# Joel Waldfogel

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#### Education

Ph. D. 1990, Economics, Stanford University

B.A. 1984, Economics, Brandeis University, summa cum laude, with Highest Honors

## **Work Experience**

Associate Dean, MBA and MS Programs, Carlson School of Management, University of Minnesota, 2017-

Strategic Management and Entrepreneurship Department, Carlson School of Management, University of Minnesota

Frederick R. Kappel Chair in Applied Economics and Affiliated Faculty Member, Department of Economics, 2010-

Affiliated Faculty Member, Law School, 2012-Interim Department Chair, March 2014-June 2015

United States Copyright Office, Kaminstein Scholar, June 2021 – present.

National Bureau of Economic Research, Cambridge, MA
Research Associate, Industrial Organization and Law and Economics Programs,
2002-present

Faculty Research Fellow, Law and Economics Program, 1993-2002

Research Associate, ZEW, Mannheim, Germany, 2018-

CESIfo Research Network Fellow, 2019-

Visiting Scholar, Federal Reserve Bank of Minneapolis, 2014-2017

Member, Board of Advisers, Tango Card, Inc., 2010-

Member, Board of Advisers, HowMutch, 2010-

Member, SKEMA Business School, MSc Digital Business Advisory Board (<a href="http://www.skema.edu/programs/masters-of-science/msc-digital-business-advisory-board">http://www.skema.edu/programs/masters-of-science/msc-digital-business-advisory-board</a>)

Business and Public Policy Department, The Wharton School, University of Pennsylvania

Joel S. Ehrenkranz Family Professor, 2003-2010 Department Chair, January 2006 – June 2009 Professor, 2001-2003 Associate Professor, 1997-2001

Associate Vice Dean for the Doctoral Program, The Wharton School, Fall 2000-2005

Dismal Science columnist, *Slate Magazine* (www.slate.com), May, 2006-2009.

Associate Editor, Information Economics and Policy, July 2004-present

Member, Editorial Board, International Review of Law and Economics, Jan. 2004-2014

Member, Editorial Board, B.E. Journals in Economic Analysis & Policy, 2005-2010

Consultant, The World Bank

Project on criminal conviction and labor market outcomes, 1997 Project on media use in African countries, 2007

Yale University Economics Department Associate Professor, 1995-1997 Assistant Professor, 1990-1995

John M. Olin Visiting Faculty Fellow, Yale Law School, Spring 1994

Economist, F.W. Dodge/Data Resources, Lexington, MA, 1985-1987

#### Service

Co-organizer, March 2020 NBER Digitization Meetings, Stanford, CA 2020

Member, NRC/STEP Committee on Advancing Commercialization from the Federal Laboratories, 2019-2021

Founding Board Member, Music Industry Research Association, 2017-present

Chair, Brandeis University Economics Department External Review Committee, 2016

Consultant, Institute for Prospective Technological Studies, European Commission, Sevilla, Spain, 2013-2018

Member, NAS/STEP Committee on the Impact of Copyright Policy on Innovation in the Digital Era, 2010-2011

(<a href="http://sites.nationalacademies.org/PGA/step/copyrightpolicy/index.htm">http://sites.nationalacademies.org/PGA/step/copyrightpolicy/index.htm</a>)

Consultant to the FCC Media Ownership Working Group, 2001-2003

Member, NAS/NRC Committee on Improving Research Information and Data on Firearms, 2001-2004. The panel published a report, *Firearms and Violence: A Critical Review*, National Academy Press, Washington, DC, 2004.

Scientific Organizing Committee, Conference on Media Economics (Bologna, 2007; Zurich, 2008; Siena 2009; New York, 2010; Moscow, 2011)

Co-organizer, 2009 NBER Summer Institute Conference on Industrial Organization

Selection Committee, International Industrial Organization Conference, Media Topics, 2008, 2009, 2010

#### **Distinctions**

Carlson School of Management, MBA Core Teacher of the Year, May 2019

Carlson School of Management, MBAA, Teaching Innovator of the Year, May 2016

Carlson School of Management, Outstanding Research Award, 2015.

European Policy on Intellectual Property, 2015, Best Paper Prize, for "Digitization, Copyright, and the Welfare Effects of Music Trade" (with Luis Aguiar).

Carlson School of Management, Dean's Award for Exceptional Engagement, 2014

Journal of Urban Economics, Highly Cited Author Award, 2004-2008

Marc and Sheri Rapaport Undergraduate Core Teaching Award, The Wharton School, May 2008

Journal of Industrial Economics "Best Article of the Year" Prize, 2006

Monroe-Paine Lecture, University of Missouri, October 2008

First Prize, Mexican Law and Economics Association, for "Do Sentencing Guidelines Raise the Cost of Punishment?" (with Jose Meade), October 1998

Teacher of the Year 1994, Yale Graduate Economics Club

Alfred P. Sloan Dissertation Fellowship, 1989-1990, Stanford University

John M. Olin Fellow, Stanford Law School, Summer 1988

#### Grants

University of Minnesota, Carlson School, Dean's Small Grant Program, 2011 (to support research on trade and welfare in movies)

University of Pennsylvania, Wharton Global Research Initiative, 2009, 2010 (with Fernando Ferreira, to support research on globalization of recorded music industry)

University of Pennsylvania, Real Estate Center, 2004, 2005 (to support research on chain restaurants)

University of Pennsylvania, Mack Center, 2007, 2008, 2009 (to support research on video downloading and the pricing of digital products)

University of Pennsylvania, WebI/Mack Center, 2004, 2005 (to support research on music downloading and recording industry innovation)

University of Pennsylvania, WebI, 2002 (to support research on information intermediaries)

University of Pennsylvania, Wharton Electronic Commerce Forum, 2000 (to support research on the digital divide)

University of Pennsylvania Research Foundation, 1998 (with Kevin Volpp, to support research on the impacts of New Jersey health care reform)

University of Pennsylvania Research Foundation, 1998 (with Jason Scott Johnston, to support research on litigation)

Yale Social Science Faculty Research Fund, 1991, 1994 (with Steve Berry)

NSF Law and Social Science grant no. SBR-9310526, a two year grant with Ian Ayres to support research on race discrimination in Connecticut bail setting, 1993

