

## BRIDGER M. MITCHELL — Vice President

Ph.D.            Economics, Massachusetts Institute of Technology  
A.B.            Economics (*magna cum laude*), Stanford University

### PROFESSIONAL EXPERIENCE

1994–present        Vice President, Charles River Associates, Palo Alto, CA.

1972–1994         Senior Economist, Social Policy Department, RAND Corporation, Santa Monica, CA.

1977–1979         Research Fellow, International Institute of Management, Science Center, Berlin.

1976                Acting Associate Professor of Economics, Stanford University.

1973–1975         Lecturer in Economics, UCLA.

1972                Director, National Health Insurance Analysis Staff, Department of Health, Education, and Welfare, Washington, DC.

1971–1972         Brookings Economic Policy Fellow, Office of the Secretary, Department of Health, Education, and Welfare, Washington, DC.

1971–1972         Economic Policy Fellow, The Brookings Institution, Washington, DC.

1966–1971         Assistant Professor of Economics, Stanford University.

### RESEARCH AREAS

#### Telecommunications

Analysis of interconnection of telecommunications networks.

Analysis of competition and equal access in local telephone markets.

Comprehensive study of theory and practice of telecommunications pricing.

Methodology for estimating the incremental costs of local exchange telephone service.

First model of the cost structure of a cable television firm.



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Analysis of major regulatory issues in broadcasting and cable television.

Studies of costs and benefits of usage-sensitive pricing for local telephone service.

Comparative international study of telephone rates.

Evaluation of peak-load and capacity pricing for network services.

Economics of universal service in electronic mail networks.

**Energy**

Studies of consumer demand for electricity and forecasts of electricity demand.

Analysis of structure of electric utility rates in the United States and abroad.

Assessment of peak-load pricing in electric utilities in six European countries and its potential effects in the United States.

Co-direction of a major five-year experiment to test the costs and benefits of peak-load electricity rates for residential customers in Los Angeles.

Analysis of results from electricity rate structure experiments for the design of new tariffs.

**Health**

Development of demand model for employer-provided health insurance.

Study of alternative methods of financing national health insurance plans and distribution of the costs and insurance benefits across consumer groups.

Analysis of effect of national insurance financing on unemployment and federal expenditures.

Economic evaluation of national health insurance legislation.

**Economic Regulation**

Analysis of federal regulation of cable television.

Assessment of effects of copyright requirements on cable television service.



## Econometrics

Development of new methods for estimating large-scale simultaneous equation models.

Time-series analysis of economic data.

Design of experiment for time-of-day electricity pricing.

Measurement of technological change.

## PROFESSIONAL ORGANIZATIONS

American Economics Association.

International Telecommunications Society

Member, Editorial Board, *Information Economics and Policy*, 1985–present.

Member, Organizing Committee, Telecommunications Policy Research Conference, 1990.

Chair, Organizing Committee, Telecommunications Policy Research Conference, 1991–1993.

Chair, Board of Directors, Telecommunications Policy Research Conference, 1993–1994.

## HONORS

Phi Beta Kappa, 1962.

Danforth Fellow, 1962–1966.

Woodrow Wilson Fellow, 1962–1963.

National Science Foundation Research Fellow, 1965–1966.

Brookings Economic Policy Fellow, 1972–1972.

German Marshall Fund Fellow, 1977–1979.

Alexander von Humboldt Foundation Research Fellow, 1977–1979.

## CONSULTANCIES

World Bank, 1991–1994.

California Public Utilities Commission, 1992.

Social Security Administration, 1977–1978.

Office of Telecommunications Policy, 1976–1978.

Department of Health, Education, and Welfare, 1972–1978.

Various law firms, corporations, and banks, 1965–1994.



## PUBLICATIONS

### Books

*Telecommunications Competition: The Last Ten Miles.* With I. Vogelsang. Cambridge, MA: MIT Press and AEI Press, 1997. (Also published in Korean, Korean Information Society Development Institute, 1998.)

*Universal Access to E-Mail: Feasibility and Societal Implications.* With R. H. Anderson, T. K. Bikson and S. A. Law. Santa Monica, CA: RAND, 1995.

*Telecommunications Pricing: Theory and Practice.* With I. Vogelsang. Cambridge: Cambridge University Press, 1991. (Also published in Japanese, Tuttle-Mori Agency, Inc., Tokyo, 1995.)

*Regulated Industries and Public Enterprise: European and United States Perspectives.* Editor. With P. R. Kleindorfer. Lexington, MA: Lexington Books, 1980.

