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Personal webpage <https://sites.google.com/view/subalckumbhakar>

Academic History:

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

Positions Held:

2005 (Dec.) --	SUNY Distinguished Research Professor of Economics
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.

Honors:

Listed in the **top 2% of all researchers in the world** in their fields in 2021, 2023 and 2024 by a Stanford University study.

<https://www.binghamton.edu/news/story/4119/binghamton-researchers-among-top-2-in-the-world/>

<https://www.binghamton.edu/news/story/5243/33-binghamton-university-researchers-among-worlds-top-2-percent>

<https://www.binghamton.edu/news/story/5834/29-binghamton-university-researchers-among-worlds-top-2-of-scientists-for-2024>

Fellow, Society for Economic Measurement (SEM), 2023-

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):

Technischen Universität Berlin (Germany), University of Johannesburg (South Africa), 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, Ås, 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 (Ås, 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), 4th 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—2023.
- **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
- **Board of Editors**, *Ecos de Economía: A Latin American Journal of Applied Economics*, 2018-2023, <http://publicaciones.eafit.edu.co/index.php/ecos-economia/index>
- **Associate Editor**, *Journal of Asian Business and Economic Studies*,
<https://emeraldgrouppublishing.com/journal/jabes>, 2023-present

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 C. 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, 2022
<https://link.springer.com/referencework/10.1007/978-981-10-3455-8>
- *Handbook of Production Economics* (Vol 2), Editors-in-Chief: Ray, Chambers, Kumbhakar, Springer Nature Singapore, 2022

- <https://link.springer.com/referencework/10.1007/978-981-10-3455-8>
Handbook of Production Economics (Vol 3), Editors-in-Chief: Ray, Chambers, Kumbhakar, Springer Nature Singapore, 2022
- <https://link.springer.com/referencework/10.1007/978-981-10-3455-8>
Managing Risk in Agriculture: A Development Perspective, Editors: Ashok K. Mishra, Subal C. Kumbhakar and Gudbrand Lien, CABI publishing
<https://www.cabidigitallibrary.org/doi/book/10.1079/9781800622289.0000#>
- *Advances in Applied Econometrics: Celebrating Peter Schmidt's Legacy*, Springer (reprint of the SI papers published in *Empirical Economics*, vol 64, June 2023), (with Robin Sickles and H-J Wang), 2025.

Journal special issue editor:

- *Journal of Econometrics*, special issue in memory of Mike Tsionas, with S. Mallick (in preparation).
- *European Review of Agricultural Economics*, special issue in memory of Gudbrand Lien (with Salvatore Di Falco and Ashok Mishra), in preparation.
- *Journal of Productivity Analysis: memorial issue in honor of Mike Tsionas*, with Chris Parmeter (forthcoming).
- *Empirical Economics*, special issue in honor of Robin Sickles (with Badi Baltagi), (forthcoming).
- *Macroeconomic Dynamics*, special issue on Productivity Measurement and Analysis: Connecting Micro and Aggregate Productivity Dynamics (with A. Serletis and G. Feng), (in press).
- *Empirical Economics*, special issue in honor of Peter Schmidt (with Robin Sickles and H-J Wang), vol 64, June 2023, pp. 2467-3233.
- *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):

A. SFA Theory & Methodology

1. Efthymios (Mike) Tsionas (1965--2024): Distribution, Dynamics, and the Modern Frontier – preface to the SI in honor of Mike Tsionas (with C. Parmeter), **forthcoming** in *Journal of Productivity Analysis*.
2. Productivity Dynamics, Innovation and Endogeneity: A Semiparametric Stochastic Frontiers Approach (with F. Alemayehu and K. Sun), **forthcoming** in *European Journal of Operational Research*.

3. Productivity and growth decomposition: a novel single-index smooth-coefficient stochastic frontier approach (with K. Sun and G. Lien), *European Review of Agricultural Economics* 52.3 (2025): 378-413. doi:<https://doi.org/10.1093/erae/jbae024>
4. The Generalized Panel Data Stochastic Frontier Models: A Review and Nonparametric Estimation (with Chris Parmeter), *Journal of Productivity Analysis*, 2025, 63(1), 1–43. <https://doi.org/10.1007/s11123-025-00769-z>
5. A new semiparametric stochastic frontier model: addressing inefficiency and model flexibility using panel data (with Wang, Taining; Sun, Kai), 2025, *Empirical Economics*, **68**(6), 2477-2514. DOI: 10.1007/s00181-024-02708-7
6. Some Reflections on Technical and Allocative Inefficiency Modelling, *Tourism Economics*, 2025, 31(1), 24–31, <https://doi.org/10.1177/13548166241248015>.
7. A Flexible Stochastic Production Frontier Model with Panel Data, (with T. Wang, F. Yao), *Journal of Applied Econometrics*, volume 39, Issue 4, 2024, Pages 564-588
8. Estimating COVID-19 under-reporting through Stochastic Frontier Analysis and Official Statistics: A Case Study of São Paulo State, Brazil (with Andre Danelon), *Socio-Economic Planning Sciences*, volume 90, December 2023, 101753.
9. Indirect inference estimation of stochastic production frontier models with skew-normal noise (with Hung-pin Lai), *Empirical Economics* 2023, vol 64, pp. 2771-2793.
10. The GMM Estimation of Semiparametric Spatial Stochastic Frontier Models (with Z. Hou and S. Zhao) *European Journal of Operational Research*, 14 July 2022, <https://doi.org/10.1016/j.ejor.2022.07.008>.
11. Recent Advances in the Panel Stochastic Frontier Models: Heterogeneity, Endogeneity and Dependence (with H-P Lai), *International Journal of Empirical Economics*, 1(01), 2022 Mar 11, 2250002, <https://doi.org/10.1142/S2810943022500020>.
12. A panel frontier system model with good and bad outputs and endogenous treatment decision (with H-p. Lai), *Economics Letters*, 198, January 2021, 109649
13. Panel Stochastic Frontier Model with Endogenous Inputs and Correlated Random Components (with H-P Lai), *Journal of Business & Economic Statistics*, 00, 2021 Dec. 16, pp.1-7, <https://doi.org/10.1080/07350015.2021.2001341>.
14. Modeling Dependence in Two-Tier Stochastic Frontier Models (with A. Papadopoulos and C. Parmeter), *Journal of Productivity Analysis*, **56**, 2021, pp. 85–101.
15. Stochastic frontier models with time-varying conditional variances (with M. Tsionas), *European Journal of Operational Research*, 292 (3), August 2021, Pages 1115-1132.
16. Persistent and Transient Inefficiency in Adult Education (with Badunenko, Mazrekaj and DeWitte), *Empirical Economics*, 60, 2021, pp. 2925-2942.
17. A Multi-output, Multi-input Stochastic Frontier System with Input- and Output-Specific Inefficiency (with H-p Lai), *Economics Letters*. Vol. 201, April 2021, 109807.

18. Technical efficiency and inefficiency: Reliability of standard SFA models and a misspecification problem (with A. Peresetsky, Y. Shchetynin and A. Zaytsev), *Econometrics and Statistics*, 2021 Dec. 23, <https://doi.org/10.1016/j.ecosta.2021.12.006>.
19. Dissections of Input and Output Efficiency: A Generalized Stochastic Frontier Model (with M. Tsionas), *International Journal of Production Economics*, 232, February 2021, 107940
20. Does existence of inefficiency matter to a neoclassical economist? Some econometric issues in panel stochastic frontier models (with D. Bernstein), *Advances in Efficiency and Productivity Analysis* (ed. Parmeter and Sickles), 2021, pp. 139-161.
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. Stochastic Frontier Analysis: Foundations and Advances I (with Parmeter and Zelenyuk), *Handbook of Production Economics*, eds., Ray, Chambers and Kumbhakar, 2020, pp. 1-39.
23. Stochastic Frontier Analysis: Foundations and Advances II (with Parmeter and Zelenyuk), *Handbook of Production Economics*, eds., Ray, Chambers and Kumbhakar, 2020, pp. 1-38.
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. Implementing Generalized Panel Data Stochastic Frontier Estimators (with Chris Parmeter), in *Panel Data Econometrics Theory* (2019), pp. 225-246, ed. Mike Tsionas. (Elsevier).
26. 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.
27. 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
28. 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.
29. Endogeneity in Panel Data Stochastic Frontier Model with Determinants of Persistent and Transient Inefficiency (with Hung-pin Lai), *Economics Letters*, 2018, 162, 5-9.
30. 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.
31. 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.
32. 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
33. 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.
34. Firm-Heterogeneity, Persistent and Transient Technical Inefficiency: A Generalized True Random Effects Model (with E. Tsionas), *Journal of Applied Econometrics* 29, 2014, 110-132.

