

Curriculum Vita: John Philip Rust

Vita Date: March, 2010

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Education: Waukesha (Wisconsin) High School, *Diploma*, 1973
University of Pennsylvania, *B.A. Mathematics*, 1977
Massachusetts Institute of Technology, *Ph.D. Economics*, 1983
Dissertation Title: “Stationary Equilibrium in a Market for Durable Assets”
Yale University, *Honorary Masters*, 1996

Affiliations:

1977–1979	Research Analyst, Morgan Stanley & Co., New York
1983–1987	Assistant Professor, University of Wisconsin
1985–1986	Visiting Scholar, University of Minnesota
1987–1989	Associate Professor, University of Wisconsin
1988–1988	Visiting Scholar, Institute for Empirical Macroeconomics, Minneapolis Federal Reserve Bank
1988–2005	Member, National Bureau of Economic Research
1988–1989	Visiting Scholar, Santa Fe Institute
1989–1991	Director, Social Systems Research Institute
1989–1991	Director, UW–Madison Data and Computation Center
1990–1997	Professor of Economics, University of Wisconsin
1990–2000	Research Council, Tasman Institute, Australia
1990–1991	Consultant to Steering Committee of Health and Retirement Survey, Institute for Social Research.
1991–1991	Visiting Professor, University of Oslo
1991–1992	Hoover Fellow, Stanford University
1992–1994	Graduate Admissions Chairman, University of Wisconsin
1993–1993	Visiting Lecturer, Tinbergen Institute, Rotterdam
1995–1995	Visiting Lecturer, University of Western Ontario
1995–1995	Research Consultant, Board of Governors, Federal Reserve System
1996–2001	Professor of Economics, Yale University.
1998–1999	Member, Panel of Expert Reviewers of Social Security Administration’s MINT Model
1998–1999	Member, Technical Panel of Social Security Advisory Board
2000–2002	Member, Steering Committee of the Health and Retirement Study, Survey Research Center, University of Michigan
2001–2004	Member, Long Term Modeling Advisory Group U.S. Congressional Budget Office
2000–2003	Advisor to Social Security Administration for Demonstration project resulting from the 1999 Work Incentives Improvement Act
2001–	Professor of Economics, of Maryland
2004 –	Senior Advisor, The Brattle Group
2005–	Co-Founder and President, Technoluddites, Inc.
2005–	Fellow, TIAA-CREF Institute, New York

- 2009– Chief Information Officer (CIO) and Member of Board of Directors,
EconJobMarket.org Inc.
- Teaching Experience:** Graduate Microeconomic Theory and Econometrics
Undergraduate Econometrics
Graduate Computational Economics and Public Economics
Lief Johansen Lectures, “Stochastic Decision Processes” University of Oslo 1991
NAKE Lectures, “Pensions and the Labor Market”, Tinbergen Institute, 1993
“Topics in Computational Economics”, University of Pennsylvania, 1997.
mini courses on “Stochastic Decision Processes” and “The Econometrics of Social Insurance”
given at various universities and institutes including the Indian Statistical Institute, New Delhi,
Tel Aviv, Copenhagen, Tor Vergata (Rome) and the University of Bologna (1999-2000)
- Awards/Honors:** Fellow, *Alfred E. Sloan Foundation*, 1988
Third Prize Paper, 1989 IBM Supercomputing Competition
Ragnar Frisch Award, 1992 (for 1987 *Econometrica* article [5])
Fellow, *Econometric Society* 1993
Best Advisor Award, Yale Graduate Economics Club, 1999
Fellow, *TIAA-CREF Institute* 2004
- Grants:** National Science Foundation Fellowship, 1979–1982
Sloan Foundation Grant, 1982–1983
University of Wisconsin Graduate Research Grant, 1984–1986
National Science Foundation Grant, 1985–1987
“Maximum Likelihood Estimation of Discrete Control Processes”
National Science Foundation Grant, 1987 for conference on
“Estimation and Computation of Structural Models”
National Science Foundation Grant, 1988–1991
“Structural Estimation Algorithms for Dynamic Choice and Equilibrium Models”
Econometric Society Grant, 1989 for conference on
“Empirical Applications of Structural Models”
IBM Research Support Program, 1989–1992
National Science Foundation Grant, 1990–1991 (Vernon Smith, Co-PI)
“Comparison of the Behavior of Human and Robot Traders
in a Computerized Double Auction Market”
LaFollette Institute Fellowship, 1991 (Christopher Phelan, Co-PI)
National Science Foundation Grant, 1991–1993 (Christopher Phelan, Co-PI)
“U.S. Social Security Policy: A Dynamic Analysis of Incentives and Self-Selection”
National Science Foundation Supercomputer Grant, 1991-1993
“Dynamic Programming Analysis of Individual Retirement Behavior”
Bradley Foundation Grant, 1994 (Robert Haveman and Barbara Wolfe, Co-PI’s)
“The Impact of Social Insurance on the Well-Being and Work Incentives of Older Individuals”
National Science Foundation Supercomputer Grant, 1994-1995
“Dynamic Programming Models of Nuclear Power Plant Operations”
National Institute on Aging Grant, 1995-1998
“Analysis of Dynamic Models of Retirement/Savings Behavior Using the HRS”
Sloan Foundation Grant, 1997-1998 (with J. Traub and H. Woźniakowski)
“Does Computational Complexity Limit Knowledge in Economics?”
National Science Foundation Grant, 1999-2002 (with G. Hall)
“Empirical Models of Inventory Investment and Price Discrimination by
Durable Commodity Intermediaries”
National Science Foundation Grant, 2002-2005 (with H. Hopenhayn and V.V. Chari)
“Characterizing Efficient Social Insurance Institutions: Theory and Computation”

