

Jen Z. He

Agricultural and Resource Economics
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EDUCATION

- Ph.D. Agricultural and Resource Economics, University of Maryland, College Park, (expected Spring 2017)
- M.S. Agricultural and Resource Economics, University of Maryland, College Park, 2016
- M.A. Economics, New York University, 2012
- B.A. Economics (double major: International Trade), *summa cum laude*, University of International Business and Economics, Beijing, China, 2010

FIELDS OF SPECIALIZATION

Energy and Environmental Economics; Industrial Organization; Applied Microeconomics

DISSERTATION

Title: "Regulation, Market and Technology: Evidence from the U.S. Trucking Industry"
Committee: Drs. Sébastien Houde (Chair), Maureen Cropper, Andrew Sweeting, Robertson C. Williams III

JOB MARKET PAPER

"Heterogeneous Responses and Differentiated Taxes: Evidence from the Heavy-duty Trucking Industry in the U.S."

This paper examines how an important economic instrument, a fuel tax, can be used to address the externalities created by trucks. Trucks are responsible for 20% of the CO₂ emissions from on-road vehicles and 10% of conventional air pollution emissions from all sources in the United States. The externalities also include noise pollution, road deterioration, traffic congestion and vehicle accidents. I exploit a rich vehicle-level micro dataset of the U.S. heavy-duty trucking fleet to examine how truckers differentially respond to changes in fuel costs. The empirical results show that the long-run elasticities of vehicle-miles-traveled are -0.23 for combination trucks and -0.27 for vocational vehicles. Within each of the two groups, the responsiveness varies significantly among different truck weight classes and business sectors. The estimated elasticities serve as a critical input in the following theoretical model. I derive the optimal fuel taxes in a general equilibrium model that incorporates the externalities, measures shipping demand in terms of payload distance and allows truckers to choose their routes based on shipping demand. Most of the optimally differentiated diesel taxes are about two or three times the actual rate. Compared to the optimal uniform tax, implementing differentiated taxes by vehicle weight classes reduces the existing distortion and generates an overall welfare gain of about 17.5 billion US dollars per annum.

RESEARCH EXPERIENCE

Research Assistant, University of Maryland, College Park, MD, Supervisor: Dr. Sébastien Houde. August 2014 -August 2016

Researcher, Resources for the Future, Washington, DC. Supervisor: Dr. Virginia McConnell. May-August 2015

Research Assistant, University of Maryland, College Park, MD. Supervisor: Dr. Snaebjorn Gunnsteinsson. August 2013-August 2014

Research Analyst, Development Research Institute, NY. May-August 2011

Research Assistant, New York University, NY. Supervisor: Dr. Yaw Nyarko, December 2010-May 2011

TEACHING EXPERIENCE

Teaching Assistant, University of Maryland, College Park, MD, AREC326: Intermediate Applied Microeconomics. Supervisor: Dr. Lint Barrage. Fall 2014

Instructor, University of Maryland, College Park, MD, ECON441: International Economics. Summer 2014

Teaching Assistant, University of Maryland, College Park, MD, AREC453: Natural Resources and Public Policy. Supervisor: Dr. Erik Lichtenberg. Fall 2012

Teaching Assistant, Barnard College, NY, ECON310: Gender and Choices. Supervisor: Dr. Stephanie Lofgren. Spring 2012

Supplemental Instructor, New York University, NY, ECON-UA316: Industrial Organization. Supervisor: Drs. Hunt Allcott, Victor Archavski. Fall and Summer 2011

Teaching Assistant, New York University, NY, ECON-UA208: History of Economic Thought. Supervisor: Dr. Ross Tippit. Fall 2011

Teaching Assistant, New York University, NY, ECON-UA335: International Economics - Trade. Supervisor: Dr. Raquel Fernandez. Summer 2011

Instructor, New Oriental School, Beijing, TOEFL: Test of English as a Foreign Language. January-August 2010

Instructor, University of International Business and Economics, Beijing, ENG442: College English. September 2007-July 2008

OTHER PROFESSIONAL EXPERIENCE

Office Assistant, New York University Africa House, NY, October 2009-February 2011

Human Resources Manager Assistant, Lenovo Corporation, Beijing, China, September 2009-February 2010

PAPERS

He, Jen Z. (2016), "Heterogeneous responses and differentiated taxes: evidence from the heavy-duty truck industry in the U.S.," Draft paper, University of Maryland, College Park, September. (*Job Market Paper*)

He, Jen Z., Benjamin Leard, and Virginia McConnell (2016), "Technological progress in the commercial trucking sector: empirical evidence and implications for fuel economy standards," Draft paper, Resources for the Future, Washington, DC, September.

