

**North American Productivity
Workshop
Stern School of Business
New York University
New York, NY
June 27 - June 30, 2006**

NAPW IV



Conference Program

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Conference Program

Tuesday, June 27, 1006	
09:00 – 17:00	Young researchers preconference and workshop
Wednesday, June 28, 2006	
09:00 – 11:00	Registration, Coffee
11:00 – 12:15	Opening Remarks, Dean Thomas Cooley Keynote Address, Robert Gordon
12:15 – 14:00	Lunch
14:00 – 15:30	Parallel sessions
15:30 – 16:00	Break and refreshments
16:00 – 17:30	Parallel sessions
18:00 – 19:30	Reception
Thursday, June 29	
09:00 – 10:30	Parallel sessions
10:30 – 11:00	Break and refreshments
11:30 – 12:30	Parallel sessions
12:30 – 14:00	Lunch
14:00 – 15:30	Plenary session
15:30 – 16:00	Break and refreshments
16:00 – 17:30	Parallel sessions
20:00 – 22:30	Conference banquet
Friday, June 30	
09:00 – 10:30	Parallel Sessions
10:30 – 11:00	Break and refreshments
11:30 – 12:30	Parallel sessions
12:30 – 14:00	Lunch
14:00 – 15:30	Parallel sessions
15:30 – 16:00	Break and refreshments
16:00 – 17:30	Parallel sessions
17:30 – 17:45	Closing remarks

Preconference Workshop Tuesday, June 27, 2006

09:00 – 10:30	Session 1: Chair, Knox Lovell
Room 2-90	Corporate Governance and Firms' Performance in a Transitional Country, Ukraine. <i>Vitaliy Zheka and Valentin Zelenyuk</i>
	Dynamic Eco-Efficiency Analysis Using a Malmquist Index Approach. <i>Mika Kortelainen</i>
	Stock Free TFP Estimation. <i>Battista Severgnini and Michael Burda</i>
10:30 – 11:00	Break and Refreshments
11:00 – 12:30	Session 2: Chair: William Greene
Room 2-90	Assessing Efficiency at the University Using Quality Indicators of Performance. <i>Juan Aparicio, F. Borrás, Nuria Ramón Escolano, J.L. Ruiz, J.V. Segura, and I. Sirvent</i>
	Quantifying Performance to Develop Benchmarks for Warehouse Operations. <i>Andrew Johnson</i>
	Access to Capital and Ownership Reform. <i>Anzhela Knyazeva, Diana Knyazeva, Joseph Stiglitz</i>
12:30 – 14:00	Lunch
14:00 – 15:30	Session 3: Chair, Hal Fried
Room 2-90	Ownership Change, Institutional Development and Performance. <i>Diana Knyazeva, Anzhela Knyazeva and Joseph Stiglitz</i>
	Productivity in the U.S. Trucking Industry: A Two Stage Semiparametric Approach. <i>Siew Hoon Lim</i>
	Aggregation with Reallocation of Inputs in DEA. <i>Elena Pachkova</i>
15:30 – 16:00	Break and Refreshments
16:00 – 17:30	Session 4: Chair: Subal Kumbhakar
Room 2-90	Technical Efficiency of Public School Districts in New York State. <i>David Stone and Shelton Schmidt</i>
	Evaluating Value-of-Money using DEA Game Models. <i>Jungnam An</i>
	Business Cycles in a Neoclassical Growth Model: How Important are Technology Shocks as a Transmission Mechanism? <i>Suparna Chakraborty</i>

Conference Program

Wednesday, June 28

Wednesday, June 28: Session WA: 11:00 – 12:15

Session WA: 11:00 – 12:15, Rm. 2-60	
Welcome	<i>Dean Thomas Cooley, Stern School of Business</i>
Keynote Speaker	<i>Professor Robert J. Gordon</i> Welfare Comparisons between Europe and the United States <i>Discussant: Robin Sickles</i>
Moderator: William Greene	

