

Graciela Chichilnisky

Position: Director, Program on Information and Resources,
Director, Columbia Center for Risk Management
UNESCO Professor of Mathematics and Economics,
Professor of Statistics,
Columbia University

Address: 629 Mathematics
Columbia University
Mail Code 4403
2990 Broadway
New York, NY 10027

Telephone: (212) 854-6897
(609) 688-0218
(212) 678-1148

PIR:
Address: 475 Riverside Drive, #248
New York, NY 10115

Telephone: (212) 851-1689

Fax: (212) 678-0405
(212) 944-8851

Fax: (212) 851-1690

Personal:

Born in Buenos Aires, Argentina, and US citizen since 1991. Two children. Fluent in Spanish and French.

Academic Positions:

- 1998 - Director, Columbia Center for Risk Management, Columbia University (CCRM)
- 1994 - Director, Program on Information and Resources, Columbia University (PIR)
- 1995 - UNESCO Professor of Mathematics and Economics and Professor of Statistics, Columbia University.
- 1980 - Professor of Economics, Columbia University. Tenured since 1979.
- 1996, 2002 Visiting Academic, Deakin University, Melbourne, Australia, August 1996, July 2002.
- 1996 Visiting Professor, Ecole des Hautes Etudes en Sciences Sociales and University of Paris X, Nanterre, June-July, 1996.
- 1994-95 Salinbemi Chair, Universita di Siena, Italy.

- 1993 – 94 Visiting Professor of Economics and Operations Research, Department of Economics, Department of Operations Research, and Institute for International Studies, Stanford University.
- 1993, 1994 Profesor Visitante, Universidad Catolica de Buenos Aires, Argentina, August 1993 and April 1994.
- 1991- 1993 Visiting Professor, Stanford Institute for Theoretical Economics (SITE), Stanford University, Summers of 1991,1992, 1993, and 1994.
- 1991, 1992 Visiting Professor, University of Siena, Italy, Summer Terms 1991, 1992 and 1993.
- 1984-85 Professeur Missionaire, Universite des Antilles et de la Guyane, Short Term visits, Spring terms.
- 1983-84 Visiting Professor, Institute of Mathematics and its Applications, University of Minnesota.
- 1980-81 Chair in Economics, University of Essex, United Kingdom.
- 1977-80 Associate Professor of Economics, Columbia University, Tenured since 1979.
- 1978 Fellow, Harvard Institute of International Development, Harvard University.
- 1975-77 Lecturer, Department of Economics, Harvard University.
- 1974 Postdoctoral Fellow, Harvard University.

Professional Positions:

- 2002- Editorial Board, SocioTopology, VNTL Publishers
- 2002 - Editorial Board, Nonlinear Analysis, Pergamon Press
- 2002 Member of Board of Trustees, Mediterranean College, Athens, Greece.
- 2001- Editorial Advisory Board, ARTHANITI, Department of Economics, University of Calcutta, India.
- 1999- Lead Author, Intergovernmental Panel on Climate Change (IPCC)
- 1999- 2000 National Selection Committee, Fulbright Fellows
- 1999- Member of Board of Editors, Review of Development Economics

- 1998- Member of the Editorial Advisory Council, Pacific Economic Review
- 1997 Member of Board of Editors, Journal of Economic Integration, Institute for International Economics Sejong Institution, Seoul, Korea
- 1976-1986 Associate Editor, Journal of Development Economics. Elsevier Science, Amsterdam, The Netherlands.
- 1981-1986 Editorial Board, Review of Economic Studies. Blackwell Publishers, 108 Cowley Road, Oxford, OX4 1JF U.K.
- 1980-1985 Editorial Board, Advances in Applied Mathematics. Academic Press, 6277 Sea Harbor Drive, Orlando, Florida 32887-4900.
- 1984-1996 Editorial Board, Social Choice and Welfare. Springer-Verlag, Postfach 31 13 40, D-10643, Berlin, Germany.
- 1985- Editorial Board, International Journal of Development Planning Literature. Spellbound Publications PVT.LTC 177/28, Model Town, Delhi Road, Medical Mor, Rohtak – 124001, India.
- 1991-1996 Member of the Council of Social Choice and Welfare Society, Editorial Board, Social Choice and Welfare. Springer-Verlag, Postfach 31 13 40, D-10643, Berlin, Germany.
- 1993-1996 Editorial Board, Economics Letters. Elsevier Science S.A., PO Box 564, CH-1001, Lausanne, Switzerland.
- 1993- Editorial Board, Journal of International Trade and Economic Development. Routledge, 11 New Fetter Ln. London, EC4P 4EE, UK.
- 1993- Editorial Board, Journal of International and Comparative Economics. Physica-Verlag, Tiergarten Strasse 17, D-69121, Heidelberg, Germany.
- 1994- Member, Advisory Board, Metroeconomica Blackwell Publishers Journal, PO Box 805, 108 Cowley Road, Oxford OX4 1FH, UK.
- 1993-1994 Chair, Organizing Committee, Conference and Workshop on "Geometry, Topology and Markets." The Fields Institute of Mathematical Sciences, Canada.
- 1993-1994 Member, Program Committee, Econometric Society North American Summer Meetings, Toronto, Canada.

1993-1996	Advisor and Contributing Author, Intergovernmental Panel on Climate Change (IPCC).
1996-1997	Member of the Second National Forum on Biodiversity of the National Academy of Sciences.
1996-2000	Editorial Board, <u>International Review of Economics and Finance</u> . JAI Press Inc., 55 Old Post Road No. 2, P.O. Box 1678, Greenwich, CT 06836-1678.
1996-	Member of the Editorial Advisory Council, <u>Pacific Economic Review</u> . Blackwell Publishers, Oxford, U.K. and Cambridge, Massachusetts, U.S.A.
1996-	Editorial Board, <u>Risk, Decision & Policy</u> . Chapman & Hall, 26 Boundary Row, London SE1 8HN, UK.
1997-	Member of the Technical and Scientific Advisory Committee for the International Program on Research and Development, Ministry of Environment, Water Resources and Legal Amazon, Brazil.
1997-	Member of Editorial Board, <u>Non Linear World</u> , International Federation of Nonlinear Analysts (IFDA).
1997-	Member of Editorial Board, <u>Advances in Applied Mathematics</u> , MIT, Cambridge, MA.

Professional Associations:

Member of the American Mathematical Society
 Member of the American Economic Association
 Member of the American Statistical Association

Listed in:

Who is Who in the World
 Who is Who in America
 Who is Who of Science and Engineering
 Who is Who of Intellectuals
 Who is Who in American Education
 The World's Who is Who of Women
 Who is Who in the East
 Men of Achievement
 Dictionary of International Biography
 Strathmore's Who's Who
 2000 Outstanding Scholars of the 20th Century
 Outstanding People of the 20th Century
 2000 Outstanding Intellectuals of the 20th Century

Education:

- 1960-65 High School: Instituto Nacional de Lenguas Vivas,
Buenos Aires, Argentina
No undergraduate studies
- 1967-68 Ph.D. Program in Mathematics, Massachusetts Institute of
Technology
- 1968-71 Ph.D. Program in Mathematics, University of California, Berkeley
Degrees: M.A., 1970, Ph.D. in Mathematics, 1971
Thesis title: "Lifting Action on Spin Manifolds"
Ph.D. Adviser: Professor Jerrold Marsden
- 1972-74 Ph.D. Program in Economics, University of California, Berkeley
Degree: Ph.D. in Economics, 1976
Thesis title: "Manifolds of Preferences and Equilibria"
Ph. D. Adviser: Professor Gerard Debreu.