#### **Books**

- 1. Advancing Commercialization of Digital Products from Federal Laboratories, The National Academies Press, Washington, D.C., 2021 (NRC panel member)
- 2. Digital Renaissance: What Data and Economics Tell Us about the Future of Popular Culture, Princeton University Press, November 2018.
- 3. *Handbook of Media Economics*, vols 1 & 2, Simon Anderson, David Strömberg, and Joel Waldfogel, eds. North Holland, 2015.
- 4. *The Oxford Handbook of the Digital Economy*, Martin Peitz and Joel Waldfogel, eds. Oxford University Press, 2012.
- 5. *Scroogenomics*, Princeton University Press, November 2009. (Translated into Japanese, Chinese, 2010; German, Italian, 2011).
- 6. *The Tyranny of the Market*, Harvard University Press, Cambridge, MA, October 2007.
- 7. Copyright in the Digital Era: Building Evidence for Policy. The National Academies Press, Washington, DC, 2013 (NRC panel member).
- 8. *Debt, Taxes, and Corporate Restructuring*, co-edited with John B. Shoven, Brookings Institution, Washington, D.C., 1990
- 9. *Firearms and Violence: A Critical Review*, The National Academies Press, Washington, DC, 2004 (NRC panel member).

## **Scholarly Articles in Journals**

- 10. "Playlisting Favorites: Measuring Platform Bias in the Music Industry." (with Luis Aguiar and Sarah Waldfogel), forthcoming, *International Journal of Industrial Organization*.
- 11. "Digitization and Pre-Purchase Information: the Causal and Welfare Impacts of Reviews and Ratings." (with Imke Reimers), *American Economic Review*, 2021 (revised version of NBER working paper 26776).
- 12. Introduction to Special Issue, "Antitrust in the Digital Economy." (with Yossi Spiegel) *Information Economics & Policy*, 2020.

- 13. "Platforms, Power, and Promotion: Evidence from Spotify Playlists." (with Luis Aguiar), forthcoming, *Journal of Industrial Economics*. (revised version of NBER working paper 24713)
- 14. "Digitization and the Rise of "Middle Tail" Strategies. (with Mary Benner), *Strategic Management Journal*, 2020.
- 15. "The Welfare Effects of Spotify's Cross-Country Price Discrimination." *Review of Industrial Organization*, 2020.
- 16. "Dining Out as Cultural Trade." Journal of Cultural Economics, 2019.
- 17. "Discriminatory Product Differentiation: The Case of Israel's Omission from Airline Routemaps." (with Paul Vaaler), *Strategy Science*, 2019.
- 18. "Piracy and new product creation: A Bollywood story." With Rahul Telang. 2018. *Information Economics and Policy*, 43, pp.1-11.
- 19. "The effect of ad blocking on website traffic and quality." With Ben Shiller and Johnny Ryan, *The RAND Journal of Economics*, 2018
- 20. "As streaming reaches flood stage, does it stimulate or depress music sales?" With Luis Aguiar. 2018. *International Journal of Industrial Organization*, *57*, pp.278-307.
- 21. "Digitization and the New Golden Age of Television." In *Innovation Policy and the Economy*, v.17, 2017 (Greenstein, Lerner, and Stern, eds.)
- 22. "How Digitization Has Created a Golden Age of Music, Movies, Books, and Television." *Journal of Economic Perspectives*, 2018.
- 23. Netflix: Global Hegemon or Facilitator of Frictionless Digital Trade? With Luis Aguiar. *Journal of Cultural Economics*, 2017
- 24. "Quality Predictability and the Welfare Benefit of New Products: Evidence from the Digitization of Recorded Music." With Luis Aguiar. 2018. *Journal of Political Economy*, 126(2): 492-524.
- 25. "Throwing the Books at them: Long Run Pricing Strategy at Amazon." (with Imke Reimers), *Southern Economic Journal*, 2017
- 26. "The song remains the same? Technological change and search in the recorded music industry." (with Mary Benner), *Strategy Science*, 2016.
- 27. "Optimal Product Variety in Radio Markets." (with Steve Berry and Alon Eizenberg), *RAND Journal of Economics*, 2016

- 28. "Fixed Costs and the Product Market Treatment of Preference Minorities." June 2014, (with Steve Berry and Alon Eizenberg), *Journal of Industrial Economics*, 2016 (revised version of NBER working paper 20488)
- 29. "Even the Losers Get Lucky Sometimes: New Products and the Evolution of Music Quality since Napster." (with Luis Aguiar), *Information Economics & Policy*, 2016
- 30. "Cinematic Explosion: New Products, Unpredictability, and Realized Quality in the Digital Era." *Journal of Industrial Economics*, 2016
- 31. "Storming the Gatekeepers: Digital Disintermediation in the Market for Books." (with Imke Reimers), *Information Economics & Policy*, 2015.
- 32. "First Degree Price Discrimination Goes to School." *Journal of Industrial Economics* 2015.
- 33. "Pop Internationalism: Has A Half Century of World Music Trade Displaced Local Culture?" (with Fernando Ferreira), *Economic Journal* 2013 (revised version of NBER Working Paper 15964, May 2010)
- 34. "Public Monopoly and Social Efficiency: Evidence from the Pennsylvania Liquor Control Board's Entry Decisions." (with Katja Seim), *American Economic Review* 2013, (revised version of NBER Working paper 16258, August 2010).
- 35. "Movie Piracy and Sales Displacement in a Sample of Chinese College Students." (with Jie Bai) *Information Economics & Policy* 2012
- 36. "Copyright Protection, Technological Change, and the Quality of New Products: Evidence from Recorded Music since Napster," *Journal of Law & Economics* Nov 2012, (revised version of NBER Working paper w17503, October 2011).
- 37. "Copyright Research in the Digital Age: Moving from Piracy to the Supply of New Products," *American Economic Review, Papers and Proceedings*, May 2012.
- 38. "The Challenge of Revenue Sharing with Bundled Song Pricing." (with Benjamin Shiller), *Economic Inquiry*, January 2012.
- 39. "Music Piracy and its Effects on Demand, Supply, and Welfare" in *Innovation Policy and the Economy*, Volume 12, Josh Lerner and Scott Stern, editors, 2012.
- 40. "Music for a Song: An Empirical Look at Uniform Song Prices and its Alternatives." (with Benjamin Shiller), *Journal of Industrial Economics*, December 2011 (revised version of NBER Working Paper 15390, October 2009).

