The family context of the elderly across historic Europe: a demographic spatial analysis

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Abstract

Much of the precedent scholarship on the historical living arrangements of the aged has taken place without the benefit of large-scale harmonized census microdata, and did not embrace even rudimentary forms of spatial modelling. Drawing on the pooled cross-sectional census microdata from the North Atlantic Population and Mosaic projects, we derive measures of intergenerational co-residence of elderly persons for 277 regional populations from Catalonia to the Urals during demographic ancient régime and thereafter. In order to examine the historical geography of elderly living arrangements, the spatial patterns in our data are assessed using formal tools of the Exploratory Spatial Data Analysis (ESDA). To inquire about the extent to which the observed regional patterns could result from underlying demographic, socioeconomic, or environmental variability, we specified a series of the OLS regression models, and applied the Local Indicators of Spatial Association (LISA) to the models’ residuals to identify the spatial clusters which cannot be explained by the chosen set of predictors.

Our first set of findings unravel a significant variability in living arrangements of the elderly in historic Europe which do not align very neatly into geographic patterns prophesied by earlier historical demographic literature, and which partly persists even after controlling for the contextual factors.

In the second part of the presentation Geographically Weighted Regression is applied to our dataset to analyse the spatially varying impacts of some classical regressors on LAA in historical European context. GWR extends OLS linear regression models by accounting for spatial structure and estimates a separate model and local parameter estimates for each geographic location in the data based on a ‘local’ subset of the data using a differential weighting scheme. In this section of our talk, the inferences made using GWR and standard OLS model specifications are compared; and a set of location-specific parameter estimates generated by GWR are mapped and analysed to provide information on spatial non-stationarity in the relationships between predictors and the outcome variables across our data.

The application of GWR to NAPP/Mosaic data suggest that in historical European context the relationships among some of the demographic, institutional and environmental factors, and the elderly’s co-residence patterns varied significantly over space, and that some of the usual correlates of the latter do not have a significant impact on our outcome variables in all spatial units.

Altogether, these findings complement the global results of the previous studies of Ruggles, Bongaarts and others by contributing to a substantive understanding of the various factors that are associated with the variation in the LAA in historic Europe. At the same time, by highlighting the variability of regression coefficients in the geographical space, this paper enriches the current body of demographic theorizing on the determinants of the elderly coresidence patterns, both past, and present.