Asian-Pacific Productivity Conference

APPC
2008

Host
INSTITUTE OF ECONOMICS, ACADEMIA SINICA
TAIPEI, TAIWAN

Venue
July 16, 2008: Department of Agricultural Economics,
National Taiwan University
July 17, 2008: Building for Humanities and Social Sciences and Center of Academic Activities,
Academia Sinica
July 18-19, 2008: Center of Academic Activities,
Academia Sinica
2008 Asia-Pacific Productivity Conference

July 17-19, 2008

Host:
Institute of Economics, Academia Sinica

Organizers:
Department of Economics, National Taiwan University
Department of Agricultural Economics, National Taiwan University
Institute for Advanced Studies in Humanities and Social Sciences, National Taiwan University
College of Management, National Dong Hwa University
Institute of Business and Management, National Chiao Tung University
Graduate Institution of Industrial Economics, National Central University
School of Business, Soochow University
School of Commerce, Kainan University
School of Management, Ming Chuan University
Department of Finance, Ling Tung University
National Science Council
Council for Economic Planning and Development
Directorate-General of Budget, Accounting and Statistics
Taiwan Economic Association

Venue:

July 17
Building For Humanities and Social Sciences, Academia Sinica
Center of Academic Activities, Academia Sinica

July 18-19
Center of Academic Activities, Academia Sinica
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<td>List of Participants</td>
<td>124</td>
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</table>
Program Committee Members

Local Organizing Committee

Coordinators: Tsu-Tan Fu, Academia Sinica
Ching-Cheng Chang, Academia Sinica
Hung-Jen Wang, National Taiwan University

Members: Ching-Cheng Chang, Academia Sinica
Jong-Rong Chen, National Central University
Yung-Ho Chiu, Soochow University
Tsu-Tan Fu, Academia Sinica
Shih-Hsun Hsu, National Taiwan University
Jin-Li Hu, National Chiao Tung University
Shiuh-Nan Hwang, Ming Chuan University
Wen-Fu Lee, Kainan University
Chien Fu Jeff Lin, National Taiwan University
Jin-Tan Liu, National Taiwan University
Hung-Jen Wang, National Taiwan University
Chung-Shu Wu, National Dong Hwa University
Yung-Lieh Yang, Ling Tung University

Steering committee

Tim Coelli, University of Queensland
Tsu-Tan Fu, Academia Sinica
Cliff Huang, Vanderbilt University
Jeon-Dong Lee, Seoul National University
Knox C.A. Lovell, University of Queensland
Shin-Kun Peng, Academia Sinica
Keynote & Invited Speakers

Keynote Speakers

Chiang Kao, National Cheng Kung University
Chiang Kao is a chair professor of the Department of Industrial and Information Management at National Cheng-Kung University. Previously he was the President of National Cheng-Kung University. His expertise is with operation research, system simulation, mathematical programming and probability models.

D.S. Prasada Rao, University of Queensland
D.S. Prasada Rao is a professor of the School of Economics and Director of the Centre for Efficiency and Productivity Analysis at the University of Queensland. He is also the associate editor of the Journal of Productivity Analysis, editorial board member of the Review of Income and Wealth, and member of the Technical Advisory Group for the International Comparison Program and the Poverty Advisory Group at the World Bank. His expertise is with the measurement of efficiency and productivity, index number methods for spatial and temporal comparisons, purchasing power parities, and measurement of inequality, poverty, health and morality.

Emmanuel Thanassoulis, University of Aston
Emmanuel Thanassoulis is a professor of the Operations and Information Management Group at the University of Aston, Birmingham. His research interests lie in the broad area of performance measurement with special emphasis on the theory and application of data envelopment analysis. His most recent academic projects in this area concern identifying good practice in UK university administration and on assessing cost efficiencies in education.

Invited Speakers

Tim Coelli, University of Queensland
Rolf Färe, Oregon State University
Finn Førsund, University of Oslo
William Greene, Henry Kaufman Management Center
Shawna Grosskopf, Oregon State University
Cliff J. Huang, Vanderbilt University
Jeon-Dong Lee, Seoul National University
C.A. Knox Lovell, University of Queensland
Shunsuke Managi, Yokohama National University
Hak K. Pyo, Seoul National University
Peter Schmidt, Michigan State University
Robin Sickles, Rice University
Kaoru Tone, National Graduate Institute for Policy Studies
Yanrui Wu, The University of Western Australia
# Quick Program Overview

