July 2004

Curriculum Vitae

Wayne B. Gray

76 Lower Gore Road Webster, MA 01570 (508) 943-6036

Department of Economics Clark University 950 Main Street Worcester, MA 01610 (508) 793-7693

EDUCATION

1984	Ph.D.	in	Economics,	Harvard	University
1/01	111.10.	111	Economics,	I Iui vui u	CIII V CI DIC y

1979 M.A. in Economics, Harvard University

1977 A.B. in Economics and Mathematics, <u>summa cum laude</u>,

Dartmouth College

Washington, D.C.

EMPLOYMENT

1977

2002-	Full Professor, Clark University
1991-2002	Associate Professor, Clark University.
1984-91	Assistant Professor, Clark University.
	Undergraduate: Labor Economics, Issues and Perspectives,
	Intermediate Microeconomic Theory, Principles of Economics
	Graduate: Applied Econometrics, Labor Economics
1993-	Research Coordinator, Census Bureau's Boston Research Data Center.
	Provide link between Census Bureau and research community. Solicit and help review proposals for research projects.
1983-	Research Economist, National Bureau of Economic Research.
	Maintain Bureau's computer programs and databases.
	Provide high-level computer advice and consultation
	to other researchers.
1978-83	Research Assistant, National Bureau of Economic Research.

Research Assistant, Office of the Assistant Secretary for Policy

Evaluation and Research, U.S. Department of Labor,

HONORS, AWARDS, AND MAJOR GRANTS

2003-2006	NIOSH Grant (Co-PI with John Mendeloff PI) "Causes and Effects of Compliance with OSHA Standards"
2001-2004	EPA Grant "Corporate Environmental Performance and the Effectiveness of Government Interventions"
1999-2000	OSHA Grant "Linking OSHA and BLS Data at the Plant Level"
1998-2001	NSF Grant "Industrial Restructuring and Corporate Risk Management"
1997-2000	EPA Grant "Environmental Regulation and Productivity Benefits in the Paper Industry"
1994-97	NSF Grant "State Environmental Regulation and Manufacturing Plant Location"
1993-	Researcher at Census Bureau's Boston Research Data Center
1993-1999	NSF Grants for supporting Census Bureau's Boston Research Data Center through NBER: 1993-1997 and 1997-1999
1992-94	EPA Grant "Impact of Cross-State Variation in Pollution Regulation"
1991-93	ASA-NSF-Census Fellowship for research at the Census Bureau on "Regulation and Productivity at the Plant Level"
1991-	Research Associate, National Bureau of Economic Research, in NBER Programs in Productivity and Labor Studies (and Environmental Economics group)
1985-1991	Faculty Research Fellow, National Bureau of Economic Research, in NBER Programs in Productivity and Labor Studies

PUBLICATIONS

Ronald J. Shadbegian and Wayne B. Gray, "Pollution Abatement Expenditures and Plant-Level Productivity: A Production Function Approach", <u>Ecological Economics</u>, forthcoming.

Wayne B. Gray and Ronald J. Shadbegian, "When and Why do Plants Comply? Paper Mills in the 1980s", Law and Policy, forthcoming.

John Mendeloff and Wayne B. Gray, "Inside the Black Box: How Do OSHA Inspections Lead to Reductions in Workplace Injuries?" <u>Law and Policy</u>, forthcoming.

Wayne B. Gray and Ronald J. Shadbegian, "Optimal Pollution Abatement: Whose Benefits Matter and How Much?" <u>Journal of Environmental Economics and Management</u>, May 2004.

Ronald J. Shadbegian and Wayne B. Gray, "What Determines Environmental Performance at Paper Mills? The Roles of Abatement Spending, Regulation, and Efficiency" <u>Topics in Economic Analysis & Policy</u>, November 2003

PUBLICATIONS (Cont.)

Wayne B. Gray and Ronald J. Shadbegian, "Plant Vintage, Technology, and Environmental Regulation", <u>Journal of Environmental Economics and Management</u>, November 2003.

Wayne B. Gray, ed., <u>Economic Costs and Consequences of Environmental Regulation</u>, Ashgate Publications, 2002.

Wayne B. Gray and Ronald J. Shadbegian, "Pollution Abatement Costs, Regulation, and Plant-Level Productivity", in <u>Economic Costs and Consequences of Environmental Regulation</u>, 2002 (also NBER Working Paper 4994, January 1995).

Roger Kasperson, Jeane Kasperson, Scott Jiusto, Joseph Sarkis and Wayne Gray, "Industrial Restructuring and Corporate Risk Management" in <u>Foresight and Precaution</u>, M.P Cottam, D.W. Harvey, R.P. Pape and J. Tait, eds. Rotterdam: A.A. Balkema, 2000, pp. 1193-1198.

