

Sarah Oh

George Mason University  
Arlington, VA, Fairfax, VA  
Google Voice: (703) 996-9162

Email: [soh5@gmu.edu](mailto:soh5@gmu.edu)  
[sarahoh@alumni.stanford.edu](mailto:sarahoh@alumni.stanford.edu)  
Homepage: <https://sites.google.com/site/sarahecon5>

## Education

Ph.D. Candidate, George Mason University, Economics, 2017 (expected)  
J.D., Antonin Scalia Law School, George Mason University, Law, 2009  
B.S., Stanford University, Management Science & Engineering, 2004

## Dissertation

Title: Essays in Broadband Economics

Job Market Paper: *How Predictive are Cost Forecasts for Broadband Stimulus? Evidence from the Recovery Act*

I examine cost forecasts for 49 fiber-optic and wireless networks funded by the Recovery Act. I find that grantees did not systematically underbid for projects. They did, however, underestimate and overestimate costs with nearly equal frequency, and escalate costs on average by 202 percent in cost per institution and 37 percent in cost per fiber mile. For four outputs, I ask whether cost forecasts predicted actual construction. I find that grantees overestimated fiber miles and indirectly connected institutions, while meeting targets for directly connected institutions and points of interconnection. I do not find budget, technology, or institution effects to explain the quality of cost forecasts in these outputs. My findings suggest that low-price bids can be cost-effective across project types. With data from the applicant pool, I compare offers from 116 projects with 657 rejected proposals. Committee: Tyler Cowen (chair), Carlos Ramirez, David Eil

Primary Field: Applied Microeconomics, Secondary Fields: Law & Economics, Monetary Economics

## Publications

Repacking and Inventorying Federal Spectrum: The Role of Federal Employees, *Journal of Law, Technology and Policy*, 2015(2): 315-339 (2015)

Effects of the Discount Matrix on E-rate Funds from 1998-2012, *Telecomm. Policy*, 38(11): 1069-1084 (2014)

Exactitude in Defining Rights: Radio Spectrum and the "Harmful Interference" Conundrum (with T. Hazlett), *Berkeley Technology Law Journal*, 28(1): 227-340 (2013)

The Overly Active Corpse of *Red Lion* (with T. Hazlett and D. Clark), *Northwestern Journal of Technology and Intellectual Property*, 9: 51-95 (2010)

## Discussion Papers

On Moral Hazard and Radio Spectrum (2016)

Natural Experiments in Anti-Bundling Legislation: The Empirical Effect of 3G Regulation in Belgium and Finland (with T. Hazlett and B. Skorup) (2014)

Transition in Analog Video: Who Adopted DTV Converter Boxes? (2016)

Estimates for Reasonable Data Breach Prevention (2015)

Spectrum Holdout and Overlay Licenses: An Agent-Based Modeling Simulation (2015)

**Teaching**

Economics 420: International Money & Finance (Fall 2015) (22 undergraduates, 4.38/5.0 evaluation)

**Referee Service**

*Information Economics and Policy*

**Affiliations**

Ph.D. Fellowship, Mercatus Center 2015–present  
 Graduate Research Assistant to Tyler Cowen, 2015–present  
 Graduate Research Assistant to Thomas Hazlett, 2013–2014  
 Graduate Student Summer Research Fellowship, Mercatus Center 2015, 2016  
 Dan Searle Fellow, Institute for Humane Studies, 2012–2015  
 Research Fellow, Information Economy Project, 2012–2015

**Conferences**

Presenter, Law & Economics Center, Privacy Roundtable, Arlington, VA, Dec. 10-11, 2015  
 Presenter, Penn State-JIP Seminar, Embassy of Switzerland, Washington, D.C., Sept. 28-29, 2015  
 Presenter, International Telecommunications Society Ph.D. Seminar, El Escorial, Spain, June 26-28, 2015  
 Guest Scholar, Aspen Institute Communications & Society Program, Aspen, CO, Aug. 13-16, 2014  
 Presenter, International Conference on Mobile Business at LSE, London, UK, June 4-5, 2014  
 Moderator, Spectrum After Auctions Panel, National Press Club, Washington, D.C., Apr. 24, 2014  
 Presenter, Pacific Telecommunications Council Young Scholars, Honolulu, HI, Jan. 18-22, 2014  
 Guest Scholar, NY Law School-Rutgers Broadband Seminar, Washington, D.C., Jun. 10-11, 2013  
 Presenter, Levy Workshop, Antonin Scalia Law School, Arlington, VA, Sept. 26, 2013  
 Presenter, Telecommunications Policy Research Conference, Arlington, VA, Sept. 23-25, 2011

**Work Experience**

Information Economy Project, Director, Operations and Research. Published two co-authored articles in top technology law journals. Conducted legal research and writing in spectrum policy, media law, and competition policy. Invited speakers for conferences and coordinated the Tullock *Big Ideas* Lecture Series at Antonin Scalia Law School. (Aug. 2009–Aug. 2012, Arlington, VA).