Wednesday, June 28: Session WB: 14:00 – 15:30

Session WB1: 14:00 – 15:30, Rm. 2-70	
Methods and Estimators	
Session Chair: Peter Schmidt	
Improving The Performances of Parametric Estimators of Frontiers: From NonParametric To Parametric Models. <i>Leopold Simar</i>	
Stochastic Nonparametric Envelopment of Data: Combining Virtues of SFA and DEA in a Unified Framework. <i>Timo Kuosmanen</i>	
On The Comparison Of Efficiency Techniques Through Monte-Carlo Experimentation. <i>Sergio Perelman and Daniel Santin</i>	
Hedonic Price Function Estimation in Economics and Marketing: Revisiting Lancaster's Issue of "Noncombinable" Goods. <i>Kristiaan Kerstens, Ruben Chumpitaz, Nicholas, Paparoidamis, Matthias Staat</i>	

Session WB2: 14:00 – 15:30, Rm. 2-90	
Applications and Methods Hospitals & Energy	
Session Chair: Jose Zofio	
Regulatory and Environmental Effects on Public Transit Efficiency: A Mixed DEA-SFA Approach. <i>Beniamina Buzzo Margari, Fabrizio Erbetta, Carmelo Petraglia and Massimiliano Piacenza</i>	
Energy Use Efficiency in U.S. Manufacturing: A NonParametric Analysis. <i>Kankana Murkherjee</i>	
Capacity Utilization And Efficiency of Public District Hospitals in Tunisia: Nonparametric Approach. <i>Arfa Chokri, Leleu Hervé and Mohamed Goaid</i>	
The Relationship Between Hospital Cost Inefficiency and Debt Ratings. <i>Patrick Bernet, Michael Rosko and Vivian Valdmanis</i>	

Wednesday, June 28: Session WB: 14:00 – 15:30

Session WB3: 14:00 – 15:30, Rm. 3-50
Undesirable Outputs
Session Chair: Cliff Huang
Undesirable Outputs In Banking Efficiency Analysis: Risk Decomposition Dealing With Negative Data. <i>Karligash Kenjegalieva, Richard Simper and Thomas Weyman-Jones</i>
Substitutability Among Undesirable Outputs. <i>Rolf Färe, Shawna Grosskopf, Carl Pasurka and William Weber</i>
Outsourcing, Productivity and Input Composition at the Plant Level: Impacts and Implications for Environmental Performance. <i>Wendy Chapple and Catherine Morrison Paul</i>
Environmental Externalities and Efficiency Measurement. <i>Andrés Picazo and Diego Prior</i>

Session WB4: 14:00 – 15:30, Rm. 3-55
Meta Theory, Axioms
Session Chair: Leopold Smar
Axiomatic Foundations of Efficiency Measurement on Data-Generated Technologies. <i>Robert Russell and William Schworm</i>
The Role of Information in Explaining Efficiency Differences in A Stochastic World. <i>Robert Chambers, Chris O'Donnell and John Quiggin</i>
Stochastic Productivity Measurement Under Uncertainty. <i>Robert Chambers</i>
A Portfolio Efficiency Test Based On FSD Optimality. <i>Thierry Post and Milos Kopa</i>

Wednesday, June 28: Session WC: 16:00 – 17:30

Session WC1: 16:00 – 17:30, Rm. 2-70
Healthcare Systems and Public Capital
Session Chair: Michael Rosko
FDH Methods and Interval Production Data. <i>Jens Leth Hougaard</i>
International Comparisons of Health System Performance with Aggregate Data-Oh Don't. <i>Tarmo Rääty and Kalevi Luoma</i>
Directions of Technical Change Bias and Growth in Productivity of World Health Industry-Evidence from OECD and Non-OECD Countries. <i>Ming-Miin Yu, Shih-Hsun Hsu, Fan-Ping Chiu</i>
Assessing the Technical Efficiency, Service Effectiveness, and Technical Effectiveness of the World's Railways through NDEA Analysis. <i>Ming-Miin Yu</i>