- 41. "The Four P's of Digital Distribution in the Internet Era: Piracy, Pricing, Pie-Splitting, and Pipe Control." *Review of Economic Research on Copyright Issues*, 2010. (keynote lecture, Society for Economic Research on Copyright Issues 2009 World Congress)
- 42. Guest Editor's Introduction (with Martin Peitz), *Information Economics & Policy*, 2010.
- 43. "File Sharing and Sales Displacement in the iTunes Era." *Information Economics & Policy*. 2010.
- 44. "Lost on the Web: Does Web Distribution Stimulate or Depress Television Viewing?" Information Economics & Policy, 2009, (revised version of NBER Working Paper 13497, October 2007)
- 45. "Does Misery Love Company Evidence from Pharmaceutical Markets before and after the Orphan Drug Act." (with Frank R. Lichtenberg) *Michigan Telecommunications and Technology Law Review*, 2009
- 46. "Product Quality and Market Size (with Steve Berry), *Journal of Industrial Economics*, 2010 (revised version of NBER Working Paper 9675)
- 47. "Media Markets and Localism: Does Local News *en Español* Boost Hispanic Voter Turnout? (with Felix Oberholzer-Gee), *American Economic Review*, 2009 (revised version of NBER Working Paper 12317, June 2006).
- 48. "Social Learning and Coordination in High-Stakes Games: Evidence from Friend or Foe" (with Felix Oberholzer-Gee and Matthew White), 2010, *Review of Economics and Statistics*.
- 49. "Close to You? Bias and Precision in Patent-Based Measures of Technological Proximity" (with Mary Benner), *Research Policy*, 2008 (revised version of NBER Working Paper 13322, August 2007).
- 50. Guest Editor's Introduction to Special Issue on the Economics of the Media, *Information Economics and Policy*, October 2007.
- 51. "The Median Voter and the Median Consumer: Local Private Goods and Residential Sorting," March 2008, *Journal of Urban Economics* (revised version of NBER Working Paper 11972, January 2006).
- 52. "Piracy on the Silver Screen" (with Rafael Rob), *Journal of Industrial Economics* Sept. 2007, (revised version of NBER Working Paper 12010, February 2006).

- 53. "Measuring the Effect of Multimarket Contact on Competition: Evidence from Radio Broadcast Ownership Deregulation." (with Julie Wulf), *Contributions to Economic Analysis and Policy*, 2006
- 54. "Does Information Undermine Brand? Information Intermediary Use and Preference for Branded Web Retailers." (with Lu Chen), *Journal of Industrial Economics*, December 2006
  - Recipient of Journal of Industrial Economics "Best Article of the Year" Prize, 2006
- 55. "The *New York Times* and the Market for Local Newspapers." (with Lisa George), *American Economic Review*, 2006.
- 56. "Piracy on the High C's: Music Downloading, Sales Displacement, and Social Welfare." (with Rafael Rob), April 2006, *Journal of Law & Economics* (revised version of NBER Working Paper 10874, November 2004).
  - To be reprinted in Michael Baye and John Morgan, ed., The Economics of E-Commerce, in Edward Elgar series, The International Library of Critical Writings in Economics, Mark Blaug, founding ed.
- 57. "Strength in Numbers: Group Size and Political Mobilization" (with Felix Oberholzer Gee), October 2005, *Journal of Law & Economics* (revised version of NBER Working Paper 8252, April 2001; old title: "Electoral Acceleration: The Effect of Minority Population on Minority Voter Turnout").
- 58. "Do Low-Income Housing Subsidies Increase Housing Consumption?" (with Todd Sinai), *Journal of Public Economics*, December 2005 (revised version of NBER Working Paper 8709, January 2002).
- 59. "Does Consumer Irrationality Trump Consumer Sovereignty?" *The Review of Economics and Statistics*, November 2005.
- 60. "Who Benefits Whom in Local Television Markets?", *Brookings-Wharton Papers on Urban Affairs* 2003
- 61. "Geography and the Internet: Is the Internet a Substitute or a Complement for Cities?" (with Todd Sinai), *Journal of Urban Economics*, July 2004 (revised version of NBER Working Paper 10028, October 2003).
  - Recipient of Journal of Urban Economics Highly Cited Author Award, 2004-2008.
- 62. "Market Reform in New Jersey and the Effect on Mortality from Acute Myocardial Infarction." (with Kevin Volpp, Sankey Williams, Jeffrey Silber J. Sanford Schwartz, and Mark Pauly) *Health Services Research*, April 2003. (revised version of "Competition")

- and the Quality of Hospital Care: Heart Attack Mortality after the Onset of Price Competition in New Jersey," (with Kevin Volpp), mimeo, The Wharton School, July 1998)
- 63. "Preference Externalities: An Empirical Study of Who Benefits Whom in Differentiated Product Markets" *RAND Journal of Economics*, 2003 (revised version of NBER Working Paper 7391, October 1999)
- 64. "Who Affects Whom in Daily Newspaper Markets?" (with Lisa George), *Journal of Political Economy*, 2003 (revised version of NBER Working Paper 7944, October 2000)
- 65. "Does Repeat Play Elicit Cooperation? Evidence from Federal Civil Litigation," (with Jason Johnston), *Journal of Legal Studies*, 2002
- 66. "Gifts, Cash, and Stigma," Economic Inquiry, 2002
- 67. "Race and Radio: Preference Externalities, Minority Ownership, and the Provision of Programming to Minorities" (with Peter Siegelman), *Advances in Applied Microeconomics*, volume 10, 2001
- 68. "Do Mergers Increase Product Variety? Evidence from Radio Broadcasting," (with Steven Berry), *Quarterly Journal of Economics*, 2001, (revision of April 1999 NBER Working Paper 7080 entitled "Mergers, Entry, and Programming Variety in Radio Broadcasting")
- 69. "The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart," (with Jeffrey Milyo) American Economic Review, 1999, (revision of March 1998 NBER Working Paper 6488)
  - Reprinted in Kyle Bagwell, ed., *The Economics of Advertising*, in Edward Elgar series, *The International Library of Critical Writings in Economics*, Mark Blaug, ed.
- 70. "Free Entry and Social Inefficiency in Radio Broadcasting," (with Steven Berry), *RAND Journal of Economics*, 1999, (revision of April 1996 NBER Working Paper 5528)
  - Reprinted in Paul Joskow and Michael Waterson, eds., *Empirical Industrial Organization*, in Edward Elgar series, *The International Library of Critical Writings in Economics*, Mark Blaug, ed.
- 71. "Public Radio in the U.S.: Does it Correct Market Failure or Cannibalize Commercial Stations," (with Steven Berry), *Journal of Public Economics*, 1999, (revision of June 1997 NBER working paper 6057)
- 72. "Toward a Taxonomy of Disputes: New Evidence through the Prism of the Priest/Klein Model," (with Peter Siegelman), *The Journal of Legal Studies*, January 1999

