# Hsiao-Chi Chen

# Department of Economics National Taipei University, Taiwan, ROC

### **ADDRESS:**

151, University Road, San Shia Dirstict, New Taipei City 23741, Taiwan, ROC.Tel: 886-2-86741111-ext 67128Fax: 886-2-26739880E-mail: <u>hchen@mail.ntpu.edu.tw</u>

### **EDUCATION:**

1995	Ph.D., Economics, University of North Carolina at Chapel Hill
<i>19</i> 88	M.S., Economics, National Taiwan University
1986	B.S., Economics, National Taiwan University

## **EXPERENCE:**

08/2007-Present	Professor, Department of Economics, National Taipei University
02/2000-07/2007	Associate Professor, Department of Economics, National Taipei University
08/1996-01/2000	Associate Professor, Department of Economics, National Chung-Hsing University
08/1989-08/1995	Teaching and Research Assistant, Department of Economics, University of North
	Carolina at Chapel Hill

# **MEMBERSHIP of INTERNATIONAL ASSOCIATION**

- Member of Game Theory Society
- Member of the East Asian Association of Environmental and Resource Economics
- Board of director (理事) of the East Asian Association of Environmental and Natural Resource Economics (from 08/01/2010 to 07/31/2012)
- Board of director (理事) of the East Asian Association of Environmental and Natural Resource Economics (from 08/01/2012 to 07/31/2014)
- Vice President and Board of director (理事) of the East Asian Association of Environmental and Resource Economics (from 08/01/2014 to 06/30/2015)
- Board of director (理事) of the East Asian Association of Environmental and Natural Resource Economics (from 08/01/2015 to 07/31/2017)
- President (理事長) of the East Asian Association of Environmental and Resource Economics (from 08/01/2015

to 07/31/2017)

- Executive editor of *Taipei Economic Inquiry* (from 08/01/2010 to 07/31/2012)
- Executive editor of *Taipei Economic Inquiry* (from 08/01/2012 to 07/31/2014)
- Associate editor of *Taipei Economic Inquiry* (from 08/01/2014 to 07/31/2016)

### **RESEARCH FIELDS:**

Evolutionary Game Theory, Contract Theory, Information Economics, Environmental Economics, Financial Economics, Industrial Organization, Transportation Economics

## **TEACHING:**

Microeconomics (graduate course) Game Theory (graduate course) Economics (undergraduate course) Mathematical Economics (undergraduate and graduate courses) Dynamic Methods in Economics (undergraduate and graduate courses)

### **PUBLICATIONS**

#### A. JOURNAL ARTICLES

- 1. Chen, Hsiao-Chi, James W. Friedman and Jacques-Francois Thisse (1997), "Boundedly Rational Nash Equilibrium: A Probability Choice Approach," *Games and Economic Behavior*, 18, 32-54. SSCI, JEL, EconLit
- 2. Chen, Hsiao-Chi and Shi-Miin Liu (1999), "Optimal Pollution Control Policies Under Asymmetric Information: A Model of Mechanism-Design Approach," *Taipei Economic Inquiry*, 36(1), 1-23. TSSCI
- 3. Chen, Hsiao-Chi and Yunshyong Chow (2001), "On the Convergence of Evolution Process With Time-Varying Mutations and Local Interaction," *Journal of Applied Probability*, 38, 301-323. SCI
- 4. Liu, Shi-Miin, Wen-Jeh Tseng and Hsiao-Chi Chen (2001), "Market Liquidity Measurement in Quote-Driven Trading Systems: An Empirical Analysis Using Data from NYSE and Nasdaq of the United States," *Taipei Economic Inquiry*, 37(2), 1-39. (In Chinese) TSSCI
- 5. Wu, Homing D., Robert L. Stevenson, Hsiao-Chi Chen and Nuray Guner (2002), "The Conditioned Impact of Recession News: A Time Series Analysis of Economic Communication in the United States, 1987-1996," *International Journal of Public Opinion Research*, 14, 19-36. SSCI
- Chen, Hsiao-Chi and Shi-Miin Liu (2005), "Dynamic Incentive Contracts Under No-Commitment to Periodic Auditing and A Non-Retrospective Penalty System," *Journal of Economics*, 85(2), 107-139. SSCI, JEL, EconLit

