Panel Data for Finance and Banking

Online course

Centre for Econometric Analysis
Delivered by: Professor Giovanni Urga and Dr Elisabetta Pellini

BAYES
BUSINESS SCHOOL
CITY, UNIVERSITY OF LONDON

Fees:

£180 City students, alumni, Staff

£210 External students

£360 External rate

A 15% discount is available for groups of three or more participants

Course overview

There is huge body of literature applying panel data techniques using stock market and banking data. In this course, we will present most important panel data techniques for stationary and nonstationary panels. We will discuss the importance of modelling heterogeneity and we will discuss static and dynamic models, introducing the crucial distinction between fixed and random effects. Practical applications using financial (stocks, interest rates) and banking (accounting) datasets will be delivered using Stata, which is the most comprehensive econometric software for dealing with panel data analysis.

Benefits

- You will learn the advantages of using panel data versus cross-sectional data
- You will learn a large number of panel data techinques for stationary and nonstationary variables
- You will learn how to implement panel data analysis using Stata.

Target audience

This course is useful to anyone with a research interest in financial econometrics and in banking. This course is essential for anyone who wishes to have a quantitative understanding of the systemically important financial institutions, with the ultimate goal of modelling the financial system.

Course prerequisites

The course requires intermediate knowledge in statistics and econometrics for economics and finance. Knowledge of the fundamentals of financial stability and systemic risk will help participants to obtain the maximum benefit from the course.

Contents

Day 1 : Four hours online

Topic 1: Stationary Panel Data Models.

- **Static models**
  - Fixed vs random effects models
  - Within-group, between-groups, GLS (Balestra and Nerlove and Hausman and Taylor) estimators
  - Hausman test
- **Dynamic models**
  - Simple AR(1) model and models with exogenous regressors estimated via the Anderson and Hsiao and the Arellano and Bond estimators.
  - Special to the case when T is large
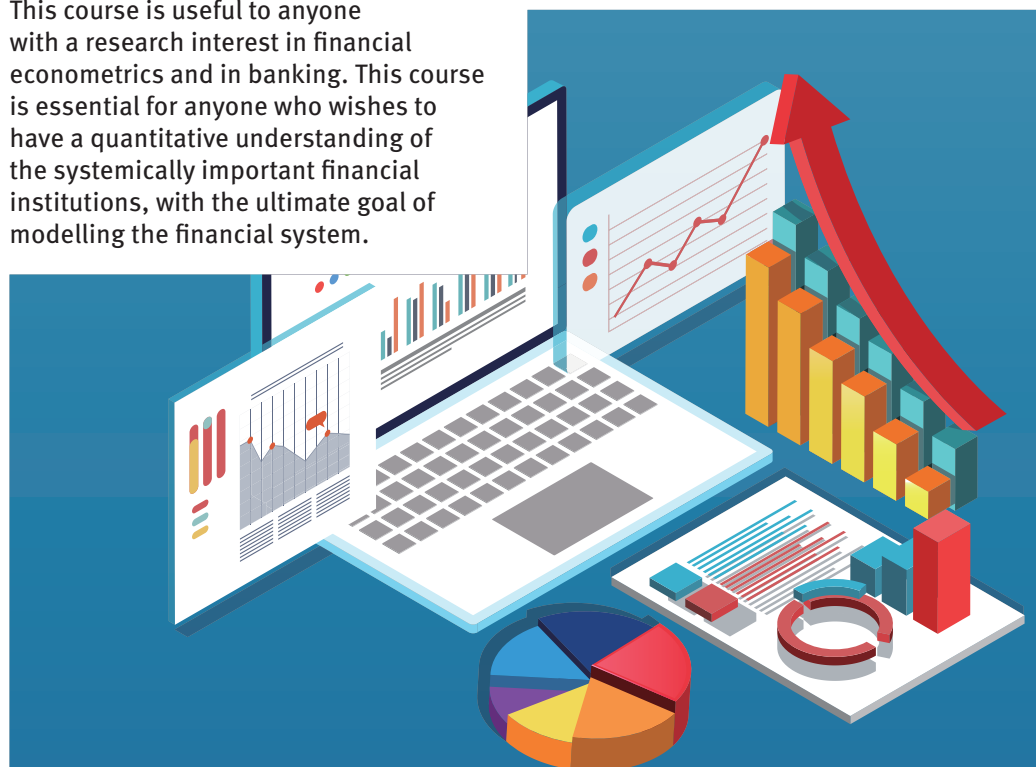
Topic 2: Non-stationary Panel Data Models.

- **Consequence of non-stationarity for panel data**
  - The Pesaran and Smith case.
  - The special case of valid aggregation of Trapani & Urga
- **Unit roots and cointegration in panels with independent units**
  - Panel data unit root tests
  - Panel data cointegration:
    Testing for cointegration in panels with the null hypothesis of no cointegration
    Testing for cointegration in panels with the null hypothesis of cointegration
- **Unit roots and cointegration in cross sectionally correlated panels and forecasting with panels.**

Recommended reading

A list of relevant papers will be provided at the beginning of the course. The following textbooks are recommended:

Baltagi, B. H. (2008), *Econometric analysis of panel datea*, Forth Edition, John Wiley & Sons.

Baltagi, B. H. (2009), *A companion to econometric analysis of panal data*, John Wiley & Sons.

Wooldridge, J. (2002), *Econometric analysis of cross section and panal data*, MIT Press.

Pesaran, M. H. (2015), *Time series and panal data econometrics*. Oxford University Press.

Professor Giovanni Urga

Giovanni is Professor of Finance and Econometrics and Director of the Centre for Econometric Analysis at Bayes Business School in London and Professor of Econometrics at the University of Bergamo (Italy). His research interests are in panel and factor models, financial econometrics, modelling (systemic, liquidity, premia) risk in (shadow) banking and (shadow) insurance and cross-market correlations, asset pricing, modelling and testing for multiple breaks and jumps. He has published in the Journal of Econometrics, Journal of Business and Economic Statistics, Journal of Banking and Finance, Journal of Financial Econometrics, Journal of Applied Econometrics, Journal of Financial Markets, Journal of Money Credit and Banking, Econometric Theory, International Journal of Forecasting, International Journal of Money and Finance and others. He is an Associate Editor for Empirical Economics, and has been a guest editor for the Journal of Econometrics and the Journal of Business and Economic Statistics. He has presented his works in several international conferences and seminars. He has been consultant in several international Institutions and he is consultant for Italian investment banks.

Dr Elisabetta Pellini

Elisabetta Pellini (PhD, Surrey University) is Research Fellow at the Centre for Econometric Analysis at Bayes Business School and Visiting Lecturer at Bayes Business School, where she teaches several graduate courses in Quantitative Methods. She obtained a PhD in Energy Economics from Surrey University, where she carried out research on modelling energy demand and prices and on evaluating the economic impact of energy policies. Her research interests include modelling and forecasting energy commodity markets and assessing energy market risk. Elisabetta is also Training Associate at Timberlake Consultants LTD (UK) and TStat S.r.l.-TStat Training (Italy).