- 73. "The Deadweight Loss of Christmas: Reply," *American Economic Review*, December 1998
  - Reprinted in *Problèmes Économiques*, December 22, 1999
- 74. "Reconciling Asymmetric Information and Divergent Expectations Theories of Litigation," *Journal of Law & Economics*, October 1998 (revision of February 1998 NBER Working Paper 6409)
- 75. "Are Empirically Based Sentencing Guidelines Justified by Inter-Judge Disparity?," *International Review of Law and Economics*, September 1998
- 76. "The Effect of Conviction on Income through the Life Cycle," (with Daniel Nagin), *International Review of Law and Economics*, March 1998
- 77. "The Best Business Schools: A Market Based Approach," (with Joseph Tracy), *Journal of Business*, January 1997
- 78. "The Deadweight Loss of Christmas: Reply," *American Economic Review*, December 1996
- 79. "Sentencing Policy, Implied Demographic Welfare Weights, and the Theory of Sentencing Reform," *Journal of Public Economics*, 1996
- 80. "The Administrative and Compliance Cost of Manual Highway Toll Collection: Evidence from Massachusetts and New Jersey," (with David A. Friedman), *National Tax Journal*, June 1995
- 81. "The Selection Hypothesis and the Relationship between Trial and Plaintiff Victory," *Journal of Political Economy*, April 1995
  - Reprinted in Chris William Sanchirico, ed., Economics of Evidence, Procedure, and Litigation, in Edward Elgar series, Economic Approaches to Law, Richard Posner and Francesco Parisi, series eds.
- 82. "Are Fine and Prison Terms Used Efficiently?: Evidence on Federal Fraud Offenders," *Journal of Law & Economics*, April 1995
  - Reprinted in Isaac Ehrlich and Zhiqiang, eds., *The Economics of Crime*, in Edward Elgar series, *The International Library of Critical Writings in Economics*, Mark Blaug, ed.
- 83. "The Effects of Criminality and Conviction on the Labor Market Status of Young British Offenders," (with Daniel Nagin) *International Review of Law and Economics*, 1995

- 84. "Measuring the Effects of Restructuring on Corporate Performance: The Case of Management Buyouts," (with Scott Smart), *Review of Economics and Statistics*, 1994
- 85. "A Market Test for Race Discrimination in Bail Setting," (with Ian Ayres), *Stanford Law Review*, May 1994
  - Reprinted in Ian Ayres, *Pervasive Prejudice?*, Univ. of Chicago Press, 2001
- 86. "Does Conviction Have A Persistent Effect on Income and Employment?," *International Review of Law and Economics*, March 1994
- 87. "The Effect of Criminal Conviction on Income and the 'Trust Reposed in the Workmen'," *Journal of Human Resources*, Winter 1994
- 88. "The Deadweight Loss of Christmas," American Economic Review, December 1993
  - Reprinted in Caroline Kennedy, A Family Christmas, Hyperion Books, 2007.
- 89. "Sentences as Endogenous Taxes: Are they 'Just' or 'Efficient'?," *Journal of Law & Economics*, April 1993
- 90. "Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium," (with John Shoven and Scott Smart), Spring 1992, *Journal of Economic Perspectives*

## Other Publications (Chapters, etc.)

- 91. "Copyright and technological change in music, movies, and books. In *Research Handbook on the Economics of Intellectual Property Law*. Edward Elgar Publishing. 2019.
- 92. "Preference Externalities in Media Markets." Simon Anderson and Joel Waldfogel. *In Handbook of Media Economics*, Anderson, Strömberg, and Waldfogel, eds.
- 93. "Empirics of Media Markets." Steven Berry and Joel Waldfogel, In *Handbook of Media Economics*, Anderson, Strömberg, and Waldfogel, eds.
- 94. "Digitization, Copyright, and the Flow of New Music Products." in *The Handbook of Cultural Economics*, Victor Ginsburgh and David Throsby, eds.
- 95. "And the Bands Played On: Digital Disintermediation and the Quality of New Recorded Music." Carlson School, June 2012. In *Economics of Digitization: An Agenda*, Greenstein, Goldfarb, and Tucker. Eds.
- 96. "File Sharing in Music and Movies: Empirics" a chapter in the Oxford Handbook of the Digital Economy, Martin Peitz and Joel Waldfogel, eds. 2012.

- 97. "Who Benefits Whom in the Neighborhood? Demographics and Retail Product Geography" in Edward Glaeser, *Agglomeration Economics*, University of Chicago Press, 2010.
- 98. "National Media and Local Political Participation: The Case of the New York Times" (with Lisa George), in *Information and Public Choice: From Media Markets to Policymaking*, The World Bank.
- 99. "Minority-Targeted Local Media and Voter Turnout: A Summary." in *Information and Public Choice: From Media Markets to Policymaking*, The World Bank.
- 100. "Should We Regulate Media Ownership?" in *Media Diversity and Localism: Meaning and Metrics*, 2006.
- 101. "The Selection of Cases for Trial," The New Palgrave Dictionary of Economics and *the Law*, May 1998
- 102. "Tax Policy, Saving, and Pension Funding," in *Pensions, Savings, and Capital Markets*, U.S. Dept. of Labor, 1996.
- 103. "Criminal Sentences: Are they Just or Efficient?," Economic Times, Spring 1995
- 104. "Which Flowers Will Bloom? Reactions to the USSC Research Conference," *Federal Sentencing Reporter*, July/August 1993.
- 105. "Guest Editor's Observations: Narrow Questions, Overstated Answers," *Federal Sentencing Reporter*, Nov./Dec. 1992./
- 106. "Aggregate Inter-Judge Disparity in Federal Sentencing: Evidence from Three Districts," *Federal Sentencing Reporter*, Nov./Dec. 1991

