

Micro-Simulation Modelling of Domestic Tourism Travel Patterns in Sweden

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From a geographical point of view, tourism is basically about flows in a spatial system linking together a place of origin and a destination and the impacts on these destinations induced by tourism. The aim of this paper is to model the recreational travel patterns in Sweden at an individual level regarding number of trips, type of recreational activity and where in Sweden the activity will be performed. The resulting flows from these models can be used as input in more detailed agent based models of tourism flows to assess how many tourists that will go to a specific area to perform an activity. An example of this is the amount of fishing tourism in a river valley. To estimate the number of trips made by a person a Poisson model is used and the choice of activity is estimated by multinomial logistic regression.

Forecasting tourism flows requires reliable data. In the Swedish context the available data source, the Swedish Tourist Database (TDB- Åre marknadsafakta AB), contains individual attributes such as age and income as well as individual choices of tourist activities and hence, the database enables analysing socio-economic patterns in relation to recreational activities at an individual level.

Here it is also demonstrated how the models for recreational travel patterns, using TDB-data, can be used as empirical input for a tourism module integrated into SVERIGE, a geographical micro-simulation model of the entire Swedish population. It is argued that this modelling on the micro-level accounts for changes in population structure and geography to a far greater extent than conventional models because of its focus on individual behaviour in relation to individual socio-economic characteristics. Thus, population change is mirrored directly in the resulting travel patterns. This paper describes equations and calculations for SVERIGE's tourism module and presents examples of model runs.