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CONTACT

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EDUCATION

1996, *PhD in Economics*, University of Chicago
Full scholarship from the University
Thesis: “*An Evaluation of Technology Diffusion Models and Their Implications*”
Field specializations: urban economics, agricultural economics
1993, *MA in Economics*, University of Chicago
Full scholarship from the University
1991, *BS in Economics and Systems Analysis, Mathematics Minor, summa cum laude*, Southern Methodist University
Full scholarship from the University
Honors, Departmental Distinction

PROFESSIONAL EXPERIENCE

1996 - Present, Compass Lexecon

2011 - Present, *Editor, Antitrust Magazine Online / Antitrust Source*, American Bar Association

Compass Lexecon Chicago Management Committee, 2021 – Present; Executive Committee 2025 – Present

Chief of staff for numerous engagements, including the overall chief of staff for the economics analysis in the AT&T / Time Warner merger and trial – *United States of America v. AT&T, Inc., et al.* – and the FTC / Meta antitrust trial – *Federal Trade Commission v. Meta Platforms, Inc.*

TESTIMONY AND REPORTS

- Testimony, Before the U.S. District Court, Southern District of New York, Civil Action No. 1:25-cv-07463, November 5, 2025.
- Rebuttal Expert Declaration, Before the U.S. District Court, Southern District of New York, Civil Action No. 1:25-cv-07463, October 17, 2025.
- Deposition, Before the U.S. District Court, District of New Jersey, Case No. 19-cv-15962-JXN-LDW, CommScope, Inc. v. Rosenberger Technology, et al., October 9, 2025.
- Declaration, Before the Federal Communications Commission, In the Matter of Amendment of Section 73.3555 of the Commission’s Rules, National Television Multiple Ownership Rule, MB Docket No. 17-318, September 16, 2025
- Amended Expert Report, Before the U.S. District Court, District of New Jersey, Case No. 19-cv-15962-JXN-LDW, CommScope, Inc. v. Rosenberger Technology, et al., September 12, 2025.

- Expert Report, Before the U.S. District Court, District of New Jersey, Case No. 19-cv-15962-JXN-LDW, CommScope, Inc. v. Rosenberger Technology, et al., October 18, 2024.
- Ex Parte White Paper, Before the Federal Communications Commission, In the Matter of Safeguarding and Securing the Open Internet, WC Docket No. 23-320, April 18, 2024.
- Deposition, Before the U.S. District court, District of Delaware, Case No. 1:20-CV-1713-CFC, 1709-CFC, Koninklijke Philips N.V. v. Thales DIS AIS USA, LLC et al., March 8, 2024.
- Ex Parte White Paper, Before the Federal Communications Commission, In the Matter of Safeguarding and Securing the Open Internet, WC Docket No. 23-320, February 23, 2024.
- Reply Expert Report, Before the U.S. District court, District of Delaware, Case No. 1:20-CV-1713-CFC, 1709-CFC, Koninklijke Philips N.V. v. Thales DIS AIS USA, LLC et al., February 13, 2024.
- Expert Report, Before the U.S. District court, District of Delaware, Case No. 1:20-CV-1713-CFC, 1709-CFC, Koninklijke Philips N.V. v. Thales DIS AIS USA, LLC et al., January 10, 2024.
- Declaration, Before the Federal Communications Commission, In the Matter of Safeguarding and Securing the Open Internet, WC Docket No. 23-320, December 14, 2023 (with Mark Israel and Bryan Keating).
- Deposition, Before the U.S. District Court, District of Delaware, Case No. 19-804-MN, NRT Technology Corp. v. Everi Payments Inc., February 22, 2022.
- Reply Declaration, Before the U.S. District Court, Southern District of New York, LG Electronics Inc. v. Dolby Laboratories Inc., February 14, 2022.
- Declaration, Before the U.S. District Court, Southern District of New York, LG Electronics Inc. v. Dolby Laboratories Inc., December 22, 2021.
- Report, Before the U.S. District Court, District of Delaware, Case No. 19-804-MN, NRT Technology Corp. v. Everi Payments Inc., December 17, 2021.
- Declaration, Before the Federal Communications Commission, MB Docket No. 20-254, August 20, 2020 (with Mark Israel).
- Deposition, Before the U.S. District Court, District of New Jersey, Case No. 19-cv-15962-MCA-LDW, CommScope, Inc., v. Rosenberger Technology (Kunshan) Co., LTD., et al., February 17, 2020.
- Declaration, Before the U.S. District Court, District of New Jersey, Case No. 19-cv-15962-MCA-LDW, CommScope, Inc., v. Rosenberger Technology (Kunshan) Co., LTD., et al., January 31, 2020.
- Trial Testimony, Before the International Chamber of Commerce, ICC Case No. 22511/RD, December 21, 2018.
- Report, Before the Federal Communications Commission, MB Docket No. 05-311, December 14, 2018 (with Jonathan Orszag).
- Expert Rejoinder Report, Before the International Chamber of Commerce, ICC Case No. 22511/RD, November 16, 2018.
- Comments on Competition and Consumer Protection in the 21st Century, Federal Trade Commission Hearings, Project Number P181201, August 20, 2018.
- Expert Report, Before the International Chamber of Commerce, ICC Case No. 22511/RD, July 6, 2018 (with Daniel Fischel).
- Reply Declaration, Before the Federal Communications Commission, Protecting Against National Security Threats Through FCC Programs, WC Docket No. 18-89, June 29, 2018.

