A microsimulation led analysis: The power of national data structures in influencing geodemographic typologies; a cross national analysis of a Census led (United Kingdom) and Register led (Denmark) national data infrastructure

Anthony V.F. Caira

University of Wollongong
e-mail: avfcaira@dircon.co.uk

Abstract. Information about people, communities and (often arbitrarily) defined administrative areas is extremely important for many aspects of our society . The allocation of resources is usually directed to areas in which a population has been shown to be in greater need than another geographically defined comparable population. The spatial location of these defined areas requires data (and preferably, a wealth of accurate data) about the inhabitants of that particular area. Different nations employ different systems to obtain, store and retrieve data pertinent to those inhabitants (Waters, R in Longley, P. & Clarke, G., 1995). In order to target those areas with the greatest perceived need, researchers and policy makers carry out research and analysis on the data available Their research is carried out within the constraints of what the data and the national data system or framework will allow. The particular emphasis of this paper is to investigate two different current national data systems – the Danish register based system (individually based and virtually non-anonymised) and the UK Census based system (based upon aggregate data) and to address the following questions: How important is the national spatial data infrastructure (Masser,1998) in influencing the way we perceive the socio-demographic and geodemographic characteristics we attribute to individuals and/or areally defined populations within that particular national spatial data infrastructure? How may the geodemographic profile of an area change, if the data framework within which the pertinent data is kept, were to be of a different type ? Thus - how can we formulate international (e.g. EU) policy when we do not have a more stringent and standardised approach towards national (and international) data infrastructures? European, national and regional policy/socio - economic judgements are made on the basis of informed judgement, arrived at by careful analysis of data derived from the relevant national spatial data infrastructure (Martin, 1991)). This information may be obtained by censuses, the maintenance of population registers or for example, by remote sensing by satellite (Rhind, 1991). The coming together of growth in the use and scope of GIS and computing power available to the researcher in the field of population analysis, combined with the wider adoption of methods such as Microsimulation (Clarke, G.P., 1996) with origins in advanced mathematics and statistics, is the method adopted within this paper. The answer to these research questions emerges in the course of a specific experiment. The socio – economic or more accurately geodemographic typologies indicated for the two chosen areas (Helsingor in Denmark and Bradford UK) by the respective UK and Danish data sets are explored within their respective systems (using traditional quantitative analysis techniques). The same data is then microsimulated into the contrasting data system or more accurately data infrastructure, of the other nation. A contrast is made of the emergent new geodemographic typologies, and implications are discussed of how this may lead to changes in geographically based policy/value judgements. REFERENCES: Clarke, G.P., (1996), Microsimulation: An Introduction, in Clarke, G.P. (ed), (1996), Microsimulation for Urban and Regional Policy Analysis, London, Pion. Longley, P., and Clarke, G. (1995), GIS for Business and Service Planning. Cambridge. Geoinformation International. Martin, D., (1991), Geographic Information Systems And Their Socioeconomic Applications, London, Routledge. Rhind, D.W. (eds) (1998) Geographical Information Systems: Principles, Techniques, Management Applications. Cambridge, Financial Times Professional