

John S. Chipman: Curriculum Vitæ

October 20, 2014

Personal:

Born: June 28, 1926, in Montreal, Canada.
Married: June 24, 1960. Two sons, born 1970, 1974.
Citizenship: U.S., 21 October 1987.
Address: 2121 West 49th St., Minneapolis, MN 55419-5229.
Telephone: Office (612) 625-2816; Fax (612) 624-0209; Home (612) 926-3157.
E-mail: jchipman@econ.umn.edu.
Web site: www.econ.umn.edu/~jchipman

Education:

Student, Escuela de Derecho (Law School), Universidad de Chile, Santiago, 1943–44.
McGill University, Montreal, B.A., First Class Honours in Economics and Political Science, 1947.
McGill University, M.A., Economics and Political Science, 1948.
The Johns Hopkins University, Ph.D., Political Economy, 1951.
The University of Chicago, post-doctoral fellow in political economy, and guest of Cowles Commission for Research in Economics, 1950–51.

Regular Academic Employment:

Assistant Professor of Economics, Harvard University, 1951–55.
Associate Professor of Economics, University of Minnesota, 1955–60.
Full member of the graduate faculty, University of Minnesota, 1960–2007.
Professor of Economics, University of Minnesota, 1960–81.
Regents' Professor of Economics, University of Minnesota, 1981–2007.
Ständiger Gastprofessor (Permanent Guest Professor), University of Konstanz, 1986–91.

Other Academic Employment:

Member, Air Force Seminar on Basic Research on the Behavioral Sciences, Albuquerque, N.M., June–August 1957.
Visiting Professor, Vanderbilt University, Nashville, TN, June–August 1959.
Visiting Professor, Duke University, Durham, NC, January–June, 1960.
Visiting Professor, University of Chicago, at the Centro de Investigaciones Económicas, Universidad Católica de Chile, Santiago (I.C.A. Contract), 1960–61.
Visiting Professor, University of Rochester, September–December 1963.
Visiting Professor, Institute for Advanced Studies, Vienna, April–May 1970, May 1972.
Visiting Professor, Stockholm School of Economics, June–July 1983.
Visiting Professor, University of Konstanz, 1–15 June 1972, April 1983, June–July 1984, May–June 1985; Permanent Guest Professor, June–July 1986, June–July 1987, June–July 1988, June–July 1989, June–July 1990, June–July 1991; Visiting Professor, June–July 1992; Visiting Scholar, June–July 1993, June–July 1994, June–July 1995, June–July 1997.

Visiting Professor, University of Heidelberg, April–June 1990.
Visiting Scholar, University of Tübingen, June–July 1996.
Visiting Professor, Harvard University, September 1996–June 1997.
Visiting Professor, University of Würzburg, June–July 1998.
Visiting Professor, University of Ulm, 10–16 March 1999.

Academic and Professional Honors:

Member, Phi Beta Kappa, Johns Hopkins, 1949.
Fellow, Econometric Society, 1957.
Member of the Council, Econometric Society, 1971–73, 1974–76, 1981–83.
Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, 1972–73.
Fellow, American Statistical Association, 1974.
Ramaswami memorial lecturer, Indian Statistical Institute, New Delhi, January 1975.
Fisher-Schultz lecturer, Econometric Society, Helsinki, August 1976.
Fellow, American Academy of Arts and Sciences, 1979.
Fellow, John Simon Guggenheim Memorial Foundation, 1980–81.
James Murray Luck Award, National Academy of Sciences, 1981.
Fulbright award, 1989–90.
Honorary degree, *Doctor rerum politicarum honoris causa* (Dr. rer. pol. h. c.), University of Konstanz, 28 June 1991.
Humboldt Research Award for Senior U. S. Scientists, 1992–95, 2003.
Fellow, American Association for the Advancement of Science, 1992.
Member, National Academy of Sciences, 1993. Chair of Section 54 (Economic Sciences), 1 May 1997 to 30 April 2000.
Elected member, International Statistical Institute, 1994.
Honorary degree, *Rerum politicarum doctoris honoris causa* (Dr. rer. pol. h. c.), University of Würzburg, 18 December 1998.
Distinguished Fellow, American Economic Association, April 1999; awarded January 2000.
Festschrift: *Trade, Theory and Econometrics: Essays in honor of John S. Chipman*, edited by James R. Melvin, James C. Moore, and Raymond Riezman. London and New York: Routledge, 1999. xxii, 382 pp.
Elected member, Dogmenhistorischer Ausschuß, Verein für Socialpolitik (History of Economic Thought Section, German Economic Association), 27 April 2000.
Elected member, American Philosophical Society, 29 April 2000.
Honorary degree, Doktor der Sozial- und Wirtschaftswissenschaften (Doctor of social and economic sciences), University of Graz, 8 May 2001.
Named a “National Associate” of the National Academy of Sciences “in recognition of extraordinary service to the National Academies in its role as advisor to the Nation in matters of science, engineering, and health, by the authority of the Council of the National Academy of Sciences and the Governing Board of the National Research Council,” December 2004.