- Declaration, Before the Federal Communications Commission, Protecting Against National Security Threats Through FCC Programs, WC Docket No. 18-89, May 30, 2018.
- Trial Testimony, Before the U.S. District Court, Eastern District of Wisconsin, Case No. 2:14-CV-01296, Milwaukee Electric Tool Corp. et al., v. Snap-On Inc., October 24, 2017.
- Supplementary Expert Report, Before the Australian Competition & Consumer Commission, national broadband network special access undertaking variation, August 24, 2017 (with Janusz Ordovery).
- Deposition, Before the U.S. District Court, Eastern District of Wisconsin, Case No. 2:14-CV-01296, Milwaukee Electric Tool Corp. et al., v. Snap-On Inc., September 15, 2017.
- Expert Report, Before the U.S. District Court, Eastern District of Wisconsin, Case No. 2:14-CV-01296, Milwaukee Electric Tool Corp. et al., v. Snap-On Inc., August 17, 2017.
- Declaration, Before the Federal Communications Commission, WC Docket No. 17-108, Restoring Internet Freedom Proceeding, July 17, 2017 (with Mark Israel and Thomas Stenwedel).
- Rebuttal Expert Witness Statement, Before the American Arbitration Association, Case No. 02-14-0002-2511, May 24, 2016.
- Deposition, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Snap-On, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01242, May 25, 2016 (IPR2015-01164 deposition entered into record).
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Snap-On, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01242, April 18, 2016.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Snap-On, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01243, April 18, 2016.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Snap-On, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01244, April 18, 2016.
- Expert Witness Statement, Before the American Arbitration Association, Case No. 02-14-0002-2511, April 15, 2016.
- Deposition, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Hilti, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01164, May 25, 2016 (joint deposition for 1164, 1165 and 1166 cases).
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Hilti, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01164, April 5, 2016.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Hilti, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01165, April 5, 2016.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Hilti, Inc. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-01166, April 5, 2016.
- Expert Report, Before the Australian Competition & Consumer Commission, national broadband network special access undertaking variation, March 24, 2016 (with Janusz Ordovery).
- Declaration, Before the Federal Communications Commission, WC Docket No. 15-247, Special Access Proceeding, January 7, 2016 (with Dennis Carlton, Mark Israel and Hal Sider).
- Deposition, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Chervon et al. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-00595, February 10, 2016 (joint deposition for 595, 596 and 597 cases).

- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Chervon et al. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-00595, November 23, 2015.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Chervon et al. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-00596, November 23, 2015.
- Declaration, Before the United States Patent and Trademark Office, Patent Trial and Appeal Board, Chervon et al. v. Milwaukee Electric Tool Corporation, et al., Case No. IPR2015-00597, November 23, 2015.
- Comments, Before the Info-Communications Development Authority of Singapore, August 25, 2015 (with Janusz Ordovery).
- Trial Testimony, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, January 28, 2015.
- Rebuttal Witness Statement, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, December 12, 2014.
- Amended Direct Testimony, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, November 25, 2014.
- Direct Testimony, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, November 20, 2014.
- Deposition, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, October 22, 2014.
- Reply Expert Report, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, October 3, 2014.
- Expert Report, Before the United States International Trade Commission, Investigation No. 337-TA-613, Remand, September 12, 2014.
- Supplemental Declaration, Before the Federal Communications Commission, MB Docket No. 10-71, Programming Exclusivity Rules, July 24, 2014 (with Mark Israel).
- Report, Before the Korea Fair Trade Commission, Case No. 2014GiGuel1474 Regarding Microsoft Corporation and Nokia Corporation's Merger, July 21, 2014 (with Dennis Carlton).
- Declaration, Before the Federal Communications Commission, MB Docket No. 10-71, Programming Exclusivity Rules, June 26, 2014 (with Mark Israel).
- Whitepaper on Patent Licenses Negotiated Subject to Judicial Review, submitted to the Chinese NDRC on behalf of Qualcomm, May 16, 2014 (with Dennis Carlton).
- Declaration Commenting on Commitments Offered by Google to Address Competition Concerns, Case COMP/C-3/39.740 – Foundem and others, July 1, 2013 (with Janusz Ordovery).
- Reply Declaration in the Matter of Special Access for Price Cap Local Exchange Carriers, Before the Federal Communications Commission, WT Docket No. 05-25, March 12, 2013 (with Dennis Carlton).
- Supplemental Declaration before the Federal Maritime Commission, Docket No. 11-12, Hanjin Shipping Co., Ltd. et al., v. the Port Authority of New York and New Jersey, January 31, 2013 (with Fredrick Flyer).
- Reply Declaration in the Matter of Policies Regarding Mobile Spectrum Holdings, Before the Federal Communications Commission, WT Docket No. 12-269, January 3, 2013.

