

## Curriculum Vitae – April 2017

### William Merritt Shobe

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#### **EDUCATION**

- Ph.D. 1991 Dept. of Economics, Univ. of Minnesota, Minneapolis, MN. Dissertation title: *The Effects of Taxation on Capital Gains Realizations: Theory and Evidence*. Fields: Microeconomics, Macroeconomics, Public Finance, Environmental and Natural Resource Economics
- J.D. 1980 Lewis & Clark Law School, Portland, OR
- B.A. 1976 Vanderbilt University, Nashville, TN; Political Science

#### **MAJOR AREAS OF INTEREST**

- Market design in emission trading programs
- Simulations of the India electricity sector
- Environmental federalism and climate change
- Improved economic modeling of Virginia's economy
- Economic analysis of regulations
- Virginia electricity demand forecast

#### **CURRENT PROJECTS**

*Comprehensive Evaluation of Virginia Economic Development Tax Incentives* with Terry Rephann, Leora Friedberg and Ray Scheppach. For the Joint Legislative Audit and Review Commission.

*Action at a Distance: How Non-Binding Price Collars affect Spot Prices in Emission Markets*, with Steve Salant (Michigan) and Neslihan Uler (Maryland).

*A dynamic CGE model of the Virginia economy*, with Joan Halstein (post-doc) and Terry Rephann (Cooper Center)..

*Designing an emission containment reserve for the Regional Greenhouse Gas Initiative*, with Dallas Burtraw, Resources for the Future.

*Forecasting electricity demand for Virginia*

*The Effects of Consignment Sales on Emission Allowance Auctions*, with Charlie Holt

*U.Va. Resilience Research Initiative*, PI: Karen McGlathery.

*Developing a Curriculum on Electricity Market Reform in India* with Dallas Burtraw. For the Regulatory Assistance Project..

## **EMPLOYMENT**

**Current**      **Director, Center for Economic and Policy Studies; Professor of Public Policy, Frank Batten School of Leadership and Public Policy; Adjunct Professor, Dept. of Economics, University of Virginia**

Research projects include air pollution allowance trading programs, federalism, electricity demand forecasting, state-level economic forecasting, state regulatory policy, state public finance, education policy, environmental policy, occupational licensing programs, and economic development. Principle investigator on project to design the auction format for selling carbon allowances under the Regional Greenhouse Gas Initiative (2007). Advised RGGI on post-auction information disclosure policies (2008), on setting reserve prices (2009-10), and on establishing a price containment reserve (2012, 2016). Co-principle investigator on the Bankard-funded project to improve state-level economic forecasting (2010-2011). Experimental investigations of market design in California and European emission trading systems.

Teaching responsibilities: environmental economics (undergraduate, Economics Dept.), cost/benefit analysis, public policy, statistics, environmental policy (masters, Batten School of Public Policy).

**Sep 2000–Jan 2001**      **Fulbright Fellow in Environmental Economics, University of Economics, Prague, Czech Republic**

Taught undergraduate courses in environmental economics with special emphasis on the design of efficient air pollution regulations. Consulted with the *Institut pro Ekonomickou a Ekologickou Politiku (IEEP)*.

**Jul 1995 – Aug 2004**      **Associate Director for Economic & Regulatory Analysis, Virginia Department of Planning and Budget**

Responsibilities covered three main areas: benefit-cost analysis of regulations with special emphasis on environmental regulations, forecasting state expenditures and revenues, and special research projects. Created the concept and managed the development of the Virginia Regulatory Town Hall website. Implemented Virginia's June 2004 auction of nitrogen oxide emission allowances, the first of its kind, which raised \$10.5 million dollars. Managed the preparation of Medicaid and TANF expenditure forecasts and headcount forecasts for higher education. Chaired the committee for forecasting prison and jail headcounts. The Virginia's Regulatory Town Hall was the first in the nation web site for managing and publicizing state regulatory development. This site was honored with a "2002 Best-of-Breed" award from the Center for Digital Government, the 2002 Colborn Award (for innovation) from the National Association of Secretaries of State, and the 2003 Public Access to Government Information Award from the National Association of Law Libraries.