- 7. Chen, Hsiao-Chi and Shi-Miin Liu (2005), "Tradeable-Permit Pollution Control Systems With and Without Commitment to Auditing," *Environmental Economics and Policy Studies*, 7(1), 15-37. JEL, EconLit, Scopus
- 8. Chen, Hsiao-Chi (2006), "Dynamic Incentive Contracts under No Commitment to Periodic Auditing and a Retrospective Penalty System," *The Manchester School*, 74(2), 190-213. SSCI, JEL, EconLit
- 9. Chen, Hsiao-Chi, Yunshyong Chow and June Hsieh (2006), "Boundedly Rational Quasi-Bayesian Learning in Coordination Games with Imperfect Monitoring," *Journal of Applied Probability*, 43(2), 335-350. SCI
- 10. Liu, Shi-Miin and Hsiao-Chi Chen (2006), "Microstructures, Price Dominance, and Liquidity Measurement of Spot and Futures Market," *Journal of Financial Studies* (財務金融學刊), 14:4, 59-109. TSSCI
- 11. Chen, Hsiao-Chi and Shi-Miin Liu (2007), "Dynamic Incentive Contracts in Multiple Penalty Systems with No-Commitment to Tenure-Track Auditing," *Journal of Economics*, 90(3), 255-294. SSCI, JEL, EconLit
- 12. Chen, Hsiao-Chi and Shi-Miin Liu (2008), Incentive Contracts under Imperfect Auditing," *The Manchester School*, 76 (2), 131-159. SSCI, JEL, EconLit
- 13. Chen, Hsiao-Chi and Yunshyong Chow (2008), "Equilibrium Selection in Evolutionary Games with Imperfect Monitoring," *Journal of Applied Probability*, 45(2), 399-402. SCI
- 14. Chen, Hsiao-Chi and Yunshyong Chow (2009), "Evolutionary Prisoner's Dilemma Games with One-dimensional Local Interaction and Imitation," *Advances in Applied Probability*, 41(1), 154-176. SCI
- 15. Chen, Hsiao-Chi and Shi-Miin Liu (2009), "An Emission Tax Pollution Control System with Imperfect Monitoring," *Environmental Economics and Policy Studies*, 10(1), 21-40. JEL, EconLit, Scopus
- 16. Chen, Hsiao-Chi and Shi-Miin Liu (2010), "Spreads, Depths, and Optimal Submission Strategies of Market and Limit Orders," *Taipei Economic Inquiry*, 46(1), 1-67. TSSCI
- 17. Chen, Hsiao-Chi, Shiou Shieh and Pu-ti Su (2010), "Fees versus Royalties under Partial Cross Ownership," *Economics Bulletin*, 30(4), 3248-3259. EconLit, JEL
- 18. Chen, Hsiao-Chi, Yunshyong Chow and Li-Chau Wu (2012), "Imitation, Local Interaction, and Efficiency: Reappraisal," *Economics Bulletin*, 32(1), 675-684, EconLit, JEL
- 19. Lee, Tsung-Chen, Hsiao-Chi Chen and Shi-Miin Liu (2013), "Optimal Strategic Regulations in International Emissions Trading under Imperfect Competition," *Environmental Economics and Policy Studies*, 15(1), 39-57, JEL, EconLit, Scopus
- 20. Chen, Hsiao-Chi, Shi-Miin Liu and Chiung-Yun Chang (2013), "Commitment or No-Commitment to Monitoring in Emission Tax Systems," *Environmental Economics and Policy Studies*, 15(2), 171-188, JEL, EconLit, Scopus