Honors, Awards and Selected Presentations:

- 2003 Keynote Lecture, Twelfth International Colloquium on Numerical
Analysis and Computer Sciences with Applications, Plovdiv, Bulgaria,
August 12-17, 2003
- 2003 Keynote Speaker, International Conference on Economics of
Sustainable Forest Management, University of Toronto, May 22-24,
2003
- 2002 Invited Lecture, Department of Economics, University of Michigan-
Ann Arbor, October 31, 2002
- 2002 Invited Lecture, Organizing Committee of the Eleventh
International Colloquium on Numerical Analysis and Computer
Science with Applications, Sofia, Bulgaria, August 12-17, 2002
- 2002 Invited Professor, University of Siena, Summer School on
Globalization and the Environment, Siena, Italy, June 16-21, 2002
- 2002 Invited Lecture and Visiting Professor, Deakin University,
Melbourne, Australia, July 2002
- 2002 Invited Lecture, University of Wollongong, Wollongong, Australia,
August 2002
- 2002 Invited Lecture, Australian National University, Canberra, Australia,
August 2002

- 2001 Chairman, The Enhanced Indexing Summit, San Diego, CA, October 15-17, 2001, Organized by The Institute for International Research
- 2001 Guest Speaker, Forum on Operational Risk Management, New York, New York, July 30, 31, 2001, Organized by The Institute for International Research
“New Risk Instruments for Global Web Enabled Exchanges”
- 2001 Invited Speaker, Straight Through Processing Forum, New York, New York, June 25, 26, 2001, Organized by The Institute for International Research
“Exploring Strategies and Technologies Poised to Catapult the Securities Industry to “T+0””
- 1999 Keynote Address, XII World Congress of the International Economics Association, Buenos Aires, August 23 - 27, 1999
- 1999 Keynote Address, 12th Workshop of the International School of Economic Research, Siena, July 1999
“General Equilibrium: Problems, Prospects, and Alternatives”
- 1999 Three Pegram Lectures, “Biosphere and Society”, Brookhaven National Laboratory, March 12, 15, 17, 1999.
- 1998 Keynote Address, “Advances in Emissions Trading”, Third International Symposium on Global Accords for Sustainable Development, Massachusetts Institute of Technology, September 1998.
- 1998 Keynote Address, “Clean and Sustainable Industrial Development”, Presentation to the General Assembly of UNIDO Meeting on Industrialization in the 21st Century, Vienna, May 1998.
- 1998 Keynote Address “ The Knowledge Revolution: Updating Property Rights” at the Missouri Botanical Garden Conference on Managing Human Dominated Ecosystems, March 1998.
- 1997 Keynote Address to the Australasian Meetings of the Econometric Society, “Markets with Endogenous Uncertainty” Melbourne, Australia, July 1997.
- 1996 Plenary Address to the Second World Congress of Nonlinear Analysts, “A Topological Invariant for Competitive Markets.” Athens, Greece, July 10-17, 1996.

- 1996 "The Future of Global Reinsurance" Keynote Address, Independent Reinsurance Underwriters Association of the USA, New Jersey, September 9, 1996.
- 1996 "Environmental Markets: Equity and Efficiency" Keynote Presentation, New York University Law School Workshop at Villa La Pietra, Florence, Italy, July 22, 1996.
- 1996 Chairman of the Organizing Committee of the Workshop on Catastrophic Environmental Risks, The Fields Institute for Mathematical Sciences, Toronto, Canada, June 1996.
- 1996 Distinguished Lectures on "Managing the Global Environment: Between Equity and Efficiency," University of Paris Nanterre, EHESS, and CIRED, Paris, June 19-27, 1996.
- 1996 "Property Rights in Markets for Knowledge," Invited Address to the American Economic Association Yearly Meetings, San Francisco, January 1996.
- 1995- Member, Review Panel on Mathematical Science Education, National Science Foundation, June 1995.
- 1995 "Markets with Emissions Trading: the Case for an International Bank for Environmental Settlements," Keynote Plenary address to: The Third Annual World Bank Conference on Effective Financing of Environmentally Sustainable Development, The World Bank, October 5, 1995, Washington, D.C.
- 1995 Leif Johansen Award, "Endogenous Uncertainty & Resource Allocation," March 1995, University of Oslo, Norway.
- 1995 Invited Speaker: "Topics in Mathematical Finance," Colloquium, Applied Mathematics Department, Columbia University, New York, New York, April 1995.
- 1995 Invited Speaker: "Perspectives of General Equilibrium Analysis," Colloquium in Honor of Frank Hahn's 70th Birthday, Department of Political Economy of the University of Siena, Siena, Italy, April 1995.
- 1994 Keynote Speaker: "Trade Regimes and GATT," CIDEI, University of Rome, La Sapienza, December 1994.
- 1994-1998 Member, Board of Trustees, Natural Resources Defense Council (NRDC), New York.
- 1994 David Kinley Distinguished Lecture, University of Illinois, "Global Environmental Policy: Equity and Efficiency," Champaign, Illinois, November 28, 1994.

- 1994 Invited Speaker: "Limited Arbitrage, Gains from Trade and Social Diversity: a Unified Perspective on Resource Allocation," University of California at Irvine, Irvine California, August 1994.
- 1994 Plenary Speaker: "Markets With Endogenous Uncertainty," FUR VII OLSO Foundation of Uncertainty and Risk, July 1994.
- 1994 Invited Speaker: "What is Sustainable Development," Conference on Incommensurability and Value, Chateau du Baffy, Normandy, France, April 1994.
- 1994 Invited Speaker: Conference on Biological Diversity: Exploring the Complexities, Conference at the University of Arizona, Tucson Arizona, March 1994.
- 1994 Invited Speaker: "A Unified Perspective on Resource Allocation," International Economic Association Round Table on Social Choice, Schloss Hernstein, Vienna, Austria, May 1994.
- 1994 Invited Speaker: "Property Rights, North-South Trade and the Global Environment," Conference on Agricultural Trade and the Environment: Understanding and Measuring the Critical Linkages, International Agricultural Trade Research Consortium and The U.S. Agency for International Development, Toronto Canada, June 17-18, 1994.
- 1994 Invited Minicourse "Topology and Markets," The Fields Institute of Mathematical Sciences of Canada, August 1994.
- 1994 Keynote Speaker: "Meanings of Equity" in Intergovernmental Panel on Climate Change (IPCC), UNEP, Nairobi, Kenya, July 1994.
- 1994 Contributed author IPCC, "Equity and Social Considerations."
- 1994 Keynote Speaker: "Markets With Emission Permits: Equity and Efficiency," Ülvon Conference on the Environment, Beijer Institute, Royal Swedish Academy of Sciences, Ülvon, Sweden, May 1994.
- 1994 Invited Speaker: "Intersecting Families of Sets," Colloquium, Department of Mathematics, University of California, Berkeley, February 1994.
- 1994 – 95 Salinbemi Chair, University of Siena, Siena, Italy.
- 1995 Invited Speaker and Session Chair on "Topology & Resource Allocation," in Conference on Current Trends in Economics: Theory and Applications, May 22-28, 1995. Cephalonia, Greece.