35. Semiparametric Smooth-coefficient Stochastic Frontier Model (with Kai Sun), *Economics Letters* 120, 2013, 305-309.
36. A Zero Inefficiency Stochastic Frontier Estimator (with Parmeter and Tsionas), *Journal of Econometrics* 172, 2013, pp. 66-76.
37. Derivation of marginal effects of determinants of technical inefficiency (with Kai Sun), *Economics Letters* 120, 2013, 249-253.
38. 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.
39. 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
40. The effects of bargaining on market outcomes: Evidence from buyer and seller specific estimates (with Parmeter), *Journal of Productivity Analysis* 31 (2009), 1-14 (**lead article**).
41. Estimating Elasticities with Frontier and Other Regressions for Use in Evaluating Different Advertising Strategies for U.S. Army Recruiting (Brockett et al.), *Socio-Economic Planning Sciences* 42(2008), 1-17 (**lead article**).
42. Estimation of Input-Oriented Technical Efficiency using a Non-homogeneous Stochastic Production Frontier Model (with E.G. Tsionas, Greece), *Agricultural Economics* 38(2008), 99-108
43. Do We Estimate an Input or an Output Distance Function? An Application of the Mixture Approach to European Railways (with Orea, Rodríguez and Tsionas), *Journal of Productivity Analysis* 27(2007), 87-100.
44. Estimation of Stochastic Frontier Production Functions with Input-Oriented Technical Efficiency (with E.G. Tsionas), *Journal of Econometrics* 133(2006), pp.71-96.
45. Estimation of Technical and Allocative Inefficiency: A Primal System Approach (with Hung-Jen Wang), *Journal of Econometrics* 134(2006), pp. 419-440.
46. Estimation of Growth Convergence Using a Stochastic Production Frontier Approach (with Hung-Jen Wang), *Economics Letters* 88 (2005), pp. 300-305.
47. A Distance Function Approach for Estimating Technical and Allocative Inefficiency (with G. Karagiannis and E. Tsionas), *Indian Economic Review* (2004), volume 1, pp. 19-30.
48. Markov Switching Stochastic Frontier Model (with E.G. Tsionas), *Econometric Journal* (2004), volume 7, pp. 398–425.
49. Efficiency Measurement Using a Latent Class Stochastic Frontier Model (with L. Orea) in *Empirical Economics*, 2004, 29, pp. 169-183.
50. A Dynamic Stochastic Frontier Production Model with Time-Varying Efficiency (with Desli and Ray) *Applied Economics Letters*, 2003, 10, pp. 623-626.
51. DEA, DFA, and SFA: A Comparison (with L. Hjalmarsson and A. Heshmati), *Journal of Productivity Analysis*, 7, 1996, pp. 303-327.
52. DEA and Stochastic Frontier Analysis of Chinese Economic Reforms (with Cooper, Thrall, and Yu), *Socio-Economic Planning Sciences*, 29, 1995, pp. 85-112.

53. Production Frontiers, Panel Data, and Time-Varying Technical Inefficiency, *Journal of Econometrics*, 1990, Vol. 46, pp. 201-211.
54. Technical Efficiency of Finnish Brewing Plants: A Production Frontier Approach, with Timo Summa, *Scandinavian Journal of Economics*, March 1989, 91 (1) pp. 147-160.
55. Modelling Technical and Allocative Inefficiency in Translog Production Function, *Economics Letters*, 1989, pp. 119-123.
56. Economic Performance of U.S. Class 1 Railroads: A Stochastic Frontier Approach, *Applied Economics*, November 1989, pp. 1433-1446.
57. On the Estimation of Technical and Allocative Inefficiency Using Stochastic Frontier Functions: The Case of U.S. Class 1 Railroads, November 1988, *International Economic Review*, 29: 727-743.
58. Estimation of Input-Specific Technical and Allocative Inefficiency in Stochastic Frontier Models, October 1988, *Oxford Economic Papers*, 40:535 -549.
59. Production Frontiers and Panel Data: An Application to U.S. Class 1 Railroads, April 1987, *Journal of Business and Economic Statistics*, 5: 249-255.
60. The Specification of Technical and Allocative Inefficiency of Multi-product Firms in Stochastic Production and Profit Frontiers, *Journal of Quantitative Economics* (a biannual Journal of the Indian Econometric Society), July 1987, 3: 213-223.
61. The Specification of Technical and Allocative Inefficiency in Stochastic Production and Profit Frontiers, 1987, *Journal of Econometrics*, 34: 335-348.

B. Productivity, Efficiency & Decomposition

1. Does pollution prevention enhance firm efficiency? Insights from U.S. manufacturing firms (with S. Memon and Y. Su), *International Journal of Industrial Organization* 107 (2026) 103305
2. How Electric Vehicles affect Power Distribution Companies' Efficiency: A Spatial Dependency Analysis (with Mydland, Alemayehu, and Lien), **forthcoming** in Energy Journal.
3. Export and productivity in Chinese manufacturing: A semiparametric smooth coefficient approach (with Mingyang Li) *Economics Letters*, volume 256, October 2025, 112644.
4. Spatial Analysis of Production Technology, Productivity, and Innovation (with F. Alemayehu and G. Lien), *European Review of Agricultural Economics* 52.3 (2025): 430-462.
5. Estimating Production Functions using Costs when Outputs are Restricted (with Malikov, Zhao and Bernstein), *Econometric Reviews*, 2024, <https://doi.org/10.1080/07474938.2024.2419389>
6. Revisiting the Productivity Effects of Public Capital (with Z. Hou and S. Zhao, *Empirical Economics*, 2024, 68(3), 1233–1264. <https://doi.org/10.1007/s00181-024-02670-4>
7. Productivity and Efficiency: Do We Need a Bridge? (with S. Zhao and Z. Hou), *International Journal of Production Economics*, volume 274, August 2024, 109287.

8. Is Output Growth of Chinese Manufacturing Firms Input or Productivity Driven? A Flexible Production Function Approach with Endogenous Inputs (with M. Li), *Empirical Economics* **66**, 1819–1846 (2024). <https://doi.org/10.1007/s00181-023-02505-8>.
9. Do Subsidies Matter in Productivity and Profitability Changes? (with M. Li and G. Lien), *Economic Modelling*, 2023, vol 123, <https://doi.org/10.1016/j.econmod.2023.106264>
10. Productivity and Performance: A GMM approach (with M. Tsionas), *Oxford Bulletin of Economics and Statistics*, 2023, vol. 85(2), pp. 331-344.
11. Proxy Variable Estimation of Productivity and Efficiency (with M. Tsionas), *Southern Economic Journal*, 2023, vol 89(3), pp. 885-923.
12. Accounting for Cross-Location Technological Heterogeneity in the Measurement of Operations Efficiency and Productivity (with E. Malikov, J. Zhang, and S. Zhao), *Journal of Operations Management*, 68(2), 2022 Mar, pp. 153-184, <https://doi.org/10.1002/joom.1166>.
13. Do Subsidies Increase Firm Productivity? Evidence from Chinese Manufacturing Enterprises (with M. Li and M. Jin), *European Journal of Operational Research*, 303 (1), 2022, 388-400.
14. Decomposition of Output, Productivity and Market Structure Changes (with M. Huang and S. Zhao), *European Journal of Operational Research*, 303(1), 2022, 422-437.
15. Modeling markups and its determinants: The case of Norwegian industries and regions (with Mydland, Stordal, and Lien), *Economic Analysis and Policy*, Vol. 76, December 2022, pp. 252-262.
16. Do institutions matter for economic growth? (with M. Li), *International Review of Economics*, Vol. 69, No. 4, 2022, pp. 1-21.
17. Estimation of costs of technical and allocative Inefficiency (with M. Tsionas), *Journal of Productivity Analysis*, 55, 2021, pp. 41–46.
18. Estimation of Firm Productivity in the Presence of Spillovers and Common Shocks (with M. Jin and S. Zhao), *Empirical Economics* (2021), **60**, pp. 3135–3170.
19. Excess Capacity, Production Technology and Technical Inefficiency in Hospitality Sector (with F. Alemayehu), *Tourism Management*, 82, Feb 2021.
20. Cost Assessment of (Un)bundling: Separation of Vertically Integrated Public Utilities (with P. Arecona), *Handbook of Production Economics* (Vol. 2), Editors-in-Chief: Ray, Chambers and Kumbhakar; Springer Nature Singapore, 2020, pp. 1-36.
21. Estimation of Productivity and Markups with Price Dispersion: Evidence from Chinese Manufacturing during Economic Transition (with S. Zhao and B. Qian), *Southern Economic Journal* (2020) 87(2), pp. 666-699.
22. Modeling technical change: Theory and Practice, *Handbook of Production Economics* (Vol 1), Editors-in-Chief: Ray, Chambers and Kumbhakar; Springer Nature Singapore, 2020, pp. 1-53.
23. Estimation of Firm-Level Productivity in the Presence of Exports: Evidence from China's Manufacturing (with Malikov and Zhao), *Journal of Applied Econometrics*, **35** (4) June/July 2020, pp. 457-480.

