**CURRICULUM VITAE** February 2000

# JAMES BERNARD RAMSEY

## PRESENT POSITION:

Professor, Department of Economics
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## EDUCATION:

Chigwell, Essex, England
B.A. Math and Economics, University of British Columbia, 1963
M.A. Economics, University of Wisconsin, Madison, Wisconsin, 1964
Ph.D. University of Wisconsin, Madison, Wisconsin, 1968

## THESIS:

"Tests for Specification Errors in Classical Linear Least Squares Regression Analysis", March, 1968

## ACADEMIC EXPERIENCE:

- Assistant Professor, Department of Economics, Michigan State University, 1966-68
- Associate Professor, Department of Economics, Michigan State University, 1968-71
- Professor-Chair of Economics and Social Statistics, University of Birmingham, Birmingham, England, 1971-73
- Full Professor, Michigan State University, 1972-76
- Professor, Department of Economics, New York University, New York, 1976 to date
- Chairman, Department of Economics, New York University, New York, 1978 to 1985.

## TEACHING EXPERIENCE:

- **Undergraduate:** Mathematical Economics, Intermediate Macro and Micro Theory, Introductory Economics for Mathematics and Engineering Students, Statistics.
- **Graduate:** Econometrics, Mathematical Economics, Microeconomics, Nonlinear Dynamics and Stochastic Processes.

## RESEARCH INTERESTS

Nonlinear dynamics, stochastic processes, and time series analysis with special emphasis on economic and financial data.

## MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS:

American Economic Association
Econometric Society
Royal Statistical Society
American Statistical Association
Society for Nonlinear Dynamics and Econometrics

## FELLOWSHIPS

Fellow, American Statistical Association.
President: Society for Nonlinear Dynamics and Econometrics; 2000

## PUBLIC SERVICE AND CONSULTING:

- Economic Consultant to Department of Northern Affairs and Natural Resources, Canadian Government, 1963-66.
- Member of Michigan State Civil Service Executive Board, 1971.
- Economic Consultant to Statoil and to the Ministry of Industry and Handicrafts, Norway, 1975.
- Economic Consultant to the Department of Natural Resources, State of Michigan, 1980.
- Economic Consultant to the Department of Interior, U.S.
- Consultant to Governor Carey, New York State, 1981.

- Economic consultant to numerous law firms on econometric methodology.
- President and Founder, New York University Credit Union, 1982-84.
- Consultant to the American Medical Association, General Motors, William D. Witter.
- Consultant to Chase Manhattan Bank 1994 to 1996.
- Congressional Testimony: Subcommittee on Monetary and Fiscal Policy, Committee on Energy and Commerce.

**Editorships**

Associate Editor, Journal of Economic Behavior and Organization
Associate Editor, Studies in Nonlinear Dynamics and Econometrics
Editorial Board, Texas A & M University Press

**Editorial Services for:**

Journal of Political Economy
Econometrica
Journal of the American Statistical Association
Technometrics
Review of Economics and Statistics
European Journal of Operational Research
Sankhya
Journal of Economic Behavior and Organization
Journal of Money, Credit, and Banking
Review of Economic Studies
International Economic Review
Physica D
Physics Review Letters
Studies in Nonlinear Dynamics and Econometrics
Journal of Multivariate Analysis
Journal of Nonlinear Dynamics and Econometrics

**Refereeing for:**

National Science Foundation
U.S. Department of Energy
U.S. Department of Interior

## AWARDS AND GRANTS:

- Public Utilities Institute, 1967
- National Science Foundation, 1969-74 ($78,100)
- Social Science Research Council (U.K.) 1971-73; two grants, one on thermal electric production functions, the other for non-linear specification error problems.
- Research Fellow, Hoover Institution, Stanford University, 1976-77, 1983-84.
- "Paper of the Year"; awarded by the American Statistical Association, 1978.
- HEW/Human Resources Administration Grant, 1979-80 ($118,000), "Physician Ambulatory Care Production Behavior."
- Fellow, School of Mathematics, Institute for Advanced Study, Princeton University 1992-1993
- Research Fellow, Batterymarch, Boston, 1993.