- 21. Shieh, Shiou, Chi-Fei Huang, Hsiao-Chi Chen (2013), "To Merger or to License: Implications of Information Sharing for Optimal Merger Policy," *The Manchester School*, 81(4), 599-619. SSCI, JEL, EconLit
- 22. Shieh, Shiou, Chi-Fei Huang, Hsiao-Chi Chen (2013), "Can Horizontal Mergers Without Synergies Increase Consumer Welfare? Cournot and Bertrand Competition under Uncertain Demand," *The B.E. Journal of Economic Analysis & Policy*, 14(1), 453-484. SSCI, JEL, EconLit
- 23. Lee, Tsung-Chen, Hsiao-Chi Chen and Shi-Miin Liu (2013), "Optimal Intervention Policies in International Emissions Trading Considering Ancillary Benefits of Carbon Abatement," *Energy Studies Review*, 20(1), Article 3. JEL, EconLit
- 24. Chen, Hsiao-Chi, Yunshyong Chow and Li-Chau Wu (2013), "Imitation, Local Interaction, and Coordination," *International Journal of Game Theory*, 42(4), 1041-1057. SCI, SSCI, EconLit
- 25. Chen, Hsiao-Chi and Shi-Miin Liu (2014), "Optimal Concession Contracts for Landlord Port Authorities to Maximize Fee Revenues," *International Journal of Shipping and Transport Logistics*, 6(1), 26-45. Impact factor 0.862, JCR Ranking: 23/30 in Transportation. SSCI, JEL, EconLit
- 26. Chen, Hsiao-Chi and Shi-Miin Liu (2015), "Optimal Concession Contracts for Landlord Port Authorities to Maximize Traffic Volumes," *Maritime Policy & Management*, 42(1), 11-25, 2015. Impact factor 1.309, JCR Ranking: 18/30 in Transportation. SSCI, JEL, EconLit
- Lee, Tsung-Chen, Hsiao-Chi Chen and Shi-Miin Liu (2015), "Optimal Regulations and Efficiency Losses in Imperfectly Competitive International Emission Trading," *Strategic Behavior and the Environment*, 5(1), 61-85. JEL, EconLit
- Chen, Hsiao-Chi and Shi-Miin Liu (2016), "Should Ports Expand Their Facilities under Congestion and Uncertainty?," *Transportation Research Part B: Methodological*, Vol. 85, 109-131. Impactor factor 3.769. JCR Ranking: 1/32 in Transportation, 11/368 in Economics. SSCI, JEL, EconLit
- 29. Lin, Sung-Chi, Hsiao-Chi Chen and Shi-Miin Liu (2016), "Does Asymmetry or Incomplete Information on Firms' Costs Yield Spatial Agglomeration?" *Economics Bulletin*, 36(4), 2010-2027. EconLit, JEL
- 30. Chen, Hsiao-Chi and Yunshyong Chow (2016), "Stability of Cournot Equilibria Under Discrete Best-Reply Dynamics with Non-negative Output Constraints," *Economics Letters*, 149, 172-175. SSCI, JEL, EconLit
- Chen, Hsiao-Chi, Yen-Hung Lin and Shi-Miin Liu (2017), "Optimal Concession Contracts for Port Authorities Under Price Competition of Terminal Operators," *International Journal of Shipping and Transport Logistics*, 9(2), 131-165. Impact factor: 0.862, JCR Ranking: 23/30 in Transportation. SSCI, JEL, EconLit
- 32. Chen, Hsiao-Chi, Paul Tae-Woo Lee, Shi-Miin Liu and Tsung-Chen Lee (2017), "Governments' Sequential Facility Investments and Ports' Pricing under Service Differentiation and Uncertainty," *International Journal of Shipping and Transport Logistics*, forthcoming. Impact factor 0.862, JCR Ranking: 23/30 in Transportation. SSCI, JEL, EconLit

33. Liu, Shi-Miin and Hsiao-Chi Chen (2017), "Solving Stray-Animal Problems by Economic Policies," *Taipei Economic Inquiry*, forthcoming. JEL, EconLit, TSSCI

