

One of the aims of firm-level surveys is to guarantee that the selected sample of business units is representative of the population characteristics. The common practice of national institutes of statistics is to conduct firm surveys using stratified sampling, because of its adaptability, feasibility and relatively fast computational implementation. However, in practice, a full stratification of the main characteristics of a population of firms may not be feasible because of the high number of strata, which could cause empty strata in the sample. An alternative to stratified sampling in conducting efficient surveys on firms could be the use of recent developments in spatial sampling methods. These designs are based on the use of distances between units in a generic space, so that they could be applicable to any vectors of auxiliary variables.

In the present work we show, by means of a simulation study, that recent spatial algorithms (Grafström *et al.*, 2011; Grafström, 2012; Grafström and Tillé, 2012) can be used as efficient alternative designs to stratified sampling. These spatial designs are not influenced by a particular stratification, but rather the choice of distance function. In addition, under certain conditions, starting from the definition of representativeness given by Grafström and Schelin (2013), we assess how representative a sample is by evaluating its spread over the population characteristics.

References

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