Federal Trade Commission, Law Clerk, Office of Policy Planning, Director Maureen Ohlhausen. Researched a fifty-state survey of health privacy laws. (May 2008–Aug. 2008, Washington, D.C.).

Federal Communications Commission, Law Intern, Office of Commissioner Deborah Taylor Tate. Studied wireline issues. Attended Congressional hearings. (Sept. 2007–Dec. 2007, Washington, D.C.).

U.S. Department of Commerce, Law Intern, National Telecomm. & Info. Administration. Drafted sections of the President's Federal Spectrum Plan. Visited spectrum facilities. (May 2007–Aug. 2007, Washington, D.C.).

NexTag.com, Marketing Associate II, Keyword Search Engine Marketing and Campaign Management. Managed AdWords campaigns (\$MM) for the mid-stage start-up. (July 2004–Aug. 2005, San Mateo, CA).

**Conference Committees**

Gordon Tullock: A Celebration, Arlington, VA, Oct. 2-3, 2015; James Buchanan: A Celebration, Fairfax, VA, Sept. 28-29, 2013; Digital Inventor: Platform Competition, Arlington, VA, Feb. 24, 2012; Copyright Compromises, Arlington, VA, Oct. 12, 2011; Gridlock Economy: Property Rights, Arlington, VA, Oct. 2, 2009; Ronald Coase: A Celebration, University of Chicago Law School, Chicago, IL, Dec. 4-5, 2009.

**Honors**

Virginia State Bar (active member, 2009–present), Senior Research Editor, *Journal of Law, Economics and Policy* (2008), President’s Scholar Undergraduate Research Grant, Stanford University (2000).

**Blog Post**

*Data-Driven Modernization of E-rate for Wi-Fi in Schools*, on the Aspen Institute Communications & Society Program Blog, [aspencsblog.org](http://aspencsblog.org) (Mar. 2016).

**Code**

In a web project, I use cloud platforms to visualize the Federal Communications Commission’s universal service contribution program by study area code. I currently display time series for 1,995 Connect America accounts, and will add another 2,000 Connect America, 2,600 Lifeline, and 40,000 E-rate accounts. I loaded data into Google BigQuery databases and run SQL queries. I manage assets with a Mediawiki LAMP stack [Linux, Apache, MySQL, and PHP/Python/Perl] through Bitnami and hosted by Amazon Web Services. I use HighchartsJS, Google Cloud Storage, Google App Engine, and Java Eclipse IDE to create chart assets. In Java, I collect data with Jsoup, clean text with Apache Commons, and template results into XML. I use command line terminals to manage cloud storage, load large files into MediaWiki, and run php maintenance scripts. For an example, see [http://fisclly.com/Edwards\\_Tel\\_Co\\_-\\_FCC/USF/CAF/S150092](http://fisclly.com/Edwards_Tel_Co_-_FCC/USF/CAF/S150092).

**Personal**

United States Citizen. Hometown: North Potomac, MD.

**References**

Professor Tyler Cowen  
George Mason University  
Economics Department  
2 Carow Hall  
Fairfax, VA 22030  
703-993-2312, [tcowen@gmu.edu](mailto:tcowen@gmu.edu)

Professor Carlos Ramirez  
George Mason University  
Economics Department  
D160 Mason Hall  
Fairfax, VA 22030  
703-993-1145, [cramire2@gmu.edu](mailto:cramire2@gmu.edu)

Professor David Eil  
George Mason University  
Economics Department  
Metropolitan Building  
Arlington, VA 22201  
703-993-4846, [deil@gmu.edu](mailto:deil@gmu.edu)

Professor Thomas Hazlett  
Clemson University  
Economics Department  
233 Serrine Hall  
Clemson, SC 29634  
864-656-3481, [hazlett@clemson.edu](mailto:hazlett@clemson.edu)