### **Active Working Papers**

- 107. "Individualized College Pricing and the Tradeoff between Revenue and Student Characteristics," March 2021.
- 108. "GDPR and the Lost Generation of Innovative Apps," (with Rebecca Janssen, Reinhold Kessler, and Michael Kummer), August 2020.
- 109. "Digitization and its Consequences for Creative-Industry Product and Labor Markets." To appear in NBER volume, The Role of Innovation and Entrepreneurship in Economic Growth

- 110. "Preference Externalities and the Rise of China: Measuring their Impact on Consumers and Producers in Global Film Markets" (with Fernando Ferreira and Amil Petrin), October 2016.
- 111. "Does Digitization Threaten Local Culture? Music in the Transition from iTunes to Spotify" (with Aguiar and Gomez-Herrera) February 2017
- 112. "Copyright and Technological Change in Music, Movies, and Books" Joel Waldfogel In preparation for Peter S. Menell & David L. Schwartz (eds.), Research Handbook on the Economics of Intellectual Property Law (Vol. II -- Analytical Methods) (Edward Elgar Publishing, forthcoming 2016).
- 113. "Digitization, DSM, and their Effects on Motion Picture Consumers and Producers." Luis Aguiar, July 2015
- 114. "Copyright, Digitization and World Trade in Recorded Music," With Luis Aguiar. Working paper. December 2013.
- 115. "Digitization, Gravity, and the Long Tail in Recorded Music." With Estrella Gomez Herrera and Bertin Martens. Working paper, November 2013.

### **Inactive Working Papers**

- 116. "Faculty Preferences for Unionization: Evidence from Open Letters and two Research Universities." March 2016
- 117. "Bye, Bye, Miss American Pie: The Supply of New Recorded Music Since Napster." The Carlson School, University of Minnesota, January 3, 2011.
- 118. "The Long Run Effect of Price Advertising on Prices" (with Jeff Milyo), mimeo, The Wharton School, January 2001
- 119. "Do Noncommercial Hospitals Cannibalize Commercial Hospitals or Serve the Medically Needy?" (with Douglas Leslie), mimeo, The Wharton School, February 1998
- 120. "Do Sentencing Guidelines Raise the Cost of Punishment?" (with Jose Meade), NBER Working Paper 6361, January 1998
- 121. "A Citation-Based Test for Discrimination at Economics and Finance Journals," (with Scott Smart), NBER working paper 5460, February 1996

122. "Bargaining in the Shadow of the Judge," (with Orley Ashenfelter), mimeo, Princeton University, February 1993

## Reports

- 123. "Data Needs for Monitoring Evolution of the Copyright-Protected Industries" (draft title of draft report prepared for WIPO), October 2014.
- 124. "Radio Station Ownership Structure and the Provision of Programming to Minority Audiences: Evidence from 2005-2009" (Washington, DC: FCC, July 2011)
- 125. "Station Ownership and the Provision and Consumption of Radio News." (Washington, DC: Federal Communications Commission: June, 2011)
- 126. "Consumer Substitution among Media" (Washington, DC: FCC Media Ownership Working Group), October 2002
- 127. "Conviction and Labor Market Outcomes: the Existing Literature and its Possible Relevance to Developing Countries," prepared for The World Bank, October, 1997

### **Doctoral Students Advised**

Minnesota (Economics PhD students unless otherwise noted)

Member, David Zepeda, Carlson School (Northeastern Univ)

Member, Brian Adams (initial Calif State East Bay, now Bureau of Labor Statistics)

Member, Lydia Cheung, (Auckland Univ of Tech)

Member, Maryam Saedi (initial Ohio State Univ, now Carnegie Mellon)

Member, Minjung Park

Member, Imke Reimers (Northeastern Univ)

Member, Chunying Xie (NERA)

Member, Kevin Williams (Yale SOM)

Member, Tom Quan (initial Univ of Georgia, now Wayfair)

Member, Keaton Miller (Univ of Oregon)

Member, Boyoung Seo (Kelley School, IU)

Member, Bitmaro Kim (Korean Institute for Public Finance)

Member, Kailin Clarke (Amazon)

Member, Ethan Singer (Compass Lexecon)

Member, Min Jung Kim, Carlson School (University of Illinois)

Member, Dominic Smith (Bureau of Labor Statistics)

Member, Aradhya Sood (University of Toronto)

Member, Jonathan Borowsky (Boston Univ postdoc)

Member, Sergiy Golovin (Amazon)

Member, Vitoria Rabello De Castro (Keystone Strategy)

Member, Samuel Bailey (USDA)

Member, Conor Ryan (Penn State Econ)

### Wharton

Member, Ben Shiller, Brandeis University

Chair, Brett Danaher, initial Wellesley College, now Chapman University.

Member, David Song

Member, Leslie Schafer, PricewaterhouseCoopers.

Member, Ted Goodman, University of Arizona

Member, Gilbert Gimm, Mathematica

Member, Hart Posen, initial University of Michigan, now University of Wisconsin

Chair, Mike Gessner. Economic Analysis LLC.

Member, Ted Buckley, McKinsey

Member, Mike Furukawa, Arizona State Univ.

Member, Gus DeFranco, 2004, Univ. of Toronto, Accounting

Chair, Lisa George, 2001, Hunter College

Member, Phanish Puranam, 2001, London Business School

Member, Kate Bundorf, 2000, Stanford Medical School

Member, Kevin Volpp, 1998, Penn Medical School

Member, Linda Bornyaz, 1998

#### Yale

Chair, Jose Meade, 1997, ITAM

Chair, Doug Leslie, 1997, Veteran's Administration

Member, Jessica Holmes, 1998, Middlebury College

Member, Kristin Mancini, 1997

Member, David Popp, 1997, Syracuse University

Member, Peter Siegelman, 1991, University of Connecticut Law School

Member, Emmanuel Thorne, 1992

#### **Seminars**

#### 2020-2021

- Keynote Speaker, Applied Economics Workshop (Taiwan, Singapore, Hong Kong), November 2020
- NBER Digitization Conference, March, 2021
- NBER Digitization Doctoral Tutorial, March 2021
- University of Minnesota, Economics Department, February 2021

- CIREQ Montreal Applied Economics Conference, April 2021
- NBER Summer Institute IO, Education, July 2021
- Keynote, ACEI 21th International Conference of Cultural Economics, July 2021

#### 2019-2020

- University of Georgia, Department of Economics, October 2019
- University of Georgia, Public Talk on Digital Renaissance, October 2019
- Spotify Event, Austin Texas, October 2019
- University of Zurich Media Conference, October 2019
- Israel IO Day, Keynote, December 2019
- University of Giessen, Economics Department, November 2019
- University of Giessen, Book Conference, Keynote, November 2019
- Cornell University Dyson School, December 2019
- ITAM, Mexico City, April 2020
- HEC conference on concentration and market power, April 2020 (cancelled)
- Queens Univ. Media Conference, June 2020 (cancelled)
- National Association of Business Economics Webinar, Digital Renaissance, April 2020
- Virtual Digital Economy Seminar, April 2020

#### 2018-19

- Harvard Business School Digital Initiative, October 2018
- Johns Hopkins University Economics Department, October 2018
- Federal Communications Commission, November 2018
- Toulouse School of Economics, Suzanne Scotchmer Memorial Lecture, January 2019
- ZEW, Mannheim, January 2019
- Florida Antitrust Conference, Gainesville, March 2019
- NBER Digitization Tutorial Speaker, Stanford, March 2019
- Harvard Business School Platform Strategy Conference, March 2019
- University of Wisconsin, Madison, April 2019
- MusicBiz, Nashville, May 2019
- Amazon, Seattle, May 2019
- Strategy Science Conference, Univ of Utah, May 2019
- UC Davis, May 2019
- Keynote, CESIfo Venice Summer Institute, Venice, June 2019
- Keynote, 3<sup>rd</sup> Annual Wine & Hospitality Conference, Cornell UNiv, New York, June 2019
- ZEW ICT Conference, Mannheim, June 2019
- Western Economics Association, San Francisco, July 2019 (organized and chaired a "president's" session on media economics)

- NBER Innovation Conference "Beyond 144 Characters," Cambridge, July 2019
- 2019 Entertainment Analytics Conference, Los Angeles, August 2019

#### 2017-18

- ZEW ICT Conference, Mannheim, June 2017
- Western Economics Association Meetings, San Diego, June 2017
- NBER Digitization Summer Institute (discussant), July 2017
- NBER Industrial Organization Summer Institute (discussant), July 2017
- Music Industry Research Association (MIA), Los Angeles, August 2017
- University of British Columbia Strategy Dept. Sept 2017
- Invited Public Lecture, University of Florence, December 2017
- University of Florence Economics Department, December 2017
- University of Bologna Economics Department, December 2017
- Keynote, LINKS/Univ of Haifa conference on Content Creation, February 2018
- University of Tel Aviv, February 2018
- University of Minnesota IDSC Department, March 2018
- Georgia State Univ, March, 2018
- Georgia Tech Univ, March 2018
- European Commission Joint Research Center Seville, March 2018.
- NYU Copyright Royalty Board Conference (moderator), March 2018
- Digitization Keynote, Munich Summer Institute, June 2018.

## 2016-17

- Invited Talk, EARIE Conference, Lisbon, August 2016
- NYU Marketing, September 2016
- University of Minnesota Law School, October 2016
- University of Minnesota Humphrey School, October 2016
- Zurich Media Economics Conference, October 2016
- Federal Communications Commission, Washington DC, November 2016
- HBS Strategy, December 2016
- University of Maryland, Strategy, Spring 2017
- Toulouse School of Economics, Economics of Intellectual Property, Software, and the Internet conference, January 2017
- University of Virginia Economics, Spring 2017
- Notre Dame Economics Department, Spring 2017
- Keynote, Tilburg University, Media Law and Economics, Spring 2017

- NBER Summer Institute, Law & Economics, July 2015
- NBER Summer Institute, Digitization (discussant), July 2015
- Invited Speaker, SEEK Digital Economy Workshop, Collegio Carlo Alberto, Turin Italy, June 2015

- "The Future of Research in the Digital Society," Musée du Quai Branly, Paris France (sponsored by the Toulouse School of Economics), June 2015.
- Keynote, 10<sup>th</sup> Annual EPIP (European Policy on Intellectual Property), Glasgow, September 2015
- Intellectual Property Law & Economics Handbook Conference, Chicago, August 2015
- Invited Speaker, AIEA-NBER Conference on the Economics of Innovation and Entrepreneurship, Tokyo, August, 2015
- Research Institute of Economy, Trade & Industry, Tokyo, August 2015
- World Intellectual Property Organization, Geneva, October 2015
- Guest Lecturer, ETH Zurich and University of Zurich, October 2015
- Duke Center for Innovation Conference: The Future of Video Competition, Washington DC, October, 2015
- Toulouse School of Economics, November 2015
- The Future of the Book, Toulouse, January 2016
- Economics of Intellectual Property, Software and the Internet, Toulouse, January 2016
- NBER Digitization Tutorial Speaker, February 2016
- University of Minnesota Economics Department, March 2016
- NBER Innovation Policy and the Economy conference, Washington DC, April 2016
- Harvard Business School, Digital Initiative Discussion & Symposium, May 2016
- United States Patent & Trademark Office seminar, May 2016
- Institute for Prospective Technological Studies, Sevilla, May 2016

- Invited speaker, Summer Institute on Competitive Strategy, Haas School of Business, July 2014
- NBER Digitization/IO Summer Institute, presenter, July 2014
- Econometric Society Meetings, Minneapolis, June 2014
- Yale University Economics, October 2014
- Penn State Economics, October 2014
- University of Michigan Economics, October 2014
- NYU Empirical IP Research Conference, October 2014
- USPTO/Chicago-Kent Empirical Intellectual Property roundtable, September 2014
- Fourth Annual Research Roundtable on the Law and Economics of Digital Markets, Northwestern University School of Law in Chicago, IL on October 9-10, 2014
- Stanford GSB/Economics joint applied micro seminar, November 2014
- ASSA/AEA meetings, January 2015, Boston
- Keynote speaker, CREATe conference on 'THE ECONOMICS OF CREATIVITY AND COMPETITION: NEW MARKETS, NEW CHALLENGES', February 2015, University of East Anglia.

