

**CURRICULUM VITAE  
ROLF FÄRE**

**ADDRESS** Department of Economics  
303 Ballard Extension Hall  
Oregon State University  
Corvallis, OR 97331-3612

**EDUCATION and DEGREES**

October 2009 Doctor of Economics, Honoris Causa, University of Gothenburg, Gothenburg, Sweden.  
May 2005 Doctor of Philosophy, Honoris Causa, University of Lund, Lund, Sweden  
June 1976 Docent in Economics, University of Lund, Lund, Sweden.  
June 1971 Filosofie Licentiat, Department of Economics, University of Lund, Lund, Sweden.  
April 1967 Filosofie Kandidat, University of Lund, Lund, Sweden.

**EMPLOYMENT**

February 2015 – Present

Adjunct Professor, Agricultural and Resource Economics, University of Maryland.

September 1998 - Present

Professor, Department of Economics and Department of Agricultural and Resource Economics, Oregon State University, Corvallis, OR 97331.

August 1982 - August 1998

Professor, Department of Economics, Southern Illinois University, Carbondale, Illinois.

August 1978 - August 1982

Associate Professor, Department of Economics, Southern Illinois University, Carbondale, Illinois.

January 1973 - August 1978

Forskarassistent, Department of Economics, University of Lund, Lund, Sweden.

**VISITING APPOINTMENTS**

August 2011

Visiting Scholar, AAS University, Norway

May – June 2016

May – June 2015

May – June 2014

May – June 2011

Visiting Scholar, Umeå University, Umeå, Sweden

February – March 2017

February – March 2016

February – March 2015

February – March 2014

February – March 2013

February – March 2012

February – March 2011

Visiting Scholar, University of Auckland, Auckland, New Zealand

February – March 2010

January – February 2009

January – February 2006

January – March 2005

Visiting Scholar, AUT, Auckland, New Zealand

June 2001 – 2005

Research Associate, R. R. Institute for Applied Economics, Malmö, Sweden

July – August 2000

Visiting Scholar, UNSW, Sydney, Australia

June 1988 – 2000

Research Associate, The Swedish Institute for Health Economics, Lund, Sweden.

May 1999

Visiting Scholar, Institutet för Arbetsmarknads Politisk Utvärdering, Uppsala, Sweden

August – December 1996

Visiting Professor, Department of Economics, Göteborg, Sweden

June 1996

Fellow, Department of Agricultural Economics, University of Maryland, College Park, Maryland

July – August 1995

Research Associate, Center for Economic Studies, University of Munich, Germany

January – February 1993

Visiting Fellow, University of Waikato, Hamilton, New Zealand.

September – November 1989

February – March 1993

Visiting Fellow, Australian National University, Canberra, ACT, Australia.

June 1992

Research Associate, The Industrial Institute for Economic and Social Research, Stockholm, Sweden.

May – June 1991

Research Associate, Center for Operations Research and Econometrics, Louvain-La-Neuve, Belgium.

June – July 1990

Visiting Professor, Bilkent University, Ankara, Turkey.

December 1989

Visiting Fellow, Adelaide University, Adelaide, SA, Australia.

August 1989

Visiting Fellow, La Trobe University, Bundoora, Vic, Australia.

August 1984 – August 1985

Visiting Professor, Department of Economics, Vanderbilt University, Nashville, Tennessee.

March 1977 – June 1978

Research Associate, Operations Research Center, University of California, Berkeley, California.

January 1975 – July 1975

Visiting Assistant Research Engineer, Operations Research Center, University of California, Berkeley, California.

## **PROFESSIONAL ACTIVITIES**

2015 – Present

Editorial Advisory Board, *The Data Envelopment Analysis Journal*

2013 – Present

Associated Editor, *American Journal of Agricultural Economics*

2013 William W. Cooper Award

2012 Coeditor of a special issue of *Journal of Centrum Cathedra*, 5 (2).

Coeditor of a special issue of *Journal of Productivity Analysis*, 38 (1).

2007 Emerald Literati Network Highly commended award for Färe, R., Grosskopf, S., Försund, F.R., Hayes, K., Heshmati, A. "Measurement of productivity and quality in non-marketable services: with application to schools," *Quality Assurance in Education* (2007) 14.

2006 – Present

Listed in *ISI Highly Cited*.

May 2003 - 2013

Editorial Council, *Journal of Agricultural and Resource Economics*.

January 2002 - 2008

Associate Editor, *International Journal of Industrial Organization*.

September 2001

Oregon State University, College of Liberal Arts Researcher of the Year Award

July 2001 - Present

Associate Editor, *International Journal of Business and Economics*.

May 2000 - Present

(S. Grosskopf, R.R. Russell) Editor, *Studies in Productivity and Efficiency*. Kluwer Academic Publishers.

Listed in *Who's Who in Economics*

Third Edition, M. Blaug (ed.) Edward Elgar Publishing (1999) and Fourth Edition (2003).

December 1995 - 2013

Member of the International Board of Editors of *Pacific Economic Review*.

