VNiVERSiDAD D SALAMANCA

CAMPUS OF INTERNATIONAL EXCELLENCE

COURSE:
Dynamic Panel Data Methods

Salamanca, from 3rd to 7th June, 2013

Speaker:

Prof. Jan F. Kiviet
University of Amsterdam, The Netherlands
Nanyang Technological University, Singapore

Organizers:

Prof. Julio Pindado and Dr. Ignacio Requejo
Universidad de Salamanca, Spain

Limited Places! A Maximum of 20 Students

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Introduction

This course provides a thorough analytical and experimental analysis of the qualities of inference when modelling dynamic and possibly simultaneous relationships on the basis of panel data. The focus is on non-discrete dependent variables for short balanced panels of independent individuals (small T, moderate or large N) in which therefore the stationarity of the time-series is not an issue, but certain aspects of the initial conditions of the involved dynamic processes certainly are. The emphasis is on contrasts between the limiting and the actual finite sample distributions of parameter estimators and also of test statistics on the tenability of parametric restrictions and of moment conditions, hence for the validity of instruments (i.e., their orthogonality with respect to the disturbances) and predeterminedness of explanatory variables. The course is supplemented by computer exercises (in Matlab) involving simulation studies and also by a stylized introductory illustrative example and an actual empirical application

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Topics Covered

1. Perils of unobserved heterogeneity; scope and limitations of panel data analysis
2. Static panel data models: various forms of least-squares inference
3. Dynamic panel data models: the break-down of least-squares inference
4. Dynamic panel data models: IV and various GMM estimators
5. Examining validity of moment restrictions and weakness of instruments
6. An empirical example of a dynamic relationship with endogenous regressors analyzed by Stata / EViews
7. Introduction to extensions: heterogeneous panels and cross-section dependence

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Relevant Background Material

Text books (Collections) on panel data analysis

- Arellano, M., 2003. *Panel Data Econometrics*. Oxford University Press.
- Baltagi, B.H., 2008. *Econometric Analysis of Panel Data*, 4th edition. John Wiley & Sons.
- Hsiao, C., 2003. *Analysis of Panel Data*, 2nd edition. Cambridge University Press.
- Mátyás, L., Sevestre, P. (eds.), 2008. *The Econometrics of Panel Data: A Handbook of the Theory with Applications*, 3rd edition. Springer.
- Wooldridge, J.M., 2010. *Econometric Analysis of Cross-Section and Panel Data*, 2nd edition. MIT Press. [has little on dynamic models]

Overviews articles (Chapters) on panel data analysis

- Arellano, M., Honoré, B., 2001. Panel data models: some recent developments. In: Heckman, J.J., Leamer, E. (Eds.), *Handbook of Econometrics*, Volume 5. Elsevier Science B.V., The Netherlands (pages 3229-3296).
- Bond, S., 2002. Dynamic panel data model: A guide to micro data methods and practice. *Portuguese Economic Journal*, 1, 141-162.
- Cameron, C.C., Trivedi, P.K., 2005. *Microeconometrics, methods and applications*. (Chapters 21, 22, 23) Cambridge. [has little on dynamic models]
- Doornik, J.A., Arellano, M., Bond, S., 2002. *Panel data estimation using DPD for Ox*. Mimeo, University of Oxford.
- Hayashi, F., 2000. *Econometrics*, (Chapter 5). Princeton University Press. [has little on dynamic models]
- Johnston, J., Dinardo, J., 1997. *Econometric Methods*, 4th edition, (Chapter 12). McGraw Hill. [has little on dynamic models]
- Verbeek, M., 2008. *A Guide to Modern Econometrics*, 3rd edition. (Chapter 10). Wiley.

Special Journal Issues on panel data analysis

Empirical Economics 17 and 29 (March 1992, January 2004), *Journal of Econometrics* 68 (July 1995), *Journal of Applied Econometrics* 22 (March 2007), *Journal of the Royal Statistical Society: Series A* 171 (January 2008), *Singapore Economic Review* 54 (August 2009).

Journal articles (discussion papers) on dynamic panel data methods closely related to the topics of the course

- Arellano, M., Bond, S., 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies* 58, 277-297.
- Blundell, R., Bond, S., 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics* 87, 115-143.
- Bond, S., Windmeijer, F., 2005. Reliable inference for GMM estimators? Finite sample properties of alternative test procedures in linear panel data models. *Econometric Reviews* 24, 1-37.
- Bowsher, C.G., 2002. On testing overidentifying restrictions in dynamic panel data models. *Economics Letters* 77, 211--220.
- Bun, M.J.G, Kiviet, J.F., 2003. On the diminishing returns of higher-order terms in asymptotic expansions of bias. *Economics Letters* 79, 145-152.
- Bun, M.J.G, Kiviet, J.F., 2006. The effects of dynamic feedbacks on LS and MM estimator accuracy in panel data models. *Journal of Econometrics* 132, 409-444.