<table>
<thead>
<tr>
<th>Wednesday July 16</th>
<th>Thursday July 17</th>
<th>Friday July 18</th>
<th>Saturday July 19</th>
<th>Sunday July 20</th>
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</thead>
<tbody>
<tr>
<td><strong>Pre-Conference Workshop at National Taiwan University</strong></td>
<td><strong>Registration 9:30-10:30</strong></td>
<td><strong>Parallel Session 2</strong> Session 2A, Session 2B, Session 2C, Session 2D</td>
<td><strong>Parallel Session 5</strong> Session 5A, Session 5B, Session 5C, Session 5D</td>
<td><strong>One-Day Taipei City Tour</strong> 9:00-17:00</td>
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<td><strong>Opening Remark</strong></td>
<td><strong>Coffee Break</strong></td>
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<td></td>
<td><strong>Keynote Session 1</strong></td>
<td><strong>Keynote Session 2</strong> Keynote Session 3</td>
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<td><strong>Coffee Break</strong></td>
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<td><strong>Plenary Session 1</strong></td>
<td><strong>Plenary Session 3</strong></td>
<td><strong>Plenary Session 5</strong></td>
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<td><strong>Lunch</strong></td>
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<td></td>
<td><strong>Policy Forum Education Efficiency</strong></td>
<td><strong>Parallel Session 3</strong> Session 3A, Session 3B, Session 3C, Session 3D</td>
<td><strong>Parallel Session 6</strong> Session 6A, Session 6B, Session 6C, Session 6D</td>
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<tr>
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<td><strong>Plenary Session 2</strong></td>
<td><strong>Plenary Session 4</strong></td>
<td><strong>Parallel Session 7</strong> Session 7A, Session 7B, Session 7C, Session 7D</td>
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<td><strong>Parallel Session 1</strong> Session 1A, Session 1B, Session 1C, Session 1D</td>
<td><strong>Parallel Session 4</strong> Session 4A, Session 4B, Session 4C, Session 4D</td>
<td><strong>Closing Remark</strong> 16:30-17:30</td>
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<tr>
<td></td>
<td><strong>Conference Reception</strong></td>
<td><strong>Conference Dinner</strong></td>
<td><strong>Farewell Dinner</strong></td>
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</tbody>
</table>

**Keynote Session 1-3:** 50 min (40 min speech and 10 min Q&A)

**Plenary Session**

i. 1,3,5: 50 min (2 papers, 20 min/paper, 10 min Q&A)

ii. 2,4: 70 min (3 papers, 20 min/paper, 10 min Q&A)

**Policy Forum:** 70 min (30 min invited speech, 30 min commentary discussion, 10 min floor Q&A)

**Parallel Session 1-7:**

i. 2,5,6: 60 min (3 papers, 15 min/paper, 15 min Q&A)

ii. 1,3,4,7: 70 min (3-4 papers, 15-20 min/paper, 10 min Q&A)
# Session Overview

**PRE-CONFERENCE WORKSHOP—WEDNESDAY, JULY 16**

Department of Agricultural Economics, National Taiwan University

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>8:30 - 9:00</td>
<td>Registration</td>
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<tr>
<td>9:00 - 10:30</td>
<td><strong>Directional DEA</strong></td>
<td><strong>Shawna Grosskopf</strong></td>
<td>Oregon State University</td>
<td></td>
</tr>
<tr>
<td>10:50 - 12:20</td>
<td><strong>Recent Methodological Developments in Stochastic Frontier and Data Envelopment Analysis: Where Will They Take Us?</strong></td>
<td><strong>Robin Sickle</strong></td>
<td>Rice University</td>
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</tr>
<tr>
<td>12:20 - 13:30</td>
<td>Lunch</td>
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</tr>
<tr>
<td>13:30 - 15:00</td>
<td><strong>Recent Developments in the Measurement of Productivity Change: Theory and Applications</strong></td>
<td><strong>Emmanuel Thanassoulsis</strong></td>
<td>University of Aston</td>
<td></td>
</tr>
<tr>
<td>15:20 - 16:50</td>
<td><strong>The Use of Performance Measurement in Monopoly Regulation</strong></td>
<td><strong>Tim Coelli</strong></td>
<td>University of Queensland</td>
<td></td>
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</table>

**DAY 1—THURSDAY, JULY 17**

Building For Humanities and Social Science
Center of Academic Activities

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Speaker</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>10:30-10:40</td>
<td>Opening Remark</td>
<td>International Conference Hall</td>
<td>Shin Kuo Peng</td>
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<tr>
<td>10:40-11:30</td>
<td>Keynote Session 1</td>
<td>International Conference Hall</td>
<td>Emmanuel Thanassoulsis</td>
<td></td>
</tr>
<tr>
<td>11:40-12:30</td>
<td>Plenary Session 1</td>
<td>International Conference Hall</td>
<td>Peter Schmidt</td>
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<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
<td>Recreation Hall, 4th Floor</td>
<td>William Greene</td>
<td></td>
</tr>
<tr>
<td>13:30-14:40</td>
<td>Policy Forum on Education Efficiency</td>
<td>Conference Room 1</td>
<td>Chiang Kuo</td>
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<tr>
<td>15:00-16:10</td>
<td>Plenary Session 2</td>
<td>Conference Room 1</td>
<td>Cliff Huang</td>
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<tr>
<td>16:10-16:40</td>
<td>All sessions moved to the 2nd Floor, Center of Academic Activities (next building)</td>
<td>Conference Room 1</td>
<td>Rolf Färe</td>
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<td></td>
<td>Conference Room 4</td>
<td>Robin Sickle</td>
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<tr>
<td>16:40-17:50</td>
<td>Parallel Session 1A</td>
<td>Conference Room 1</td>
<td>Agriculture</td>
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<td>Conference Room 2</td>
<td>Manufacturing</td>
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<td>Conference Room 3</td>
<td>Banking</td>
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<td></td>
<td></td>
<td>Conference Room 4</td>
<td>DEA, Productivity</td>
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</tr>
<tr>
<td>18:30-20:30</td>
<td>Conference Reception</td>
<td>Recreation Hall, 4th Floor</td>
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### DAY 2 – FRIDAY, JULY 18
**Center of Academic Activities**

