



**Clustering of demographic structures:  
Observations on US counties for 2000 and 2010 and on Brazilian municipalities for 2010**

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Demographic structures offer important information for demographers, sociologists, politicians, and other experts. Clustering methods allow us to systematically arrange and observe a large number of such structures. We present clustering results of age-sex distributions on US counties for the years 2000 and 2010. The clustering results are obtained by weighted agglomerative clustering method, adapted for modal valued symbolic data (i.e. demographic structures). Systematic arrangement of changes of demographic structures from 2000 to 2010 can also be observed with clustering method. We expect to detect clusters with similar structural changes from 2000 to 2010 and view these changes further in light of the ethnicity component. Urban and rural areas are not separated only by location, they also describe geographic area with demographic and many other characteristics connected with other fields (like agriculture, natural resources etc.). Finding clusters of Brazilian municipalities with similar population distributions by geographic area and age groups can offer additional insight into this field. We will discuss obtained clustering results with additional demographical characteristics for Brazilian municipalities data from 2010.

**Keywords:** weighted agglomerative hierarchical clustering; demographic structures; population pyramid; symbolic object.