

Jungyoon Lee

LONDON SCHOOL OF ECONOMICS & POLITICAL SCIENCE

Department of Economics

Placement Officer: Professor Leonardo Felli +44 (0)20 7955 7525 lfelli@econ.lse.ac.uk
Placement Assistant: Mrs Samantha Keenan +44 (0)20 7955 7545 s.keenan@lse.ac.uk

HOME ADDRESS:

Flat 130, The Circle
Queen Elizabeth Street
London, SE1 2JJ
Mobile phone: +44 (0)7793 146 578

OFFICE ADDRESS & E-MAIL:

London School of Economics
S565, Houghton Street
London, WC2A 2AE
j.lee2@lse.ac.uk

DATE OF BIRTH: 25/05/1985 **COUNTRY OF BIRTH:** USA **SEX:** F

CITIZENSHIP: SOUTH KOREA (permanent residence UK)

UNDERGRADUATE STUDIES:

2003-2006 BA (Hons) in Economics, University of Cambridge

GRADUATE STUDIES:

2007-present Ph. D. in Economics, London School of Economics
Thesis title: "Nonparametric methods under cross sectional dependence"
Expected completion: June 2012

2006-2007 MSc in Econometrics and Mathematical Economics (Distinction)
London School of Economics

THESIS ADVISOR AND REFERENCES:

Prof. Peter M. Robinson (Advisor)
Department of Economics
London School of Economics
Houghton Street
London
WC2A 2AE

p.m.robinson@lse.ac.uk
Tel. (44-20) 7955-7516
Fax (44-20) 7831-1840

Prof. Javier Hidalgo
Department of Economics
London School of Economics
Houghton Street
London
WC2A 2AE

f.j.hidalgo@lse.ac.uk
Tel. (44-20) 7955-7503
Fax (44-20) 7831-1840

Prof. Oliver B. Linton
Department of Economics
Austin Robinson Building
Sidgwick Avenue
Cambridge University
CB3 9DD

obl20@cam.ac.uk
Tel. (44-1223) 33-5229

DESIRED TEACHING AND RESEARCH:

Primary Fields: Econometric Theory, Nonparametric Econometrics
Secondary Fields: Applied Econometrics, Probability and Statistics

TEACHING EXPERIENCE:

(Undergraduate)

2008-2010 Principles of Econometrics (EC221)

(Graduate)

2011-present Financial Econometrics (FM437)
2010-2011 Methods of Economic Investigation (EC402)
Sept 2010 Introductory Course in Mathematics and Statistics (EC400)
2008-present Help Surgery for Methods of Economic Investigation (EC402)
2007-2009 Help Surgery for Econometric Analysis (EC484)

RELEVANT POSITIONS HELD:

2010-present Teaching Fellow, LSE
2008-present Research Assistant for Prof. P. M. Robinson, LSE
Summer 2005 Research Assistant for Prof. H. Pesaran, University of Cambridge

PRESENTATIONS:

2011 Econometrics and Statistics Workshop, LSE (scheduled)
2010 Econometrics Student Workshop, University of Oxford
Semiparametric Methods in Economics and Finance Conference, LSE
2009 UC3M-LSE Workshop on Econometrics, UC3M

LANGUAGES:

English (fluent spoken and written), Korean (native), German (intermediate)

HONORS, SCHOLARSHIPS AND FELLOWSHIPS:

2010-present Teaching Fellow, LSE
2006-2011 Samsung Scholarship (formerly Samsung Lee Kun Hee Scholarship)
2003-2006 Cambridge University Overseas Trust Scholarship
2005 PwC Prize, Faculty of Economics, University of Cambridge
2005 Wright Prize, St. John's College, Cambridge
2005 Elected Scholar, St. John's College, Cambridge

PROFESSIONAL ACTIVITIES:

Referee for *Econometric Theory*

RESEARCH:

My research interest lies in the development of methods and theory for non/semi-parametric estimation under cross-sectional dependence. While implications of temporal dependence for econometric analysis of time series data have been extensively studied, the surge in research on spatial econometrics has been a recent phenomenon. This in part reflects the difficulty of forming conditions on cross-sectional heterogeneity and dependence that are relevant for economic data and facilitate development of econometric theory. My thesis consists of three papers that form a part of such endeavour, each addressing different models and methods in the area of non/semi-parametric estimation.

Job Market Paper:

“Series estimation under cross-sectional dependence”

This paper develops an asymptotic theory for series estimators under a general setting of spatial dependence in regressors and error term, including cases analogous to long-range dependence of time series literature. A new data-driven studentization that dispenses with the need for "distance measures", as required by the spatial HAC estimation, is introduced and leads to asymptotically correct inference. The asymptotic distribution results given in this paper cover both non-parametric and semi-parametric estimators. For semi-parametric estimators satisfying certain conditions, it is shown that the parametric rate of convergence can be achieved under suitable restrictions on the strength of dependence. Conditions on the dependence are carefully formulated to accommodate various settings that are plausible in economic applications and lend themselves readily to time series and panel data settings. Results from a finite sample Monte-Carlo study confirm very satisfactory performance of corresponding estimation and testing procedures. Application to two typical economic datasets is presented.

Other Projects:

**“Efficiency improvement in the semi-parametric pure spatial autoregressive (SAR) model”
with P.M. Robinson**

In the pure SAR model, the dependent variable of a given unit is affected solely by a weighted average of the dependent variables of its neighbouring units, making it an appealing way of modeling e.g. contagion of shocks. These weights are presumed to be known to the practitioner and reflect some socio-economic distance between units. The structure of the spatial dependence is captured in these weights up to a single unknown parameter of interest. It has been shown that the convergence rate of the estimate of this parameter could be slower than the parametric rate, engendering an interest in improved estimation. In this work, we construct a Newton-Raphson type estimator which adapts to the unknown error distribution of non-parametric form and achieves the Cramer-Rao bound of MLE. Series estimates of the score function are used to build this estimator. We first establish the feasibility of such adaptive estimation by exploring conditions under which the information matrix of the model becomes block-diagonal. We find that the gain in efficiency from adaptive estimation is typically smaller than in the time series context, but could be greater under certain asymptotic behaviour of the weights. Simulation results indicate the adaptive estimation works well in practice.

“Panel data model with non-parametric common regression and individual fixed effects”

This paper considers an analysis of panel data whereby the number of cross-sections is small relative to that of time periods, e.g. regional data involving large geographical units. In such settings, it is crucial to allow for cross-sectional heterogeneity. In this work, identification and kernel estimation of non-parametric common regression with additive individual fixed effects are discussed under weak temporal dependence (β -mixing) and arbitrarily strong cross-sectional dependence. Efficiency improvement is obtained by using estimated cross-sectional covariance matrix in a manner similar to the generalised least-squares. Feasible optimal bandwidths and feasible optimal non-parametric regression estimation are asymptotically justified.