<table>
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<th>Conference Room 3</th>
<th>Conference Room 4</th>
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<tbody>
<tr>
<td>14:10:30</td>
<td>Parallel Session 2A</td>
<td>Parallel Session 2B</td>
<td>Parallel Session 2C</td>
<td>Parallel Session 2D</td>
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<tr>
<td></td>
<td>Public Sector DEA and Productivity</td>
<td>Methodology in Stochastic Frontier</td>
<td>Agriculture and SME DEA</td>
<td>Financial Sector Stochastic Frontier</td>
</tr>
<tr>
<td>14:11:40</td>
<td>Keynote Session 2</td>
<td></td>
<td></td>
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<tr>
<td>14:12:40</td>
<td>Plenary Session 3</td>
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<tr>
<td>14:13:40</td>
<td>Lunch (Lecture Hall, 2nd Floor, Center of Academic Activities)</td>
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<tr>
<td>14:14:50</td>
<td>Parallel Session 2B</td>
<td>Parallel Session 3B</td>
<td>Parallel Session 3C</td>
<td>Parallel Session 3D</td>
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<tr>
<td></td>
<td>Environment Productivity</td>
<td>Economic Growth Productivity</td>
<td>Financial Sector DEA</td>
<td>Corporate Management and Quality</td>
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<tr>
<td>14:16:20</td>
<td>Plenary Session 4</td>
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<tr>
<td>14:17:50</td>
<td>Parallel Session 4A</td>
<td>Parallel Session 4B</td>
<td>Parallel Session 4C</td>
<td>Parallel Session 4D</td>
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<td></td>
<td>Agriculture Stochastic Frontier</td>
<td>Manufacturing Productivity</td>
<td>Public Sector Efficiency/Productivity</td>
<td>Education DEA and Productivity</td>
</tr>
<tr>
<td>14:21:00</td>
<td>Conference Dinner (Yangtse River, Dragon Hall, 3rd Floor, Howard Plaza Hotel)</td>
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### DAY 3 – SATURDAY, JULY 19
**Center of Academic Activities**

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<tr>
<th>Time</th>
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<th>Conference Room 3</th>
<th>Conference Room 4</th>
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<tr>
<td>09:10:30</td>
<td>Parallel Session 5A</td>
<td>Parallel Session 5B</td>
<td>Parallel Session 5C</td>
<td>Parallel Session 5D</td>
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<tr>
<td></td>
<td>Transportation/Utility DEA</td>
<td>Methodology in DEA, Stochastic Frontier</td>
<td>Industrial Sector DEA</td>
<td>Manufacturing Productivity</td>
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<tr>
<td>09:11:40</td>
<td>Keynote Session 3</td>
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<tr>
<td>09:12:40</td>
<td>Plenary Session 5</td>
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<tr>
<td>09:13:40</td>
<td>Lunch (Lecture Hall, 2nd Floor, Center of Academic Activities)</td>
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<tr>
<td>09:14:40</td>
<td>Parallel Session 6A</td>
<td>Parallel Session 6B</td>
<td>Parallel Session 6C</td>
<td>Parallel Session 6D</td>
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<td>Environment Productivity</td>
<td>Manufacturing Stochastic Frontier</td>
<td>Banking Stochastic Frontier</td>
<td>Health DEA and Productivity</td>
</tr>
<tr>
<td>09:16:10</td>
<td>Parallel Session 7A</td>
<td>Parallel Session 7B</td>
<td>Parallel Session 7C</td>
<td>Parallel Session 7D</td>
</tr>
<tr>
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<td>Energy/Environment Productivity</td>
<td>Macroeconomics Productivity</td>
<td>Banking DEA</td>
<td>Manufacturing Productivity in China</td>
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<tr>
<td>09:17:30</td>
<td>Closing Remark</td>
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<tr>
<td>09:20:30</td>
<td>Farewell Dinner (North Cloud Café, 1st Floor, Center of Academic Activities)</td>
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</table>
Building For Humanities and Social Sciences, Academia Sinica
4F Conference Site Maps
Campus of Academia Sinica