December 1986 - September 1995

Editor, *Journal of Productivity Analysis*.

July 1987 - Present

Reviewer, *Mathematical Reviews*.

January 1988 - 2004

Associate Editor, *Journal of Economics* (Zeitschrift für Nationalökonomie).

November 1990 - Present

Contributor to Microfiche of *Working Papers in Economics*.

## **TEACHING**

Microeconomic Theory

Mathematical Economics

Environmental and Natural Resource Economics

## **DOCTORAL DISSERTATIONS: Major Professor**

W.F. Lee (1982) "Productive Efficiency in U.S. Manufacturing 1954-1977: A Dynamic Model."

J.A. Logan (1983) "Rate -of-Return Regulated Production and Cost" (member)

G. Boyd (1984) "Scale and Productivity in Surface Coal Mining."

P. Byrnes (1985) "Ownership and Efficiency in the Water Supply." (Co-chair).

H. Fukuyama (1987) "Alternative Notions and Measures of Returns to Scale: A Multi-Output Duality Approach." (Co-chair)

D. Njinkeu (1988) "A Monte Carlo Comparison of Alternative Measurements of Returns to Scale in Nonstochastic Models." (Co-chair).

S. Yaisawarng (1989) "Measuring Short-Run Price Efficiency: Theory and Application." (Co-chair).

S. -K. Li (1992) "Three Essays on Efficiency Measurement."

R. Althin (1995) "Essays on the Measurement of the Producer Performance."

Y. Chung (1996) "Directional Distance Functions and Undesirable Outputs."

J. Månsson (2001) Essays on: Applications of Cross Sectional Efficiency Analysis. (Co-chair).

V. Zelenyuk (2002) "Essays in Productivity and Efficiency Analysis of Economic Systems." (Co-chair)

D.W. Noh (2002) "Essays on Applied Microeconomics." (Co-chair)

A. Plangkaraya (2003) "Essays on the Implications of Firm Behaviors in Learning, Locating and Advertising."

M. Vardanyan (2005) "Essays on the Use of Distance Functions in Empirical Studies: Efficiency Measurement and Beyond", (Co-chair).

M. Lohela Karlsson (2010) "Healthy Workplaces." (Bihandledare).

F. Badau (2015) "Climate Change and Trade in a Globalized World."

## **DOCTORAL DISSERTATIONS: External Examiner**

M. Patry (1988) "Measuring the Impact of Regulation in a Dynamic Context: An Application to Bell Canada," Department of Economics, University of British Columbia, Canada.

R. Aguilor (1988) "Efficiency in Production: Theory and an Application on Kenyan Smallholders," Department of Economics, Göteborgs Universitet, Sweden.

- J. Aczél (1989) for the degree of Doctor Honoris Causa, Fakultät für Wirtschaftswissenschaften, University of Karlsruhe, Germany.
- S. Ylvinger (2000) "Essays on Production Performance Assessment", Department of Economics, Umeå University, Sweden.
- T. Kuosmanen (2001) "The Role of Production Assumptions in Data Envelopment Analysis", Helsinki School of Economics and Business Administration, Finland.
- C.P. Bunting (2009) "Quarantine as a Trade Barrier? An Examination of the Impact of Quarantine Policies on Consumers," University of New South Wales, Australia.
- L.V. Rodseth (2011) "Treatment of Undesirable Outputs in Production Analysis," AAS, Norway.

## **CURRENT RESEARCH**

Efficiency and productivity measurement, production theory, and environmental economics.

## **FELLOWSHIPS, AWARDS and GRANTS**

- 1980 - 1983 "Productivity in Strip Mining of Coal," U.S. Department of Energy, grant (with Myers).
- 1987 SIU Summer Research Award.
- 1988 "Expenditure Constrained Profit Maximization," U.S. Department of Agriculture, ERS, grant (with S. Grosskopf).
- 1990 - 1991 National Science Counsel, Republic of China, Lectureship Award.
- 1991 "Accounting for Inefficiency in the Measurement of Agricultural Productivity," U.S. Department of Agriculture, ERS, grant (with S. Grosskopf).
- 1992 "Can American Compete? An International Comparison of Productivity, Innovation and Efficiency Change," Center for International Business and Cultures, grant (with S. Grosskopf).
- 1992 - 1993 "Agricultural Productivity When Some Outputs are Undesirable," U.S. Department of Agriculture, ERS, grant (with S. Grosskopf).
- 1994 - 1996 "Application of Frontier Production Models to Environmental Issues," US EPA grant (with S. Grosskopf).
- 1995 - 1996 "Estimation of Environmental and Economic Effects of Production Using Survey Data," U.S. Department of Agriculture, ERS, grant (with S. Grosskopf).
- 1997 - 1998 "Application of Frontier Production Models to Environmental Issues," US EPA grant (with S. Grosskopf).
- 1999-2000 "Accounting for Undesirable Environmental Effects of Agriculture," U.S. Department of Agriculture, ERS, grant (with S. Grosskopf).
- 2000-2002 "Universities' Impacts on Agricultural Biotechnology Innovations," USDA-CSREES NRI (with S. Buccola, R. Meints)
- 2004-2007 "Conservation Effects Assessments," ARS Grant (with S. Grosskopf).

