

Editor's Introduction to the Special Issue

Demography and Informatics: Some Interconnections

Our modern time is a period of specialization in almost every field of human activity. The scientific activity is probably the best example of the specialization of scientists in usually very tiny spheres of investigation and research. This kind of approach to the development of the scientific knowledge has been very fruitful in practically all scientific disciplines, also including demography and informatics. However, in science and research work the cross disciplinary cooperation is also very important. From time to time it has provided a real breakthrough in many research areas. Therefore, the interdisciplinary discussions, investigations and collaborations are of crucial importance for the modern science.

In this line of thinking the editors of *Informatica* journal have invited the three of us to edit a special issue with the title "Demography and Informatics: Some Interconnections". This invitation was an extension of the collaboration which started at the 10th International Multiconference Information Society 2007, 8th – 9th October 2007, Ljubljana, Slovenia. Between several other conferences there was also a demographic one titled "Slovenian Demographic Challenges of the 21st Century". The conference gathered professionals from different scientific disciplines to discuss recent demographic situations and problems of Slovenia.

The idea of a special issue of the *Informatica* journal was to upgrade some contributions from the conference and to acquire some additional papers from the broader international scientific community and to produce an issue which would be devoted to (some of) the interconnections between demography and informatics. The time period was short and the number of collected papers limited. In spite of that we have succeeded to prepare this special issue.

It contains six very different papers dealing with numerous demographic and broader informatics topics. Only two of them are devoted to the local Slovenian situation. In the first of these two J. Sambt and M. Čok analyze the economic consequences of the demographic pressure on the public pension system in Slovenia. In the second M. Černič Istenič and A. Kveder study the relationship between fertility decisions of different generations and developmental characteristics of urban and rural areas in Slovenia. This second paper is more sociologically oriented.

The next two papers of J. Malačič and J. Bijak and D. Kupiszewska deal with broader European topics. J. Malačič analyzes recent dynamics of late fertility trends in Europe and concludes that late age – specific fertility will very likely retain more or less marginal shares of total fertility in a modern demographic regime. The paper of J. Bijak and D. Kupiszewska addresses selected computational issues of poor statistics on international migration. A range of computational methods and the

algorithm for choosing the best method for estimating missing data are proposed and illustrated by examples for selected countries.

The last two papers cover the topics which deal with the world perspective. M. Gams and J. Krivec use data mining techniques to discover the determinants of fertility. The decision trees are presented and the iterative use of data mining techniques employed for the finding of complex relations. Finally, S. Korenjak – Černe, N. Kejžar and V. Batagelj present the results of the clustering of the population pyramids. The big number of countries and the counties of the United States of America are examined.

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