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**ACADEMIC HISTORY:**

1986 Ph.D., Economics, University of Southern California, Los Angeles  
1983 Masters of Arts, Economics, University of Southern California, Los Angeles  
1977 Masters of Arts, Economics, Calcutta University, Calcutta, India

**POSITIONS HELD:**

2005 (Dec.) -- Distinguished Research Professor of Economics, SUNY at Binghamton  
2001-2005(Dec) Professor, Economics Department, SUNY at Binghamton  
1986 - 2000 Assistant, Associate and Full Professor, Economics Department, University of Texas at Austin  
1977-1981 Assistant Professor and Reader, Economics Department, University of Burdwan, Burdwan, India.  
2019-present Professor II, Inland Norway University of Applied Sciences, Lillehammer, Norway.  
2009 – present Professor II, University of Stavanger, Norway.

**HONORS:**

**Fellow, Journal of Econometrics**, 1998.

**Doctor Honoris Causa**, 1997, Gothenburg University, Sweden.

**Distinguished author, Journal of applied econometrics**, 2017.

**Member/Opponent of Ph.D. Evaluation Committee (International):**

Addis Ababa University (Ethiopia), Athens University of Economics and Business (Greece), University of Western Australia (Perth), Swedish University of Agricultural Sciences (Umea, Sweden), Norwegian University of Life Sciences (As, Norway), Charles University (Czech Republic), Technical University of Dresden (Germany), University of Helsinki (Finland), University of Stavanger (Norway), Wageningen University (Netherlands), University of New England (Australia), Gothenburg University (Sweden), Norwegian School of Business Administration (Bergen, Norway), Agricultural University of Norway (As, Norway), Indian Statistical Institute (Calcutta, India), Burdwan University (West Bengal, India), Jawaharlal Nehru University (New Delhi, India), Indira Gandhi Institute of Development Research (Mumbai, India), Vidyasagar University (West Bengal, India), Kalyani University (West Bengal, India).

**Distinguished Research Associate**, SNF, Norwegian School of Business Administration (Norway), 2000.  
**Who's Who in the South and Southwest**, 24th edition, and those after.  
**Who's Who in America**, since 1998.  
**Who's Who in Economics** (eds., Blaug and Vane), 4<sup>th</sup> edition.

#### **EDITORIAL RESPONSIBILITIES:**

- **Co-Editor**, *Empirical Economics*, 2011—
- **Associate Editor**, *Journal of Productivity Analysis*, 2003—present.
- **Board Member**, *Journal of Regulatory Economics*, 2015—present.
- **Advisory Board**, *Technological Forecasting and Social Change: An International Journal* (North-Holland) 1991—present.
- **Board of Editors**, *International Journal of Business and Economics*, 2002—present
- **Board of Editors**, *Macroeconomics and Finance in Emerging Market Economies*, 2007—present.
- **Associate Editor**, *American Journal of Agricultural Economics* (1997-1999)
- **Associate Editor**, *Applied Econometrics*, 2018-present,  
[http://appliedeconometrics.cemi.rssi.ru/AppEc\\_en.html](http://appliedeconometrics.cemi.rssi.ru/AppEc_en.html)
- **Board of Editors**, *Ecos de Economía: A Latin American Journal of Applied Economics*, 2018-present, <http://publicaciones.eafit.edu.co/index.php/ecos-economia/index>

#### **PUBLICATIONS:**

##### **Books:**

- *A Practitioner's Guide to Stochastic Frontier Analysis (2015)* (with Hung-Jen Wang and A. Horncastle), Cambridge University Press.
- *Efficiency Analysis: A Primer on Recent Advances (2014)* (with Parmeter), NOW Publishing Company monograph, 212 pages. Also appeared in *Foundations and Trends in Econometrics*, volume 7, 2014, pp. 191-385.
- *Stochastic Frontier Analysis (2000)* (with Knox Lovell), Cambridge University Press, Paperback version, 2003; Chinese translation (Fudan Translation Series, 2008).
- *Benchmarking for Performance Evaluation: A Production Frontier Approach* (edited with S. Ray and P. Dua), Springer, 2015.
- *Handbook of Production Economics (Vol 1)*, Editors-in-Chief: Ray, Chambers, Kumbhakar, Springer Nature Singapore, *in preparation*,  
<https://meteor.springer.com/project/dashboard.jsf?id=552&tab=About>
- *Handbook of Production Economics (Vol 2)*, Editors-in-Chief: Ray, Chambers, Kumbhakar, Springer Nature Singapore, *in preparation*,  
<https://meteor.springer.com/project/dashboard.jsf?id=552&tab=About>

##### **Journal special issue editor:**

- *Empirical Economics, special issue on Applications of efficiency and productivity analysis* (with C. Parmeter and E. Malikov), vol 60, May 2021, pp. 2657–2663.
- *Empirical Economics, special issue on Good Modelling of Bad Outputs* (with Emir Malikov), Vol 54, Issue 1, Feb 2018.

- *Journal of Econometrics*, special issue on Endogeneity in Econometric Models (with P. Schmidt), Vol. 190, Issue 2, Feb 2016, pp. 209-374.
- *Journal of Productivity Analysis*, special issue in the memory of L. Hjalmarsson (with F. Forsund), Vol 43, Issue 3, June 2015 (pp. 233-415).
- *Empirical Economics*, special issue on Applications of Nonparametric and Semiparametric Models (with C. Parmeter), Vol 48, Issue 1, February 2015 (515 pages).
- *Journal of Econometrics*, special issue on Auction and Games (with R. Sickles), Vol. 168, Issue 1, May 2012, pp. 1-174.
- *Indian Economic Review*, Performance Measurement: Methodological and Empirical Issues (with S.C. Ray), *Indian Economic Review*, Vol. 45, No. 2, 2010.
- *Indian Economic Review* (Vol. 39, No 1, 2004), special issue on Productivity and Efficiency (with S.C. Ray and K.L. Krishna).
- *Journal of Productivity Analysis* (Volume 17, Nos 1/2, 2002), special issue in honor of William W. Cooper (with S.C. Ray, P. Bogetoft and J.T. Pastor).

#### **Papers published (refereed):**

1. Weather and population size effects on water and sewer treatment: Evidence from Brazil (with A. Danelon and H. Spolador), **forthcoming** in *Journal of Development Economics*.
2. Modeling Dependence in Two-Tier Stochastic Frontier Models (with A. Papadopoulos and C. Parmeter), **forthcoming** in *Journal of Productivity Analysis*.
3. A Multi-output, Multi-input Stochastic Frontier System with Input- and Output-Specific Inefficiency (with H-p Lai) **forthcoming** in *Economics Letters*.
4. Cost Assessment of (Un)bundling: Separation of Vertically Integrated Public Utilities (with P. Arecona), **forthcoming** in *Handbook of Production Economics* (Vol. 2), Editors-in-Chief: Ray, Chambers and Kumbhakar; Springer Nature Singapore.
5. Estimation of Technical Change: Direct Semi/nonparametric Approaches (with M. Li and S. Zhao), **forthcoming** in *Economics Letters*.
6. Estimation of costs of technical and allocative Inefficiency (with M. Tsionas), **forthcoming** in *Journal of Productivity Analysis*.
7. Achieving a sustainable cost-efficient business model in banking: The case of European commercial banks (with Badunenko and Lozano-Vivas) **forthcoming** in *European Journal of Operational Research*.
8. Efficiency in Reducing Air Pollutants and Healthcare Expenditure in the Seoul Metropolitan City of South Korea (with An, Rashidghalam and Heshmati) **forthcoming** in *Environmental Science and Pollution Research*.
9. Stochastic frontier models with time-varying conditional variances (with M. Tsionas), **forthcoming** in *European Journal of Operational Research*.

10. A panel frontier system model with good and bad outputs and endogenous treatment decision (with H-p. Lai), **forthcoming** in *Economics Letters*.
11. Persistent and Transient Inefficiency in Adult Education (with Badunenko, Mazrekaj and DeWitte), **forthcoming** in *Empirical Economics*.
12. Dissections of Input and Output Efficiency: A Generalized Stochastic Frontier Model (with M. Tsionas), **forthcoming** in *International Journal of Production Economics*.
13. Excess Capacity, Production Technology and Technical Inefficiency in Hospitality Sector (with F. Alemayehu), **forthcoming** in *Tourism Management*.
14. Estimation of Panel Model with Heteroskedasticity in both Idiosyncratic and Individual Specific Errors (with R. Zhang and H-p. Lai), **forthcoming** in *Econometric Reviews*, <https://doi.org/10.1080/07474938.2020.1808372>
15. Estimation of Firm Productivity in the Presence of Spillovers and Common Shocks (with M. Jin and S. Zhao), **forthcoming** in *Empirical Economics*.
16. Energy Intensity and Long- and Short-term Efficiency in US Manufacturing Industry (with O. Badunenko), *Energies* **2020**, 13(15), 3954; <https://doi.org/10.3390/en13153954>
17. Estimation of Productivity and Markups with Price Dispersion: Evidence from Chinese Manufacturing during Economic Transition (with S. Zhao and B. Qian) **forthcoming** in *Southern Economic Journal*.
18. Modeling technical change: Theory and Practice, **forthcoming** in *Handbook of Production Economics* (Vol 1), Editors-in-Chief: Ray, Chambers and Kumbhakar; Springer Nature Singapore.
19. Determinants of allocative and technical inefficiency in stochastic frontier models: An analysis of Norwegian electricity distribution firms (with Musau, Mydland and Lien) *European Journal of Operational Research*, 288(3), Feb 2021, pp. 1142-1152
20. Nonparametric Estimation of the Determinants of Inefficiency in the Presence of Firm Heterogeneity (with C. Parmeter and J. Zhou), *European Journal of Operational Research*, 286, Issue 3, 1 November 2020, Pages 1142-1152
21. On the Estimation of Technical and Allocative Efficiency in a Panel Stochastic Production Frontier System Model: Some New Formulations and Generalizations (with Tsionas), *European Journal of Operational Research*, 287(2), December 2020, 762-775
22. Productivity Spillovers and Human Capital: A Semiparametric Varying Coefficient Approach (with Hou and Jin), *European Journal of Operational Research*, 287(1), 2020, 317-330.
23. Estimation of Firm-Level Productivity in the Presence of Exports: Evidence from China's Manufacturing (with Malikov and Zhao), **forthcoming** in *Journal of Applied Econometrics*.

