREG estimator. The statistical implications of these new findings in managing non-response in the ABS will also be explained in the talk.

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