- Hsiao, C., Pesaran, H.M., 2006. Random coefficient panel data models. In: *The Econometrics of Panel Data*, 3rd edition (eds.: L. Matyas, P. Sevestre). Kluwer Academic Publishers.
- Hsiao, C., Pesaran, H.M., Tahmiscioglu, A.K., 2002. Maximum likelihood estimation of fixed effects dynamic panel data models covering short time periods. *Journal of Econometrics* 109, 107-150.
- Judson, R.A., Owen, A.L., 1999. Estimating dynamic panel data models: a guide for macroeconomists. *Economics Letters* 65, 9-15.
- Kiviet, J.F., 1995. On bias, inconsistency, and efficiency of various estimators in dynamic panel data models. *Journal of Econometrics* 68, 53-78.
- Kiviet, J.F., 2007. Judging contending estimators by simulation: tournaments in dynamic panel data models. Chapter 11 (pp.282-318) in: *The Refinement of Econometric Estimation and Test Procedures* (eds.: G.D.A. Phillips and E. Tzavalis). Cambridge University Press.
- Kiviet, J.F., Feng, Q., 2013. Efficiency gains by modified GMM estimation in linear models under heteroskedasticity. Mimeo.
- Kiviet, J.F., Pleus, M., Poldermands, R., 2013. Accuracy and efficiency of various GMM inference techniques in dynamic micro panel data models. Mimeo.
- Windmeijer, F., 2005. A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics* 126, 25-51.
- Ziliak, J.P., 1997. Efficient estimation with panel data when instruments are predetermined: an empirical comparison of moment-condition estimators. *Journal of Business and Economic Statistics* 15, 419-431.

Journal article on Monte Carlo simulation methodology

- Kiviet, J.F., 2012. Monte Carlo Simulation for Econometricians. *Foundations and Trends in Econometrics* 5 (1-2), 1-181.

4 Entry Requirements

Any researcher interested in the topic of the course, and especially researchers working on the various business and economics fields, is very welcome. However, to make the most of the attendance to the course, we may recommend potential participants some reading upon receipt of the registration information indicated in Section 7. The recommendation will depend on the previous knowledge of econometric methods, in general, and panel data models, in particular. Therefore, it is **very important** that you provide the information requested in the final point of Section 7 when applying for a place in the course.

Timetable

To make the course more illustrative and explanatory than technical, every day there will be two and a half hour lessons in the lecture room, followed by an hour and a half lesson in the computer lab. This implies four hours of lessons every day.

Date	Time	Lesson type	Lecturer	Room
03-06-2013 Monday	9.15–10.30	Theory	Jan F. Kiviet	Lecture Room
	10.45–12.00	Theory	Jan F. Kiviet	Lecture Room
	12.30–14.00	Practice MATLAB	Jan F. Kiviet	Computer Lab.
04-06-2013 Tuesday	9.15–10.30	Theory	Jan F. Kiviet	Lecture Room
	10.45–12.00	Theory	Jan F. Kiviet	Lecture Room
	12.30–14.00	Practice MATLAB	Jan F. Kiviet	Computer Lab.
05-06-2013 Wednesday	9.15–10.30	Theory	Jan F. Kiviet	Lecture Room
	10.45–12.00	Theory	Jan F. Kiviet	Lecture Room
	12.30–14.00	Practice STATA	Jan F. Kiviet	Computer Lab.
06-06-2013 Thursday	9.15–10.30	Theory	Jan F. Kiviet	Lecture Room
	10.45–12.00	Theory	Jan F. Kiviet	Lecture Room
	12.30–14.00	Practice STATA	Jan F. Kiviet	Computer Lab.
07-06-2013 Friday	9.15–10.30	Theory	Jan F. Kiviet	Lecture Room
	10.45–12.00	Theory	Jan F. Kiviet	Lecture Room
	12.30–14.00	Practice STATA	Jan F. Kiviet	Computer Lab.

