#### **VITAE**

## Paul L. Joskow

Elizabeth and James Killian Professor of Economics and Management
Department of Economics and Sloan School of Management
Director, Center for Energy and Environmental Policy Research
Massachusetts Institute of Technology
50 Memorial Drive
Room E52-280B
Cambridge, Massachusetts 02142-1347
617-253-6664
617-258-7070 (fax)
pjoskow@mit.edu

## **EDUCATION:**

YALE UNIVERSITY Ph.D., Economics, 1972 M. Philosophy, Economics, 1970

CORNELL UNIVERSITY B.A. (with distinction), Economics, 1968

# **EMPLOYMENT**:

# MASSACHUSETTS INSTITUTE OF TECHNOLOGY

1996-	Elizabeth and James Killian Professor of Economics,
	Department of Economics and (joint)
1989-	Professor of Economics and Management, Sloan School of
	Management
1999-	Director, MIT Center for Energy and Environmental Policy
	Research
1994-98	Head, Department of Economics
1989-96	Mitsui Professor of Economics, Department of Economics
1978-89	Professor of Economics, Department of Economics
1975-78	Associate Professor, Department of Economics
1972-75	Assistant Professor of Economics, Department of Economics
1982-85;	· · · · · · · · · · · · · · · · · · ·
1993-94	Associate Head, Department of Economics
	CENTER FOR ADVANCED STUDY IN THE
	BEHAVIORAL SCIENCES
1985-86	Fellow, Stanford, California
	J.F. KENNEDY SCHOOL OF GOVERNMENT,
	HARVARD UNIVERSITY
1979-80	Visiting Professor
1998	Fellow, Center for the Study of Government and Business
	YALE UNIVERSITY
1070 72	
1970-72	Teaching Assistant, Department of Economics

## FELLOWSHIPS, HONORS AND AWARDS:

Phi Beta Kappa

Woodrow Wilson Fellow

National Science Foundation Traineeship (1968-1969)

National Science Foundation Graduate Fellowship (1969-1972)

Joel Dean Lecturer, Oberlin College (1983)

Fellow, Center for Advanced Study in the Behavioral Sciences (1985-1986)

Fellow, Econometric Society (1988)

John M. Olin Visiting Scholar, Harvard Law School (1988-1990)

Fellow, American Academy of Arts and Sciences (1991)

Distinguished Service Award, Public Utility Research Center,

University of Florida (1993)

International Association for Energy Economics, Best Paper Award (1993)

Edward A. Hewett Prize (with Richard Schmalensee and Natasha Tsukanova).

American Association for the Advancement of Slavic Studies (1995)

Distinguished Service Award, MIT School of Humanities and

Social Sciences (1998)

#### PROFESSIONAL ACTIVITIES:

#### **Academic Journals:**

Co-Editor, Journal of Law, Economics and Organization (1992-1995)

Editorial Board, American Economic Review (1993-1999)

Editorial Advisory Board, The Electricity Journal (1992-present)

Editorial Board, Land Economics (1975-1980)

Associate Editor, Bell Journal of Economics

(1976-1977; 1979-1983)

Co-Editor, Bell Journal of Economics (1977-1978)

Editorial Board, The Energy Journal (1981-1987)

Associate Editor, The Rand Journal of Economics (1984-1985)

Editorial Board, Journal of Law, Economics and Organization (1984-1992)

Editorial Board, International Journal of Law and Economics (1987-1991)

Editorial Board, Politics and Economics (1990-1994)

Editorial Board, Journal of Financial Intermediation (1989-1992)

Editorial Board, Public Utilities Law Anthology (1995-present)

## PROFESSIONAL ACTIVITIES (continued)

## Boards, Public Service, Academic and Other Affiliations:

Massachusetts Energy Facilities Sitting Task Force (1974)

Economics Task Force-National Commission for Review of the Anti-Trust Laws and Procedures (1978)

Regulatory Research Advisory Board, American Enterprise Institute (1978-1985)

Administrative Conference of the United States (1980-1982) (Public Member)

Electric Power Research Institute Advisory Council (1980-1984)

Brookline Historical District Commission (1981-1983)

Economic Research Coordinating Group, New England Council (1981-1983)

National Academy of Sciences, Committee on Electricity and Economic Growth (1984-1985)

National Science Foundation Regulation Sub-Panel (1984-1985)

Sloan Foundation Economics Advisory Board (1984-1989)

Board of Directors, New England Electric System (1987-present)

National Bureau of Economic Research, Research Associate (1988-present)