## PUBLICATIONS:

### Books:

- *Economic Forecasting-Models or Markets*, Institute of Economic Affairs, London, U.K., 1977. Reprinted by Cato Institute, San Francisco, 1980.
- *Bidding and Oil Leases*, JAI Press, Greenwich, CT, 1980.
- Edited with Kmenta, J., *Evaluation of Econometric Models*, Academic Press, New York, 1980.
- Edited with Kmenta, J., *Large-Scale Macro-Econometric Models*, North Holland, Publishing Co., Amsterdam: 1981.
- *The Oil Muddle: Control vs. Competition*, Ethics and Public Policy Center, Washington, D.C., 1981.
- *The Economics of Exploration for Energy Resources*, JAI Press, Greenwich CT, 1981.
- With Gerald Musgrave, *APL-STAT*, Lifetime Learning Publications, Belmont, CA, 1981, reprinted in Japanese, 1983.

**Articles:**

- "A Comment on the Marginal Physical Product Curves for the CES and VES Production Functions," *American Economic Review*, June, 1968, 482-485.

- "Tests for Specification Errors in Classical Linear Least-Squares Regression Analysis," *Journal of the Royal Statistical Society, Series B.*, Vol. XXXI, Part 2, 1969, 350-317.

- "Models, Specification Error, and Inference: A discussion of Some Problems in Econometric Methodology," *Bulletin of the Oxford Institute of Economics and Statistics*, November, 1970, 301-318.

- "The Marginal Efficiency of Capital, the Internal Rate of Return, and Net Present Value: An Analysis of Investment Criteria," *Journal of Political Economy*, September, 1970, 1017-1027.

- "A Note on Single Equation Estimators in a Simultaneous Equation System," *Review of the International Statistical Institute*, Part 1, 1970, 236-243.

- With M. Kreinin, J. Kmenta, "Factor Substitution and Effective Protection Reconsidered," *American Economic Review*, December, 1971, 891-900.

- With P. Zarembka, "Specification Error Tests and Alternative Functional Forms of the Aggregate Production Function," *Journal of the American Statistical Association*, September, 1971, 471-477.

- "Ramsey's Investment Criterion: A Reply," *Journal of Political Economy*, July, 1972, 807-810.

- With R. Gilbert, "A Monte Carlo Study of Some Small Sample Properties of Tests for Specification Error," *Journal of the American Statistical Association*, March, 1972, 180-86.

- With P. H. Dhrymes, et.al., "Criteria for Evaluation of Econometric Models," *Annals of Economics and Social Measurement*, Vol. 1, No. 3, July, 1972, 291-324.

- With J. S. Hixson, "A Further Comment on the Effects of Excise Taxes," *Quarterly Journal of Economics*, November, 1972, 684-686.

- "Limiting Functional Forms for Market Demand Curves," *Econometrica*, March, 1972, 327-341.

- "Comment on the Fix Point Method for Estimating Interdependent Systems," *Journal of the Royal Statistical Society*, Series B, Part 3, 1973, 386-389.

- "Classical Model Selection Through Specification Error Tests," Chapter I in *Frontiers in Econometrics*, ed. by P. Zarembka, Academic Press, New York, 1973.

- With D. Sheppard, "Mortgages, Interest Rates, and Changes in the Housing Stock," *The Banker's Magazine*, London, July, 1973, 17-23.

- With J. Hadar, "Optimal Price Schedules," *Zeitschrift fur Nationalokonomie* Vol., 34, 1974, 173-182.

- "Limiting Functional Forms for Demand Functions: A Test of a Specific Hypothesis," *Review of Economics and Statistics*, November, 1974, 468-477.

- With B. Allen and R. Rasche, "An Analysis of the Private and Commercial Demand for Gasoline," *Review of Economics and Statistics*, November, 1975, 502-507.

- With E. Fallek, "Government Power, Regulation, and Markets," Chapter XXII, *Electric Power Reform*, ed. W. Shaker, University of Michigan Press, Ann Arbor, 1976.

- With P. Schmidt, "Some Further Results on the Use of OLS and BLUS Residuals in Specification Error Tests," *Journal of the American Statistical Association*, June, 1976, 389-390.

- With A. Chesher, "Some Measures of the 'Difference' Between Regression Models," *Journal of the American Statistical Association*, December, 1976, 972-976.

- "Rate of Exhaustion of Exhaustible Resources: Some Further Remarks," *Natural Resources Forum*, Vol. I, No. 3, April 1977.

- "Non-Linear Estimation and Asymptotic Approximations," *Econometrica*, Vol. 46, July, 1978, 901-929.

- With R. Quandt "Estimating Mixtures of Normal Distributions and Switching Regressions," *Journal of the American Statistical Association*, December, 1978, 730-752.