- 2006-2009 “Assessing Trade-Offs Between Crop Production and Ecological Services: The Calapooia Basin,” USDA-CEAP (with Fish and Wildlife etc.).
- 2006-2009 “Energy in the U.S. Agricultural Sector,” USDA grant (with S. Grosskopf).
- 2009-2010 “Economic Analysis in CEAD-ARS,” USDA
- 2010-2011 “Aquaculture and Fish Collaborative Research Support Programs,” USAID (with S. Buccola, H. Egna).
- 2011-2013 “Corporate Environment Performance in Sweden,” at Forest Economics, SLU, Umea, Sweden (international collaborator).
- 2014-2015 “The Impact of Climate Policy on Energy Use...,” SLU, Umea, Sweden (international collaborator).
- 2015-2016 “Revealing Energy Rebound Effects in Swedish Industry.” SIU, Umeå, Sweden (international collaborator).
- “Agri-Environmental Government-Farmer...” Beacon Funding, Michigan State University (with B. Barnhart et al.).

## REFERENCES

Professor Robert G. Chambers, Department of Agricultural and Resource Economics, 2200 Symons Hall, University of Maryland, College Park, MD 20742-5535

Professor Erwin Diewert, Department of Economics, University of British Columbia, Vancouver, B.C., Canada V6T1Y2.

Professor Richard Dusansky, Department of Economics, University of Texas, Austin, TX 78712.

Professor Robert Russell, Department of Economics, University of California at Riverside, Riverside, California 92521.

## PUBLICATIONS<sup>1</sup>

### Books and Monographs

*Laws of Diminishing Returns*, Lecture Notes in Economics and Mathematical Systems, Vol. 176, Springer-Verlag, Berlin (1980), 97 pages.

(R.W. Shephard) *Dynamic Theory of Production Correspondences, Mathematical Systems in Economics*, Verlag Anton Hain, Meisenheim am Glan (1980), 258 pages.

(S. Grosskopf, C.A.K. Lovell) *The Measurement of Efficiency of Production*, Kluwer-Nijhoff Publishing, Boston (1985), 216 pages.

(A. Dogramaci, eds.) *Application of Modern Production Theory: Efficiency and Productivity*, Kluwer-Nijhoff Publishing, Boston (1988), 275 pages.

*Fundamentals of Production Theory*, Lecture Notes in Economics and Mathematical Systems, Vol. 311, Springer-Verlag, Berlin (1988), 163 pages.

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<sup>1</sup>Co-author's name in parentheses.

- (S. Grosskopf) *Cost and Revenue Constrained Production*, Bilkent University Lecture Series, Springer-Verlag, Berlin (1994), 170 pages.
- (S. Grosskopf, C.A.K. Lovell) *Production Frontiers*, Cambridge University Press, Cambridge (1994), 296 pages.
- (D. Primont) *Multi-Output and Duality: Theory and Application*, Kluwer-Nijhoff Publishing, Boston (1995), 172 pages.
- (S. Grosskopf) *Intertemporal Production Frontiers*, Kluwer-Nijhoff Publishing, Boston (1996), 202 pages.
- (S. Grosskopf, R.R. Russell, eds.) *Index Numbers: Essays in Honor of Sten Malmquist*, Kluwer Academic Publishers, Boston (1998), 283 pages.
- (S. Grosskopf) *New Direction: Efficiency and Productivity*, Kluwer-Academic Publishers, Boston (2004), 175 pages. Softcover printing (2005).
- (S. Grosskopf, D. Primont, eds.) *Aggregation, Efficiency and Measurement*, Springer, New York (2007), 156 pages.
- (S. Grosskopf, D. Margaritis) *Advances in Data Envelopment Analysis*, NOW Publishers, (2015).
- (S. Grosskopf, T. Lundgren, P-O. Marklund, W. Zhou) *Climate Policy, environmental Performance and Profit*, Routledge.

### **Journal Articles, Comments and Notes**

- “Strong Limitationality of Essential Proper Subsets of Factors of Production,” *Zeitschrift für Nationalökonomie* (1972) 417-424.
- “On Scaling Laws for Production Functions,” *Zeitschrift für Operations Research* (1973) 195-205.
- (L. Jansson) “Technical Change and Disposability of Inputs,” *Zeitschrift für Nationalökonomie* (1974) 283-290.
- (R.W. Shephard) “The Law of Diminishing Returns,” *Zeitschrift für Nationalökonomie* (1974) 69-90.
- “A Necessary and Sufficient Condition for a U-Shaped Average Cost Function,” *Swedish Journal of Economics* (1974) 236-240.
- “On Nature and Neoclassical Growth,” *Ekonomiska Samfundets Tidskrift* (1974) 53-54.
- “A Note on Ray-Homothetic and Ray-Homogeneous Production Functions,” *Swedish Journal of Economics* (1975) 366-372.
- “Functional Equations and Production Functions,” *Jahrbücher für Nationalökonomie* (1975) 143-145.
- (L. Jansson) “On VES and WDI Production Functions,” *International Economic Review* (1975) 745-750.
- “Efficiency and the Production Function,” *Zeitschrift für Nationalökonomie* (1975) 317-324.
- (L. Jansson) “Joint Inputs and the Law of Diminishing Returns,” *Zeitschrift für Nationalökonomie* (1976) 407-416.