Consultative Posts:

Chairman, Program Committee, Montreal meetings of the Econometric Society, 1954.
Associate Editor, *Econometrica*, 1956–69.
Research Consultant, United Nations Economic Commission for Latin America, Santiago, Chile, July–August 1961.
Chief of Mission, UNESCO Educational Planning Mission to Venezuela, Caracas, July–August 1962.
Research consultant, University of California (Berkeley) project with the Brazilian Ministry of Planning, Rio de Janeiro, July–August, 1965.

Consultant, National Science Foundation Advisory Panel for Economics. Division of Social Sciences, Washington, D.C., 1966–68.

Member, Evaluating Panel for Post-Doctoral Fellowships, National Academy of Sciences, Washington, D. C., 1966–68. Chairman of Behavioral Sciences Panel, 1969.

Co-editor, *Journal of International Economics*, 1971–76. Editor, 1977–87.

Member, Editorial Board, Committee on the Undergraduate Program in Mathematics and Mathematics Social Sciences Board, Project for the Production of Source Books on Application of Undergraduate Mathematics to the Social Sciences, 1973–74.

Editor, Series in International Economics, North-Holland Publishing Company, 1974–90.

Member, Nominating Committee for Fellows of the Econometric Society, 1974.

Member, Committee on Honors and Awards, American Economic Association, 1975–80. Chairman, 1979–80.

Member, International Search Committee for the Award of the Mahalanobis Memorial Medal, International Award for Outstanding Contributions to Quantitative Economics, Econometric Society, 1975.

Member, North American Standing Committee, and Chairman, Ad hoc committee to select the Walras-Bowley lecturer for 1976, Econometric Society, 1975–76.

Chairman, Nominating Committee for Fellows of the Econometric Society, 1977. Member, 1978.

Member, Latin American Regional Group and Standing Committee, Econometric Society, 1977–81.

Member, Final Selection Board, Irving Fisher Graduate Monograph Award and Frank W. Taussig Undergraduate Article Award, Omicron Delta Epsilon Honor Society in Economics, 1979–85.

Research consultant, National Economic Research Associates, Inc., 1979–80.

Associate Editor, *Canadian Journal of Statistics*, 1980–83.

Research consultant, Firstbank Minneapolis, 1984.

Member, Board of Editors, *Journal of International Economic Integration*, 1986–94.

Member, Advisory Board, *Journal of Multivariate Analysis*, 1988–92.

Member, Program Committee, 6th World Congress of the Econometric Society, Barcelona, 1990.

Monitor for the Report Review Committee, National Research Council, of the report, *Following the Money: U. S. Finance in the Global Economy*, by the Panel on International Capital Transactions of the Committee on National Statistics, May 1993–July 1995.

Member, Class V Nominating Committee, National Academy of Sciences, 1994–96.

Member, Report Review Committee, National Research Council, 1994–97.

Monitor for the Report Review Committee, National Research Council, of the report, *Congestion Pricing for Urban Transportation*, by a committee of the Transportation Research Board and the Commission on Behavioral and Social Sciences, February–May 1994.