Wednesday, June 28: Session WC: 16:00 – 17:30

Session WC2: 16:00 – 17:30, Rm. 2-90
Getting the Z's into Efficiency Analysis
Session Chair: Paul Wilson
Controlling for Socioeconomic Characteristics in DEA. <i>Ole Olesen and Niels Petersen</i>
Inefficient or Just Different? Effects of Heterogeneity on Bank Efficiency Scores. <i>J. W. B. Bos, F. Heid, M. Koetter, J. Kolari, C. Kool</i>
Alternative Approaches to Include Exogenous Variables in Efficiency Analysis: Which One is the Most Preferred? <i>José Manuel Cordero, Francisco Pedraja, Daniel Santín and Javier Suárez</i>
Introducing Exogenous Variables with Semi-parametric Models: A Bootstrap Procedure for Non-Radial Slacks. <i>José Manuel Cordero, Francisco Pedraja, Javier Salinas</i>

Session WC3: 16:00 – 17:30, Rm. 3-50
Aggregate Productivity
Session Chair: Hal Fried
The Malmquist Index and Business Cycle Analysis. <i>Jeong-Joon Lee</i>
Statistical Inference for Aggregate Malmquist Productivity Indexes. <i>Oleksandr Romanov and Valentyn Zelenyuk</i>
Structural Change and Productivity Growth: Evidence and Implications. <i>Enrico Tanuwidjaja</i>
Mystery of the Toppled Investment: Immaterialization, Evaporation or Migration? <i>Elina Berghall and Tuevo Junka</i>

Session WC4: 16:00 – 17:30, Rm. 3-55
New Methods with Applications in Agriculture
Session Chair: Knox Lovell
Benchmarking as Breeding Support. <i>Peter Bogetoft and Kurt Nielsen</i>
A Latent Class Stochastic Frontier Panel Data Model for Dutch Horticulture. <i>A.J. van der Vlist, J. van der Lugt and Alfons Oude Lansink</i>
A Non-Parametric Test of Convexity of the Empirical Profit Function. <i>Masato Nakane and Loren Tauer</i>
Curvature Correct Efficiency Modelling-Soil Fertility Management in Malawi. <i>Johannes Sauer</i>

Thursday, June 29

Thursday, June 29: Session TA: 09:00 – 10:30

Session TA1: 09:00 – 10:30, Rm. 2-70
Public Capital and Water Infrastructure
Session Chair: Elina Berghall
Econometric Testing of Spatial Productivity Spillovers from Public Capital. <i>Antonio Alvarez and Carlos Arias</i>
The Distributional Effects of Utilities Reforms in Developing Countries: The Case of Water and Sanitation in Mali (Africa). <i>Antonio Estache, Emili Grifell-Tatje and Richard Schlrif</i>
Efficiency Measurement in the Privatised English and Welsh Water and Sewerage Industry 1992-2004. <i>Melvyn Weeks and Helen Lay</i>
Estimating the Productivity of Public Infrastructure Using Maximum Entropy Econometrics. <i>Antonio Alvarez, Carlos Arias, Esteban Fernandez and Jorge Rodriguez-Valez</i>

Session TA2: 09:00 – 10:30, Rm. 2-90
Banking: Methods Analyses
Session Chair: Christine Amsler
Efficiency in Ukrainian Banking. <i>Natalya Dushkevych</i>
Restructuring the Branch Network of a Bank: A Case Study. <i>Wolfgang Barth and Matthias Staat</i>
Measuring and Explaining the Impact of Product Differentiation on Banking Efficiency. <i>Ana Lozano-Vivas</i>
Handicapped DEA Models Adjust for Corporate Strategic Effects in Cross Firm Comparisons of Bank Branches, <i>Joseph Paradi and Zijiang Yang</i>