Main Entrance

1. Institute of Biomedical Sciences
2. Wastewater Management Facilities
3. Institute of Cellular and Organismic Biology
4. The Research Museum in Research Center for Biodiversity
5. Research Center for Biodiversity
6. Institute of Molecular Biology
7. Institute of Biological Chemistry
8. Life Science Library
9. National Laboratory Animal Center, NARL
10. Kindergarten

11. Greenhouse
12. Central Office of Administration
13. Research Center for Biodiversity
14. The Research Museum in Research Center for Biodiversity
15. Herbarium, Research Center for Biodiversity
16. Institute of Plant and Microbial Biology
17. Institute of Mathematics
18. Tai Yuan-Pei Memorial Hall
19. Center for Survey Research
20. Institute of Statistical Science
21. Post Office, Garage, and Grocery Store
22. Ecological Pond
23. Genomics Research Center

24. Center for Academic Activities (Auditorium, book shop, restaurants, and guest rooms)
25. Institute of Chinese Literature and Philosophy
26. Institute of Earth Sciences
27. Eastern
28. College of Humanities and Social Sciences (BHSS)
29. Research Center for Applied Sciences (BHSS, 11th Floor)
30. Research Center for Environmental Changes (BHSS, 11th Floor)
31. Institute of Sociology (BHSS, 6-10th Floor)
32. Institute of Taiwan History (BHSS, 7-8th Floor)
33. Institute of Linguistics (BHSS, 5-7th Floor)
34. Institute of Political Science (Preparatory Office) (BHSS, 6th Floor)
35. Institute of Humanities and Social Sciences (Preparatory Office) (BHSS, 6-10th Floor)
36. Joint Library of Humanities and Social Sciences (BHSS, 1st-2nd Floor)
37. Research Center for Environmental Changes (Laboratories)

38. Institute of Chemistry
39. Agricultural Biotechnology Research Center
40. Research Center for Humanities and Social Sciences
41. Institute of Information Science
42. Institute of Physics
43. Research Center for Applied Sciences (Laboratories)
44. Hu Shih Memorial Hall
45. Institute of Modern History
46. Institute of European and American Studies
47. Museum of the Institute of History and Philology
48. Institute of History and Philology
49. Fu Shu-Chien Library
50. Institute of Economics
51. Institute of Ethnology
52. National Fine Arts Museum
53. Archive Building, Institute of Modern History
54. Building for Taiwan Archaeological Studies

55. Institute of Atomic and Molecular Sciences and Institute of Astronomy and Astrophysics (Preparatory Office)

Please note that the page reference "9" is likely indicating the page number where this map is located in the document.
**DAY 1 — THURSDAY, JULY 17**

*All presenters should arrive 10 minutes early to their session with their presentation on a USB/flash drive. Presenters are denoted in bold.*

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>09:30-10:30</td>
<td>Conference Registration</td>
<td>International Conference Hall</td>
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<tr>
<td>10:30-10:40</td>
<td>Opening Remarks</td>
<td>International Conference Hall</td>
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<tr>
<td></td>
<td>Shin-Kun Peng (Academia Sinica, Taiwan)</td>
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<tr>
<td>10:40-11:30</td>
<td><strong>Keynote Session 1</strong></td>
<td>International Conference Hall</td>
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<td>Chair: Sheng-Cheng Hu (Academia Sinica, Taiwan)</td>
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<tr>
<td></td>
<td>- Efficiency and Productivity in Higher Education: An Assessment of Universities in The United Kingdom by <strong>Emmanuel Thanassoulis</strong> (Aston University, UK)</td>
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<tr>
<td>11:30-11:40</td>
<td>Coffee Break</td>
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<tr>
<td>11:40-12:30</td>
<td><strong>Plenary Session 1</strong></td>
<td>International Conference Hall</td>
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<td>Chair: Robin Sickles</td>
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<td>- On the Distribution of Estimated Technical Efficiency in Stochastic Frontier Models by Wei Siang Wang and <strong>Peter Schmidt</strong></td>
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<td>- Sample Selection in a Stochastic Frontier Model by <strong>William H. Greene</strong></td>
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<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
<td>Recreation Hall</td>
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<tr>
<td>13:30-14:40</td>
<td><strong>Policy Forum — Education Efficiency</strong></td>
<td>International Conference Hall</td>
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<td></td>
<td>Chair: C.A. Knox Lovell</td>
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<td></td>
<td>Speaker: Chiang Kao</td>
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<td>Panel discussant: <strong>Emmanuel Thanassoulis</strong></td>
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<td></td>
<td>Pao-Long Chang</td>
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<tr>
<td>14:40-15:00</td>
<td>Coffee Break</td>
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</table>
15:00-16:10 Plenary Session 2
Chair: William H. Greene

- Likelihood Ratio Tests for Model Selection of Stochastic Frontier Models
  by Hung-Pin Lai and Cliff J. Huang

- Generalized Quadratic Revenue Functions
  by R.G. Chambers, R. Färe, S. Grosskopf and M. Vardanyan