Member, National Materials Advisory Board Committee on High-Purity Electrolytic Chromium, National Research Council, January–July 1995. Report: *High-Purity Chromium Metal. Supply Issues for Gas-Turbine Superalloys*, Washington, D.C.: National Academy Press, 1995.

Director, Leuthold Funds, Inc., Minneapolis, 1995–2008.

Member, Board on Manufacturing and Engineering Design, Commission on Engineering and Technical Systems, National Research Council, 1997–99.

Monitor for the Report Review Committee, National Research Council, of the report, *The Bureau of Transportation Statistics: Priorities for the Future*, by the Panel on Statistical Programs and Practices of the Bureau of Transportation Statistics, Committee of National Statistics and Transportation Research Board, April–May 1997.

Monitor for the Report Review Committee, National Research Council, of the report,

Sustaining Marine Fisheries, by the Committee on Ecosystem Management for Sustainable Marine Fisheries, Ocean Studies Board, Commission on Geosciences, Environment, and Resources, February–October 1998.

Monitor for the Report Review Committee, National Research Council, of the report *Hardrock Mining on Federal Lands*, prepared by the Committee on Hardrock Mining on Federal Lands, Committee on Earth Resources, Board on Earth Sciences and Resources, Commission on Geosciences, Environment, and Resources, 28 July–24 September 1999.

Member, Nominating Committee for the Award for Behavioral Research Relevant to the Prevention of Nuclear War, National Academy of Sciences, 2003 (recipients Walter Enders and Todd Sandler).

Member, Class 3 (Social Sciences) Committee on Membership, American Philosophical Society, 2003–2007, 2007–2010. Class Representative of the Class 3 Committee, on the Advisory Committee on the Election of Members, 2004–2007.

Monitor for the Report Review Committee, National Research Council, of the report, *The Fuel Tax and Alternatives for Transportation Funding*, by the Committee for the Study of Long-Term Viability of Fuel Taxes for Transportation Finance, Transportation Research Board, September 2005–January 2006.

Professional Organizations (other than the above):

American Economic Association
American Statistical Association
Econometric Society
Institute of Mathematical Statistics
Royal Economic Society
Canadian Economic Association
History of Economics Society
European Society for the History of Economic Thought
Alexander von Humboldt Association of America

Biographical Listings:

Contemporary Authors, Vol. 104, 1982
Dictionary of International Biography, 1984
Who's Who in Economics, 1982; 3rd edition, 1999
Who's Who in America, 1981 et seq.
Who's Who in the World, 1982–83, 1992–93, 1998, 2003, 2011
Who's Who in the Midwest, 1982–83, 1992–95, 2002
Who's Who in American Education, 1992–95
Who's Who in Finance and Industry, 1994–2008
Who's Who in Science and Engineering, 1994–99, 2003–
American Men and Women of Science, 2002
VADEMECUM Deutscher Lehr- und Forschungsstätten, 1994

Outside Research Support:

1. Faculty Research Fellowship. Ford Foundation, 15 September 1956 to 31 August 1957. \$7,250.
2. Auxiliary Research Award. Social Science Research Council, 1 October 1962 to 30 September 1964. \$4,000.
3. “Studies in the Theory of Preference,” National Science Foundation grant GS-544, 1 July 1964 to 30 June 1966. \$39,500.
4. “Studies in the Theory of Preference.” Social Science Research Council, 1 July 1964 to 30 June 1965. \$6,000.