Session TA3: 09:00 – 10:30, Rm. 3-50
Hospital Costs
Session Chair: Don Vitaliano
Controlling for Quality in Time-Varying Cost Inefficiency Models of U.S. Hospitals. <i>Michael Rosko and Ryan Mutter</i>
Improved Performance Evaluation of Comparable Units with Data Envelopment Analysis (DEA). <i>Ronald Klimberg, Kenneth Lawrence, and Sheila Lawrence</i>
Quality and Productivity Change Index Via Parametric Analysis: A Case of Greek Public Hospitals. <i>Roxani Karagiannis and Panagiotis Fousekis</i>
Organizational Structure and Productive Efficiency of Non-profit Hospitals. <i>Ila Alam and Gerald Granderson</i>

Thursday, June 29: Session TA: 09:00 – 10:30

Session TA4: 09:00 – 10:30, Rm. 3-55
Distance Functions
Session Chair: Subal Kumbhakar
On the Commensurability of Directional Distance Functions. <i>Mykhaylo Salnykov and Valentin Zelenyuk</i>
Geometric Distance Function (GDF) Profitability Index and its Components. <i>Maria Portela and Emmanuel Thanassoulis</i>
Directional and Generalized Distance Functions: An Economically Based Orientation. <i>Jose Zofio</i>
Hospital Costs and Stochastic Demand: A Distance Function Approach. <i>Ana Rodriguez and Alan Wall</i>

Thursday, June 29: Session TB: 11:00 – 12:30

Session TB1: 11:00 – 12:30, Rm. 2-70
Regulations and Efficiency
Session Chair: Philippe Gagnepain
Measuring the Impact of Improving Water Availability on Rural Household Welfare in Ceara, Brazil: A Multi-Output Primal Approach, <i>Valerie Mueller, Alexander Pfaff, Kenneth Broad and Renzo Taddei</i>
Calibrating Optimal Contracts Under Adverse Selection: An Environmental Policy Application. <i>Glenn Sheriff</i>
Network Regulation in Using a Hybrid Approach: Frontier Analysis and Engineering Network Models. <i>Per Agrell</i>
The Impact of Ownership on the Cost of Bus Service Provision: An Example from Italy. <i>Elisabetta Ottoz</i>

Session TB2: 11:00 – 12:30, Rm. 2-90
Non- and Semiparametric Estimators
Session Chair: Joseph Paradi
A Theoretical and Empirical Comparison Of Ratio Analysis and Data Envelopment Analysis. <i>Wen-Chih Chen and Leon McGinnis.</i>
Nonparametric Tests of Homotheticities, <i>Laurent Cavaignac</i>
An Outlier Detection Methodology with Consideration for an Inefficient Frontier. <i>Andrew Johnson and Leon McGinnis</i>
A Monte Carlo Study of Alternative Nonparametric Production Frontier and Efficiency Estimators. <i>Xiuying Jin</i>

Thursday, June 29: Session TB: 11:00 – 12:30

Session TB3: 11:00 – 12:30, Rm. 3-50
Profit, Cost, and Input Efficiency
Session Chair: William Greene
Chasing Absolute Cost Savings in a World of Relative Inefficiency. <i>Scott Atkinson and Jeffrey Dorfman</i>
Some Thoughts on Modeling and Estimating Input-Specific Efficiency. <i>Subal Kumbhakar and Mike Tsionas</i>
Shadow Profit Maximization and a Generalized Measure of Inefficiency. <i>Subhash Ray</i>
If Cost of Allocative Inefficiency Depends on Normalization, What a World It Would Be! <i>Subal Kumbhakar</i>

Session TB4: 11:00 – 12:30, Rm. 3-55
Education and Training Efficiency
Session Chair: Ana Vivas
Technical and Allocative Efficiencies of Academic Departments in the College of Agriculture and Life Sciences, Cornell University. <i>Loren Tauer, Harold Fried and William Fry.</i>
The Evolution of Efficiency and Productivity Measures for UK Public Library Systems: A Distance Function Approach. <i>Christopher Hammond</i>
Production Technologies and DEA Models Based on Combined Proportionality Assumptions. <i>Victor Podinovski</i>
Career Path and Performance: A DEA Study of an Industrial Sales Force <i>Leonard Parsons and Douglas Dalrymple</i>

