# Application of (geo)demographic methods in education

## Abstract

This master's thesis presents the possibilities of application of demographic, geodemographic and statistical methods on data published by the educational sector. The methods of demographic analysis are represented by the usage of rates, the concept of multistate demography (Markov chains) and the application of life tables. The enrollment ratio at particular levels of education, the average length of schooling and the number of dropouts from school grades are evaluated by these procedures. Markov chains which are based on the probabilities of transition between grades are also examined in terms of their use for forecasting purposes. These methods analyze the situation at the preschool, primary and secondary levels and are used on data from the annual Statistical Yearbooks on Education. In the field of geodemography, the so called preferential model of migration flows is presented. This model examines how applicants for tertiary education prefer or reject the regions of the Czech Republic for their tertiary education studies. The last method is the binary logistic regression which analyzes the inequalities in access to tertiary education. Both preferential model and logistic regression are based on data files on the admission process at universities provided by the Institute for Information on Education. Part of this master's thesis is a theoretical outline of the relationship between demography and the sphere of practical applications and a description of the education system in the Czech Republic.

**Keywords:** application of demographic methods, education, enrollment ratios, multistate demography, Markov chains, life tables, preferential model of migration flows, logistic regression