- Krugman and Young Revisited: Sources of Productivity Growth in a World with Less
  Constraints
  by Robin Sickles

16:10-16:40 Coffee Break

16:40-17:50 Parallel Session 1A
Chair: Shih-Hsun Hsu

- Recent Evidence on Agricultural Efficiency and Productivity in China: A Metafrontier
  Approach
  by Supawat Rungsuriyawiboon and Xiaobing Wang

- Agricultural Production Growth Assessment for Agro-economic Zones in Northern
  Thailand Using Statistical Data
  by Aree Wiboonpongse and Yaovarate Chaovanapoonphol

- Production efficiency of self-selected Jasmine rice producers in northern and northeastern
  Thailand
  by Sanzidur Rahman, Aree Wiboonpongse, Songsak Sriboonchitta and Yaovarate
  Chaovanapoonphol

16:40-17:50 Parallel Session 1B
Chair: Jeon-Dong Lee

- The Impact of Technology Strategies On Manufacturing Performance: An Empirical Study
  in Indonesia
  by Dharma Tintri Ediraras and E. Sussy Suhendra

- R&D and Productivity of Asian Biotech firms: Application of Quantile Regression
  by Yang Li and Hsiao-Mai Lin

- Learning-by-exporting and Productivity: An Analysis of Turkish Manufacturing Industry
  by Yilmaz Kilicaslan and Levent Erdogan

- The Evolution of the Productivity Dispersion of Firms — A Reevaluation of Its
  Determinants in the Case of Japan
  by Keiko Ito and Sébastien Lechevalier
Parallel Session IC
Chair: D.S. Prasada Rao

- Efficiency and Productivity of Microfinance: Incorporating the Role of Subsidies
  by Ahmad Nawaz

- Bootstrapping Efficiency and Malmquist Productivity Indices: An Application to
  Vietnamese Commercial Banks
  by Nguyen Xuan Quang and Bruno De Borger

- Deregulation and Productivity of the Vietnamese Non-Life Insurance Industry
  by Pham Khac Dzung

  by Kent Matthews and Nina Zhang

Parallel Session ID
Chair: Emmanuel Thanassoulis

- Using Data Envelopment Analysis (DEA) to Measure the Efficiency in University
  Departments
  by Zalina Zahid, Rasimah Aripin and Mohd. Nasir Taib

- Evaluation in Cost Efficiency in Thai Public Universities
  by Songsak Sriboonchitta

- Measuring The Relative Performance of College of Business in Taiwan Using AR/DEA
  Model
  by Wei-Hsin Kong, Tsu-Tan Fu and Mei-Ying Huang

- Technical Efficiency and Total Factor Productivity Growth in Chilean Higher Education
  by José F. Maripani, Victor H. Moreira López and Boris E. Bravo-Ureta

Conference Reception
Recreation Hall
(4th Floor, Building For Humanities and Social Science)
**DAY 2 — FRIDAY, JULY 18**

*All presenters should arrive 10 minutes early to their session with their presentation on a USB/flash drive. Presenters are denoted in bold.*

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<td>Chair: Kaoru Tone</td>
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<td></td>
<td>- Application of Cost-Benefit Analysis and Data Envelopment Analysis to Evaluate the Municipal Solid Waste Management Projects in Metro Manila by Ming-Lang Tseng, Chin-Huang Huang, Anthony SF Chiu and Yuan Hsu Lin</td>
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<td>- Government Administration Efficiency and Economic Efficiency for 23 Districts in Taiwan by Yung-Ho Chiu, Yu-Chuan Chen and Chin-Wei Huang</td>
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<td>- Liberalization Policy, Production and Cost Efficiency in Taiwan’s Telecommunications Industry by Chao-Chung Kang</td>
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<td>Chair: Cliff J. Huang</td>
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<td>- Centered-Residuals-Based Moment Tests for Stochastic Frontier Models by Yi-Ting Chen and Hung-Jen Wang</td>
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<td>- Goodness of Fit Tests in Stochastic Frontier Models by Wei-Siang Wang, Christine Amsler and Peter Schmidt</td>
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<td>- Impact of Policy Shift on Productivity, Efficiency Change and Technical Progress in Indian Textile Industry by T.Linga Murugeshwari and V.Anbumani</td>
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<td>Chair: Jong-Rong Chen</td>
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<td>- A New Approach to Measuring Productivity of Agricultural Insurance: The Case of Iran by Habibollah Salami and Marzieh Rostami</td>
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<td>- The Effect of Ability to Access Finance on Productivity and Performance of SMEs in Indonesia by Euphrasia Susy Suhendra and Dharma Tintri E. Sudarsono</td>
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<td>- Productivity Change and Policy Reform Effects in China’s Agriculture Since 1979 by Yanjie Zhang and Bernhard Bruemmer</td>
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Parallel Session 2D
Chair: Tai-Hsin Huang

- Benchmarking the Efficiency of Indonesian Cooperatives
  by Viverita and Sigit S. Wibowo