Thursday, June 29: Session TC: 14:00 – 15:30

Session TC: 14:00 – 15:30, Rm. 2-60
Plenary Session
Session Chair: Peter Schmidt
Frontier Analysis: Recent Advances and Future Challenges. <i>Knox Lovell</i> Comments by: <i>Leopold Simar</i>
Efficiency and Productivity Analysis in Regulation and Governance. <i>Thomas Weyman-Jones</i> Comments by <i>Peter Bogetoft</i>

Thursday, June 29: Session TD: 16:00 – 17:30

Session TD1: 16:00 – 17:30, Rm. 2-70
Efficiency and Policy - Regulation and Incentives
Session Chair: Glenn Sheriff
A Mixture of Conditional Linear Bakis Hidden Markov Model with Heterogeneous Local Technologies. <i>Liang Xie</i>
A Frontier Approach to Testing the Averch-Johnson Hypothesis. <i>Donald Vitaliano</i>
The Impact of Ownership and Regulation on Cost Efficiency: The Case of Norwegian Electricity Distribution. <i>Dag Morten Dalen and Thor Erik Grammelvedt</i>
Regulated Productivity Growth and Allocative Efficiency in the U.S. Electric Utility Industry. <i>Diego Prior and Gerald Granderson</i>

Session TD2: 16:00 – 17:30, Rm. 2-90
Computation
Session Chair: Meryem Duygen-Fethi
On the Accuracy of Bootstrap Confidence Intervals for Efficiency Levels in Stochastic Frontier Models with Panel Data. <i>Peter Schmidt, Myungsup Kim and Yangseon Kim</i>
On the Treatment of Negative Data in DEA. <i>Jesus Pastor and Jose Ruiz</i>
Maximum Likelihood Estimation of Stochastic Frontier Models by the Fourier Transform. <i>Mike Tsionas</i>
Mapping Supporting Hyperplanes in Weight Restricted DEA Programs. <i>Marcos Lins, Knox Lovell and Angela Moreira da Silva</i>

Session TD3: 16:00 – 17:30, Rm. 3-50
Education, Universities
Session Chair: Grace Lordan
A Comparative Efficiency Analysis on the European University System. <i>Andrea Bonaccorsi, Cinzia Daraio and Leopold S imar</i>
Evolution and Relative Efficiency Measurement among Spanish Universities <i>Isidora Navarro and Adela Garcia-Aracil</i>
Assessing the Relative Performance of University Technology Transfer in the U.S. and U.K.: A Stochastic Distance Function Approach. <i>Wendy Chapple, Andy Lockett, Donald Siegel and Mike Wright</i>
Economies of Scale and Scope in Higher Education in Taiwan: A Semiparametric Smooth Coefficient Estimation. <i>Tsu-Tan Fu, Yung-Lieh Yang and Cliff J.Huang</i>

Thursday, June 29: Session TD: 16:00 – 17:30

Session TD4: 16:00 – 17:30, Rm. 3-55
Telecommunications
Session Chair Chris Parmeter
Entry, Costs Reduction, and Competition in the Portuguese Mobile Telephone Market. <i>Philippe Gagnepain and Pedro Pereira</i>
Measuring the Impact of Changing Market Structure and Technology on TFP Growth: The OECD Telecommunications Industry. <i>Arunava Bhattacharyya and Subal Kumbhakar</i>
Efficiency and Competition in the Portuguese Cable TV Industry. <i>Carlos Barros and Pedro Pereira</i>
Nonparametric Statistical Estimation of Technological Progress in the Mobile Telecom Industry. <i>Rajiv Banker, Zhanwei Cao, Nirup Menon and Ram Natarajan</i>