National Science Foundation Grant, 2003-2006 (with Harry Paarsch, co-PI)
 “Optimal Harvesting of Timber”

National Science Foundation Grant, 2006-2009 (with Antonio Merlo and Francois Ortalo-Magne, co-PI’s)
 “Collaborative Research on Models of Bargaining and Price Determination of Residential Real Estate,
 with and without Real Estate Agents”

Conferences Organized:

- 1987 NSF Conference on Estimation and Computation of Structural Models
- 1990 Econometrica Conference on Empirical Applications of Structural Models
 (co-organized with George Tauchen, Duke and Ken Wolpin, Minnesota)
- 1990 Double Auction Conference, Santa Fe, New Mexico
 (co-organized with Dan Friedman, University of California, Santa Cruz)
- 1991 Double Auction Conference, Santa Fe, New Mexico
 (co-organized with Dan Friedman, David Lane, Minnesota and John Geanakoplos, Yale)
- 1992 NSF conference on Large Scale Computing in Economics, NCSA Urbana Illinois
 (co-organized with Radha Nandkumar, NCSA)
- 1994 International Conference on the Microeconometrics of Dynamic Decision Making
 Tilburg University (co-organized with Arie Kapteyn, CentER, and Nick Kiefer, Cornell)
- 1994 Conference on Research and Training in Computational Economics, Minneapolis
 (co-organized with John Geweke, Minnesota, Hans Amman, University of Amsterdam,
 and David Kendrick, University of Texas)
- 1995 Conference on Computational Economics, IC^2 Institute, Austin, Texas
 (co-organized with Andrew Whinston and Society for Computational Economics)
- 1995 CEME/NSF Conference on Econometrics, Madison Wisconsin
 (co-organized with Charles Manski)
- 1996 Conference on Computing in Economics and Finance, Geneva
 (co-organized with Hans Amman, Manfred Gilli and Society for Computational Economics)
- 1997 Winter Meetings of the Econometric Society, New Orleans
 Chairman of Program Committee
- 1997 Journal of Applied Economics Distinguished Lecture Series
 Local organizer: co-organized with other members of *JAE* editorial board
- 1997 International Meetings of the Society for Computational Economics, Stanford, CA
 Member of Program Committee
- 1998 International Meetings of the Society for Computational Economics, Cambridge, UK
 Member of Program Committee
- 2000 Cowles Conference on Strategy and Decision Making, Yale University
 Co-Organizer
- 2001 International Meetings of the Society for Computational Economics, Yale University
 Program Chair
- 2003 Conference on Improving Social Insurance Programs, University of Maryland
 Co-organizer (with John Laitner and Robert Willis of the University of Michigan)

Editorial work:

