

## **SCOTT J. SAVAGE**

January 11 2019

Department of Economics  
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I am a Professor of Economics with expertise in the econometric modelling of consumer choice, firm supply, and the market outcomes from competition. I have used survey and market data to estimate demand, quality, pricing and profits for various media and telecommunications services and products. I have written twelve surveys with consumer choice experiments (“conjoint analysis”) and three opinion-based surveys. The findings from these surveys have been published in eight peer-reviewed journals. More generally, I have published over 30 articles in numerous peer reviewed journals such as *The Review of Economics and Statistics*, *The Journal of Industrial Economics*, *Review of Industrial Organization*, *Journal of Applied Econometrics*, *International Journal of Industrial Organization*, *Journal of Law and Economics* and *Journal of Regulatory Economics*.

Since 2014 I have provided expert opinion in four patent litigation cases. In these cases, I used choice experiments (administered by survey) and market data to estimate oligopoly models of the demand and supply of smartphones. I used the estimated parameters from these models to infer consumer and firm valuations for various patented technologies that enhance smartphone functionality and usage. I have provided depositions in two cases and successfully demonstrated to the judges that my methodology and reasoning were scientifically valid and could be applied to the facts of the cases. The remaining two cases were settled prior to Daubert Challenges and court proceedings.

### **Education**

Ph.D., Economics, Curtin University of Technology, Western Australia, 2000.  
M.Ec., Economics, University of Western Australia, 1997.  
B.Bus., Economics Honours, Curtin University of Technology, 1992.  
B.Bus., Finance & Economics, Edith Cowan University, 1991.

### **Employment**

#### Current Appointment

Professor of Economics, University of Colorado, Boulder, August 2017-.

#### Other Appointments

Associate Professor of Economics, University of Colorado, Boulder, August 2009-July 2017.  
Economist (Special Consultant), Office of Strategic Planning & Policy Analysis, Federal Communications Commission, May 16-December 31, 2012.  
Assistant Professor of Economics, University of Colorado, Boulder, August 2003-July 2009.  
Assistant Professor of Interdisciplinary Telecommunications, University of Colorado, Boulder, August 2001-July 2003.

Visiting Professor of Interdisciplinary Telecommunications, University of Colorado, Boulder, January 2001-July 2001.

Visiting Professor of Economics, University of Nevada, Las Vegas, August 2000-December 2000.

Research Fellow, Department of Economics, Curtin University of Technology, July 1995-December 1999.

Research Officer, Bureau of Transport and Communications Economics, Commonwealth Department of Transport and Communications, January 1993-June 1995.

### Associations

Associate Editor for *Information Economics and Policy*.

Member of American Economic Association.

Member of Economics Society of Australia.

Member of Western Economic Association International.

### **Grants, Contract Research and Awards**

#### Grants

*Fiber-to-the-Home Council Americas Research Award*, 2014, “The Impact of Fiber Deployment on Residential House Prices,” (co-Investigator: D. Sicker).

*Google Research Award*, 2013, “Measuring Broadband Price Indices.”

*Time Warner Cable Research Program on Digital Communications*, 2012, “Quantifying the Consumer Benefits from a Television Station Merger.”

*Net Institute, Stern School of Business, New York University*, 2009, “The Effects of International Simple Resale on Prices for International Message Telephone Services,” (co-Investigator: J. Pearcy).

*Net Institute, Stern School of Business, New York University*, 2007, “The Effects of Competition on the Price of Cable Internet Access,” (co-Investigator: Y. Chen).

*U.S. Agency for International Development*, 2003, Travel Grant to Tanzania and Botswana for “NetTel@Africa: Network for Capacity Building and Knowledge Exchange in ICT Policy, Regulation and Application.”

*Knowledge Networks Inc.*, 2003, “Comparison of Mail and Online Survey Data,” (co-Investigator: D. Waldman).

*Cisco Systems*, “Broadband Demand Study,” 2002, (co-Investigators: M. Jackson, T. Lookabaugh and D. Sicker).

#### Contract Research and Expert Testimony

*Expert witness for McKool Smith*, plaintiff, March – May 2018.

*Expert witness for Gray Reed*, plaintiff, January – May 2017.