- 1994 Invited Speaker: "Arbitrage, Gains from Trade and Social Diversity: A Unified Perspective on Resource Allocation", American Economic Association Yearly Meetings, Boston, January 3-5 1994.
- 1993 Invited Speaker: "A Topological Interpretation of Hirsch's Monotone Dynamics," "Hirsch Symposium," Midwest Dynamical Systems Seminar, Fall 1993, University of California at Berkeley, Berkeley CA, October 24, 1993.
- 1992 Invited Speaker: "The Topology of Markets and Games," European Congress of Mathematicians, Satellite Seminar on Mathematics and Economics, Chaired by G. Debreu, Paris, July 4, 1992.
- 1991,1992, 1993 Siena Fellowship, Monti di Paschi di Siena, University of Siena, Italy.
- 1991 Newcombe Foundation and ODE, Honor Society in Economics Award: Most Distinguished Women Economist, Tulane University, New Orleans.
- 1985-86 Awarded: National Science Foundation Professorship, Department of Mathematics, University of California, Berkeley.
- 1983-84 Rockefeller Foundation, International Relations Award.
- 1972-74 Fellowship, Banco Central de la Republica Argentina
- 1968-69 Ford Foundation Fellowship for Studies in Mathematics

Publications:

Articles:

1. "Group Actions on Spin Manifolds," Transactions of the American Mathematical Society, Vol. 172, October 1972, p. 307-315.
2. "Properties of Critical Points and Operators in Economics," (with P.J. Kalman), Journal of Mathematical Analysis and Applications, Vol. 57, No. 2, February 1977, p. 340-349.
3. "Spaces of Economic Agents," Journal of Economic Theory, Vol. 15, No. 1, June 1977, p. 160-173.
4. "Trends in Mathematical Modelling," Applied Mathematical Modelling, June 1977.
5. "Economic Development and Efficiency Criteria in the Satisfaction of Basic Needs," Applied Mathematical Modelling, Vol. 1, No. 6, September 1977, p. 290-297.

6. "Nonlinear Functional Analysis and Optimal Economic Growth," Journal of Mathematical Analysis and Applications, Vol. 61, No. 2, November 15, 1977, p. 504-520.
7. "Development Patterns and the International Order," Journal of International Affairs, Vol. 31, No. 2, Fall/Winter 1977, p. 275-304.
8. "Comparative Statics of Less Neoclassical Agents," (with P.J. Kalman) 1978, International Economic Review, Vol. 19, February 1978, p. 141-148; and in Some Aspects of the Foundation of General Equilibrium Theory, ed. J. Green, Lecture Notes in Economics and Mathematical Systems, (Springer-Verlag, Berlin-Heidelberg-New York: 1978), No. 159, p. 61-76.
9. "Problems of Market Adjustments to Occupational Safety and Health Hazards," Technical Report, Office of Assistant Secretary for Policy, Evaluation and Research (ASPER), U.S. Department of Labor, No. B-9-D-6-3788, February 1978.
10. "Modelling With Scenarios: Technology in North-South Development," (with H.S.D. Cole), Futures, August 1978, p. 303-321.
11. "Technology Distribution and North-South Relations" (with S. Cole) UNITAR Report, Project on the Future, 1978, August, p. 1-90.
12. "Some Results from a Model of Trade, Aid and Development," in Acero, Cole and Rush (eds.), Issues and Analysis of Long Term Development, Proceedings of Seminar at the Institute of Development, University of Sussex, November 20 December 2, 1978, UNESCO, 1981.
13. "An Extension of Comparative Statics to a General Class of Optimal Choice Models," (with P.J. Kalman), Journal of Mathematical Analysis and Applications, 1980; also in Some Aspects of the Foundations of General Equilibrium Theory, edited by J. Green, Lecture Notes on Economics and Mathematical Systems, (Springer-Verlag, Berlin-Heidelberg-New York: 1978), No. 159, p. 1-25.
14. "A Model of Technology, Domestic Distribution and North-South Relations," (with H.S.D. Cole), Technological Forecasting and Social Change, Vol. 13, No. 4, May 1979, p. 297-320.
15. "Disarmament in the Context of the International Economic Order," in Disarmament and Development, D.A. Leurdijk and E.M. Borgese, eds., Foundation Reshaping the International Order (RIO), Rotterdam, The Netherlands: June 1979, p. 57-64.
16. "Comparative Statics and Dynamics of Optimal Choice Models in Hilbert Spaces" (with P. Kalman) Journal of Mathematical Analysis and Applications, Vol 70, No. 2, August 1979, p. 490-504.

17. "On Fixed Point Theorems and Social Choice Paradoxes," Economic Letters, 3, 1979, p. 347-351.
18. "Models and Mystification" in Models, Planning and Basic Needs (eds. S. Cole and H. Lucas) Pergamon Press, 1979.
19. "A Model of the Relation between Technology and North-South Income Distribution" (with S. Cole and J. Clark) in Models, Planning and Basic Needs (eds. S. Cole, H. Lucas) Pergamon Press, 1979.
20. "An Application of Functional Analysis to Models of Efficient Allocation of Economic Resources," (with P.J. Kalman), Journal of Optimization Theory and Applications, Vol. 30, No. 1, January 1980, p. 19-32.
21. "North-South Interdependence, Development and Trade" IFDA Dossier 18, Building Blocks, July/August 1980, p. 59-74.
22. "Social Choice and the Topology of Spaces of Preferences," Advances in Mathematics, Vol. 37, No. 2, August 1980, p. 165-176.
23. "Authoritarianism and Development: a Global Perspective" (with Richard Falk and P. Serra) IFDA Dossier 11, September/October 1980, p. 2(3)-12(14).
24. "Basic Goods, the Effects of Commodity Transfers and the International Economic Order," Journal of Development Economics, vol.7, December 1980, p. 505-519.
25. "Agriculture and the Rest of the Economy, Macro Connections and Policy Constraints" (with L. Taylor), American Journal of Agricultural Economics, vol. 62,1980, p. 303 - 309.
26. "Basic Needs and Global Models: Resources, Trade and Distribution," Alternatives, Vol. 6.1980, p. 453-472.
27. "Continuous Representation of Preferences," Review of Economic Studies, Vol. 47, 1980, p. 959-963.
28. "Choix Sociaux et Theorie des Jeux: Resultats Recents d'une Approche Topologique," Cahiers du Seminaire d' Econometrie, No. 23, 1981, p. 47-75.
29. "Existence and Characterization of Optimal Growth Paths Including Models with Non-Convexities in Utilities and Technologies," Review of Economic Studies, Vol. 48, 1981, p. 51-61.
30. "Existence of Optimal Savings Policies with Imperfect Information and Non-Convexities," Journal of Mathematical Economics, 8, 1981, p. 1-14.
31. "Terms of Trade and Domestic Distribution: Export Led Growth with Abundant Labor Supply," Journal of Development Economics, 8, 1981, p. 163-192.

