

**Provisional Abstract of a paper to be presented at the EAPS Conference 2006
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Title: **The use of parametric models fitted on micro data in predicting the rates for a cohort of individuals**

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Topic Area 9: Data and methods (if possible in specific session on 'MicMac')

Provisional abstract

Parametric models have traditionally been used in the graduation of age (or duration) patterns of demographic behaviours. In this paper we focus on demographic behaviours such as family formation or dissolution. We assume that micro-level data are available from retrospective surveys providing event history data (e.g. age at first union or marriage, age at home-leaving, age at first (or subsequent) birth, duration of union...), and we are interested in the prediction of the rates for a cohort of individuals. This is particularly relevant when the quantum of events is not 100%. For instance, final childlessness levels can only be assessed when the full set of rates of first births is available—a prediction is necessary when a cohort is still through reproductive ages.

Some very simplified approaches (e.g. applying the rates observed for former cohorts, as has been customary for the Demographic Yearbook of the Council of Europe) do not take into account strategies such as the postponement of behaviour that are important for a real cohort. We here assess the use of parametric models fitted on micro-level data. Our assessment is conducted by artificially (and progressively) censoring data and comparing actual estimated rates for a cohort with the prediction arising from the artificially censored data (Bloom and Bennett 1990; Henz and Huinink, 1999; Billari, 2000).

The main advantages of applicable parametric event history models would be: 1) to use statistical tools that are relatively standard; 2) to be able to forecast parameters only and thus reduce the dimensionality of the problem of population forecasting; 3) to have interpretable parameters.

References

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