24. Endogenous Dynamic Efficiency in the Intertemporal Optimization Models of Firm Behavior (with M. Tsionas and E. Malikov), *European Journal of Operational Research*, 284, 2020, pp. 313-324.
25. 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>.
26. Financial Constraints and Firm Productivity: Evidence from Chinese Manufacturing (with Man Jin and S. Zhao), *European Journal of Operational Research* (2019): 1139-1156.
27. Management in production: from unobserved to observed (with T. Triebs), *Journal of Productivity Analysis* (2018): 49, 111-121.
28. Do Urbanization and Public Expenditure Affect Productivity Growth? The Case of Chinese Provinces, *Indian Economic Review*, 2017: 52, 127-156.
29. Estimation of Firm Performance from a MIMIC Model (with K. Chaudhuri and L. Sundaram), *European Journal of Operational Research*, 2016, 255, 298-307.
30. Estimating Economies of Scale and Scope with Flexible Technology (with Triebs, Arocena and Saal), *Journal of Productivity Analysis*, 2016, 45, 173-186.
31. Efficiency Analysis: A Primer on Recent Advances (with Parmeter), *Foundations and Trends in Econometrics*, volume 7, 2014, pp. 191-385.
32. 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>.
33. 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.
34. Specification and estimation of multiple output technologies: A primal approach, *European Journal of Operational Research*, 231, Issue 2, 2013, pp. 465–473.
35. Labor-Use Efficiency and Employment Elasticity in Chinese Manufacturing (with R. Zhang), *Journal of Industrial and Business Economics* 40, 2013, 5-24.
36. Productivity with General Indices of Management and Technical Change (with T. Tribes), *Economics Letters*, 120, 2013, 18–22.
37. Specification and Estimation of Primal Production Models, *European Journal of Operational Research*, 217 (2012), pp. 509-518.
38. When, where and how to perform efficiency estimation (with Badunenko and Henderson), *Journal of Royal Statistical Society, Series A*, 175, 2012, pp. 863–892.
39. Estimation of production technology when the objective is to maximize return to the outlay, *European Journal of Operation Research*, 208 (2011), 170-176.
40. Biases in Approximating Log Production (with D. Henderson and K. Sun), *Journal of Applied Econometrics*, 26 (2011), pp. 708-714.
41. Stochastic Error Specification in Primal and Dual Systems (with E. Tsionas), *Journal of Applied Econometrics*, 26 (2011), 270-297

42. 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.
43. 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](https://doi.org/10.1016/j.techfore.2010.11.006).
44. Productivity and profitability decomposition: A parametric distance function approach (with G. Lien), *Food Economics - Acta Agricult Scand C* 6 (2009), 143-155.
45. Estimation of Cost vs. Profit Systems with and without Technical Inefficiency (with E. G. Tsionas), *Academia Economic Papers* 36 (2008), pp. 145-164.
46. Ownership, Business Environment and Productivity Change (with G. Asaftei and D. Mantescu), *Journal of Comparative Economics* 36 (2008), pp. 498-509.
47. A Dynamic Profit Function with Adjustment Costs for Outputs (with F. Asche and R. Tveteras, Norway), *Empirical Economics* 35 (2008), 379-393.
48. Testing Cost versus Profit Function (with Asche and Tveteras), *Applied Economic Letters* 14(2007), 715-718.
49. Pitfalls in the Estimation of Cost Function Ignoring Allocative Inefficiency: A Monte Carlo Analysis (with Hung-Jen Wang), *Journal of Econometrics* 134(2006), pp. 317-340.
50. Specification and Estimation of Nonstandard Profit Function, *Empirical Economics* 31(2006), pp.243-260.
51. On the Equivalence Of Two Normalizations In Estimating Shadow Cost Functions (with G. Karagiannis), *Economics Letters*, 2004, 18: pp. 15-19.
52. Factor Productivity and Technical Change, *Applied Economics Letters*, 10, 2003, pp. 291-297.
53. Measuring Price Responsiveness under a Profit Maximization Framework (with A. Bhattacharyya), *Journal of Quantitative Economics* (New Series), 2003, 1, pp. 66-81.
54. Production Risk, Risk Preferences and Firm-Heterogeneity (with R. Tveteras, Norway), in *Scandinavian Journal of Economics*, 105, 2003, pp.275-293.
55. Decomposition of Technical Change into Input-Specific Components: A Factor Augmenting Approach, *Japan and the World Economy*, 14, 2002, pp. 243-264 (**lead article**).
56. Productivity Measurement: A Profit Function Approach, *Applied Economics Letters*, 2002, 9, 331-334.
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40. Nonparametric Estimation of Production Risk and Risk Preference Functions (with E. Tsionas), *Advances in Econometrics*, vol. 25 (2009), pp. 223-262.
41. Nonparametric Estimation of a Hedonic Price Function (with Henderson and Parmeter), *Journal of Applied Econometrics* 22(2007), 695-699.
42. Public and Private Capital Productivity Puzzle: A Nonparametric Approach (with Henderson), *Southern Economic Journal* 73(2006), 219-232.
43. The Joint Measurement of Technical and Allocative Inefficiencies: An Application of Bayesian Inference in Nonlinear Random-Effects Models (with E.G. Tsionas), *Journal of American Statistical Association* 100 (2005) pp. 736-747.
44. Measuring Technical and Allocative Inefficiency in the Translog Cost System: A Bayesian Approach (with E.G. Tsionas), *Journal of Econometrics* 126 (2005), pp. 355-384.
45. Alternative Statistical Regression Studies of the Effects of Joint and Service Specific Advertising on Military Recruitment (with P. Brockett et al.), *Journal of the Operational Research Society*, 55, 2004, 1039-1048.
46. Productivity and Technical Change: Measurement and Testing, *Empirical Economics*, 2004, 29, pp. 185-191.
47. Risk Preferences under Price Uncertainties and Production Risk, *Communications in Statistics: Theory and Methods*, 30(8&9), 2001, pp. 1715-1736.
48. Estimation and Decomposition of Productivity Change when Production is not Efficient: A Panel Data Approach, *Econometric Reviews*, 19, 2000, pp.425-460.

49. Parametric Approaches to Productivity Measurement: A Comparison Among Alternative Models (with A. Heshmati and L. Hjalmarsson), *Scandinavian Journal of Economics*, 101(3), 1999, pp. 405-424.
50. A Simulation Study of Joint Uses of Data Envelopment Analysis and Statistical Regressions for Production Function Estimation and Efficiency Evaluation (with Bardhan, I. and Cooper, W.), *Journal of Productivity Analysis*, 9, 1998, pp.249-278.
51. Efficiency Estimation with Heteroscedasticity in a Panel Data Model, *Applied Economics*, 29, 1997, pp. 379-386.
52. New Uses of DEA and Statistical Regressions for Efficiency Evaluation and Estimation-With An Illustrative Application to Public Secondary Schools in Texas (with Arnold, Cooper and Bardhan), *Annals of Operations Research* , 66, 1996, pp. 255-277.
53. A Parametric Approach to Efficiency Measurement Using a Flexible Profit Function, *Southern Economic Journal*, 63, 1996, pp. 473-487.
54. Efficiency Measurement with Multiple Outputs and Multiple Inputs, *Journal of Productivity Analysis*, 7, 1996, pp. 225-255.
55. Production Risk, Technical Efficiency, and Panel Data, *Economics Letters*, 41, 1993, pp. 11-16.
56. Efficiency Estimation Using Rotating Panel Data Models, *Economics Letters*, 1992 (38), pp. 169-194.
57. Estimation of Technical Inefficiency in Panel Data Models with Firm- and Time-Specific Effects, *Economics Letters*, 36, 1991, pp. 43-48.
58. Estimation of Technical Efficiency Using Flexible Functional Form and Panel Data, *Journal of Business and Economic Statistics*, April 1989, 7 (2) pp. 253-258.

