

Annual Report for The Centre for Efficiency and Productivity Analysis (CEPA)

For the year ended 31 December 2013

Annual Report for The Centre for Efficiency and Productivity Analysis (CEPA)

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Overview of the Centre (including Mission Statement)

The main purpose of the Centre is to provide a focal point for research, consultancy and training in efficiency and productivity analysis in Australia and the Asia/Pacific Region.

The principal aims and objectives of the Centre are to undertake theoretical and applied research, develop useful end-user-driven short courses and workshops and to develop computer software for use by private and public sector organizations. Specific objectives are:

- to assess and develop methods for the measurement of productivity, efficiency and economic performance;
- to apply these methods to assess the performance of firms, industries and sectors within the domestic and international economies;
- to conduct research directed towards explaining and interpreting patterns of productivity and economic growth across nations;
- to conduct ex post assessment of the effects of microeconomic reform and deregulation on productivity and efficiency;
- to provide technical advice to private and public sector and international organizations on efficiency and productivity measurement; and
- to offer short courses and workshops to researchers, managers and policy analysts from various sectors of industry and government.

Agreed objectives for 2013 Calendar Year

Agreed objectives:

- Continue to produce high quality journal publications.
- Continue to provide high quality supervision to our PhD students and encourage them to produce journal publications from their research.
- Continue to attract high profile visitors and good quality PhD students to work on projects undertaken by CEPA staff.
- Continue to seek external research funding through consultancies and grants.
- Deliver at least two three-day short-courses on introductory and/or advanced productivity and efficiency analysis methods.

Performance against agreed objectives:

In 2013 CEPA staff:

- produced seventeen journal publications, fourteen conference papers, nine working papers, one monograph, one edited book and three book chapters.
- were involved in the supervision of five PhD students;
- hosted thirteen international visitors;
- applied for external research funding through the ARC (unsuccessfully)
- presented three short courses and a number of seminars;
- ran two workshops,
- served in journal editorial roles and made various other contributions to the profession.

Governance

The governance of the Centre is through the CEPA Advisory Committee consisting of Professor C.J. O'Donnell (Director), Professor C.A.K. Lovell, Professor D.S.P. Rao, Associate Professor C. Nauges, Associate Professor A.N. Rambaldi, Associate Professor V. Zelenyuk and Dr A. Peyrache.

The Advisory Committee usually meets once a year. Members of the Committee meet informally on a more regular basis to prepare tenders for consulting projects and interim and final reports for research projects.

The Director consults with the Head of the School of Economics on all substantive matters relating to the Centre.

List of Staff Associated with Centre

Director

Professor Chris O'Donnell

Other Staff

Dr Mohammad Alauddin

Associate Professor Necmi Avkiran

Associate Professor Phil Bodman

Professor John Foster

Professor Knox Lovell

Associate Professor Renuka Mahadevan

Associate Professor Celine Nauges

Dr Antonio Peyrache

Professor John Quiggin

Associate Professor Alicia Rambaldi

Professor D.S. Prasada Rao

Associate Professor Valentin Zelenyuk

Postdoctoral Fellows

Dr Renuka Ganegodage

Research Associates

Dr George Battese

Professor Tim Coelli

Publications List for 2013 Calendar Year

Books and Monographs

Fletcher, C. S., Taylor, B. M., Rambaldi, A. N., Harman, B. P., Heyenga, S., Ganegodage, K. R., Lipkin, F. and McAllister, R. R. J. (2013) *Costs and coasts: an empirical assessment of physical and institutional climate adaptation pathways*. Southport, QLD, Australia: National Climate Change Adaptation Research Facility.

Rao, D.S.P. and B. van Ark (eds.) *World Economic Performance: Past, Present and Future*. Edward Elgar Publishing Ltd. May, 2013.

Book Chapters

Lovell, C.A.K. and E. Grifell-Tatjé (2013) “Advances in Cost Frontier Analysis of the Firm” in C. R. Thomas and W. F. Shughart II, eds., *The Oxford Handbook of Managerial Economics*. New York: Oxford University Press.

Rao, D.S. Prasada, (2013) The Framework for the International Comparison Program (ICP), in World Bank (ed) *Measuring the Size of the World Economy*, World Bank, Washington DC. Chapter 1. pp. 13-45

Rao, D.S. Prasada, (2013) “Computation of Basic Heading Purchasing Power Parities (PPPs) for Comparisons within and between Regions”, in World Bank (ed) *Measuring the Size of the World Economy*, World Bank, Washington DC. Chapter 4. pp. 93-119.

Journal articles

Avkiran, N.K. and M. Mizuno (2013) “Stakeholder Perspectives on Bank Performance: a Preliminary Survey across Australia, China and Japan”, *The Finsia Journal of Applied Finance*, Issue 2 Winter, 30-35.