- Declaration in the Matter of Policies Regarding Mobile Spectrum Holdings, Before the Federal Communications Commission, WT Docket No. 12-269, November 26, 2012.
- Expert Report to the Australian Competition & Consumer Commission with regards to the regulatory treatment of the National Broadband Network, September 24, 2012 (with Janusz Ordovery).
- Report in the Matter of Promoting Interoperability in the 700 MHz Commercial Spectrum, Interoperability of Mobile User Equipment Across Paired Commercial Spectrum Blocks in the 700 MHz Band, Before the Federal Communications Commission, WT Docket No. 12-69, July 16, 2012 (with Mark Israel and Michael Katz).
- Declaration in the Matter of Joseph I. Marchese on Request for Inspection of Records, Comments of Deutsche Telekom AG and T-Mobile USA, Inc., FCC FOIA Control No. 2012-12, filed November 14, 2011.
- Declaration in the Matter of Joseph I. Marchese on Request for Inspection of Records, AT&T Inc.'s Opposition to Bursor & Fisher, P.A.'s FOIA Request, FCC FOIA Control No. 2012-12, filed November 14, 2011.
- Declaration in the Matter of Joseph I. Marchese on Request for Inspection of Records, Review of Freedom of Information Action, FCC FOIA Control No. 2011-445, filed September 22, 2011.
- Declaration, In Re Bursor & Fisher, P.A., v. Federal Communications Commission, Case No. 1:11-cv-05457-LAK, U.S. District Court, SDNY, August 26, 2011.
- Reply Declaration, in Re: the Merger of AT&T with T-Mobile: Before the Federal Communications Commission, WT Docket No. 11-65, June 9, 2011 (with Dennis Carlton and Hal Sider).
- Declaration, In Re: the Merger of AT&T with T-Mobile: Before the Federal Communications Commission, WT Docket No. 11-65, April 20, 2011 (with Dennis Carlton and Hal Sider).
- Declaration, In Re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation (Master File No. 1:05-MD-1720-JG-JO), February 10, 2011.
- Declaration on behalf of the Port Authority of New York & New Jersey re CFC recovery fee, December 9, 2010 (with Fredrick Flyer).
- Supplemental Declaration to the Federal Communications Commission, in the Matter of Implementation of Section 224 of the Act; A National Broadband Plan for Our Future (WC Docket No. 07-245), November 2, 2010 (with Jonathan Orszag).
- Declaration to the Federal Communications Commission, in the Matter of Implementation of Section 224 of the Act; A National Broadband Plan for Our Future (WC Docket No. 07-245), October 4, 2010 (with Jonathan Orszag).
- Declaration, In Re Gabapentin Patent Litigation (MDL No. 1384, Master Docket No. 00-CV-2931 (FSH)), March 29, 2010.
- Reply Declaration to the Federal Communications Commission, In the Matter of Special Access Rates for Price Cap Local Exchange Carriers (WC Docket No. 05-25), February 24, 2010 (with Dennis Carlton and Hal Sider).
- Reply Declaration to the Federal Communications Commission, Verizon Wireless / ALLTEL transaction (WT Docket No. 08-95), August 19, 2008 (with Dennis Carlton and Hal Sider).
- Declaration to the Federal Communications Commission, Verizon Wireless / ALLTEL transaction (WT Docket No. 08-95), June 13, 2008 (with Dennis Carlton and Hal Sider).
- Ex parte filing before the Federal Communications Commission on behalf of Verizon, "Verizon/MCI Merger: Analysis of Special Access," September 9, 2005 (with Gustavo Bamberger and Dennis Carlton).
- Comments to the New York Public Service Commission, In the Matter of the Joint Petition of Verizon Communications, Inc. and MCI, Inc. for a Declaratory Ruling Disclaiming Jurisdiction Over or, in the Alternative, for Approval of Agreement and Plan of

Merger; and Joint Petition of SBC Communications Inc., AT&T Corporation, Together with its Certificated New York Subsidiaries, for Approval of Merger (CASE 05-C-0237 and CASE 05-C-0242), August 5, 2005 (with Gustavo Bamberger and Dennis Carlton).

- Reply Declaration to the Federal Communications Commission, In the Matter of Verizon Communications Inc. and MCI, Inc., Application for Approval of Transfer of Control (WC Docket No. 05-75), May 24, 2005 (with Gustavo Bamberger and Dennis Carlton).
- Declaration to the Federal Communications Commission, In the Matter of Verizon Communications Inc. and MCI, Inc., Application for Approval of Transfer of Control (WC Docket No. 05-75), March 9, 2005 (with Gustavo Bamberger and Dennis Carlton).
- Reply Declaration to the Federal Communications Commission, In the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements (WC Docket No. 02-112) and 2000 Biennial Regulatory Review of Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules (CC Docket 00-175), July 28, 2003 (with Dennis Carlton and Hal Sider).
- Declaration to the Federal Communications Commission, In the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements (WC Docket No. 02-112) and 2000 Biennial Regulatory Review of Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules (CC Docket 00-175), June 30, 2003 (with Dennis Carlton and Hal Sider).
- Reply Declaration to the Federal Communications Commission in the Matter of 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, May 14, 2001 (with Robert Gertner).
- Declaration to the Federal Communications Commission in the Matter of 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, Docket No. 01-14, April 13, 2001 (with Robert Gertner).
- Report to Directorate General IV of the European Commission: "Remedies in the United States," in *Remedies in the United States, in Remedies in EU Competition Law: The Policy and Practice of the European Commission, A Report for Directorate General IV of the European Commission*, July 1998, Report (with James Langenfeld).

PUBLICATIONS

Books

Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, (Editor) Nova Science Press (2003). Contributors include Debra Aron, Johannes Bauer, Peter Bernstein, David Burnstein, Robert Crandall, Nicholas Economides, Wayne Fu, Shane Greenstein, Charles Jackson, Junghyun Kim, Donald Kridel, Mercedes Lizardo, Paul Rappoport, Pablo Spiller, Lester Taylor and Steven Wildman.