Friday, June 30

Friday, June 30: Session FA: 09:00 – 10:30

Session FA1: 09:00 – 10:30, Rm. 2-70
Fisheries & Dairy Farms
Session Chair: Antonio Alvarez
Fixed Effect Estimation of Time Varying Technical Efficiency for Highly-Mobile Production Technologies <i>William Horrace and Kurt Schnier</i>
Technical Efficiency Differences Between Co-Existing Technologies of a Fully Exploited Fishery Managed Using Vessel Catch Limits. <i>David Castilla</i>
Impact of Farming Intensity on the Cost Frontier: Evidence from the Spanish Dairy Sector. <i>Julio del Corral, Antonio Alvarez and Daniel Solís</i>
Relationships between Milk Composition and Farm Business Characteristics: SUR Estimation of Production Functions Versus an Output Distance Function, <i>Jaesung Cho and Loren Tauer</i>

Session FA2: 09:00 – 10:30, Rm. 2-90
Banking: Efficiency and Market Structure
Session Chair: Laurent Weill
The Three Sources of Performance: Technology, Efficiency and Industrial Organization. <i>Thijs ten Raa</i>
Effectiveness of Consolidation in the European Banking Industry. <i>Ana Lozano-Vivas, Subal Kumbhakar, Meryem Duygun-Fethi and Mohamed Shaaban</i>
Deregulation and Productivity Growth: A Study of Indian Commercial Banking. <i>Tianshu Zhao</i>
On The Convergence in Banking Efficiency in the EU. <i>Laurent Weill</i>

Friday, June 30: Session FA: 09:00 – 10:30

Session FA3: 09:00 – 10:30, Rm. 3-50
Methods and Applications in Agriculture
Session Chair: Roberto Mosheim
Efficiency of New York Dairy Farms: Is Management a Missing Input? <i>Justin Byma and Loren Tauer</i>
Economic Efficiency of Broiler Production and the Economics of Use and Non-Use of Anti-Microbial Growth Promoters and the Restricted Therapeutic Use of Antibiotic. <i>Lartey Lawson, Vibeke Jensen, Jacob Christensen and Mogens Lund</i>
Competition and Efficiency: Some Empirical Evidence for the European Food Industry. <i>Sena Vania, Ornella Maietta and Samuele Trestini</i>
Efficiency in Damage Control Inputs: Stochastic Production Frontier Approach. <i>Giannis Karagiannis, Mike Tsionas and Vangelis Tzouvelekas</i>

Session FA4: 09:00 – 10:30, Rm. 3-55
Electric & Power Industry
Session Chair: Gerald Granderson
Dynamic Efficiency Analysis of Polish Electricity Distribution Utilities - Is Transition Efficiency Enhancing? <i>Astrid Cullmann</i>
Decomposition Analysis of Productivity in the Japanese Transmission-Distribution Electricity. <i>Jiro Nemoto and Mika Goto</i>
Measuring Economies of Diversification and Vertical Integration in the US Power Industry <i>Pablo Arocena, Tim Coelli and David Saal</i>
Technical Efficiency in the European Electricity Distribution Industry. <i>Isabel Apolinario</i>

Friday, June 30: Session FB: 11:00 – 12:30

Session FB1: 11:00 – 12:30, Rm. 2-70
Applications to the Manufacturing Sector
Session Chair: Xioalan Fu
Firm Productivity, Workforce Age, and Vocational Training in Austria Mining and Manufacturing. <i>Bernhard Mahlberg and V. Skirbekk</i>
The Dynamics of Knowledge Accumulation and Productivity Growth In Swedish Manufacturing Industries 1952-2001. <i>Camilla Josephson</i>
Structural Change in German Chemical Manufacturing Industry during the 1990s: An Analysis at the Micro-Level. <i>Oleg Badunenko</i>
Productivity and Technological Changes in the Indian Auto Component Industry. <i>Haritha Saranga, Anath Iyer and Sridar Seshadri</i>