- With R. Quandt, "Rejoinder to `Comment on Estimating Mixtures of Normal Distributions and Switching Regressions'," (K. D. Kumar, E. H. Nicklin, and A. S. Paulson), *Journal of the American Statistical Association*, March, 1979, 56.

- "Appearance Does Not Reflect Reality," ed. Abe Gitlow, *Presidential Promises and Performance*, The Charles C. Moskowitz Memorial Lecture Series, No. XXI, The Free Press (MacMillan), New York, 1980.

- "The Economics of Oil Exploration: A Probability-of-Ruin Approach," *Energy Economics*, Vol. 2, No. 1, January, 1980, 14-30.

- With A. Alexander, "The Use of Robust Estimators in Improving the Powers of Specification Error Tests," *Proceedings of the American Statistical Association, Business and Economic Statistic Section*, Washington, D.C., 1982, 59-67.

- "Empirical Analysis on Lease Bidding Using Historical Data" in M. Shubik, R. Engelbrecht-Wiggins and R. Stark, eds., *Auctions, Bidding, and Contracting: Uses and Theory*, New York University Press, NY, 1983.

- "Diagnostic Tests and Residual Analysis: Perspective and Comment," *Econometric Reviews*, 2(2), 1983, 241-248.

- "How to Sell the Tubes - And Why", *The Journal of Economic Affairs*, Vol. 3, No. 4, July, 1983, 277-279.

- "Arnold Zellner, Econometrician: His Work and Contribution to the Economics Profession," *Contemporary Economists in Perspective*, eds., Warren J. Samuels and Henry W. Spiegel, JAI Press, Greenwich, CT., 1984.

- With A. Alexander, "The Econometric Approach to Business-Cycle Analysis," *Journal of Macroeconomics*, Vol. 6, No. 3, Summer 1984, 347-355.
- "Probability of Ruin: A Useful Alternative to the Expected Utility Hypothesis in Firm Decision Making," in a volume in honor of Maurice Allais, *Marches Capital et Incertitude*, eds. Boiteux, de Montbrial, and Munier, Economica Press, Paris, 1986, 129-139; Reprinted and translated into English as *Markets, Risk, and Money*, ed. Munier, Kluwer Academic Publ., 1987.

- With B. Wasow, "Supplier Induced Demand for Physician Services: Theoretical Anomaly or Statistical Artifact? An Econometric Evaluation of Some Important Models in Physician Service Markets," *Advances in Econometrics*, Vol. 5, 1986, 49-77.

- "Selling the New York City Subway: Wild-eyed Radicalism or the Only Feasible Solution?" *Prospects for Privatization*, ed., Steve H. Hanke, The Academy for Political Science, New York, 1987, 93-103.

- With H.J. Yuan, "Bias and Error Bars in Dimension Calculations and Their Evaluation in Some Simple Models," *Physics Letters - A*, Vol. 134, January 1989, 287-297.

- With H.J. Yuan, "The Statistical Properties of Dimension Calculations Using Small Data Sets," *Nonlinearity*," Vol. 3, 1990, 155-176.

- "Economic and Financial Data as Nonlinear Processes," in *The Stock Market: Bubbles, Volatility, and Chaos*, Eds. Dwyer, Jr., G. P. and Hafer, R.W., Kluwer Academic Publishing., Boston, 1990.

- With Sayers, C. L., and Rothman, P., "The Statistical Properties of Dimension Calculations Using Small Data Sets: Some Economic Applications," *International Economic Review*, Nov. 1990, Vol. 31, No. 4, 991-1020; reprinted in *Cycles and Chaos in Economic Equilibrium*, ed. Jess Benhabib, Princeton University Press, Princeton, NJ, 1992.

- With A. Montenegro, "The Identifiability and Estimability of Non-Invertible MA(Q) Models**",** *The Journal of Econometrics,* 54, 1992, 301-320.

- With Lian Cheng-Ping, "An Exploratory Analysis of the Growth Rates of Economic and Financial Data," *Ricerche Economiche*, 47, 1993, 31-64.

- With Charles de Bartoleme, "The Privatization of the New York City Subway", *Privatizing Transportation Systems*, edited by S. Hakim, G. Bowman, and P. Seidenstat, New York, 1996.

- With P. Rothman, "Comment on Dimension Calculations in Monetary Dynamics", *Journal of Business and Economic Statistics*, Vol. 12, No. 1, 1994, 135:136.

- With Zaslavsky, George, and Usikov, Daniel, "An Analysis of U. S. Stock Price Behavior Using Wavelets", *Fractals*, Vol. 3, No. 2, 1995, 377-389.

