THE UNIVERSITY of York

ADVANCED COURSE IN APPLIED HEALTH ECONOMICS
Methods for the analysis of duration data

Prof. Maarten Lindeboom
Free University of Amsterdam

Hosted by the Health, Econometrics and Data Group (HEDG),

Centre for Health Economics and Department of Economics and Related Studies
University of York, 12th-14th January 2011

A two and a half-day course focusing on the use of duration data with wide applicability to research in health economics. Econometric models of durations are used to model the length of time spent in a given state before transition to another state. Durations may, for example, consist of time to death, time spent in a health state or free from ill-health, and time spent in hospital. Typically, standard regression based techniques are not appropriate for modelling such data and instead attention needs to be given to the choice of distribution function, the sampling scheme used to derive durations, the censored nature of duration spells and possible transitions to one of several states. Duration spells or the probability of a transition out of a state may be modelled.

The course will be delivered by Professor Maarten Lindeboom, a renowned expert in micro-econometrics and the analysis of duration models.

The course is aimed at PhD students and researchers or policy makers working in applied health economics. It will introduce participants to different treatments for duration data with a focus on established and recently developed techniques. Appropriate terminology and formal methodology for estimating these models will be presented together with extensions to cover unobserved heterogeneity, multiple spells and competing risk models. The focus will be on introducing the fundamental principles and concepts encountered in the literature.

The aims of the course are to introduce research professionals to the main techniques used in the analysis of time-to-event or duration models. Lectures will be complemented by practical computer-based exercises. By the end of the course, participants should be able to:

- Appreciate different approaches to modelling duration data
- Select appropriate methods for empirical estimation
- Develop an understanding of methods for estimation and inference
- Interpret results from analyses

Course content

The course will cover topics relevant to the analysis of health and health care data. The provisional programme is outlined below.

Programme	Morning	Afternoon
Day One	*Travel*	*Registration* *Lecture 1: Analysis of duration data:* • Concepts • Model specification & estimation • Inference
Day Two	*Lecture 2: Estimation and unobserved heterogeneity* • Maximum likelihood • Partial likelihood • Unobserved heterogeneity	*Practical Session 1*
Day Three	*Lecture 3: Extensions to basic model* • Multiple spells • Competing risks • Stock and flow sampling	*Practical Session 2*

For further reading it is recommended that participants consult:

1. Kiefer, N. Economic Duration Data and Hazard Functions, *Journal of Economic Literature*, 1988; 26: 2
2. Van den Berg, G. *Duration models: specification, identification and multiple durations.* Handbook of Econometrics, 2001; Vol 5: Chapter 55.
3. Lancaster, T. *The econometric analyses of transition data*. Economic Society Monographs, Cambridge University Press, 1990.

The course will be held in the EXEC/computer-training lab in the Alcuin Research Resource Centre (ARRC: http://www.york.ac.uk/inst/arrc/). The software package used for the practical sessions is Stata and each participant will have access to a PC with Stata 11 installed. Stata do-files containing the code required to complete the practical exercises will be provided. A basic familiarisation with Stata will be an advantage. Further information on Stata can be found at: http://www/stata.com/

Data sources relevant to the practical exercises will be provided.

The programme

The course will be lead by Professor Maarten Lindeboom and supported by members of HEDG.

REGISTRATION FORM
Methods for the analysis of categorical dependent variables
Prof. Maarten Lindeboom

A short course hosted by the Health, Econometrics and Data Group (HEDG), University of York, 12th-14th January 2011

Participation on the course is free of charge. Please note places are limited. A list of local accommodation in York for the nights of 12th and 13th January will be provided and participants are asked to make their own arrangements. Limited funds will be made available to reimburse reasonable travel expenses.

Title: Dr/Ms/Mr _____

Name: _____

Position: _____

Organisation: _____

Postal Address: _____

Postcode: _____

Email: _____

Tel: _____ Fax: _____

Please post or fax your registration forms to:
Kerry Atkinson, Course Administrator, Centre for Health Economics, Alcuin A Block, University of York, Heslington, YORK, YO10 5DD, UK, Fax: +44 (0) 1904 321402.
Email: kja3@york.ac.uk

Alternatively online registration will be available shortly:
http://www.york.ac.uk/res/herc/research/hedg/index.htm

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