*Expert witness for McKool Smith*, plaintiff, May – November 2016.

*Assistant to expert witness for McKool Smith, plaintiff, February – April 2016.*

*Assistant to expert witness for Bunsow De Mory Smith & Allison LLP, plaintiff, October – December 2015.*

*Assistant to expert witness for McKool Smith, plaintiff, October – December 2015.*

*Expert witness for McKool Smith, plaintiff, January – September 2014.*

*Engine Research Foundation, a 501(c)(3) non-profit, 2013, “The Value of Online Privacy,” (co-Investigator: D. Waldman).*

*Media Bureau, Federal Communications Commission, 2011, “Consumer Valuation of Media as a Function of Local Market Structure,” (co-Investigator: D. Waldman).*

*Broadband.gov Task Force, Federal Communications Commission, 2010, “Household Demand for Broadband Internet Service,” (co-Investigators: G. Rosston and D. Waldman).*

#### Awards and Honours

*Stanford Calderwood Faculty Teaching Award, May 2007, Department of Economics, University of Colorado, Boulder.*

*Mortar Board National Honor Society, March 2005, recognition of exceptional contributions to the University of Colorado and service to the students.*

*Telecommunications Student Organization Outstanding Teacher Award, December 2001, Interdisciplinary Telecommunications Development, University of Colorado, Boulder.*

*Research Fellowship, 2000, Department of Economics, Curtin University of Technology.*

*Higher Education Contribution Scheme Scholarship, 1997, Department of Economics, University of Western Australia.*

#### **Research**

##### Interests

Industrial Organization, Telecommunications, Economic Education

##### Refereed Economics Journals (underscore denotes student)

“High-Speed Internet Access and Housing Values,” *Applied Economics*, forthcoming (with G. Molnar and D. Sicker).

“Using Aggregate Market Data to Estimate Patent Damages: An Application to United States Smartphones 2010 to 2015,” *International Journal of Industrial Organization* 60, 2018, 1-31 (with R. S. Hiller and D. Waldman).

“Access Prices, Unbundling and Product Variety in European Internet Markets,” *Applied Economics* 50(60), 2018, 6576-6587 (with E. Baranes).

- “Price Competition in the Market for Business Telecommunications Services,” *Journal of Regulatory Economics* 54(1), 2018, 81-104 (with G. Rosston and B. Wimmer).
- “Market Structure and Broadband Internet Quality,” *Journal of Industrial Economics* 65(1), 2017, 73-104 (with G. Molnar).
- “Estimating Willingness-to-Pay for Online Health Services,” *Applied Health Economics and Health Policy*, 15(4), 2017, 491-500 (with J. Chang and D. Waldman).
- “Does Instructor Appearance Affect Student Learning of Principles of Economics?” forthcoming in *Australasian Journal of Economics Education* 12(2), 2015, 30-49 (with J. Dean Craig).
- “Actual and Potential Competition in International Telecommunications,” *International Journal of Industrial Organization*, 42, 2015, 94-105 (with J. Pearcy).
- “Consumer Uncertainty and Price Discrimination through Online Coupons: An Empirical Study of Shanghai Restaurants,” *Information Economics and Policy* 33, 2015, 43-55 (with Y. Chen and J. Zhang).
- “Market Structure and Media Diversity,” *Economic Inquiry*, 53(2), 2015, 872-888 (with R. S. Hiller and D. Waldman).
- “Privacy Tradeoffs in Smartphone Applications,” *Economics Letters*, 137, 2015, 171-175 (with D. Waldman).
- “Instructor Attire and Student Performance: Evidence from an Undergraduate Industrial Organisation Experiment,” *International Review of Economics Education*, 17, 2014, 55-65 (with J. Dean Craig).
- “Network Unbundling and Retail Prices: Evidence from the Telecommunications Act of 1996,” *Journal of Law and Economics* 56(2), 2013, 487-519 (with G. Rosston and B. Wimmer).
- “Market Restructuring and the Efficiency of Electricity Generation: Plant Level Evidence From the United States 1995 to 2006,” *The Energy Journal*, 34(1), 2013, 1-31 (with J. Dean Craig).
- “The Effects of Competition on the Price for Cable Modem Internet Access,” *The Review of Economics and Statistics*, February, 93(1), 2011, 201-217 (with Y. Chen).
- “Household Demand for Broadband Internet in 2010,” *The B.E. Journal of Economic and Policy Analysis (Advances)*, 10(1), 2010, Article 79. Available at: <http://www.bepress.com/bejeap/vol10/iss1/art79> (with G. Rosston and D. Waldman).
- “The Effects of Information Technology on Economic Education,” *Journal of Economic Education*, 40(4), 2009, 337-353.
- “Ability, Location and Household Demand for Internet Bandwidth,” *International Journal of Industrial Organization*, 27(2), 2009, 166-174 (with D. Waldman).

- “The Effect of Private Interests on Regulated Wholesale and Retail Prices,” *Journal of Law and Economics*, 51(3), 2008, 479-501 (with G. Rosston and B. Wimmer).
- “Learning and Fatigue During Choice Experiments: A Comparison of Online and Mail Survey Modes,” *Journal of Applied Econometrics*, 23(3), 2008, 351-371 (with D. Waldman).
- “Ownership, Location and Prices in Chinese Electronic Commerce Markets,” *Information Economics and Policy*, 20(2), 2008, 192-207 (with Y. Chen and D. Zhao).
- “Student Demand for Streaming Lecture Video: Empirical Evidence from an Undergraduate Economics Class,” *International Review of Economics Education*, 2007, 6(2), 57-78 (with N. Flores).
- “Price, Programming, and Potential Competition in U.S. Cable Television Markets,” *Journal of Regulatory Economics*, 27(1), 2005, 25-46 (with M. Wirth).
- “United States Demand for Internet Access,” *Review of Network Economics*, 3(3), 2004, 228-247 (with D. Waldman).
- “United States Internet Penetration,” *Applied Economics Letters*, 11(9), 2004, 529-532, (with G. Coble-Neal and G. Madden).
- “Dominant Carrier Market Power in United States International Telephone Markets,” *Applied Economics*, 35(6), 2003, 665-673 (with J. Alleman and G. Madden).
- “Asia-Pacific Telecommunications Liberalization and Productivity Performance,” *Australian Economic Papers*, 42(1), 2003, 91-102 (with G. Madden and J. Ng).
- “Australian Broadband Delivered Entertainment Service Subscription Forecasts,” *The Economic Record*, 79(243), 2002, 422-432 (with G. Madden and M. Simpson).
- “Forecasting United States-Asia International Message Telephone Service,” *International Journal of Forecasting*, 18(4), 2002, 523-543 (with G. Coble-Neal and G. Madden).
- “The Cost Structure of Australian Telecommunications,” *The Economic Record*, 77(239), 2001, 338-350 (with H. Bloch, G. Coble-Neal and G. Madden).
- “Testing Australian Telecommunications for Natural Monopoly Characteristics,” *Review of Industrial Organization*, 18(2), 2001, 219-227 (with H. Bloch and G. Madden).
- “Market Structure, Competition and Pricing in United States International Telephone Services Markets,” *The Review of Economics and Statistics*, 82(2), 2000, 291-296 (with G. Madden).
- “R&D Spillovers, Information Technology and Telecommunications, and Productivity in Asia and the OECD,” *Information Economics and Policy*, 12(4), 2000, 367-392 (with G. Madden).

“Sources of Australian Labour Productivity Change 1950-1994,” *The Economic Record*, 74(227), 1998, 362-372 (with G. Madden).

“CEE Telecommunications Investment and Economic Growth,” *Information Economics and Policy*, 10(2), 1998, 173-195 (with G. Madden).

“Measuring Public Sector Efficiency: A Study of Economics Departments at Australian Universities,” *Education Economics*, 5(2), 1997, 153-68 (with S. Kemp and G. Madden).

#### Refereed Interdisciplinary Journals

“Measuring Broadband Internet Prices,” *Journal on Telecommunications and High Technology Law*, 2014, 12, 73-87 (with G. Molnar and D. Sicker).

“Household Demand for Broadband Internet Service,” *Communications ACM* 54(2), February, 2011, 29-31 (with G. Rosston and D. Waldman).

“Broadband Internet Access, Awareness, and Use: Analysis of United States Household Data,” *Telecommunications Policy*, 29(8), 2005, 615-633 (with D. Waldman).

“Productivity Growth and Market Structure in Telecommunication,” *Economics of Innovation And New Technology*, 2001, 10(6), 203-222 (with G. Madden).

“Regulation and International Telecommunications Pricing Behaviour”, *Industrial and Corporate Change*, 10(1), 2001, 247-266 (with G. Madden).

“Telecommunications Productivity, Catch-Up and Innovation,” *Telecommunications Policy*, 23(1), 1999, 65-81 (with G. Madden).

“Asia-Pacific Telecommunications USOs: Current Practice and Future Options,” *Prometheus*, 16(4), 1998, 485-498 (with G. Madden and M. Simpson).

“Regional Information Access: The Use of Telecentres to Meet Universal Service Obligations,” *Telematics and Informatics*, 14(3), 273-288 (with G. Madden and M. Simpson).

“Information Inequality and Broadband Network Access: An Analysis of Australian Household Survey data,” *Industrial and Corporate Change*, 5(4), 1049-1066 (with G. Madden and M. Simpson).

#### Work in Progress

“The Effects of Tariffs on Tablet Computer Prices, Demand and Welfare” (with R. S. Hiller).

“Universal Service Policies for Fixed Broadband: The Effects of the Lifeline Subsidy Program on Prices, Demand and Welfare” (with S. Mendez and G. Molnar).

“Quality Competition in the Broadband Service Industry: An Empirical Reaction Function Approach,” available at <http://ssrn.com/abstract=2418676> (with G. Molnar and J. Prieger).

“Ethnic Diversity, Competition and Entry in the Market for Hatred” (with B. Wimmer).

“Determinants of teaching quality: Evidence from the University of Colorado 2008 to 2016” (with J. Dean Craig)

#### Other Publications (\*denotes peer-reviewed)

\*“Who Values the Media,” in James Alleman, Aine Marie Patricia Ni-Shuilleabhain and Paul Rappoport (eds) *Demand for Communications Services – Insights and Perspectives: Essays in Honor of Lester D. Taylor*, 2014, Springer Publishing Company (with D. Waldman).

\*“Household Demand for Broadband Internet in 2010,” in Shane Greenstein, Avi Goldfarb, and Catherine Tucker (eds) *The Economics of Digitalization*, 2013, Elgar Publishing. Reprint from *The B.E. Journal of Economic and Policy Analysis (Advances)*, 10(1), 2010, Article 79 (with G. Rosston and D. Waldman).

\*“Market Structure and Media Diversity,” Report Series Fall 2012, Time Warner Cable Research Program on Digital Communications, Washington, D.C. (with D. Waldman and R. S. Hiller).

“Comments of 71 Concerned Economists: Using Procurement Auctions to Allocate Broadband Stimulus Grants,” submitted to the National Telecommunications Information Agency and Rural Utilities Service, 2009, <http://ssrn.com/abstract=1377523> (with many co-authors).

“Household Demand for Broadband Internet Access,” Stanford Institute for Economic Policy Research Discussion Paper 09-008, 2009, [http://siepr.stanford.edu/system/files/shared/Household\\_demand\\_for\\_broadband.pdf](http://siepr.stanford.edu/system/files/shared/Household_demand_for_broadband.pdf) (with G. Rosston and D. Waldman).

“The Effects of International Simple Resale on Prices in International Telecommunications Markets,” Net Institute Working Paper, 2009, available at <http://ssrn.com/abstract=1481819> (with J. Pearcy).

“Economist’s Statement on Network Neutrality Policy,” American Enterprise Institute-Brookings Joint Center Related Publication RP07-08, 2007, (with many co-authors).

“Economist’s Statement on U.S. Broadband Policy,” American Enterprise Institute-Brookings Joint Center Related Publication RP06-06, 2006, (with many co-authors).

\*“Telecommunications Investment, Liberalization and Economic Growth,” American Enterprise Institute-Brookings Joint Center Related Publication RP03-30, 2003, (with A. Schlottman and B. Wimmer).

\*“Broadband Demand and Wireless,” in J. W. Allen and T. X. Brown (eds) *Proceedings of the International Symposium on Advanced Radio Technologies*, National

Telecommunications Information Administration Special Publication SP-03-401, U.S. Department of Commerce, 2003, 119-125 (with T. Lookabaugh and D. Sicker).

\*“Pricing and Residential Internet Traffic,” in E. Bohlin, K. Brodin, A. Lundgren and B. Thorngren (eds) *Convergence in Communication and Beyond*, North-Holland, Amsterdam, 2000, 101-109 (with G. Madden).

\*“Resale Competition in International Telecommunications,” in K. Clements (ed) *PhD Conference in Economics and Business Papers and Proceedings 1999*, University of Western Australia, Perth, 1999.

*Evaluation of the Black Spot Program*, Supplement to Bureau of Transport and Communications Economics Report 91, Australian Government Printing Service, Canberra, 1995.

*Demand Elasticities for Air Travel to and from Australia*, Bureau of Transport and Communications Economics Working Paper 20, Australian Government Printing Service, Canberra, 1995 (with C. Dystra and D. Smith).

*The Effect of Competition on International Aviation Prices*, Bureau of Transport and Communications Economics Discussion Paper, Bureau of Transport and Communications Economics, Canberra, 1994 (with D. Smith and J. Street).

\*“An Analysis of the Trade Offs in International Aviation Rights”, in *Australasian Transport Research Forum Volume 19*, University of Melbourne: Melbourne, 1994, 183-206 (with D. Smith and J. Street).

\**The Net National Benefits of Liberalising the Australia Air Service Agreements*, Bureau of Transport and Communications Economics Report to the Secretary of Aviation Transport, Department of Transport and Communications, Australian Government Printing Service, Canberra, 1994 (with D. Smith and J. Street).

### Recent Presentations

Interdisciplinary Telecommunications Program, University of Colorado, Boulder, September, 2018.

Digital Initiative Discussion & Symposium, Harvard Business School, May, 2018.

University of Papua New Guinea, Port Moresby, May, 2017.

Western Economic Association 91<sup>st</sup> Annual Conference, Portland, June, 2016.

Cable Academic Workshop, University of Southern California, April, 2014.

University of Nevada at Las Vegas, December, 2013.

NBER Economics of IT and Digitization Workshop, Cambridge, July, 2013 (discussant).

Northwestern University’s Fourth Annual Conference on Internet Search and Innovation, Chicago, June, 2013.

Searle Research Roundtable on the Evolution of the Internet, NorthWesternLaw, Chicago, December, 2012.

Searle Research Roundtable on the Law and Economics of Digital Markets, NorthWesternLaw, Chicago, October, 2012.

Western Economic Association 87<sup>th</sup> Annual Conference, San Francisco, July, 2012.

University of California, Merced, January, 2012.

SUNY at Stony Brook, November, 2011.



Telecommunications Demand and Investment: The Road Ahead, Jackson Hole, October, 2011.  
 University of Colorado, Boulder, July, 2011.  
 Edith Cowan University, Perth, October, 2010.  
 Fudan University, Shanghai, May, 2010.  
 Edith Cowan University, Perth, May, 2009.  
 Eastern Economic Association, New York City, February, 2009.  
 City University of New York, New York, February, 2009.  
 Western Economic Association 83<sup>rd</sup> Annual Conference, Waikiki, July, 2008.  
 International Industrial Organization Society Conference, Arlington, May, 2008.  
 Tulane University, New Orleans, April, 2008.  
 London Business School, London, November, 2007.  
 International Telecommunication Society Conference, Istanbul, September, 2007.  
 Western Economic Association 82<sup>nd</sup> Annual Conference, Seattle, July, 2007.  
 Allied Social Science Associations, Boston, January, 2006.  
 University of Colorado, Boulder, September, 2005.  
 18<sup>th</sup> Center for Research in Regulated Industries Annual Western Conference, San Diego, June, 2005.  
 University of Nevada, Las Vegas, November, 2004.  
 16<sup>th</sup> Center for Research in Regulated Industries Annual Western Conference, San Diego, June, 2003.  
 University of Colorado, Boulder, May, 2003.  
 Pacific Telecommunications Council, Waikiki, January, 2003.  
 Cisco Systems, San Jose, November, 2002.  
 30<sup>th</sup> Telecommunications Policy Research Conference, Alexandria, September, 2002.  
 University of Colorado, Boulder, April, 2001.  
 Illinois State University, Bloomington, March, 2001.  
 University of Redlands, Redlands, February, 2001.  
 Telcordia Technologies (formerly Bell Labs), Morristown, November, 2000.

## **Teaching**

### Economics

#### *Undergraduate*

ECON 4697 Industrial Organization and Regulation, Fall 2004, 2008, 2009, 2011-2014, 2017-2018 & Spring 2008, 2011.  
 ECON 4070 Topics in Microeconomics, Spring 2004-2006, 2008-2012, 2015, 2018, & Fall 2013, 2015, 2016.  
 ECON 3070 Intermediate Microeconomic Theory, Fall 2003, Spring 2004 & 2005, Summer 2005 & 2006, Fall 2006.  
 ECO 441 Introduction to Econometrics, Fall 2000 (University of Nevada, Las Vegas).  
 ECO 202 Principles of Microeconomics, Fall 2000 (University of Nevada, Las Vegas).  
 Mathematical Economics 201, Fall 1995 to 1999 (Curtin Business School).  
 Managerial Economics 204, Spring 1996 to 1999 (Curtin Business School).  
 MBA 5717 Graduate Business Economics, Fall 2010 (Edith Cowan University).  
 Finance I, Fall 1995 & 1996, Spring 1996 to 1997 (Edith Cowan University).

*Ph.D.*

ECON 8747 Industrial Organization, Fall 2005, Spring 2007, 2010, 2012-2013, 2015, 2018.

### Interdisciplinary Telecommunications Program

*Masters*

TLEN 5010 Network Economics I, Fall 2003, 2004, 2005, 2007, 2008, 2009, 2011 - 2018.

TLEN 5838 Microeconomics, Spring 2004.

TLEN 5835 Economic and Policy Aspects of Telecom, Fall 2001, Spring & Fall 2002, Spring 2003.

TLEN 5838 Internet Economics and Policy, Spring 2001, 2002 & 2003.

TLEN 5832 Engineering Economics, Summer 2001, Fall 2001 & 2002.

TLEN 5838 Special Topics in Telecommunications Economics, Fall 2001.

### Electronic Media

*TLEN 5010 Network Economics I with Scott Savage Fall 2018*, 22×75-minute lecture videos available for streaming or DVD.

*ECON 3070 Intermediate Microeconomic Theory with Scott Savage Fall 2006*, 22×75-minute lecture videos available for streaming or DVD. Lecture video available for download at <http://www.colorado.edu/Economics/people/faculty/savage.html>.

### Advising

*Ph.D. Advisor*

Jacob Kirsch, Economics, in progress.

Shawn Swanson, Economics, in progress.

Bryan Boots, Telecommunications, in progress.

Daniel Hembree, Telecommunications, in progress.

Richard Peterson, Economics, 2018 (placement: Colorado College).

Gabor Molnar, Telecommunications, 2014 (first Ph.D. in Telecommunications at the University of Colorado (placement: Independent Consultant, Budapest)).

Maryam Kabiri, Economics, 2013 (placement: Verizon Wireless).

Jieun Chang, Economics, 2013 (placement: Southwestern Oklahoma State University).

Randall Scott Hiller, Economics, 2013 (placement: Fairfield University).

Joseph Craig, Economics, 2010 (placement: Sweet Briar College; now University of Colorado, Colorado Springs).

Woong Tae Chung, Economics, 2007 (placement: Korean Energy Economics Institute).

*Ph.D. Committee Member*

Matthew Butner, Economics, in progress.

Samara Mendez, Economics, 2018 (Deputy Chair).

Tyler Mangin, Economics, 2018.

Seamus Li, Economics, 2018 (Deputy Chair).

Amit Patel, Economics, 2017.

Eric Penner, Economics, 2017.

Alexander Hill, Economics, 2017.

Adnan Mian, Telecommunications, 2017.

Xin Zhao, Economics, 2016 (Deputy Chair).  
Shan Zhao, Economics, 2016.  
Suzana Brown, Telecommunications, 2015.  
Na Kyeong Lee, Economics, 2015.  
Paulo Quindere Saraiva, Economics, 2015.  
Molly Podolefsky, Economics, 2013.  
Kenton White, Economics, 2013 (Deputy Chair).  
Christopher McMahon, Economics, 2013 (Deputy Chair).  
Luis Castro, Economics, 2013.  
Watcharapong Ratisukpimol, 2013.  
Matthew Benton, Economics, 2011.  
Polu Chen, Economics, 2010.  
Samuel Raisanen, Economics, 2010.  
Tianle Zhang, Economics, 2010.  
Grzegorz Pac, Economics, 2009.  
Andrew Meyer, Economics, 2009.  
Bradley Graham, Economics, 2008.  
David Kingsley, Economics, 2007.  
Jason Percy, Economics, 2007.  
Katherine Sauer, Economics, 2006.  
Yuan Zhuang, Economics, 2006.  
Kyoohong Cho, Economics, 2005.  
Colin Starkweather, Economics, 2003.  
Cathryn Marsh, Economics, 2001.

*Masters Advisor*

Nikhil Bhagat, ITP, 2014, (placement: Virtela Technology Services).  
Kalpesh Unune, ITP, 2008 (Qwest Communications).  
Jeremy Texier, ITP, 2004 (placement: Level 3 Communications).  
Travis Merrill, ITP, 2003 (placement: Harvard Business School).  
David Savage, ITP, 2003 (IBM Global Services).  
Adnan Mian, ITP, 2002 (placement: US Naval Warfare Center).

*Masters Committee Member*

Matthew Guza, ITP, 2016.  
Daniel McIntosh, ITP, 2008.  
Radu Popescu, ITP, 2006.  
Shannon Gunaji, ITP, 2006.  
Joshua Wimpey, Economics, 2004.  
Evan Galbraith, Economics, 2004.  
Perin Gertz, ITP, 2004.  
Joshua Marsh, ITP, 2004.  
Mary Karnes, ITP, 2003.  
Melwyn Pereira, ITP, 2002.  
Amol Bhagwat, ITP, 2001.  
John Schuster, ITP, 2001.  
Frank Ohrtman, ITP, 2001.  
Darren Singleton, ITP, 2001.

### *Honors Advisor*

Nutthavuth Tamang, Economics, 2013.  
Shane Afsar, Economics, 2010.  
Brian Patterson, Economics, 2009.  
Natalia Andrea Duque Bernal, Economics, 2008.  
Benjamin Hewitt, Economics, 2006.  
Andrew Polacek, Economics, 2005.

### *Capstone and Independent Study Advisor*

Jason Truong, Economics Independent study, 2016.  
Marco Shaw, Economics Independent study, 2016.  
Piyush Kumar Singh, ITP Independent Study, 2015.  
Nikhil Bhagat, ITP Independent Study, 2013.  
Gabor Molnar, ITP Independent Study, 2012.  
Maria Orms, ITP Independent Study, 2011.  
Aamyam, Neeraj, Zeeshan and Karim, ITP Capstone Paper, 2010.  
Sachin Chitre, Pradeep Jothimani, Krunal Mehta and Tushar Paradkar, ITP Capstone Paper, 2009.  
Nathaporn Sarkarung, Shaunak Thakkar, Tom Eide, Steve Schumacher, Erin Rainy, ITP Capstone Paper, 2005.  
Ahmed, S., Kasha, K., Mustafa, K., Salih, A., ITP Capstone Paper, 2002.  
Kanu Gupta, ITP Independent Study, 2008.  
Vineet Bhan, ITP Independent Study, 2003.  
Nana Puangpathumanond, ITP Independent Study, 2001.

## **Service and Outreach**

### Reviewer for Peer-Reviewed Journals

American Economic Journal: Applied Economics; American Economic Journal: Policy; Australian Journal of Economics Education; Contemporary Economic Policy, Eastern Economic Journal; Economic Inquiry; Economic Record; Electronics and Telecommunications Institute Journal; Energy Economics, European Economic Review, Information Economics and Policy; International Economic Review; International Review of Economics Education; Journal of Economic Education; Journal of Industrial Economics; Journal of International Development; Journal of Law and Economics; Journal of Media Economics; Review of Network Economics; Journal of Regulatory Economics; Review of Industrial Organization; Southern Economic Journal; Structural Change and Economic Dynamics; Telecommunications Policy; World Development.

### Reviewer for Government Reports, Books and Conferences

Cambridge University Press; Federal Communications Commission; National Science Foundation; Telecommunications Policy Research Conference; W.W. Norton and Company.

### Conference Session Chair

Western Economic Association, Portland, June, 2016.  
Allied Social Science Associations, Atlanta, January, 2010.  
Allied Social Science Associations, San Francisco, January, 2009.

Western Economic Association, Waikiki, July, 2008.  
Western Economic Association, Seattle, July, 2007.

#### Service: University

Center for Conservative Thought and Policy executive committee, February 2017-  
Center for Conservative Thought and Policy hiring committee, February 2017-.

#### Service: Department of Economics

PUEC committee, August 2009-  
Eaton Travel Sabbaticals committee, August 2015-  
Undergraduate Outcomes Assessment, August 2017-  
Economics department executive committee, January 2013-2015.  
Chair of undergraduate curriculum committee, August 2004-May 2007, August 2008-  
June 2010, and August 2016-December 2016.  
Undergraduate outcomes assessment committee, August 2007-May 2008, August 2011-  
Undergraduate curriculum committee, August 2003-July 2004, August 2011-  
Graduate curriculum committee, August 2011-  
Interdisciplinary education liaison with graduate school, August 2004- July 2005.

#### Service: Interdisciplinary Telecommunications Program

Evaluation committee, December 2017-  
PhD committee, August 2012-December 2017.  
Curriculum committee, August 2004-July 2006.  
Chair of social science curriculum committee, August 2001-July 2004.

#### Outreach

Guest lecture on “Applied Microeconomic Analysis” at the University of Papua New Guinea, May 24, 2017.  
External Academic Program Review Committee, Department of Economics, University of Colorado, Colorado Springs. On site visit and report, March 2-4, 2016.  
Present paper on “Broadband Market Structure and Product Quality,” to Student Economics Club, Department of Economics, December, 2012.  
Discuss the effects of Instructor attire on student learning at “ECulture: ECU Learning and Teaching University Research Event,” Centre for Learning and Teaching, Edith Cowan University, November 5, 2010.  
Review the School of Accounting, Finance and Economics at Annual Meeting of School of Accounting , Finance and Economics, Edith Cowan University, October, 2010.  
Discuss “Empirical Methods in Industrial Organization” at Fudan University, Shanghai, May, 2010.  
Discuss telecom competition at the ITP’s “Managing Effectively in the Changing Telecommunications Environment Workshop,” July, 2008, 2009, 2011 & 2012.  
Guest lecturer for ITP’s Capstone Course, February, 2008.  
Judge for Interdisciplinary Telecommunications Program Spring Challenge 2007.  
Guest lecturer for ITP’s Capstone Course, November, 2006.  
Judge for ITP’s Fall Challenge 2006  
Discuss US residential demand for high-speed Internet at the 3<sup>rd</sup> National Association of Regulatory Utility Commissioners national summit on broadband deployment, Washington, October, 2004.

Discuss incentives for telecom investment, University of Botswana, Gaborone, June, 2003.

Discuss demand for Internet access, University of Dar Es Salaam, Dar Es Salaam, May, 2003.

Curriculum development advisor to “NetTel@Africa: Network for Capacity Building and Knowledge Exchange in ICT Policy, Regulation and Application,” August 2002-July 2003.

Discuss US residential demand for high-speed Internet at the Federal Communications Commission, Washington, April, 2003.

Guest lecturer for the Alliance of Technology, Learning and Society’s Technology, Arts and Media Certificate Program, February, 2003.

## **REFERENCES**

Professor Shane Greenstein

MBA Class of 1957 Professor of Business Administration  
Technology, Operations and Management Unit  
Harvard Business School  
Email: [sgreenstein@hbs.edu](mailto:sgreenstein@hbs.edu)

Professor John Mayo

Professor of Economics, Business and Public Policy, and  
McDonough School of Business  
Georgetown University  
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