

## **Comparison of official life tables construction in selected countries**

### **Abstract**

The main goal of this work is to analyze the methods used by the selected statistical offices in the construction of mortality tables. This work explored fundamental differences regarding the type of published life tables and parameters estimation methods. The theoretical part provides an overview of basic methodological information and description of methodology used, which was acquired during communicating with the selected statistical offices. During the analysis it was found that the differences in calculating the various functions of life tables are minimal, so the analytical part is mainly devoted to methods of estimating the probability of death at age 0 and smoothing of probability of death in older age. Acquired procedures and methods were applied to the data for the Czech Republic for year 2010, which allowed the comparison itself. The final part is the overall evaluation of achieved results, where can be also found commentaries on selected procedures and methods. The analysis shows that the most widely used type is a detailed cross-sectional life table. The most appropriate models of smoothing mortality curve are Kannistö-Thatcher (UK) Martinellöv model (Sweden) and Kannistö (Canada). On the other side, the least suitable models are Coale-Kisker (Singapore), Gompertz-Makeham and modified Gompertz-Makeham (Czech Republic, Slovakia, Germany).

**Keywords:** life table, Australia, Czech republic, Canada, Germany, Portugal, Singapore, Slovakia, Spain, Sweden, United Kingdom, life table components, probability of death, smoothing of probability of death