Friday, June 30: Session FB: 11:00 – 12:30

Session FB2: 11:00 – 12:30, Rm. 2-90
The Service Sector
Session Chair: Arun Bhattacharyya
The Tax Man Cometh- But is He Efficient? <i>Finn.Forsund, Sverre Kittelsen, Frode Lindseth and Dag Fjeld Edvardsen</i>
Using DEA Efficiency Scores to Represent Subjective Values in Multi-Criteria Decision Making. <i>Herbert Lewis</i>
Performance Measurement of Service Operations: A Dynamic Efficiency Perspective. <i>Konstantinos Triantis and Kalyan Pasupathy</i>
Analysis of the Effect of Environmental Conditions on the Performance of Retailing Stores. <i>Clara Vaz and Ana Camanho</i>

Session FB3: 11:00 – 12:30, Rm. 3-50
Regional and Aggregate Studies of Productivity
Session Chair: Valentin Zelenyuk
Economic Efficiency of Ukrainian Regions: How Far Are They Apart? <i>Pavlo Demchuk</i>
Outsourcing: A Model of Efficiency, Growth and Increase Productivity for US Economy <i>Pellegrino Manfra</i>
Benchmarking Tech Valley: A Template for Regional Growth in Upstate New York. <i>Harold Fried, Donald Boyd, Douglass Klein, Knox Lovell, Jessica Rudin and Loren Tauer</i>
Corporate Social Responsibility and Firm Efficiency: A Stochastic Frontier Analysis. <i>Leonardo Becchetti and Giovanni Trovato</i>

Session FB4: 11:00 – 12:30, Rm. 3-55
Banking: Costs & Profits
Session Chair: Subhash Ray
Efficiency & Productivity Change in Hong Kong Banking. <i>Richard Simper and Leigh Drake</i>
Profit Efficiency and Environment: Evidence from a Sample of French Bank Branches. <i>Michel Dietsch and Mohamed Chaffai</i>
Bootstrapping Profits and Productivity. <i>Emili Grifell-Tatjé, Emili Tortosa-Ausina, David Conesa and Carmen Armero,</i>
Cost and Profit Efficiency: Evidence from Indian Banking. <i>Abhiman Das and Subhash Ray</i>
Labour Demand Efficiency in the Banking Sectors of the Indian Sub-Continent. <i>Shabbar Jaffry, Yaseen Gulam and Joe Cox</i>

Friday, June 30: Session FC: 14:00 – 15:30

Session FC1: 14:00 – 15:30, Rm. 2-70
Bayesian and Semiparametric Estimators
Session Chair: Andrew Johnson
A New Approach to Stochastic Frontier Specification and Estimation. <i>Guan Zhengfei and Alfons Oude Lansink (Cancelled)</i>
A Data Density Test for Non-parametric Production Sets. <i>Mette Asmild and Jens Leth Hougaard</i>
Bayesian Efficiency Components Analysis: Methods and Applications. <i>Sanjog Misra</i>
Non-Parametric Regression for Analyzing DEA Estimates of Efficiency Scores. <i>Byeong Park, Léopold Simar and Valentin Zelenyuk.</i>

Session FC2: 14:00 – 15:30, Rm. 2-90
Pricing, Services, Accounting
Session Chair: Herb Lewis
Estimation of Hedonic Price Functions with Incomplete Information. <i>Christopher Parmeter</i>
Estimating Consumer Surplus in eBay Computer Monitor Auctions. <i>Tugba Giray, Kevin Hasker and Robin Sickles</i>
Optimal Compensation and Productivity under Accounting Conservatism. <i>Yoshie Saito Lord</i>
Using Data Envelopment Analysis to Generalize the DuPont Model. <i>Thomas Sexton, Christie Comunale and Mark Palermo</i>