G. Industry & Sector Applications

1. How Ancillary Fees and Mergers Drive Revenue Surplus of U.S. Airlines (with F. Karanki) **forthcoming** in Journal of the Air Transport Research Society.
2. Effects of Management Practices for Using SaaS System on Performance of Hospitality Firms in Norway (with Alemayehu and Tveteraas), *Scandinavian Journal of Hospitality and Tourism*, 2023, VOL. 23, NO. 1, pp. 114–140. <https://doi.org/10.1080/15022250.2023.2174182>
3. Estimation of Staff Use Efficiency: Evidence from the Hospitality Industry (with F. Alemayehu), *Technological Forecasting & Social Change*, 178, May 2022, 121585.
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5. Excess Capacity, Production Technology and Technical Inefficiency in Hospitality Sector (with F. Alemayehu), *Tourism Management*, 82, Feb 2021.
6. Persistent and Transient Efficiency of International Airlines (with A. Heshmati and J. Kim), *European Journal of Transport and Infrastructure Research*, 2018: 18, 213-238
7. 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.

8. Efficiency Productivity of World Health Systems: Where Does Your Country Stand?, *Applied Economics*, Volume 42, Issue 13 May 2010 , pages 1641 – 1659.
9. Efficiency of Primary and Secondary Schools in Sweden (with A. Heshmati), *Scandinavian Journal of Educational Research*, 41, 1997, pp. 33-51.
10. Productivity Growth in Passenger-Bus Transportation: A Heteroscedastic Error Component Model with Unbalanced Panel Data (with A. Bhattacharyya), *Empirical Economics*, 21, 1996, pp. 557-573.
11. Ownership Structure and Cost Efficiency: A Study of Publicly Owned Passenger-Bus Transportation Companies in India (with A. Bhattacharyya and A. Bhattacharyya), *Journal of Productivity Analysis*, 6, 1995, pp. 47-61.
12. Allocative Distortions, Technical Progress, and Input Demand in U.S. Airlines: 1970-1984, *International Economic Review*, August 1992, pp. 723-737.
13. A Reexamination of Returns to Scale, Density and Technical Progress in U.S. Airlines, *Southern Economic Journal*, October 1990, pp. 428-442.

H. Special Issues — Editorial Leadership

1. Introduction (with R. Sickles and H-J Wang in the Special Issue of Empirical Economics in honor of Peter Schmidt), *Empirical Economics*, 2023, vol 64, pp. 2467-2474.
2. Good modeling of bad outputs: Editors' introduction (with E. Malikov), *Empirical Economics*, 2018: 54, 1-6.
3. Editors' Introduction (with C. Parmeter in 'Applications of nonparametric and semiparametric models'), *Empirical Economics*, volume 48, 2015, pp. 1-8.
4. In Memoriam: Lennart Hjalmarsson, 1944–2012 (with Forsund), in *Journal of Productivity Analysis*, 43, 2015, pp. 233-236.
5. Editors' introduction (with Sickles), *The Econometrics of Auctions and Games*, 168(2012): 1-3.

Book Chapters (referred):

1. Impact of Subsidies on Farm Productivity and Efficiency (with G. Lien), Chapter 6 in E. Ball, R. Fanfani, L. Gutierrez. (eds): *The Economic Impact of Public Support to Agriculture, An International Perspective*, Springer, New York, pp. 109-124.
2. Explaining Occupancy rates in the European railways: A reduced-form approach (with L. Orea and A. Rodríguez-Álvarez), Chapter 2 in *Railway Transportation: Policies, Technology and Perspectives*, N. P. Scott (ed.), Nova Science Publishers, Inc., 2009, pp. 63-86.

3. Productivity and efficiency measurement using parametric econometric methods, in *Transparency governance and markets*, Elsevier, ISBN 978-0-444-52722-6. - 2006, p. 21-66.
4. Deregulation, Ownership and Efficiency Change in Indian Banking: An application of Stochastic Frontier Analysis (with S. Sarkar), in *Theory & Application of Productivity and Efficiency: Econometric and DEA Approach*, Macmillan India Limited, 2005, pp. 125-156.
5. Efficiency Measurement Using Stochastic Frontier and Shadow Price Models: A Survey of Methods and Applications to Indian Agriculture, in *Econometrics: Theory and Practice, Essays in Honour of Professor N. Bhattacharyya*, Allied Publishers, Ltd., New Delhi, 1998, Chapter 6, pp. 139-176.
6. Modelling Indirect Production with Expenditure Constraints: A Farm-Level Study of Rice Production in West Bengal (with A. Bhattacharyya), in *Econometric Theory, International Trade and Quantitative Economics*, Calcutta University Press, Calcutta, 1996, pp. 330-355.
7. Technical Efficiency and Technical Progress in Swedish Dairy Farms, (with L. Hjalmarsson), in *The Measurement of Productive Efficiency: Techniques and Applications*, Fried, Lovell and Schmidt (eds.), Oxford University Press, 1993, Chapter 9, pp. 256-270.
8. A General Error Revenue Function Model with Technical Inefficiency: An Application to Norwegian Fishing Trawler (with Asche, Tveteras and Roll), in *Productivity and Efficiency Analysis*, Greene, Sickles, Khalaf, Veall and Voia (eds.), 2016, chapter 3, 51-70.
9. Risk Preferences, Price Uncertainties, and Production Risk: A Survey, in *Managing Risk in Agriculture: A Development Perspective*, Editors: Ashok K. Mishra, Subal C. Kumbhakar and Gudbrand Lien, CABI publishing (forthcoming) <https://www.cabidigitallibrary.org/books>
10. Recent Advances in the Construction of Nonparametric Stochastic Frontier Models (with Chris Parmeter), in P. Macedo et al. (eds.), *Advanced Mathematical Methods for Economic Efficiency Analysis, Lecture Notes in Economics and Mathematical Systems* 692, https://doi.org/10.1007/978-3-031-29583-6_10
11. Productivity, Efficiency, and Profitability of Mergers in Indian Banking (with A. Das and J. Rangan), in Chatterjee and Sasmal (eds.), *The Indian Economy@75: Successes and Challenges*, Routledge, 2024. <https://doi.org/10.4324/9781003416074>
12. Why Does Efficiency Matter for Estimating Productivity? (with C. Parmeter), in *Topics in Tzavalis, et al.) Applied Econometrics*, Springer Nature, Palgrave Macmillan. (forthcoming)

Papers under review

1. Investment Efficiency in China: A Semiparametric Panel Model, with T. Wang, Z. Wang and F. Yao.
2. Where do you and your country stand in happiness pursuit? An application of the Stochastic Frontier Ordered Choice Model, with O. Badunenko and J. Cordero.

Presentation of Paper

1. Mike Tsionas' contribution in Econometrics, and Efficiency and Productivity from Two Alternative Modeling Methods, presented at the International Workshop in Memory of Efthymios (Mike) Tsionas, Athens, Greece, 11–12 September 2025.
2. Productivity and misallocation of resources, **Keynote speaker** at the Second International Virtual Conference on Ukraine KTH Royal Institute of Technology, Stockholm, Sweden, August 22-23, 2025.
3. Neutral and Nonneutral Productivity in Structural Proxy Variable Models, **Keynote speaker** at the 10th Annual Conference of The Society for Economic Measurement, Athens Greece, July 10-12, 2025.
4. Does Pollution Prevention Enhance Efficiency? Insights from Stochastic Frontier Analysis (#76) (Yingjun Su, Sumaya Memon, Subal Kumbhakar) presented at the North American Productivity workshop (NAPW XII), June 9-12, 2025, held at VT Executive Briefing Center, Arlington, VA.
5. On the Estimation of Nonneutral Production Technologies without Homothetic Separability (#17) (Shunan Zhao, Emir Malikov Subal Kumbhakar) presented at the North American Productivity workshop (NAPW XII), June 9-12, 2025, held at VT Executive Briefing Center, Arlington, VA.
6. From Products to Productivity: Modeling Firm- and Product-Level Productivity in Multi-Product Firms (#74) (Yulu Wang, Subal Kumbhakar, Shunan Zhao) presented at the North American Productivity workshop (NAPW XII), June 9-12, 2025, held at VT Executive Briefing Center, Arlington, VA.
7. Productivity Dynamics of Nigerian Banks: A Control Function Approach (#63) (Abiodun Musbaudeen, Subal Kumbhakar) presented at the North American Productivity workshop (NAPW XII), June 9-12, 2025, held at VT Executive Briefing Center, Arlington, VA.
8. Modeling Over and Underinvestment Behavior Among Agricultural Producers: A Latent Class Approach (#143) (Ståle Størdal, Fikru Alemayehu, Subal Kumbhakar, Harve Dakpo) presented at the North American Productivity workshop (NAPW XII), June 9-12, 2025, held at VT Executive Briefing Center, Arlington, VA.
9. A structural model of input-specific inefficiency and productivity, **keynote speaker**, Frontiers of Empirical Research in China, Capital University of Economics and Finance, Beijing, China, May 16, 2025.