32. "Social Aggregation Rules and Continuity," Quarterly Journal of Economics, May 1982, p. 337-352.
33. "Trade and Development in the 1980's: Report to the Secretary General of UNCTAD", (with G. M. Heal), United Nations, Geneva, November 1982.
34. "Structural Instability of Decisive Majority Rules," Journal of Mathematical Economics, 9, 1982, p. 207-221.
35. "The Topological Equivalence of the Pareto Condition and the Existence of a Dictator," Journal of Mathematical Economics, 9, 1982, p. 223-233.
36. "Basic Needs and Exhaustible Resources in the North-South Debate: Imperatives and Distortions," World Order Models Project, Working Paper No. 21, 1982.
37. "Necessary and Sufficient Conditions for a Resolution of the Social Choice Paradox" (with G. Heal), Journal of Economic Theory, Vol. 31, No. 1, October 1983, p. 68-87.
38. "Community Preferences and Social Choice" (with G. Heal), Journal of Mathematical Economics, 12, 1983, p. 33-61.
39. "Social Choice and Game Theory: Recent Results with a Topological Approach," Social Choice and Welfare (eds. P.K. Pattanaik and M. Salles), North Holland, 1983, Ch. 6, p. 79-102.
40. "The Transfer Problem with Three Agents Once Again: Characterization, Uniqueness and Stability," Journal of Development Economics, 13, 1983, p. 237-248.
41. "Non-Conflicting Oil Pricing Policies in the Long Run," OPEC Review, 1983, Vol VII, No. 4, p. 330 - 356.
42. "The World Oil Market, Past and Future," The Columbia Journal of World Business (with G. Heal) Volume XIX Number 7, Spring 1984, p. 47-55.
43. "Necesidades Basicas, Recursos No Renovables y Crecimiento en el Contexto de las Relaciones Norte-Sur," Desarrollo Economico No. 94, Vol. 24, July, Sept. 1984, p. 171-186.
44. "Agricultural Productivity and Trade: Argentina and the USA," (with D. McLeod) Division Working Paper No. 1984-5, October 1984, Global Analysis and Projections Division, The World Bank, Washington D.C., 1-57.
45. "Resources, Trade and Debt: the Case of Mexico," (with G. Heal and D. McLeod) Division Working Paper No. 1984-5, November 1984, Global Analysis and Projections Division, The World Bank, Washington D.C.

46. "North-South Trade and Export-Led Policies," Journal of Development Economics, (1984), 15, p. 131-160.
47. "Patterns of Power" (with G. Heal), Journal of Public Economics, 1984, Vol. 23, p. 333-349.
48. "Terms of Trade, Domestic Distribution and Export-Led Growth: A Rejoinder to Rejoinders," Journal of Development Economics, (1984), Vol. 15, p. 177-184.
49. "The Transfer Problem in Stable Markets: A Rejoinder to Rejoinders," Journal of Development Economics, (1984), 16, p. 319-320.
50. "Manipulation and Repeated Games in Futures Markets" in The Industrial Organization of Futures Markets (ed. R. Anderson) D.C. Heath, Lexington MA, 1984, p. 193 - 214.
51. "International Trade in Resources: A General Equilibrium Analysis," Environmental and Natural Resource Mathematics, American Mathematical Society, Short Course, Eugene, Oregon, 1984, Proc. American Mathematical Society, 1993. vol. 32, p. 75-125, 1985, and G.M. Heal (ed) Critical Writings in the Economics of Exhaustible Resources, Edward Elgar, 1993.
52. "Von Neuman - Morgenstern Utilities and Cardinal Preferences," Mathematics of Operations Research, Vol. 10, No. 4, November 1985, p. 633-641.
53. "Oil Prices and the Developing Countries - the Evidence of the Last Decade," Intereconomics No. 6, Vol. 20, November/December 1985, p. 288-296.
54. "Necesidades Basicas, Recursos Naturales y Crecimiento en el Contexto Norte-Sur: Respuesta a un Comentario" Desarrollo Economico, No. 97, Vol. 25, 1985, p. 128-133.
55. "Trade and the Evolving World Economy," (with G. Heal) Hermes Columbia University Graduate School of Business, Winter 1986, p. 30-38.
56. "A General Equilibrium Theory of North-South Trade," Chapter I, Vol. II in Equilibrium Analysis, Essays in Honor of Kenneth J. Arrow, (eds. W. Heller, D. Starrett and R. Starr) Cambridge University Press, Cambridge, 1986, p. 3-56.
57. "Topological Complexity of Manifolds of Preferences," Chapter 8, Essays in the Honor of Gerard Debreu (W. Hildenbrand and A. Mas Colell, eds.), North Holland, 1986, p. 131-142.
58. "Trade and Development in the 80's" in One World, One Future: New International Strategies for Development (Ashok Bapna, ed.) 1986. Praeger Publishers, N.Y., Chapter 18, p 195-240.
59. "Resources Naturelles, Commerce et Endettement," (with G. Heal and D. McLeod) in Resources Naturelles et Theorie Economique, G. Gaudet et P.

- Laserre (eds.), Quebec, Les Presses de L'Universite Laval, 1986, Chapter 1, p. 57-90.
60. "Prix du petrole, prix industriels et production: une analyse macroeconomique d'equilibre general," Chapter 1, Resources Naturelles et Theorie Economique, G. Gaudet et P. Laserre, (eds.), Quebec, Les Presses de l'Universite Laval, 1986, p. 26-56.
 61. "The Walrasian Mechanism from Equal Division Is Not Monotonic with Respect to Variations in the Number of Consumers," (with W. Thomson) Journal of Public Economics, 1987, p.119-124.
 62. "Resources and North South Trade: A Macro Analysis in Open Economies," in Challenges of South-South Cooperation, (eds. H. Singer, N. Hatti, R. Tandon) Ashish Publishing House, 8/81 Punjab Bagh, New Delhi-110026, 1988, p. 263-290.
 63. "Trade and Structural Change in Pacific Asia," Journal of Economic Literature, 1989, June, vol. XXVII, No.2, p. 633 - 635.
 64. "North-South Trade and Basic Needs," International Journal of Development Planning Literature, 1989, Vol. 4, No. 4, p. 180-221.
 65. "On the Mathematical Foundations of Political Economy," Invited Political Economy Lecture, Harvard University, March 22, 1990, in Contributions to Political Economy, Cambridge Journal of Economics, Vol. 9, 1990, p. 25-41.
 66. "An Alternative Vision" (1990) Global Custodian (with G. Heal), September, p.103.
 67. "General Equilibrium and Social Choice with Increasing Returns," Annals of Operations Research, Vol 23, 1990, p. 289-297.
 68. "North-South Trade and Basic Needs," Vol. 7, Part G, Chapter 25, North South Trade in Manufactures, H. Singer, N. Hatti and R. Tandon (eds.)New World Order Series, INDUS Publishing Co., FS-5 Tagore Garden, New Delhi, India 100027, 1990, p. 661-711.
 69. "Global Models and North South Relations," International Political Science Review, 1990, Vol. 11 No. 2, p. 177-185.
 70. "The Opportunities in US-Soviet Aid" The New York Times, Op-Ed page Sunday, March 24, 1991.
 71. "The Wonder Years: New Communications Technology is Set to Alter the Way International Investors do Business", 1991, Global Custodian (with G. Heal), June/July, p. 90-93, 142.

