

In recent times, business registers have been provided with geographical information about units, making possible to conduct spatial studies on firms. In some cases, data locations are uncertain due to privacy issues or technical problems occurring during the geo-coding phase. These problems constitute non-sampling errors that are particularly relevant in several fields of research, such as epidemiology, political sciences and economics. While geo-masking is necessary to protect sensitive information about units, errors occurred during the specific geo-coding process have a notable impact on business registers and, consequently, on sampling processes. Usually, when it is not possible to locate the units with precision on the territory, they are positioned on the centroids of the sub-areas that include them (Zimmermann, 2008; Jacquez, 2012).

In the present work, we investigate the effects caused by erroneous geo-coding of business units on spatial sampling. We propose a study, based on simulated and real data, with the aim to understand the effects of locational errors in the selection of units for some spatial sampling designs (Grafström *et al.*, 2011; Grafström, 2012;). The impact of locational errors on the efficiency of sampling designs is evaluated for different proportion of uncertain locations.

References

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