- Member: Committee on Electronic Publishing, *American Economic Association* 2001–2004.
- Co-editor: *Journal of Applied Econometrics* 1995-2007.
- Co-Editor: *Netnomics*, 1996–2007.
- Associate Editor: *Econometrica*, 1987–2001.
- Associate Editor: *Journal of Complexity*, 1995–2007.
- Associate Editor: *Computational Economics*, 1991–present.
- Editorial Board: *International Journal of Supercomputer Applications and High Performance Computing*, 1990–2008
- Editorial Board: *Seoul Journal of Economics* 2009–present
- Associate Editor: *Journal of Econometrics*, 1992–1996.
- Associate Editor: *Review of Economics and Statistics*, 1992–1996.

Associate Editor: *Journal of Economic Dynamics and Control*, 1995–present.
 Program Committee for Econometric Society Winter Meetings,
 (Applied Econometrics) Atlanta, GA, 1988
 Program Committee for the Sixth World Congress of the Econometric Society
 (Applied Econometrics) Barcelona, Spain, 1990
 Program Committee for Econometric Society Winter Meetings,
 (Applied Econometrics) New Orleans, LA, 1992
 Program Committee for IFAC Workshop, *Computing in Economics and Finance*
 (Auction Modelling) Amsterdam, 1994
 Program Committee for Seventh World Congress of the Econometric Society
 (Econometrics) Tokyo, 1995
 Program Committee for 12th International Conference on Computing in Economics
 and Finance, Limassol, Cyprus.
 Program Committee for the 2002 Conference on Computing in Economics and Finance,
 Aix-en-Provence, France
 Program Committee for the 2003 Conference on Computing in Economics and Finance,
 University of Washington
 Program Committee for 2007 Winter Meetings of the Econometric Society
 Chicago, Illinois.
 Program Committee for 2010 World Congress of the Econometric Society
 Shanghai, China.

Public Service:

NSF Economics Panel, 1992–1994
 NSF Instrumentation Panel, 1994
 Frisch Medal Committee, 1993–94
 Co-authored (1991) NSF Report, “Research Opportunities in Computational Economics”
 with panel of 15 scholars lead by David Kendrick, University of Texas (see [14]).
 Member of Panel on Retirement Income, Committee on National Statistics of the
 National Academy of Sciences, 1994-1997
 Program Committee of World Congress of Econometric Society
 Barcelona, 1990 and Tokyo, 1995
 Chairman, Program Committee of the Winter Meetings of the Econometric Society
 New Orleans, 1997.
 Member, Advisory Council to Society for Computational Economics, 1996–1999.
 NSF Methodology, Measurement, and Statistics Advisory Panel, 1997–1998.
 Member, NIA/NIH Site Review Committee, 1998.
 Member, NIA/NIH Site Review Committee, 1999.
 NSF Knowledge and Distributed Intelligence Panel, 1999–1999.
 Member, Steering Committee to the Health and Retirement Study, Survey Research Center, 1999-2003.
 Member, Technical Panel on Assumptions and Methods, Social Security Advisory Board, 1999.
 Advisor, Ticket to Work and Work Incentives Improvement Demonstration Project,
 Social Security Administration, 2001–2003.
 Member of Panel of Judges for Paul A. Samuelson Award, TIAA-CREF Institute, 2003-2004.
 Chair, Committee on Electronic Publishing of the American Economic Association, 2003-2005.
 Member, NSF Panel on High Performance Computing Acquisition Panel (funded development of
 the Pittsburgh Supercomputer Center’s “Ultraviolet” Computer, the first
 peta-scale research supercomputer, 2007–2008.