72. "Social Choice and the Closed Convergence Topology," Social Choice and Welfare, 1991, vol.8, p. 307 - 317.
73. "Development at the Turn of this Century," Chapter 6, Part B, Adjustment and Liberalization in the Third World, H. Singer, N. Hatti and R. Tandon (eds.), INDUS Publishing Co., FS-5 Tagore Garden, New Delhi, India 100027, p. 159-67.
74. "Development at the Turn of Our Century" Asian Journal of Economic and Social Studies, 1991.
75. "North-South Trade and Basic Needs," in Theoretical Foundations of Development Planning, (ed. Shri Bhagwan Dahiya) Vedams Books International, New Dehli, 1991, Vol IV.
76. "Large and Small Models: Their Suitability for North-South Issues" Asian Journal of Economic and Social Studies, 1991, p. 237-246.
77. "Market Innovation and the Global Environment," Columbia Journal of World Business, Fall/Winter 1992, Volume XXVII Nos III and IV, p. 37-41.
78. "The Rain Drain" (with G. M. Heal), Hermes, Columbia University School of Business, 1992, p. 26 - 29.
79. "Chaotic Dynamics, Increasing Returns and the Phillips Curve" (with G. Heal and Y. Lin) Working Paper Columbia University, 1992, Journal of Economic Behavior and Organization, Vol. 27 (1995) 279-291.
80. "On Strategic Control", Quarterly Journal of Economics, February 1993, p. 285-290.
81. "How NAFTA can improve trade", Journal of Commerce Washington D.C. April 16, 1993.
82. "Traditional Comparative Advantages Vs. Economies of Scale: NAFTA and GATT", Rivista Di Politica Economica, April 1993, p.161-197
83. "Competitive Equilibrium in Sobolev Spaces Without Bounds on Short Sales" (with Geoffrey Heal), Working Paper No. 79, Institute for Mathematics and its Applications, University of Minnesota, June 1984, Journal of Economic Theory, Vol. 59 No. 2, April 1993, p. 364-384.
84. "Global Environmental Risks" (with G. M. Heal), Journal of Economic Perspectives, Special Issue on the Environment, Fall 1993, Vol 7, No. 4 p.65-86.
85. "The Abatement of Carbon Emissions in Industrial and Developing Countries: Commentary" presented at OECD Conference on The Economics of Climate Change, June 14-16, 1993, OECD: The Economics of Climate Change (ed. T. Jones), 1994, p. 159-170.

86. "North-South Trade and the Dynamics of Renewable Resources" Structural Change, and Economic Dynamics, Oxford University Press, December 1993, Vol 4, No 2, p. 219-248.
87. "Energy-Capital Substitution: A General Equilibrium Analysis" Working Paper, CP- 83- 6 International Institute for Applied Systems Analysis, 2361 Laxenburg, Austria, February 1983. Chapter 17 of G.M. Heal (ed) Critical Writings in the Economics of Exhaustible Resources, Edward Elgar, 1993, p. 339-90.
88. "Intersecting Families of Sets and the Topology of Cones in Economics" Bulletin of the American Mathematical Society, Expository and Research Papers, October 1993, vol 29, No. 2, p. 189-207.
89. "Property Rights on Biodiversity and the Pharmaceutical Industry" Case Study, Columbia Business School, Fall 1993.
90. "Topology and Economics: The Contribution of S. Smale", in From Topology to Computation, Proceedings of the Smalefest (eds. M. Hirsch, J. Marsden and M. Shub) 1993, Springer-Verlag, New York, p. 147-161.
91. "The Cone Condition, Properness and Extremely Desirable Commodities" Economic Theory, 3, 1993, p. 177-182.
92. "The City as a Home" Op-Ed piece, New York Times, January 2, 1994.
93. "Who Should Abate Carbon Emission? An International Perspective" (with G. M. Heal), Economics Letters, Spring 1994, p. 443-449.
94. "Arbitrage, Gains from Trade and Social Diversity: A Unified Perspective on Resource Allocation" Invited Lecture, American Economic Association Yearly Meeting, Boston, January 1994, American Economic Review, Papers and Proceedings Volume 84, No. 2, May 1994, p. 427-434.
95. "North-South Trade and the Global Environment," American Economic Review, Volume 84, No. 4, September 1994, p. 851-874.
96. "Topological Aggregation of Preferences: The Case of a Continuum of Agents", forthcoming in Social Choice and Welfare, with J.C. Candeal and E. Indurain November 20, 1994.
97. "Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium and the Core, and Limits Voting Cycles", Economics Letters, Vol. 46, December 1994, p. 321-331.
98. "North-South Trade, Property Rights and the Dynamics of Environmental Resources", in The Environment after Rio: International Law and Economics, (eds. L. Campiglio, L. Pineschi, D. Siniscalco and T. Treves), Graham and

- Trotman/Martinus Nijhoff, Kluwer Academic Publishers Group, London, 1994,p. 205-233.
99. "International Markets and the Global Environment" Issues in International Economics (eds. Di Matteo and R. Mundell), McMillan, 1994.
 100. "The Environment and the Long Run: A Comparison of Different Criteria" (with A. Beltratti and G. M. Heal), Ricerca Economica, Vol. 48, 1994, p. 319-340.
 101. "Uncertain Future Preferences and Conservation" (with Beltratti and Heal), in Sustainability: Dynamics and Uncertainty, Kluwer Academic Publishers for Fondazione Eni Enrico Mattei, 1994, p. 257-276.
 102. "Traditional Comparative Advantages vs. Increasing Returns to Scale: NAFTA and the GATT" in International Problems of Economic Interdependence, New York, 1994 (eds. Baldassarri, M., Di Matteo, M., and Mundel, R.), St. Martin's Press Inc., pp. 161-197.
 103. "Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium With or Without Short Sales," Economic Theory, January 1995, Vol. 5, No. 1, p. 79-108.
 104. "Sustainable Development and North-South Trade," FEEM Newsletter, Fondazione Eni Enrico Mattei, Via Santa Sofia 27, 20122 Milano Italy, March, 1995.
 105. "Lectures on Topology and Resource Allocation" (Leif Johansen lectures) Department of Economics, University of Oslo, Norway, April 1995.
 106. "The Green Golden Rule" (with G. Heal and A. Beltratti), Economic Letters, August 1995, Vol. 49, No.2, p.175-180.
 107. "No Block to Trade", New Economy, Institute for Public Policy Research (IPPR), London, September, 1995, p. 186-192.
 108. "Strategies for the Liberalization of Trade in the Americas," Trade Liberalization in the Western Hemisphere, Inter-American Development Bank United Nations: Economic Commission for Latin America and the Caribbean (ECLAC), 1825 K Street, Suite 1120 Washington D.C. 20006, Washington, DC, 1995, p. 165-188.
 109. "Existence of Optimal Growth Paths With Endogenous Technology" (with P. Gruenwald) Economic Letters, 1995, Vol. 48, p. 433-439.
 110. "Markets with Tradable CO₂ Emission Quotas: Principles and Practice," (with G. Heal) Economics Department Working Paper No. 153, Organization for Economic Cooperation and Development, (OECD), Paris, 1995.

