

Changes in Geospatial Structure of Households in the Czech Republic: Findings from Population and Housing Census

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Abstract : Spatial information about demographic processes are a standard part of outputs in the Czech Republic. That was also the case of Population and Housing Census which was held on 2011. This is a starting point for a follow up study devoted to two basic types of households: single person households and households of one completed family. Single person households and one family households create more than 80 percent of all households, but the share and spatial structure is in long-term changing. The increase of single households is results of long-term fertility decrease and divorce increase, but also possibility of separate living. There are regions in the Czech Republic with traditional demographic behavior, and regions like capital Prague and some others with changing pattern. Population census is based - according to international standards - on the concept of currently living population. Three types of geospatial approaches will be used for analysis: (i) firstly measures of geographic distribution, (ii) secondly mapping clusters to identify the locations of statistically significant hot spots, cold spots, spatial outliers, and similar features and (iii) finally analyzing pattern approach as a starting point for more in-depth analyses (geospatial regression) in the future will be also applied. For analysis of this type of data, number of households by types should be distinct objects. All events in a meaningful delimited study region (e.g. municipalities) will be included in an analysis. Commonly produced measures of central tendency and spread will include: identification of the location of the center of the point set (by NUTS3 level); identification of the median center and standard distance, weighted standard distance and standard deviational ellipses will be also used. Identifying that clustering exists in census households datasets does not provide a detailed picture of the nature and pattern of clustering but will be helpful to apply simple hot-spot (and cold spot) identification techniques to such datasets. Once the spatial structure of households will be determined, any particular measure of autocorrelation can be constructed by defining a way of measuring the difference between location attribute values. The most widely used measure is Moran's I that will be applied to municipal units where numerical ratio is calculated. Local statistics arise naturally out of any of the methods for measuring spatial autocorrelation and will be applied to development of localized variants of almost any standard summary statistic. Local Moran's I will give an indication of household data homogeneity and diversity on a municipal level.

Keywords : census, geo-demography, households, the Czech Republic

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