

# Clustering Hungarian counties according to their mortality profile

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## **Abstract**

For insurance companies and annuity providers it is necessary to make homogeneous risk groups to their life insurance products. In survival analysis many methods are available to decide whether two population have the same risk profile or not, but application of cluster analysis is less frequent. In the literature many clustering algorithms are available, but using them in survival analysis is not straightforward, mainly because we cannot use the crude data. We investigate how to aggregate the data, and how we can use clustering algorithms on the aggregated data. We also investigate the differences between the results of different cluster analysis techniques. We present a numerical example for Hungarian counties and EU countries.