

Regional population change

Session organizer: Leo van Wissen (NIDI)

Monday 10 September 4.45pm

A comparison of sub-national population projections: A case study of the Thames Water region

Philip Rees, Stephen Clark, Pia Wohland, Michelle Kaalmandeem; University of Leeds

Sub-national population projections play a significant role in allocation of national funding to local areas and in planning of local services, including water supply to domestic consumers. Thames Water Utilities Limited (TWUL) supplies water to over 9 million people in Southern England and prepares long-term plans for water supply to cope with population growth, sustainability requirements and climate change. TWUL commissioned short-term projections from EDGE Analytics and long-term population projections from the University of Leeds as inputs to water demand forecasts. This paper compares the results of these commissioned projections and those by the Office for National Statistics and the Greater London Authority, to better understand and evaluate the alternative future populations. The paper compares the methods and assumptions used in the four sets of projections. There is a consensus about the future course of sub-national fertility and mortality but a range of views about the future impact of internal and international migration flows, in the face of uncertainty associated with Britain leaving the European Union (Brexit). However, the greatest differences were between the projections that built in ethnic heterogeneity and those that did not. Those areas with a high ethnic minority share of the population such as London or Slough were projected to grow much faster when a model using ethnic local sub-populations was used. This result has wider application to all areas in Britain and suggests that current official projections are under-estimating future population growth for areas with concentrations of minority ethnic group populations.

Email: p.h.rees@leeds.ac.uk

Interregional migration in the Dutch Regional Demographic Forecast Model PEARL

Trond Husby¹, Andries de Jong¹, Dorien Manting²; ¹Netherlands Environmental Assessment Agency (PBL), ²Netherlands Environmental Assessment Agency (PBL) and University of Amsterdam

The regional household forecasts of The Netherlands Environmental Assessment Agency (PBL) and Statistics Netherlands (CBS) works with a spatial interaction model to determine interregional migration flows between municipalities. Interregional migration is one of the main drivers behind regional population changes. Migration flows are modelled with a production-constrained gravity specification with housing stock as an independent variable. The regional population forecasts includes future developments of the Dutch population in each municipality, according to age, gender and household type. A key outcome of the previous population projection is that the population of the Netherlands will continue to grow over the next 15 years, but with large interregional differences: the population in the Randstad region (comprising the urban agglomerations of Amsterdam, The Hague, Rotterdam and Utrecht) is expected to grow significantly while other regions will experience population decline. In the presentation I will briefly present the demographic model PEARL and show some key outcomes from the previous six projections, focusing on the disparities between growing and declining regions. Next I will elaborate on the main drivers behind the outcomes, paying particular attention to interregional migration. Finally I will discuss ongoing work on interregional migration with the next projections, due in 2019.

Email: trond.husby@pbl.nl

Development of population aging in the Functional Urban Areas in post-socialist countries on the example of Poland *Slawomir Kurek¹, Jadwiga Galka², Mirosław Wojtowicz¹; ¹Pedagogical University of Cracow, ²Jagiellonian University in Krakow*

The aging of the population is one of the main demographic problems of European Union countries, including Poland. What's more, the demographic forecasts show that this process will intensify in the next decades. In Poland, the beginnings of this process date back to the 1990s, when, along with the political transformation, other manifestations of social and demographic transformation appeared. The economic crisis, structural unemployment, increased emigration of the population, change in the family model, and the decline in fertility are just some of the elements that make up the picture of Poland in the period of political transformation. The aim of the study is to identify the changes in population age structure at the beginning of 21st century. The subject of the study are Functional Urban Areas in Poland (151 cities and towns), including their core and outer zones according to the Concept of Urban Spatial Planning 2030. The functional urban area (FUA) is a spatially-resident settlement system consisting of separate administrative units (urban, rural and urban-rural municipalities), consisting of a compact urban area (core) and a functionally connected urban ring (outer zone). Existing research concentrates more on the rejuvenation of city centres due to gentrification. However some studies show that the influx of younger age groups to suburban areas will initially slow down the ageing of the population in those areas, but it will also increase this process in urban centres. The analysis is conducted with the use of basic measures of population ageing including ageing index, both static and dynamic. The typology of FUAs by their size and changes in age composition is shown. The discussion will focus on the role of functionally linked areas in the demographic changes against the rest of the country. It has been concluded that the degree of advancement of the aging process depends on the size of the given Functional Urban Areas and their functions. The largest FUAs showed deceleration or even reversal of population aging. Moreover, the differences in the age composition of population of cores and outer zones within FUAs gradually disappear as a result of suburbanisation processes.

Email: sgkurek@up.krakow.pl

Population redistribution in times of population decline and ageing *Leo van Wissen¹, Kenneth Gopal², Michael Stuart Fox²; ¹Netherlands Interdisciplinary Demographic Institute NIDI, The Hague, and Faculty of Spatial Sciences, University of Groningen, ²ABF Research Delft*

What happens to urbanisation when population growth comes to an end, in combination with ageing? This paper studies the consequences of low natural growth and ageing for urbanisation patterns in the Netherlands in the 30-year period 1986-2015. We use a unique database of stocks and flows of population at the municipal level, which has been redefined to the administrative units of 2016. This solves a major issue in longitudinal analysis of spatial units when the definition of the administrative units, due to mergers, boundary changes etc. changes over time. Seven regions are defined, based on the dimensions core/periphery, and an urban/non-urban distinction within each zone. This definition allows us to look at concentration/deconcentration patterns in combination with urbanisation/suburbanisation/counter-urbanisation. We study changes in population distribution over these zones over time. The results indicate that urbanisation and suburbanisation have been dominant throughout the whole period for all age groups, but with a much stronger emphasis on urbanisation for the younger age groups over time. Deconcentration and counter-urbanisation flows are small and not increasing over time. These internal migration effects are reinforced by the differentiating effect of natural increase. Natural increase is positive and has increased in the largest cities whereas it is approaching zero or negative growth in the non-urban periphery and intermediary zone. Moreover, the outmigration propensity of the young from the non-urban periphery has increased by 50 per cent in the study period. This more than offsets the reducing effect on outmigration of a smaller population of young people in these areas.

Email: wissen@nidi.nl