- The Economic Gains of the Merger Cases in Taiwan’s Financial Industry: Scope Economy
  Measurement of the Financial Holding Companies
  by Mei-Ying Huang and Yan-Wei Lu

- Banking Risk and Efficiency: An Evidence from Commercial Banks of Pakistan
  by Shabbir Ahmad

Coffee Break

Keynote Session 2
Chair: Tim Coelli (University of Queensland, Australia)

- Comparisons of Real Income and Productivity Across Countries and Time – Meeting the
  Challenges
  by Prasada Rao (University of Queensland, Australia)

Coffee Break

Plenary Session 3
Chair: Finn Førsund

- Dynamic DEA: A Slacks-based Measure Approach
  by Kaoru Tone and Miki Tsutsui

- Network DEA: Some Applications and Illustrations
  by Peter Bogetoft, Rolf Färe, Shawna Grosskopf, Kathy Hayes and Lori Taylor

Lunch
13:40-14:50 Parallel Session 3A
            Chair: Diana H.A. Tsai
                              - Analysis of Regional Productivity Growth in China: A Generalized Metafrontier MPI Approach
                                  by Ku-Hsieh Chen, Yi-Ju Huang and Chih-Hai Yang
                              - Development: the Empirical Studies of Taiwan Manufacturing Industries
                                  by Diana H.A. Tsai
                              - What Determines the Opportunity Cost of Pollution Abatement? A Production Function Approach
                                  by Ronald J. Shadbegian and Wayne B. Gray
                              - What is the Impact of Emissions Trading on Productivity and Technical Change?
                                  by Cynthia Morgan, Carl A. Pasurka Jr., and Ronald J. Shadbegian

13:40-14:50 Parallel Session 3B
            Chair: Chi-Yuan Liang
                              - Economic Stagnation and Productivity Slowdown in Japan
                                  by Jiro Nemoto and Mika Goto
                              - Industrial Structure Changes and the Measurement of Total Factor Productivity Growth:
                                  The Krugman-Kim-Lau-Young Hypothesis Revisited
                                  by Chi-Yuan Liang
                              - Economic Growth and disparity of Korean Regions: The Contribution of Technology, Capital accumulation and Human Capital
                                  by Keunjae Lee and Sang-Mok Kang

13:40-14:50 Parallel Session 3C
            Chair: Yung-Ho Chiu
                              - Using Data Envelopment Analysis to Formulate a Stock Trading Strategies in Taiwan
                                  by Shiuh-Nan Hwang and Wang-Ching Chuang
                              - Fuzzy Efficiency in the Life Insurance Industry in Taiwan
                                  by Lishu Ouyang and Hwey-Chyi Lee
                              - Factor Intensity and Supply Chain Efficiency: An Efficiency Game Model
                                  by Ming-Chung Chang and Yung-Ho Chiu
Parallel Session 3D  
Chair: Wen-Jen Tsay

- The Relationship between TQM Implementation and Corporate Competitiveness – An Empirical Industrial Level Study  
by Hsu-Hua Lee, Simon Wang, Sophia S.-C. Wang, Andrew C. -H. Lee, Jacob Chen, Hank Lin and Ming-Tzong Wang

- A Preliminary Study on the Effects of ISO 9000 Implementation and Corporate Productivity and Efficiency  
by Jacob Chen, Simon Wang, Andrew C. -H. Lee, Sophia S.-C. Wang, Hsu-Hua Lee, R. Y. Chen and Ming-Tzong Wang

- The Impacts of Quality Costs on Corporate Productivity and Efficiency – An Industrial Survey and an Empirical Case Study  
by Ming-Tzong Wang, Simon Wang, Jerry J.-C. Chen, Sophia S.-C. Wang, Jacob Chen, Yun-Hsuan Kan and Andrew C. -H. Lee

Coffee Break

Plenary Session 4  
Chair: Peter Schmidt

- The Estimation of Industry-level Capital Stock for Emerging-Market and Transition Economies  
by Hak K. Pyo

- Productivity Accounting  
by C.A. Knox Lovell

- Industry Dynamics and Productivity Research  
by Jeon-Dong Lee

Coffee Break

Parallel Session 4A  
Chair: Sanzidur Rahman

- Measuring the Technical Efficiency of Indian Dairy Farms  
by V. Saravanakumar, D.K Jain and Smita Sirohi

- Determinants of Technical Efficiency of Organic Grassland Farming in Germany  
by Sebastian Lakner, Bernhard Brümmer and Stephan Von Cramon-Taubadel

- Efficiency of Agriculture Sector in Asia: A Stochastic Frontier Analysis  
by Jovita Laura M. Abara and Emilyn C. Cabanda

- Technical and Socio-economic Constraints to Duck Production in the Philippines: A Productivity Analysis  
by Hui-Shung (Christie) Chang and Renato Villano
16:40-17:50  Parallel Session 4B  Conference Room 2
Chair: Hak K. Pyo

