

## INDICATORS FOR TERRITORIAL POLICIES: CLOSING “GAPS OF UNDERSTANDING” IN TERRITORIAL COMPARISONS

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### Abstract

In addition to closing data gaps by exploring new data sources and new methods, it is also important to close “gaps” in our understanding of data that we already have and apply. An example is our everyday practice in territorial comparisons.

One purpose of regional data collections like the Urban Audit is to reveal similarities and differences between their territorial units as well as the territorial dispersion of the phenomena compared. The results of a comparison and the validity of conclusions drawn from them depend on the adequacy and comparability of the data. If the data follow the same definition, originate from the same data source and refer to the same period or point in time, their content is truly comparable, if one can trust also their territorial comparability.

In an EU project on merging statistical data with their territorial references, one topic was to look at the structure of the existing municipal collections of sub-city data and to assess the comparability of data provided for them. The aim was to find out criteria for stable sub-divisions of optimal comparability. Research on the fact that different delimitations and sizes of territorial units lead to different, even misleading results is summarised under the term MAUP (Modifiable Areal Unit Problem). The effects of this phenomenon have lately been demonstrated by research results of ESPON.

This paper will focus on the size distribution of the territorial units in three German data collections and show how this influences the visibility of clusters of sub-groups of the population. Results of this analysis show how much the visibility of territorial clusters depends on the different size levels of the data collections.

Collections of regional data are rarely based on microdata with their postal addresses; they consist, as a rule, of territorial aggregates. If the boundaries of the sub-city units follow natural topographical borders like waterways, railroad lines or traffic routes, the chance to discover the true location of the clusters under consideration is greater than

when choosing abstract grids of similar size, because the phenomena considered usually follow the natural topographical patterns.

What are the appropriate territorial delimitations for regional comparisons? The boundaries should be drawn in such a way that they don't cut through the territorial clusters of the elements considered and truly describe the size of the clusters and the degree of disparities between the territorial units considered. Usual measures in territorial comparisons are proportions (e.g. the proportion of households with children) or relations between different quantities, like the average income per person or household. They are based on aggregates of the components and thus vary with the territorial distribution of each component. Attributing a property to a territorial unit would require that this truly characterises the unit as a whole. The smaller the territorial units are, for which data is available, the easier it is to select or group the units in a way most appropriate to the territorial dispersion of the phenomenon considered. The larger the territorial units the more likely the clusters of sub-groups of elements under consideration disappear in the greater quantities of the total number of elements in the territorial units. Examples demonstrate this effect.

Trying to select territorial units, the measured relative values of which (e.g. the proportion of households with children) exceed a certain threshold, the number of units selected that way decreases with an increasing size of the units; at the same time, the probability for clusters of relevant elements to show up in the measured value of the territorial unit as a whole decreases with the total number of elements in the territorial unit. The smaller the average size of the territorial units in a region (e.g. a municipality) the more clusters will be detected. The risk to miss existing clusters increases with the size of the territorial units.

If the size (total number of elements) of territorial units varies a lot within a region, the measured proportions of the sub-groups and relations between different aggregates, like average floor space per person, are not really comparable with each other if the distribution of the components varies. Evaluations may produce misleading results.

Finally, an attempt will be made to point out some strategies to adjust the territorial divisions and the measures applied in municipal small-scale data collections in order to avoid misleading results.