5. "Economic Writings of Vilfredo Pareto" (translation and preparation). Pareto Fund, 8 April 1971. \$4,000.
6. "The Ordering of Portfolios and Investment Projects." National Science Foundation grant GS-2973, 15 June 1970 to 31 December 1972. \$44,300.
7. "A Neo-Classical Econometric Model of International Trade," Ford Foundation grant 755-0165, 15 September 1976 to 31 March 1977. \$50,000.
8. International Symposium on Recent Trends of Research in Statistics, Calcutta, 15 December 1974 to 23 December 1974 (travel grant). National Science Foundation grant SOC75-08783, 5 December 1974. \$1,000.
9. "Welfare Criteria and the Theory of Aggregation" (with James C. Moore). National Science Foundation grant SOC-7727257, 1 January 1978 to 30 June 1980. \$131,600.
10. "Quantitative Research in International Trade." National Science Foundation grant SOC-7727561, 1 July 1978 to 31 December 1980. \$143,600.
11. "Theoretical Development and Econometric Application of a Model of International Trade." John Simon Guggenheim Memorial Foundation, Fellowship, 1 September 1980 to 30 June 1981. \$18,000.
12. "Welfare Criteria and the Theory of Aggregation" (with James C. Moore). National Science Foundation grant SES-7924816, 1 June 1980 to 30 November 1982. \$151,326.
13. "Econometric Research in International Trade." National Science Foundation grant SES-8008047, 1 July 1980 to 30 December 1982. \$114,693.
14. "Domestic Structural Adjustment to International Economic Disturbances: A Comparative Study of Recent West German, Swedish, and United States Experiences." German Marshall Fund of the United States, Fellowship, 15 July 1982 to 30 July 1983. \$31,693.
15. "Domestic Structural Adjustment to International Economic Disturbances: An Econometric Study of Recent West German Experiences." Stiftung Volkswagenwerk, 1 January 1983 to 31 December 1985. \$220,500.
16. "The Process of Structural Adjustment in an Open Economy: An Econometric Study of Swedish Experience since 1971." Riksbankens Jubileumsfond (Bank of Sweden Tercentenary Foundation), 1 January 1983 to 31 December 1983. \$17,200. 1 January 1984 to 31 December 1984, \$19,000. 1 July 1985 to 30 June 1986, \$22,840.
17. "Economic Analysis of the Effects of Price and Interest-Rate Changes in a General-Equilibrium Model of International Trade." National Science Foundation, grant SES-8607652, 1 August 1986 to 31 June 1990, \$85,042.
18. "Economic Analysis of the Effects of Price and Interest-Rate Changes in a General-Equilibrium Model of International Trade." Cornell National Supercomputer Facility, 15 June 1987 to 31 June 1992. 35 service units.
19. "Explaining Changing Patterns of West German International Trade: Economic and Institutional Factors" (with Gerd Ronning, Universität Konstanz), Deutsche Forschungsgemeinschaft, Bonn, 1989-91. Payable to the University of Konstanz.
20. "Strukturveränderungen des deutschen Außenhandels. Ökonomische und institutionelle Determinanten" ("Structural Changes in German Foreign Trade. Economic and Institutional Determinants"), with Gerd Ronning, University of Konstanz. Deutsche Forschungsgemeinschaft (German Research Foundation), 1 January 1992 to 31 December 1994. DM 681,900 (c\$400,000). Payable to the University of Konstanz.

21. “Economic Analysis of the Effects of Price and Interest-Rate Changes in a General-Equilibrium Model of International Trade,” Cornell National Supercomputer Facility, 1 November 1992 to 30 October 1993. 30 service units.
22. International Workshop on Generalized Inverses—Computational Techniques and Applications, Indian Statistical Institute, New Delhi, 11–16 December 1992 (travel grant). National Science Foundation. \$2,500.
23. Humboldt Research Award for Senior U. S. Scientists, Alexander von Humboldt-Stiftung, 15 June–15 August 1993, 1994, 1995. DM 50,000.
24. “Assembling a Data Base Linking Foreign and Domestic Sectors,” a subproject of “A Study of U. S. Economic Conversion in a Global Economy,” Freeman Center for International Economic Policy, Hubert H. Humphrey Institute of Public Affairs, Robert T. Kudrle, Principal Investigator. October 1994 to September 1997, \$104,787.
25. “A Study of Endogenous Protection: German Tariff Policy from 1860 to 1910” (“Eine Untersuchung über endogene Protektion: Deutsche Zollpolitik zwischen 1860 und 1910”), with Gerd Ronning, University of Tübingen. Fritz-Thyssen Stiftung, Cologne, Germany, 1 October 1995 to 30 September 1997. DM 15,900 (c. \$11,000), payable to the University of Tübingen. Supplementary grant, payable to the University of Minnesota, 11 December 1996 to 31 October 1997, \$5900.
26. “Toward a Better Understanding of Engineering Design Models”: Co-Principal Investigator (with Yan Jin and Stephen Lu, Department of Mechanical Engineering, University of Southern California, Los Angeles), National Science Foundation, 1 September 1997 to 31 December 1999, \$100,000 for entire project, \$12,000 for JSC’s time (27 days of service).
27. Co-Principal Investigator and Consultant to Wei Chen (Department of Mechanical Engineering, University of Illinois at Chicago), Principal Investigator of the NSF project “Integrating Demand Analysis into a Decision-Based Design Framework,” 1 September 2002 to 31 August 2005.
28. One-month extension of Research Award, Alexander von Humboldt Foundation, 10 March 2003. EUR 9,000.