24. Estimation of a Dynamic Stochastic Frontier Model using Likelihood-based Approaches (with H-p. Lai), *Journal of Applied Econometrics*, 2019, 1-31. <https://doi.org/10.1002/jae.2746>.
25. Endogenous Dynamic Efficiency in the Intertemporal Optimization Models of Firm Behavior (with M. Tsionas and E. Malikov), *European Journal of Operational Research*, 2020, 284: 313-324.
26. How to Survive and Compete: The Impact of Information Asymmetry on Productivity (with M. Jin and H. Tian), *Journal of Productivity Analysis*, 2020, 53: 107-123, <https://doi.org/10.1007/s11123-019-00562-9>.
27. The Effects of Access to Credit on Productivity: Separating Technological Changes from Changes in Technical Efficiency (with Jimi, Plamen and Malek), *Journal of Productivity Analysis*, 2019, 52, 37-55. DOI: <https://doi.org/10.1007/s11123-019-00555-8>
28. Information Asymmetry and Leverage Adjustments: A Semiparametric Varying Coefficient Approach (with Jin and Zhao), *Journal of Royal Statistical Society (Series A)*, 2019, 183:2, 409-688.
29. Economies of Scope and Scale in the Norwegian Electricity Industry (with Mydland, Lien, Amundsveen and Kvile), *Economic Modelling*, 2020, 88: 39-46
30. Disentangling Costs of Persistent and Transient Technical Inefficiency and Input Misallocation: The Case of Norwegian Electricity Distribution Firms (with Mydland, Musau and Lien), *Energy Journal* (2020), 41(3). DOI: [10.5547/01956574.41.3.skum](https://doi.org/10.5547/01956574.41.3.skum)
31. Do Banking Sector and Stock Market Development matter for Economic Growth? (with J. Caves and K. Chaudhuri), *Empirical Economics*, 2019, <https://doi.org/10.1007/s00181-019-01692-7>.
32. Technical and Allocative Efficiency in a Panel Stochastic Production Frontier System Model (with H-p Lai), *European Journal of Operational Research*, 2019, 278: 255-265.
33. Does existence of inefficiency matter to a neoclassical xorcist? Some econometric issues in panel stochastic frontier models (with D. Bernstein) **forthcoming** in *Springer Proceedings in Business and Economics* (ed. Parmeter and Sickles).
34. Financial Constraints and Firm Productivity: Evidence from Chinese Manufacturing (with Man Jin and S. Zhao), *European Journal of Operational Research* (2019): 1139-1156.
35. Smooth Coefficient Models with Endogenous Environmental Variables (with Delgado, Ozabaci, Sun), *Econometric Reviews*, 2020, 39:2, 158-180. DOI: [10.1080/07474938.2018.1552413](https://doi.org/10.1080/07474938.2018.1552413)
36. Implementing Generalized Panel Data Stochastic Frontier Estimators (with Chris Parmeter), in *Panel Data Econometrics Theory* (2019), pp. 225-246, ed. Mike Tsionas. (Elsevier).
37. Are Diversification and Structural Change Good Policy? An Empirical Analysis of the Norwegian Agriculture (with Alem, Lien and Hardaker), *Journal of Agricultural and Applied Economics*, 2019, 51:1, 1-26. <https://doi.org/10.1017/aae.2018.17>

38. Panel Data Stochastic Frontier Model with Determinants of Persistent and Transient Inefficiency (with H-p. Lai), *European Journal of Operational Research* (2018): 271, 746-755.
39. Management in production: from unobserved to observed (with T. Triebs), *Journal of Productivity Analysis* (2018): 49, 111-121.
40. An Internally Consistent Approach to the Estimation of Market Power and Cost Efficiency with an Application to U.S. Banking (with Tsionas and Malikov), *European Journal of Operational Research* (2018): 270, 747-760.
41. Endogeneity, heterogeneity, and determinants of inefficiency in Norwegian crop-producing farms (with Lien and Alem), *International Journal of Production Economics*, 2018: 201, 53–61.
42. Estimation of a smooth coefficient zero-inefficiency panel stochastic frontier model: a semiparametric approach (with Yao, Wang and Tian), *Economics Letters* 2018, 166, 25-30.
43. Semiparametric smooth coefficient stochastic frontier model with panel data (with F. Yao and F. Zhang), *Journal of Business & Economics Statistics*, 2019: 37:3, 556-572.  
DOI: 10.1080/07350015.2017.1390467
44. Endogeneity in Panel Data Stochastic Frontier Model with Determinants of Persistent and Transient Inefficiency (with Hung-pin Lai), *Economics Letters*, 2018, 162, 5-9.
45. Stochastic Frontier Analysis: Foundations and Advances I (with Parmeter and Zelenyuk), **forthcoming** in *Handbook of Production Economics*, eds., Ray, Chambers and Kumbhakar.
46. Stochastic Frontier Analysis: Foundations and Advances II (with Parmeter and Zelenyuk), **forthcoming** in *Handbook of Production Economics*, eds., Ray, Chambers and Kumbhakar.
47. Persistent and Transient Efficiency of International Airlines (with A. Heshmati and J. Kim), *European Journal of Transport and Infrastructure Research*, 2018: 18, 213-238
48. Do Urbanization and Public Expenditure Affect Productivity Growth? The Case of Chinese Provinces, *Indian Economic Review*, 2017: 52, 127-156.
49. Foreign Direct Investment and Growth Symbiosis: A Semiparametric System of Simultaneous Equations Analysis (with M. Delgado and N. McCloud), *Journal of Econometric Methods*, 2018: 7, 1-31.
50. A new method to decompose profit efficiency: An application to US commercial bank (with D. Restrepo-Tobon), *Journal of Productivity Analysis*, 2017, 48: 117–132.  
<https://doi.org/10.1007/s11123-017-0511-9>
51. Good modeling of bad outputs: Editors' introduction (with E. Malikov), *Empirical Economics*, 2018: 54, 1-6.

52. Economies of Scale, Technical Change and Persistent and Time-Varying Cost Efficiency in Indian Banking: Do Ownership, Regulation and Heterogeneity Matter? (with O. Badunenko), *European Journal of Operational Research*, 2017, 260: 789-803.
53. Is tinkering with institutional quality a panacea for firm performance? Insights from a semiparametric approach to modeling firm performance (with Bhaumik, Demova, and Sun), *Review of Development Economics*, 2018:22, 1-22
54. Joint Estimation of the Lerner Index and Cost Efficiency (with Huang and Liu), *Empirical Economics*, 2018: 799-822.
55. Economies of Diversification in the US Credit Union Sector (with Malikov and Zhao), *Journal of Applied Econometrics*, 2017, 32: 1329-1347.
56. Accounting for risk in productivity analysis: an application to Norwegian dairy farming (with G. Lien and B. Hardaker), *Journal of Productivity Analysis*, 2017, 47: 247-257.
57. Yardstick Regulation of Electricity Distribution – Disentangling Short-run and Long-run Inefficiencies (with Gudbrand Lien), *Energy Journal*, 2017, 38: 17-37.
58. Nonparametric Estimation of the Determinants of Inefficiency (with Parmeter and Wang), *Journal of Productivity Analysis*, 2017, 47:205-221.
59. A hedonic-output-index-based approach to modeling polluting technologies (with Malikov and Bokusheva), *Empirical Economics*, 2018: 54, 287-308.
60. Heterogeneous Credit Union Production Technologies with Endogenous Switching and Correlated Effects (with Malikov and Restrepo-Tobon), *Econometric Reviews*, 2018: 37, 1095-1119.
61. An Empirical Model of Behavioral Heterogeneity (with M. Tsionas), *Review of Economic Analysis*, 2016, 8, 125-134.
62. Estimation of Firm Performance from a MIMIC Model (with K. Chaudhuri and L. Sundaram), *European Journal of Operational Research*, 2016, 255,298-307.
63. When, Where and How to Estimate Persistent and Transient Efficiency in Stochastic Frontier Panel Data Models (with O. Badunenko), *European Journal of Operational Research*, 2016, 255, 272-287.
64. Semiparametric smooth coefficient estimation of a production system (with K. Sun and R. Zhang), *Pacific Economic Review*, 2016, 21, 464-482.
65. Estimating Economies of Scale and Scope with Flexible Technology (with Triebs, Arocena and Saal), *Journal of Productivity Analysis*, 2016, 45, 173-186.
66. Maximum likelihood estimation of the revenue function system with output-specific technical efficiency (with Hung-pin Lai), *Economics Letters*, 2016, 138, 42-45.

67. Mark-up and Efficiency of Indian Banks: An Input Distance Function Approach (with A. Das), *Empirical Economics*, 2016, 51, 1689–1719.
68. A cost system approach to the stochastic directional technology distance function with undesirable outputs: the case of US banks in 2001–2010 (with Malikov and Tsionas), *Journal of Applied Econometrics*, 2016, 31, 1407-1429.
69. Smooth coefficient estimation of a seemingly unrelated regression (with Henderson, Li and Parmeter), *Journal of Econometrics* (2015), 189, 148-162.
70. The Good, The Bad and The Technology: Endogeneity in Environmental Production Models (with Tsionas), *Journal of Econometrics* (2016), 190, 315-327.
71. Varying Coefficient Panel Data Model in the Presence of Endogenous Selectivity and Fixed Effects (with Malikov and Sun), *Journal of Econometrics* (2016), 190, 233-251.
72. Does labour regulation affect equally technical and allocative efficiency? Evidence from the banking industry (with Koutsomanoli-Filippaki, Mamatzakis and Tsionas), *Journal of Banking and Finance* 61, 2015, S84-S98.
73. Bayesian Approach to Disentangling Technical and Environmental Productivity (with Malikov and Tsionas), *Econometrics* (MDPI Open Access Journal), 2015, 3, 443-465.
74. Estimation of Input Distance Functions: A System Approach (with Tsionas and Malikov), *American Journal of Agricultural Economics*, 2015, 97, pp. 1478–1493; doi: 10.1093/ajae/aav012
75. In Memoriam: Lennart Hjalmarsson, 1944–2012 (with Forsund), in *Journal of Productivity Analysis*, 43, 2015, pp. 233-236.
76. Scale economies, technical change and efficiency in Norwegian electricity distribution, 1998–2010 (with Amundsveen, Kvile and Lien) in *Journal of Productivity Analysis*, 2015, 43, pp. 295-305.
77. Productivity and Efficiency Estimation: A Semiparametric Stochastic Cost Frontier Approach (with Sun and Tveteras), in *European Journal of Operational Research*, 2015, 245, pp.194–202.
78. Obelix vs. Asterix: Size of U.S. Commercial Banks and Its Regulatory Challenge (with Restrepo-Tobon and Sun), *Journal of Regulatory Economics*, 2015, 48, pp. 125-168.
79. Editors' Introduction (with C. Parmeter in 'Applications of nonparametric and semiparametric models'), *Empirical Economics*, volume 48, 2015, pp. 1-8.
80. Efficiency Analysis: A Primer on Recent Advances (with Parmeter), *Foundations and Trends in Econometrics*, volume 7, 2014, pp. 191-385.
81. A Generalized Empirical Model of Corruption, Foreign Direct Investment, and Growth (with Delgado and McCloud), *Journal of Macroeconomics* 42 (2014), pp. 298–316.