- (R.W. Shephard) "On Homothetic Scalar Valued Production Functions," *The Scandinavian Journal of Economics* (1977) 131-132.
- (R.W. Shephard) "Ray-Homothetic Production Functions," *Econometrica* (1977) 133-146.
- (C.A.K. Lovell) "Measuring the Technical Efficiency of Production," *Journal of Economic Theory* (1978) 150-162.
- (R. Al-Ayat) "Almost Ray-Homothetic Production Correspondences," *Zeitschrift für Nationalökonomie* (1979) 143-152.
- (R. Al-Ayat) "On the Existence of Joint Production Functions," *Naval Research Logistics Quarterly* (1979) 627-630.
- (R. Al-Ayat) "A Joint Characterization of CD, CES, and CRES Production Functions," *Operations Research-Verfahren* (1979) 5-9.
- (M. Shields) "A Comment on the New Demand Theory," *Zeitschrift für Nationalökonomie* (1979) 377-379.
- "Essential and Limitational Production Factors," *Zeitschrift für Nationalökonomie* (1980) 225-232.
- (L. Svensson) "Congestion of Production Factors," *Econometrica* (1980) 1745-1753.
- (B. Yoon) "Variable Elasticity of Substitution in Urban Housing Production," *Journal of Urban Economics* (1981) 369-374.
- (V. Lyon) "The Determinateness Test and Economic Price Indices," *Econometrica* (1981) 377-379.
- "Simultaneous Input and Output Efficiency," *Operations Research-Verfahren* (1981) 27-29.
- (D. Primont) "Separability vs. Strict Separability: A Further Result," *Journal of Economic Theory* (1981) 455-460.
- (C.A.K. Lovell) "Measuring the Technical Efficiency of Production: Reply," *Journal of Economics Theory* (1981) 453-454.
- (S. Grosskopf) "Sharing Functions and Clubs," *The Journal of Economics* (1982) 172-174.
- (D. Primont) "Continuous Enough," *Economics Letters* (1982) 201-206.
- (S. Grosskopf, B. Yoon) "A Theoretical and Empirical Analysis of the Highway Speed-Volume Relationship," *Journal of Urban Economics* (1982) 115-121.
- (D. Primont) "Intersecting Total Product Curves," *Zeitschrift für Nationalökonomie* (1982) 79-86.
- (S. Grosskopf) "Measuring Output Efficiency," *European Journal of Operational Research* (1983) 173-179.
- (S. Grosskopf, C.A.K. Lovell) "The Structure of Technical Efficiency," *The Scandinavian Journal of Economics* (1983) 181-190.
- (S. Grosskopf) "Measuring Congestion in Production," *Zeitschrift für Nationalökonomie* (1983) 257-271.
- (J. Logan) "The Rate of Return Regulated Firm: Cost and Production Duality," *The Bell Journal of Economics* (1983) 405-414.

- (S. Grosskopf, J. Logan) "The Relative Efficiency of Illinois Electric Utilities," *Resources and Energy* (1983) 349-367.
- (J. Logan) "Shephard's Lemma and Rate of Return Regulation," *Economics Letters* (1983) 121-125.
- (J. Logan) "The Rate of Return Regulated Version of Shephard's Lemma," *Economics Letters* (1983) 297-302.
- (J. Logan) "The Translog Cost Function and Rate of Return Regulation," *Land Economics* (1984) 219-221.
- (G. Boyd) "Measuring the Efficiency of Decision Making Units: A Comment," *European Journal of Operational Research* (1984) 331-332.
- (J. Logan) "The Rate of Return Regulated Versions of Duality, Shephard's Lemma and Second Order Approximations," *Methods of Operations Research* (1984) 155-165.
- (D. Primont) "Efficiency Measures for Multiplant Firms," *Operations Research Letters* (1984) 257-260.
- (C.A.K. Lovell) "Affinely Homothetic Production Technology," *Methods of Operations Research* (1984) 197-205.
- (S. Grosskopf) "Productive Efficiency in U.S. Manufacturing: A Generalized Linear Programming Approach," *Methods of Operations Research* (1984) 497-515.
- (R. Grabowski, B. Yoon) "An Alternative View of Production and Technical Change in Agriculture: Weak Disposability of Inputs," *The Journal of Developing Areas* (1984) 219-226.
- "The Existence of Plant Capacity," *International Economic Review* (1984) 209-213.
- (B. Yoon) "The Technological Change in Urban Housing Production," *Journal of Urban Economics* (1984) 351-356.
- (P. Byrnes, S. Grosskopf) "Measuring Productive Efficiency: An Application to Illinois Strip Mines," *Management Science* (1984) 671-681.
- (B. Yoon) "An Empirical Investigation of Returns to Scale: Welsh Coal Industry," *Resource Policy* (1984) 134-137.
- "The Dual Measurement of Efficiency," *Zeitschrift für Nationalökonomie* (1984) 283-288.
- (B. Yoon) "On Capital-Land Substitution in Urban Housing Production," *Journal of Urban Economics* (1985) 119-124.
- (S. Grosskopf, R. Grabowski) "Technical Efficiency of Philippine Agriculture," *Applied Economics* (1985) 205-214.
- (S. Grosskopf, J. Logan) "The Relative Performance of Publicly Owned and Privately Owned Electric Utilities," *Journal of Public Economics* (1985) 89-106.
- (L. Jansson, C.A.K. Lovell) "Modelling Scale Economics with Ray-Homothetic Production Functions," *Review of Economics and Statistics* (1985) 624-629.
- (B. Yoon) "Returns to Scale in U.S. Surface Mining of Coal," *Resources and Energy* (1985) 341-352.