• Institute for Prospective Technological Studies, Seville, Spain, May 2015

### 2013/14

- NBER Digitization Summer Institute, Discussant, July 2013
- Keynote speaker, 8<sup>th</sup> Annual EPIP (European Policy on Intellectual Property) Conference, Paris, September 2013
- DG MARKT seminar, European Commission, Brussels, September 2013
- Innovation Seminar, Haas School, Berkeley, September 2013 (scheduled)
- Keynote speaker, Annual Media Economics Conference, Tel Aviv, October 2013
- University of Minnesota Law School
- Washington University Olin School, December 2013
- UCLA Anderson School, January 2014
- Presenter, NBER Digitization Conference, Stanford, CA, February 2014
- Columbia University Media Seminar, March 2014.
- European Commission/IPTS Conference on Copyright, Brussels, March 2014.
- Speaker, Technology Policy Institute Panel, May 2014
- Moderator, Becker/Friedman Conference on Media Economics, May 2014
- IPTS, Seville, Spain, May 2014

#### 2012/13

- Keynote speaker, Workshop on Competition Policy and Regulation in Media and Telecommunications, Tilburg, May 2013
- NBER Digitization Summer Institute, Discussant, July 2013
- AP Economics Professional Night Speaker, Cincinnati, June 2013
- Keynote speaker, Workshop on the Law and Economics of Intellectual Property and Competition Law, International Max Planck Research School, June 2012
- Keynote speaker, Conference on Economics of ICT, Ecole Polytechnique Paris, October 2012
- Keynote Speaker, Vienna Music Business Days, Vienna, June 2012
- Invited Speaker, Conference on Policing the Internet, European University Institute, Florence, December 2012
- Searle Center, Northwestern, Conference of Copyright, September 2012
- Katholike Univ Leuven, Economics Department, October 2012
- Harvard Business School, Digital/Networks Seminar, October 2012
- Boston University, School of Management, November 2012
- SERCI World Congress, Washington DC, July 2012
- NBER Sumer Institute, Digitization, July 2012
- Berkeley iSchool & Berkeley Econ, March 2013
- MIT Econ IO Seminar, March 2013

#### 2011/2012

• DRUID conference, June 2011

- UBC Summer IO Conference, Invited Speaker, July 2011
- NBER Digitization Group Conference, July 2011
- Northwestern/Searle Center Conference on Copyright, June 2011
- Minnesota Economics Association, Invited Lunchtime Speaker, October 2011
- Economics of Media Conference, Moscow, October 2011
- University of Toronto, Rotman School, November 2011
- HEC, Montreal, November 2011
- Indiana University, December 2011
- American Economics Association Meetings, Chicago, 2012
- NBER Winter IO Meetings, Stanford, February 2012
- University of Chicago Booth, May 2012

#### 2010/2011

- Technology Policy Institute Aspen Forum, Aspen Colorado, August 2010
- NYU Stern Economics Group, October 2010
- Economics of Media Conference, Hunter College, October 2010
- University of Wisconsin-Madison, Department of Economics, November 2010
- FCC, December 2010
- Curb Center, Washington DC, December 2010
- Keynote speaker, WISE 2010, St Louis, December 2010
- OECD Expert's Meeting on Trade in Audiovisual Services, Paris, April 2011
- EU Meeting on Digitization, Seville, June 2010
- National Research Council Digitization Committee, June 2010

#### 2009/2010

- University of Illinois, September 2009
- University of Texas, McCombs, October 2009
- Ohio State Economics, December 2009
- London Business School, December 2009
- London School of Economics (public talk), December 2009
- Royal Society for the Arts (public talk), London, December 2009
- University of Minnesota, Carlson School, January 2010
- Carnegie Mellon, Heinz College, February 2010
- NBER Winter IO Meetings, Palo Alto, February 2010
- Invited Speaker, Society for Economic Research on Copyright Issues (SERCI) Congress, Cartagena, Colombia, July 2010

- LSE, June 2009
- Invited Speaker, TILEC (Tilburg) conference on law and economics of media, June 2009
- TPRC, Washington DC, September 2008
- INFORMS, Washington DC, October 2008
- QME, New York, October 2008

- Ohio State University, October 2008
- University of Michigan, November 2008
- Kellogg, Northwestern, December 2008

#### 2007/2008

- Conference on Media Economics, Bologna, October 2007
- Keynote Speaker, Economics Network for Competition and Regulation (ENCORE), May 2008, Hilversum, the Netherlands
- Invited Speaker, Economics of Information and Communication Technologies, ZEW, July 2008, Mannheim, Germany
- Symposium on Statistical Challenges in Electronic Commerce, NYU, May 2008.
- NBER Summer Institute IO, July 2008.

### 2005/2006

- NBER Summer Institute IO (discussant)
- NYU IO Day
- Fundacion Ramon Areces (Madrid)
- University of Chicago GSB
- AEA Meetings, Boston (Presenter: Urban Economics, Internet and Entertainment Industries; Discussant: Innovation)
- St. Johns Law School, Media Diversity Conference
- Wharton, Mack Center Mini-Conference, Discussant

#### 2004/2005 Seminars

- Yale University Econ/SOM
- USDA Product Differentiation Conference
- Harvard Business School Strategy Group
- Cornell Economics
- Berkeley/Haas
- NBER Urban Economics Conference
- Jan 2005 AEA Meetings (discussant)
- European Center for Advanced Research in Economics and Statistics, Belgium
- ENST, France

## 2003/2004 Seminars

- NYU IO day
- Syracuse
- Dartmouth/Tuck
- Brookings Institution
- Wharton Decision Processes seminar
- Stanford Graduate School of Business (Econ & Political Economy Seminars)
- Wharton Management Department, Evolution of Organizations and Industries Seminar
- Ford Foundation Media Conference at Fordham Univ.