**Prior experience**

- Fall 2003 Adjunct Assistant Professor, Dept. of Economics, Virginia Commonwealth University
- Jan 2000-May 2001 Adjunct Professor, Dept. of Agricultural & Applied Economics, Virginia Tech
- Aug. '89 - June '95 Assistant Professor, Dept. of Economics, Univ. of North Carolina at Greensboro
- Feb. '94 - June '94 Consultant, North Carolina Department of Environment, Health and Natural Resources
- Sept. '87 - July '88 Research Associate, Office of Tax Policy Research, Univ. of Michigan, Ann Arbor, MI
- Aug. '86 - Jan. '89 Programmer; *Estima* (producers of the RATS econometrics program), Evanston, IL
- Jan. '83 - June '84 Research Assistant to Prof. Joel Slemrod, Dept. of Economics, Univ. of Minnesota
- Feb. '81 - March '81 Research Associate, Risk Management Project, Council on Environmental Quality, Executive Office of the President, Washington, D.C.
- May '80 - Dec. '80 Legal Research Associate, Office of Toxic Substances, U.S. Environmental Protection Agency, Washington, D.C.

### **PUBLICATIONS AND REPORTS**

- Price and Quantity Collars for Stabilizing Emissions Allowance Prices: An Experimental Analysis (2016). Charles Holt and William Shobe, *Journal of Environmental Economics and Management*. Vol. 76, pp. 32-50.
- The Economic Impacts of Positive Feedbacks Resulting from Deforestation (2015). Chrissy Runyan, Paolo D'Odorico, William Shobe, *Ecological Economics*. Vol. 120, pp. 93-99.
- Dominion Virginia Power and Clean Power Plan Costs: A brief review of the Dominion Power 2015 Integrated Resource Plan compliance cost estimates* (2015). William Shobe. Charlottesville: Center for Economic and Policy Studies, Univ. of Virginia. Report #15-02.
- Report on Appendix A-1 of the Virginia Energy Plan: Impacts of Proposed Regulations under Section 111(d) of the Clean Air Act* (2015). William Shobe, Center for Economic and Policy Studies, Univ. of Virginia. Report #15-01.

- Elements of emission market design: an experimental analysis of California's market for greenhouse gas allowances (2014). William Shobe, Charles Holt and Thaddeus Huetteman. *Journal of Economic Behavior and Organization*. Vol. 107, pp. 402–420.
- Investigation of the Effects of Emission Market Design on the Market-Based Compliance Mechanism of the California Cap on Greenhouse Gas Emissions (2013). Charlottesville: Center for Economic and Policy Studies, University of Virginia.
- Rethinking Environmental Federalism in a Warming World. (2012). William Shobe and Dallas Burtraw. *Climate Change Economics*, Vol. 3, No. 4, pp. 1-33.
- Oral Health and the Dental Care Workforce in Southwest Virginia* (2011), Tanya Wanchek, Terrence Reppann, and William Shobe, Charlottesville: Center for Economic and Policy Studies, University of Virginia.
- Price Discovery in Emissions Permit Auctions (2011). Dallas Burtraw, Charlie Holt, Erica Myers, Jacob Goeree, Karen Palmer, and William Shobe, in R. Mark Isaac, Douglas A. Norton (ed.) *Experiments on Energy, the Environment, and Sustainability (Research in Experimental Economics, Volume 14)*, Emerald Group Publishing Limited, pp.11-36.
- A Database for a Changing Economy: Review of the Occupational Information Network (O\*NET)* (2010). Nancy T. Tippins and Margaret L. Hilton, Editors; Report of the Panel to Review the Occupational Information Network; Washington DC: National Research Council.
- An Experimental Analysis of Auctioning Emissions Allowances under a Loose Cap (2010). William Shobe, Dallas Burtraw, Charlie Holt, Jacob Goeree, Karen Palmer, and Erica Myers. *Agricultural and Resource Economics Review*, Vol. 39, No. 2, pp. 162-175.
- An Experimental Analysis of Auctions versus Grandfathering to Assign Pollution Permits (2010). Jacob Goeree, Karen Palmer, Charles Holt, William Shobe, Dallas Burtraw. *Journal of the European Economic Association*, Vol. 8, No. 2-3, pp. 514–525.
- State and Local Climate Policy under a National Emissions Floor, with Dallas Burtraw, presented at France-Stanford Center for Interdisciplinary Studies international conference *Climate Change Policy: Insights from the U.S. and Europe*, Paris, March 2009.
- Collusion in Auctions for Emission Permits: An Experimental Analysis (2009). Dallas Burtraw, Charlie Holt, Jacob Goeree, Karen Palmer and Erica Myers, and William Shobe. *Journal of Policy Analysis & Management*, Vol. 28, No. 4, pp. 672-691.
- The Design, Testing, and Implementation of Virginia's NO<sub>x</sub> Allowance Auction (2009). David Porter, Stephen Rassenti, William Shobe, Vernon Smith, and Abel Winn. *Journal of Economic Behavior & Organization*, Vol. 69, No. 2, pp. 190 – 200.