Book Chapters

"The Economics of the LCD Cartel: Organization, Incentives, and Practical Challenges," *Cartels Diagnosed: New Insight on Collusion* (with Dennis Carlton, Mark Israel and Ian MacSwain), Joseph Harrington & Maarten Pieter, eds., 2024.

"Evaluating a Theory of Harm in a Vertical Merger: AT&T/Time Warner," *Antitrust Economics at a Time of Upheaval* (with Dennis Carlton, Georgi Giozov and Mark Israel), John Kwoka, Jr., Tomaso Valletti & Lawrence White, eds., 2023.

Telecom Antitrust Handbook, American Bar Association (3rd Ed., 2019).

"An Economic Interpretation of FRAND," with Dennis Carlton, in *FRAND Literature Selection* (Chinese, 2019).

"Economics of Patents and Standardization: Network Effects, Hold-Up, Hold-Out, Stacking," with Timothy Simcoe, in *The Cambridge Handbook of Technical Standardization Law* (2018).

“The Evolution of Telecommunications Switching in the Central Office,” in *Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies*, Nova Science Press (2003).

Articles

“Book Review: *Dark Wire: The Incredible True Story of the Largest Sting Operation Ever*, What Happens When the FBI Tries to Monopolize a Market?” (with Nathan Wilson), *Antitrust Source*, February 2025.

“A Tale of Two Approaches: Merger Policy During the Biden Administration,” (with Nathan Wilson), *Concurrences*, September 2024.

“A Primer on the Economics of Intellectual Property Antitrust Claims,” *Antitrust Magazine Online*, American Bar Association, June 2023.

“A Retrospective Analysis of the AT&T/Time Warner Merger,” (with Dennis Carlton, Georgi Giozov & Mark Israel), *Journal of Law and Economics*, November 2022.

“Workers, Wages, and Mergers: A Back-to-Basics Guide,” (with Dan Ambar, Kelly Fayne & Bryan Keating), *Antitrust Magazine Online*, American Bar Association, June 2022.

Review of “Patenting Inventions or Inventing Patents? Strategic Use of Continuations at the USPTO” (by Cesare Righi & Timothy Simcoe), *Antitrust Source*, American Bar Association, April 2021.

“Can We Get There From Here?” *Jurimetrics: The Journal of Law, Science, and Technology*, Summer 2020.

“A Legal Practitioner’s Guide to Event Studies,” *Antitrust Source*, American Bar Association, December 2019.

“Lessons from AT&T/Time Warner,” (with Dennis Carlton & Mark Israel), *Competition Policy International – Antitrust Chronicle*, July 2019.

“Vertical Integration in Multichannel Television Markets: Revisiting Regional Sports Networks Using Updated Data,” (with Georgi Giozov, Nauman Ilias & Mark Israel), *Criterion Journal of Innovation*, March 2019.

“Navigating Economic Analysis in a World of Big Data” (with Loren Poulsen & Michael Sabor), *Antitrust Source*, American Bar Association, December 2018.

“The Role of Computing Infrastructure in Economic Consulting and Litigation” (with Neal Lenhoff, Loren Poulsen & Michael Sabor), *Antitrust Source*, American Bar Association, August 2018.

“What is at Stake with Supreme Court Review of *United States of America et al. v. American Express*?” *Antitrust Source*, December 2017.

Review of “Hedonic Prices and Patent Royalties” (by J.G. Sidak & Jeremy Skog), *Antitrust Source*, American Bar Association, October 2017.

“The Role of Behavioral Economics in Antitrust Analysis,” *Antitrust Source*, American Bar Association, October 2017 (reprinted from ABA Antitrust Magazine).

“FRAND and the Smallest Saleable Unit,” with Joseph Kattan & Janusz Ordover, *CPI Chronicles*, September 2016.

“Applying the Non-Discrimination Requirement of FRAND When Rates Change,” *Antitrust Source*, American Bar Association, August 2016.