- With P. Rothman, "Time Irreversibility and Business Cycle Asymmetry", *Journal of Money, Credit, and Banking*, Vol. 28, No. 1, February 1996, 1-21.

- With Zhifeng Zhang, "The Application of Waveform Dictionaries to Stock Market Index Data", in *Predictability of Complex Dynamical Systems*, edited by, Yurii A.Kravtsov and James Kadtke, Springer-Verlag, 1996.

- "On the Existence of Macro Variables and of Macro Relationships", *Journal of Economic Behavior and Organization*, Vol. 30, No. 3, September 1996, 275-300.

- With Sean Keenan, "Multi-Country Tests for the Oscillator Model with Slowly Varying Coefficients", *Journal of Economic Behavior and Organization*, Vol. 30, No. 3, September 1996, 383-408.

- "If Nonlinear Models Cannot Forecast, What Use are They?", *Studies in Nonlinear Dynamics and Econometrics ( SNDE)***,** Vol. 1, No. 2, July 1996, 65-86.

- With P. Rothman, "Time Reversibility", *Business Cycles and Depressions, An Encyclopedia*, edt. David Glasner, Garland Publishing, New York, 1997, 684-686.

- "Stable Paretian Distributions", *Business Cycles and Depressions, An Encyclopedia*, edt. David Glasner, Garland Publishing, New York, 1997, 646-648.

- With Zhifeng Zhang, "The Analysis of Foreign Exchange Rates Using Waveform Dictionaries", *Journal of Empirical Finance*, 4, 1997, 341-372.

- With Camille Lampart, "The Decomposition of Economic Relationships by Time Scale Using Wavelets: Money and Income", *Macroeconomic Dynamics*, Vol. 2, 1998, 49-71.

- With Camille Lampart, "The Decomposition of Economic Relationships by Time Scale Using Wavelets: Expenditure and Income," *Studies in Nonlinear Dynamics and Econometrics*, Vol 3, No. 4, 1998, 23-42.

- With Dave Thomson, "A Reanalysis of the Spectral Properties of Some Economic and Financial Time Series", *Nonlinear Time Series Analysis of Economic and Financial Data*, edt. Philip Rothman, Kluwer Academic Press, Boston, 1999, 45-85.

- "The contribution of wavelets to the analysis of economic and financial data," *Phil. Trans. R. Soc.Lond.A* (1999), **357**, 2593-2606.

- "Regression over Time Scale Decompositions: A Sampling Analysis of Distributional Properties", *Economic Systems Research*, **11**, No. 2, 1999, 163-183.

- ***"Why Do Students Find Statistics So Difficult*?**", invited paper presented at the 52nd Session of the International Statistical Institute, Helsinki, published in the *Bulletin of the Intern. Statist. Inst. Proceedings, Helsinki, 1999.*

**Book Reviews:**

- *Probability and Statistical Analysis* by Hickman and Hilton, *Technometrics*, May, 1973, 420-421.

- *Multicollinearity In Linear Economic Models*, D. Neeleman, Tilburg, University Press, *Journal of the American Statistics Association*, December, 1974, 1049-1050.

- *Basic Issues in Econometrics*, by Arnold Zellner, University of Chicago Press, Chicago, *Journal of Business and Economic Statistics*, Vol. 3, No. 4, 1985, 411-412.

- With George Zaslavsky, *Applied Chaos*, edt. by Jong H. Kim and John Stringer, Wiley, New York, *Physics Today*, May 1993.

- *Nonlinear Dynamics, Chaos, and Instability*, by William A. Brock, David A. Hsieh, and Blake LeBaron, MIT Press, Cambridge, 1991, *Economica*, 61, No.242, May 1994.

- *Business Cycles: Theory and Empirical Methods*, edt. by Willi Semmler, *Journal of Economic Literature*, Vol. XXXIV, March, 1996.

**Forthcoming:**

- *Introductory Statistics*, Duxbury Press, 2000.

**Reports and Occasional Papers:**

- "The Demand for and Supply of Motel Accommodation in the Canadian National Parks," research report submitted to Parks Branch, Department of Northern Affairs and National Resources, Ottawa, 1966, 300 pages.

- "Model Evaluation and Model Choice: A Guide for Policy Makers," Foresight-Volume III, The Economic Impact of Energy Conservation (published by Congressional Research Service for the Subcommittee on Advanced Energy Technologies & Energy Conservation Research, Development and Demonstration), December, 1978, pp. 256-266 (stock #052-070-05028-4).