### **B. CONFERENCE PAPERS**

- 1. Chen, Hsiao-Chi (1994), "Learning and Equilibria in Stochastic Games with Imperfect Knowledge of Transition Function," Presented at the Southeastern Economy Theory Conference, University of Virginia.
- 2. Wu, Homing D., Robert L. Stevenson, Hsiao-Chi Chen and Nuray Guner (May 1997), "Examining the Relationships among Recession News, State of Economy, and People's Perceptions: A Time Series Analysis," Presented at the International Communication Association (ICA) Convention, Montreal, Canada.
- 3. Chen, Hsiao-Chi and Yunshyong Chow (1998), "Long-Run Equilibrium in the Evolution with Time-Varying Mutations," Presented at the Ninth Summer Festival for Game Theory at Stony Brook, New York.
- Chen, Hsiao-Chi and Shi-Miin Liu (1998), "Optimal Pollution Control Policies of Energy Industries: A Model of Mechanism-Design Approach," 於第三屆經濟發展學術研討會中發表,國立中興大學經濟 系,台北.
- 5. Chen, Hsiao-Chi (2000), "Optimal Dynamic Incentive Contracts with no Commitment to Auditing," Presented at the Eleventh Summer Festival for Game Theory at Stony Brook, New York.
- 6. Chen, Hsiao-Chi (2000), "Cost and Benefit Analyses of Tradable Permit and Emission Tax Systems," Presented at 2000 Taipei Conference on Policies for Greenhouse Gases Reduction and Pollution Control in Asian-Pacific, Academia Sinica, Taipei, Taiwan.
- 7. Chen, Hsiao-Chi and Shi-Miin Liu (2001), "Dynamic Incentive Contracts under No-Commitment and Periodic Auditing," 於執法問題研討會中發表, 中央研究院經濟研究所, 台北.
- 8. Chen, Hsiao-Chi and Yunshyong Chow (July 2004), "Equilibrium Selection in Coordination Games With Imperfect Monitoring," Presented at the Second World Congress of the Game Theory Society, Marseille, France.
- 9. Chen, Hsiao-Chi and Shi-Miin Liu (July 2004), "Tradeable-Permit Pollution Control Systems With and Without Commitment to Auditing," Presented in a Poster Session at the Second World Congress of the Game Theory Society, Marseille, France.
- 10. Chen, Hsiao-Chi and Yunshyong Chow (November 2005), "Cooperation in Evolutionary Prisoner's Dilemma Game With Local Interaction and Imitation," Presented at the Second Pan-Pacific Conference on Game Theory, Academia Sinica, Taipei, Taiwan.
- 11. Chen, Hsiao-Chi and Shi-Miin Liu (November 2006), "Emission-Tax Pollution Control Systems with and Without Commitment to Monitoring," Presented at the Second East Asian Symposium on Environmental and Natural Resources Economics, Seoul, Korea.

- 12. Chen, Hsiao-Chi and Shi-Miin Liu (December 2006), "Incentive Contracts under Imperfect Auditing," Presented at the First Dutch-Taiwanese Workshop on Cooperative Game Theory and Economics, Enschede, Netherlands.
- 13. Chen, Hsiao-Chi and Shi-Miin Liu (February 2008), "Tradeable Permit Pollution Control Systems with Imperfect Monitoring," Presented at the Third East Asian Symposium on Environmental and Natural Resources Economics, Kunitachi, Japan.
- 14. Lee, Tsung-Chen and Hsiao-Chi Chen (February 2008), "Optimal Intervention in International Emissions Trading Considering Ancillary Benefit of Carbon Abatement," Presented at the Third East Asian Symposium on Environmental and Natural Resources Economics, Kunitachi, Japan.
- 15. Chen, Hsiao-Chi, Yunshyong Chow, and Li-Chau Wu (July 2008), "Imitation, Local Interaction, and Coordination: Part I," Presented at the Third World Congress of the Game Theory Society, Evanston, Northwestern University, USA.
- 16. Lee, Tsung-Chen, Hsiao-Chi Chen and Shi-Miin Liu (March 2009), "Optimal Intervention in International Emissions Trading Considering Ancillary Benefit of Carbon Abatement," Presented at the Fourth East Asian Symposium on Environmental and Natural Resources Economics, CIER, Taipei, Taiwan.
- 17. Chen, Hsiao-Chi and Shi-Miin Liu (April 2009), "An Emission Tax Pollution Control System with Imperfect Monitoring," Presented at International Conference or Shipping, Port, Logistics Management, Jungseok Research Institute of International Logistics & Trade, Inha University, Incheon, Korea.
- 18. Chen, Hsiao-Chi (May 2009), "Game Theory Overview and Applications," Invited talk in Economy and Environment Program for Southeast Asia 31th Biannual Workshop, Economy and Environment Program for Southeast Asia (EEPSA), Dalat, Vietnam.
- 19. Chen, Hsiao-Chi, Yunshyong Chow, and Li-Chau Wu (July 2009), "Imitation, Local Interaction, and Coordination," Presented at the 20<sup>th</sup> International Conference on Game Theory, Center for Game Theory in Economics, Stony Brook University, New York, USA.
- 20. Liu, Shi-Miin and Hsiao-Chi Chen (July 2009), "Commitment or No-Commitment to Monitoring in Emission Tax Systems?" Presented at the 20<sup>th</sup> International Conference on Game Theory, Center for Game Theory in Economics, Stony Brook University, New York, USA.
- 21. Chen, Hsiao-Chi, Shi-Miin Liu, Tsung-Chen Lee, and Tae-Woo Lee (July 2010), "Ports' Competition under Product Differentiation and Uncertainty: Governments' Simultaneous Moves," Presented at the 12<sup>th</sup> World Conference on Transport Research, Lisbon, Portugal.
- 22. Chen, Hsiao-Chi, Tae-Woo Lee, Shi-Miin Liu, and Tsung-Chen Lee (July 2010), "Ports' Competition under Product Differentiation and Uncertainty: Governments' Sequential Moves," Presented at the 12<sup>th</sup> World Conference on Transport Research, Lisbon, Portugal.
- 23. Chen, Hsiao-Chi and Shi-Miin Liu (August 2010), "Cost-Efficiency of Four Emission-Reducing Instruments: Price, Quantity, Hybrid, and General Indexed Quantity," Presented at the 1<sup>st</sup> Congress of East Asian Association of Environmental and Resource Economics, Sapporo, Japan.

