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PLACEMENT DIRECTORS

Prof. Andrew Sweeting sweeting@econ.umd.edu (301) 405-8325
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EDUCATION

Ph.D. Economics, University of Maryland at College Park, expected May 2016
M.A. Economics, University of Maryland at College Park, May 2014
B.A. Mathematics, University of Virginia, May 2010 (Distinction)

FIELDS OF INTEREST

Primary: Environmental and Energy Economics, Industrial Organization
Secondary: Microeconometrics, Innovation and Technological Change

DISSERTATION

Essays in Energy, Environment and Technological Change
Committee: Prof. Maureen Cropper (Chair), Prof. Andrew Sweeting, Prof. Lint Barrage

JOB MARKET PAPER

“Knowledge Capital, Technology Adoption, and Environmental Policies: Evidence from the US Automobile Industry”

Technology plays a key role in reducing greenhouse gas emissions from the transportation sector. I estimate a structural model of the car industry that allows for endogenous product characteristics to investigate how gasoline taxes, R&D subsidies and competition affect fuel efficiency and vehicle prices in the medium-run, both through car-makers' decisions to adopt technologies and through their investments in knowledge capital. I use technology adoption and automotive patents data for 1986-2006 to estimate this model. I show that 92% of fuel efficiency improvements between 1986 and 2006 were driven by technology adoption, while the role of knowledge capital is largely to reduce the marginal production costs of fuel-efficient cars. A counterfactual predicts that an additional \$1/gallon gasoline tax in 2006 would have increased the technology adoption rate, and raised average fuel efficiency by 0.47 miles/gallon, twice the annual fuel efficiency improvement in 2003-2006. An R&D subsidy that would reduce the marginal cost of knowledge capital by 25% in 2006 would have raised investment in knowledge capital. This subsidy would have raised fuel efficiency only by 0.06 miles/gallon in 2006, but would have increased variable profits by \$2.3 billion over all firms that year. Industry competitiveness also affects the two types of technology improvement choices.

PAPERS

“The Effect of Market Size on Fuel-Saving Technology Adoption in Passenger Vehicles”, 2015, working paper, with Thomas Klier and Joshua Linn

“Are There International Environmental Benefits from Domestic Regulation? Assessing International Clean Technology Spillovers”, work in progress, with Antoine Dechezleprêtre, Carolyn Fischer, Joshua Linn and Elena Verdolini

RESEARCH/WORK EXPERIENCE

Research Intern, Resources for the Future, 2014, 2015
Consultant, Environment and Energy Research Program, Development Research Group, the World Bank, 2014
Research Assistant, Department of Mathematics, University of Virginia, 2010

TEACHING EXPERIENCE

Instructor, Computer Methods in Economics (undergraduate), University of Maryland, Spring 2012, Summer 2012, Fall 2012, Winter 2013, Spring 2013, Summer 2013
Teaching Assistant, Professional Masters, University of Maryland, Fall 2014
Microeconomic Analysis, Empirical Analysis I, Empirical Analysis III,
Environmental Economics, Economics of Health Care, Economic Analysis of Law
Teaching Assistant, Principles of Economics (undergraduate), University of Maryland, Fall 2011
Teaching Assistant, Complex Analysis and Complex Variables (undergraduate), Department of Mathematics, University of Virginia, Fall 2009

HONORS, GRANTS AND AWARDS

Dean's Research Initiative Doctoral Dissertation Research Grant, University of Maryland, 2015-2016
Jacob K. Goldhaber Travel Grant, University of Maryland, 2015
International Conference Student Support Award, University of Maryland, 2015
Graduate Assistantship, University of Maryland, 2011-2015
Pi Mu Epsilon (Mathematics), 2010
Research Experience for Undergraduates (REU) Fellow, “Theoretical Framework of Optimal Control Problems”, supervised by Prof. Irena Lasiecka, Department of Mathematics, University of Virginia, 2009
Dean's List, University of Virginia, 2008-2010

CONFERENCE AND SEMINAR PRESENTATIONS

2015: Camp Resources XXII, Georgetown Center for Economic Research, 3rd Northeast Workshop on Energy Policy & Environmental Economics (Yale), Environmental Economics Workshop at Department of Agricultural and Resource Economics (UMD), 2014: Guest Lecture for Environmental Economics, Masters of Applied Economics (UMD), Econometrica Inc. Consulting

REFERENCES

Prof. Maureen Cropper	University of Maryland	cropper@econ.umd.edu	(301) 405-3483
Prof. Andrew Sweeting	University of Maryland	sweeting@econ.umd.edu	(301) 405-8325
Prof. Lint Barrage	Brown University	lint_barrage@brown.edu	(401) 863-2116