He, Jen Z. and William Leung (2016), "Environmental regulations and fleet composition: evidence from the heavy-duty truck industry in California," Draft paper, University of Maryland, College Park; California Air and Resources Board, September.

PRESENTATIONS

"Heterogeneous responses and differentiated taxes", presented at the 86th Annual Meeting of the Southern Economic Association, Washington, DC, November 2016.

"Heterogeneous responses and differentiated taxes", presented at the 35th USAEE/IAEE North American Conference of the United States Association for Energy Economics, Tulsa, OK, October 2016.

"The Potential For Improvement in On-road Truck MPG," presented at the 2016 Annual Meeting of the Agricultural and Applied Economics Association, Boston, MA, August 2016.

"The Potential For Improvement in On-road Truck MPG," presented at the 39th IAEE International Conference of the International Association for Energy Economics, Bergen, Norway, June 2016.

"Does Diesel Price Matter? Estimate the Elasticities of Trucking Behaviors With Respect To Fuel Prices," presented at the 34th USAEE/IAEE North American Conference of the United States Association for Energy Economics, Pittsburg, PA, October 2015.

"Diesel Fuel Price Elasticities in the U.S. Trucking Industry," presented at the 2015 Annual Meeting of the Agricultural and Applied Economics Association, San Francisco, CA, August 2015.

AWARDS

- Dennis J. O'Brien USAEE Best Student Paper Award, 34th USAEE/IAEE North American Conference, October 2016
- Mark Lively Memorial Scholarship, National Capital Area Chapter of the U.S. Association for Energy Economics, August 2016
- Student Paper Award, U.S. Association of Energy Economics, July 2016
- Jacob K. Goldhaber Travel Grant (x2), University of Maryland, June and July 2016
- USAEE/IAEE Registration Fee Scholarship, IAEE, July 2016
- International Conference Student Support Award, University of Maryland, June 2016
- Travel Grants for Early Career Professionals and Graduate Students, AAEA Trust, August 2015
- Mark Lively Memorial Scholarship, National Capital Area Chapter of the U.S. Association for Energy Economics, July 2015
- USAEE/IAEE Registration Fee Scholarship, IAEE, June 2015
- Academic Merit Fellowship, University of Maryland, September 2014
- Graduate Assistantship, University of Maryland, 2012-2016
- Departmental Honors in Economics, University of International Business and Economics, May 2010
- Honorable Award in Interdisciplinary Contest in Modeling, February 2010
- Academic Scholarship, University of International Business and Economics, September 2006 - July 2010
- Award of Excellent Leader of the Association of Students, University of International Business and Economics, June 2007

SERVICE

Treasurer of the Association of Agricultural and Resource Economists, University of Maryland, College Park, June 2015-Present
President of the Association of Agricultural and Resource Economists, University of Maryland, College Park, May 2014-May 2015
Graduate Student Representative, Department of Agricultural and Resource of Economics, University of Maryland, College Park, September 2014-May 2015
Student Representative - Dalhousie University, Halifax, Canada, September 2008-May 2009
Volunteer (Interpreter and sales representative) at 2008 Beijing Olympic Games, Beijing, China, March-August 2008
Vice President of the Association of Students in Academic Activities - University of International Business and Economics, Beijing, China, November 2006-July 2007

ACADEMIC ORGANIZATIONS

- American Economic Association (AEA)
- Association of Environmental and Resource Economists (AERE)
- Agricultural and Applied Economics Association (AAEA)
- International Association for Energy Economics (IAEE)
- Southern Economic Association (SEA)
- United States Association for Energy Economists (USAEE)

COMPUTER SKILLS

STATA, LATEX, Microsoft Office, MATLAB, R, SQL

LANGUAGES

English, Chinese (Mandarin)

REFERENCES

Dr. Sébastien Houde (primary advisor), Department of Agricultural and Resource Economics, University of Maryland, 2222B Symons Hall, College Park, 20742; (301) 405-9881; shoude@umd.edu

Dr. Maureen Cropper, Department of Economics, University of Maryland, 3114H Tydings Hall, College Park, MD, 20742; (301) 405-3483; cropper@econ.umd.edu

Dr. Andrew Sweeting, Department of Economics, University of Maryland, 3135 Tydings Hall, College Park, MD 20742; (301) 405-8325; sweeting@econ.umd.edu

Dr. Mathieu Dufour, Département des sciences sociales, C-3313, Pavillon Alexandre-Taché, Université du Québec en Outaouais, Canada J9A 1LB; (819) 595-3900; mathieu.perron-dufour@uqo.ca

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