Avkiran, N.K. (2013) “An empirical investigation of the influence of collaboration in Finance on article impact”, *Scientometrics*, 95(3): 911-925.

Chotikapanich, D., W.E. Griffiths, W. Karunaratne and D.S.P. Rao, (2013), “Calculating Poverty Measures from the Generalized Beta Income Distribution”, *Economic Record* 89(S1): 48-66.

Curi, V., Guarda, P., Lozano-Vivas, A. (2013) “Is foreign-bank efficiency in financial centers driven by home-country characteristics?” *Journal of Productivity Analysis* 40: 367-385.

- Fare, R. and V. Zelenyuk (2013) "Pricing of decision-making units under non-constant returns to scale" *Journal of the Operational Research Society* 1-2.
- Feenstra, R.C., H. Ma, J.P. Neary and D.S.P. Rao, (2013) "Who Shrunk China?" Puzzles in Measurement of Real GDP", *Economic Journal* 123(573): 110-1129.
- Filippetti A., Peyrache A. (2013), "Is the convergence party over? Labour productivity and the technology gap in Europe", *Journal of Common Market Studies*, DOI: 10.1111/jcms.12066
- Filippetti A., Peyrache A. (2013), "Labour productivity and technology gap in European regions: a conditional frontier approach", *Regional Studies*, DOI:10.1080/00343404.2013.799768
- Lovell, C.A.K. and J.E. Lovell "Productivity Decline in Australian Coal Mining" *Journal of Productivity Analysis* 40(3): 443-55.
- O'Donnell, C. J. and K. Nguyen (2013). An Econometric Approach to Estimating Support Prices and Measures of Productivity Change in Public Hospitals. *Journal of Productivity Analysis* 40(3):323-335.
- Peyrache A. (2013), "Industry structural inefficiency and potential gains from mergers and break-ups: a comprehensive approach", *European Journal of Operational Research*, 230: 422-430
- Peyrache A. (2013), Hicks-Moorsteen versus Malmquist: a connection by means of a radial productivity index", *Journal of Productivity Analysis*, DOI: 10.1007/s11123-013-0350-2
- Rambaldi, A.N, C.S. Fletcher, K. Collins, R. R. J. McAllister (2013), "Housing Shadow Prices in an Inundation Prone Suburb" *Urban Studies*, 50(9): 1889-1905. DOI: 10.1177/0042098012465904
- Rhode, N., K.K. Tang and D.S.P. Rao (2013), "Distributional Characteristics of Income Insecurity in the US, Germany and Britain", *Review of Income and Wealth*, DOI: 10.1111/roiw.12089.
- Zelenyuk, V. (2013) "A Scale Elasticity Measure for Directional Distance Function and its Dual: Theory and DEA Estimation" *European Journal of Operational Research* 228(3): 592-600.
- Zelenyuk, V. (2013) "Scale efficiency and homotheticity: equivalence of primal and dual measures" *Journal of Productivity Analysis*, online from 2013 (10.1007/s11123-013-0361-z).

Zelenyuk, V. (2013) "A note on equivalences in measuring returns to scale" *International Journal of Business and Economics* 12(1): 85-89.

Conference papers

D.S.P. Rao and A.N. Rambaldi (2013) "A State-space and Constrained GEKS Approach to the Construction of Panels of Real Incomes at Current and Constant Prices" *Conference on International Comparisons*, Princeton University, 23-24 May, Princeton.

D.S.P. Rao and B. Balk (2013) " Concepts and Terminology for International Comparisons of Prices and Real Incomes", *Ottawa Group Meeting of Price Statisticians*, Copenhagen, 1-3 May.

D.S.P. Rao, A.N. Rambaldi and B. Balk (2013) "Purchasing Power Parities, Price Levels and Measures of Regional and Global Inflation" *Economic Measurement Group Meeting*, Sydney, November.

Li, D., L. Simar and V. Zelenyuk "To Smooth or Not to Smooth? The Case of Discrete Variables in Nonparametric Regressions" *Econometric Society Australasian Meeting*, Sydney, 9-11 July.

Lovell, C.A.K (2013) "Cost and Productivity," *Taiwan Productivity & Efficiency Conference*, Soochow University, Taipei, Taiwan, 20 July.

O'Donnell, C. J. and A. Lashitew (2013). "A Cost Frontier Approach to Analysing Productivity Change in Ethiopian Manufacturing". *15th European Workshop on Efficiency and Productivity Analysis*, Helsinki, 17-20 June.

O'Donnell, C. J., B. Bravo-Ureta, E. Njuki and D. Mukherjee (2013). "A New Look at the Decomposition of Productivity Growth in the Face of Climate Change". *15th European Workshop on Efficiency and Productivity Analysis*, Helsinki, 17-20 June.