10. Neutral and non-neutral productivity in Structural Proxy Variable Models, presented at the Soutwestern University of finance and Economics, Chengdu, China, May 22, 2025.
11. Structural Models of Inefficiency and Productivity, presented at the School of Economics, Building 1 (East Campus), Baoshan District Shanghai University, China, May 30, 2025
12. Dragon's Roar: Unveiling Pollution Abatement Costs in Chinese Manufacturing Sector using a By-production Approach, Yulu Wang (Binghamton University, SUNY), Subal C. Kumbhakar, and Shunan Zhao, New York Camp Econometrics XIX, The Sagamore, Bolton Landing, NY, April 25-27, 2025.
13. Productivity and Efficiency: Stochastic Frontier vs. Structural Panel Models, **Keynote address:** The 6th Asia Conference on Business and Economic Studies, Bali, Indonesia, August 28-30, 2024.
14. The Yin and Yang of Banking: Modeling Desirable and Undesirable Outputs, presented at the Society of Economic Measurement, Atlanta, Aug 1-Aug 3, 2024
15. A system Approach to the Persistent and Transient Input-specific Efficiency (with H-p Lai), presented at the 99th Annual conference of the Western Economic Association International meeting, Seattle, Washington, June 29-July 3, 2024.
16. Identification and Nonparametric Estimation of Inefficiency under Semiparametric Stochastic Frontier Panel Model (with K. Sun and T. Wang), presented at the 99th Annual conference of the Western Economic Association International meeting, Seattle, Washington, June 29-July 3, 2024.
17. Banking productivity: A By-Production Model with Good and Bad Outputs (with Y. Wang and M. Jin), presented at the 99th Annual conference of the Western Economic Association International meeting, Seattle, Washington, June 29-July 3, 2024.
18. Assessment of deforestation and climate change effects on Brazilian agricultural productivity and efficiency levels: an empirical approach using stochastic frontier analysis (with Danelon; Hüttel; Seifert; Spolador), presented at the European Workshop on Efficiency and Productivity Analysis, Faro, June 18-21, 2024.
19. Effects on electricity distribution companies due to the increase in electric vehicles in Norway (with Mydland, Alemayehu and Lien), presented at the European Workshop on Efficiency and Productivity Analysis, Faro, June 18-21, 2024.
20. Leveraging innovation for improved service productivity: insights from stochastic frontier models with endogeneity (with Alemayehu, Sun), presented at the European Workshop on Efficiency and Productivity Analysis, Faro, June 18-21, 2024.
21. Does insurance increase the persistent and transient technical efficiency of farms? Evidence from Italy (with Russo, Cechura and Salvioni), presented at the European Workshop on Efficiency and Productivity Analysis, Faro, June 18-21, 2024.
22. On the Estimation of Nonneutral Production Technologies without Separability, presented at the Camp Econometrics, XVIII, Lake Placid, NY, April 26-28, 2024.
23. Spatial Analysis of Production Technology, Productivity, and Innovation: An Application to the Norwegian Food and Beverage Industry, presented at the USC Alumni conference, Los Angeles, June 9-10, 2023.

24. COVID-19 Underreporting: Spillovers and Containment Strategies of Global Cases, presented at the NAPW, University of Miami, June 12-15, 2023.
25. Measuring the Power of Regulation in the England and Wales Water and Sewerage Industry, presented at the NAPW, University of Miami, June 12-15, 2023.
26. Estimating Production Functions using Costs when Outputs are Predetermined, presented at the NAPW, University of Miami, June 12-15, 2023.
27. Measuring Firm Productivity and Efficiency in the Service Sector, presented at the NAPW, University of Miami, June 12-15, 2023.
28. Analyzing Over- and Underinvestment in Norwegian Agriculture with a Semiparametric
29. Efficient Investment Model, presented at the NAPW, University of Miami, June 12-15, 2023.
30. Hype or True Innovation? Defying Efficiency and Resurrecting Productivity, Keynote address at the Annual Meeting of Taiwan Efficiency and Productivity Association, Dec 2, 2023.
31. Spatial Analysis of Production Technology, Productivity, and Innovation: an Application to the Norwegian Food and Beverage Industry, Presented at the 8th Annual conference of the Society of Economic Measurement, Milan, Italy June 29-July 1, 2023.
32. Where do you and your country stand in happiness pursuit? An application of the stochastic frontier ordered choice model, Presented at the 8th Annual conference of the Society of Economic Measurement, Milan, Italy June 29-July 1, 2023.
33. Efficiency and Productivity, presented at the National Cheng Chung University, Chiayi, Taiwan, Nov 30, 2023.
34. Efficiency and Productivity Analysis using Stochastic Frontier Analysis, South Asian University, New Delhi, India, December 18-20, 2023. Lectured 3 days to the PhD and junior/senior researchers.
35. Productivity and Efficiency: Stochastic Frontier vs. Modern Structural Approaches, Keynote Address at the New York Camp Econometrics XVII, The Sagamore, Bolton Landing, NY, April 21-23, 2023.
36. Modeling Environmental and Economic Efficiency: An Econometric Approach, presented at the Berlin Research Seminar on Environmental, Resource and Climate Economics (RSERC), Berlin, Feb 24, 2023.
37. Nonparametric estimation of technical change in Norwegian firms, presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVII) held at the Católica Porto Business School, Porto, PORTUGAL, [JUNE 27-29 2022](#)
38. Estimation of locationally heterogeneous production technology and productivity: a
39. study of Norwegian dairy farming, presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVII) held at the Católica Porto Business School, Porto, PORTUGAL, [JUNE 27-29 2022](#)
40. The effects of tarp and ppp programs on performance of US banks. Evidence from a flexible Stochastic frontier model, presented at the Sixteenth European Workshop on Efficiency and

Productivity Analysis (EWEPA XVII) held at the Católica Porto Business School, Porto, PORTUGAL, [JUNE 27-29 2022](#)

41. Should we reverse bank nationalisation? An online presentation organized by AACUED, Jan 23, 2022.
42. Productivity and Efficiency: Golden Old Stochastic Frontier vs. Red-hot Modern Structural Approaches, *Keynote* address, Asia Pacific Productivity Conference (Taiwan, virtual), Oct 8, 2022.
43. Crime Underreporting in Bogotá: A Spatial Autoregressive Crime Panel Model with Fixed Effects, Presented at the Society for Economic Measurement, Calgary (Aug 11-14, 2022). <https://virtual.oxfordabstracts.com/#/event/2725/submission/24>
44. Accounting for Endogeneity in Rebound Effects, presented at the ASAA session on Frontiers in Applied Productivity Analysis, Jan 9, 2022.
45. Recent Advances in the Panel Stochastic Frontier Models: Endogeneity, Heteroskedasticity, Dependence, *Keynote* address at the First Virtual African Productivity Conference December 16-18, 2021
46. Risk-adjusted parametric and nonparametric production functions: The case of basmati rice in India, First Virtual African Productivity Conference December 16-18, 2021
47. The Impact of British Columbia's Carbon Tax on Economic and Environmental Efficiency, presented at the INSEE-IIITD International Conference 2021 Dec 15-17, 2021.
48. 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.
49. Slacking in Happiness Pursuit? Where Do You and Your Country Stand? presented at the vNAPW, University of Miami, June 9, 2021.
50. Risk-adjusted Parametric and Nonparametric Production Functions: The Case of Basmati
51. Rice in India, presented at the vNAPW, University of Miami, June 11, 2021.
52. Does Subsidy Increase Firm Productivity? Evidence from Chinese Manufacturing Enterprises, presented at the vNAPW, University of Miami, June 11, 2021.
53. 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.
54. Reflections on Some New Stochastic Frontier Models, *Keynote* address at the XI North American Productivity Workshop (virtual), University of Miami, June 8-12, 2020.
55. A Primer on Performance, Productivity and Profitability, presented at Jadavpur University, Kolkata, India, Jan 9, 2020.
56. Economies of Scope and Scale in the Norwegian Electricity Industry, presented at Stavanger University, Norway, Dec. 11 2019.
57. 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

58. 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.
59. The impact of British Columbia's carbon tax on manufacturers: A bi-production approach to estimate environmental and production efficiencies (with Willox and Badunenko), presented at the Sixteenth European Workshop on Efficiency and Productivity Analysis (EWEPA XVI) held at Senate House in London, June 11-13, 2019.
60. 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.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.
66. New developments in SF methods, presented at the University of Sao Paulo at Piracicaba, March 21, 2019.
67. Why do we research on efficiency and productivity? Presented at the EAFIT University, Medellin, Colombia, October 9, 2018.
68. 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.
69. 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.
70. Key issues in parametric productivity analysis, presented at the Asia Pacific Productivity Conference, Seoul National University, Seoul, South Korea, July 4-6, 2018.
71. 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.