M.A. thesis supervision:

1. Chia-Ku Whang. *The Foreign Trade of Taiwan after the Second World War*. May 1959.
2. Malte Faber. *Notes on McKenzie’s Basic Theorem and Model of International Trade, and Two Theorems on McKenzie’s Model of International Trade*. March 1964.

Ph.D. thesis supervision:

1. Chulsoon Khang. *A Neoclassical Growth Model of a Resource-Poor Open Economy*. December 1965.
2. Koteswara Rao Kadiyala. *Regression Analysis with Autocorrelated Disturbances*. June 1966.
3. James Rae Melvin. *Intermediate Goods and International Trade Theory*. December 1966.
4. Enrique Alfredo Roldán. *Education and Income Distribution: An Empirical Study*. December 1966.
5. Masahiko Aoki. *Increasing Returns to Scale and Market Mechanisms*. December 1967.
6. Kwan Suk Kim. *A Model of Trade and Growth in a Dual Economy*. December 1967.

7. James Joseph Rakowski. *The Relationship Between Tariffs on Goods and Taxes on Capital Returns*. June 1968.
8. Yoshihiko Otani. *Theory of International Trade and Properties of the Production Possibility Set*. August 1969.
9. Voruganti Somasundara Rao. *Disaggregated Demand and Some Aspects of the Pure Theory of International Trade*. December 1970.
10. Krishna Rao Akkina. *Application of Random Coefficient Regression Models to the Aggregation Problem*. December 1972.
11. Joaquim Silvestre-Benach. *A Model of General Equilibrium with Price Setting Behavior*. December 1973.
12. Amoz Kats. *Some Models of Sequential Consumption Decisions under Uncertainty*. July 1974.
13. Antoni Bosch-Domènech. *A Model of Consumer Behavior with Incomplete Information*. December 1975.
14. Raymond Glenn Riezman. *A Theory of Preferential Trading Agreements*. March 1977.
15. Dit Sang Ho. *An Econometric Study of the Relationship Between International and Domestic Prices in the Japanese Economy*. December 1977.
16. James Thomson Little. *The Empirical Implications of Demand Theory: Three Essays*. December 1977.
17. Tadashi Inoue. *On Income Distribution: The Welfare Implications of the General Equilibrium Model, and the Stochastic Processes of Income Distribution Formation*. June 1978.
18. Abdessatar Ouanes. *An Econometric Study of the International Transmission of Inflation: The Case of West Germany*. August 1979.
19. Christine Maureen Cumming. *An International Comparison of Income Distribution*. December 1983.
20. Norris Adrian Peterson. *Self-Selection and the Rate of Return to Education*. December 1983.
21. Francis Tingming Lui. *Essays on the Economics of Corruption*. December 1985.
22. Oz Shy. *Trade Restrictions that Improve World Welfare*. January 1986.
23. Joan Rosalie Rodgers. *An Analysis of Intra-Industry Trade Flows: The Case of Sweden*. February 1987.
24. Barbara Jean Craig. *The Dynamics of International Borrowing and Payments Crises*. January 1988.
25. Ronald Douglas Sands, *Estimating Trade Demand for West Germany*. November 1990.
26. Dong Cheon Shin, *Essays on the Transfer Problem, Import Restrictions, and the Political Economy of Voluntary Export Restraints*. January 1991.
27. Samir Ouanes, *Strategic Theory of Customs Unions*. May 1993.
28. Jane Eileen Ihrig, *Two Essays on Multinational Enterprises in Developing Countries*. May 1995.
29. Changzhen Gong, *Towards a Theory of International Economic Integration*. August 1995.