O'Donnell, C. J. (2013). "An Economic Approach to Identifying the Drivers of Productivity Change in the Market Sectors of the Australian Economy". *IARIW-UNSW Conference on Productivity: Measurement, Drivers and Trends*. Sydney, Australia, November 26-27.

Peyrache, A., A. N. Rambaldi and D. T. Trinh (2013) "Aggregate Labour Productivity Growth, TFP and Structural Change with EU-KLEMS," *IARIW-UNSW Conference on Productivity: Measurement, Drivers and Trends*. Sydney, Australia, November 26-27.

Simar, L., I. van Keilegom and V. Zelenyuk (2013) "Nonparametric Least Squares Methods for Stochastic Frontier Models", *New Zealand Econometric Study Group Meeting*, February.

Trinh, T.T.D. and A.N. Rambaldi (2013) "Bayesian Estimation of a Spatial Time Series Model with an Application to Real Estate Modelling", *Asian Meetings of the Econometric Society, Singapore*, 2-4 August.

Zelenyuk, V. (2013) "Aggregation of Scale Efficiency" *European Workshop on Efficiency and Productivity Analysis, Helsinki, Finland*, 17-20 June.

Zelenyuk, V. (2013) "Scale efficiency and homotheticity: equivalence of primal and dual measures" *European Workshop on Efficiency and Productivity Analysis, Helsinki, Finland*, 17-20 June.

Simar, L. and V. Zelenyuk (2013) "To Smooth or Not to Smooth? The Case of Discrete Variables in Nonparametric Regressions" *New Zealand Econometric Study Group Meeting, February*.

Working papers

Fare, R. and V. Zelenyuk (2013) Pricing of Decision Making Units under Non-constant Returns to Scale. *Centre for Efficiency and Productivity Analysis Working Papers, WP01/2013*. University of Queensland.

Grifell-Tatje, E. and C. A. K. Lovell (2013) Productivity, Price Recovery, Capacity Constraints and their Financial Consequences. *Centre for Efficiency and Productivity Analysis Working Papers, WP03/2013*. University of Queensland.

Karagiannis, G. and C. A. K. Lovell (2013) Productivity Measurement In Radial Dea Models With Multiple Constant Inputs. *Centre for Efficiency and Productivity Analysis Working Papers, WP08/2013*. University of Queensland.

Millington, H.K., J. E. Lovell, C. A. K. Lovell (2013) Using Fieldwork, GIS and DEA to Guide Management of Urban Stream Health. *Centre for Efficiency and Productivity Analysis Working Papers, WP07/2013*. University of Queensland.

Peyrache, A. and M. Zhu (2013) The quality and efficiency of public service delivery in the UK and China. *Centre for Efficiency and Productivity Analysis Working Papers, WP05/2013*. University of Queensland.

Park, B.U., L. Simar and V. Zelenyuk (2013) Non-Parametric Approach to Dynamic Time Series Discrete Choice Models. *Centre for Efficiency and Productivity Analysis Working Papers, WP09/2013*. University of Queensland.

Rambaldi, A.N. and D.S.P Rao (2013) Econometric Modeling and Estimation of Theoretically Consistent Housing Price Indexes. *Centre for Efficiency and Productivity Analysis Working Papers*, WP04/2013. University of Queensland.

Zelenyuk, V. and A. Mayer (2013) Aggregation of Malmquist productivity indexes allowing for reallocation of resources. *Centre for Efficiency and Productivity Analysis Working Papers*, WP06/2013. University of Queensland.

Zelenyuk, V. (2013) Scale Efficiency and Homotheticity: Equivalence of Primal and Dual Measures. *Centre for Efficiency and Productivity Analysis Working Papers*, WP02/2013. University of Queensland.

Research Students Associated with Centre

Degree		Name	Enrolled	Submitted	Awarded
PhD. ongoing	F/T	Thanh Nguyen	02/13		
PhD. ongoing	F/T	Kelly Trinh	06/13		
PhD. ongoing	F/T	Chandana Maitra	02/08	11/12	04/13
PhD. ongoing	F/T	Shabbir Ahmad	06/09		
Ph.D. ongoing	P/T	Roger Carrington	06/06		

Seminars

Lovell, C.A.K. *Imperfect Optimisation*. HEC School of Management, Université de Liège, Belgium

Lovell, C.A.K. *Enjoying Economic Research*. Institute of Business and Management, National Chaio Tung University, Taipei, Taiwan

Lovell, C.A.K. *Imperfect Optimisation*. Advanced Lecture Workshop, School of Business, Soochow University, Taipei, Taiwan

O'Donnell, C.J. *An Economic Approach to Identifying the Drivers of Productivity Change in the Market Sectors of the Australian Economy*. AARES Branch Meeting, Sydney, 28 November.