Keystone Foundation Energy Futures Project, Advisory Board (1989-1990)

EPA Acid Rain Advisory Committee (1990-1992)

Chairman, Research Advisory Board, Committee for Economic Development, (1990-1994)

## PROFESSIONAL ACTIVITIES (continued)

## **Boards, Public Service, Academic and Other Affiliations:** (continued)

Governor's Advisory Committee on the State Energy Plan (Massachusetts) (1992-1996)

Chairman, Electric Power Research Institute, Economic Advisory Committee (1992-1995)

Board of Directors, Whitehead Institute for Biomedical Research (1993-present)

Member, Yale University Council (1988-1993)

President, Yale University Council (1993-present)

Presidential Economic Policy Advisory Board (1994-1997)

Board of Trustees, Putnam Mutual Funds (1997-present)

Science Advisory Board, Conservation Law Foundation (1997-present)

Academic Advisory Board, the AEI-Brookings Joint Center for Regulatory Studies (1998-present)

Member, Environmental Protection Agency, Science Advisory Board, Environmental Economics Advisory Committee (1998-present)

## **Consultant (Partial List):**

Rand Corporation (1972-1985)

National Economic Research Associates (1972-1998)

Public Interest Economics Center (1973)

Organization for Economic Cooperation and Development (1976-1978)

The Sloan Foundation (1983-1984)

The World Bank (1991)

The Committee for Economic Cooperation and Development (1992-1993)

The Russian Federation State Committee for State Property (1992)

Harvard Institute for International Development (1992-1995)

Mexican Ministry of Energy (1998-)

## **Professional Associations:**

American Economic Association

Econometric Society (Fellow)

International Association of Energy Economists

American Bar Association (Associate)

#### **PUBLICATIONS AND WORKING PAPERS**

#### **PhD THESIS:**

"A Behavioral Theory of Public Utility Regulation," unpublished Ph.D. dissertation, Yale University, 1972

#### **BOOKS:**

Electric Power in the United States: Models and Policy Analysis (with Martin Baughman and Dilip Kamat), MIT Press, 1979.

<u>Controlling Hospital Costs: The Role of Government Regulation</u>, MIT Press, 1981.

Markets for Power: An Analysis of Electric Utility Deregulation (with Richard Schmalensee), MIT Press, 1983.

Markets for Clean Air: The U.S. Acid Rain Program (with R. Schmalensee, A.D. Ellerman, J.P. Montero, and E. Bailey), Cambridge University Press, forthcoming 2000.

## **ARTICLES, NOTES AND COMMENTS:**

"Publicly Owned Electric Utility Profits and Resource Allocation: Comment," Land Economics, August, 1971.

"Pricing Decisions of Regulated Firms: A Behavioral Approach", <u>Bell Journal of</u> Economics and Management Science, Spring, 1972.

"The Determination of the Allowed Rate of Return in a Formal Regulatory Hearing," Bell Journal of Economics and Management Science, Autumn, 1972.

"The Fogel-Engerman Iron Model: A Clarifying Note", <u>Journal of Political Economy</u> (with Edward McKelvey), September-October, 1973.

"Cartels, Competition and Regulation in the Property and Liability Insurance Industry", Bell Journal of Economics and Management Science, Autumn, 1973.

"Energy Self-Sufficiency: An Economic Evaluation" (with several others), <u>Technology</u> Review, May 1994. Reprinted as a monograph by the American Enterprise Institute.

"Inflation and Environmental Concern: Change in the Process of Public Utility Price Regulation", <u>Journal of Law and Economics</u>, October, 1974. (Another version of this paper appears in <u>Electric Power Reform</u>: Alternative for Michigan, University of Michigan, 1975.)

"The Effects of Fuel Prices on Residential Appliance Choice in the United States" (with Martin Baughman), Land Economics, February, 1975.

"Firm Decision-Making Processes and Oliopoly Theory", <u>American Economic Review</u>, May, 1975

"Regulation and Financial Condition of the Electric Power Companies in the 1970's" (with Paul MacAvoy), <u>American Economic Review</u>, May 1975.

"Applying Economic Principles to Public Utility Rate Structures: The Case of Electricity," in <u>Studies in Electric Utility Regulation</u> (Cicchetti and Jurewitz, editors), Ballinger Books, 1975.

"Financing the Future Growth of the Electric Power Industry", <u>Electric Power Financial</u> Problems and Potential Solutions, Mitre, 1975.