30. Ousmane Doré, *Essays on Inflation, Exchange Controls and Real Exchange Rate in Developing Countries*. August 1995.
31. Hsiao-Lei Chu, *Trade and Growth with Interactions of Human Capital Accumulation and Technological Change*. September 1997.
32. Qi Feng, *Interest Groups, Income Redistribution, and Optimal Tariffs*. December 1999.
33. Roxana Bobulescu, *Avantage comparatif, rendements et protectionnisme: L'Argument de Graham*. Université Pierre Mendès France, Grenoble, France. November 2001. (Outside adviser and examiner.)
34. Harumi Takashima Nelson, *Essays in International Trade*. September 2002.

University of Minnesota Committees:

- Chairman, Search Committee for Coordinator of Research Development, College of Liberal Arts, February–April 1975.
- Member, Promotion and Tenure Review Committee, College of Liberal Arts, 1975–77, 1989–92.
- Member, University Committee on Biennial Request and Budget Review, 1976–77.
- Member, Senate Committee on Faculty Affairs, 1976–77. Chairman, 1977–79.
- Member (ex officio), SCFA Feasibility Committee on Faculty Retirement Funds, 1977–78.
- Member, Vice-President's Task Force on the Faculty Retirement Plan, 1978–80.
- Member, Advisory Committee to the Center for Austrian Studies, 1979–91.
- Member, Faculty Summer Research Appointment Committee, Graduate School, December 1979–March 1981. Chairman, 1982–83.
- Member, University Committee on the Press, 1980–85.
- Chairman, Senate Library Committee, 1983–85. Member, 1985–86.
- Member, Administrative Review Committee for Eldred Smith, University Librarian, 1983–84.
- Member, Regents' Professorship Nominating Committee, 1983–91.
- Chairman, Search Committee for Director of Institute of International Studies, 1985.
- Member, CLA Assembly, 1984–86, 1990–92, 1992–94, 1996–98.
- Member, Council for Policy, Planning, and Budget, College of Liberal Arts, 1984–86.
- Member, Subcommittee on Information Systems, Senate Committee on Educational Policy, 1985–86.
- Member, Senate Research Committee, 1986–89.
- Chair, Committee on Awards, College of Liberal Arts, 1986–88.
- Member, Search Committee for Interim University Librarian, 1987.
- Member, Senate Committee on Computing and Information Systems, 1987–89.
- Member, Committee on Awards, College of Liberal Arts, 1989–90.
- Chair, CLA Honors Review Committee, 1990–93.
- Chair, CLA Committee on Spousal Hires and Target-of-Opportunity Appointments, 1991–92.
- Member, Senior Recruiting Committee, Department of Economics, 1992–93.
- Member, CLA Committee on Curriculum, Instruction, and Advising, 1992–93.
- Member, Freeman Chair Search Committee, Humphrey Institute, 1992–95, 1996–97.
- Member, Blue Ribbon Committee on Teaching and Research Excellence in the University Plan, 1993–95.
- Member, Search Committee for Provost of Arts, Sciences, and Engineering, 1994–95.
- Member, Advisory Committee to the Provost of Arts, Sciences, and Engineering, 1995–96.
- Member, CLA Budgetary Advisory Committee, 1996–97. Chair, 1997–98.
- Member, CLA Executive Committee, 1997–98.

Bibliography (articles and books).