82. Estimation of productivity in Korean electric power plants: A semiparametric smooth coefficient model (with A. Heshmati and K. Sun), *Energy Economics* 45, (2014), pp. 491-500.
83. Closed-Skew normality in stochastic frontiers with individual effect and long/short-run efficiency (with Colombi, Martini and Vittadini), *Journal of Productivity Analysis* 42, 2014, pp. 123-136.
84. Crime in India: Specification and Estimation of Crime Burden Index (with K. Chaudhuri and P. Chowdhury), *Journal of Productivity Analysis* 43, 2015, pp. 13–28.
85. Estimation of Banking Technology under Credit Uncertainty (with Malikov and Restrepo-Tobon), *Empirical Economics* 49, 2015, 185-211. (DOI 10.1007/s00181-014-0849-z)
86. Nonparametric Estimation of Returns to Scale using Input Distance Functions (with Restrepo-Tobon), *Empirical Economics* 48, 2015, pp. 143–168.
87. A Note on a Semiparametric Approach to Estimating Financing Constraints in Firms (with Bhaumik and Sun), *European Journal of Finance* 21, 2015, 992-1004.  
<http://dx.doi.org/10.1080/1351847X.2014.906068>.
88. A Generalized Panel Data Switching Regression Model (with Emir Malikov), *Economics Letters*, 124, 2014, 353-357.
89. Enjoying the quiet life under deregulation? Not quite (with D. Restrepo), *Journal of Applied Econometrics* 29, 2014, pp. 333–343
90. Firm-Heterogeneity, Persistent and Transient Technical Inefficiency: A Generalized True Random Effects Model (with E. Tsionas), *Journal of Applied Econometrics* 29, 2014, 110-132.
91. Performance of dairy farms in Finland and Norway from 1991 – 2008 (with Sipilainen and Lien), *European Review of Agricultural Economics*, 41, 2014, 63-86.
92. Estimation and Inference under Economic Restrictions (with Parmeter, Sun and Henderson), *Journal of Productivity Analysis* 41, 2014, 111-129.
93. Technical efficiency in competing panel data models: A study of Norwegian grain farming (with G. Lien and J.B. Hardaker), *Journal of Productivity Analysis* 41, 2014, pp 321–337, DOI 10.1007/s11123-012-0303-1.
94. Estimation and Decomposition of Inefficiency when Producers Maximize Return to the Outlay (with Asche and Tveteras), *Journal of Productivity Analysis* 40, 2013, pp 307-321.
95. Specification and estimation of multiple output technologies: A primal approach, *European Journal of Operational Research*, 231, Issue 2, 2013, pp. 465–473.
96. A general model of technical change with an application to the OECD countries (with A. Heshmati), *Economics of Innovation and New Technology*, 23, 2013, pp. 25-48,  
<http://dx.doi.org/10.1080/10438599.2013.805918>.

97. Semiparametric Smooth-coefficient Stochastic Frontier Model (with Kai Sun), *Economics Letters* 120, 2013, 305-309.
98. Derivation of marginal effects of determinants of technical inefficiency (with Kai Sun), *Economics Letters* 120, 2013, 249-253.
99. Productivity with General Indices of Management and Technical Change (with T. Tribes), *Economics Letters*, 120, 2013, 18–22.
100. Labor-Use Efficiency and Employment Elasticity in Chinese Manufacturing (with R. Zhang), *Journal of Industrial and Business Economics* 40, 2013, 5-24.
101. A Zero Inefficiency Stochastic Frontier Estimator (with Parmeter and Tsionas), *Journal of Econometrics* 172, 2013, pp. 66-76.
102. When, where and how to perform efficiency estimation (with Badunenko and Henderson), *Journal of Royal Statistical Society, Series A*, 175, 2012, pp. 863–892.
103. Cost efficiency of Kazakhstan and Russian banks: Results from competing panel data models (with A. Peresetsky), *Macroeconomics and Finance in Emerging Market Economies*, 6 (2013): 88-113.
104. A simple method to visualize results in nonlinear regression models (with Henderson and Parmeter), *Economics Letters*, 117 (2012): 578-581.
105. Productivity dynamics and technical efficiency in Russian agriculture (with Bokusheva and Hockmann), *European Review of Agricultural Economics*, 39 (2012): 611-637.
106. Editors' introduction (with Sickles), *The Econometrics of Auctions and Games*, 168(2012): 1-3.
107. Bayesian Estimation Approaches to First-Price Auctions (with C. Parmeter and E. Tsionas), *Journal of Econometrics*, 168(2012): 47-59.
108. Specification and Estimation of Primal Production Models, *European Journal of Operational Research*, 217 (2012), pp. 509-518.
109. Institutions, foreign direct investment and growth: A hierarchical Bayesian approach (with Nadine McCloud), *Journal of Royal Statistical Society, Series A*, 175 (2012), pp.83-105.
110. A stochastic frontier approach to modelling financial constraints in firms: An application to India (with Bhaumik and Das), *Journal of Banking and Finance*, 36(2012), pp.1311-1319.
111. Semiparametric Estimation of the Impact of R&D: Evidence of Regional Heterogeneity from China's High-Technology Industry (with Zhang, Sun and Delgado), *Technological Forecasting and Social Change*, 79 (2012), pp. 127–141.

112. A New Method for Estimating Market Power with an Application to Norwegian Sawmilling (with G. Lien and S. Baardsen), *Review of Industrial Organization*, 40 (2012):109–129.
113. The effect of environmental regulations on Swiss farm productivity (with Bokusheva and Lehmann), *International Journal of Production Economics*, 136(2012): 93-101.
114. Corporate R&D and firm efficiency: Evidence from Europe’s top R&D investors (with Ortega-Argilés, Potters, Vivarelli and Voigt), *Journal of Productivity Analysis*, 37(2012): 125-140.
115. Estimation of TFP Growth: A Semiparametric Smooth Coefficient Approach (with K. Sun), *Empirical Economics*, 43(2012):1-24.
116. Consolidation in the European Banking Industry: How effective is it? (with Vivas, Fethi and Shaban), *Journal of Productivity Analysis* 36 (2011), pp. 247-261.
117. Recent Developments in Stochastic Frontier Modeling (with E. Tsionas), *Journal of Probability and Statistics*, vol. 2011, Article ID 603512, 25 pages, 2011.  
doi:10.1155/2011/603512.
118. Are Prices or Biology Driving the Short-Term Supply of Farmed Salmon? (with Asheim et al.), *Marine Resource Economics* 26 (2011), pp. 343–357
119. Biases in Approximating Log Production (with D. Henderson and K. Sun), *Journal of Applied Econometrics*, 26 (2011), pp. 708-714.
120. Technical Change and Total Factor Productivity Growth: The Case of Chinese Provinces (with Almas Heshmati) *Technological Forecasting & Social Change*, 78 (2010), pp. 575-590.  
doi:10.1016/j.techfore.2010.11.006.
121. Estimation of Technical Inefficiency in Production Frontier Models Using Cross-Sectional Data (with H-J Wang and A. Horncastle), *Indian Economic Review*, Vol. 45(2010), pp. 7-77
122. Productivity and Efficiency Dynamics in Indian Banking: An Input Distance Function Approach Incorporating Quality of Inputs and Outputs (with A. Das), *Journal of Applied Econometrics* 27(2012), pp. 205-234.
123. Stochastic Error Specification in Primal and Dual Systems (with E. Tsionas), *Journal of Applied Econometrics*, 26 (2011), 270-297
124. Estimation of production technology when the objective is to maximize return to the outlay, *European Journal of Operation Research*, 208 (2011), 170-176
125. Determinants of Part-Time Farming and its Effect on Farm Productivity and Efficiency (with G. Lien and B. Hardaker), *Agricultural Economics*, 41 (2010), 577–586.
126. Improving Econometric Precision of Regulatory Models (with A. Horncastle), *Journal of Regulatory Economics*, Volume 38, Number 2 (2010), 144-166, DOI: 10.1007/s11149-010-9128-x

127. Estimation of Hedonic Price Functions with Incomplete Information (with C. Parmeter), *Empirical Economics* 39 (2010), 1-25, DOI: 10.1007/s00181-009-0292-8 (**lead article**).
128. Estimation of Production Risk and Risk Preference Function: A Nonparametric Approach (with E.G. Tsionas), *Annals of Operations Research* 176 (2010), pp. 369-378.
129. Efficiency Productivity of World Health Systems: Where Does Your Country Stand?, *Applied Economics*, Volume 42, Issue 13 May 2010 , pages 1641 – 1659.
130. Impact of Reforms on Plant-level Productivity and Technical Efficiency Evidence from the Indian Manufacturing Sector (with S. Bhaumik), *Journal of Asian Economics* 21( 2010), pp. 219 - 232.
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#### **PAPERS UNDER REVIEW**

1. Do Subsidies Increase Productivity? Evidence from Chinese Manufacturing Enterprises (with M. Li and M. Jin).
2. Do Subsidies Matter in Productivity and Profitability Changes? A View through the Prism of Parametric and Nonparametric Modelling (with M. Li and G. Lien).
3. Efficiency Measurement: A Generalized Four-Error-Component Stochastic Frontier Model (with M. Tsionas).