"Contributions of the Theory of Marginal Cost Pricing," <u>Bell Journal of Economics</u>, Spring 1976.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Energy Consumption by Residential and Commerical Consumers in the United States" (with Martin Baughman), <u>Energy Systems and Policy</u>, Spring, 1976.

"The Future of the U.S. Nuclear Energy Industry", <u>Bell Journal of Economics</u>, Spring 1976.

Nuclear Industry Today", Foreign Affairs, July, 1976.

"Commerical Impossiblity, the Uranium Market, and the Westinghouse Case", <u>Journal of Legal Studies</u>, January, 1977. Reprinted in Corporate Counsel's Annual, 1978.

"The Effects of a Nuclear Moratorium on Regional Electricity Prices and Fuel Consumption by the Electric Utility Industry", <u>Land Economics</u>, February, 1977.

"The Future of the Electric Power Industry" (with Martin Baughman), <u>IEEE Journal</u>, April, 1977.

"Electric Utility Fuel Choice Behavior in the United States" (with Frederick Mishkin), International Economic Review, October, 1977.

"Medical Efficacy versus Economic Efficiency: A Conflict in Values" (with William Schwartz), New England Journal of Medicine, December 28, 1978.

"Competition and Regulation in the Property/Casualty Insurance Industry", <u>Report of the National Commission for the Review of Antitrust Laws and Procedures</u>, U.S. Government Printing Office, January 22, 1979.

"The Effects of Learning by Doing on Nuclear Power Plant Operating Reliability", Review of Economics and Statistics, May 1979.

"Should Synfuels be Subsidized" (with Robert Pindyck), <u>Regulation</u>, September-October, 1979.

"Public Utility Regulatory Policy Act of 1978", <u>Natural Resources Journal</u>, Autumn, 1979.

"A Framework for Analyzing Predatory Pricing Policy" (with Alvin Klevorick), <u>Yale Law Journal</u>, December, 1979. Reprinted in Corporate Counsel's Annual, 1981.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Electric Utility Rate Structures in the United States: Some Recent Developments", in <u>Public Utility Ratemaking in an Energy Conscious Environment</u> (W. Sichel, editor), Westview Press, 1979.

"The Effects of Competition and Regulation on Hospital Bed Supplies and the Reservation Quality of the Hospital", <u>Bell Journal of Economics</u>, Autumn, 1980.

"Duplicated Hospital Facilities" (with William Schwartz), New England Journal of Medicine, December 18, 1980.

"Siting Nuclear Power Plants" (with Joel Yellin), <u>Virginia Journal of Natural Resource</u> Law, 1980.

"The Political Content of Antitrust: Comments", <u>Antitrust Law and Economics</u> (Oliver Williamson, editor), Dame Publications, 1980.

"The Effects of FTC Advertising Regulation: A Comment", <u>Journal of Law and</u> Economics, December, 1981.

"Alternative Regulatory Mechanisms for Controlling Hospital Cost", A New Approach to the Economics of Health Care (Mancur Olsen, editor), <u>American Enterprise Institute</u>, 1981.

"Regulation in Theory and Practice: A Current Overview" (with Roger Noll), <u>Studies in</u> Public Regulation (G. Fromm, editor), MIT Press, 1981.

"Evaluating the Costs and Benefits of Appliance Efficiency Standards" (with J. Hausman), American Economic Review, May, 1982.

"Industrial Cogeneration and Electricity Production in the United States", <u>Regulatory</u> <u>Reform and Public Utilities</u> (M. Crew, editor), Heath, Lexington, 1982.

"Problems and Prospects for Nuclear Power in the U.S.", in <u>Energy, Economics</u>, and the Environment (A. Daneke, editor), Lexington Books, 1982.

"The Simple Economics of Industrial Cogeneration" (with Donald Jones), <u>The Energy</u> Journal, January, 1983.

"Reimbursement Policy, Cost Containment and Non-Price Competition: Comment", <u>Journal of Health Economics</u>, August, 1983.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Local Telephone Pricing in a Competitive Environment: Comment" <u>Telecommunications Today and Tomorrow</u> (Eli Noam, editor), Harcourt Brace Jovanovich, 1983.

"Adversary Hydro Relicensing Application: Using Economic Efficiency Criteria" (with Richard Schmalensee), <u>Public Utilities Fortnightly</u>, December 20, 1984.

"The Effects of Fuel and Electricity Prices on Cogeneration in the Pulp and Paper Industry", Energy Systems and Policy, Vol. 8, No. 1, 1984.