- Productivity Spillovers from Foreign Direct Investment in Indian Manufacturing Firms
  by Jong-Rong Chen, V.Pradeep and Mita Bhattacharya

- Identifying and Estimating Sources of Total Factor Productivity Growth in Malaysian
  Manufacturing Industries
  by Sangho Kim

- Are Changes in a Thai Bank’s Efficiency Reflected by Stock Price?
  by Nakhun Thoraneenitiyan

- An Empirical Analysis of Growth of Korean Firms after the Asian Crisis: With a Focus on
  Technological Development
  by Seok-Hyeon Kim

16:40-17:50  Parallel Session 4C  Conference Room 3
Chair: Suthathip Yaisawarng

- Cost Efficiency of New York State Nursing Homes: A Frontier Analysis
  by Harold O. Fried, Shelton S. Schmidt and Suthathip Yaisawarng

- Efficiency Analysis of Electric Cooperatives in the Philippines
  by Helena Agnes S. Valderrama and Carlos C. Bautista

- The Effects of Competition Policy on TFP Growth: Some Evidence from the Malaysian
  Electricity Supply Industry
  by Kok Fong See and Tim Coelli

16:40-17:50  Parallel Session 4D  Conference Room 4
Chair: Jin-Li Hu

- FDI Horizontal and Vertical Effects on Local Firm Technical Efficiency
  by Chuc D. Nguyen, Gary Simpson, David Saal, Anh N. Nguyen and Ngoc Q. Pham

- Impact of Technical Skill on Potato Production Efficiency in Thailand
  by Aree Wiboonpongse, Songsak Srisomboonchit and Thanes Srisrichaithumphun

- Analysis of Technical Efficiency and Strategic Alliances in Community-Based Enterprises
  in Northern Thailand
  by Phanin Nonthakot, Renato Villano and Euan Fleming

19:00-21:00  Conference Dinner
Yangtse River, Dragon Hall
(3rd Floor, Howard Plaza Hotel Taipei)
All presenters should arrive 10 minutes early to their session with their presentation on a USB/flash drive. Presenters are denoted in bold.

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<td>Chair: Chun-Hsiung Liao</td>
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<td>Measuring Operational Efficiency of Mobile Operators in Japan and Korea</td>
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<td>Measuring Technical Efficiency and Input Congestion for Railway Transport Industry</td>
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<td>by Erwin T. J. Lin and Lawrence W. Lan</td>
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<td>Multi-criteria Decision-making for Evaluating Electricity Efficiency in the Philippines</td>
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<td>by Ramon Posadas and Emilyn Cabanda</td>
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<td>Methodological Comparison between DEA (Data Envelopment Analysis) and DEA-DA</td>
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<td>by Mika Goto and Toshiyuki Sueyoshi</td>
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<td>Discriminating between DEA-efficient Units Using Bounded A&amp;P Model and Bounded MAJ Model</td>
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<td>Data Envelopment Analysis as Nonparametric Least Squares Regression</td>
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<td>by Timo Kuosmanen and Andrew L. Johnson</td>
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<td>Performance Measurement of Broiler Farms in Thailand: A Non-Parametric Approach</td>
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<td>Innovation Efficiency of Firms in China</td>
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<td>Evaluating Combat Capability Using DEA and PCA</td>
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<td>Does Technological Diversification Improve a Firm's Productivity?: The Case of Korean Firms</td>
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<td>What are the Determinants on Survival?: Evidence from Mongolian Firms in 2003-2006</td>
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<td>by Jeong-Sook Han and Jeong-Dong Lee</td>
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10:30-10:50 Coffee Break

10:50-11:40 Keynote Session 3
Chair: Rolf Färe (Oregon State University, USA)
- Network Data Envelopment Analysis: Current Development and Future Research by Chiang Kao (National Cheng Kung University, Taiwan)

11:40-11:50 Coffee Break

11:50-12:40 Plenary Session 5
Chair: Shawna Grosskopf
- Social Protection Performance in the European Union: Comparison and Convergence by Tim Coelli, Mathieu Lefèvre and and Pierre Pestieau
- Productivity of Tax Offices in Norway by Finn Førsund, Sverre A. C. Kittelsen and Frode Lindseth

12:40-13:40 Lunch

13:40-14:40 Parallel Session 6A
Chair: Wen-Fu Lee
- Economic Growth and Environment by Shunsuke Managi
- Changes in Productivity at the SUMA Tax Offices by Ramón Fuentes
- Efficient Waste and Pollution Abatements for Regions in Japan by Satoshi Honma and Jin-Li Hu

13:40-14:40 Parallel Session 6B
Chair: Jiro Nemoto
- Adjustment of Inputs and Measurement of Technical Efficiency: A Dynamic Panel Data Analysis by Aditi Bhattacharyya
- Optimizing the Composition of Secondary Educational Stock: The Case of Taiwan
  by Yergali Dosmagambet