#### **PRESENTATION OF PAPER**

1. Some Reflections on Stochastic Frontier Models, Keynote address at the International Conference on Agribusiness and Food Economics (Online), organized by Anadolu University, Turkey, Aug 10-12, 2021.
2. Slacking in Happiness Pursuit? Where Do You and Your Country Stand? presented at the vNAPW, University of Miami, June 9, 2021.
3. Risk-adjusted Parametric and Nonparametric Production Functions: The Case of Basmati Rice in India, presented at the vNAPW, University of Miami, June 11, 2021.
4. Does Subsidy Increase Firm Productivity? Evidence from Chinese Manufacturing Enterprises, presented at the vNAPW, University of Miami, June 11, 2021.
5. Productivity Spillovers and Human Capital: A Semiparametric Varying Coefficient Approach, presented at the XI North American Productivity Workshop (virtual), University of Miami, June 8-12, 2020.
6. Reactions on Some New Stochastic Frontier Models, Keynote address at the XI North American Productivity Workshop (virtual), University of Miami, June 8-12, 2020.
7. A Primer on Performance, Productivity and Profitability, presented at Jadavpur University, Kolkata, India, Jan 9, 2020.
8. Economies of Scope and Scale in the Norwegian Electricity Industry, presented at Stavanger University, Norway, Dec. 11 2019.

9. The panel stochastic frontier model with endogenous inputs and correlated random components (with H-p Lai), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019
10. Economies of scale and scope among the Norwegian dairy and crop farms (with Alem, Lien, and Hardaker), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
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12. Including determinants of allocative and technical inefficiency in a stochastic frontier analysis framework (with Mydland, Musau and Lien), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
13. Dependence of the technical efficiency on the uncertainty of the inefficiency error (with Peresetsky, Shchetynin and Zaytsev), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
14. Estimation of a four-component semiparametric stochastic production frontier model with endogenous regressors and determinants of inefficiency (with Sun and Tveteras), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
15. A semiparametric smooth coefficient approach to estimate effects of farmers risk attitudes on productivity: Analysis of rice production in India (with Mishra, Lien), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
16. Immigrant wage gaps and determinants: A stochastic wage frontier approach using linked employer-employee data (with Tveteras), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
17. Live presentation for PECEGE students of the MBA in Agribusiness on "Dynamics of Productivity and Technical Efficiency in Agriculture" at the University of Sao Paulo at Piracicaba, March 20, 2019.
18. New developments in SF methods, presented at the University of Sao Paulo at Piracicaba, March 21, 2019.
19. Why do we research on efficiency and productivity? Presented at the EAFIT University, Medellin, Colombia, October 9, 2018.

20. Does Existence of Inefficiency Matter to a Neoclassical Economist? Some Econometric Issues in Panel Stochastic Frontier Models, presented at the Stavanger University, Jan 9, 2019.
21. Endogeneity in a panel stochastic frontier model: A system approach, presented at the Asia Pacific Productivity Conference, Seoul National University, Seoul, South Korea, July 4-6, 2018.
22. Key issues in parametric productivity analysis, presented at the Asia Pacific Productivity Conference, Seoul National University, Seoul, South Korea, July 4-6, 2018.
23. How to Survive and Compete: The Impact of Information Asymmetry on Productivity, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
24. Geography, Bank Business Strategies, and Efficiency, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
25. Productivity, Markup and Price Dispersion: Evidence from China, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
26. Productivity of Chinese Manufacturing Firms with Agglomeration Effect: A Semiparametric Smooth Coefficient Model, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
27. Cost Efficiency of Norwegian Electricity Distribution Companies: Disentangling Persistent and Transient Technical and Allocative Efficiency, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
28. Can Inefficiency exist in the presence of a Neoclassical Economist? Plenary presentation at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
29. The Measurement of Firms' Efficiency and Productivity, delivered two lectures at the Universidad Autonoma de Madrid, May 24-25, 2018.
30. Panel Stochastic Frontier Model with Determinants of Persistent and Transient Inefficiency, presented at the Universidad de Malaga, May 23, 2018.
31. Discussion of the German Regulator's Model Development and Validation Approach for Efficiency Benchmarking of Electricity DSOs, presented at the International Conference on Data Envelopment Analysis, Birmingham, UK, April 16-18, 2018.
32. Economic regulation and its impact over time, presented at the International Conference on Data Envelopment Analysis, Birmingham, UK, April 16-18, 2018.
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34. Stochastic Frontier and Efficiency: Some Retrospections, presented at Florida Atlantic University, March 2, 2018.

35. Efficiency and Productivity Measurement, presented a series of lectures at IIT Ropar (India), Dec 18- Dec 25, 2017.
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37. Performance, Productivity and Profitability: A Primer, presented at the Harpur Dean's Distinguished Lecture, Binghamton University, November 16, 2016.
38. Lectures on panel data stochastic frontier models, Presented at DIW Berlin, Germany, October 5-8, 2016.
39. Modelling short run and long run efficiency in panel data stochastic frontier models, presented at the KU Leuven, Belgium, October 3, 2016.
40. Stochastic Frontier Analysis for Young Practitioners, presented at the Taiwan Efficiency and Productivity Association, Taipei, Taiwan; Dec 17, 2016.
41. Determinants of persistent and transient efficiency in stochastic frontier models, Keynote address at the Taiwan Efficiency and Productivity Association, Taipei, Taiwan, Dec 17, 2016.
42. Do Urbanization and Public Expenditure Affect Productivity Growth? The Case of Chinese Provinces presented at the SU-ADBI held at Sogang University, South Korea, December 15-16, 2016.
43. Productivity and Efficiency Modeling in the Presence of Undesirable Outputs, presented at the Korea Environmental Economic Association, Seoul, South Korea, Dec 14, 2016.
44. Short-run and long-run efficiency and their determinants: A study of crop production in Norway presented at the Pusan national University, Busan, South Korea, Dec 13, 2016.
45. Productivity, Efficiency, and Resource (Financial) Constraints, presented at the IRRI Rice Seminar, Los Baños, Philippines, July 14, 2016.
46. Economies of scale, technical change and persistent and time-varying cost efficiency in Indian banking: Do ownership, regulation and heterogeneity matter?, plenary presentation at the Asia Pacific Productivity Conference, Nankai University, Tianjin, China, July 7-10, 2016.
47. Productivity and Efficiency Modeling in the Presence of Undesirable Outputs, keynote presentation at the 2nd Eastern Africa Business and Economic Watch Conference, Kigali, Rwanda (June 20-22, 2016).
48. Sieve Estimation of Productivity with Endogeneous Export Decisions and Sample Attrition: China's Productivity Puzzle, presented at the North American Productivity Workshop, Quebec City, Canada, June 15-18, 2016.



49. Short-run and long-run cost efficiency and their determinants: A study of grain and forage production in Norway, presented at the North American Productivity Workshop, Quebec City, Canada, June 15-18, 2016.
50. Persistent and Transient Inefficiency in Stochastic Frontier Models with Heterogeneity and Determinants of Inefficiency, presented at the North American Productivity Workshop, Quebec City, Canada, June 15-18, 2016.
51. Estimation of Environmental Production Models under Economic Restrictions, presented at the North American Productivity Workshop, Quebec City, Canada, June 15-18, 2016.
52. Measuring efficiency and productivity in the public sector, presented at the Audit Office, Stockholm (Sweden), May 16, 2016.
53. Stochastic Frontier Panel Models with Firm Heterogeneity together with Persistent and Time-varying Efficiency, presented at Sogang University, Korea, March 28, 2016.
54. Estimating Technical Change and Productivity from Parametric and Semiparametric Models, presented at Seoul National University, Korea, March 29, 2016.
55. The estimation of efficiency, productivity and profitability using Stochastic Frontier Approach, presented at Pusan National University, Korea, April 2, 2016.
56. Recent developments in efficiency models using panel data in stochastic frontier models, 2 day lectures at the DIW Berlin, Oct 5-6, 2015.
57. Technical and Environmental Efficiency: Good Modelling of Bad Outputs, presented at the Umea University, Dec 17, 2015.
58. Capital Structure and Efficiency: The Case of German Electricity Distribution, presented at the KOMIED Workshop, Berlin, Oct 2, 2015.
59. Decomposition of Efficiency into input and output-specific components, **keynote address** at the Workshop on the Econometrics and Statistics of Efficiency Analysis: Recent Developments and Perspectives, 20-21 June 2015, Lecce, Italy.
60. A general error revenue function model with technical inefficiency: An application to Norwegian fishing trawler, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
61. Management in production: From unobserved to observed, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
62. Do direction, normalization and the Jacobian matter in the productivity measurements based on the directional output distance function?, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
63. Yardstick regulation of electricity distribution – Disentangling short-run and long-run inefficiency, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.

64. Recent developments in frontier estimation of efficiency, productivity and profitability, presented at the Norsk Institutt for landbruksøkonomisk forskning (NILF), Oslo, Norway, June 15, 2015.
65. The good, the bad and the technology: Technical and environmental efficiency, presented at the University of Stavanger, Norway, June 11, 2015.
66. Modelling undesirable outputs in production and environmental efficiency, Universidad EAFIT, Medellin, Colombia, April 10, 2015.
67. Lectures on productivity and efficiency measurement: Cross-sectional and panel models, Santiago Workshop, Universidad Santo Tomas, Jan 12-16, 2015.
68. Productivity, Efficiency and Profitability, presented in Santiago Workshop, Universidad Santo Tomas, Jan 12-16, 2015.
69. Productivity Index based on the Directional Output Distance Function with Undesirable Outputs: Direction, Normalization and the Jacobian, **keynote address** at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
70. Endogeneity in stochastic distance function models, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
71. A Generalized Stochastic Frontier Model for Input and Output Efficiency, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
72. A Semiparametric Stochastic Cost Frontier Model with Time-varying Coefficients Subject to Regularity Conditions, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
73. A Revenue System Model with Technical and Allocative Inefficiency, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
74. The good, the bad and the ugly: a system approach to modeling bad outputs, advanced lecture at the Taiwan Efficiency and Productivity Conference, Taipei, July 4, 2014.
75. Obelix vs. Asterix: Size of U.S. Commercial Banks and Its Regulatory Challenge, **keynote address** at the Taiwan Efficiency and Productivity Conference, Taipei, July 5, 2014.
76. Dissections of Input and Output Efficiency: A Generalized Stochastic Frontier Model (with Tsionas), presented at the North American Productivity Workshop VIII, Ottawa (Canada), June 4-7, 2014.
77. Management Practice in Production (with Thomas Triebs), presented at the North American Productivity Workshop VIII, Ottawa (Canada), June 4-7, 2014.
78. A Revenue System Model with Technical and Allocative Inefficiency (with Asche and Tveteras), presented at the North American Productivity Workshop VIII, Ottawa (Canada), June 4-7, 2014.