111. "Markets for Tradeable CO2 Emission Quotas Principles and Practice", Economics Department Working Paper No. 153, Organisation for Economic Co-operation and Development (OECD) Paris 1995; published as Chapter 10 of Topics in Environmental Economics (eds. M. Boman et al), Kluwer Academic Publishers, The Netherlands, 1999.
112. "Option Values and Endogenous Uncertainty in MBO's ESOP's and Asset Backed Securities" (with G. Heal and D. Tsomocos), Economic Letters, 1995, Vol. 48, No. 3-4, p. 379-388.
113. "Sustainable Growth and the Green Golden Rule" (with A. Beltratti and G. M. Heal), presented at conference on Sustainable Growth, Paris, May 1993, (I. Goldin and A. Winters eds) Economic Approaches to Sustainable Development, OECD, Paris, 1995, p. 147-165.
114. "NAFTA and the WTO" Case Study, Columbia Business School, 1995.
115. "Network Evolution and Coalition Formation" in Private Networks Public Objectives, (Eli M. Noam and Áine Ní Shuilleabháin eds.), Elsevier Science B.V., Amsterdam, 1995, p. 177-135.
116. "The Evolution of a Global Network: A Game of Coalition Formation," Journal of International and Comparative Economics, 4, 179-197, 1995
117. "The Economic Value of the Earth's Resources", Invited perspectives article, Trends in Ecology and Evolution, (TREE), 1995-6, p. 135-140.
118. Leading Economist Ponder the Publication Process, Chapter 55, Edited by George B. Shepherd, Published by Thomas Horton and Daughters, 1995 p.56-66
119. "The Greening of the Bretton Woods," Financial Times, January 10, 1996, p. 8.
120. "Catastrophe Bundles Can Deal With Unknown Risk," Best's Review, p. 44-48, February 1996.
121. "Fischer Black: The Mathematics of Uncertainty," Notices of The American Mathematical Society, March 1996, p. 319-322.
122. "Individual Risk and Mutual Insurance" (with D. Cass and H. M. Wu), Econometrica, Vol. 64, No. 2, March 1996, p. 333-341.
123. "Financial Innovation in Property Catastrophe Reinsurance: The Convergence of Insurance and Capital Markets, Risk Financing Newsletter, vol. 13 No. 2, June 1996.
124. "The Future of Global Reinsurance," Presentation at the National Bureau of Economic Research Workshop on Public Policy and the Environment, Boston, August 1, 1996, and Independent Reinsurance Underwriters Association, New Jersey, September 9, 1996, Global Reinsurance, September 1996.

125. "Development and Global Finance: The Case for an International Bank for Environmental Settlements (IBES)", United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Development Programme (UNDP), Office of Development Studies, Discussion Paper no. 10, September 1996.
126. "Markets and Games: A Simple Equivalence among the Core, Equilibrium and Limited Arbitrage," Metroeconomica, Vol 47, No. 3, October 1996, p . 266-287.
127. "Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium," Journal of Mathematical Economics, December 1996 (Working Paper No. 9596-15, revised April 1996, Columbia University.)
128. "On the Existence and the Structure Pseudo-equilibrium Manifold" (with G. Heal), Journal of Mathematical Economics, 26, 1996, p. 171-186.
129. "Trade Regimes and GATT: Resource-Intensive vs. Knowledge-Intensive Growth", Economic Systems merged with Journal of International Comparative Economics 20, 1996, p. 147-181.
130. "Necessary and Sufficient Conditions for Implementation in Nash Equilibrium" (with G. M. Heal) Working Paper, University of Essex, 1980, forthcoming in Social Choice and Welfare, 1996.
131. Trade Regimes and Gatt: Resource Intensive vs. Knowledge Intensive Growth" The Globalization of Markets Edited by Jerome L. Stein, Published by Physica-Verga, 1996. p.63-97
132. "Market Arbitrage, Social Choice and the Core," Social Choice and Welfare, Vol. 14, No. 2, p. 191-210, 1997.
133. "A Unified Perspective on Resource Allocation: Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium, Social Choice and the Core" Social Choice Reexamined, (K. Arrow, A. Sen and T. Suzumura,) McMillan. CORE Discussion Paper No. 9527 (1995), Universite Catholique deLouvaine, voie du Roman Pays 34 B-1348 Louvain-LA-Neuve, Belgium.
134. "Property Rights and the Dynamics of Renewable Resources in North-South Trade" Chapter 1, Trade, Innovation and the Environment, (C. Carraro, ed.) Kluwer Academic Publishers for Fondazione E. E. Mattei, 1996, p. 15-54.
135. "Property Rights and the Dynamics of North-South Trade," Chapter 8, Agriculture, Trade and the Environment: Discovering and Measuring the Critical Linkages, (eds. M. Bredahl, N. Ballenger, J. Dunmore and T. Roe), Westview Press, Harper Collins Publishers, Colorado and Oxford, 1996, p. 97-110.
136. "Limited Arbitrage is Necessary and Sufficient for the Non-Emptiness of the Core", Economic Letters, 1996, 52, p. 177-180.

137. "A Robust Theory of Resource Allocation," Social Choice and Welfare, 1996, Vol. 13, p. 1-10.
138. "Actions of Symmetry Groups," Social Choice and Welfare, 1996, Volume 13 Number 3, p. 357-364.
139. "An Axiomatic Approach to Sustainable Development," Social Choice and Welfare, Vol. 13, No. 2, 1996, p. 231-257.
140. "Markets with Endogenous Uncertainty: Theory and Policy," Theory and Decision, Vol 41, 1996, p. 99-131.
141. "Biodiversity and Economic Values" in Protection of Global Biodiversity:Converging Interdisciplinary Strategies, (Lakshman Guruswamy & Jeffrey McNeely eds.) Duke University Press.
142. "Property Cat Woes Have Financial Solutions," World Reinsurance Report, September 1, 1997, p. S-20-S-24.
143. "Ecology and the Knowledge Revolution", 1997, Proceedings of the National Academy of Sciences Second National Forum on Biodiversity "Nature and Human Society", October 27 - 28, 1997, Washington, D.C. (Peter Raven, ed.), 1998.
144. "What is Sustainable Development", Land Economics, November 1997, 73(4): 467-91.
145. "A Topological Invariant for Competitive Markets," Journal of Mathematical Economics, 28, (1997), p. 445-469.
146. "Development and Global Finance: The case for an International Bank for Environmental Settlements" chapter No. 13 Sustainability and Global Environmental Policy: New Perspectives, Dragun, A.K. and Jakobsson, K.M. Eds.) Cheltenham, UK: Edward Elgar, 1997, p. 249-278.
147. "Market Arbitrage, Social Choice and the Core," Social Choice and Welfare, 1997, 14, p. 161-198.
148. "Social Choice with Infinite Populations" (with G.M. Heal), Social Choice and Welfare, 1997, Vol. 14, No 2, p. 303-319.
149. "The Knowledge Revolution", New Economy, Institute for Public Policy Research (IPPR), London, 1997, p.107-111.
150. "Limited Arbitrage is Necessary and Sufficient for the Existence of an Equilibrium", Journal of Mathematical Economics, 28, (1997) p.470-479.

151. "The Geometry of Implementation: A Necessary and Sufficient Condition for Straightforward Games, Social Choice and Welfare, with G.M. Heal, (1997) 14: 259-294
152. "Topological aggregation of preferences: the case of continuum of agents" Topological Social Choice, (ed. by Geoffrey Heal) Springer, 1997. p.187-197
153. "A Radical Shift in Managing Risks: Practical Applications of Complexity Theory," Contingencies, American Academy of Actuaries, January/February 1998, p. 28-32.
154. "Economics Returns from the Biosphere," Nature, Vol. 391, 12 February 1998, p. 629-630.
155. "Chacun peut y gagner," Courrier de la Planete# 10/Les Cahiers de Global Chance, Mars-Avril 1998, p. 28-29.
156. "The Economic Value of the Earth's Resources," Chapter in Biodiversity Resource Book, published by the American Museum of Natural History, NY, September 1998.
157. "The Knowledge Revolution and its Impact on Consumption and Resource Use", 1998 Human Development Report, United Nations Development Program (UNDP), New York, 1998.
158. "Financial Markets and the Environment" (with G. M. Heal), in Sustainability: Dynamics and Uncertainty (eds. G. Chichilnisky, G. Heal and S. Vercelli), Kluwer Academic Publishers for Fondazione Eni Enrico Mattei, 1998
159. "Financial Instruments for Human Development", 1998 Human Development Report, United Nations Development Program, New York, 1998.
160. "Topology and Invertible Maps" Advances in Applied Mathematics, 21, 1998, 113-123.
161. "The Economics of Global Environmental Risks" International Yearbook of Environmental and Resource Economics, Vol. II. eds. T. Tietenberg and H. Folmer), Edward Elgar, 1998, 235-273.
162. "The Costs and Benefits of Benefit-Cost Analysis" Policy Forum, (ed. C. Perry) Environment and Development Economics, University of York, UK, 202-207.
163. "Trade Regimes and GATT: Resources Intensive versus Knowledge Intensive Growth", Chapter 10, in Levy-Livermore, A. (ed.) Handbook on the Globalization of the World Economy, Chapter 10, p. 226-249, Edward Elgar, Cheltenham UK, Northhampton, Mausa, 1998, p. 147-181.
164. "Smooth Infinite Economies," (with Y. Zhou) Journal of Mathematical Economics, Vol. 29, no. 1, 1998, pp. 27-41.