- (S. Grosskopf) "A Non Parametric Cost Approach to Scale Efficiency," *The Scandinavian Journal of Economics* (1985) 594-604.
- (D. Primont) "On Differentiability of Cost Functions," *Journal of Economic Theory* (1986) 233-237.
- (K. Sung) "On Second-Order Taylor's-Series Approximation and Linear Homogeneity," *Aequationes Mathematicae* (1986) 180-186.
- (S. Grosskopf, C. Pasurka) "Effects on Relative Efficiency in Electric Power Generation Due to Environmental Controls," *Resources and Energy* (1986) 167-184.
- (W. Hunsaker) "Notions of Efficiency and Their Reference Sets," *Management Science* (1986) 237-243.
- (J. Logan) "Regulation, Scale and Productivity: A Comment," *International Economic Review* (1986) 777-781.
- "A Dynamic Nonparametric Measure of Output Efficiency," *Operations Research Letters* (1986) 83-85.
- (S. Grosskopf, C.A.K. Lovell) "Scale Economics and Duality," *Zeitschrift für Nationalökonomie* (1986) 175-182.
- "Addition and Efficiency," *The Quarterly Journal of Economics* (1986) 861-865.
- "On the Existence and Equivalence of Three Joint Production Functions," *The Scandinavian Journal of Economics* (1986) 669-674.
- (U. Lehmijoki) "On Quasi-Convexity of the Cost Function," *The Scandinavian Journal of Economics* (1987) 115-118.
- (S. Grosskopf, J. Logan) "The Comparative Efficiency of Western Coal-Fired Steam-Electric Generating Plants: 1977-1979," *Engineering Cost and Production Economics* (1987) 21-30.
- (S. Grosskopf, C.A.K. Lovell) "Nonparametric Disposability Tests," *Zeitschrift für Nationalökonomie* (1987) 77-85.
- (T. Mitchell) "On Shephard's Attainability Axiom," *Zeitschrift für die gesamte Staatswissenschaft* (1987) 343-350.
- (P. Byrnes) "Surface Mining of Coal: Efficiency of U.S. Interior Mines," *Applied Economics* (1987) 1665-1673.
- (P. Byrnes, S. Grosskopf, S. Kraft) "Technical Efficiency and Size: The Case of 1980 Illinois Grain Farms," *European Review of Agricultural Economics* (1987) 367-381.
- (P. Byrnes, S. Grosskopf, C.A.K. Lovell) "The Effect of Unions on Productivity: U.S. Surface Mining of Coal," *Management Science* (1988) 1037-1053.
- (S. Grosskopf, C.A.K. Lovell) "Scale Economies and Scale Efficiency," *Zeitschrift für die gesamte Staatswissenschaft* (1988) 721-729.
- (S. Grosskopf, C.A.K. Lovell) "An Indirect Efficiency Approach to the Evaluation of Producers Performance," *Journal of Public Economics* (1988) 71-89.
- (C. Sawyer) "On Expenditure Constrained Profit Maximization," *The American Journal of Agricultural Economics* (1988) 953-954.

