Forecasting in models with lack of identification

by Bent Nielsen
Nuffield College, University of Oxford
bent.nielsen@nuffield.ox.ac.uk

Content: The course is organised around a new discussion paper written with Jens Perch Nielsen. This paper builds on research we have been conducting for a few years.

Abstract: Mortality models often have inbuilt identification issues challenging the statistician. This also applies to reserving models used in general insurance and to dynamic factor models. The statistician can choose to work with well defined freely varying parameters, derived as maximal invariants, or with ad hoc identified parameters which at first glance seem more intuitive. In this course the methodological advantages from using the maximal invariant parametrisation are described and we go through the extra methodological challenges a statistician has to deal with when insisting on working with ad hoc identifications. These challenges are broadly similar in frequentist and in Bayesian setups. As examples we consider the identification problem for the age-period-cohort model and the principal components-type model of Lee and Carter (1992) both for one-sample and two-sample situations. We go through a number of examples from the literature where ad hoc identifications have been preferred in the statistical analyses.

Programme: Lectures are given both days at 10.15-12.00.

Main reading:

Other reading: