

## Curriculum Vitae

Mohammed Aliuddin Khan  
Abram Hutzler Professor of Political Economy

Department of Economics  
The Johns Hopkins University  
3400 N. Charles Street, Baltimore, MD 21218  
Phone: (410) 516-8545  
Email: akhan@jhu.edu

### Personal:

Date of Birth: July 20, 1948

Marital Status: Married, with two children

Citizenship: U.S.A.

### Degrees:

B.Sc. (Econ.), 1st Class Honours, London School of Economics, June 1969.

M.Phil., Yale University, March 1972.

Ph.D., Yale University, June 1973.

Dissertation Committee: Professors D. J. Brown, H. E. Scarf, R. M. Starr.

Dissertation Title: "Large Exchange Economies."

### Employment:

Assistant Professor, The Johns Hopkins University, July 1973-June 1977.

Associate Professor, The Johns Hopkins University, July 1977-June 1981.

Professor, The Johns Hopkins University, July 1981-June 1984.

Professor, The University of Illinois, July 1984-June 1988.

Professor, The Johns Hopkins University, July 1988-June 1989.

Abram Hutzler Professor of Political Economy, The Johns Hopkins University, July 1989-

### Other Employment:

Management Sciences Division, American Telephone and Telegraph Co., Summer 1970.

Visiting Lecturer, The London School of Economics, January-June 1975.

Visitor, Applied Economics Research Centre, University of Karachi, Summer 1976.

Visiting Associate Professor, Northwestern University, January-July, 1978.

Visiting Senior Fellow (United Nations TOKTEN Program), Pakistan Institute of De-

velopment Economics, May-June 1981.

Visiting Professor, Cornell University, July 1983-July 1984

Visiting Fellow, Aacdaemia Sinica, Summer 1989.

Visiting Professor, Bilkent University (Turkey), May 1991.

TOKTEN (United Nations) Fellow, Pakistan Institute of Development Economics, January 1991.

Consulting Professor, Bilkent University (Turkey), 1991 – 1993.

Research Fellow, International Monetary Fund, June 1995.

Visitor, CORE, Louvain, Belgium, November 1996.

Visiting Fellow, The Australian National University, July-August 1998.

Distinguished Fellow, Department of Mathematics, The National University of Singapore, Singapore, January 1-31, 1999.

Professeur Invité, CERMSEM, *Université de Paris 1 Panthéon-Sorbonne*, May-June 2000.

Visiting Research Fellow, Universidad de Vigo, August 2007.

Visitor, *Centro Modelamiento Matematico (CMM)* at the Universidad de Chile. December 2005, December 2006.

Visitor, *Center for Analytic Economics* at Cornell University, July 2004, July 2005.

Goh Keng Swee Visiting Professor, Department of Economics, The National University of Singapore, July 1 to December 30, 2008.

**Awards and Honours:**

Gonner Prize, 1969. Awarded by The London School of Economics.

Yale University Fellowship, 1969-1973.

Quaid-E-Azam Lecture to The Pakistan Society of Development Economists, Islamabad, May 1985.

Voted excellent teacher in every year (1984-88) taught at The University of Illinois. One of two outstanding graduate instructors of 1986 (Microeconomic Theory ranked first in large class category).

Nominated for the Distinguished Teaching Award at The Johns Hopkins University, 1991, 1992.

National Lecture titled “Perfect Competition and Economic Development,” Pakistan Planning Commission, September 6, 2007.

## Publications:

### Books

*Equilibrium Theory in Infinite Dimensional Spaces* (Springer Verlag: New York) (1991);  
book edited jointly with N. C. Yannelis.

### Articles

- “Approximately Convex Average Sums of Unbounded Sets,” *Proceedings of the American Mathematical Society*, **43** (1974), 181-185.
- “Some Remarks on the Core of a Large Economy,” *Econometrica*, **44** (1974), 633-42.
- “Some Equivalence Theorems,” *Review of Economic Studies*, **41** (1974), 549-65.
- “Nonconvexity and Pareto Optimality in Large Markets,” (co-author: S. Rashid), *International Economic Review*, **16** (1975), 222-45.
- “Some Approximate Equilibria,” *Journal of Mathematical Economics*, **2** (1975), 63-86.
- “Oligopoly in Markets with a Continuum of Traders: An Asymptotic Interpretation,” *Journal of Economic Theory*, **12** (1976), 273-97.
- “Fertility Decisions and Desires in Bangladesh: An Econometric Investigation,” (co-authors: I. Sirageldin, Senior author; F. Shah, A. Ariturk), *Bangladesh Development Studies*, **IV** (1976), 329-50.
- “Some Remarks on Sets with Unbounded Non-convexities,” *Metro-economica*, **29** (1977), 151-58.
- “Son Preference and the Demand for Additional Children in Pakistan,” (co-author: I. Sirageldin), *Demography*, **14** (1977), 481-95.
- “Unequal Treatment in the Core,” (co-author: H. Polemarchakis), *Econometrica*, **46**, (1978), 1475-1481.
- “A Limit Theorem for an Approximate Core of a Large but Finite Economy,” (co-author: S. Rashid), *Economic Letters* (1978), 297-302.
- “A Multisectoral Model of a Small, Open Economy with Non-Shiftable Capital and Imperfect Labor Mobility,” *Economic Letters*, **2** (1979), 369-75.
- “Relevance of Human Capital Theory to Fertility Research: Comparative Findings for Bangladesh and Pakistan,” in *Research in Human Capital and Development*, **1** (1979), 3-43.
- “Education, Income and Fertility in Pakistan,” (co-author: I. Sirageldin), *Economic Development and Cultural Change*, **27** (1979), 519-47.
- “A Factor Price and Public Input Equalization Theorem,” *Economic Letters*, **5** (1980), 1-5.

- “Dynamic Stability, Wage Subsidies and the Generalized Harris-Todaro Model,” *Pakistan Development Review*, **XIX** (1980), 1-24.
- “The Harris-Todaro Hypothesis and the Heckscher-Ohlin-Samuelson Trade Model: A Synthesis,” *Journal of International Economics*, **10** (1980), 527-47.
- “An Extension of the Brown-Robinson Equivalence Theorem,” (co-author: D. J. Brown), *Applied Mathematics and Computation* **6** (1980), 167-75.
- “On the Cores of Economies with Indivisible Commodities and a Continuum of Traders,” (co-author: A. Yamazaki), *Journal of Economic Theory* **224** (1981), 218-225.
- “Approximate Convexity of Average Sums of Sets in Normed Spaces.” *Applied Mathematics and Computation*, **9** (1981), 27-34.
- “Intrafamily Interaction and Desired Additional Fertility in Pakistan: A Simultaneous Equation Model with Dichotomous Dependent Variables,” (co-author: I. Sirageldin), *Pakistan Development Review*, **XX** (1981), 37-60.
- “Approximate Equilibria in Markets with Indivisible Commodities,” (co-author: S. Rashid), *Journal of Economic Theory*, **28** (1982), 82-101.
- “Approximate Equilibria with Bounds Independent of Preferences,” (co-authors: R. Anderson and S. Rashid), *Review of Economic Studies*, **49** (1982), 473-475.
- “Social Opportunity Costs and Immiserizing Growth: Observations on the Long Run Versus the Short,” *Quarterly Journal of Economics*, **97** (1982), 353-362.
- “Tariffs, Foreign Capital and Immiserizing Growth with Urban Unemployment and Specific Factors of Production,” *Journal of Development Economics*, **10** (1982), 245-256.
- “Sub-Optimal Tariff Policy and Gains from Trade with Urban Unemployment,” (co-author: Po-Sheng Lin), *Pakistan Development Review*, **XXI** (1982), 105-126.
- “Public Inputs and the Pure Theory of Trade,” *Zeitschrift für Nationalökonomie*, **43** (1983), 131-156. JEL 84/447.
- “Capital Markets and Urban Unemployment,” (co-author: S. N. H. Naqvi), *Journal of International Economics*, **15** (1983), 367-385.
- “How Meaningful are Statements About the Desired Number of Additional Children? An Analysis of 1968 Pakistani Data,” (co-author: I. Sirageldin), *Pakistan Development Review*, **22** (1983), 1-22.
- “An Alternative Proof of Diestel’s Theorem,” *Glasgow Math. Journal*, **25** (1984), 45-46.
- “A Remark on the Existence of Equilibria in Markets without Ordered Preferences and with a Riesz Space of Commodities,” *Journal of Mathematical Economics*, **13** (1984), 165-169.

- “Equilibrium in Abstract Economies without Ordered Preferences and with a Measure Space of Agents,” (co-author: R. Vohra), *Journal of Mathematical Economics*, **13** (1984), 133-142.
- “Sector-Specific Capital, Interconnectedness in Production and Multinationals,” (co-author: T. Datta Chaudhuri), *Canadian Journal of Economics*, **17** (1984), 489-507.
- “Educated Unemployed, Educational Subsidies and Growth,” (co-author: T. Datta Chaudhuri), *Pakistan Development Review*, **XXIII** (1984), 395-411.
- “International Trade and Foreign Investment: A Model with Asymmetric Production,” *Pakistan Development Review*, **XXIII** (1984), 509-530.
- “Comments on *Reproductive Behavior in Pakistan*,” *Pakistan Development Review*, **23** (1984), 219-223.
- “On the Existence of Lindahl Equilibria in Economies with a Measure Space of Non-Transitive Consumers,” (co-author: R. Vohra), *Journal of Economic Theory*, **36** (1985), 319-332.
- “On the Integration of Set-Valued Mappings in a Non-reflexive Banach Space, II,” *Simon Stevin*, **59** (1985), 257-267.
- “Equilibrium Points of Non-Atomic Games over a Non-reflexive Banach Space,” *Journal of Approximation Theory*, **43** (1985), 370-376.
- “Development Policies in LDCs with Several Ethnic Groups – A Theoretical Analysis,” (co-author: T. D. Chaudhuri), *Zeitschrift für Nationalökonomie*, **45** (1985), 1-19.
- “On Neglected Topics in Development Economics,” *Pakistan Development Review*, **XXIV** (1985), 237-259.
- “Comments on ‘Unemployment of the Educated and Emigration of Post-Secondary Graduates from the LDCs’, ” *Pakistan Development Review*, **24** (1985), 655-656
- “Weak Sequential Convergence in  $L_1(\mu, X)$  and an Approximate Version of Fatou’s Lemma,” (co-author: M. Majumdar), *Journal of Mathematical Analysis and Applications*, **114** (1986), 569-573.
- “On the Extensions of the Cournot-Nash Theorem,” in C.D. Aliprantis, O. L. Burkinshaw, N. Rothman (eds.) *Advances in Equilibrium Theory*, Springer-Verlag.
- “On a General Existence Theorem for Marginal Cost Pricing Equilibria,” (co-authors: D. J. Brown, G. Heal, R. Vohra), *Journal of Economic Theory*, **38** (1986), 371-379.
- “On the Existence of a Stationary Optimal Stock for a Multi-Sector Economy: A Primal Approach,” (co-author: T. Mitra), *Journal of Economic Theory*, **40** (1986), 371-379.
- “Equilibrium Points of Non-Atomic Games over a Banach Space,” *Transactions of the American Mathematical Society*, **293** (1986), 737-749.

- “Commercial Policy in an Asymmetric Economy,” (co-author: T. D. Chaudhuri), *Zeitschrift für Nationalökonomie*, **46** (1986), 143-161.
- “On Cournot-Nash Equilibrium in Generalized Qualitative Games with a Continuum of Players,” (co-author: N. Papageorgiou), *Nonlinear Analysis*, **11** (1987), 741-755.
- “On Cournot-Nash Equilibrium in Generalized Qualitative Games with an Atomless Measure Space of Players,” (co-author: N. Papageorgiou), *Proceedings of the American Mathematical Society*, **100** (1987), 505-510.
- “An Extension of the Second Welfare Theorem to Economics with Non-Convexities and Public Goods,” (co-author: R. Vohra), *Quarterly Journal of Economics*, **102** (1987) 223-241.
- “On Sufficient Conditions for the Sum of Two Weak Closed Convex Sets to be Weak Closed,” (co-author: R. Vohra), *Archiv der Mathematik*, **48** (1987), 328-330.
- “On the Existence of Lindahl-Hotelling Equilibria,” (co-author: R. Vohra), *Journal of Public Economics*, **34** (1987), 143-158.
- “Technical Progress and Structural Change,” (co-authors: T. Datta Chaudhuri, Min Tang), *Zeitschrift für die Gesamte Staatswissenschaft*, **143** (1987), 310-323.
- “Court, Louis Mehel,” “Correspondences,” “Harris-Todaro MODEL” and “Perfect Competition,” entries in J. Eatwell et al. (eds.) *The New Palgrave*, (1987). Macmillan: London.
- “On Approximate Decentralization of Pareto Optimal Allocations in Locally Convex Spaces,” (co-author: R. Vohra), *Journal of Approximation Theory*, **52** (1988), 149-161.
- “Pareto Optimal Allocations of Non-Convex Economies in Locally Convex Spaces,” (co-author: R. Vohra), *Nonlinear Analysis*, **12** (1988), 943-950.
- “Ioffe’s Normal Cone and the Foundations of Welfare Economics: An Example,” *Economics Letters*, **28** (1988), 15-19.
- “Development Policy in the Multi-Provincial Economy,” *Pakistan Development Review*, **27** (1988), 399-418.
- “Comments on *What Remains of the Case for Flexible Exchange Rates?*,” *Pakistan Development Review*, **26** (1989), 446-448.
- “On the Interiors of Production Sets in Infinite Dimensional Spaces,” (co-author: N. T. Peck), *Journal of Mathematical Economics*, **18** (1989), 29-39.
- “On Cournot-Nash Equilibrium Distributions for Games with a Non-Metrizable Action Space and Upper Semi-Continuous Payoffs,” *Transactions of the American Mathematical Society*, **315** (1989), 127-146.

- “In Praise of Development Economies,” *Pakistan Development Review*, **28** (1989), 337-378.
- “Comments on *Lessons to be Learned from the European Unemployment of the 80s*”, *Pakistan Development Review*, **28** (1989), 331-333.
- Review of Y. Balasko, Foundations of General Equilibrium Theory, *Journal of Economic Literature*, September 1989.
- “On a Reformulation of Cournot-Nash Equilibria,” (co-author: Y. Sun), *Journal of Mathematical Analysis and Applications*, **146** (1990), 442-460.
- “On Complete Regularity of Spaces of Economic Agents Endowed with the Order Topology,” (co-author: Y. Sun), *Archives der Mathematik*, **54** (1990), 389-396.
- “Education, Income and Desired Fertility in Egypt,” (co-authors: S. Cochrane and I. Taha), *Economic Development and Cultural Change*, **38** (1990), 313-339.
- “On the Languages of Markets,” *Pakistan Development Review*, **30** (1990), 503-549.
- “Toffe’s Normal Cone and the Foundations of Welfare Economics: The Infinite Dimensional Theory,” *Journal of Mathematical Analysis and Applications*, **161** (1991), 284-298.
- “Cournot-Nash Equilibria Distributions for Games with Differential Information,” (co-author: A. Rustichini), In M. A. Théra and J. B. Baillon (eds.), *Fixed Point Theory and Applications*, Pitman Research Notes in Mathematics, (Longman Scientific Publications: London) (1991), 245-259.
- “Equilibria of Large Games with Imperfect Observability,” (co-author: S. Chakrabarti), in C. D. Aliprantis, K. C. Border, W. A. J. Luxemburg (eds.) *Positive Operators, Reisz Spaces and Economics* (Springer Verlag: New York) (1991), 49-68.
- “Some Unpleasant Objects in a Non-Separable Hilbert Space,” (co-author: A. Rustichini), in C. D. Aliprantis, K. C. Border, W. A. J. Luxemburg (eds.) *Positive Operators, Reisz Spaces and Economics* (Springer Verlag: New York) (1991) 179-188.
- “Equilibria in Markets with a Continuum of Goods,” (co-author: N. C. Yannelis), in M. Ali Khan, N. C. Yannelis (eds). *Equilibrium Theory in Infinite Dimensional Spaces* (Springer Verlag: New York) (1991), 233-248.
- “On a Symmetric Cournot-Nash Equilibrium Distributions in a Finite-Action, Atomless Game,” (co-author: Y. N. Sun), In M. Ali Khan, N. C. Yannelis (eds). *Equilibrium Theory in Infinite Dimensional Spaces* (Springer Verlag: New York) (1991), 325-333.
- “Ethnic Groups and the Heckscher-Ohlin-Samuelson Trade Model, *Economic Theory*, **1** (1991), 355-371.
- “Distributive Justice and Need Fulfillment in an Islamic Economy: A Review, *Journal*

- of King AbdulAziz University **3** (1991), 97-117.
- “The Economics of the Atlantic Slave Trade” in W. Neufeind and R. Reizman (eds.) *Economic Theory and international Trade* (Springer-Verlag, New York) (1992), 211-243.
- “Theoretical Studies in Money and Banking: A Review Article,” *Journal of King AbdulAziz University*, **4** (1992), 51-79
- “On the Relevance of Functional Analysis to Economic Theory,” in the *Proceedings of Research Centre for Mathematical and Physical Sciences*, Chittagong, Bangladesh.
- “The Essential Role of Science in Technological Progress and Economic Development: Some Comments,” *Third World Academy of Sciences*, Trieste, Italy.
- “On Measuring the Social Opportunity Cost of Labour in the Presence of Tariffs and an Informal Sector,” *Pakistan Development Review*, **31** (1992), 535-562.
- “Comments on *Investing in all the People*,” *Pakistan Development Review*, **31** (1992), 394-400.
- “Lionel McKenzie and the Existence of Competitive Equilibrium,” in M. Boldrin et al. (eds.), 1993, *General Equilibrium and Growth* (Academic Press, New York), 1-50.
- “Trade and Development in the Presence of an Informal Sector: A Four Factor Model, pages 142-190 in K. Basu, M. Majumdar and T. Mitra (eds.), *Capital Investment and Development* (Oxford: Basil-Blackwell). 1993.
- “On Cournot-Nash Equilibrium Distributions for Games with Uncertainty and Imperfect Information,” (co-author: A. Rustichini), *Journal of Mathematical Economics*, **22** (1993) 35-59.
- “Foreign Investment in the Presence of an Informal Sector,” (co-author: V. Chandra), *Economica* **60** (1993), 79-103.
- “On Economics and Language,” *Journal of Economic Studies* **20** (1993), 51-69.
- “On the Irony in/of Economic Theory,” *Modern Language Notes* **108** (1993), 759-803.
- “On Education as a Commodity,” *Pakistan Development Review*, **32** (1993), 541-579.
- “Comment on *The New Protectionism and the Nature of World Trade*,” *Pakistan Development Review*, **32** (1993), 583-589.
- “On Large Games with Finite Actions: A Synthetic Treatment,” (co-author: Y. N. Sun), Japanese translation in *Mita Gakkai Zasshi (Mita Journal of Economics)*, **87** (1994), 73-84. Also in T. Maruyama and W. Takahashi (eds.), *Nonlinear and Convex Analysis in Economic Theory*, 149-161. Berlin: Springer-Verlag (1995).
- “Extremal Structures and Symmetric Equilibria with Countable Actions,” (co-author:



- Y. N. Sun), *Journal of Mathematical Economics* **24** (1995), 239-248.
- “Pure Strategies in Games with Private Information,” (co-author: Y. N. Sun), *Journal of Mathematical Economics*, **24** (1995), 633-653.
- “The Marriage Lemma and Symmetric Equilibria with Countable Actions,” (co-author: Y. N. Sun), *Mathematical Proceedings of the Cambridge Philosophical Society*, **117** (1995), 385-387.
- “Free Trade and the Environment,” *The Journal of International Trade and Economic Development*, **5** (1996), 113-136.
- “Integrals of Set-Valued Functions with a Countable Range,” (co-author: Y. N. Sun), *Mathematics of Operations Research*, **21** (1996), 946-954.
- “Population and Economic Development,” in M. G. Quibria (ed.) *Current Issues in Economic Development: An Asian Perspective*, 348-395, New York: Oxford University Press. (1996).
- “Nonatomic Games on Loeb Spaces,” *Proceedings of the National Academy of Sciences, USA*, (co-author: Y. N. Sun), **93** (1996) 15518-15521.
- “On Research in Mathematical Economics,” pages 21-24 in M. Albers, B. Hu and J. Rosenmuller (eds.) *Current and Future Directions in Applied Mathematics*, Berlin: Birkhauser. (1997)
- “On Loeb Measure Spaces and their Significance for Non-Cooperative Game Theory,” (co-author: Y. N. Sun), in M. Albers, B. Hu and J. Rosenmuller (eds.) *Current and Future Directions in Applied Mathematics*, (Berlin: Birkhauser). (1997)
- “The Capital-Asset-Pricing Model and Arbitrage Pricing Theory: A Unification,” (co-author: Y. N. Sun), *Proceedings of the National Academy of Sciences, USA*, **94** (1997), 4229-4232.
- “On the Existence of Pure Strategy Equilibria in Games with a Continuum of Players,” (co-authors: K. P. Rath and Y. N. Sun), *Journal of Economic Theory*, **76** (1997), 13-46.
- “On Private Information Games without Pure-Strategy Nash Equilibrium Points in Large Non-Anonymous Games,” (co-authors: K. P. Rath and Y. N. Sun), in *Game Theoretical Applications to Economics and Operations Research*, eds. B. Dutta, T. Parthasarathy, J. Potters, T. E. S. Raghavan. D. Ray and A. Sen. Amsterdam: Kluwer Academic Publishers (1997)
- “A result on large anonymous games: an elementary and self-contained exposition,” pp. 206-236 in J. Moore, R. Reizman and J. Melvin (eds.), *Trade, Theory, and Econometrics: Essays in Honour of John S. Chipman* New York: Routledge. (1998)
- “Srinivasan on choice of technique once again,” pp. 9-19 in G. Ranis and L. K. Raut

- (eds.), *Trade, Growth and Development: Essays in Honor of Professor T. N. Srinivasan* Elsevier Science, New York. (1998)
- “On private information games without pure strategy equilibria,” (co-authors: K. P. Rath and Y. N. Sun), *Journal of Mathematical Economics* **31** (1999), 341-359.
- “Weak measurability and characterizations of risk,” (co-author: Y. N. Sun), *Economic Theory* **13** (1999), 441-460.
- “Non-cooperative games on hyperfinite Loeb spaces,” (co-author: Y. N. Sun), *Journal of Mathematical Economics* **31** (1999), 455-492.
- “The Mordukhovich normal cone and the foundations of welfare economics,” *Journal of Public Economic Theory* **1** (1999), 309-338.
- “The supremum argument in the new approach to the existence of equilibrium in vector lattices,” (co-authors: R. Tourky and R. Vohra), *Economics Letters* **63** (1999), 61-65.
- “Globalization of Financial Markets and Islamic Financial Institutions,” *Islamic Economic Studies*, **8** (2000), 19-67.
- “North-South Investment Flows and Optimal Environmental Policies,” (co-authors: H. Beladi and N. H. Chau), *Journal of Environmental Economics and Management*, **40** (2000), 275-296.
- “Optimal Urban Employment Policies: Notes on Calvo and Quibria,” (co-author: N. H. Chau), *International Economic Review*, **42** (2001), 557-568.
- “Asymptotic arbitrage and asset pricing models on general index sets and on the Lebesgue continuum,” (co-author: Y. N. Sun), *Journal of Economic Theory*, **101** (2001), 222-251.
- “International treaties on trade and global pollution,” (co-author: P. Chander), *International Review of Economics and Finance*, **10** (2001), 303-324.
- “On trust as a Commodity and on the Grammar of Trust,” *Journal of Banking and Finance*, **26** (2002), 1719-1766. An erratum (publisher’s mistakes) in **27** (2003), 773.
- “Non-Cooperative Games with Many Players,” (co-author: Y. N. Sun), Chapter 46, pages 1761-1808 in *Handbook of Game Theory*, Vol. 3, (eds.) R. J. Aumann and S. Hart. Amsterdam: Elsevier Science.
- “Exact Arbitrage, Well-Diversified Portfolios and Asset Pricing in Large Markets,” (co-author: Y. N. Sun), *Journal of Economic Theory*, **110** (2003), 337-373.
- “Exact Arbitrage and Portfolio Analysis in Large Asset Markets” (co-author: Y. N. Sun), *Economic Theory*, **22** (2003), 495-528.
- “Composite photography and statistical prejudice: Levy-Peart and Marshall on the theorist and the theorized,” *European Journal of Political Economy*, **20** (2004), 23-30.

- “Review of *How Economics Became a Mathematical Science* by E. Roy Weintraub,” *History of Political Economy*, **36** (2004), 212-214.
- “Self-Interest, Self-Deception and the Ethics of Commerce,” *Journal of Business Ethics* **52** (2004), 189-206.
- “Regional (East-West/North-South) Cooperation and Peter Singer’s Ethics of Globalization,” *Pakistan Development Review* **43** (2004), 1-39.
- “On Choice of Technique in the Robinson-Solow-Srinivasan Model,” (co-author: T. Mitra), *International Journal of Economic Theory* **1** (2005), 83-109.
- “On Hayek’s *Road to Serfdom*: sixty years later,” *European Journal of Political Economy*, **21** (2005), 1026-1041.
- “On Topological Chaos in the Robinson-Solow-Srinivasan Model,” (co-author: T. Mitra), *Economics Letters*, **88** (2005), 127-133.
- “Intertemporal Ethics, Modern Capital Theory and the Economics of Forestry,” Chapter 2 in S. Kant and A. Berry (eds.) *Sustainability, Economics and Natural Resources: Economics of Sustainable Forest Management*, Springer Publishers, Netherlands, (2005) 39-65.
- “Undiscounted Optimal Growth under Irreversible Investment: A Synthesis of the Value-Loss Approach and Dynamic Programming,” (co-author: T. Mitra), *Economic Theory* **29** (2006), 341-362.
- “Ronald W. Jones and Two-sector Growth: Ramsey Optimality in the RSS and Leontief Cases,” (co-author: M. Fujio), *Asia-Pacific Journal of Accounting and Economics* **13** (2006), 87-110.
- “The Dvoretzky-Wald-Wolfowitz Theorem and Purification in Atomless Finite-action Games,” (co-authors: K. P. Rath, Y. N. Sun), *International Journal of Game Theory*, **34** (2006), 91-104.
- “Optimal Growth in the Two-sector RSS Model: A Continuous Time Analysis,” (co-author: T. Mitra), *Proceedings of the Seventh Portuguese Conference on Automatic Control* (2006). [Not Included]
- “Discounted Optimal Growth in the Two-Sector RSS Model: A Geometric Investigation,” (co-author: T. Mitra), *Advances in Mathematical Economics*, **8** (2006), 349-381.
- “Optimal Growth under Discounting in the Two-sector Robinson-Solow-Srinivasan Model: A Dynamic Programming Approach,” (co-author: T. Mitra), *Journal of Difference Equations and Applications* **13** (2007), 151-168.
- “Institutional Development: Skill Transference through ‘Reversal of Human Capital Flight’ or Technical Assistance,” (co-author: N. U. Haque), *Pacific Economic Re-*

- view* **12** (2007), 1-13.
- “On a Uniform Turnpike of the Third Kind Robinson-Solow-Srinivasan Model,” (co-author: A. Zaslavsky), *Journal of Economics*, **92** (2007), 137-166.
- “Optimal Growth in a Two-Sector Model without Discounting: A Geometric Investigation,” (co-author: T. Mitra), *Japanese Economic Review*, **58** (2007), 191-225.
- “Growth in the Robinson-Solow-Srinivasan Model: Undiscounted Optimal Policy with a Strictly Concave Welfare Function,” (co-author: T. Mitra), *Journal of Mathematical Economics*, **44** (2008), 707-732.
- “Similarity of differential information with subjective prior beliefs,” (co-authors: Y. N. Sun, R. Tourky and Z. X. Zhang), *Journal of Mathematical Economics*, **44** (2008), 1024-1039.
- “Harris-Todaro Hypothesis” and “Perfect Competition.” Entries for *The New Palgrave*, edited by L. Blume and S. Durlauf. 2008. MacMillan, London.
- ““Minimization,” “Foresight, Perfect,” “Probability,” and “Satiation” Entries for *The International Encyclopedia of the Social Sciences*, edited by William Darity Jr. and others.
- “On Existence of Weakly Maximal Programs: The RSS model with Non-concave Felicitities,” (co-author: A. Zaslavski), *Journal of Mathematical Economics* **45** (2009), 624-633.
- “On Games with Incomplete Information and the Dvoretzky-Wald-Wolfowitz Theorem with Countable Partitions,” (co-author: K. P. Rath), *Journal of Mathematical Economics* **45** (2009), 830-837.
- “On Locally Optimal Programs in the Robinson-Solow-Srinivasan model,” (co-author: A. Zaslavski), *Journal of Economics* **99** (2010), 65-92.
- “On Uniform Convergence of Undiscounted Optimal Programs in the Mitra-Wan Forestry Model: The Strictly Concave Case,” (co-author: A. Piazza), *International Journal of Economic Theory* **6** (2010), 57-76.
- “On Two Classical Turnpike Results for the Robinson-Solow-Srinivasan Model,” (co-author: A. Zaslavski), *Advances in Mathematical Economics* **13** (2010), 47-97.
- “On the Non-existence of Optimal Programs in the Robinson-Solow-Srinivasan (RSS) Model,” (co-author: A. Piazza), *Economics Letters* **109** (2010), 94-98.
- “The Economics of Forestry and a Set-Valued Turnpike of the Classical Type,” (co-author: A. Piazza), *Nonlinear Analysis* **74** (2011), 171-181.
- “An Overview of Turnpike Theory: Towards the Discounted Deterministic Case,” (co-author: A. Piazza), *Advances in Mathematical Economics* **14** (2011), 39-67.

- “Classical Turnpike Theory and the Economics of Forestry,” (co-author: A. Piazza), *Journal of Economic Behavior and Organization* **79** (2011), 194-201.
- “The Concavity Assumption on Felicities and Asymptotic Dynamics in the RSS model,” (co-author: A. Piazza), *Set-Valued and Variational Analysis* **19** (2011), 135-156.
- “Optimal cyclicity and chaos in the 2-sector RSS model: an anything-goes construction,” (co-author: A. Piazza), *Journal of Economic Behavior and Organization* **80** (2011), 397- 417.
- “Set-valued functions, Lebesgue extensions, and saturated probability spaces,” (co-author: Y. C. Zhang), *Advances in Mathematics* **229** (2012) 1080-1103.
- “Impatience and dynamic optimal behavior: A bifurcation analysis of the Robinson-SolowSrinivasan model,” (co-author: T. Mitra), *Nonlinear Analysis: Theory, Methods & Applications*, **75** (2012), 1400-1418
- “On the Mitra-Wan forestry model: a unified analysis,” (co-author: A. Piazza), *Journal of Economic Theory*, **147** (2012), 230-260.
- “Long run optimal behavior in a two-sector Robinson-Solow-Srinivasan model,” (co-author: T. Mitra), *Macroeconomic Dynamics*, **16** (2012), 70-85.
- “Turnpike theory: a current perspective,” (co-author: A. Piazza), *The New Palgrave Dictionary of Economics*, S. N. Durlauf and L. E. Blume (eds.), online edition, Palgrave, Macmillan, 2012.
- “La concorrenza perfetta come teoria dellequilibrio,” Chapter 25 in C. Bartocci and P. Odifreddie *La Matematica* Volume 4, pp. 875-947, Giulio Einaudi Editore, Rome. 2012.
- “On the Reception and Use of NSA in Economic Theory,” Chapter in *Mathematics in Economics - Foundations, Philosophy and Epistemology*, S. Chen and C. V. Vellupillai (eds.) World Scientific. 2013.
- “Large Games with a Bio-Social Typology,” (co-authors: K. P. Rath, Y. N.Sun, H. Yu), *Journal of Economic Theory*, **148** (2013), 1122–1149.
- “Large Distributional Games with Traits,” (co-authors: K. P. Rath, H. Yu, Y. Zhang), *Economics Letters*, **118** (2013), 502–505.
- Book review of *General Equilibrium Theory of Value* by Yves Balasko, *Journal of Economics*, forthcoming

### **Selected Invitations:**

Invited Panelist at a Colloquium on “The Essential Role of Science in Technological Progress and Economic Development,” held at The Third World Academy of Sciences, Trieste, Italy, May 1992.

Invited Lecture to The Academia Sinica, hosted by the National Science Council, Republic of China, July 1992.

Shaw Lecturer, Chinese University of Hong Kong, Hong Kong, June 1994.

Invited Presentation at the *Social Sciences Research Council* Workshop on “Languages of Development,” held at the University of California, Berkeley, October 1994.

Invited Lecture, Third Conference on Development Economics, Manila, Asian Development Bank, November 1994.

Invited Presentation at the Mellon Seminar on “Equality and Racial Discrimination,” held at the University of North Carolina, January 1996.

Invited Panelist at a Colloquium on “Current and Future Directions in Applied Mathematics,” held at University of Notre Dame, Notre Dame, June 1996.

Invited Panelist at a Colloquium on “Liberty and Christianity in the Thought of Josiah Tucker,” Liberty Fund, held at the University of Illinois, Champaign, October 1996.

Iqbal Lecture to The Pakistan Society of Development Economists, Islamabad, December 1997.

Invited Panelist at a Colloquium on “Freedom and Responsibility in Rhetoric,” Liberty Fund, held in Indianapolis, March 1998.

Eminent Scholars’ Lecture, delivered at the Islamic Development Bank, Jeddah, Saudi Arabia, June 1998.

Invited by the Department of Economics at Brown University to give three lectures on the Economics of the 18th Century, March 10-17, 1999.

Invited Panelist for a Conference on “Liberty and Economic Development” hosted by The Liberty Fund, Indianapolis, October 28-31, 1999.

Minicourse consisting of four lectures on “Negligibility in Economic Theory: Games and Finance”, delivered at CERMSEM, *Université de Paris 1 Panthéon-Sorbonne*, May 16-June 21, 2000.

Three Invited Lectures at the Institute of Public Policy, The George Mason University on the “Economics of the 18<sup>th</sup>-Century,” July 2000.

Invited presentation at the *Conference on Economic Design* to be held at New York University on June 6-9, 2002.

Invited Lecture at the *Econometric Society’s Meetings* in Lahore, December 2002. Title of talk: “Asset Pricing Theory with Large Markets: An Exposition.”

Invited Lecture at the 4<sup>th</sup> Summer Institute for the Study of History of Economics at George Mason University July 14-18, 2003.

- Invited Lecture at an *American Statistical Association* Panel on Ethics at the Joint Statistical Meetings held on August 3-7, 2003 in San Francisco, California. Title of talk: “On the Ethics of (Economics) Theorizing.”
- Keynote Address titled “On an Austrian Model of International Trade: A Re-Reading” presented at a conference on *Recent Advances in International Economics II* held on August 21 and 22, 2003 at *The City University of Hong Kong*.
- Invited Discussant at *Scientific Conference in Honor of Henry Y. Wan Jr.* to be held at Cornell University September 6-7, 2003.
- On a Space for Islam in Economics,” invited talk given at a *Round Table on “Islamic Economics: Current State of Knowledge and Development of the Discipline* convened by the *Islamic Research and Training Institute (IRTI)* and the *Arab Planning Institute (API)*, May 26-27, 2004 at Jeddah, Saudi Arabia.
- “Sustainability, Structural Change and the Ethics of Globalization,” invited talk at a conference on *Agricultural Competitiveness and Change under Globalization*, held at the “Center for Agriculture and Policy” at *North Dakota State University* on October 11-12, 2004.
- “On Money as a Commodity and on the Trust in Money,” invited talk given at the *International Seminar on “Macroeconomics from an Islamic Perspective”* held on September 22-24, 2004 in Kuala Lumpur, Malaysia.
- “Regional (East-West/North-South) Cooperation and Peter Singer’s Ethics of Globalization,” The Mahbub-ul-Haq Memorial Lecture given at the 20<sup>th</sup> Annual General Meeting of the *Pakistan Society of Development Economists* held at Islamabad, January 10-12, 2005.
- “The Grand Disillusionment: Hayek and Modern Economic Theory,” three invited lectures given at the *George Mason University*, April 11-15, 2005.
- “On Lionel McKenzie’s 1957 Intrusion into 20<sup>th</sup>-Century Demand Theory,” Invited paper to be given at the 2005 Hope Conference, Duke University, April 21-23, 2005.
- “Integration of Correspondences and the Dvoretzky-Wald-Wolfowitz Theorem,” (co-authors: K. P. Rath, Y. N. Sun), paper presented at the SAET Conference on *Current Trends in Economics*, Vigo, Spain, July 2, 2005.
- “Gerard Debreu on the Integration of Correspondences Berkeley,” paper presented at the NSF/CME Conference on *Mathematical Economics: The Legacy of Gerard Debreu*, Berkeley October 20 – October 23, 2005.
- “Notes on Growth in the Robinson-Solow-Srinivasan Model: Undiscounted Optimal Policy with a Strictly Concave Welfare Function,” (co-author: T. Mitra), paper presented at the *Conference in honor of Roko Aliprantis* held at Purdue University, October 17-18, 2005.

“Social Capital and Economic Development: Lessons from Pierre Bourdieu,” Distinguished Lecture given at the 21<sup>st</sup> Annual General Meeting of the *Pakistan Society of Development Economists* held at Islamabad, December 19-21, 2005.

“Optimal Policies with Discounting: Geometry and Computation in the Two-Sector RSS Model,” (co-authors: C. Metcalf, T. Mitra). Paper presented at the *First GE Conference* held in Rio February 8-9, 2006.