O'Donnell, C.J. *Econometric Estimates of Productivity and Efficiency Change in the Australian Northern Prawn Fishery*. Washington State University, 9 January.

O'Donnell, C.J. *Econometric Estimates of Productivity and Efficiency Change in the Australian Northern Prawn Fishery*. Nanyang Technological University, Singapore, 26 February.

O'Donnell, C.J. *Econometric Estimates of Productivity and Efficiency Change in the Australian Northern Prawn Fishery*. Queensland University of Technology, 2 May.

O'Donnell, C.J. *Econometric Estimates of Productivity and Efficiency Change in the Australian Northern Prawn Fishery*. University of Sydney, 31 May.

O'Donnell, C.J. *Econometric Estimates of Productivity and Efficiency Change in the Australian Northern Prawn Fishery*. Centre for Applications in Natural Resource Mathematics (CARM), University of Queensland, 13 August.

Zelenyuk, V. *To Smooth or Not to Smooth? The Case of Discrete Variables in Nonparametric Regressions*, Kyiv School of Economics, Kyiv, Ukraine. September.

Short Courses

O'Donnell, C. (2013) *Applied Productivity and Efficiency Analysis*, Independent Hospital Pricing Authority, Sydney, 3, 4, 17 April.

O'Donnell, C. (2013) *Applied Productivity and Efficiency Analysis*, University of Queensland, 17-19 July.

O'Donnell, C. (2013) *Advanced Productivity and Efficiency Analysis*, University of Queensland, 1-4 October.

Conferences and Workshops

Empirical Applications in Efficiency and Productivity Analysis, University of Queensland, Australia, 4 October.

Productivity and Econometrics, University of Queensland, Australia, 31 October.

Significant External Service

Lovell, C.A.K.

- Member of Scientific Advisory Committee, European Workshop on Efficiency and Productivity Analysis
- Member of Advisory Committee, North American Productivity Workshop
- Member of Organizing Committee, Asia Pacific Productivity Workshop

O'Donnell, C.J.

- Co-Editor, *Journal of Productivity Analysis*
- Member of Editorial Board, *Empirical Economics*
- Member of Organizing Committee, Asia Pacific Productivity Conference

Rao, D.S.P.

- Elected to the Council of the Society for Economic Measurement, from 2013.
- Elected Member of the Council of the International Association for Research in Income and Wealth, 2012-2018.
- Member, Results Review Group for ICP 2011, World Bank, 2013-2014.
- Member, Special Task Force on China in ICP 2011, World Bank, 2013.
- Associate Editor, *Journal of Productivity Analysis*
- Member of Editorial Board, *Review of Income and Wealth*
- Member of Organizing Committee, Asia Pacific Productivity Conference

Zelenyuk, V.

- Associate Editor, *Journal of Productivity Analysis*
- Chair of Organizing and Scientific Committee, Asia-Pacific Productivity Conference (APPC) to be held at The University of Queensland, 8-11 July, 2014.

Visitors to the Centre:

Professor Bert Balk

Erasmus University
16 – 23 November 2013

Dr Tamara Bergstra

Wageningen University
11 – 21 November 2013

Dr Agnieszka Bezat

Warsaw University of Life Sciences
25 August – 6 October 2013

Professor Erwin Diewert

University of British Columbia
21 October – 1 November 2013

Professor Rolf Fare

University of Oregon
12 – 15 March 2013

Dr Sophie Gorgemans

Universidad de Zaragoza
7 July – 7 September 2013

Professor E. Grifell-Tatjé

Universitat Autònoma de Barcelona
November 2013

Professor Robert Hill

University of Graz
2 – 6 December 2013

Professor Sreenivas Jammalamadaka

University of California – Santa Barbara
8-23 September 2013

Dr Hirotaka Matsuda

University of Tokyo
30 July – 27 September 2013

Professor B. Park

Seoul National University
27 October – 10 November 2013

Dr Michael Scholz

University of Graz
2 – 6 December 2013

Professor L Simar

Université Catholique de Louvain

28 October – 25 November 2013

Agreed objectives for 2014 Calendar Year

- Continue to produce high quality journal publications.
- Continue to provide high quality supervision to our PhD students and encourage them to produce journal publications from their research.
- Continue to attract high profile visitors and good quality PhD students to work on projects undertaken by CEPA staff.
- Continue to seek external research funding through consultancies and grants.
- Run the Asia-Pacific Productivity Conference
- Deliver at least two short-courses on introductory and/or advanced productivity and efficiency analysis methods.



*Centre Director
Professor C.J. O'Donnell*



*Head of School
Professor Rodney Strachan*