
Subject: Re: Stratification

Posted by [Trevor-DHS](#) on Mon, 03 Mar 2014 19:49:49 GMT

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I can't find anything that I can provide that really gives justification for this. The approach was used throughout the World Fertility Surveys (WFS) with systematic sampling, and was continued for a considerable time in DHS. You can find reference to implicit stratification in http://unstats.un.org/unsd/demographic/meetings/egm/Sampling_1203/docs/no_2.pdf. you may also find more if you search for "implicit stratification in sampling" on Google.

The documentation for the "Clusters" software used by the WFS to calculate sampling errors contains the following statements:

"It should be noted that the strata used for computation of sampling errors are not necessarily identical to the original explicit strata used in the sample selection. The difference between the two may arise for two main reasons:

- 1) Whenever PSUs are selected by systematic sampling* from an ordered list, adjacent units should be paired or grouped to form new smaller strata which are used for sampling error computations.
- 2) Sampling error computations require that there be at least 2 PSUs per stratum. Any strata for which only one PSU has been selected must be 'collapsed' together to form pairs (or other groups) of PUSs. These constitute new strata to be used for sampling error computations. Such grouping is done on the basis of characteristics of the whole strata population (pairing most similar strata), and not on the characteristics of the selected PSUs. Collapsing of the strata in this way leads to slight over estimation of the sampling error.

* 'systematic sampling' means selection, at a fixed interval, from a list starting from a randomly determined point."

This doesn't provide a justification, and unfortunately I only have a very old paper version of the documentation (that is falling apart), but does describe the procedure that was used in WFS and the early part of DHS.
