

Sampling techniques for sampling units with different size

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Usually it is a not too difficult problem to select efficient sample from a population, which includes units with different size. Stratified sampling might be a proper solution for this matter. The situation is getting more complicated if the statistician has to observe more characteristics of the unit, and these characteristics behave in various ways. Homogeneous strata cannot be created from every point of view. The field of my concrete research is the livestock surveys in Hungary.

If we “only” keep in mind the official requirements of the European Union, data in 5 categories of different livestock have to be provided by given reliability level. It means in practice, that one unique sample has to be worked out to suit these requirements. In Hungary there are more than 600 thousand private holdings, of which more than 50 percent raise usually more kinds of livestock. There are very small households, producing mainly for their own consumptions, and there are also huge units, which produce at company scale. The deviation of the indicators is extremely high in most of the cases.

In my research I attempt to see what would be the optimal solution from every point of view through working out different sampling schemes (simple random, stratified, and concentrated, mixture of these). In the presentation I would like to show the results and the final outcome of the work.

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