72. Geography, Bank Business Strategies, and Efficiency, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
73. Productivity, Markup and Price Dispersion: Evidence from China, presented at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
74. 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.
75. 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.
76. Can Inefficiency exist in the presence of a Neoclassical Xorrist? Plenary presentation at the North American Productivity Conference, University of Miami, Florida, June 12-15, 2018.
77. The Measurement of Firms' Efficiency and Productivity, delivered two lectures at the Universidad Autonoma de Madrid, May 24-25, 2018.
78. Panel Stochastic Frontier Model with Determinants of Persistent and Transient Inefficiency, presented at the Universidad de Malaga, May 23, 2018.
79. 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.
80. Economic regulation and its impact over time, presented at the International Conference on Data Envelopment Analysis, Birmingham, UK, April 16-18, 2018.
81. Estimation of Persistent and Transient Inefficiency in the Presence of Endogeneity, presented at the International Conference on Data Envelopment Analysis, Birmingham, UK, April 16-18, 2018.
82. Stochastic Frontier and Efficiency: Some Retrospections, presented at Florida Atlantic University, March 2, 2018.
83. Efficiency and Productivity Measurement, presented a series of lectures at IIT Ropar (India), Dec 18- Dec 25, 2017.
84. Stochastic Frontier and Efficiency: Some Retrospections, presentation at the University of Central Florida, March 3, 2017.
85. Performance, Productivity and Profitability: A Primer, presented at the Harpur Dean's Distinguished Lecture, Binghamton University, November 16, 2016.
86. Lectures on panel data stochastic frontier models, Presented at DIW Berlin, Germany, October 5-8, 2016.
87. Modelling short run and long run efficiency in panel data stochastic frontier models, presented at the KU Leuven, Belgium, October 3, 2016.
88. Stochastic Frontier Analysis for Young Practitioners, presented at the Taiwan Efficiency and Productivity Association, Taipei, Taiwan; Dec 17, 2016.

89. Determinants of persistent and transient efficiency in stochastic frontier models, Keynote address at the Taiwan Efficiency and Productivity Association, Taipei, Taiwan, Dec 17, 2016.
90. 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.
91. Productivity and Efficiency Modeling in the Presence of Undesirable Outputs, presented at the Korea Environmental Economic Association, Seoul, South Korea, Dec 14, 2016.
92. 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.
93. Productivity, Efficiency, and Resource (Financial) Constraints, presented at the IRRI Rice Seminar, Los Baños, Philippines, July 14, 2016.
94. 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.
95. 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).
96. 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.
97. 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.
98. 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.
99. Estimation of Environmental Production Models under Economic Restrictions, presented at the North American Productivity Workshop, Quebec City, Canada, June 15-18, 2016.
100. Measuring efficiency and productivity in the public sector, presented at the Audit Office, Stockholm (Sweden), May 16, 2016.
101. Stochastic Frontier Panel Models with Firm Heterogeneity together with Persistent and Time-varying Efficiency, presented at Sogang University, Korea, March 28, 2016.
102. Estimating Technical Change and Productivity from Parametric and Semiparametric Models, presented at Seoul National University, Korea, March 29, 2016.
103. The estimation of efficiency, productivity and profitability using Stochastic Frontier Approach, presented at Pusan National University, Korea, April 2, 2016.
104. Recent developments in efficiency models using panel data in stochastic frontier models, 2-day lectures at the DIW Berlin, Oct 5-6, 2015.
105. Technical and Environmental Efficiency: Good Modelling of Bad Outputs, presented at the Umea University, Dec 17, 2015.

106. Capital Structure and Efficiency: The Case of German Electricity Distribution, presented at the KOMIED Workshop, Berlin, Oct 2, 2015.
107. 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.

A general error revenue function model with technical inefficiency: An application to Norwegian fishing trawler, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
108. Management in production: From unobserved to observed, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
109. 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.
110. Yardstick regulation of electricity distribution – Disentangling short-run and long-run inefficiency, presented at EWEPA, Helsinki, Finland, June 16-18, 2015.
111. Recent developments in frontier estimation of efficiency, productivity and profitability, presented at the Norsk Institutt for landbruksøkonomisk forskning (NILF), Oslo, Norway, June 15, 2015.
112. The good, the bad and the technology: Technical and environmental efficiency, presented at the University of Stavanger, Norway, June 11, 2015.
113. Modelling undesirable outputs in production and environmental efficiency, Universidad EAFIT, Medellin, Colombia, April 10, 2015.
114. Lectures on productivity and efficiency measurement: Cross-sectional and panel models, Santiago Workshop, Universidad Santo Tomas, Jan 12-16, 2015.
115. Productivity, Efficiency and Profitability, presented in Santiago Workshop, Universidad Santo Tomas, Jan 12-16, 2015.
116. 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.
117. Endogeneity in stochastic distance function models, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
118. A Generalized Stochastic Frontier Model for Input and Output Efficiency, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.
119. 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.
120. A Revenue System Model with Technical and Allocative Inefficiency, presented at the Asia Pacific Productivity Conference, Brisbane (Australia), July 8-11, 2014.

121. 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.
122. 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.
123. 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.
124. Management Practice in Production (with Thomas Triebs), presented at the North American Productivity Workshop VIII, Ottawa (Canada), June 4-7, 2014.
125. 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.
126. 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.
127. Endogenous Selectivity and Fixed Effects in the measurement of R&D/Innovation productivity, presented at the CDM workshop, London, Dec 6-7, 2013.
128. 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.
129. 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.
130. 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.
131. Are U.S. Commercial Banks Too Big?, presented at the Southwestern University of Finance and Economics (Chengdu), China, Nov 15, 2013.
132. Are U.S. Commercial Banks Too Big?, presented at Sichuan University (Chengdu), China, Nov 13, 2013.
133. A New Method for Estimating Market Power with an Application to Norwegian Sawmilling, presented at Beijing Normal University, Nov 11, 2013.
134. Estimation of firm performance, presented at the Universidade Católica Porto, Porto, Sept 11, 2013.
135. 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.
136. Estimation of firm performance: Insights from parametric and semiparametric models, presented at the University of Tromsø (Norway), June 21, 2013.

137. 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.
138. 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.
139. Derivation of marginal effects of determinants of technical inefficiency (with K. Sun), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
140. Production and Management: Does Inefficiency capture Management? (with T. Triebs), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
141. Estimation of Market Power and Efficiency: A Unified Approach (with E. Tsionas), presented at EWEPA, Helsinki, Finland, June 18-20, 2013.
142. 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.
143. 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.
144. Nonparametric Estimation of Returns to Scale Using Input Distance Functions (with Diego Restrepo-Tobón), Camp Econometrics VIII, Saratoga Springs, April 7-8, 2013.
145. 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.
146. 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.
147. 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.
148. Estimation of technological change using cross-sectional and panel data, presented at Groningen (The Netherlands), September 12, 2012.
149. A Stochastic Frontier Model with Short-Run and Long-Run Inefficiency, presented at the 18th International Panel Data Conference, held in Paris (France), July 5-7, 2012.
150. A Generalized Model of Technical Change, presented at University of Zurich (KOF), June 28, 2012.
151. Measuring profit efficiency without estimating a profit function: The case of U.S. Commercial banks (with D. Restrepo), presented at the 4th International IFABS conference, held in Valencia (Spain), June 18-20, 2012.

