

Introduction

The papers in this issue are the selected proceedings of a conference that was held on the analysis of repeated cross sections at the University of Nijmegen on June 15–16, 2000. This two-days meeting was attended by 75 participants from seven different countries (AUS, B, F, GER, NL, USA, UK) and from a wide array of academic fields and disciplines: statistics, economet(ri)cs, social science methodology, medicine/epidemiology, demography, political science, psychology, sociology, criminology. The invited keynote speakers had different backgrounds and together they presented an interdisciplinary collection of 15 papers on various statistical models. Most of the contributions were specially prepared for this meeting and eight papers addressing statistical applications with significant practical value to applied researchers are published in this special issue.

Beck gives an overview of old and new issues involved in the analysis of time-series-cross-section (TSCS) data. He surveys work on modelling TSCS data in political science, much of it his own with Jonathan Katz, and then considers the modelling of spatial effects, heterogeneity, and TSCS data with a binary dependent variable. **Rosen, Jiang, King** and **Tanner's** article shows how Markov chain Monte Carlo (MCMC) and non-linear least-squares methods can be used for ecological inference, the (seemingly intractable) problem of inferring associations between individual-level variables from aggregate data collected in multiple contexts. They first present a hierarchical Bayesian approach in the context of 2×2 tables and then convincingly generalize application to larger tables. Their example application uses aggregate data on voting patterns in Weimar Germany to addresses the historical question of who voted for the Nazi party. **De Rooij** deals with the analysis of transition frequency tables measured at multiple occasions. He proposes a distance-association model that transforms the association parameters of a log-linear model to Euclidean distances. Dutch occupation mobility data are used to illustrate the model. **Feder** reviews important issues in the state-space modelling of repeated survey data. He shows how state-space modelling can be used to obtain plausible trend estimates and to improve cross-sectional estimates by combining data from different sources. **Oud** considers the application of SEM state-space modelling in the context of overlapping and non-overlapping quasi-longitudinal designs. He discusses the discrete time state-space model and its continuous time analogue and empirically illustrates the latter with an application from educational research. **McLaren** and **Steel's** article is concerned with trend estimation for repeated surveys using rotation group estimates. They consider the issue of selecting the best rotation pattern and the best trend filter for a given rotation pattern. **Girma** takes up the topic

of estimating linear dynamic models from a pseudo panel of cohort aggregates. He explains how a pairwise quasi-differencing approach corrects some of the potential deficiencies of the traditional cohort-aggregated approach to pseudo panel modelling. **Pelzer, Eisinga** and **Franses** deal with the estimation of individual-level entry and exit transition probabilities from a time series of independent samples using a nonstationary, heterogeneous Markov model. Dutch panel data on female labour force participation are used to verify the findings.

As organizers of the conference we wish to express our gratitude to the following national and local organizations for sponsoring the meeting:

- the Netherlands Organization for Scientific Research (NWO)
- the Royal Dutch Academy of Arts and Sciences (KNAW)
- the University Board, the Faculty of Social Sciences, and the Department of Social Science Research Methods of the University of Nijmegen.

We are also grateful to the participants of the conference for lively discussion and helpful comments and to Agnes Vermeulen for secretarial assistance in organizing the meeting. Finally, we wish to express our appreciation to the authors and reviewers for the time and effort they expended in preparing and improving the articles in this fully refereed issue.

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Philip Hans Franses