- “Returns to Scale and Size in Agricultural Economics: A Comment,” *Western Journal of Agricultural Economics* (1988) 149-150.
- (S. Grosskopf, D. Njinkeu) “On Piecewise Reference Technologies,” *Management Science* (1988) 1507-1511.
- (J. Logan) “Aproximaciones De Segunda Orden Y La Funcion De Costos De Empresas Reguladas,” *Empresa Publica* (1988) 213-219.
- (D. Njinkeu) “Computing Returns to Scale Under Alternative Models,” *Economics Letters* (1989) 55-59.
- (T. Mitchell) “A Family Tree of Linearly Homogeneous Production Functions,” *The Scandinavian Journal of Economics* (1989) 749-757.
- (S. Grosskopf, C. Pasurka) “The Effect of Environmental Regulations on the Efficiency of Electric Utilities: 1969 vs. 1975,” *Applied Economics* (1989) 225-235.
- (S. Grosskopf, C.A.K. Lovell, C. Pasurka) “Measuring Efficiency when some Outputs are Undesirable: A Nonparametric Approach,” *The Review of Economics and Statistics* (1989) 90-98.
- (S. Grosskopf, E. Kokkelenberg) “Measuring Plant Capacity Utilization, and Technical Change: A Nonparametric Approach,” *International Economic Review* (1989) 655-666.
- (S. Grosskopf, V. Valdmanis) “Capacity, Competition and Efficiency in Hospitals: A Nonparametric Approach,” *Journal of Productivity Analysis* (1989) 123-128.
- (S. Grosskopf, W. Weber) “Measuring School District Performance,” *Public Finance Quarterly* (1989) 409-428.
- (J. Logan, C.A.K. Lovell) “Some Economics of Content Protection,” *Zeitschrift für Nationalökonomie* (1989) 171-180.
- (D. Primont) “A Distance Function Approach to Multi-Output Technologies,” *Southern Economic Journal* (1990) 879-891.
- (L. Seiford, et al.) “Summary of Some of the discussion at the Advanced Workshop on Efficiency Measurement...” *Journal of Productivity Analysis* (1990) 341-343.
- (S. Grosskopf, J. Nelson) “On Price Efficiency,” *International Economic Review* (1990) 709-720.
- (S. Grosskopf, H. Lee) “A Nonparametric Approach to Expenditure Constrained Profit Maximization,” *The American Journal of Agricultural Economics* (1990) 574-581.
- (S. Grosskopf) “A Distance Function Approach to Price Efficiency,” *Journal of Public Economics* (1990) 123-126.
- (S. Grosskopf, S. Yaisawarng, S. -K. Li, Z. Wang) “Productivity Growth in Illinois Utilities,” *Resources and Energy* (1990) 383-398.
- (R.K. Conway, et al) “New Productivity-Measurement Research,” *American Journal of Agricultural Economics* (1990) 1335 (abstract)
- (S. Grosskopf) “The Fisher Ideal Index and the Indirect Malmquist Productivity Index: A Comparison,” *New Zealand Economic Papers* (1990) 66-72.

- (D. Primont, L. Samuelson) "On Differentiability of Cost Functions: Corrigendum," *Journal of Economic Theory* (1990) 237.
- (T. Mitchell) "Problem," *Acquationes Mathematicae* (1991) 119.
- (K. Zieschang) "Determining Output Shadow Prices for a Cost Constrained Technology," *Zeitschrift für Nationalökonomie* (1991) 143-155.
- "Measuring Farrell Efficiency for a Firm with Intermediate Inputs," *Academia Economic Papers* (1991) 329-340.
- (S. Grosskopf, B. Lindgren, P. Roos) "Productivity Changes in Swedish Pharmacies 1980-1989: A Nonparametric Malmquist Approach," *Journal of Productivity Analysis* (1992) 85-101.
- (S. Grosskopf) "Malmquist Productivity Index and Fisher Ideal Indexes," *The Economic Journal* (1992) 158-160.
- (S. Grosskopf, C.A.K. Lovell) "Indirect Productivity Measurement," *Journal of Productivity Analysis* (1992) 283-298.
- (S. Grosskopf, S. -K. Li) "Linear Programming Models for Firm and Industry Performance," *The Scandinavian Journal of Economics* (1992) 599-608.
- (J. Logan) "The Rate of Return Regulated Version of Farrell Efficiency," *International Journal of Production Economics* (1992) 161-165.
- (T. Mitchell) "Output Scaling in a Cost Function Setting," *Journal of Productivity Analysis* (1992) 417-425.
- (D. Primont) "Measuring Efficiency in Branch Banking: An Activity Analysis Approach," *Journal of Banking and Finance* (1993) 539-544.
- (R. Chambers) "Input-Output Separability in Production Models and Its Structural Consequences," *Zeitschrift für Nationalökonomie* (1993) 197-202.
- (J. Logan) "Duality Theory and Value Constraint," *Scottish Journal of Political Economy* (1993) 330-334.
- (S. Grosskopf, C.A.K. Lovell, S. Yaisawarng) "Derivation of Shadow Prices for Undesirable Outputs: A Distance Function Approach," *Review of Economics and Statistics* (1993) 374-380.
- (T. Mitchell) "Multiple Outputs and Homotheticity," *Southern Economic Journal* (1993) 287-296.
- (K.P. Kalirajan, S. Grosskopf) "The Adequacy of the Supply of Institutional Change, An Empirical Testing," *Singapore Economic Review*, (1993) 1-13.
- (R. Chambers, S. Grosskopf) "Efficiency, Quantity Indexes, and Productivity Indexes: A Synthesis," *Bulletin of Economic Research* (1994) 1-21.
- (S. Grosskopf, M. Norris, Z. Zhang) "Productivity Growth, Technical Progress, and Efficiency Change in Industrialized Countries," *American Economic Review* (1994) 66-83.
- (R. Chambers) "Hicks' Neutrality and Trade-Biased Growth: A Taxonomy," *Journal of Economic Theory* (1994) 554-567.