*Peak-Load Pricing: European Lessons for US Energy Policy.* With J. P. Acton and W. G. Manning, Jr. Cambridge, MA: Ballinger Publishing Company, 1978.

### Articles and Refereed Chapters in Books

“Competitive Effects of Internet Peering Policies.” With P. Milgrom and P. Srinagesh. *Proceedings of the 27<sup>th</sup> Telecommunications Policy Research Conference*, B. Compaine and I. Vogelsang, eds., MIT Press, forthcoming 2000.

“An Economic Analysis of Telephone Number Portability.” With P. Srinagesh. *Competition, Regulation, and Convergence*, S. E. Gillett and I. Vogelsang, eds., Lawrence Erlbaum, 1999.

“Markup Pricing for Interconnection: A Conceptual Framework.” With I. Vogelsang. *Opening Networks to Competition: The Regulation and Pricing of Access*, D. Gabel and D. Weiman, eds., Kluwer Academic Publishers. Boston, 1998.

“Technological Change and the Electric Power Industry: Insights from Telecommunications.” With P. J. Spinney. *The Virtual Utility*, S. Awerbuch and A. Preston, eds., Kluwer Academic Publishers. Boston, 1997.

“Costs and Cross-Subsidies in Telecommunications.” *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC, 1995.



“Federal Investment Through Subsidies: Pros and Cons.” *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC, 1995.

“Expanded Competitiveness and Regulatory Safeguards in Local Telecommunications Markets.” With I. Vogelsang. *Managerial and Decision Economics*, 1995. Also published in *Deregulating Telecommunications*, R. S. Higgins and P. H. Rubin, eds., John Wiley, New York, 1995.

“The Regulation of Pricing of Interconnection Services.” With W. Neu, K-H Neumann, and I. Vogelsang. In Gerald Brock (ed.), *Toward a Competitive Telecommunication Industry: Selected Papers from the 1994 Telecommunications Policy Research Conference*, Lawrence Erlbaum Associates, Inc., 1995.

“Network Interconnection in the Domain of ONP.” With J. Arnbak, W. Neu, K-H Neumann, and I. Vogelsang. *European Commission DG XIII*, Brussels, November 1994.

“Network Interconnection in the Domain of ONP: Country Studies.” With J. Arnbak, G. N’Guyen, B. Ickenroth, W. Neu, K-H Neumann, and I. Vogelsang. *European Commission DG XIII*, Brussels, November 1994.

“Efficient Pricing of Telecommunications Services and the Ways to Get There.” In S. Globerman, W. T. Stanbury, and T. A. Wilson (eds.), *The Future of Telecommunications Policy in Canada*. Toronto, 1994.

“Het toewijzen van spectrum voor cellulaire telefonie: Evaringen in de VS.” *Mediaform 4*, No. 7–8 (1992): 82–84.

“Allocating Spectrum for Cellular Telephones: US Experience and Issues.” In Franca Klaver and Paul Slaa (eds.), *Telecommunications: New Signposts to Old Roads*. Proceedings, IOS Press, Amsterdam, 1992.

“Telephone Penetration.” In B. Cole (ed.), *After the Breakup: Assessing the New Post-AT&T Divestiture Era*. Columbia University Press, 1991, pp. 370–376.

“Incremental Capital Costs of Telephone Access and Local Use.” In *Telecommunications Costing in a Dynamic Environment*. Hull, Quebec: Bell Canada, 1989.

“Measuring Technological Change of Heterogeneous Products.” With A. J. Alexander. *Technological Forecasting and Social Change* 27 (1985): 161–195.

“Pricing Subscriber Access to the Telephone Network.” In A. Baughcum and G. R. Faulhaber



(eds.), *Telecommunications Access and Public Policy*. Norwood, NJ: Ablex, 1984.

“Response to Residential Time-of-Use Electricity Rates: How Transferable Are the Findings?” With D. F. Kohler. *Journal of Econometrics* 26 (1984): 141–177.

“Local Telephone Costs and Design of Rate Structures.” In L. Courville, A. de Fontenay, and A. R. Dobell (eds.), *Economic Analysis of Telecommunications: Theory and Applications*. North-Holland Publishing Company, 1983.

“Charging for Local Telephone Calls: How Household Characteristics Affect the Distribution of Calls in the GTE Illinois Experiment.” With R. E. Park, B. M. Wetzel, and J. H. Alleman. *Journal of Econometrics* 22 (1983): 339–364.

“Price Elasticities for Local Telephone Calls.” With R. E. Park. *Econometrica* 51, No. 6 (November 1983): 1699–1730.