13:40-14:40  Parallel Session 6C
  Chair: Hung-Jen Wang

  - Relative Efficiency of Money transfer Companies in the Philippines
    by Maria Socorro P. Calara

  - Bank Efficiency and the Market Structure: An Analysis for Turkey
    by Hasan Dudu and Ozan Eruygur

  - Decomposing the Potential Gains of FCU amalgamations in Taiwan: A Stochastic Cost Frontier Model
    by Cliff J. Huang, Tsu-Tan Fu, Mei-Ying Huang and Yun-Chi Chen

13:40-14:40  Parallel Session 6D
  Chair: Joan C. Lo

  - The Productive Efficiency of the Health Care Sector of China: A Preliminary Analysis
    by Ying Chu NG

  - Efficiency and Productivity of the Health Care System in Vietnam
    by Pinar Guven Uslu and Thuy Linh Pham

  - Allocative and Technical Inefficiency of Japanese Public Hospitals: An Input Distance System Approach
    by Atsushi Fujii

14:00-15:00  Coffee Break

15:00-16:10  Parallel Session 7A
  Chair: Shunsuke Managi

  - Total-factor Energy Productivity of Regions in China
    by Jin-Li Hu and Tzu-Pu Chang

  - Environmental Productivity, Efficiency, and Shadow Price of the Manufacturing Sectors in Korea and China
    by Sang-Mok Kang, Moon-Hee Kim and Ju-Byung Lee

  - The Influence of Corporate Governance on Performance: An Empirical Study of China’s Steel Industry
    by Xue-Jie Bai, Cheng-Ping Cheng, Dong-Wei Zhang and Yu-Fen Liu

15:00-16:10  Parallel Session 7B
  Chair: Russel Cooper

  - Impact of Foreign Direct Investment on Malaysia’s Productivity Growth
    by Elsadig Musa Ahmed
- The Hidden Productivity of IT - Macroeconomic Evidence by Russel J Cooper
- The Productivity Paradox: Evidence from Taiwan Service Economy Experience by Tzu-Min Kao, Chih-Cheng Lin, Jin-Duan Lai and Hsing-Chun Lin
- Agricultural Productivity Growth: A Record from Traditional and Transitional Economies in Asia by Supawat Rungsuriyawiboon and Xiaobing Wang

15:00-16:10 Parallel Session 7C Conference Room 3
Chair: Chung-Shu Wu
- Including Customer Satisfaction Measures in Bank Branch Performance Assessment by David Tripe
- Study on Operational Efficiency of Bank under Taiwan Financial Holding Company and Independent Banks by Wen-Rong Jerry Ho and Wen-Fu Lee
- A DEA Approach to Explain Relative Productivity Performance of Indonesia's Rural Development Bank by Viverita

15:00-16:10 Parallel Session 7D Conference Room 4
Chair: Yanrui Wu
- The Blind Men and the Elephant: A Review of TFP Growth Estimates for the Chinese Economy by Yanrui Wu
- Study on Innovation Performance in Chinese Manufacturing Industries by Ruizhi Pang, Xuejie Bai and Yang Hui
- Technical Progress, Resource Reallocation and Productivity Growth: Evidence from China Manufacturing with Firm-level Data by Yuhong Li, Hao Wang and Yuxin Zheng

16:10-16:30 Coffee Break

16:30-17:30 Closing Remark Conference Room 1
Chair: Chi Schive
C.A. Knox Lovell
Cliff J. Huang

18:00-20:30 Farewell Dinner North Cloud Café
(1st Floor, Center of Academic Activities)
The Impact of Technology Strategies on Manufacturing Performable:
An Empirical Study in Indonesia

Dharma Tintri Ediraras and E. Sussy Suhendra

Technological strategies (TS) have positive impacts on manufacturing performance and other competitive drivers. Many previous studies found that TS was directly related to the following competitive drivers, average change-over process, finished product defect rate, new product introduction lead time, on-time delivery, productively and increased customer morale. Lower cost is achieved (i.e. total cost, material cost, Labor cost, and overhead cost) when the firms use appropriate technology to its maximum potential. It can be concluded that TS was found to be generally a significant factor in explaining manufacturing performance in manufacturing companies.

Further, prior study also found that increased used of advanced manufacturing technologies and new management practices cannot be directly related to higher performance. Significant benefits can be reaped by firms that integrate technological and innovation considerations with corporate strategic development. Scholars argued that strategy must be viewed as a major variable and the success of business organization depends on the ability of new technologies to appropriately support the competitive strategy.

This study focused on the role of manufacturing strategy in moderating the impact of hard and soft technology on manufacturing performance. The alignment between technology and manufacturing strategy is necessary to ensure success of firms. Data were colleted through mailed questionnaires to CEOs of medium and large manufacturing firms in Indonesia. This study finds that both hard and soft technologies have positive impact on manufacturing performance. Further, manufacturing strategy plays an important moderating role on the relationship between technologies have positive impact on manufacturing performance.