Population scenarios in a lifecourse perspective: the impact of household formation on fertility careers

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Extended abstract
Population projection models can be used for several purposes: the calculation of population forecasts, scenarios, or impact assessments. Population forecasts are aimed to project the most likely future development. Scenarios on the other hand, are aimed to present alternative developments that show the consequences of different sets of assumptions. Impact assessments, finally, show the potential impact of behavioural changes, which may be caused by policy interventions. Behavioural changes imply that transition rates change. The impact of policy interventions can be assessed ex post, by examining whether in the past certain transition rates changed after a given change in policy, or ex ante, by comparing a scenario in which certain transition rates are assumed to change as a consequence of future policy measures with a scenario in which these changes do not occur.

For assessing the potential impact of behavioural changes it is necessary to have insight in the processes underlying demographic events from a lifecourse perspective. The lifecourse is viewed as a sequence of states and events that result in transitions from one state to another. Therefore, the focus is on incidence or transitions rather than on prevalence. In multistate projection models the distribution of the population is the outcome of transitions people make. The multistate projection model MicMac can be used for making scenarios by preparing different sets of assumptions about changes in one or more of the transition rates. MicMac combines macro-level models of population dynamics with micro-level models of individual life courses. The advantages of this combined approach are that population heterogeneity may be introduced, uncertainty may be reduced by taking into account the mechanisms underlying demographic change, sojourn times in given states may be calculated, and the lives of people may be projected.

MicMac can be used for example, to assess the effects of changes in the level of educational attainment on living arrangement and on the age at having a first child, the effect of changes in the age at having a first child on the probability of having more children, the effect of marriage dissolution on the probability of having a new partner and on the age at having a first child with the new partner.

The current paper illustrates how MicMac can be used in the context of population scenarios and impact assessment. For this purpose we use data on life histories collected in the Netherlands. In the application, we will focus on partnership formation and fertility issues. Point of departure is a one-sex model for the age range 15-49, disregarding mortality and migration.