152. Measuring profit efficiency without estimating a profit function: The case of U.S. Commercial banks (with D. Restrepo), presented at the 7th North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
153. A General Model of Technical Change with an Application to the OECD Countries (with A. Heshmati), presented at the 7th North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
154. Semiparametric Smooth-coefficient Stochastic Frontier Model (with K. Sun), presented at the 7th the North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
155. Driving Forces behind Innovation and Technological Change in Norwegian Farming (with G. Lien) presented at the 7th North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
156. Management in Production (with T. Triebs), presented at the 7th North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
157. Small Utilities are not Necessarily Expensive, but Expensive Utilities tend to be Small (with Amundsveen, Kvile and Lien), presented at the 7th North American Productivity Workshop at the Rice University, Houston (June 6-9, 2012).
158. Multiple output production models, presented at Georgia Institute of Technology, Atlanta, March 30, 2012.
159. 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.
160. Measuring firm performance: A new parametric approach, presented at the University of Milan-Bicocca, Italy, January 25, 2012.
161. Corruption, Foreign Direct Investment, and Economic Growth, keynote address at the International Conference on Business & Information Management, Durgapur, India, January 9-11, 2012.
162. 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.
163. Efficiency, mark-up and stability in Indian banking, presented at the Reserve Bank of India (Central Office), Mumbai, India, January 3, 2012.
164. Efficiency and productivity: Theory and Measurement, presented at the Reserve Bank of India (statistics department), Mumbai, India, January 4, 2012.
165. 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.

166. 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.
167. 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.
168. Estimation and Decomposition of Inefficiency when Producers Maximize Return to the Outlay
169. (with F. Asche and R. Tveteras), presented at EWEPA, Verona, Italy, June 21-24, 2011.
170. Estimation of TFP Growth: A Semiparametric Smooth Coefficient Approach (with Kai SUN), presented at EWEPA, Verona, Italy, June 21-24, 2011.
171. Management practices and firm efficiency (with Thomas TRIEBS), presented at EWEPA, Verona, Italy, June 21-24, 2011.
172. 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.
173. 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.
174. 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.
175. Estimation and Decomposition of Inefficiency when Producers Maximize Return to the Outlay, presented at the University of Salento (Lecca), Italy, June 20, 2011.
176. 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.
177. Estimation and Decomposition of Inefficiency, paper presented at Higher School of Economics, St. Petersburg, Russia, June 9, 2011.
178. A Generalized Empirical Model of Corruption, Foreign Direct Investment, and Growth, presented at Camp Econometrics, (Lake Placid, NY) April 8, 2011.
179. Stochastic Frontier Analysis: A Toolkit for Efficiency and Productivity Measurement, presented at Centre for Studies in Social Sciences, (Calcutta, India) Dec 27, 2010.
180. 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.
181. 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.
182. 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.

183. 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.
184. 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).
185. 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).
186. 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).
187. 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).
188. Multi-product Technology with Inefficiency: Specification and Estimation, presented the Rice University, Houston (June 2-5, 2010).
189. Multi-product Technology with and without Inefficiency: Specification and Estimation, presented at the Higher School of Economics, Moscow, May 21 (2010).
190. Inefficiency in Primal Production Models: Specification and Estimation Issues, presented at the New Economic School, Moscow, May 24 (2010).
191. Primal Production Models: A Synthesis of Specification and Estimation Issues, presented at the University of Albany, April 30 (2010).
192. 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.
193. 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.
194. 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).
195. 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).
196. 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).
197. 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).

198. 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).
199. 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).
200. 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).
201. Specification and Estimation of Production Technology: A Primal Approach, presented at the Camp Econometrics IV (Lake Placid, NY, April 3-5, 2009).
202. A primer in efficiency and productivity measurement: Some statistical and econometric issues with applications, presented at the Technical University of Dresden (Germany), Feb 6 (2009).
203. How to measure efficiency in banking, gave **two** presentations on distance function and efficiency measurement at Reserve Bank of India, Mumbai, Jan 2 (2009).
204. Productivity and Efficiency Workshop, Jan 3-4 (2009), IGIDR, Mumbai (India), 4 lecture style presentations on efficiency and productivity measurement.
205. CDE-Swiss Re Workshop on Performance Measurement, Jan 5-7 (2009) (Delhi, India), **keynote address** + 2 presentations on productivity and efficiency measurement.
206. Productivity and Efficiency Workshop, Jan 10-11 (2009) (Madras, India), 3 lecture style presentations.
207. Efficiency measurement using stochastic frontier approach, presented at the University of Huelva (Spain), July 14, 2008.
208. Stochastic frontier approach: A tool for estimating efficiency, excess capacity, excess labor, presented at Universidad Autonoma de Barcelona (Spain), July 16, 2008.
209. Econometric modeling of firm efficiency, technology adoption, technical change and productivity, presented at JRC (IPTS) Seville (Spain), July 10, 2008.
210. Micro-econometric modeling of firm efficiency using cost and profit functions, presented at JRC (IPTS) Seville (Spain), July 11, 2008.
211. 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.
212. 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.
213. 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.

214. 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.
215. 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.
216. 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.
217. 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.
218. Determinants of part-time farming and its effect on farm productivity and efficiency (with *Lien* and *Hardaker*), presented at the 2nd Halle Workshop on Efficiency and Productivity Analysis, Halle (Germany) May 26-27, 2008.
219. Measuring productivity differentials – An application to milk production in Nordic countries (with *Sipilainen* and *Kuosmanen*), presented at the 2nd Halle Workshop on Efficiency and Productivity Analysis (with *Lien* and *Hardaker*), Halle (Germany) May 26-27, 2008.
220. Background, estimation, and interpretation of indirect production functions, Keynote address at the 2nd Halle Workshop on Efficiency and Productivity Analysis, Halle (Germany) May 26-27, 2008.
221. 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.
222. Modeling cost and profit function with shadow prices, presented at ERS (USDA, Washington, D.C.) March 25, 2008.
223. Efficiency Estimation using Production, Cost and Profit Frontiers in Stochastic Frontier Models, presented at National Taiwan University (Taipei), Dec 6, 2007.
224. Recent Developments in Efficiency Measurement using Stochastic Frontier Approach, presented at National Taiwan University (Taipei), November 30, 2007.
225. Effect of subsidy and inefficiency in technology choice: The case of Nordic Agriculture, presented at University of Kiel, Germany, November 16, 2007.
226. Productivity and Efficiency Measurement in Banking, presented at the European Central Bank (Frankfurt, Germany), Aug 29, 2007.
227. Productivity Differentials on Dairy Farms in Nordic Countries – The Metafrontier Approach with (with *Sipiläinen*, *Timo* and *Kuosmanen*, *Timo*), presented at the 10th European Workshop on Efficiency and Productivity Analysis at Lille (France), June 27, 2007.

228. Quality Adjusted Inputs, Outputs and Productivity Change in Indian Banking: A Hedonic Approach (with A. Das) presented at the 10th European Workshop on Efficiency and Productivity Analysis at Lille (France), June 28, 2007.
229. Consolidation in the European Banking Industry: How Effective is it? (with A. Lozano-Vivas, M. Fethi and M. Shaban) presented at the 10th European Workshop on Efficiency and Productivity Analysis at Lille (France), June 29, 2007.
230. Regulation, Productivity and Efficiency, presented at Bundesbank (Frankfurt, Germany), Nov 23, 2006.
231. Efficiency Measurement, presented at Charles University (CERGE-EI) Prague, Nov 24, 2006.
232. 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.
233. Efficiency measurement: A premier, presented at the RBI (Mumbai, India), July 20, 2006.
234. Estimation of production efficiency using stochastic frontier models, presented at the Jadavpur University, Calcutta, July 18, 2006.
235. 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.
236. 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
237. 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
238. 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
239. 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
240. 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
241. 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
242. 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.

243. Efficiency Measurement using Parametric Econometric Models, presented at Aston University, Birmingham (UK), Feb 15, 2006.
244. Productivity and Efficiency Measurement Using Parametric Econometric Methods, **Keynote address** at the UK Efficiency and Productivity Network, University of Leicester (UK), Feb 18, 2006.
245. Estimation of Hedonic Price Functions with Incomplete Information, presented at the Athens University of Economics and Business (Greece), December 9, 2005.
246. The effects of bargaining on market outcomes: Evidence from buyer and seller specific estimates, presented at the Wageningen University (The Netherlands), December 7, 2005.
247. Productivity and Efficiency Measurement: An Application to World Health Systems, **Keynote address** at the 10th Annual Conference of the Italian Health Economics Association held at the University of Genova (Italy), November 10-11, 2005.
248. Measurement of Economic Efficiency: Some Applications to the Banking Industry, presented at CERIS and HERMES, Moncalieri (Turin), Italy (November 10, 2005).
249. Specification and Estimation of Inefficiency, presented at Cornell University, Ithaca, NY (October 28, 2005).
250. Stochastic Error Specification in Primal and Dual Systems, presented at Syracuse University, Syracuse, NY (Sept 23, 2005).
251. Estimation of allocative distortions using revenue functions, presented at the University of Stavanger, Norway (July 26, 2005).
252. Recent developments in productivity and efficiency analysis, **Keynote** address at the Nordic efficiency and productivity workshop, Helsinki (July 3-4, 2005)
253. Financial sector development and TFP growth, presented at the United Nations University(WIDER), Helsinki (July 2, 2005).
254. Estimation Excess Capital Technical and Allocative Inefficiency, European Workshop on Efficiency and Productivity Analysis IX, Brussels (June 29-Aug 1, 2005).
255. 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).
256. 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).
257. 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).
258. Efficiency measurement using parametric econometric models, Central Research Institute of Electric Power Industry, Tokyo (June 17, 2005).