- 24. Lee, Tsung-Chen, Hsiao-Chi Chen, and Shi-Miin Liu (August 2010), "Optimal Regulations and Efficiency Losses in International Emission Trading under Different Market Structures," Presented at the 1<sup>st</sup> Congress of East Asian Association of Environmental and Resource Economics, Sapporo, Japan.
- 25. Lee, Tsung-Chen, Hsiao-Chi Chen, and Shi-Miin Liu (August 2010), "Optimal Strategic Regulations in International Emission Trading under Imperfect Competition," Presented at the 1<sup>st</sup> Congress of East Asian Association of Environmental and Resource Economics, Sapporo, Japan.
- 26. Chen, Hsiao-Chi, Yunshyong Chow, and Li-Chau Wu (February 2011), "Imitation, Local Interaction, and Coordination," Presented at the 6<sup>th</sup> Pan-Pacific Conference on Game Theory, Tokyo, Japan.
- 27. Chen, Hsiao-Chi and Shi-Miin Liu (May 2011), "Cost-Efficiency of Four Emission-Reducing Instruments: Emission Tax, Emission Cap, Hybrid, and General Indexed Quantity," Presented at the EEPSEA and EAAERE Joint Conference, Hanoi, Vietnam.
- 28. Lee, Tsung-Chen, Hsiao-Chi Chen, and Shi-Miin Liu (May 2011), "Optimal Regulations and Efficiency Losses in Imperfectly Competitive International Emissions," Presented at the EEPSEA and EAAERE Joint Conference, Hanoi, Vietnam.
- 29. Chen, Hsiao-Chi, Yunshyong Chow and Li-Chau Wu (July 2012), "Imitation, Local Interaction, and Efficiency: Reappraisal," Presented at the Fourth World Congress of the Game Theory Society, Istanbul, Turkey.
- 30. Chen, Hsiao-Chi, Tae-Woo Lee, Shi-Miin Liu, and Tsung-Chen Lee (September 2012), "Governments' Sequential Facilities Investments and Ports' Pricing under Service Differentiation and Demand Uncertainty," Presented at the International Association of Maritime Economists 2012, Taipei, Taiwan, ROC.
- 31. Chen, Hsiao-Chi, Shi-Miin Liu and Chiung-Yun Chang (February 2013), "Commitment or No-Commitment to Monitoring in Emission Tax Systems?" Presented at the 3rd Congress of East Asian Association of Environmental and Resource Economics, Huangshan, China.
- 32. Chen, Hsiao-Chi and Shi-Miin Liu (February 2013), "Environmental Efficiency of Four Emission-Reducing Policies," Presented at the 3rd Congress of East Asian Association of Environmental and Resource Economics, Huangshan, China.
- 33. Chen, Hsiao-Chi, Shi-Miin Liu, Lih-Chyi Wen and Kathleen Segerson (February 2013), "Regulating With and Without Private Recyclers," Presented at the 3rd Congress of East Asian Association of Environmental and Resource Economics, Huangshan, China.
- 34. Chen, Hsiao-Chi and Shi-Miin Liu (February 2014), "Should the European Union Auction Permits in the Third Emission-Trading Phase?" Presented at the 4th Congress of East Asian Association of Environmental and Resource Economics, Busan, South Korea.
- 35. Chen, Hsiao-Chi and Shi-Miin Liu (February 2014), "The First-Best Policies Considering Private Recyclers," Presented at the 4th Congress of East Asian Association of Environmental and Resource Economics, Busan, South Korea.