165. "Global Environmental Risks," (with G.M. Heal), Chapter 1.2, Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G.M. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, p. 23-46.
166. "Sustainable Use of Renewable Resources," (with A. Beltratti and G.M. Heal), Chapter 2.1, Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G.M. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, p. 49-76.
167. "North South Trade and the Dynamics of the Environment," (with R. Abraham, and R. Record), Chapter 2.2, Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G.M. Heal and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, pp. 77-108.
168. "Trade, Migration, and Environment: A General Equilibrium Analysis," (with M. Di Mateo), Chapter 2.3, Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G.M. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, p. 109-128.
169. "Uncertain Future Preferences and Conservation," (with A. Beltratti and G.M. Heal), Chapter 3.4 in Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G. M. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, p. 257-276.
170. "Financial Markets for Unknown Risks," (with G.M. Heal), Chapter 3.5, in Sustainability: Dynamics and Uncertainty, (eds. G. Chichilnisky, G.M. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, 1998, p. 277-294.
171. "Solving the Riddle of Development: An Economist's View," Amicus, vol. 20, no. 2, Summer 1998, p. 13-15.
172. "Managing Unknown Risks: the Future of Global Reinsurance," (with G.M. Heal), The Journal of Portfolio Management, Summer 1998, p. 85-91.
173. "The Knowledge Revolution", The Journal of International Trade & Economic Development, Routledge 1998, 7:1 39-54.
174. "Sustainable Development and North-South Trade", Protection of Global Biodiversity: Converging Strategies, (eds. Lakshman D. Guruswamy and Jeffrey A. McNeely), Duke University Press, Durham and London, 1998, p. 101-117.
175. "A unified treatment of finite and infinite economies: limited arbitrage is necessary and sufficient for the existence of equilibrium and the core," (with G.M. Heal) Economic Theory, 12, 1998, 163-176.
176. "The Economics of Environmental Risks", chapter 7; The International Yearbook of Environmental and Resource Economics 1998/1999: A Survey of Current Issues (eds. Tom Tietenberg and Henk Folmer), New Horizons in Environmental

- Economics, Edward Elgar, Cheltenham, UK. Northampton, MA, USA, p. 255-278.
177. “Existence and Optimality of a General Equilibrium with Endogenous Uncertainty”, chapter 5 in Markets, Information and Uncertainty (ed. G. Chichilnisky), Cambridge University Press, New York, 1999, p. 72 – 96.
 178. “A Unified Perspective on Resource Allocation: Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium, The Core and Social Choice, Topology and Markets (ed. G. Chichilnisky), American Mathematical Society and the Fields Institute for Research in Mathematical Sciences, p. 31-69, 1999.
 179. “Intergenerational Choice: A Paradox and a Solution” Topology and Markets, (ed. Graciela Chichilnisky) Published by American Mathematical Society, 1999. p. 99-110
 180. “Catastrophe Futures: Financial Markets for Unknown Risks” Markets Information, and Uncertainty, (ed. G. Chichilnisky) Cambridge Press, 1999. p. 120-140.
 181. “Equity and Efficiency in Environmental Markets: Global Trade in Carbon Dioxide Emissions” Environmental Markets Equity and Efficiency (G. Chichilnisky and G. Heal, eds.), Columbia University Press, 2000. p. 46-47
 182. “An Axiomatic Approach to Choice Under Uncertainty with Catastrophic Risks”, appears in Resource & Energy Economics, Volume 22, Issue 3, July 2000, pp. 221 – 231
 183. “The Global Environment and the Knowledge Revolution” Missouri Botanical Gardens Press, Monograph Series. Proceedings of the conference Managing Human-dominated Eco-Systems organized at the Missouri Botanical Gardens by (V. Hollowell, Editor) Missouri Botanical Garden Press, 2001. p. 153-193
 184. “An axiomatic approach to sustainable development”, The Economics of Sustainability, edited by John C.V. Pezzey and Dr. Michael A. Toman, Dec, 2001
 185. “Equity and Efficient in Global Emissions Markets” Environmental Law, the Economy, and Sustainable Development, edited by Richard L Revesz, Philippe Sands, and Richard B. Stewart, Cambridge University Press, 2001. p. 263-279
 186. “The Environmental Impact of Globalization on Latin America: A Prospective Approach” Managing Human-Dominated Ecosystems, Edited by Victoria C. Hollowell, Missouri Botanical Garden Press, 2001. p. 271-303
 187. “Catastrophical Risk” Encyclopedia of Environmetrics, Volume 1, (eds. Abdel El-Shaarawi and Walter W. Piegorsch), 2002, John Wiley & Sons, Chichester, UK, p. 274-279

188. “Globalization and Cross-Border Exchanges”, Institutional Investor, Special issue on Transaction Performance (ed. B. Bruce), Spring 2002, pp. 90-94.
189. “Catastrophical Risk” Arthaniti, Volume 1, Nos 1 & 2 August 2002

Books:

1. Catastrophe or New Society? A Latin American World Model. (co-author). International Development Research Center, Ottawa, Canada, 1976: translation of Catastrofe o Nueva Sociedad?, Fundacion Bariloche, 1976. Translation to Japanese: Diamond, Inc., 1-412 Dasumigaseki, Chiyoda-ku, Tokyo, 1977.
2. Un Monde Pour Tous: Le Modele Mondial Latino-Americain, Presses Universitaires de France, Paris, 1977.
3. Grenzen des Elends, S. Fischer Verlag GmbH, Frankfurt am Main, 1977.
4. The Evolving International Economy (with G. Heal), Cambridge University Press, 1986.
5. Oil in the International Economy (with G. Heal), Clarendon Press, Oxford University Press, 1991.
6. Sustainability, Dynamics and Uncertainty (with G. Heal, and S. Vercelli), Kluwer Academic Publishers, Dordrecht, Boston, London, 1998.
7. Markets, Information, and Uncertainty: Cambridge University Press, New York, 1998.
8. Mathematical Economics Volumes I, II and III Edward Elgar Publishing Limited, London, 1998.
9. Topology and Markets, American Mathematical Society and the Fields Institute for Mathematical Sciences, Toronto, Canada, 1999.
10. Environmental Markets: Equity and Efficiency, Columbia University Press, 1999-99.40305.
11. Markets with Endogenous Uncertainty. Forthcoming, Springer Verlag.

