**ERSA Advanced Panel Data Econometrics Course**
**10 July – 21 July 2023**

Description
In recent years, panel (or longitudinal) datasets have become more widely available. Hence, the objective of this course is to discuss the salient issues in the analysis of panel data, while striking a balance between theory and practical applications. The course is broken down into three parts.

The first part of the course will focus on seemingly unrelated regressions, random coefficients regressions, the pooled model, the fixed effects model and the random effects model with emphasis on specification, estimation and testing issues as well as the interpretation of the results. Also the issues surrounding heteroscedasticity, autocorrelation and cross-section dependence in panels will be discussed. This will be followed by the analysis of dynamic panels using the various instrumental variable and Generalized Method of Moments estimators as well as bias adjusted LSDV. The first part will conclude with the analysis of pseudo-panels.

The second part of the course will focus on issues surrounding panel unit roots and panel cointegration in homogeneous and heterogeneous panels which are highly relevant for panel datasets with long time dimensions; the so called macro panels. Also accounting for panel cointegration using panel error correction models, Dynamic OLS (DOLS) and Fully Modified OLS (FMOLS) will be discussed. The second part of the course will conclude with the analysis of panel vector autoregressions and panel ARDL.

The third part of the course will focus on panel models for limited dependent variables (e.g., panel probit, panel logit, panel count data models, etc.) as well as panel models incorporating flexible functional forms, including semiparametric fixed effects models.

For the practical applications, both canned commercial software packages (i.e., STATA and EVIEWS) and open source software packages will be applied to diverse datasets. Participants will also be encouraged to analyze their own datasets during the course of the training.

Understanding the practical applications of panel data is sometimes aided by highlights of the theory as well. Hence, in the theoretical setup, model formulation (including the underlying assumptions), estimation and hypothesis testing issues and the associated challenges will be introduced in cases where such introduction helps in elucidating the practical applications.

Organizing panel datasets, summarizing the data and presenting panel regression results in an appropriate format are important aspects of this course. Several relevant applied papers will also be reviewed as part of this course.

Instructor
Tomson Ogwang is a professor in the Department of Economics at Brock University, Canada. His research interests include econometrics (especially nonparametric and semiparametric econometrics and panel data econometrics) and development economics. Professor Ogwang has several publications in these areas. He has previously facilitated panel data analysis training for academics and practitioners in several settings, including the African Economic Research Consortium (AERC), universities and central banks. Professor Ogwang continues to serve as a Resource Person for AERC's biannual workshops.

Format and schedule
This advanced course in panel data econometrics will be taught over 2 weeks (10 July – 21 July 2023) and comprise both lectures and practical sessions. The course will be delivered in person at the University of Pretoria.

Interested applicants are requested to fill out [this form](#) by Friday, 26 May and application decisions will be communicated by Wednesday, 7 June. Please note that space is limited and preference will be given to applicants with a current research project that involves the use of advanced panel data econometric techniques.

ERSA will cover the travel and accommodation costs for participants from South African institutions. Places are limited and funding to attend the workshop is entirely at the discretion of the organiser, Neryvia Pillay.