- 36. Liu, Shi-Miin and Hsiao-Chi Chen (June 2014), "Solving Stray-Animal Problems by Economic Policies," Presented at 2014 World Congress of Environmental and Resource Economists, Istanbul, Turkey. (Poster Presentation)
- 37. Chen, Hsiao-Chi and Shi-Miin Liu (June 2015), "Should the European Union Auction Permits in the Third Emission-Trading Phase?" Presented at the 21th Annual Conference of European Association of Environmental and Resource Economists, Helsinki Finland.
- 38. Chen, Hsiao-Chi and Shi-Miin Liu (June 2016), "An Evolutionary Approach to International Environmental Agreements with Full Participation," Presented at the 22th Annual Conference of European Association of Environmental and Resource Economists, Zurich Switzerland.
- 39. Chen, Hsiao-Chi, Shi-Miin Liu, Lih-Chyi Wen and Kathleen Segerson (June 2016), "Optimal Subsidies to Recycling Under Different Market Structures With and Without Private Recyclers," Presented at the 22th Annual Conference of European Association of Environmental and Resource Economists, Zurich Switzerland.
- 40. Chen, Hsiao-Chi and Shi-Miin Liu (July 2016), "Do Governments Over-Invest in Port's Facilities Under Congestion and Uncertainty?" Presented at the 14<sup>th</sup> World Conference on Transport Research, Shanghai, China.
- 41. Chen, Hsiao-Chi, Yen-Hung Lin, and Shi-Miin Liu (July 2016), "Optimal Concession Contracts for Landlord Port Authorities Under Price Competition of Terminal Operators," Presented at the 14<sup>th</sup> World Conference on Transport Research, Shanghai, China. (Poster Presentation)
- 42. Chen, Hsiao-Chi and Yunshyong Chow (July 2016), "Evolution of Cournot and Bertrand Firms Under a Replicator Dynamic," Presented at the Fifth World Congress of the Game Theory Society, Maastricht, the Netherlands.
- 43. Chen, Hsiao-Chi and Shi-Miin Liu (August 2016), "An Evolutionary Approach to International Environmental Agreements with Full Participation," Presented at the Sixth Annual Conference of the East Asian Association of Environmental and Resource Economists, Fukuoka, Japan.
- 44. Chen, Hsiao-Chi, Shi-Miin Liu, Lih-Chyi Wen and Kathleen Segerson (August 2016), "Optimal Subsidies to Recycling Under Different Market Structures With and Without Private Recyclers," Presented at the Sixth Annual Conference of the East Asian Association of Environmental and Resource Economists, Fukuoka, Japan.
- 45. Chen, Hsiao-Chi and Shi-Miin Liu (November 2016), "An Evolutionary Approach to International Environmental Agreements with Full Participation," Invited to present in the Workshop of Research Institute for Environmental Economics and Management (RIEEM), Waseda University, Japan.

46. Chen, Hsiao-Chi and Shi-Miin Liu (January 2017), "Should the European Union Auction Permits in the Third Emission-Trading Phase?" Invited to present in the 9<sup>th</sup> PKU-SNU-NUM Environmental Workshop on Climate Change Mitigation, Adaptation and Sustainability, Peking University, Shenzhen, China.