"The Effects of Technological Change, Experience and Environmental Regulation on the Construction Costs of Coal-Burning Generating Units" (with Nancy Rose), <u>Rand</u> Journal of Economics, Spring, 1985.

"Vertical Integration and Long Term Contracts: The Case of Coal Burning Electric Generating Plants", <u>Journal of Law, Economics and Organization</u>, Spring, 1985. (Reprinted in Industrial Organization (O.E. Williamson, editor) Elgar Publishing, 1990, 1996; reprinted in Transactions Costs Economics, O.E. Williamson and S.E. Masten, editors, Elgar Publishing, 1995)

"Long Term Vertical Relationships and the Study of Industrial Organization and Government Regulation", Zeitschrift für die gesamte Staatswissenschaft (Journal of Institutional and Theoretical Economics), December, 1985.

"Comments on the Residential Electricity Time-of-Use Pricing Experiments", <u>Social Experimentation</u> (J. Hausman and D. Wise, editors), University of Chicago Press, 1985.

"Mixing Regulatory and Antitrust Policies in the Electric Power Industry: the Price Squeeze and Retail Market Competition, <u>Antitrust and Regulation: Essays in Memory of John J. McGowan</u> (F. Fisher, editor), MIT Press, 1985.

"The Stochastic Determinants of Hospital-Bed Supply: Comment", <u>Journal of Health Economics</u>, 1985.

"Estimated parameters as Independent Variables with an Application to the Costs of Electric Generating Units" (with Richard Schmalensee), <u>Journal of Econometrics</u>, April, 1986.

"Incentive Regulation for Electric Utilities", (with Richard Schmalensee), <u>Yale Journal on</u> Regulation, December, 1986. (Reprinted in Public Utilities Law Anthology, 1986).

### **ARTICLES, NOTES AND COMMENTS-continued:**

"Productivity Growth and Technical Change in the Generation of Electricity," <u>The Energy Journal</u>, January, 1987.

"Contract Duration and Relationship Specific Investments: Empirical Evidence from Coal Markets", <u>American Economic Review</u>, March, 1987. (Reprinted in Transaction Cost Economics, O.W. Williamson and S.E. Masten, editors, Elgar Publishing 1995 (hardcover); and 1999 paperback. Reprinted in <u>Case Studies in Contracting and Organization</u>, Scott Masten, editor, Oxford University Press, 1996)

"The Performance of Coal-Burning Electric Generating Units in the United States: 1960-1980" (with Richard Schmalensee), <u>Journal of Applied Econometrics</u>, April, 1987.

"Price Adjustment in Long Term Contracts: The Case of Coal", <u>Journal of Law and</u> Economics, April, 1988.

"Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence", <u>Journal of Law, Economics and Organization</u>, Spring 1988. (Reprinted in <u>The Nature of the Firm</u>, O.E. Williamson and S. Winter, editors, Oxford University Press, 1991.)

"The Evolution of Competition in the Electric Power Industry", <u>Annual Review of Energy</u>, 1988.

"Foreword" to <u>The Economics of Regulation</u> by A.E. Kahn, in the MIT Press reprint of these volumes, 1988.

"The Effects of Economic Regulation" (with Nancy Rose), in <u>Handbook of Industrial</u> <u>Organization</u> (R. Schmalensee and R. Wilig, editors), North-Holland, (1989).

"Regulatory Failure, Regulatory Reform and Structural Change In The Electric Power Industry", <u>Brookings Papers on Economic Activity: Microeconomics.</u> 1989.

"Opportunity Costs As A Legitimate Cost of Transmission Service", <u>Public Utilities Fornightly</u>, (with J. Landon and J. Pace), December 7, 1989.

"Understanding the Unbundled Conservation Bidding Proposal", <u>Public Utilities</u> <u>Fortnightly</u>, January 7, 1990.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"The Performance of Long-Term Contracts: Further Evidence from Coal Markets", Rand Journal of Economics, Summer, 1990.

"The Diffusion of New Technology: Evidence From the Electric Utility Industry", (with Nancy Rose), <u>Rand Journal of Economics</u>, Fall, 1990.

"The Evolution of an Independent Power Sector and Competitive Procurement of New Generating Capacity", Research in Law and Economics, 1991.

"Integrating Conservation Into Competitive Generation Bidding Programs", in Competition in Electricity: New Markets and New Structures, <u>Public Utility Reports</u>, (Spring 1990).

"McCarran-Ferguson Act Reform: More Competition or More Regulation?" <u>Journal of Risk and Uncertainty</u>, (with Linda McLaughlin), Volume 4, 1991.