“The Cost of Telephone Service: An International Comparison of Rates in Major Countries.” *Telecommunications Policy* (March 1983): 53–63.

“Welfare Analysis of Electricity Rate Changes.” With J. P. Acton. In S. Berg (ed.), *Metering for Innovative Rate Structures*. Lexington, MA: Lexington Books, 1983.

“Electricity Consumption by Time of Use in a Hybrid Demand System.” With J. P. Acton. In Jorg Finsinger (ed.), *Public Sector Economics*. MacMillan Press Ltd., 1983.

“Specifying and Estimating Multi-Product Cost Functions for a Regulated Telephone Company.” In G. Fromm (ed.), *Studies in Public Regulation*. Cambridge, MA: MIT Press, 1981.

“Repression Effects of Mandatory vs. Optional Local Measured Telephone Services.” With R. E. Park. In H. Trebling (ed.), *New Challenges for the 1980s*. East Lansing, MI: Institute of Public Utilities, 1981.

“The Effect of Time-of-Use Rates: Facts vs. Opinions.” With J. P. Action. *Public Utilities Fortnightly* 107, No. 9 (April 23, 1981): 1–8.

“Alternative Measured-Service Rate Structures for Local Telephone Services.” In M. A. Crew (ed.), *Issues in Public Utility Pricing and Regulation*. Lexington, MA: Lexington Books, 1980.

“New Technologies, Competition, and the Postal Service.” In R. Sherman (ed.), *Postal Service Issues*. Washington, DC: American Enterprise Institute, 1980.

“Do Time-of-Use Rates Change Load Curves? And How Would You Know?” With J. P. Acton.



*Public Utilities Fortnightly* 105, No. 11 (May 22, 1980): 3–12.

“Estimating Residential Electricity Demand under Declining-Block Tariffs: An Econometric Study Using Micro Data.” With J. P. Acton and R. Sohlberg. *Applied Economics* 12, No. 2 (June 1980): 145–161.

“Evaluating Time-of-Day Electricity Rates for Residential Customers.” With J. P. Acton. In B. M. Mitchell and P. R. Kleindorfer (eds.), *Regulated Industries and Public Enterprise: European and United States Perspectives*. Lexington, MA: Lexington Books, 1980.

“Public Enterprise and Regulation in International Perspective.” With P. R. Kleindorfer. In B. M. Mitchell and P. R. Kleindorfer (eds.), *Regulated Industries and Public Enterprise: European and United States Perspectives*. Lexington, MA: Lexington Books, 1980.

“Estimating the Autocorrelated Error Model with Trended Data: Further Results.” With R. E. Park. *Journal of Econometrics* 13 (1980): 185–201.

“Telephone Call Pricing in Europe: Localizing the Pulse.” In J. Wenders (ed.), *Pricing in Regulated Industries: Theory and Applications II*. Denver, CO: Mountain States Telephone and Telegraph Co., 1979.

“Pricing Policies in Selected European Telephone Systems.” In H. Dordick (ed.), *Proceedings of the Sixth Annual Telecommunications Policy Research Conference*. Lexington, MA: Lexington Books, 1979.

“Design of the Los Angeles Peak-Load Pricing Experiment for Electricity.” With J. P. Acton and W. G. Manning, Jr. *Journal of Econometrics* 11 (1979): 131–193.

“Peak-Load Pricing of Electricity.” With J. P. Acton and W. G. Manning, Jr. *Journal of Business Administration* 10, Nos. 1&2 (Fall 1978/Spring 1979): 349–362.

“Auswirkung Staatlicher Regulierung auf die Elektrizitätsversorgung.” With J. Müller. *Staat und Wirtschaft*, Neue Folge, Band 102 (1979): 625–650.

“The Financing of National Health Insurance.” With W. B. Scharz. In G. K. Chako (ed.), *Health Handbook*. North-Holland Publishing Company, 1979.

“Optimal Pricing of Local Telephone Service.” *American Economic Review* 68, No. 4 (September 1978): 517–537.

“Copyright Liability for Cable Television: Compulsory Licensing and the Coase Theorem.” With S. M. Besen and W. G. Manning, Jr. *Journal of Law and Economics* 21 (April 1978):



67–95.

“European Industrial Response to Peak-Load Pricing of Electricity, with Implications for US Energy Policy.” With J. P. Acton and W. G. Manning, Jr. In *Marginal Costing and Pricing of Electrical Energy*. Montreal: Canadian Electrical Association, May 1978.