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Brief Biography

Jan F. Kiviet is Professor of Econometrics at University of Amsterdam (The Netherlands) and Nanyang Technological University (Singapore). He has published academic peer-reviewed articles on econometrics and applied economics in several top journals ranked with a high impact factor in the Journal Citation Report, such as Review of Economic Studies, Econometrica, Review of Economics and Statistics, Journal of Econometrics, Oxford Bulletin of Economics and Statistics, The Econometrics Journal and Econometric Theory. His research interests include Dynamic Models, Panel Data Analysis, Endogenous Interventions, Monte Carlo Testing and Simulation, Finite Sample Issues, Asymptotic Expansions, Exact Inference, Bootstrap, History of Statistics and Econometrics. You can check Jan's vast teaching and research experience in these and other related field by going to his personal webpage: https://sites.google.com/site/homepagejfk/home

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Registration and Participation Fee

To register send an email to Prof. Julio Pindado E-mail: pindado@usal.es with the following information.

- Name and Surname
- Research Interests
- Country
- Brief Curriculum Vitae
- A brief summary explaining your previous knowledge of econometric methods in general and panel data models in particular and how you learnt these topics.

To guarantee the quality of the course, only a maximum of 20 students will be accepted. The brief CV sent with your registration details will be the main acceptance criterion.

The registration fee for the **course** is **EUR 300**.

For those accepted to the course, details on the method of payment will be provided upon notification of acceptance.

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Accommodation

Colegio Oviedo: http://www.usal.es/webusal/node/4190
This hall of residence is only a two minute walk from the venue.

Colegio Mayor Arzobispo Fonseca: http://www.usal.es/webusal/node/4297
This hall of residence is just a ten minute walk from the venue.

Apartahotel Hall88: www.exehall88apartahotel.com/Salamanca
This hotel is only a three minute walk from the venue.

Hotel Artheus Carmelitas: www.artheushoteles.es
This hotel is just a fourteen minute walk from the venue.

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Course Venue

Universidad de Salamanca
Facultad de Economia y Empresa
Campus Miguel Unamuno, Edificio FES
37007, Salamanca (Spain)
The exact location can be found in the following internet link:
http://www.usal.es/webusal/mapa_localizacion/31?mst=19

The Facultad de Economía y Empresa is located in the new campus of Universidad de Salamanca, just some minutes away from the bus station. The main entrance to the Course Venue is from 'Paseo de Francisco Tomás y Valiente'.

Uni. de Salamanca – Campus Miguel Unamuno

Facultad de Economía y Empresa – Main Entrance

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Brief Reference about Salamanca

Salamanca is a city in western Spain, in the region of Castilla y León. Because of its beautiful buildings and urban environment, the Old City was declared a UNESCO World Heritage Site in 1988. It is the most important University City in Spain and is known for its contributions to the teaching of the Spanish language. Salamanca attracts thousands of international students, generating a diverse multicultural environment.

Old Facade – Universidad de Salamanca

View of Salamanca – Cathedral and Roman Bridge

It is situated approximately 200 km (124 mi) west of Madrid and 80 km (50 mi) east of the Portuguese border. The University of Salamanca, which was founded in 1218, is the oldest university in Spain and the third oldest western university. With its 30,000 students, the university is, together with tourism, the economic engine of the city.

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Travelling to Salamanca

Spanish Airports: http://www.aena.es

There are some flights to Salamanca from Barcelona and Málaga. Other airports close to Salamanca are Madrid-Barajas and Valladolid-Villanubla. Madrid-Barajas is the largest Spanish airport and there are regular flights from/to most national/ international destinations.

Bus: http://www.venta.avanzabus.com

There is a direct bus from Madrid airport to Salamanca. The bus stop to travel to Salamanca is located in Terminal T1 of Madrid-Barajas airport (ground floor, opposite baggage reclaim hall 2).

http://www.aena-aeropuertos.es/csee/Satellite?Language=ES_ES&ca=MAD&pagename=cartografia&poi=1237555933611&ps=t&swidth=873&sheight=533

Alternatively, you can take the underground/a taxi to travel to the central bus station in Madrid (Estación de Autobuses de Madrid – Estación Sur) and take a bus from Madrid city centre to Salamanca. You can buy the bus ticket online in advance. The bus journey from Madrid to Salamanca takes approximately 2 hours and 40 minutes.

Train: https://venta.renfe.com/vol/index.do

The trains to Salamanca depart from Madrid-Chamartin train station. You can take the underground/a taxi to travel to Madrid-Chamartin train station from Madrid-Barajas airport. You can buy the train ticket online in advance. The train journey from Madrid to Salamanca takes approximately 2 hours and 40 minutes.

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Additional Information

For further information, please, contact:
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