"The Role of Transactions Cost Economics in Antitrust and Public Utility Regulatory Policies", <u>Journal of Law, Economics and Organization</u>, Volume 7, 1991.

"Expanding Competitive Opportunities in Electricity Generation", <u>Regulation</u>, Winter, 1992.

"Accounting For Environmental Externalities", The Electricity Journal, May, 1992.

"What Does a Negawatt Really Cost? Evidence From Electric Utility Conservation Programs", (with Donald Marron), <u>The Energy Journal</u>, 1992.

"Comments on Jorgenson, Slesnick and Wilcoxen", <u>Brookings Papers on Economic Activity: Microeconomics</u>, 1992.

"What Does Utility-subsidized Energy Conservation Really Cost?" <u>Science</u>, April 16, 1993.

"Electricity Agenda Items for the New FERC", The Electricity Journal, June, 1993.

"What Does a Negawatt Really Cost? Further Thoughts and Additional Evidence", (with Donald Marron), <u>The Electricity Journal</u>, July, 1993.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Deregulation and Regulatory Reform During 1980s", (with Roger Noll), in <u>American Economic Policy During the 1980s</u> (M. Feldstein, editor) University of Chicago Press, 1994.

"More from the Guru of Energy Conservation: There Must Be A Pony!", <u>The Electricity</u> Journal, May, 1994.

"Competition Policy in Russia During and After Privatization", (with Richard Schmalensee and Natasha Tsukanova), <u>Brookings Papers on Economic Activity:</u> Microeconomics, 1994.

"The New Institutional Economics: Alternative Approaches", <u>Journal of Theoretical and Institutional Economics</u>, March 1995.

"Competition in the U.S. Electric Power Industry: Some Recent Developments", in Competition in the Electricity Supply Industry, DJOF Publishing Company, Copenhagen, 1995.

"Privatization in Russia: What Should Be A Firm?" (with Richard Schmalensee), International Journal of the Economics of Business, Vol 2, No. 2, 1995, pp. 297-327). Reprinted in Transaction Cost Economics, Claude Mendard, Editor, Edward Elgar Press, 1997).

"Utility-Subsidized Energy Efficient Programs", <u>Annual Review of Energy and the Environment</u>, Vol. 20, 1995, pp. 526-534.

"L'espeansione della concorrenza nell' industria elettrica statunitense", <u>Energia</u>, Volume XVI, No. 4, December, 1995.

"Political Constraints on Executive Compensation: Evidence From the Electric Utility Industry", (with Nancy Rose and Catherine Wolfram), <u>Rand Journal of Economics</u>, Vol. 27, No. 1, Spring 1996. (Reprinted in <u>The Economics of Executive Compensation</u>, Kevin Hallock and Kevin Murphy (editors), Edward Elgar Publishing Ltd., UK, 1998).

"Introducing Competition into Regulated Network Industries: From Hierarchies to Markets in Electricity", <u>Industrial and Corporate Change</u>, Volume 5, No. 2, 1996. Reprinted in <u>Firms</u>, <u>Markets and Hierarchies</u> (eds. Glenn R. Carroll and David J. Teece) Oxford University Press, 1999.

"How Will It All End? The Electric Utility Industry in 2005", <u>The Electricity Journal</u>, Volume 9, No. 1, January/February, 1996.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Comment on Power Struggles: Explaining Deregulatory Reform in Electricity Markets", <u>Brookings Papers on Economic Activity: Microeconomics</u>, 1996, pp. 251-264.

"Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector", <u>Journal of Economic Perspectives</u>, Summer, 1997. (Reprinted as Chapter 2 in <u>Designing Competitive Electricity Markets</u>, Hung-Po, Chao and Hillard, G. Huntington, Editors, Kluwer Academic Publishers, 1998)

"An Electric Utility Merger: Constellation", in <u>The Antitrust Revolution</u>, 3rd Edition, John Kwoka and Lawrence White, editors, Oxford University Press, 1998.

"Electricity Sectors in Transition." The Energy Journal, Volume 19, No. 2, 1998.

"Auction Design and the Market for Sulfur Dioxide Emissions", <u>American Economic Review</u>, (with R. Schmalensee and E. Bailey), September, 1998.

"SO2 Emissions Trading Under the 1990 Clean Air Act Amendments", <u>Journal of Economic Perspectives</u>, (with R. Schmalensee, A.D. Ellerman, J. Montero, and E. Bailey), Summer, 1998.