Book Reviews:

1. Irma Adelman and Sherman Robinson, Income Distribution Policy in Developing Countries: A Case Study of Korea; A World Bank Research Publication (Oxford University Press, 1978); in Economic Development and Social Change, 1980.

2. C.J. Bliss, Capital Theory and the Distribution of Income (North-Holland, 1975); in Mathematical Reviews, Vol. 58, No. 1, July 1979.
3. C. Bradford and W. Branson (eds.), "Trade and Structural Change in Pacific Asia," NBER, the University of Chicago Press, Chicago 60637, Journal of Economic Literature, 1988.
4. S. Afriat, Demand Functions and the Slutsky Matrix, Princeton Studies in Mathematical Economics, Princeton University Press, 1980. In Mathematical Reviews, 1981.
5. David M.G. Newbery and Joseph E. Stiglitz, The Theory of Commodity Price Stabilization: A Study in the Economics of Risk, (Clarendon Press, Oxford, 1981); in Journal of International Economics, 15, 1983, p. 177-198.
6. Lance Taylor, Structuralist Macroeconomics: Applicable Models for the Third World, Basic Books, Inc. New York, 1983, Journal of Economic Literature, 1984.
7. Colin, I. Bradford and William H. Branson: Trade and Structural Change (Chicago and London: University of Chicago Press, Journal of Economic Literature, 1987 p. XIX, 558, JEL 87 1/N 1093).
8. Vernon Ruttan, Technology, Growth and Development: An Induced Innovation Perspective, Graduate School of Business, Stanford University, in Journal of Economic Literature, September 2002, Vol. 40, p. 963-964

Working Papers.

1. "Property Rights and Returns to Scale: Patents, Firms and Market Failure" (with G. Heal and Ugo Pagano) Technical Report No. 67, Stanford Institute for Theoretical Economics, Stanford University, August 1994, also appeared as Quaderni Dei Dipartimento Dei Economia Politica No 161, University of Siena, Italy.
2. "Price Uncertainty and Derivative Securities in a General Equilibrium Model" (with J. Dutta and G. Heal) January 1992, Working Paper No. 574, Department of Economics, Columbia University.
3. "Believing in Multiple Equilibria" (with. G. Heal, P. Streufert, J. Swinkles) Technical Report No. 49, Stanford Institute for Theoretical Economics, August 1992.
4. "Financial Innovation and Endogenous Uncertainty in Incomplete Asset Markets" (with H.M.Wu), September 1991, Technical Report No. 50, Stanford Institute for Theoretical Economics, August 1992.
5. "Necessary and Sufficient Conditions for the Existence of a Pareto Efficient Equilibrium in Non - Convex Economies" (with G. Heal) Working Paper No. 518, Department of Economics, Columbia University, 1991.
6. "Pre-trial Negotiations with Uncertain Outcomes" (with M. Dalvi and G. Heal) Working Paper Columbia University, 1992.
7. "Migration of Labor and Capital in a General Equilibrium Model of North-South Trade" (with M. di Matteo) Working Paper, Columbia University, and University of Siena, Italy, 1992.
8. "Existence of a General Equilibrium with Variable Endowments"(with G. Heal) Working Paper, University of Essex, 1981.
9. "International Markets with Emissions Rights of Greenhouse Gases: Equity and Efficiency" (with G. Heal and D. Starrett) Center for Economic Policy Research Publication No 81, Stanford University Fall 1993.

Other Professional Positions and Research Projects:

- | | |
|---------|--|
| 1971 | Member, Presidential Cabinet of Banco Central de la Republica Argentina (Central Bank of Argentina) President: Daniel Fernandez. |
| 1971-74 | Director, Economics and Mathematical Economics, Bariloche Model, Fundacion Bariloche, Argentina. |
| 1974-75 | Co-Principal Investigator, National Science Foundation: Grant No. 6S 18174 at Harvard University, with K.J. Arrow and P. Kalman. |
| 1975-77 | Co-Principal Investigator, The Urban Institute, Washington, D.C., with K.J. Arrow and P. Kalman. |

- 1976-77 Office of Naval Research: Contract No. NOO 14-67-A-0298-0019. Project No. NR-47-004, with Kenneth J. Arrow.
- 1977-78 Principal Investigator, United States Department for Labor, No. B-9-D-6-3788. (ASPER) on Problems of Labor Market Adjustment to Industrial Health Hazards.
- 1977-76 Special Fellow, United Nations Institute for Training and Research.
- 1980-82 Principal Investigator, National Science Foundation, Grant No. SES-7914050. "Classical Income Distribution and Growth."
- 1981-83 Principal Investigator, Rockefeller Foundation Project in International Relations.
- 1975- 86 Visiting Scholar, several short-term visits, International Institute of Applied Systems Analysis, Laxenburg, Austria.
- 1982 Economic Consultant, OPEC Secretariat, Vienna, Austria.
- 1982 Economic Consultant, UNCTAD Secretariat, Geneva, Switzerland.
- 1979-83 Project Director: "Development and North-South Trade," United Nations Institute for Training and Research, United Nations, New York.
- 1984-85 Principal Investigator, National Science Foundation, Grant No. SES-84-09857. "Market Organization and Public Policy with Increasing Returns."
- 1985 Awarded: National Science Foundation Professorship at the Department of Mathematics, University of California, Berkeley.
- 1984-85 Consultant, The World Bank, Division of Global Analysis and Projections.
- 1985-86 Principal Investigator, National Science Foundation SES 8420244 "International Dimension in Regulation."
- 1985-89 CEO and Chairman, FITEL Limited.
- 1989-90 Executive Director, Science International Limited.
- 1990 Consultant on Capital Markets to: Gunes Taner, Minister of State, Prime Ministry, Ankara, Republic of Turkey, Mehmet Tekbas, President of Capital Markets Board, Ankara, Turkey, and The Istanbul Stock Exchange, Istanbul, Turkey.
- 1991-93 Siena Fellowship, University of Siena, Italy.
- 1992 Economic Consultant to the Program of Trade Liberalization of the Americas, United Nations, ECLAC, Washington D.C.

- 1992-93 Consultant on International Environmental Policy, Fondazione Eni Enrico Mattei, Milano, Italy.
- 1993 Economic Consultant, OECD, Paris, Environmental Division: The Economics of Climate Change, Spring and Summer 1993.
- 1993-95 Principal Investigator, National Science Foundation Grant No. SBR 92-16028. "Environmental Policies in an International Context".
- 1994 Consultant, OECD, Paris, Economic Division, "International Markets with Property Rights on Carbon Emissions".
- 1994 Organizer, LEAD Conference on Trade and Sustainable Development, Module Two, The Rockefeller Foundation, Chiang Mai, Thailand, May 20-30 1994.
- 1994 Advisor and Contributing author, International Panel on Climate Change (IPCC), Writing Team 4: "Equity and Social Considerations".
- 1994 Principal Investigator, National Science Foundation. Mathematical Sciences Grant "Geometry, Topology and Markets" NSF Grant No. DMS 94-08798.
- 1994-98 Member of Board of Trustees, Natural Resources Defense Council (NRDC), New York.
- 1998 Principal Investigator, UN Foundation Grant (with UNIDO) "Technology Transfer and Emissions Trading A Win-Win Approach to the Kyoto Protocol"
- 1998 Lead Author, Intergovernmental Panel on Climate Change (IPCC)
- 1999 Sloan Foundation Award on the Knowledge Resolution
- 2000 Director Columbia Center for Risk Management (CCRM)