- Wharton Marketing Seminar
- NBER IO Winter Meetings (discussant)
- University of Toronto, Rotman School
- Kellogg
- Wharton Management Strategy and the Business Environment, discussant
- Columbia University media ownership conference
- Wharton Summer Applied Economics Seminar
- NBER Law & Econ Summer Institute
- NBER Innovation Summer Institute (discussant)
- NBER IO Summer Institute (discussant)

#### 2002/2003 Seminars

- Speaker at University of Pennsylvania Economics Day
- Panel Member, Mediatank Public Forum on Media Ownership in Philadelphia with FCC Commissioner Michael J. Copps (May 7<sup>th</sup>, 2003)
- Wharton Summer Applied Economics Seminar
- Virginia Econ
- Carnegie Mellon University Strategy Seminar
- MIT Econ
- NBER Winter Industrial Organization Meetings, Stanford

#### 2001/2002 Seminars

- Harvard University Econ
- George Mason University
- Rutgers University Econ
- NYU (Stern)
- University of Pennsylvania (Wharton)
- Dartmouth (Tuck and Econ)
- NBER Innovation Summer Institute

### 2000/2001 Seminars

- 28<sup>th</sup> Annual Telecommunications Policy Research Conference
- University of Wisconsin, Madison, Economics Department
- Stanford GSB
- Duke Fuqua
- Washington Univ (Olin)
- Michigan State Univ Econ Dept.
- Univ of Illinois Econ Dept.
- Brandeis University Economics Dept.
- Cal Berkeley (Haas)

### **Other Professional Activities**

Referee, American Economic Review; American Journal of Political Science; Journal of Law and Economics; International Review of Law and Economics; National Tax

Journal; Journal of Political Economy; Quarterly Journal of Economics; Journal of Law, Economics, and Organization; Journal of Industrial Economics; Management Science; Journal of Labor Economics; Journal of Economic Education; Journal of Policy Analysis and Management; RAND Journal of Economics.

#### Personal

Married to Mary J. Benner; two children (born 12/93 and 2/96)

## **University of Minnesota Service**

### 2019-2020

• Associate dean for MBA and MS programs

### 2018-2019

• Associate dean for MBA and MS programs

#### 2017-2018

• Associate dean for MBA and MS programs

### 2016-2017

- Chair, Faculty Consultative Committee, Carlson School of Management
- Member, Economics Department Search Committee
- Member, Online Instructional Designer Search Committee
- Co-chair, Carlson School Online Implementation Team
- Member, doctoral committee, Strategic Management and Entrepreneurship
- Chair, Carlson School Reading Committee (fall)

#### 2015-2016

- Member, Public Engagement College Leaders Roundtable, University of Minnesota
- Member, doctoral committee, Strategic Management and Entrepreneurship
- Member, Economics Department Search Committee
- Member, Faculty Consultative Committee, Carlson School of Management
- Member, Senate Research Committee, University of Minnesota
- Member, Online Instructional Designer Search Committee
- Co-chair, Carlson School Online Implementation Team

### 2014-2015

- Interim Chair, Strategic Management and Entrepreneurship Department
- Member, Economics Department Search Committee

- Co-chair, Carlson School Online Implementation Team
- Member, doctoral committee, Strategic Management and Entrepreneurship
- Chair, Carlson School Reading Committee

#### 2013-2014

- Chair, doctoral committee, Strategic Management and Entrepreneurship Department (equivalent of departmental director of graduate studies)
- Member, Appointments Committee, Carlson School
- Member, Faculty Consultative Committee, Carlson School
- Member, Faculty Senate, University of Minnesota
- Member, Senate Research Committee, University of Minnesota
- Member, Economics Department Search Committee
- Organizer, Carlson School Summer Business Economics Seminar

#### 2012-2013

- Faculty chair, Carlson School Committee on Part Time Online Courses
- Member, SME Recruiting Committee
- Member, University of Minnesota Faculty Senate
- Member, Department of Economics Search Committee
- Chair, Carlson School Tenure Reading Committee (1)
- Member, SOBACO grant review committee
- Member, Carlson School Faculty Consultative Committee
- Organizer, Carlson School Summer Business Economics Seminar

### 2011-2012

- Carlson School Appointments Committee
- University of Minnesota Faculty Senate
- Carlson Faculty Evaluation Reading Committee

## 2010-2011

• Carlson School Reading Committees (3)

### **University of Pennsylvania Service**

### 2008/2009

- Member, Planning Committee, Penn Program on Democracy, Citizenship, and Constitutionalism
- Member, Wharton School Publishing Editorial Board
- Member, Wharton School Committee of Faculty Attraction and Retention
- Chair, Business and Public Policy Search Committee

- Chair, Marketing Department Quinquennial Review Committee
- Member, Wharton School Faculty Survey Steering Committee

• Member, Planning Committee, Penn Program on Democracy, Citizenship, and Constitutionalism

### 2004/2005

- Chair, Wharton Undergraduate Curriculum Review Committee
- University of Pennsylvania, Council of Graduate Faculties, member
- Wharton Doctoral Executive Committee, member
- Co-Organizer, Wharton Scholars Undergraduate Research Program

#### 2003/2004

- Wharton Applied Economics Seminar, co-organizer
- Chair, Business and Public Policy Doctoral Admissions Committee
- Member, BPUB Q-Review Committee
- Business and Public Policy Search Committee, Chair
- University of Pennsylvania, Council of Graduate Faculties, member
- Wharton Doctoral Executive Committee, member
- Co-Organizer, Wharton Scholars Undergraduate Research Program

#### 2002/2003

- Wharton Personnel Committee, member
- Wharton Doctoral Executive Committee, member
- Wharton Applied Economics Seminar, organizer
- Business and Public Policy Doctoral Coordinator
- Business and Public Policy Search Committee, Chair
- University of Pennsylvania, Council of Graduate Faculties, member
- University of Pennsylvania, Committee on Doctoral Degree Requirements, Rules and Regulations, member

### 2001/2002

- Wharton Personnel Committee, member
- Wharton Doctoral Executive Committee, member
- Wharton Applied Economics Seminar, co-organizer
- Business and Public Policy Doctoral Coordinator
- University of Pennsylvania, Council of Graduate Faculties, member
- University of Pennsylvania, Strategic Planning Committee (Doctoral Education)

### 1999/2000

- Wharton Research Policy Committee, member
- Wharton Applied Economics Seminar, co-organizer
- Public Policy and Management Ph.D. Program Committee
- Wharton Ad Hoc Committee on the Doctoral Program, chair
- Wharton Summer Applied Economics Seminar, founder and organizer

## 1998/1999

• Wharton MBA Curriculum Review Committee, member

- Wharton Research Policy Committee, member
- Wharton Applied Economics Seminar, co-organizer
- Public Policy and Management Ph.D. Program Committee
- Wharton Summer Applied Economics Seminar, founder and organizer

- Wharton MBA Curriculum Review Committee, member
- Public Policy and Management Ph.D. Program Committee
- Wharton Summer Applied Economics Seminar, founder and organizer