“Tariffe Elettriche Industriali e Modulazione dei Carichi.” With J. P. Acton and W. G. Manning, Jr. *Economia delle Fonti di Energia* 22, No. 6 (1978).

“Economic Policy Research on Cable Television: Assessing the Costs and Benefits of Cable Deregulation.” With S. M. Besen, R. G. Noll, M. Owen, R. E. Park, and J. N. Rosse. In P. W. MacAvoy (ed.), *Deregulation of Cable Television*. Washington, DC: American Enterprise Institute, 1977.

“Peak-Load Pricing in Selected European Electric Utilities.” In A. Lawrence (ed.), *Forecasting and Modeling Time-of-Day and Seasonal Electricity Demands*. Palo Alto, CA: Electric Power Research Institute, December 1977.

“A Note on Modeling of Peak Electricity Demands.” In A. Lawrence (ed.), *Forecasting and Modeling Time-of-Day and Seasonal Electricity Demands*. Palo Alto, CA: Electric Power Research Institute, December 1977.

“Lessons from the Los Angeles Rate Experiment in Electricity.” With J. P. Acton and W. G. Manning, Jr. In J. L. O’Donnell (ed.), *Adapting Regulation to Shortages, Curtailment and Inflation*. East Lansing, MI: Michigan State University, 1977.

“Watergate and Television: An Economic Analysis.” With S. M. Besen. *Communications Research* 3, No. 3 (July 1976): 243–260.

“National Health Insurance: Some Costs and Effects of Mandated Employee Coverage.” With C. E. Phelps. *Journal of Political Economy* 84, No. 3 (June 1976): 553–571.

“The Financing of National Health Insurance.” With W. B. Schwartz. *Science* 192 (May 14, 1976): 621–636.

“Impact of Competition on an Independent Telephone Company.” With W. S. Baer. *Public Utilities Fortnightly* (October 23, 1975).

“Health and Taxes: An Assessment of the Medical Deduction.” With R. J. Vogel. *Southern Economic Journal* 41, No. 4 (April 1975): 660–672.

“Cable, Cities, and Copyrights.” With W. S. Comanor. *Bell Journal of Economics and*





*Management Science* 5, No. 1 (Spring 1974): 235–263.

“Fixed Point Estimation of Econometric Models.” *Australian Economic Papers* (December 1974): 250-266.

“Short-Run Prediction and Long-Run Simulation of the Wharton Model: Discussion.” In B. G. Hickman (ed.), *Econometric Models of Cyclical Behavior*. National Bureau of Economic Research, 1972.

“The Cost of Planning: The FCC and Cable Television.” With W. S. Comanor. *Journal of Law and Economics* 15, No. 1 (April 1972): 177–206.

“Cable Television and the Impact of Regulation.” With W. S. Comanor. *Bell Journal of Economics and Management Science* 2, No. 1 (Spring 1971): 154–212.

“Estimation of Large Econometric Models by Principal Component and Instrumental Variable Methods.” *Review of Economics and Statistics* (May 1971).

“A Linear Logarithmic Expenditure System: An Application to US Data.” With L. J. Lau. Presented at the Second World Congress, Econometric Society, September 1970. *Econometrica* 39, No. 4 (1971): 87–88.

“The Choice of Instrumental Variables in the Estimation of Economy-Wide Econometric Models: Some Further Thoughts.” With F. M. Fisher. *International Economic Review* 11, No. 2 (June 1970): 226–234.

“Estimating Joint Production Functions by Canonical Correlation Analysis.” With P. J. Dhrymes. *Econometrica* 37, No. 4 (October 1969).

“Community Antenna Television Systems and Local Television Station Audience.” With F. M. Fisher, V. E. Ferrall, Jr., and D. Belsley. *Quarterly Journal of Economics* 80 (May 1966): 227–251.

## Review Article

R. G. Noll, M. J. Peck, and J. J. McGowan, *Economic Aspects of Television Regulation*. With S. M. Besen in *Bell Journal of Economics and Management Science* 5, No. 1 (Spring 1974): 301–319.

## Reviews

*Economic Innovations in Public Utility Regulation*, edited by M. A. Crew. *Journal of*



*Economics/Zeitschrift für Nationalökonomie* 59, No. 3 (July 1994).

*Economic Analysis of Product Innovation: The Case of CT Scanners* by M. Trajtenberg.  
*Journal of Economic Literature* 30, No. 2 (June 1992): 935–936.

*Econometric Studies of US Energy Policy*, edited by D. W. Jorgenson. *Journal of Econometrics* 6 (1977).