Publications

- [0] “Why Do Companies Pay Dividends? Comment (with Gary A. Bortz) (1984) *American Economic Review* **74-5** 1135–1136.
- [1] “Stationary Equilibrium in a Market for Durable Assets” (1985) *Econometrica* **53-4**, 783-805.
- [2] “Equilibrium Holdings Distributions in Durable Asset Markets” (1985) *Transportation Research* **19B**, 331-346.
- [3] “A Nested Logit Model of Automobile Holdings for One Vehicle Households” (1985) *Transportation Research* **19B**, 275-286, with Jim Berkovec.
- [4] “When Is it Optimal to Kill Off the Market for Used Durable Goods?” (1986) *Econometrica* **54-1**, 65-86.
- [5] “Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher” (1987) *Econometrica* **55-5**, 999-1033.
- [6] “Statistical Models of Discrete Choice Processes” (1988) *Transportation Research* **22B-2**, 125-158.
- [7] “Maximum Likelihood Estimation of Discrete Control Processes” (1988) *SIAM Journal on Control and Optimization* **26-5**, 1006-1024.
- [8] “A Dynamic Programming Model of Retirement Behavior” (1989) in David Wise (ed.) *The Economics of Aging* Chicago, University of Chicago Press, 359-398.
- [9] “Empirical Analysis of Retirement Behavior Using RHS Data: Principal Findings” (1989) in *Individuals and Families in Transition: Understanding Change Through Longitudinal Data*, U.S. Department of Commerce, Bureau of the Census, U.S. Government Printing Office 261-914/05090, pp. 83-95.
- [10] “Behavior of Male Workers at the End of the Life-Cycle: An Empirical Analysis of States and Controls” (1990) in David Wise (ed.) *Issues in the Economics of Aging* Chicago, University of Chicago Press.
- [11] “A Double Auction Market for Computerized Traders” (1990) Proceedings of the 1989 Conference on Advanced Computing in the Social Sciences, Oak Ridge National Laboratory.
- [12] “A Dynamic Programming Model of Retirement Behavior” (1992) in K.R. Billingsley, H.U. Brown III E. Derohanes (eds.) *Computer Assisted Analysis and Modeling on the IBM 3090 The 1989 IBM Contest Prize Papers* Baldwin Press, volume 2, pp. 887-912.
- [13] “Behavior of Trading Automata in a Computerized Double Auction Market” (1993), with John Miller and Richard Palmer. in D. Friedman and J.Rust (eds.) *Double Auction Markets: Theory, Institutions, and Laboratory Evidence* Redwood City, CA: Addison Wesley.
- [14] “Research Opportunities in Computational Economics” (1993) (with David Kendrick *et. al.*) *Computational Economics* **6-3** 257–315.
- [15] “Estimation of Dynamic Structural Models: Problems and Prospects” (1994) chapter 4 in C. Sims (eds) *Advances in Econometrics: Proceedings of the Sixth World Congress Vol II*. 119–170, Cambridge University Press.
- [16] “Characterizing Effective Trading Strategies: Insights from a Computerized Double Auction Tournament” (1994), with John Miller and Richard Palmer *Journal of Economic Dynamics and Control* **18** 61–96.
- [17] “Structural Estimation of Markov Decision Processes” (1994) in R. Engle and D. McFadden (eds.) *Handbook of Econometrics* Volume 4, 3082–3139, North Holland.