- "Why Econometrics", Inaugural Lecture University of Birmingham England, February 20, 1973.

- "Definitions of MER and Efficiency in Oil Production: An Economist's Comments," published in Maximum Efficient Rate (MER) for Petroleum, Reservoirs in the Outer Continental Shelf (Symposium Proceedings, sponsored by the University of Houston Central Campus and the U.S. Department of Interior, January 1979).

- "An Analysis of Competing Hypotheses of the Demand for and the Supply of Physician Services, The Target Income Hypothesis & Related Issues in Health Manpower Policy, U.S. Dept. of HEW (Public Health Service-Bureau of Health Manpower), January 1980 (HEW Publication #(HRA)80-27); published proceedings from the Workshop on Target Income Hypotheses.

- "Econometrics and Dental Markets: A Methodological Overview" in Brown and Winslow, eds., Modeling Techniques and Applications in Dentistry," U.S. Department of Health and Human Services, DHHS Publication No (HRA) 81-8, 1981.

- With Bernard Wasow, H.H.S. Report. "Learning From and Use of Econometric Micro Models - A Study in Methodology with a Case from the Demand for and Supply of Physician Care. H.H.S., Contract No. HRA 79-0068.

- "Selling the Subways: Radicalism or Feasible Solution", invited presentation to the Transportation Research Board, National Research Council, January 17, 1983.

- "Selling the New York Subways," *National Review*, February 4, 1983, 112-116.

**Working Papers:**

- "A Discussion of a Tentative Structural Growth Model," Systems Formulation, Methodology and Policy Workshop Paper No. 6509, Madison, Wisconsin, 1965.

- "Expository Note on Errors in Digital Computers: Their Effect on the Results of Econometric Analysis," Systems Formulation, Methodology and Policy Workshop Paper No. 6515, Madison, Wisconsin, 1965.

- "The Use of Models to Analyze the Cost Functions of a Service Industry," Workshop in the Household, Firm, and the Market, Paper 6506, Madison, Wisconsin, 1965.

- "CONTPLOT:A Contour Plotting Programme," Systems Formulation, Methodology, and Policy Workshop Paper No. 6604, Madison, Wisconsin, 1966.

- "DATGEN: A Computer Programme to Calculate the Regression Specification Error Tests, RESET, RASET, BAMSET, and KOMSET," Econometrics Workshop Paper No. 6704, Michigan State University, 1967.

- "A Note on the Necessary and Sufficient Conditions for the Optimization of a Function Subject to Constraints," Econometrics Workshop Paper No. 6709, Michigan State University, 1968.

- "A Variable Profits Tax," Working paper No. 76 Michigan State University, March 1974.
- With Heather Anderson, "U.S. and Canadian Industrial Production Indices as Coupled Oscillators", C.V.Starr Center Wkg. Paper, #99-01, New York University, NY, 1999.
- "Pricing as an Optimal Control Problem," Econometric Workshop Paper No. 7307, Michigan State University, April 1974.

- Implicit Sample Design in Econometric Models in Two Measures of Design Efficiency, Workshop Paper No. 73-10, June 1974.

- "Mixtures of Distributions and Maximum Likelihood Estimation of Parameters Contained in Finitely Bounded Compact Spaces," Econometrics Workshop Paper No. 7501, Michigan State University, East Lansing, Michigan, 1975.

- "The Maximum Likelihood Estimation of Parameters Contained Within Finitely Bounded Compact Sets: Some Preliminary Results." Paper No. 81-23, New York University, The C.V. Starr Center for Applied Economics, September 1981.

- "Seasonal Economic Data as Approximate Harmonic Oscillators", C. V. Starr Center for Applied Economics, Working Paper No. 92-16, New York University, New York, 1992.

- With Gilmore, Claire, "The 'Business Cycle' as Slowly Varying Coefficients", C.V. Starr Center for Applied Economics , Working Paper No. 93-43, New York University, New York, 1993.

- "If Nonlinear Models Cannot Predict, of What Use Are They?" keynote paper presented at the Annual Meeting of the Society for Nonlinear Dynamics in association with the Eastern Association Meetings in Boston, 1994.

- "A Model for the Short Run Dynamics of Stock and Commodity Markets", C.V. Starr Center for Applied Economics, Working Paper, 1995.

- With Heather M. Anderson, “U.S. and Canadian Industrial Production Indices As Coupled Oscillators”, C.V. Starr Center Working Papers, no. #99-01, January 1999, forthcoming Journal of Economic Dynamics and Control, 2000.