CENTRE INTERUNIVERSITAIRE QUÉBÉCOIS DE STATISTIQUES SOCIALES
QUEBEC INTER-UNIVERSITY CENTRE FOR SOCIAL STATISTICS
CIQSS·QICSS

Panel Data Analysis

Location: CIQSS, 3535 Queen-Mary, Suite 420, Montréal
Dates: May 30 to June 3, 2011

Financial support for this Data Training School is provided by the universities affiliated to QICSS[1].

Course objectives and content
This intensive training session deals with longitudinal (panel) data analysis. The course will cover topics in static and dynamic model specifications, as well as topics in duration data analysis. Emphasis will be placed both on theory and computer application of the methods using data from the *Youth in Transition Survey, cohort-A (YITS-A)* and *National Longitudinal Survey of Youth 1997 (NLSY-1997)*.

Part 1: Static panel data analysis
The first part of this course will introduce the concept of panel data and derive estimation methods suitable for this type of data in a static environment. Both linear and non-linear model specifications (such as Probit and Logit) will be considered. We will also discuss how to estimate causal effects using cross-sectional data and panel data.

Part 2: Dynamic panel data analysis
The second part of this course will introduce dynamic models (for example, models containing a lagged dependent variable) and describe appropriate estimation methods. As for static models, both linear and non-linear model specifications will be considered.

Part 3: Duration data analysis
The third part of this course will deal with continuous and discrete time duration data.

Trainer
This training session will be under the responsibility of **Jorgen Hansen**, associate professor, Department of Economics, Concordia University.

General course information
The seminar is scheduled from **9:30am to 4:30pm**, May 30.
The seminar is scheduled from **9:00am to 4:30pm**, May 31 to June 3.

The sessions are in English. Morning sessions will be used for theoretical presentations and afternoon sessions will be reserved for computer exercises. Workshops are given using SAS and STATA.

Schedule
Day 1 :
- Estimation of static, linear regression models in both cross-sectional data and panel data.
- Workshop: Exercise 1.

Day 2 :
- Estimation of causal effects in both cross-sectional data and panel data.
- Workshop: Exercise 2.

[1] Université de Montréal, INRS-UCS, McGill University, Concordia University, Université Laval, Université du Québec à Montréal, Université de Sherbrooke.

Day 3 :

- Estimation of static, non-linear models in both cross-sectional data and panel data
- Workshop: Exercise 3.

Day 4 :

- Estimation of dynamic models in panel data.
- Workshop: Exercise 4.

Day 5 :

- Estimation of duration data models
- Workshop: Exercise 5.

Readings

Arellano, Manuel and Stephen Bond (1991) "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations" *Review of Economic Studies*, 58, 277-297.

Arellano, Manuel and Bo Honore (2001) "Panel Data Models: Some Recent Developments" in *Handbook of Econometrics*, Vol. 5, eds. Heckman, J. and E. Leamer, North-Holland, 3229-3296.

Cameron, Colin A. and Pravin K. Trivedi (2005) *Microeconometrics: Methods and Applications*. Cambridge University Press, New York, NY.

Card, David and Daniel Sullivan (1988) "Measuring the Effect of Subsidized Training Programs on Movements In and Out of Employment" *Econometrica*, 56, 497-530.

Chay, Kenneth Y. and Dean R. Hyslop (2000) "Identification and Estimation of Dynamic Binary Response Panel Data Models: Empirical Evidence using Alternative Approaches" Working paper, UC Berkeley.

Hansen, Jorgen (2006) "The Effects of Human Capital and Earnings Supplements on Income Assistance Dependence in Canada" SRDC working paper 06-06 (downloadable at www.srdc.org)

Hansen, Jorgen and Magnus Lofstrom (2006) "Immigrant-Native Differences in Welfare Participation: The Role of Entry and Exit Rates" unpublished working paper

Heckman, James J. (1981a) "Statistical Models for Discrete Panel Data" Chapter 3 in Manski, Charles and Daniel McFadden (eds.), *Structural Analysis of Discrete Data*, MIT Press, Cambridge, MA.

Heckman, James J. (1981b) "The Incidental Parameters Problem and the Problem of Initial Conditions in Estimating a Discrete Time-Discrete Data Stochastic Process" Chapter 4 in Manski, Charles and Daniel McFadden (eds.), *Structural Analysis of Discrete Data*, MIT Press, Cambridge, MA.

Honoré, Bo E. and Ekaterini Kyriazidou (1998) "Panel Data Discrete Choice Models with Lagged Dependent Variables" *Econometrica*, 68, 839-874.

Hyslop, Dean R. (1999) "State Dependence, Serial Correlation and Heterogeneity in Intertemporal Labor Force Participation Behavior of Married Women" *Econometrica*, 67, 1255-1294.

Semykina, Anastasia and Jeffrey M. Wooldridge (2006) "Estimating Panel Data Models in the Presence of Endogeneity and Selecetion: Theory and Application" unpublished working paper, Michigan State University.

Wooldridge, Jeffrey M. (2002) *Econometric Analysis of Cross Section and Panel Data*. MIT Press, Cambridge, MA.

Wooldridge, Jeffrey M. (2005) "Simple Solutions to the Initial Conditions Problem in Dynamic, Nonlinear Panel Data Models with Unobserved Heterogeneity," *Journal of Applied Econometrics*, 20(1), 39-54.

Eligibility
The course is open to graduate students and postdoctoral fellows as well as to professors and practising researchers. Participants should have some working knowledge of regression models prior to the course and a practical knowledge of a statistical package such as SAS, STATA or SPSS.

A maximum of 15 participants will be selected on the basis of the relevance of the course to their curriculum, research, or teaching.

ATTENTION!
Please note that this course uses Statistics Canada confidential data. To have access, selected participants will need to get security clearance. The QICSS will guide participants through these procedures.

Registration
The online registration period will run from **March 11 to April 3, 2011**. Selection results will be announced during the week of **April 4, 2011**.

Information
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