Going Green? The Inconvenient Truth About U.Va's Carbon Neutrality Initiative (2008). *Virginia Policy Review*, Vol. 2, No. 1.

The Economic Value of Publicly Supported Education and Research (2008). *Virginia News Letter*, Vol. 84, No. 3.

*Auction Design for Selling CO2 Emission Allowances Under the Regional Greenhouse Gas Initiative*, with Dallas Burtraw, Charlie Holt, Jacob Goeree, and Karen Palmer. Research sponsored by the New York State Energy Research and Development Agency, October 2007.

Local Options on Global Stocks: How the States are affecting the U.S. Debate on Climate Policy, with Dallas Burtraw. *Proceedings of the States and Climate Change Conference*, Woodrow Wilson School, Princeton University, 2007.

*The Economic Impact Of The University Of Virginia: How A Major Research University Affects The Local And State Economies*, with John Knapp, Weldon Cooper Center for Public Service, University of Virginia, 2007.

An Experimental Basis for Public Policy Initiatives, with Charles A. Holt and Angela K. Smith, in *Promoting the General Welfare: American Democracy and the Political Economy of Government Performance*, Gerber and Patashnik, eds. Brookings: Washington D.C., 2006.

Book Review of *The Political Economy of the Environment* by James K. Boyce. *Environmental and Natural Resource Economics*, Vol. 23, pp. 482-485, 2002.

Trading Programs for Environmental Management: Reflections on the Air and Water Experiences, with Leonard Shabman and Kurt Stephenson of Virginia Tech, *Environmental Practice*, Vol. 4, pp. 153-162, 2002. Reprinted as Reprint Series Number 166 by the Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology.

Forecasting AFDC Recipients for the Virginia State Budget, with Mark A. Prell. *Virginia Economic Journal*, Vol. 2, pp. 67-84, 1997.

Economic Impact Assessment of Virginia Regulations, Virginia Department of Planning and Budget, September 1995.

Pollution Fees and Charges in North Carolina, a report to the Regulatory Committee of the North Carolina Pollution Prevention Advisory Council", May 26, 1994.

The Use of Panel Data in the Analysis of the Behavioral Response to Taxation, with Joel B. Slemrod, in *Simulation Models in Tax and Transfer Policy*, Johann Brunner and Hans-Georg Peterson eds., Campus Verlag, New York 1990.

The Tax Elasticity of Capital Gains Realizations: Evidence from a Panel of Taxpayers, with Joel B. Slemrod. NBER Working Paper #3237, 1990.

Who Realizes Capital Gains?, with Joel B. Slemrod and Laura Kalambokidis. *Tax Notes*, October 23, 1989, pp. 494-495.

Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc. *Environmental Law* Vol. 9, No. 3, pp. 653-705, 1979.