79. Varying Coefficient Panel Data Model in the Presence of Endogenous Selectivity and Fixed Effects (with Malikov and Sun), presented at Camp Econometrics IX, Watkins Glen, NY, April 4-6, 2014.
80. Endogenous Selectivity and Fixed Effects in the measurement of R&D/Innovation productivity, presented at the CDM workshop, London, Dec 6-7, 2013.
81. Are U.S. Commercial Banks Too Big?, presented at the workshop on real estate, banking and finance, University of Surrey, Guildford, UK, Dec 4, 2013.
82. The Good, The Bad and The Ugly: A System Approach to Good Modeling of Bad Outputs, presented at the University of Connecticut, Storrs, Nov 1, 2013.
83. The Good, The Bad and The Ugly: A System Approach to Good Modeling of Bad Outputs, presented at the workshop on productivity analysis held at the University of Miami, Florida, Oct 25, 2013.
84. Are U.S. Commercial Banks Too Big?, presented at the Southwestern University of Finance and Economics (Chengdu), China, Nov 15, 2013.
85. Are U.S. Commercial Banks Too Big?, presented at Sichuan University (Chengdu), China, Nov 13, 2013.
86. A New Method for Estimating Market Power with an Application to Norwegian Sawmilling, presented at Beijing Normal University, Nov 11, 2013.
87. Estimation of firm performance, presented at the Universidade Católica Porto, Porto, Sept 11, 2013.
88. Estimating Productivity and Technical Change from Parametric and Semiparametric Models, Keynote address at the EcoMod2013 International Conference on Economic Modeling, Prague, July 1-3, 2013.
89. Estimation of firm performance: Insights from parametric and semiparametric models, presented at the University of Tromso (Norway), June 21, 2013.
90. Cost efficiency of Kazakhstan and Russian banks: Results from competing panel data models (with A. Peresetsky), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
91. Modeling economic and environmental performance: incorporation of technological relationship between desirable and undesirable outputs within the distance function approach (with R. Bokusheva), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
92. Derivation of marginal effects of determinants of technical inefficiency (with K. Sun), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
93. Production and Management: Does Inefficiency capture Management? (with T. Triebs), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.

94. Estimation of Market Power and Efficiency: A Unified Approach (with E. Tsionas), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
95. Scale economies, technical change and efficiency in Norwegian electricity distribution 1998-2010 (with R. Amundsveen, H.M. Kvile and G. Lien), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
96. Estimation of Productivity in Korean Electric Power Plants: A Semiparametric Smooth Coefficient Model (with A. Heshmati and K. Sun), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
97. Nonparametric Estimation of Returns to Scale Using Input Distance Functions (with Diego Restrepo-Tobón), Camp Econometrics VIII, Saratoga Springs, April 7-8, 2013.
98. Effects of Public Support Policies on Performance of ESCO Industry: The Korean Case (with A. Heshmati), Conference in Memory of Professor Lennart Hjalmarsson, December 7-8, 2012, Department of Economics, Gothenburg, Sweden.
99. Estimation of Technological Change Using Cross-sectional Data (with G. Lien), Conference in Memory of Professor Lennart Hjalmarsson, December 7-8, 2012, Department of Economics, Gothenburg, Sweden.
100. Scale economies, technical change and efficiency in Norwegian electricity distribution 1998-2010 (with R. Amundsveen, H.M. Kvile and G. Lien), Conference in Memory of Professor Lennart Hjalmarsson –December 7-8, 2012, Department of Economics, Gothenburg, Sweden.
101. Estimation of technological change using cross-sectional and panel data, presented at Groningen (The Netherlands), September 12, 2012.
102. A Stochastic Frontier Model with Short-Run and Long-Run Inefficiency, presented at the 18<sup>th</sup> International Panel Data Conference, held in Paris (France), July 5-7, 2012.
103. A Generalized Model of Technical Change, presented at University of Zurich (KOF), June 28, 2012.
104. Measuring profit efficiency without estimating a profit function: The case of U.S. Commercial banks (with D. Restrepo), presented at the 4<sup>th</sup> International IFABS conference, held in Valencia (Spain), June 18-20, 2012.
105. Measuring profit efficiency without estimating a profit function: The case of U.S. Commercial banks (with D. Restrepo), presented at the 7<sup>th</sup> North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
106. A General Model of Technical Change with an Application to the OECD Countries (with A. Heshmati), presented at the 7<sup>th</sup> North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
107. Semiparametric Smooth-coefficient Stochastic Frontier Model (with K. Sun), presented at the 7<sup>th</sup> the North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).

108. Driving Forces behind Innovation and Technological Change in Norwegian Farming (with G. Lien) presented at the 7<sup>th</sup> North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
109. Management in Production (with T. Triebs), presented at the 7<sup>th</sup> North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
110. Small Utilities are not Necessarily Expensive, but Expensive Utilities tend to be Small (with Amundsveen, Kvile and Lien), presented at the 7<sup>th</sup> North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
111. Multiple output production models, presented at Georgia Institute of Technology, Atlanta, March 30, 2012.
112. Theory and Applications of firm performance, keynote address at the X Workshop SIEPI (Societa Italiana di Economia e Politica Industriale), held at the Universita di Perugia, Italy, January 26-27, 2012.
113. Measuring firm performance: A new parametric approach, presented at the University of Milan-Bicocca, Italy, January 25, 2012.
114. Corruption, Foreign Direct Investment, and Economic Growth, keynote address at the International Conference on Business & Information Management, Durgapur, India, January 9-11, 2012.
115. Productivity, Efficiency and Profitability, keynote address at the International Conference on Business & Information Management (held at Dr. B.C. Roy Regional Engineering College),, Durgapur, India, January 10-11, 2012.
116. Efficiency, mark-up and stability in Indian banking, presented at the Reserve Bank of India (Central Office), Mumbai, India, January 3, 2012.
117. Efficiency and productivity: Theory and Measurement, presented at the Reserve Bank of India (statistics department), Mumbai, India, January 4, 2012.
118. Does improvement in institutional quality help firm performance? Insights from a semi-parametric approach (with Baumik, Dimova and Sun), presented at Workers, Businesses and Government: Understanding Labour Compliance in Global Supply Chains, conference held at the International Finance Corporation in Washington, D.C., October 26-28, 2011.
119. Productivity and Profitability: A Nonparametric/Semi-parametric Approach (with G. Lien), presented at AAEA and NAREA Joint Annual Meeting (July 24-26, 2011) at Pittsburgh, Pennsylvania.
120. Flexible Specification of Cost and Input Distance Functions for Diversified and Integrated Firms (with D. SAAL, P. Arocena, T. Triebs), presented at EWEPA, Verona, Italy, June 21-24, 2011.
121. Estimation and Decomposition of Inefficiency when Producers Maximize Return to the Outlay

123. (with F. Asche and R. Tveteras), presented at EWEPA, Verona, Italy, June 21-24, 2011.
124. Estimation of TFP Growth: A Semiparametric Smooth Coefficient Approach (with Kai SUN), presented at EWEPA, Verona, Italy, June 21-24, 2011.
125. Management practices and firm efficiency (with Thomas TRIEBS), presented at EWEPA, Verona, Italy, June 21-24, 2011.
126. Technical efficiency in competing panel data models: A study of Norwegian grain farming (with G. Lien and J. B. Hardaker), presented at EWEPA, Verona, Italy, June 21-24, 2011.
127. Exogenous Technical Change Modeled via Time Trend and Technology Shifters: Application to OECD Countries (with Almas Heshmati), presented at EWEPA, Verona, Italy, June 21-24, 2011.
128. Productivity and profitability change on Finnish and Norwegian dairy farms: Does EU membership matter? (with Timo Sipilainen, Gudbrand Lien and Marte Bjørnsen), presented at EWEPA, Verona, Italy, June 21-24, 2011.
129. Estimation and Decomposition of Inefficiency when Producers Maximize Return to the Outlay, presented at the University of Salento (Lecca), Italy, June 20, 2011.
130. Estimation of efficiency using stochastic frontier technique, a series of lectures given at Higher School of Economics and CEMI RAS, Moscow, Russia, June 2-5, 2011.
131. Estimation and Decomposition of Inefficiency, paper presented at Higher School of Economics, St. Petersburg, Russia, June 9, 2011.
132. A Generalized Empirical Model of Corruption, Foreign Direct Investment, and Growth, presented at Camp Econometrics, (Lake Placid, NY) April 8, 2011.
133. Stochastic Frontier Analysis: A Toolkit for Efficiency and Productivity Measurement, presented at Centre for Studies in Social Sciences, (Calcutta, India) Dec 27, 2010.
134. Efficiency, technological change, and mark-ups in Indian banks: A fresh look at the 'competition-stability' hypothesis, presented at Reserve bank of India (Mumbai, India), Dec 23, 2010.
135. Reexamination of Primal Production Models: Specification and Estimation Issues in Single and Multiple Output Technologies, **keynote** address at the Asia-Pacific Productivity Conference held in Taipei (Taiwan), July 21-23, 2010.
136. Estimation of TFP Growth: A Semiparametric Smooth Coefficient Approach (with K. Sun), presented at the Asia-Pacific Productivity Conference held in Taipei (Taiwan), July 21-23, 2010.
137. Determinants of Productivity and Efficiency in Norwegian Crop Farming (with Lien and Hardaker), presented at the Asia-Pacific Productivity Conference held in Taipei (Taiwan), July 21-23, 2010.