Talk at the 7th SAET Conference in Kos, 2007. “On games with incomplete information and the Dvoretzky-Wald-Wolfowitz theorem with countable partitions,” (co-author: K. P. Rath).

Talk at the Positivity Conference in Queens University, Belfast, July 2007. “Positivity and General Equilibrium Theory.”

Talk at the Second General Equilibrium Workshop in Rio January, 2008. “Pure Strategy Equilibria in Games with a Continuum of Players and a Multiplicity of Types,” (co-authors: K. P. Rath, Y. N. Sun, H. Yu.)

### **Ph. D Students**

Completed Ph.D.'s: S. Saunders, A. Bandyopadhyay, S. Rashid (Yale), L. Lewis (Yale), Y. Tal, P.-S. Lin, T. D. Chaudhuri, R. Vohra, N. Yannelis (Rochester), Y. Nomura, S. Ishizawa, D. Emmons, T. Hamano, M. Tang, K. Rath, V. Chandra, C. S. Liu, E. Motahar, J. Shieh, S. Yamashige, P. Gerson, S. Jilani, M. Upadhyay, S. Broca, N. Chau, Muslehuddin, Y. Yakutake, A. Rajan (Mathematics), S. Alpay, S. Kim, M. Khawar, A. Basu, M. Rauh, N. Ayoub (Mathematics), S. Lee, D. Hinze, A. Dhoore, M. Fujio, Z.X. Zhang, H. Fu (NUS), H. Yu, M. Linask, J. Lake.

### **Work for the World Bank:**

“A Proposal for Linking the W.F.S. and H.I.E.S. Data Sets for the Study of Fertility in Malaysia,” a paper written for the Population and Human Resource Division of the World Bank, December 1977.

Consultant to the World Bank Mission to Jordan, Summer 1978. Prepared a paper on “Shadow Prices in Jordan,” September 1978.

“A Proposal for Analysis Determinants of Fertility and Age at Marriage in Kerala-Karnataka.” A paper written for the Population and Human Resource Division of the World Bank, August 1979.

“The Determinants of Desired Fertility, Desired Education, Labor Force Participation and Completed Family Size: A Proposal for the Analysis of the Egyptian Fertility Survey,” July 1983.

“Son Preference and the Demand for Additional Children in Egypt,” (co-authors: S.



Cochrane and I. Taha), December 1985.

Panel Member for the review of research proposals submitted to the “Development Marketplace”, World Bank, February 8 and 9, 2000.

**Work for the International Food Policy Research Institute:**

USAID Evaluator for the HRD Component of the Pakistan Project.

“Comment and Queries on the Pakistan Project,” mimeo, IFPRI, December 1992, 25 pages.

“Raven’s Tests as a Measure of Innate Ability: A Plea for Reconsideration,” (co-authors: S. J. Malik, S. Broca, M. Gill), July 1993

“Son Preference, Interspousal Communication and Fatalistic Attitudes in Desired Fertility in Pakistan,” (co-author: S. J. Malik), July 1993

“Education, Income and Nutrition: An Exploration of Pakistani Data,” (co-author: S. J. Malik), July 1994.

**Other Professional Activities:**

Reviews for the Zentralblatt fur Mathematik and for Mathematical Reviews.

Co-editor of Vol. 2 of Research in Human Capital and Development, JAI Press, Westport, 1980.

Editorial Board (Past): Pakistan Development Review, Journal of Mathematical Economics, Economic Theory, Pacific Economic Review, Japanese Economic Review, Review of development economics, Journal of Economic Integration, Journal of Public Economic Theory, International Journal of Economic Theory.

Refereeing for NSF, AER, Econometrica, Economica, REStud., JET, IER, Pop. Devl. Rev., Pak. Dev. Rev., Can. Journ. of Econ., JIE, JME, EDCC, Math. Op. Res., J. App. Th., Jour. Math. Anal. App., JDE, European J. Pol Econ., J. Opt. and Appl.

Member of a panel appointed by the Editor of the *Journal of Economic Theory*, May 1992, to handle a case of alleged plagiarism.

Research Support: N.S.F. Grant No. 8410229 to Brown University. Support for the month of August in 1984 and 1985. N.S.F. Grant No. 8605630 to University of Illinois. Support for two summer months in 1986 and 1987. B.E.B.R. Grant for 1 month in 1986.

Member of the Committee, *Program on Comparative International Development*, (Professor A. Portes, Director).

Member, Organizing Board, Indian Meetings of the Econometric Society, 1992 Winter, 1996.

At The University of Illinois: Promotion Committee (1984-88; Chairman 1985), Research Committee (1984-87).

At The Johns Hopkins University: University Budget Committee (1991-94), The Johns Hopkins University Press (1991-94), Academic Council (1991-1996), (2002-2007).

Organizer, Colloquium on *On Rules and Rule Making*, held at Hopkins in February 1994. Supported, in part, by the Provost's Office.

Organizer, Colloquium on *Ethics in Organizations and Markets: A Comparative Perspective*. March 26, 2004.

Member, Organizing Committee, Workshop on Geometry, Topology and Markets, 1994, The Fields Institute for Research in Mathematical Sciences.

Member of the Advisory Committee, *Global Studies Institute*, Anthropology Department (Professor Rolph Trouillot, Director). Interview in *Crosscurrents*, 1994.

Member of the Advisory Committee, *Louis Marin Institute*, French Department (Professors M. Detienne and S. Nichols, Directors), 1993-94.

Research Evaluation Panel: 8th SANEI Annual Conference, Kathmandu, Nepal, August 31-September 1, 2007.