Wayne B. Gray and Ronald J. Shadbegian, "Environmental Regulation, Investment Timing, and Technology Choice", <u>Journal of Industrial Economics</u>, June 1998, pp. 235-256 (also NBER Working Paper 6036, May 1997).

John T. Scholz and Wayne B. Gray, "Can Government Facilitate Cooperation? An Informational Model of OSHA Enforcement," <u>American Journal of Political Science</u>, July 1997, pp. 693-717.

Wayne B. Gray and Mary E. Deily, "Compliance and Enforcement: Air Pollution Regulation in the U.S. Steel Industry", <u>Journal of Environmental Economics and Management</u>, July 1996, pp. 96-111

Wayne B. Gray and John T. Scholz, "Does Regulatory Enforcement Work? A Panel Analysis of OSHA Enforcement", <u>Law and Society Review</u>, June 1993, pp 177-213 (also NBER Working Paper 3774, July 1991).

Wayne B. Gray and Carol Adaire Jones, "Longitudinal Patterns of Compliance with OSHA in the Manufacturing Sector", <u>Journal of Human Resources</u>, Fall 1991, pp. 623-653 (also NBER Working Paper 3213, December 1989).

Mary E. Deily and Wayne B. Gray, "Enforcement of Pollution Regulations in a Declining Industry", <u>Journal of Environmental Economics and Management</u>, Fall 1991, pp. 260-274.

Wayne B. Gray and Carol Adaire Jones, "Are OSHA Health Inspections Effective? A Longitudinal Study in the Manufacturing Sector", <u>Review of Economics and Statistics</u>, August 1991, pp. 504-508 (also NBER Working Paper 3233, January 1990).

Wayne B. Gray and John T. Scholz, "Analyzing the Equity and Efficiency of OSHA Enforcement", <u>Law and Policy</u>, July 1991, pp. 185-214.

Wayne B. Gray, "Impact of OSHA and EPA Regulation on Productivity," <u>Journal of Regulation and Social Costs</u>, June 1991, pp. 25-47.

PUBLICATIONS (cont.)

John T. Scholz and Wayne B. Gray, "A Behavioral Approach to Compliance: OSHA Enforcement's Impact on Workplace Accidents", <u>Journal of Risk and Uncertainty</u>, September 1990, pp. 283-305 (also NBER Working Paper 2813, January 1989).

Attiat Ott and Wayne B. Gray, <u>The Massachusetts Health Plan: The Right Prescription?</u> Boston: The Pioneer Institute for Public Policy Research, 1988.

Wayne B. Gray, "The Cost of Regulation: OSHA, EPA and the Productivity Slowdown", <u>American Economic Review</u>, December 1987, 998-1006 (also NBER Working Paper 1405, July 1984).

Wayne B. Gray, <u>Productivity versus OSHA and EPA Regulations</u>, Ann Arbor: UMI Research Press, 1986.

Albert E. Rees and Wayne B. Gray. "Family Effects in Youth Employment." In <u>The Youth Labor Market Problem: Its Nature, Causes and Consequences</u>, edited by Richard B. Freeman and David A. Wise, pp. 453-474. Chicago: University of Chicago Press, 1982 (NBER WP 396, October 1979).

OTHER RESEARCH PAPERS

Wayne B. Gray and John Mendeloff, "The Declining Effects of Occupational Safety and Health Administration Inspections on Manufacturing Injuries: 1979 to 1998", NBER Working Paper 9119, August 2002.

Wayne B. Gray and Ronald J. Shadbegian, "When do Firms Shift Production Across States to Avoid Environmental Regulation?" Presented at First World Congress of Environmental and Natural Resource Economists, Venice, June 1998. NBER Working Paper 8705, January 2002.

Wayne B. Gray and Ronald J. Shadbegian, "Technology Change, Emissions Reductions, and Productivity", presented at ASSA meetings, New Orleans, January 6, 2001.

Ronald J. Shadbegian, Wayne B. Gray and Jonathan Levy, "Spatial Efficiency of Pollution Abatement Expenditures". Presented at International Atlantic Economic Society annual meetings, October 2000 and at National Bureau of Economic Research Environmental Economics meetings, April 2000.

Wayne B. Gray, "Environmental Compliance at Paper Mills: The Role of Regulatory Enforcement and Corporate Restructuring", presented at ASSA meetings, January 2000.

Wayne B. Gray, "Manufacturing Plant Location: Does State Pollution Regulation Matter?", NBER Working Paper 5880, January 1997.

Eric Bartelsman and Wayne B. Gray, "The NBER Manufacturing Productivity Database", NBER Technical Working Paper 205, October 1996.

Richard B. Freeman, Wayne B. Gray and Casey Ichniowski, "Low-Cost Student Labor: The Use and Effects of the Subminimum Wage Provisions for Full-Time Students", NBER Working Paper 765, September 1981.