138. Regression and Inference under Smoothness Restrictions (with Parmeter, Sun, Henderson), presented at the North American Productivity Workshop at the Rice University, Houston (June 2-5, 2010).
139. Determinants of Productivity and Efficiency in Norwegian Crop Farming (with Lien and Hardaker), presented at the North American Productivity Workshop at the Rice University, Houston (June 2-5, 2010).
140. Semiparametric Estimation of Determinants of Inefficiency with Application to Financing Constraints (with Parmeter and Wang), presented at the North American Productivity Workshop at the Rice University, Houston (June 2-5, 2010).
141. When, Where and How to Perform Efficiency Estimation (with Badunenko and Henderson), presented at the North American Productivity Workshop at the Rice University, Houston (June 2-5, 2010).
142. Multi-product Technology with Inefficiency: Specification and Estimation, presented the Rice University, Houston (June 2-5, 2010).
143. Multi-product Technology with and without Inefficiency: Specification and Estimation, presented at the Higher School of Economics, Moscow, May 21 (2010).
144. Inefficiency in Primal Production Models: Specification and Estimation Issues, presented at the New Economic School, Moscow, May 24 (2010).
145. Primal Production Models: A Synthesis of Specification and Estimation Issues, presented at the University of Albany, April 30 (2010).
146. Issues in Efficiency Measurement in Agriculture, **keynote** address at NJF-Seminar 425, Economic Systems Research in Agriculture and Rural Development, Tartu, Estonia, September 29 – October 1, 2009.
147. Productivity and profitability decomposition: A parametric distance function approach (with G. Lien), presented at NJF-Seminar 425, Economic Systems Research in Agriculture and Rural Development, Tartu, Estonia, September 29 – October 1, 2009.
148. The effects of endogeneity in stochastic frontier analysis (with C. Parmeter and Yi-Yi Chen), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
149. A sparse stochastic frontier estimator (with C. Parmeter and E. Tsionas), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
150. Productivity decomposition when producer and market prices differ: the case of US agriculture (With E. Ball), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).

151. Semiparametric stochastic frontier analysis: an application to polish farms during transition (with Arne Henningsen), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
152. Evaluating risk-taking in bank cost efficiency in the EU countries (with Ana lozano-vivas), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
153. Endogeneity in distance functions and GMM estimation (with Z. Guan), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
154. Corporate R&R and the distance to the frontier: evidence from Europe's top-R&D investors (with Ortega-Argilés, Potters, Vivarelli and Voigt), presented at the XI European workshop on efficiency and productivity analysis (June 23-26, 2009, Pisa-Italy).
155. Specification and Estimation of Production Technology: A Primal Approach, presented at the Camp Econometrics IV (Lake Placid, NY, April 3-5, 2009).
156. A premeier in efficiency and productivity measurement: Some statistical and econometric issues with applications, presented at the Technical University of Dresden (Germany), Feb 6 (2009).
157. How to measure efficiency in banking, gave **two** presentations on distance function and efficiency measurement at Reserve Bank of India, Mumbai, Jan 2 (2009).
158. Productivity and Efficiency Workshop, Jan 3-4 (2009), IGIDR, Mumbai (India), 4 lecture style presentations on efficiency and productivity measurement.
159. CDE-Swiss Re Workshop on Performance Measurement, Jan 5-7 (2009) (Delhi, India), **keynote address** + 2 presentations on productivity and efficiency measurement.
160. Productivity and Efficiency Workshop, Jan 10-11 (2009) (Madras, India), 3 lecture style presentations.
161. Efficiency measurement using stochastic frontier approach, presented at the University of Huelva (Spain), July 14, 2008.
162. Stochastic frontier approach: A tool for estimating efficiency, excess capacity, excess labor, presented at Universidad Autonoma de Barcelona (Spain), July 16, 2008.
163. Econometric modeling of firm efficiency, technology adoption, technical change and productivity, presented at JRC (IPTS) Seville (Spain), July 10, 2008.
164. Micro-econometric modeling of firm efficiency using cost and profit functions, presented at JRC (IPTS) Seville (Spain), July 11, 2008.
165. Determinants of Part-Time Farming and Its Effect on Farm Productivity and Efficiency (with *Gudbrand Lien* and *Brian Hardaker*) presented at the North American Productivity Workshop Stern School of Business New York University New York, NY, June 24-27, 2008.



166. Measuring Subvector Efficiency in the Stochastic Frontier Framework (with *Zhengfei Guan* and *Alfons Oude Lansink*) presented at the North American Productivity Workshop Stern School of Business New York University New York, NY, June 24-27, 2008.
167. The Effect of Agricultural Policy Reforms on the Productivity of the Swiss Crop Farming (with *Raushan Bokusheva* and *Bernard Lehmann*) presented at the North American Productivity Workshop Stern School of Business New York University New York, NY, June 24-27, 2008.
168. A Sparse Stochastic Frontier Estimator (with *Christopher* and *Efthymios Tsionas*) presented at the North American Productivity Workshop Stern School of Business New York University New York, NY, June 24-27, 2008.
169. Modeling the Effects of Subsidies on Production, presented at the plenary session of the AIEA2 and the USDA international conference on The Economic Impact of Public Support to Agriculture, Bologna (Italy), June 19-21, 2008.
170. Determinants of Part-Time Farming and Its Effect on Farm Productivity and Efficiency (with *Gudbrand Lien* and *Brian Hardaker*), presented at the AIEA2 and the USDA international conference on The Economic Impact of Public Support to Agriculture, Bologna (Italy), June 19-21, 2008.
171. Effects of direct payments on farm performance: The case of dairy farms in northern EU countries (with *Timo Sipilainen*), presented at the AIEA2 and the USDA international conference on The Economic Impact of Public Support to Agriculture, Bologna (Italy), June 19-21, 2008.
172. Determinants of part-time farming and its effect on farm productivity and efficiency (with *Lien* and *Hardaker*), presented at the 2<sup>nd</sup> Halle Workshop on Efficiency and Productivity Analysis, Halle (Germany) May 26-27, 2008.
173. Measuring productivity differentials – An application to milk production in Nordic countries (with *Sipilainen* and *Kuosmanen*), presented at the 2<sup>nd</sup> Halle Workshop on Efficiency and Productivity Analysis (with *Lien* and *Hardaker*), Halle (Germany) May 26-27, 2008.
174. Background, estimation, and interpretation of indirect production functions, Keynote address at the 2<sup>nd</sup> Halle Workshop on Efficiency and Productivity Analysis, Halle (Germany) May 26-27, 2008.
175. Impact of Reform on Plant-Level Productivity and Technical Efficiency: Evidence from the Indian Manufacturing Sector (with *Sumon Bhaumik*) presented at The 2008 World Congress on National Accounts and Economic Performance for Nations, Washington D.C., May 12-17, 2008.
176. Modeling cost and profit function with shadow prices, presented at ERS (USDA, Washington, D.C.) March 25, 2008.
177. Efficiency Estimation using Production, Cost and Profit Frontiers in Stochastic Frontier Models, presented at National Taiwan University (Taipei), Dec 6, 2007.

178. Recent Developments in Efficiency Measurement using Stochastic Frontier Approach, presented at National Taiwan University (Taipei), November 30, 2007.
179. Effect of subsidy and inefficiency in technology choice: The case of Nordic Agriculture, presented at University of Kiel, Germany, November 16, 2007.
180. Productivity and Efficiency Measurement in Banking, presented at the European Central Bank (Frankfurt, Germany), Aug 29, 2007.
181. Productivity Differentials on Dairy Farms in Nordic Countries – The Metafrontier Approach with (with Sipiläinen, Timo and Kuosmanen, Timo), presented at the 10<sup>th</sup> European Workshop on Efficiency and Productivity Analysis at Lille (France), June 27, 2007.
182. Quality Adjusted Inputs, Outputs and Productivity Change in Indian Banking: A Hedonic Approach (with A. Das) presented at the 10<sup>th</sup> European Workshop on Efficiency and Productivity Analysis at Lille (France), June 28, 2007.
183. Consolidation in the European Banking Industry: How Effective is it? (with A. Lozano-Vivas, M. Fethi and M. Shaban) presented at the 10<sup>th</sup> European Workshop on Efficiency and Productivity Analysis at Lille (France), June 29, 2007.
184. Regulation, Productivity and Efficiency, presented at Bundesbank (Frankfurt, Germany), Nov 23, 2006.
185. Efficiency Measurement, presented at Charles University (CERGE-EI) Prague, Nov 24, 2006.
186. Joint Estimation of Technology Choice and Technical Efficiency: An Application to Organic and Conventional Dairy Farming, presented at University of Arkansas (Fayetteville), Sept 29, 2006.
187. Efficiency measurement: A premier, presented at the RBI (Mumbai, India), July 20, 2006.
188. Estimation of production efficiency using stochastic frontier models, presented at the Jadavpur University, Calcutta, July 18, 2006.
189. On the estimation of technology choice and inefficiency: A joint estimation approach, presented at the Centre for Studies in Social Sciences, Calcutta, July 17, 2006.
190. Some Thoughts on Modeling and Estimating Input-Specific Efficiency (with E.G. Tsionas), presented at the North American Productivity Workshop Stern School of Business New York University New York, NY June 27 - June 30, 2006
191. If Cost of Allocative Inefficiency Depends on Normalization, What a World It Would Be!, presented at the North American Productivity Workshop Stern School of Business New York University New York, NY June 27 - June 30, 2006
192. Measuring the Impact of Changing Market Structure and Technology on TFP Growth: The OECD Telecommunications Industry (with A. Bhattacharyya), presented at the North American