- (S. Grosskopf) "Measuring Productivity: A Comment," *International Journal of Operations and Production Management* (1994) 83-88.
- (S. Grosskopf) "Estimation of Returns to Scale Using Data Envelopment Analysis: A Comment," *European Journal of Operational Research* (1994) 379-382.
- (D. Primont) "The Unification of Ronald W. Shephard's Duality Theory," *Zeitschrift für Nationalökonomie* (1994) 199-207.
- (D. Primont) "On Inverse Homotheticity," *Bulletin of Economic Research* (1995) 161-166.
- (S. Grosskopf, W.F. Lee) "Productivity in Taiwanese Manufacturing Industries," *Applied Economics* (1995) 259-265.
- (S. Grosskopf, P. Roos) "Productivity and Quality Changes in Swedish Pharmacies," *International Journal of Production Economics* (1995) 137-144.
- (S. Grosskopf, P. Roos) "Productivity and Quality Changes in Swedish Pharmacies: Reply," *International Journal of Production Economics* (1995) 147.
- Comment on: "Incentives and Productivity Measurement," *International Journal of Production Economics* (1995) 80.
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- 2010 (D. Primont) “Dual Allocative Efficiency Parameters,” Efficiency and Productivity Workshop, Auckland, New Zealand.
- (S. Grosskopf, D. Margaritis) “Developments in Dynamic DEA” 4<sup>th</sup> Symposium on DEA, Jiasoi, Taiwan.
- (S. Grosskopf, D. Margaritis, W.L. Weber) “Technological Change and Timing the Reduction of Greenhouse Gas Emissions,” NAPWVI, Rice University, Houston, TX.
- (S. Grosskopf, D. Margaritis) “Directional Distance Functions and Applied Economics: A tribute to R.G. Chambers,” HAWEPA, Halle, Germany
- 2011 (S. Grosskopf, D. Margaritis, B. Frijns) “A Dynamic Malmquist Productivity Index,” NZESG, Dunedin, NZ.
- (S. Grosskopf, G. Whittaker) “Two Short Papers on DEA,” EWEPA, Verona, Italy (key note address).
- (S. Grosskopf, D. Margaritis) “Coalition Formation and Pricing of Decision Making Units,” Thessaloniki, Greece (key note address).
- 2012 (S. Grosskopf) “DEA and Technical Change,” DEA Symposium 2012, Seikei Gakuen University, Tokyo, Japan (keynote address).
- (S. Grosskopf, M. Lundström, P. Roos) “Evaluating Health Care Efficiency,” NAPW VII, Houston, Texas.
- (S. Grosskopf, et al) “Two Applications of Shephard’s Lemma,” APPC 2012, Bangkok, Thailand.
- (Grosskopf, Pasurka) “Joint Production of Good and Bad Outputs with a Network Application,” 2012 International Workshop on Chinese Productivity,” Beijing, China.
- (S. Grosskopf, C. Pasurka, R. Shadbegian). “Environmental Regulation and Employment Changes in the Electric Power Sector,” University of Pennsylvania Law School, Philadelphia, PA.
- (S. Grosskopf, T. Lundgren, P-O. Marklund, W. Zhou) “Which Bed is Worst? An Application of Johansen’s Capacity Model,” Göteborg University, Memory of L. Hjalmarsson, Gothenburg, Sweden.
- 2013 (S. Grosskopf, T. Lundgren, P-O. Marklund, W. Zhou) “Which Bad is Worst? An Application of Johansen’s Capacity Model,” New Zealand Econometric Study Group (NZESG), Auckland, NZ.
- (S. Grosskopf, T. Lundgren, P-O. Marklund, W. Zhou) “Cost Benefit Analysis and DEA,” DEA 2013, Samsun, Turkey.
- 2014 “Pricing Non Marketed Goods Using Distance Functions,” APPC, Brisbane, Australia (Keynote).
- (S. Grosskopf) “Joint Production and Externalities,” University of Queensland, Brisbane, Australia (Workshop).

- “Management Development Program,” Santiago, Chile (Workshop).
- 2015 “The Law of Diminishing Returns and Other Variation on Weierstrass Theorem,” Ulvön, Sweden (Keynote).
- 2016 “Current Progress and New Directions of Environmentally Adjusted Productivity and Efficiency,” University of Sydney, Australia.
- “The Law of Diminishing Returns and Other Variations on Weierstrass Theorem,” University of Auckland, New Zealand.
- (S. Grosskopf) “Topics in DEA, Modeling and Applications,” Nankai University, China (workshop).