*Structure and Performance of the US Communications Industry* by Kurt Borchardt. *Annals of the American Academy of Political and Social Science* (March 1972).

*Principles of Econometrics* by K. Chu. *American Economic Review* 58, No. 5 (December 1968).

### Other Publications

“Information, Telecommunications, and Markets,” 19th Pacific Telecommunications Conference, Honolulu, Jan. 22, 1997.

“Utilization of the US Telephone Network.” Discussion Paper No. 126, Wissenschaftliches Institut für Kommunikationsdienste, March 1994.

“Incremental Costs of Telephone Access and Local Use.” R-3909-ICTF, Rand, July 1990. Also published in W. Pollard (ed.), *Marginal Cost Techniques for Telephone Services: Symposium Proceedings*. National Regulatory Research Institute, NRRI 96–1, January 1991.

“Theory of Telecommunications Pricing.” With I. Vogelsang. Wissenschaftliches Institut für Kommunikationsdienste, May 1991.

“US Practice of Telecommunications Pricing.” With I. Vogelsang. Wissenschaftliches Institut für Kommunikationsdienste, May 1991.

“Pricing Local Exchange Services: A Futuristic View.” In J. H. Alleman (ed.) and R. D. Emmerson (eds.), *Perspectives on the Telephone Industry: The Challenge for the Future*. Ballinger, 1989.

“A Framework for Considering Local Measured Service.” In Richard J. Schultz and Peter Barnes (eds.), *Local Telephone Pricing: Is There A Better Way?* Center for the Study of Regulated Industries, Montreal 1984.

“Demographic Effects of Local Calling Under Measured vs. Flat Service: Analysis of Data from the GTE Illinois Experiment.” With R. E. Park. In *Pacific Telecommunications Conference Proceedings*. Pacific Telecommunications Conference '80, Honolulu, 1980.



“Economic Aspects of Measured-Service Telephone Pricing.” In *Ratemaking Problems of Regulated Industries*. Proceedings of the Symposium on Problems for Regulated Industries, University of Missouri, 1980.

“The Effect of Time-of-Day Rates in the Los Angeles Electricity Rate Study.” With J. P. Acton. In *Electric Rate Demonstration Conference: Papers and Proceedings*. Denver, Colorado, April 1980.

“Economic Issues in Local Measured Service.” In J. A. Baude (ed.), *Perspectives on Local Measured Service*. Telecommunications Industry Workshop, Organizing Committee, Kansas City, 1979.

“Foreign Experience with Peak-Load Pricing of Electricity.” In *Impact of the National Energy Act on Utilities and Industries Due to the Conversion of Coal*. Information Transfer, Silver Springs, Maryland, 1979.

“The Costs of Constructing and Operating a CATV System.” In *CATV Today: A Discussion of Current Issues*. Georgetown University, School for Summer and Continuing Education, February 1975.

### Testimony and Filed Studies

Expert testimony for intervenor McLeodUSA in the merger application of Qwest Communications Corp. and US West, Inc.

Affidavit testimony, on behalf of plaintiff in *Mercury Communications Limited v. The Director General of Telecommunications and British Telecommunications PLC*, concerning costs of interconnection.

Affidavit testimony (with Ingo Vogelsang), on behalf of Motion of Bell Atlantic Corporation, Bellsouth Corporation, NYNEX Corporation, and Southwestern Bell Corporation to Vacate the Decree in *US v. Western Electric Co, Inc. and American Telephone and Telegraph Co.*

Reply declaration in a Federal Communications Commission proceeding, on behalf of the California Public Utilities Commission concerning Calling Number Identification Service – Caller ID.

Expert testimony for the defendant in *US Tel, Inc. and Kallback Ventures International, Inc. v. Sprint Communications Company, LP*, a case alleging breach of contract and lost profits.

Expert testimony before the California Public Utilities Commission for Roseville Telephone Co.



in its proposal for an incentive regulation plan.

White paper (with Steven R. Brenner) on behalf of the Cellular Telephone Industry Association submitted to the Federal Communications Commission, “Economic Issues in the Choice of Compensation Arrangements for Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers”

Joint Declarations (with Joseph Farrell), on behalf of Sprint Communications Company in opposition to the proposed mergers of SBC and Ameritech, and of Bell Atlantic and GTE, concerning benchmarking and the effects of ILEC mergers.

Expert report, deposition testimony, and pre-filed testimony on behalf of Nextel Communications in its motion to vacate the 1995 consent decree in *US v. Motorola, Inc. and Nextel Communications, Inc.*