"The Political Economy of Market-Based Environmental Policy: The 1990 U.S. Acid Rain Program", (with Richard Schmalensee) <u>Journal of Law and Economics</u>, April, 1998.

"Asset Specificity and Vertical Integration", <u>The New Palgrave Dictionary of Economics</u> and Law, Peter Neuman, Editor, MacMillan, 1998.

"Summary Evaluation of the U.S. Sulfur Dioxide Emissions Trading Program as Implemented in 1995", with R. Schmalensee, A.D. Ellerman, Elizabeth Bailey, and J. Montero, in Pollution for Sale: Emissions Trading and Joint Implementation edited by Steve Sorrell and Jim Skea (London, Edward Elgar Publishing.), 1999.

"Restructuring Electric Utilities: BG&E and PEPCO Propose to Merge". Printed in <u>The Antitrust Revolution: Economics, Competition and Policy</u>, Kwoka, John and White, Lawrence, Editors; Oxford University Press,1998.

"The Bell Doctrine: Applications in Telecommunications, Electricity and Other Network Industries," (with Roger Noll), <u>Stanford Law Review</u>, May 1999.

## **ARTICLES, NOTES AND COMMENTS-continued:**

"Regulatory Priorities for Infrastructure Sectors in Developing Countries, <u>Annual World Bank Conference on Development Economics 1998</u>, The World Bank, April 1999, pp. 191-223.

#### **UNPUBLISHED WORKING PAPERS AND REPORTS:**

"The Fire Insurance Industry: An Overview," Rand IN-21285, September, 1972.

"Regulation and Deregulation in the Property Insurance Industry," NBER Conference on Government Regulation, University of Chicago, November, 1973.

"Research and Development Strategies for Nuclear Power in the United Kingdom, France and Germany," presented at the NSF Conference on Breeder Reactor Commercialization, August, 1975.

"Regional Fuel Consumption by Electric Utility Industry: 1975-1995," MIT Energy Laboratory, Working Paper, May, 1976.

"Exports of Nuclear Power Technology and Strategies for Managing the Market" (with Ted Greenwood), U.S./German Workshop on Nuclear Energy Problems, January, 1977.

"Regulatory Activities of Government Agencies," MIT Economics Department, Working Paper. No. 171, revised, 1977.

"The Effects of Technological Change, Experience and Environmental Regulation on the Construction Costs of Coal Burning Generating Units-1981-82 Update" (with Nancy Rose), Mimeo, August, 1985.

"Energy and the Environment," Background paper prepared for the Committee for Economic Development, April 1991.

"Managerial Implications of Transactions Cost Economics," presented at the Allied Social Sciences Association Meetings, January 1993.

"Conflicts Between Competition, Conservation, and Environmental Policies Affecting the Electric Power Industry," presented at the Public Utility Research Center, University of Florida, April 29, 1993.

"CEO Pay and Firm Performance: Dynamics, Asymmetries, and Alternative Performance Measures," (with Nancy Rose), NBER Working Paper No. 4976, December 1994.

#### **UNPUBLISHED WORKING PAPERS AND REPORTS-continued:**

"Restructuring to Promote Competition in Electricity: In General and Regarding the POOLCO vs. Bilateral Contracts Debate," presented at the AEA meetings in San Francisco, January 1996.

"Sulfur Dioxide Emissions Trading Under Title IV of the 1990 Clean Air Act Amendments: Evaluation of Compliance Costs and Allowance Market Performance," with R. Schmalensee, Elizabeth Bailey, A.D. Ellerman, and J.P. Montero, Report prepared for the National Acidic Precipitation Assessment Program in support of its Quadrennial Report to Congress.

"Transmission Rights and Market Power on Electric Power Networks I: Financial Rights," (with Jean Tirole), MIT Center for Energy and Environmental Policy Research, January 1999.

"Transmission Rights and Market Power on Electric Power Networks II: Physical Rights," (with Jean Tirole), MIT Center for Energy and Environmental Policy Research, January 1999.

#### **BOOK REVIEWS:**

"Approving Nuclear Power Plants: Scientific Decision-Making or Administrative Charade?" <u>Bell Journal of Economics and Management Science</u>, Spring 1974, reprinted in Public Utilites Law Anthology, II, 1975-1976.

Review of Industrial Market Structure and Economic Performance by F.M. Scherer, Antitrust Bulletin, Spring, 1976.

"America's Many Energy Futures," Bell Journal of Economics, Spring, 1980.

June 1999