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

193. Effectiveness of Consolidation in the European Banking Industry (with Ana Lozano-Vivas, Meryem Duygun-Fethi and Mohamed Shaaban), presented at the North American Productivity Workshop Stern School of Business New York University New York, NY June 27 - June 30, 2006
194. Effect of Subsidies on Farm Performance: The Case of Northern EU Countries (with Timo Sipiläinen and Kyösti Pietola), presented at the North American Productivity Workshop Stern School of Business New York University New York, NY June 27 - June 30, 2006
195. Estimation of Hedonic Price Functions with Incomplete Information (with Christopher Parmeter), presented at the North American Productivity Workshop Stern School of Business New York University New York, NY June 27 - June 30, 2006
196. Technology adoption and efficiency: The case of organic and inorganic farming, **Keynote address** at 1st Halle Efficiency and Productivity Analysis Workshop - HEPAW, Halle (Germany), June 20-21, 2006.
197. Efficiency Measurement using Parametric Econometric Models, presented at Aston University, Birmingham (UK), Feb 15, 2006.
198. Productivity and Efficiency Measurement Using Parametric Econometric Methods, **Keynote address** at the UK Efficiency and Productivity Network, University of Leicester (UK), Feb 18, 2006.
199. Estimation of Hedonic Price Functions with Incomplete Information, presented at the Athens University of Economics and Business (Greece), December 9, 2005.
200. The effects of bargaining on market outcomes: Evidence from buyer and seller specific estimates, presented at the Wageningen University (The Netherlands), December 7, 2005.
201. Productivity and Efficiency Measurement: An Application to World Health Systems, **Keynote address** at the 10<sup>th</sup> Annual Conference of the Italian Health Economics Association held at the University of Genova (Italy), November 10-11, 2005.
202. Measurement of Economic Efficiency: Some Applications to the Banking Industry, presented at CERIS and HERMES, Moncalieri (Turin), Italy (November 10, 2005).
203. Specification and Estimation of Inefficiency, presented at Cornell University, Ithaca, NY (October 28, 2005).
204. Stochastic Error Specification in Primal and Dual Systems, presented at Syracuse University, Syracuse, NY (Sept 23, 2005).
205. Estimation of allocative distortions using revenue functions, presented at the University of Stavanger, Norway (July 26, 2005).

206. Recent developments in productivity and efficiency analysis, **Keynote** address at the Nordic efficiency and productivity workshop, Helsinki (July 3-4, 2005)
207. Financial sector development and TFP growth, presented at the United Nations University(WIDER), Helsinki (July 2, 2005).
208. Estimation Excess Capital Technical and Allocative Inefficiency, European Workshop on Efficiency and Productivity Analysis IX, Brussels (June 29-Aug 1, 2005).
209. Estimation of Information Asymmetries in Housing Markets: A Two-Tier Stochastic Frontier Approach, European Workshop on Efficiency and Productivity Analysis IX, Brussels (June 29-Aug 1, 2005).
210. Estimation of Technical and Allocative Inefficiency in a Translog Cost System, European Workshop on Efficiency and Productivity Analysis IX, Brussels (June 29-Aug 1, 2005).
211. Stochastic Error Specification in Primal and Dual Systems, Invited Speaker at the 2005 Taipei Conference on Efficiency and Productivity Growth, Academia Sinica, Taipei (June 21, 2005).
212. Efficiency measurement using parametric econometric models, Central Research Institute of Electric Power Industry, Tokyo (June 17, 2005).
213. Productivity and efficiency measurement using parametric econometric methods, paper presented at Oslo University, Jan. 20, 2005.
214. Stochastic error specification in primal and dual systems, paper presented at Athens University of Economics and Business, Athens, January 18, 2005.
215. Competitiveness, knowledge and productivity, paper presented at the XIII International Tor Vergata Conference on Banking and Finance "Transparency, Governance and Markets", Rome, Italy (Dec 1-3, 2004).
216. Estimation of Stochastic Frontier Production Functions With Input-Oriented Technical Efficiency (with Efthymios G. Tsionas), **Keynote speaker**, Methodological and Empirical Issues of Productivity and Efficiency Measurement in the Agri-Food System, Rethymno, Crete, Greece, September 24-26, 2004.
217. Risk Preferences, Price Uncertainties, and Production Risk, **Keynote speaker**, Asia-Pacific Productivity Conference, Brisbane, Australia, July 14-16, 2004.
218. Efficiency of World Health Systems, presented at the University of Sydney, Australia, July 12, 2004.
219. Estimation and Decomposition of TFP Growth in the Presence of Inefficiency and Production Risk, Special Invited Session, Australasian Meeting of the Econometric Society, Melbourne, Australia, July 7-9, 2004.

220. Estimation of Technical and Allocative Inefficiency: A Primal System Approach (with Hung-Jen Wang), presented at the North American Productivity Conference III at Toronto, Canada, June 22-25, 2004.
221. Estimation of a Mixture of Input and Output Distance Functions and Efficiency Indices (with Orea, Rodriguez and Tsionas), presented at the North American Productivity Conference III at Toronto, Canada, June 22-25, 2004.
222. Efficiency Measurement: Some Old Issues and New Directions, paper presented at the Learning Workshop EGATE - IAMO, Halle, Germany, March 22-26, 2004.
223. Specification and Estimation of Production risk, Risk Preference and Technical Efficiency, paper presented at the Learning Workshop EGATE - IAMO, Halle, Germany, March 22-26, 2004.
224. Recent Developments in Stochastic Frontier Models, **Keynote speaker** at the 8<sup>th</sup> European Workshop on Efficiency and Productivity Analysis held at Oviedo, Spain in October 26-28, 2003.
225. Modeling Heterogeneity in Production: A Latent Class Approach, presented at the Center for Fisheries Economics Workshop held at Bergen, Norway, June 10-11, 2003.
226. Does Deregulation Affect Firm Behavior? **Keynote speaker** at the 2<sup>nd</sup> Hellenic Workshop on Productivity and Efficiency Measurement held at Patras, Greece, May 30 – June 1, 2003.
227. Deregulation and Firm Behavior: A Latent Class Model, presented at the School of Social Sciences University of Crete, Rethymno, Crete (Greece), May 28, 2003.
228. Efficiency Measurement Using a Latent Class Stochastic Frontier Model, presented at Dipartimento di Economia e Politica Agraria, Università degli Studi di Napoli Federico II (Italy), May 22, 2003.
229. Profit Maximization versus Cost minimization: A Latent Class Approach, presented at Dipartimento di Scienze Economiche e Statistiche, Università degli Studi di Salerno (Italy), May 21, 2003
230. Do Firms Maximize Profit? A Latent Class Approach, presented at the University of Connecticut, Storrs, April 25, 2003 Estimation of Efficiency in Production – Paper presented at the Econometrics Seminar at Rice University, Houston, Texas, September 1988.
231. Modeling and estimating efficiency from the production, cost and profit functions, gave **three** lectures at the Productivity Workshop held at the Delhi School of Economics, Jan 6-8, 2003.
232. Efficiency measurement: Some econometric issues, presented at Indian Statistical Institute, Calcutta (India), Dec 17, 2002.
233. Directional issues in efficiency measurement, presented at the University of Georgia, Athens, October 24, 2002.

234. Measuring technical and allocative inefficiency in the translog cost system: A Bayesian approach (with E.G.Tsionas), presented at Current Developments in Productivity and Efficiency Measurement, University of Georgia, Athens, October 25-26, 2002.
235. Non-Parametric Stochastic Frontier Models (with E.G. Tsionas), presented at the Asian Conference on Efficiency and Productivity at Taipei, Taiwan, July 19-20, 2002.
236. Efficiency Measurement: Some old issues and new directions, presented at the Asian Conference on Efficiency and Productivity at Taipei (pre-conference seminar), Taipei, Taiwan, July 19-20, 2002.
237. Non-Parametric Stochastic Frontier Models (with E.G. Tsionas) presented at the North American Productivity Conference II at Schenectady, New York, June 20-22, 2002.
238. Estimating Generalized Distance Functions: A Parametric Approach (with R. Cuesta and J. Zofio), presented at the North American Productivity Conference II at Schenectady, New York, June 20-22, 2002.
239. Search Costs, Skipper Effects and Technical Efficiency (with F. Asche and R. Tveteras), presented at the North American Productivity Conference II at Schenectady, New York, June 20-22, 2002.
240. Technical Change in U.S. Agriculture: A Factor Augmenting Approach, presented at SUNY Albany, New York, October 26, 2001.
241. A Behavioral Model of Technical Efficiency, presented at the Efficiency and Productivity Workshop, Universidad de Oviedo, Spain, January 11, 2002.
242. Estimation of Risk and Risk Preference Functions, presented at Athens University of Economics and Business, Athens, Greece, December 3, 2001.
243. Efficiency Measurement with Risk, **Keynote** address at the Hellenic Workshop on Productivity and Efficiency Measurement held at Patras, Greece, Dec. 1-2, 2001
244. Risk Preferences and Technology: A Joint Analysis, presented at the workshop on Economics of Global Aquaculture: Growth, Innovation and Trade held at Utstein Kloster, Stavanger (Norway), May 21-22, 2001.
245. Decomposition of Technical Change into Input-Specific Components: A Factor Augmenting Approach, presented at the 17<sup>th</sup> Annual Technical Symposium at the Stern School of Business, New York University, New York, April 30, 2001.
246. Estimation of technical change: A factor augmenting approach, presented at Penn State University, State College, Pennsylvania, March 23, 2001.
247. Estimation of production function with production and price risk, **invited lecture** given at Sung Kyun Kwan University, South Korea, February 26, 2001.

248. Modeling and decomposing production inefficiency, invited lecture at Sung Kyun Kwan University, South Korea, February 23, 2001.
249. Deregulation, ownership and productivity growth: Evidence from Indian banks, presented at the 9<sup>th</sup> International Conference on Panel Data, Geneva, Switzerland, June 22-23, 2000.
250. Inefficiency and input-specific technical change, Invited lecture in Oviedo, Spain (October 2000).
251. Discussant at the Workshop on Banking and Finance, Alicante, Spain, May 19-20, 2000.
252. Estimation of production function and technical efficiency in the presence of output price uncertainty, presented at Camp Econometrics, Houston, Texas, Feb 2000.
253. Estimation of Firm-Specific Technical Change and Productivity Growth using Production, Cost, and Profit Functions, invited lecture given at Hong Kong Baptist University, Hong Kong, December 20, 1999.
254. Modeling Determinants of Inefficiency in Stochastic Production, Cost, and Profit Functions, invited lecture given at Hong Kong Baptist University, Hong Kong, December 17, 1999.
255. Production Risk, Risk Preferences, and Firm Heterogeneity: A Joint Analysis, presented at the Sixth European Workshop on Efficiency and Productivity Analysis at Copenhagen (Denmark), October 29-31, 1999.
256. Production Risk, Risk Preferences, and Firm Heterogeneity, invited paper at the 1999 Taipei International Conference on Efficiency and Productivity, Taipei, Taiwan, July 29-31, 1999.
257. Estimation of Total Factor Productivity Change, presented at the Tianjin Institute of Scientific and Technical Information, Tianjin, China, July 26, 1999.
258. Productivity Measurement when Production is Risky, presented at Stavanger College (Norway), May 21, 1999.
259. Estimation of Production Function with Risk: A System Approach, presented at Texas Camp Econometrics (Lake Texoma), Texas, Feb. 27-28, 1999.
260. Parametric Approaches to Productivity Measurement: A Comparison Among Alternative Models, presented at the Econometric Society Meetings (India and Southeast Asia), New Delhi, India, Dec. 15-17, 1998.
261. Labor Quality, Learning and Production Risk, presented at the Third Biennial Georgia Productivity Workshop, Athens, Georgia, October 29-31, 1998.
262. A Monte Carlo Analysis of Technical Inefficiency Predictors, presented at the Third Biennial Georgia Productivity Workshop, Athens, Georgia, October 29-31, 1998.
263. Productivity Growth, Efficiency, and Technical Change, presented at the University of Arizona, Arizona, Sept 17, 1998.