- [18] “Optimal Response to Shift in Regulatory Regime: The Case of the U.S. Nuclear Power Industry” (1995) (with Geoffrey Rothwell) *Journal of Applied Econometrics* **10-S** 75–118.
- [19] *Toward Improved Modeling of Retirement Income Policies* (1995) (with E.A. Hanushek *et. al.*) Interim report of Panel on Retirement Income Modeling of the Committee on National Statistics, National Academy Press, Washington, D.C.
- [20] “Introduction: The Microeconometrics of Dynamic Decision Making” (1995) (with A. Kapteyn and N. Kiefer) *Journal of Applied Econometrics* **10-S** 75–118.
- [21] “Introduction” (1996) (with H. Amman and D. Kendrick) forthcoming in H. Amman, D. Kendrick and J. Rust (eds.) *Handbook of Computational Economics* Elsevier, North Holland.
- [22] “Numerical Dynamic Programming in Economics” (1996) in H. Amman, D. Kendrick and J. Rust (eds.) *Handbook of Computational Economics* Elsevier, North Holland.
- [23] “Using Randomization to Break the Curse of Dimensionality” (1997) *Econometrica* **65-3** 487-516.
- [24] “How Social Security and Medicare Affect Retirement Behavior in a World with Incomplete Markets” (1997) *Econometrica* 65-4, 781–832. (with Chris Phelan, Northwestern University.)
- [25] “On the Optimal Lifetime of Nuclear Power Plants” (1997) *Journal of Business and Economic Statistics*. 15-2, 195–208. (with Geoffrey Rothwell, Stanford University.)
- [26] *Assessing Policies for Retirement Income: Needs for Data, Research, and Models* (1997) (E.A. Hanushek and C. Citro, editors) National Research Council, National Academy Press, Washington, D.C.
- [27] “An Empirical Analysis of the Social Security Disability Application, Appeal and Award Process” (1999) with H. Benitez-Silva, H. Chan, S. Sheidvasser and M. Buchinsky *Labour Economics*.
- [28] “An Empirical Model of Inventory Investment by Durable Commodity Intermediaries” (1999) with George Hall in C. Plosser (ed.) *Carnegie-Rochester Conference Series on Public Policy*.
- [29] “Strategies for Incorporating Risk, Uncertainty, and Private Insurance Mechanisms in Models of Social Insurance” (1999) chapter 5 in the *Long Term Model Development for Social Security Policy Analysis* Urban Institute, Washington, D.C.
- [30] “Projections of Disability Insurance” (1999) section IV-C-4 of the Final Report of the 1999 Technical Panel on Assumptions and Methods, Social Security Advisory Board, Washington, D.C. (online copy available at <http://www.ssab.gov/Rpt99.pdf>)
- [31] “Introduction: Inference and Decision Making” (2000) (with J. Geweke and H.K. van Dijk) *Journal of Applied Econometrics* **15-6** 545–546.
- [32] “Is There a Curse of Dimensionality for Contraction Fixed Points in the Worst Case?” (2002) (with J.F. Traub and H. Woźniakowski) *Econometrica* **70-1** 285–329.
- [33] “Middle Men versus Market Makers: A Theory of Competitive Exchange” (2003) (with George Hall) *Journal of Political Economy* **111-2** 353–403.
- [34] “How Large is the Bias in Self-Reported Disability?” (2004) (with Moshe Buchinsky and Hugo Benitez-Silva) *Journal of Applied Econometrics* **19-6** 649–670.
- [35] “Introduction to Special Issue on the Econometrics of Social Insurance” (2004) (with N. Datta Gupta and B. J. Christensen) *Journal of Applied Econometrics* **19-6** 647–648.

- [36] “Convergence Properties of Policy Iteration” (2004) *SIAM Journal on Control and Optimization* **42-6** 2094–2115 (with Manuel Santos, Arizona State University).
- [37] “Impact of Retiree Health Plans on Faculty Retirement Decisions” (2005) in Robert Clark and Jennifer Ma (editors) “Recruitment, Retention and Retirement: The Three R’s of Higher Education in the 21st Century” Edward Elgar, Northampton, Massachusetts, pp. 135–169.
- [38] “The (S, s) Rule is an Optimal Trading Strategy in a Class of Commodity Price Speculation Problems” (2007) *Economic Theory* **30** 515–538 (with George Hall, Brandeis University).
- [39] “Daniel McFadden” (2008) *The New Palgrave Dictionary of Economics* (2nd edition) London, Palgrave Macmillan, Ltd.
- [40] “Dynamic Programming” (2008) *The New Palgrave Dictionary of Economics* (2nd edition) London, Palgrave Macmillan, Ltd.
- [41] “Is Econometrics Useful for Private Policy Making? A Case Study of Replacement Policy at an Auto Rental Company” (2008) *Journal of Econometrics* **145** 243–257 (with Sungjin Cho, Seoul National University).
- [42] “Comments on Michael Keane’s ‘Structural vs Atheoretic Approaches to Econometrics’” (forthcoming) *Journal of Econometrics* (special issue on structural econometrics edited by Ahmed Khwaja and Donna Gilleskie).
- [43] “Valuing Programs with Deterministic and Stochastic Cycles” (2008) *Journal of Economic Dynamics and Control* **33** 614–623 (with Harry Paarsch, University of Melbourne).
- [44] “The Flat Rental Puzzle” (2010) *Review of Economic Studies* **77-2** 534–559 (with Sungjin Cho, Seoul National University).

Books

- [1] *The Double Auction Market: Institutions, Theories and Evidence* co-edited with Daniel Friedman (1993) Addison Wesley, Santa Fe Institute Studies in the Sciences of Complexity.
- [2] *Handbook of Computational Economics* (1996) (co-edited with H. Amman and D. Kendrick) Elsevier, North Holland.