“Patent Litigation, Standard Setting Organizations, Antitrust and FRAND” with Dennis Carlton, *22 Texas Intellectual Property Law Journal* 3 (2014).

“Implementing the FRAND Commitment” with Janusz Ordover, *Antitrust Source*, American Bar Association, October 2014.

“Identifying Benchmarks for Applying Non-Discrimination in FRAND” with Dennis Carlton, *CPI Antitrust Chronicle*, August 2014.

Review of “Strategic Patent Acquisitions” (by Fiona Scott Morton & Carl Shapiro), *Antitrust Source*, American Bar Association, October 2013.

“An Economic Interpretation of FRAND” with Dennis Carlton, 9 *Journal of Competition Law and Economics* 3, 2013.

“The Role of Behavioral Economics in Antitrust Analysis,” 27 *Antitrust* 2, American Bar Association, Spring 2013.

“Testing Interchange Fee Models Using the Australian Experience,” proceedings of the Bank of Canada Economics of Payments VI conference, May 24, 2012.

Review of “Why (Ever) Define Markets? An Answer to Professor Kaplow,” (by Gregory Werden), *Antitrust Source*, American Bar Association, April 2012.

Review of “An Empirical Study of the Effects of Ex Ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards,” (by Jorge Contreras), *Antitrust Source*, American Bar Association, February 2012.

“Price Indexes, Hedonic Analysis and Patent Damages,” 5 *Journal of Intellectual Property Law & Practice* 2 (2010).

“Credit Cards in Context: Framing the Discussion” and “Assessing the Social Effects of the Use of Credit Cards” in *The Law and Economics of Interchange Fees and Credit Card Markets*, International Center for Law & Economics, December 8-9, 2009.

“Reasonable royalties and the sale of patent rights,” 4 *Journal of Intellectual Property Law & Practice* 8 (2009).

“The Evaluation of Social Welfare for Payment Methods,” 2009 *Oxford Business & Economics Conference Proceedings*, June 2009.

“Another Look at Payment Instrument Economics,” 6 *Review of Network Economics* 4 (2007).

“The Telecom Boom and Bust: Their Losses, Our Gain?” with Hal Sider, *Milken Institute Review* (October 2007).

“Boom and Bust in Network Industries: Rising from the Ashes,” with Hal Sider, *International Journal of Business & Economics*, Proceedings (2006).

“The Economics of Interchange Fees,” with Alan Frankel, 73 *Antitrust Law Journal* 3 (2006).

“Handicapping Countries in the Race to Digital Switching,” 5 *Review of Network Economics* 2 (2006).

“The Welfare Implications of Advertising and Extension Under Uncertainty,” with George Tolley, *Technological Forecasting & Social Change* 70 (2003).

“Determinants of the Diffusion of U.S. Digital Telecommunications,” *Journal of Evolutionary Economics* 11 (2001).

“Compensating for Information Externalities in Technology Diffusion Models,” 80 *American Journal of Agricultural Economics* 2 (1998).

Contributor to *Guide to the Western Ephemera Collection at the DeGolyer Library*, Southern Methodist University, 1993, edited by Kristin Jacobsen.

“The Impact of Technology on the Modern Labor Market,” 11 *Southwestern Journal of Economic Abstracts* 1 (1990).

Research Papers

“LCDs and ‘Crystal’ Meetings—Diamond or Rock,” (with Dennis Carlton, Mark Israel & Ian MacSwain (2022 – SSRN)

“A Retrospective Analysis of the AT&T/Time Warner Merger,” (with Dennis Carlton, Georgi Gvozov & Mark Israel) (2021 – SSRN)

“Lessons from AT&T/Time Warner” with Dennis Carlton and Mark Israel (2019 – SSRN)

“Identifying Benchmarks for Applying Non-Discrimination in FRAND” with Dennis Carlton (2014 - SSRN)

“An Economic Interpretation of FRAND” with Dennis Carlton (2013 - SSRN)

“An Evaluation of the Social Costs of Payment Methods Literature” (2012 - SSRN)

“A New Direction in Mixed Income Housing,” submitted to Chicago Housing Authority (1993).