## **INVITED SEMINARS**

- 1988 U. C. Riverside, Riverside, CA  
 University of Mississippi, University, MS  
 University of Maryland, Maryland, MD  
 University of Georgia, Athens, GA  
 University of Lund, Lund, Sweden  
 Odense University, Odense, Denmark  
 USDA, Washington, DC
- 1989 La Trobe University, Bundoora, Vic, Australia  
 Australian National University, Canberra, ACT, Australia  
 University of Sydney, Sydney, NSW, Australia  
 University of Melbourne, Melbourne, Vic, Australia  
 Australian Bureau of Agricultural and Resource Economics, Canberra, ACT, Australia
- 1990 University of Guelph, Guelph, Canada  
 Auburn University, Auburn, AL  
 Iowa State, Ames, IA  
 Industrins Utrednings Institut, Stockholm, Sweden  
 Göteborgs Universitet, Göteborg, Sweden  
 The Federal Reserve Bank of St. Louis, MO
- 1991 Chung-Hua Institution for Economic Research, Taipei, Taiwan  
 National Chengchi University, Taipei, Taiwan  
 INSEAD, Fontainebleau Cedex, France  
 CORE, Louvian-La-Neuve, Belgium

- The Federal Reserve Bank of St. Louis, MO (3 days)  
USDA, Washington, DC
- 1992 Indiana University, Bloomington, Indiana  
Industrins Utrednings Institut, Stockholm, Sweden  
USDA, Washington, DC
- 1993 University of Waikato, Hamilton, New Zealand  
Bank of New Zealand, Wellington, New Zealand  
Swan Consultants, Canberra, Australia  
Flinders University, Adelaide, Australia  
Australian National University, Canberra, Australia  
University of Umeå, Umeå, Sweden  
University of Guelph, Guelph, Canada  
Danish Pharmacy Association, Copenhagen, Denmark
- 1994 University of Lund, Lund, Sweden  
University of Wisconsin, Madison, WI  
University of Linköping, Linköping, Sweden  
Utah State University, Logan, Utah  
Brigham Young University, Provo, Utah  
Stockholm Business School, Stockholm, Sweden
- 1995 University of Munich, Munich, Germany  
University of Hamburg, Hamburg, Germany  
Université du Québec à Montréal, Canada
- 1996 Oregon State University, Oregon  
University of Minnesota, Twin City Campus, Minnesota  
Stanford University, Stanford, California  
Den Kgl. Veterinär, Landbohøjskole, Copenhagen, Denmark  
University of Maryland, College Park, Maryland  
Göteborg Universitet, Göteborg, Sweden  
Aarhus University, Aarhus, Denmark  
Tromsø University, Tromsø, Norway
- 1997 London School of Economics, London, UK

- University of Warwick, Coventry, UK
- University of Lund, Lund, Sweden
- Oregon State University, Corvallis, Oregon
- 1998 University of Missouri, Columbia, MO
- University of Uppsala, Uppsala, Sweden
- Hong Kong Baptist University, Hong Kong
- 1999 University of California, Davis, CA
- Institutet för Arbetsmarknads Politisk Utvärdering, Uppsala, Sweden
- Bilkent University, Ankara, Turkey
- 2000 University of New South Wales, Sydney, Australia
- Korean Rural Economic Institute, Seoul, S. Korea
- 2001 Helsinki School of Economics and Business Administration, Helsinki, Finland
- University of Oregon, Eugene, Oregon
- The Autonomous University of Barcelona, Barcelona, Spain
- 2002 National Chengchi University, Taipei, Taiwan
- 2003 10<sup>th</sup> Ulvön Anniversary Conference on Environmental Economics, Ulvön, Sweden
- Southern Illinois University, Carbondale, Illinois
- 2004 KVL, Copenhagen, Denmark
- 2005 AUT, Auckland, New Zealand.
- UQLD, Brisbane, Australia
- Lund University, Lund, Sweden
- University of Bonn, Bonn, Germany
- KVL, Copenhagen, Denmark
- 2006 Pusan National University, Korea
- EERC, Kiev, Ukraine
- 2007 Oregon State University, Corvallis, OR.
- 2008 Kainan University, Taipei, Taiwan
- 2010 Kainan University, Taipei, Taiwan
- Michigan State University, East Lansing, MI
- Oregon State University, Corvallis, OR
- 2011 Umeå University, Umeå, Sweden

- Auckland University, Auckland, NZ  
Oregon State University, Corvallis, OR
- 2012 Auckland University, Auckland, NZ  
Oregon State University, Corvallis, OR  
Harbin University, Harbin, China  
RenDa University, Beijing, China
- 2013 Auckland University, Auckland, NZ  
University of Colorado, Boulder, CO  
Cornell University, Dyson School, Ithaca, NY
- 2014 Auckland University, Auckland, NZ  
Umeå University, Umeå, Sweden  
Lunds Tekniska Högskola (LTH), Lund, Sweden  
Oregon State University, Corvallis, OR
- 2015 Umeå University, Umeå, Sweden
- 2016 University of Tasmania, Hobart, Australia