259. Productivity and efficiency measurement using parametric econometric methods, paper presented at Oslo University, Jan. 20, 2005.
260. Stochastic error specification in primal and dual systems, paper presented at Athens University of Economics and Business, Athens, January 18, 2005.
261. 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).
262. 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.
263. Risk Preferences, Price Uncertainties, and Production Risk, **Keynote speaker**, Asia-Pacific Productivity Conference, Brisbane, Australia, July 14-16, 2004.
264. Efficiency of World Health Systems, presented at the University of Sydney, Australia, July 12, 2004.
265. 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.
266. 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.
267. 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.
268. Efficiency Measurement: Some Old Issues and New Directions, paper presented at the Learning Workshop EGATE - IAMO, Halle, Germany, March 22-26, 2004.
269. 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.
270. Recent Developments in Stochastic Frontier Models, **Keynote speaker** at the 8th European Workshop on Efficiency and Productivity Analysis held at Oviedo, Spain in October 26-28, 2003.
271. Modeling Heterogeneity in Production: A Latent Class Approach, presented at the Center for Fisheries Economics Workshop held at Bergen, Norway, June 10-11, 2003.
272. Does Deregulation Affect Firm Behavior? **Keynote speaker** at the 2nd Hellenic Workshop on Productivity and Efficiency Measurement held at Patras, Greece, May 30 – June 1, 2003.
273. Deregulation and Firm Behavior: A Latent Class Model, presented at the School of Social Sciences University of Crete, Rethymno, Crete (Greece), May 28, 2003.

274. 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.
275. 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
276. 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.
277. 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.
278. Efficiency measurement: Some econometric issues, presented at Indian Statistical Institute, Calcutta (India), Dec 17, 2002.
279. Directional issues in efficiency measurement, presented at the University of Georgia, Athens, October 24, 2002.
280. 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.
281. 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.
282. 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.
283. 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.
284. 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.
285. 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.
286. Technical Change in U.S. Agriculture: A Factor Augmenting Approach, presented at SUNY Albany, New York, October 26, 2001.
287. A Behavioral Model of Technical Efficiency, presented at the Efficiency and Productivity Workshop, Universidad de Oviedo, Spain, January 11, 2002.
288. Estimation of Risk and Risk Preference Functions, presented at Athens University of Economics and Business, Athens, Greece, December 3, 2001.
289. Efficiency Measurement with Risk, **Keynote** address at the Hellenic Workshop on Productivity and Efficiency Measurement held at Patras, Greece, Dec. 1-2, 2001

290. 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.
291. Decomposition of Technical Change into Input-Specific Components: A Factor Augmenting Approach, presented at the 17th Annual Technical Symposium at the Stern School of Business, New York University, New York, April 30, 2001.
292. Estimation of technical change: A factor augmenting approach, presented at Penn State University, State College, Pennsylvania, March 23, 2001.
293. Estimation of production function with production and price risk, **invited lecture** given at Sung Kyun Kwan University, South Korea, February 26, 2001.
294. Modeling and decomposing production inefficiency, invited lecture at Sung Kyun Kwan University, South Korea, February 23, 2001.
295. Deregulation, ownership and productivity growth: Evidence from Indian banks, presented at the 9th International Conference on Panel Data, Geneva, Switzerland, June 22-23, 2000.
296. Inefficiency and input-specific technical change, Invited lecture in Oviedo, Spain (October 2000).
297. Discussant at the Workshop on Banking and Finance, Alicante, Spain, May 19-20, 2000.
298. Estimation of production function and technical efficiency in the presence of output price uncertainty, presented at Camp Econometrics, Houston, Texas, Feb 2000.
299. 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.
300. Modeling Determinants of Inefficiency in Stochastic Production, Cost, and Profit Functions, invited lecture given at Hong Kong Baptist University, Hong Kong, December 17, 1999.
301. 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.
302. 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.
303. Estimation of Total Factor Productivity Change, presented at the Tianjin Institute of Scientific and Technical Information, Tianjin, China, July 26, 1999.
304. Productivity Measurement when Production is Risky, presented at Stavanger College (Norway), May 21, 1999.
305. Estimation of Production Function with Risk: A System Approach, presented at Texas Camp Econometrics (Lake Texoma), Texas, Feb. 27-28, 1999.

306. 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.
307. Labor Quality, Learning and Production Risk, presented at the Third Biennial Georgia Productivity Workshop, Athens, Georgia, October 29-31, 1998.
308. A Monte Carlo Analysis of Technical Inefficiency Predictors, presented at the Third Biennial Georgia Productivity Workshop, Athens, Georgia, October 29-31, 1998.
309. Productivity Growth, Efficiency, and Technical Change, presented at the University of Arizona, Arizona, Sept 17, 1998.
310. TFP growth in the payment system of the Federal Reserve Banks, presented at the Federal Reserve Bank (St. Louis), Missouri, Sept 18, 1998.
311. 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.
312. TFP Growth Measurement using Production, Cost, and Profit Functions: A Panel Data Approach, presented at the University of Oslo, Norway, Jan. 28, 1998.
313. How Fast Do Banks Adjust? A Dynamic Labor-Use Model with an Application to Swedish Banks, Gothenburg University, Gothenburg, Sweden, October 17, 1997.
314. Does Efficiency Matter in Estimating Production Technology? Presented at Stockholm School of Economics, Sweden, October 16, 1997.
315. 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.
316. 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.
317. Productivity Growth and Efficiency Change presented at the Federal Reserve Bank of Cleveland, Ohio, April 11, 1997.
318. Decomposition of Technical Change into Input-Specific Components: A Factor Augmenting Approach, presented at Texas Camp Econometrics, Corpus Christi, Texas, Feb. 15-16, 1997.
319. 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.
320. Estimating Impacts of Environmental Variables on Farm Productivity -- Presented at the Free University, Amsterdam, The Netherlands, Aug. 19, 1996.
321. Market Imperfections and Output Loss: A Case Study of Indian Agriculture -- Paper presented at the ASSA meetings, San Francisco, California, Jan. 4-7, 1996.

322. 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.
323. 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.
324. 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.
325. 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.
326. 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.
327. Production Inefficiency and the Profit Function: Some Results and their Implications -- Paper presented at Gothenburg University, Sweden, May 29, 1995.
328. Efficiency Measurement with Multiple Inputs and Multiple Outputs -- Invited paper at the Advanced workshop on Efficiency Measurement, Odense, Denmark, May 22-24, 1995.
329. 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.
330. 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.
331. 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.
332. 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.
333. Productivity and Technical Change in Swedish Manufacturing -- Paper presented at the Econometrics Seminar at Rice University, Texas, March 11, 1994.
334. Labor-Use Efficiency in Swedish Social Insurance Offices -- Paper presented at the European Economic Association meeting held in Helsinki, Finland, August 27-29, 1993
335. 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.

336. Labor Efficiency in Swedish Insurance Offices: A Panel Data Approach -- Paper presented at University of Illinois, Urbana-Champaign, Illinois, April 1993.
337. 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.
338. 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.
339. Technical Change and Total Factor Productivity in Swedish Manufacturing -- Paper presented at Texas A&M University, College Station, Texas, October 1992.
340. Estimation of Production Efficiency Using Panel Data -- Paper presented at Indian Statistical Institute, Calcutta, India, July 3, 1992.
341. 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.
342. Efficiency Estimation Using Rotating Panel Data -- Paper presented at Texas A & M University, College Station, Texas, October 1991.
343. 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.
344. Estimation of Inefficiency via the Cost Function -- Paper presented at University of Connecticut, Storrs, Connecticut, October 1990.
345. Effect of ESOP on Productivity -- Paper presented at Southern Methodist University, Dallas, Texas, April 1990.
346. 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.
347. 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.
348. Efficiency of Utah Dairy Farmers -- Paper presented at Utah State University, Logan, Utah, December 1988.
349. 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.
350. 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.

351. Estimation of Efficiency in Production – Paper presented at the Econometrics Seminar at Rice University, Houston, Texas, September 1988.

Refereeing 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*