“A Survey of the Economics of Information, Focusing on Water” (1992).

“Petroleum Price Shocks and Rationality,” B.S. Honors Paper (1991).

OTHER PROFESSIONAL EXPERIENCE

- Member of the American Economics Association
- Associate member of the American Bar Association, Antitrust Section Leadership
- Discussant, Fourth Annual Empirical Conference on Standardization, Northwestern Center on Law, Business and Economics, October 24, 2024.
- Guest lecture, Prof. Hopenhayn antitrust course, UCLA, November 24, 2021
- Panelist at American University, Washington College of Law’s Patent Pledges: Developing a Research Agenda conference, May 30, 2014.
- Panelist at Texas Intellectual Property Law Journal’s 15th Annual Intellectual Property Symposium, FRAND and the Antitrust / Intellectual Property Interface, February 21, 2014.
- Panelist at Georgetown University Law Center’s Hotel & Lodging Legal Summits, “Navigating Antitrust Issues Arising from the Online Distribution World” (October 24-25, 2013).
- “An Economic Interpretation of FRAND” paper with Dennis Carlton, presented by Carlton at the Heath Lecture & Workshop on FRAND, University of Florida Law Advocacy Center (September 2013).
- Interviewed by IEEE Spectrum for “The High Cost of Taking Your Money” (June 2012).
- “Testing Interchange Fee Models Using the Australian Experience,” presented as part of a special session “Interchange Fees: Regulation and Implications” at Economics of Payments VI conference, Bank of Canada, May 24, 2012.
- Interviewed by The Oregonian for “Those credit card rewards cost us a lot of cash” (July 31, 2010).
- Participant in “The Law and Economics of Interchange Fees and Credit Card Markets” symposium sponsored by International Center for Law & Economics (December 8-9, 2009).
- “The Evaluation of Social Welfare for Payment Methods,” 2009 Oxford Business & Economics Conference (June 24-26, 2009).

- Interviewed by Cards Insider for “Payments: Cash Replacement, Anonymity provides lifeline for cash over cards” (January 28, 2008).
- “Boom and Bust in Network Industries: Rising from the Ashes,” 6th Global Conference on Business & Economics, Harvard University (October 15-17, 2006), with Hal S. Sider.
- “House of Cards: The Economics of Interchange Fees,” Presentation to the Federal Reserve Bank of New York Conference, Antitrust Activity in Card-Based Payment Systems: Causes and Consequences (September 16, 2005), with Alan S. Frankel.
- “The Impact of Technology on the Modern Labor Market,” 68th Annual Meeting of the Southwestern Social Science Association (March 29, 1990)
- Presented papers on information externalities and technology diffusion at the Economics and Public Policy Workshop (3) and Price Theory Workshop (1), University of Chicago (1995, 1996)
- Coordinated the Conference on Valuing Non-Market Goods, University of Chicago (July 21-22, 1995)
- Assisted in coordinating the Conference on Research in Health Economics, University of Chicago (October 21-22, 1994)
- Assisted in organizing the Economic Policy and Public Finance Workshop, University of Chicago (1993 - 1996)
- Referee for the Agricultural and Resource Economics Review, American Journal of Agricultural Economics, Antitrust Law Journal, Journal of Business, Journal of Legal Studies and Journal of Evolutionary Economics.

ACADEMIC HONORS

Undergraduate

- Graduated Summa Cum Laude, Honors, Departmental Distinction
- Award for Excellence (given to the outstanding senior in the Economics Department as decided by the vote of the faculty)
- Presidential Scholarship (full scholarship)
- National Merit Scholar (honorary)
- Hyer Society (honorary society of Southern Methodist University)
- Honor Roll (1987 - 1991)
- Phi Beta Kappa
- Alpha Lambda Delta (Treasurer, honorary society recognizing academic achievement)
- Phi Eta Sigma (honorary society recognizing academic achievement)
- Omicron Delta Epsilon (honor society in mathematics)

Graduate

- Full Merit Scholarship (tuition and stipend)