264. TFP growth in the payment system of the Federal Reserve Banks, presented at the Federal Reserve Bank (St. Louis), Missouri, Sept 18, 1998.
265. Productivity Growth, Efficiency, and Technical Change: A Panel Data Approach (invited paper at the Eighth International Conference on Panel Data, Gothenburg, Sweden), June 11-12, 1998.
266. TFP Growth Measurement using Production, Cost, and Profit Functions: A Panel Data Approach, presented at the University of Oslo, Norway, Jan. 28, 1998.
267. How Fast Do Banks Adjust? A Dynamic Labor-Use Model with an Application to Swedish Banks, Gothenburg University, Gothenburg, Sweden, October 17, 1997.
268. Does Efficiency Matter in Estimating Production Technology? Presented at Stockholm School of Economics, Sweden, October 16, 1997.
269. On Dynamic Model of Labor-Use: A Panel Data Approach, presented at the Fifth European Workshop on Efficiency and Productivity Analysis, Copenhagen, Denmark, October 9-11, 1997.
270. Productivity Growth, Efficiency and Technical Change: A Panel Data Approach, presented at the Fifth European Workshop on Efficiency and Productivity Analysis, Copenhagen, Denmark, October 9-11, 1997.
271. Productivity Growth and Efficiency Change presented at the Federal Reserve Bank of Cleveland, Ohio, April 11, 1997.
272. Decomposition of Technical Change into Input-Specific Components: A Factor Augmenting Approach, presented at Texas Camp Econometrics, Corpus Christi, Texas, Feb. 15-16, 1997.
273. Measurement of TFP Growth in the Presence of Technical and Allocative Inefficiencies: Evidence from Indian Public Sector Banks, presented at the Georgia Productivity Workshop II, Athens, Georgia, Nov. 1-3, 1996.
274. Estimating Impacts of Environmental Variables on Farm Productivity -- Presented at the Free University, Amsterdam, The Netherlands, Aug. 19, 1996.
275. Market Imperfections and Output Loss: A Case Study of Indian Agriculture -- Paper presented at the ASSA meetings, San Francisco, California, Jan. 4-7, 1996.
276. The Role of Education in Farm Productivity: An Indirect Production Function Approach -- Paper presented at the ASSA meetings, San Francisco, California, Jan. 4-7, 1996.
277. Production Inefficiency and the Profit Function: Some Results and Their Implications -- Paper presented at the ASSA (Econometric Society) meetings, San Francisco, California, Jan. 4-7, 1996.
278. Production Inefficiency and the Profit Function: Some Results and Their Implications -- Paper presented at the Southern Economic Association meeting, New Orleans, Louisiana, Nov. 18-20, 1995.



279. Profit Functions of Technologies with Inefficiency: Some Results and Their Implications -- Paper presented at the Fourth European Workshop on Efficiency and Productivity Analysis, Louvain-la-Neuve (CORE), Belgium, Oct. 26-28, 1995.
280. DEA, DFA and SFA: A Comparison -- Paper presented at the Fourth European Workshop on Efficiency and Productivity Analysis, Louvain-la-Neuve (CORE), Belgium, Oct. 26-28, 1995.
281. Production Inefficiency and the Profit Function: Some Results and their Implications -- Paper presented at Gothenburg University, Sweden, May 29, 1995.
282. Efficiency Measurement with Multiple Inputs and Multiple Outputs -- Invited paper at the Advanced workshop on Efficiency Measurement, Odense, Denmark, May 22-24, 1995.
283. Estimation of Technical and Allocative Distortions in the Presence of Expenditure Constraints -- Paper presented at the Georgia Productivity Workshop at Athens, Georgia, Oct. 21-23, 1994.
284. Technical Efficiency of Colombian Cement Plants: A Comparison of Three Time-Varying Approaches -- Paper presented at the Georgia Productivity Workshop at Athens, Georgia, Oct. 21-23, 1994.
285. An Anatomy of Productivity Slowdown: Markups, Returns to Scale, and Technical Change in Texas Electric Utilities, 1966-1985 -- Paper presented at the Fourth Panel Data Conference at Paris, France, June 20-21, 1994.
286. Efficiency Measurement in Swedish Dairy Farms: An Application of Rotating Panel Data, 1976-1988 -- Paper presented at the Fourth Panel Data Conference at Paris, France, June 20-21, 1994.
287. Productivity and Technical Change in Swedish Manufacturing -- Paper presented at the Econometrics Seminar at Rice University, Texas, March 11, 1994.
288. Labor-Use Efficiency in Swedish Social Insurance Offices -- Paper presented at the European Economic Association meeting held in Helsinki, Finland, August 27-29, 1993
289. Technical Change Indexes and Panel Data: An Application to Swedish Public Administration -- Paper presented at European Econometric Society Meeting at Uppsala, Sweden, August 22-26, 1993.
290. Labor Efficiency in Swedish Insurance Offices: A Panel Data Approach -- Paper presented at University of Illinois, Urbana-Champaign, Illinois, April 1993.
291. Technical Efficiency Using Rotating Panel Data -- Paper presented at the India and Southeast Asia Meeting of the Econometric Society, held in Bombay, India, December 19-22, 1992.
292. Efficiency Wages, Labor Market Distortions, and Marginal Product Pricing in Labor-Use in Indian Agriculture -- Paper presented at the India and Southeast Asia Meeting of the Econometric Society, held in Bombay, India, December 19-22, 1992.

293. Technical Change and Total Factor Productivity in Swedish Manufacturing -- Paper presented at Texas A&M University, College Station, Texas, October 1992.
294. Estimation of Production Efficiency Using Panel Data -- Paper presented at Indian Statistical Institute, Calcutta, India, July 3, 1992.
295. Efficiency Measurement Using Rotating Panel Data: An Application to Swedish Dairy Farms -- Paper presented at the Fourth Panel Data Conference held in Budapest, June 18-19, 1992.
296. Efficiency Estimation Using Rotating Panel Data -- Paper presented at Texas A & M University, College Station, Texas, October 1991.
297. Estimation of Technical Efficiency Free From Farm-Specific Effects: An Application to Swedish Dairy Farms -- Paper presented at EURO XI, Aachen, Germany, July 16-19, 1991.
298. Estimation of Inefficiency via the Cost Function -- Paper presented at University of Connecticut, Storrs, Connecticut, October 1990.
299. Effect of ESOP on Productivity -- Paper presented at Southern Methodist University, Dallas, Texas, April 1990.
300. Education, Farm-Size, and Allocative Efficiency in Indian Agriculture: A Restricted Profit Function Approach -- Paper presented at the American Economic Association meeting at Atlanta, December 28 - 30, 1989.
301. Work Effort, Technical Efficiency and Productivity Growth: A Synthesis -- Paper presented at the Conference on Current Issues in Productivity, held at the Rutgers University, Newark, New Jersey, December 7 - 9, 1989.
302. Efficiency of Utah Dairy Farmers -- Paper presented at Utah State University, Logan, Utah, December 1988.
303. Technical Inefficiency and the Adoption of New Technology: A Stochastic Frontier Approach -- Paper presented (invited session) at the Southern Economic Association Conference at San Antonio, Texas, November 21, 1988.
304. Invited as a discussant in the NSF Conference on Parametric and Nonparametric Approaches to Frontier Analysis, held at Chapel Hill, North Carolina, September 30 - October 1, 1988.
305. Estimation of Efficiency in Production -- Paper presented at the Econometrics Seminar at Rice University, Houston, Texas, September 1988.

#### **REFEREING FOR PROFESSIONAL JOURNALS/ACADEMIC PUBLISHERS (SELECTED)**

1. *American Economic Journal*
2. *American Economic Review*
3. *Journal of Political Economy*

4. *Journal of Econometrics*
5. *Review of Economic Studies*
6. *National Science Foundation*
7. *Journal of American Statistical Association*
8. *International Economic Review*
9. *Econometric Reviews*
10. *Journal of Productivity Analysis*
11. *Journal of Business and Economic Statistics*
12. *Review of Economics and Statistics*
13. *Scandinavian Journal of Economics*
14. *Oxford Economic Papers*
15. *Journal of Comparative Economics*
16. *Journal of Regulatory Economics*
17. *Journal of Applied Econometrics*
18. *Journal of Environmental Economics and Management*
19. *Journal of Development Economics*
20. *American Journal of Agricultural Economics*
21. *European Journal of Operations Research*
22. *Socio-Economic Planning Sciences*
23. *Journal of Marketing Research*
24. *Empirical Economics*
25. *European Economic Review*
26. *Journal of Economic Behavior and Organization*
27. *Journal of Money Credit, and Banking*
28. *Journal of Banking and Finance*
29. *Agricultural Economics*
30. *European Review of Agricultural Economics*
31. *Australian Journal of Agricultural Economics*
32. *Journal of Quantitative Economics*
33. *Communications in Statistics*
34. *International Journal of Industrial Organization*
35. *Manchester School*
36. *Cambridge University Press*
37. *Oxford University Press*
38. *Wiley and Sons*
39. *McGraw Hills*