Editor's introduction^{*}



This Annals issue of the *Journal of Econometrics* honours Peter M. Robinson on the occasion of his 60th birthday, acknowledging his many contributions to the Statistics and Econometrics profession.

Peter was born on 20 April 1947 in Weymouth, England, He received his B.Sc. degree in Statistics at University College London in 1968 and, one year later, he completed an M.Sc. at the London School of Economics, where he served as Lecturer during the academic year 1969-1970. In 1973 he received his Ph.D. degree at the Australian National University under the supervision of Edward Hannan. Then, he joined the faculty at Harvard University until 1979. After working one year at the University of British Columbia, he returned to England in 1980 as Full Professor in the University of Surrey, where he worked until 1984. Since then, he has worked at the London School of Economics, where he currently occupies the Took Chair in Economics and Statistics. Peter is a fellow of the Econometric Society, the Institute of Mathematical Statistics, the British Academy and is member of the International Statistical Institute. He has served on the editorial boards of many journals. Currently is Co-Editor of the Journal of Econometrics, a member of the advisory board of Econometric Theory, and associate editor of the Annals of Statistics, Journal of the American Statistical Association, Journal of Time Series Analysis and Statistical Inference for Stochastic Process. Previously he has been Co-Editor of Econometrica and Econometric Theory, and associate editor of thirteen other journals.

Peter has made fundamental contributions to Statistics and Econometrics, publishing about 200 articles in the main journals of these areas. A central theme in his research has been the development of statistical inference tools based on large sample properties of the statistics using serial dependent data. In the earlier stages of his career he developed inference theory with large samples for continuous time models using discrete observations, time series and econometric dynamic models in a variety of contexts. In the 1980s he made seminal contributions to the statistical inference of nonparametric and semiparametric models. His work on the asymptotic properties of smoothers with serial dependent data and of semiparametric estimators has had an enormous impact. In the 1990s he made influential contributions to the asymptotic inference of the long-memory parameter in semiparametric time series models, resolving longstanding technical problems. Peter's standards of mathematical rigour, his thoroughness in evaluating research, his fairness in adjudicating credit and the remarkable standards of his scientific writings have set paradigms within the profession.

Most of the articles in this volume were presented in a Conference on the occasion of Peter's 60th birthday, held at LSE on 25 and 26 May 2007. They are reflective of Peter's research in nonparametrics and semiparametrics inference.

Two articles were related to Peter's influential work on \sqrt{n} -consistent estimation of partially linear models, which has been extended to many other semiparametric problems. The article by Echu Liu, Cheng Hsiao, Tomoya Matsumoto and Shinyi Chou applies these inference procedures to studying the relation between overweight children and maternal full-time employment. The article by Xiaohong Chen and Demian Pouzo studies the asymptotic properties of penalized sieve minimum distance estimators in a nonlinear in variables model with parametric and nonparametric components, which are identified by means of conditional moment restrictions.

The set of technical tools in Peter's article on efficient generalized least squares estimation in the presence of heteroskedasticity of unknown form using k nearest neighbour smoothers (k-nn) has been proven useful for justifying inferences in certain semiparametric problems. These results are applied in Sung Jun and Joris Pinkse's article in a nonparametric test of conditional moment restrictions using k-nn.

The article by Stephen G. Donald, Guido N. Imbens and Whitney Newey is related to Peter's work on choice of instruments in GMM estimation. It proposes criteria for choosing between a set of valid instruments in GMM estimation of nonlinear in variables models.

Peter's seminal work on the asymptotic properties of kernel smoothers using data exhibiting strong mixing serial dependence has been broadly applied in the nonparametrics literature. The article by Oliver Linton and Alessio Sancetta is related to this work. They provide weak and strong consistency results for nonparametric regression function estimators, where the conditioning set is infinite dimensional, using stationary and ergodic data. This generalizes Peter's seminal work on smoothers using data exhibiting strong mixing serial dependence.

The article by Donald W.K. Andrews and Patrick Guggenberger, presented in the Conference, considers subsampling assisted tests based on statistics with discontinuous distribution with respect to some parameters. In particular, they consider inference based on post-model test statistics and test statistics based on shrinkage estimators. It concludes that the corresponding subsampling confidence intervals for these test statistics have asymptotic size equal to zero for certain models.

Finally, the article presented by Andrew Chesher addresses the problem of finding identification conditions in index models with possibly endogenous arguments.

The contributors to this *Annals of Econometrics* issue, who are Peter M. Robinson's students, colleagues and friends, dedicate

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this volume with gratitude and warm wishes for many more birthdays.

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