### **GRANTS, COMMISSIONS, CONTRACTS, FELLOWSHIPS AND HONORS**

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|----------------|--|
| 2017           | Currently a finalist for a multi-year analysis of Virginia economic development tax preferences.                                     |
| 2016 – 2017    | Co-researcher on a pan-university resilience research initiative.  |
| 2016 – 2017    | India electricity industry simulation model; work supported by the Regulatory Assistance Project                                     |
| 2016           | Bankard Grant for workshop on Virginia policies to reduce greenhouse gas emissions.  |
| 2014 – 2015    | Investigating Global Warming Effects on Food, Fuel, and Forests, Deborah Lawrence, PI.   |
| 2014           | Modeling the EU ETS Market Stability Reserve, with Charlie Holt  |
| 2012 - 2013    | Investigating market design of the California cap and trade program for limiting greenhouse gas emissions, with Charlie Holt         |
| 2010 – Present | Member, Joint Advisory Board of Economists, Commonwealth of Virginia   |
| 2010 – 2013    | U.S. Environmental Protection Agency Star Grant for auction design research, with Charlie Holt.                                      |
| 2010 - 2011    | U.Va. Bankard Fund grant, with Chris Otrok, to improve state-level economic forecasting.   |
| 2008 – 2009    | Member, National Academy of Sciences panel to evaluate the U.S. Department of Labor O*NET job description database                   |
| 2009           | Grant from the Virginia Business Higher Education Council to evaluate the economic impact of higher education on Virginia's economy. |

- 2007 With Holt, Burtraw, Palmer, and Goeree; grant from New York State Energy Research & Development Authority for “Research to Support the Design of Auctions in the Regional Greenhouse Gas Initiative.
- 2007 Grant to develop design prototype for the Virginia Metadata Store Distributed Data Access Project.
- 2007 Grant from Virginia Secretary of Agriculture to evaluate the economic impact of agriculture and forestry on Virginia’s economy.
- 2007 With Charlie Holt; Bankard Fund for Political Economy grant: “Auctions for the Allocation of Greenhouse Gas Emissions Allowances”.
- 2007 Grant from the Virginia Department of Veteran Services to study siting of certain veteran services.
- 2006 Reviewer, U.S. E.P.A. Star Grants program.
- 2005 With John Knapp; Economic impact study of the University of Virginia.
- 2004 – 2010 Member, Unemployment Insurance Trust Fund Advisory Committee, Virginia Unemployment Commission.
- 1999 – 2005 Chair, Virginia Public Safety Technical Forecasting Committee.
- 2001 Public Sector Freedom of Information Award, Virginia Council for Open Government. For developing the Virginia Regulatory Town Hall web site.
- 2000 Fulbright Fellowship in Environmental Economics, Prague, Czech Republic.
- 1997 – 2003 Adjunct Assistant Professor, Department of Agricultural & Applied Economics, Virginia Tech, Blacksburg, Virginia
- 1994 *Summer Excellence Research Award*, Univ. of North Carolina at Greensboro. For research on the implementation of rights-based entry limitations in North Carolina’s coastal fisheries.
- 1985 - 1986 *Conservation Fellowship*, National Wildlife Federation, Washington, DC.
- 1982 - 1990 Licensed Attorney, State of Minnesota
- 1978 - 1979 *Law Review*, Lewis & Clark Law School

1978 *Oral Advocacy Award, Moot Court Competition, Lewis & Clark Law School*

**SERVICE**

Current Executive Committee, Batten School  
U.Va. University Committee on Information Technology (UCIT)  
U.Va. Sustainability Committee  
Joint Advisory Board of Economists, Virginia  
U.Va. Global Sustainability Major Advisory Committee

2008 – 2015 Member, State Advisory Board on Air Pollution, Virginia

2011- 2012 Dean’s Council, Batten School of Leadership & Public Policy, U.Va.

1996 - 1999 Secretary and Executive Board Member, Sabot School, Richmond, Virginia

1994 North Carolina Pollution Prevention Advisory Council, Capacity Committee

1993-1994 Sierra Club, National Economics Advisory Committee

1992-1993 Committee on Academic Computing, Univ. of North Carolina at Greensboro.