1. "The Generalized Bi-System Multiplier." *Canadian Journal of Economics and Political Science*, Vol. 15, No. 2 (May 1949), pp. 176–189.
2. "Returns to Scale and Substitution." *Canadian Journal of Economics and Political Science*, Vol. 16, No. 2 (May 1950), pp. 216–221.
3. "The Multi-Sector Multiplier." *Econometrica*, Vol. 18, No. 4 (October 1950), pp. 355–374.
4. "Professor Goodwin's Matrix Multiplier." *Economic Journal*, Vol. 60, No. 240 (December 1950), pp. 753–763.
5. *The Theory of Inter-Sectoral Money Flows and Income Formation*. Baltimore: The Johns Hopkins Press, 1951, 1953. 154 pp. Reprinted, New York: AMS Press, 1983.
6. "The Role of Idle Balances in Financing Investment." *Indian Economic Review*, Vol. 1, No. 2 (1952), pp. 87–90.
7. "The Consistency of the Marxian Economic System." *Economia Internazionale*, Vol. 5, No. 3 (August 1952), pp. 527–558.
8. "Linear Programming." *Review of Economics and Statistics*, Vol. 35, No. 2 (May 1953), pp. 101–117.
9. "Computational Problems in Linear Programming." *Review of Economics and Statistics*, Vol. 35, No. 4 (November 1953), pp. 342–349.
10. "A Note on Stability, Workability, and Duality in Linear Economic Models." *Metroeconomica*, Vol. 6, No. 1 (April 1954), pp. 1–10.
11. "Stochastic Choice and Subjective Probability." In *Decisions, Values, and Groups*, Vol. I (edited by Dorothy Willner). New York: Pergamon Press, 1960, pp. 70–95.
12. "The Foundations of Utility." *Econometrica*, Vol. 28, No. 2, (April 1960), pp. 193–224. Reprinted in *Readings in Mathematical Psychology*, Vol. II (edited by R. Duncan Luce, Robert R. Bush, and Eugene Galanter). New York: John Wiley & Sons, Inc., 1965, pp. 419–450.
13. "Extension of a Theorem of Hausdorff." *Revista Matemática Hispano-Americana*, 4ª Serie, Vol. 23, No. 4 (1963), pp. 135–138.
14. *Educación y Economía en Venezuela* (with E. F. Babino, J. Blat Gimeno, and F. Hardy). Paris: UNESCO, March 1963. 264 pp.
15. "The Treatment of Linear Restrictions in Regression Analysis" (with M. M. Rao). *Econometrica*, Vol. 32, Nos. 1–2 (January–April 1964), pp. 198–209.
16. "Projections, Generalized Inverses, and Quadratic Forms" (with M. M. Rao). *Journal of Mathematical Analysis and Applications*, Vol. 9, No. 1 (August 1964), pp. 1–11.
17. "On Least Squares with Insufficient Observations." *Journal of the American Statistical Association*, Vol. 59, No. 308 (December 1964), pp. 1078–1111. Corrigendum: Vol. 60, No. 312 (December 1965), p. 1249.
18. "The Nature and Meaning of Equilibrium in Economic Theory." In *Functionalism and Its Limits in the Social Sciences* (edited by Don Martindale), American Academy of Political and Social Science, Monograph 5 (February 1965), pp. 35–64. Reprinted in *Price Theory, Selected Readings* (edited by Harry Townsend), Harmondsworth, Middlesex, England: Penguin Books Ltd., 1971, pp. 341–371. Reprinted in facsimile in Donald A. Walker (ed.), *Equilibrium*, 3

vols. (No. 2 in the series *Critical Ideas in Economics*, Series Editors: Kevin D. Hoover and Mark Blaug), Cheltenham, Glos., UK, and Northampton, Mass.: Edward Elgar Publishing Limited, 2000, Vol. I, Ch. 17, pp. 314–343.