Session FC3: 14:00 – 15:30, Rm. 3-50
Transport: Planes, Trains, Buses
Session Chair: William Greene
Economies of Density in the European Airline Industry. <i>Manuel Romero-Hernandez and Hugo Salgado</i>
Application of Panel Data Models In Benchmarking Analysis Of The Electricity Distribution Sector. <i>Mehdi Farsi, Filippini Massimo and William Greene.</i>
Efficiency Benchmarking of Railway Line Maintenance: A DEA-Bootstrap Approach with Second-Stage Regression. <i>Bart Roets and Johan Christiaens</i>
Estimating The Productivity of Public Capital Using Local Linear Estimation. <i>Antonio Alvarez and Mike Tsionas</i>

Friday, June 30: Session FC: 14:00 – 15:30

Session FC4: 14:00 – 15:30, Rm. 3-55
Multicountry Studies of Productivity and Technical Change
Session Chair: Knox Lovell
Technical Change: It Should Be Positive and Make Sense! <i>Fernando Garcia, Rogerio Cesar de Souza and Jorge Pires</i>
The Contributions of Innovation and Imitation to Productivity Growth: A Sectoral Perspective. <i>Bart Los and Marcel Timmer</i>
Openness, Human Capital, and Efficiency. <i>Camilla Mastromarco</i>
World Innovation Frontier and the EU - US Innovation Gap. <i>Xiaolan Fu, Andy Cosh, Qing Gong Yang and Alan Hughes</i>

Friday, June 30: Session FD: 16:00 – 17:30

Session FD1: 16:00 – 17:30, Rm. 2-70
Applications in Agriculture
Session Chair: Vania Sena
Relating Climate Change to Productivity Growth of tea in Sri Lanka. <i>Joyashree Roy, JAAM Jayakody and ASB Ariyapala</i>
Effect of Subsidies on Farm Performance: The Case of Northern EU Countries. <i>Timo Sipiläinen, Subal Kumbhakar and Kyösti Pietola</i>
Poor-But-Efficient' Revisited: Evidence From the Eastern Amazon. <i>Johannes Sauer</i>
Scale Efficiency and Structure in U.S. Dairy Production. <i>Roberto Moshei, and Knox Lovell</i>
Session FD2: 16:00 – 17:30, Rm. 2-90
DEA Methods
Session Chair: Raty Tarmo
Measuring the Value and Relative Efficiency of Departments in the College of Commerce using DEA. <i>Tsu-Tan Fu and Mei-Ying Huang</i>
SBM Context Data Envelopment Analysis. <i>Shinn Sun</i>
Non-Discretionary (Environmental) Variables in DEA: A Fuzzy Clustering Approach. <i>Konstantinos Triantis and William Seaver</i>
Neural Network Based Models for Efficiency Frontier Analysis. <i>Hailin Liao and Bin Wang</i>

Friday, June 30: Session FD: 16:00 – 17:30

Session FD3: 16:00 – 17:30, Rm. 3-50
Efficiency in Health Care and Services
Session Chair: Camilla Mastromarco
Efficiency in Health Care when Payroll is an Output. <i>Grace Lordan</i>
Unit Cost differences in Public Day Care Across the Finnish Municipalities. <i>Aki Kangasharju and Juho Aaltonen</i>
Alberta Emergency Medical Services. <i>Tarja Joro, Susan Budge and Armann Ingolfsson</i>
The Productive Efficiency of Nurses over Time: A Tradeoff Analysis. <i>Bruce Hollingsworth, Mette Asmild and Stephen Birch</i>

Session FD4: 16:00 – 17:30, Rm. 3-55
Training and Secondary Education
Session Chair: Ming-Miin Yu
Efficiency in Education Production among PISA Countries, with Emphasis on Transitioning Economies. <i>Paul Wilson</i>
Efficiency of Vocational Secondary Education in Finland. <i>Virve Ollikainen</i>
Efficiency and Productivity in Finnish Comprehensive Schooling 1998-2003. <i>Antti Moisio, Juho Aaltonen and Tanja Kirjavainen</i>
Occupational Activities, Socio-economic Status and Cognitive Reserve: A Frontier Approach Applied to SHARE. <i>Sergio Perelman,; Stephane Adam,; Sophie Germain, Christelle Bay and Eric Bonsang</i>