Reviews and Comments

- [1] “Why Do Companies Pay Dividends: Comment” (1984) *American Economic Review* **74-5**, 1135–1136, with Gary A. Bortz.
- [2] “Consumer Durable Choice and the Demand for Electricity” (1986) review of book by Jeffrey A. Dubin, *Journal of Political Economy*, **94-4**, 900–904.
- [3] “The Subjective Perspective of a ‘Spiritual Bayesian’” *Journal of Economic Perspectives*, (1988), **2-1**, 145–151.
- [4] “Comment on ‘Optimal Collection of Information by Partially Informed Agents’” (1989) *Econometric Reviews*, 170–178.
- [5] “Review of *The Econometric Analysis of Transition Data*” *Economica* (1992) **59** 483–90.
- [6] “Comments on Lumsdaine, Stock and Wise” in D. Wise (ed.) (1994) *Studies in the Economics of Aging* University of Chicago Press, Chicago.

- [7] “Discussion of Theresa J. Devine’s paper, ‘Demographics, Social Security Reform, and Labor Supply’” (1997) in *Social Security Reform: Links to Saving, Investment and Growth* Conference Series 41, Federal Reserve Bank of Boston, 96–101.
- [8] “Effect of Pensions on Saving: Analysis with Data from the Health and Retirement Study — Comment” (1999) in C. Plosser (ed.) *Carnegie Rochester Conference on Public Policy* Volume 50.
- [9] “Comments on ‘Econometric Analysis of Fisher’s Equation’ by Peter Phillips, Yale University” (2005) *American Journal of Economics and Sociology*.

Academic/Mathematical Software and Software Reviews

- [1] “Nested Fixed Point Algorithm: Documentation Manual Version 8” (2000) 68 pages text plus 4600 lines of Gauss source code. Software available via Berkeley Econometric Software Archive, <http://elsa.berkeley.edu/> and via Web site <http://gemini.econ.yale.edu/jrust/nfxp.html> (Previously distributed through *Tools for Learning Courseware Catalog*, (1991) IBM Corp., page 223).
- [2] “Participant’s Manual for A Double Auction Tournament” (1990) 92 page booklet and 17,000 lines C-source code, with R.G. Palmer and J. Miller, Santa Fe Institute.
- [3] “Participant’s Manual for the Arizona Token Exchange” (1993) 60 page booklet and 12,000 lines C-source code, with Shawn LaMaster, R.G. Palmer and Vernon Smith, University of Arizona Economic Science Laboratory.
- [4] “Gauss and Matlab: A Comparison” *Journal of Applied Econometrics* (1993) **8-3**, 307–324.
- [5] *Editorial Express* web-based software for performing editorial operations in a decentralized manner using the world wide web. *Editorial Express* was developed for the Econometric Society to edit the journal *Econometrica* and is now used by more than 50 academic journals in economics and other fields. See <http://gemini.econ.umd.edu/e-editor> for more information (Co-developed with Sarbartha Bandyopadhyay of University of Maryland, and provided via Technoluddites, Inc.).
- [6] *Conference Maker* web-based software that enables remote, decentralized organization of international academic conferences using the world wide web. *Conference Maker* was developed for the Econometric Society to organize its international conferences, and has been used to organize more than 100 international conferences by a variety of academic organizations. Further information on *Conference Maker* is located at <http://gemini.econ.umd.edu/conference> (Co-developed with Sarbartha Bandyopadhyay of University of Maryland, and provided via Technoluddites, Inc.).
- [7] *EconJobMarket* web-based software that serves as an information clearinghouse to improve the efficiency of the economics job market, both for new PhD economists and for senior economists in both academic and non academic positions. I co-founded the non-profit organization <http://econjobmarket.org> (a California non-profit organization) with Joel Watson of University of California at San Diego in 2007 and am the Chief Information Officer there. I have co-developed the web-based software that implements *EconJobMarket.org* with Watson and a commercial contractor Watson Education, Inc.
- [8] *Head Hunter* web-based software that facilitates academic recruiting via online candidate files and recommendation letters. Serves as an authorized “back end” system to *EconJobMarket.org* by connecting to that system and retrieving application files pertinent to a specific recruiter who uses *Head Hunter* to manage their recruiting operations.