19. “A Survey of the Theory of International Trade: Part 1, The Classical Theory,” *Econometrica*, Vol. 33, No. 3 (July 1965), pp. 477–519. Reprinted in *The Theory of International Trade*, Vol. 1 (2008), pp. 3–45.
20. “A Survey of the Theory of International Trade: Part 2, The Neo-Classical Theory.” *Econometrica*, Vol. 33, No. 4 (October 1965), pp. 685–760. Reprinted in *The Theory of International Trade*, Vol. 1 (2008), pp. 46–121.
21. “A Survey of the Theory of International Trade: Part 3, The Modern Theory.” *Econometrica*, Vol. 34, No. 1 (January 1966), pp. 18–76. Reprinted in *The Theory of International Trade*, Vol. 1 (2008), pp. 122–180.
22. “Specification Problems in Regression Analysis.” In *Proceedings of the Symposium on Theory and Application of Generalized Inverses of Matrices* (edited by Thomas L. Boullion and Patrick L. Odell). Texas Technological College Mathematics Series No. 4. Lubbock, Texas: The Texas Tech Press, 1968, pp. 114–176.
23. “Efficiency of the Sample Mean when Residuals Follow a First-Order Stationary Markoff Process” (with Koteswara Rao Kadiyala, Albert Madansky, and John W. Pratt). *Journal of the American Statistical Association*, Vol. 63, No. 324 (December 1968), pp. 1237–1246. Corrigendum: Vol. 64, No. 328 (December 1969), p. 1700.
24. “Factor Price Equalization and the Stolper-Samuelson Theorem.” *International Economic Review*, Vol. 10, No. 3 (October 1969), pp. 399–406. Reprinted in *The Stolper-Samuelson Theorem: A Golden Jubilee* (edited by Alan V. Deardorff and Robert M. Stern), Ann Arbor: The University of Michigan Press, 1994, pp. 133–140. Reprinted in *The Theory of International Trade*, Vol. 1 (2008), pp. 324–331.
25. “External Economies of Scale and Competitive Equilibrium.” *Quarterly Journal of Economics*, Vol. 84, No. 336 (August 1970), pp. 347–385. Reprinted in *The Return to Increasing Returns* (edited by James M. Buchanan and Yong J. Yoon). Ann Arbor: The University of Michigan Press, 1994, pp. 121–166.
26. “Induced Technical Change and Patterns of International Trade.” In *The Technology Factor in International Trade* (edited by Raymond Vernon). New York: National Bureau of Economic Research, 1970, pp. 95–127.
27. “International Trade with Capital Mobility: A Substitution Theorem.” In *Trade, Balance of Payments, and Growth: Papers in International Economics in Honor of Charles P. Kindleberger* (edited by Jagdish N. Bhagwati, Robert A. Mundell, Ronald W. Jones, and Jaroslav Vanek). Amsterdam: North-Holland Publishing Company, 1971, pp. 201–237. Reprinted in *The Theory of International Trade*, Vol. 2 (2009), pp. 13–39.
28. “The Compensation Principle in Welfare Economics” (with James C. Moore). In *Papers in Quantitative Economics*, Vol. II (edited by Arvid M. Zarley). Lawrence, Manhattan, and Wichita, Kansas: University Press of Kansas, 1971, pp. 1–77.
29. *Preferences, Utility, and Demand: A Minnesota Symposium* (edited with Leonid Hurwicz, Marcel K. Richter, and Hugo F. Sonnenschein). New York: Harcourt Brace Jovanovich Inc., 1971. ix, 510 pp.
30. “Consumption Theory without Transitive Indifference.” In *Preferences, Utility, and Demand* (op. cit.), pp. 224–253.

31. "On the Lexicographic Representation of Preference Orderings." In *Preferences, Utility, and Demand* (op. cit.), pp. 276–288.
32. "Non-Archimedean Behavior under Risk: An Elementary Analysis—With Application to the Theory of Assets." In *Preferences, Utility, and Demand* (op. cit.), pp. 289–318.
33. "Introduction to Part II." In *Preferences, Utility, and Demand* (op. cit.), pp. 321–331.
34. "Social Utility and the Gains from Trade" (with James C. Moore). *Journal of International Economics*, Vol. 2, No. 2 (May 1972), pp. 157–172.
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