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ALAN S. FRANKEL

President

EDUCATION

UNIVERSITY OF CHICAGO, Chicago, IL. Ph.D., Economics, December 1986 M.A., Economics, March 1985. B.A., Economics, March 1982.

PRESENT POSITIONS

COHERENT ECONOMICS, Chicago, IL. Founder and President, 2008 – Present.

LOYOLA UNIVERSITY CHICAGO SCHOOL OF LAW, Chicago, IL. Adjunct Professor, 2015 – Present.

ANTITRUST LAW JOURNAL Senior Editor, 1999 – Associate Editor, 1998 – 1999 Assistant Editor, 1996 – 1998

INSTITUTE FOR CONSUMER ANTITRUST STUDIES U.S. Advisory Board, 2014 –

PROFESSIONAL AND ACADEMIC EXPERIENCE

LECG, Evanston, IL. <u>Director</u>, 1998 – 2004. <u>Principal</u>, 1996 – 1997.

UNIVERSITY OF CHICAGO, GRADUATE SCHOOL OF BUSINESS, Chicago, IL. <u>Research Assistant</u>, 1983 – 1984.

UNIVERSITY OF CHICAGO, COMMITTEE ON PUBLIC POLICY STUDIES, Chicago, IL. <u>Teaching Assistant</u>, 1983.

UNIVERSITY OF CHICAGO, DEPARTMENT OF ECONOMICS, Chicago, IL. <u>Research Manager</u> for U.S. Environmental Protection Agency contract research project, 1980-1982.

<u>Research Assistant</u>, Various consulting work, including National Association of Realtors and Synergy, Inc., 1981 – 1983.

FIELDS OF SPECIALIZATION

Industrial Organization, Antitrust, Intellectual Property, Applied Econometrics, Regulation, Financial Institutions, Payment Systems, Retail, Damages.

PUBLICATIONS

"Another Side to the Story: *American Express* and the Quest for Efficient Payments Systems," 33 Antitrust 44 (Fall 2018).

"Towards a Competitive Card Payments Marketplace," in Reserve Bank of Australia, Payments System Review Conference, Proceedings of a Conference held in Sydney on 29 November 2007 (2008).

"Economic Effects of Interchange Fees," with Allan Shampine, 73 Antitrust Law Journal 627 (2006).

"Transaction Costs, Externalities, and 'Two-Sided' Payment Markets," with Dennis Carlton, 2005 *Columbia Business Law Review* 617 (2005).

"Interchange Fees in Various Countries: Comment on Weiner and Wright," in Interchange Fees in Credit and Debit Card Industries: What Role for Public Authorities?" Federal Reserve Bank of Kansas City (2005).

"The Control of Externalities in Sports Leagues: An Analysis of Restrictions in the National Hockey League," with Dennis Carlton and Elizabeth Landes, 112 *Journal of Political Economy* S268 (2004).

"Editor's Note: EFT Networks and the Canadian Experience" 67 *Antitrust Law Journal* 385 (1999).

"Monopoly and Competition in the Supply and Exchange of Money," 66 Antitrust Law Journal 313 (1998).

"Cash Machines: Fee Disclosure and Competition vs. Regulation," with James Langenfeld, *The Global Competition Review* (August/September 1997).

"Sea-Change' or 'Submarkets?" (Federal Trade Commission v. Staples, Inc. and Office Depot, Inc.), with James Langenfeld, *The Global Competition Review* (June/July 1997).

"Antitrust and Payment Technologies," with Dennis Carlton, 77 Federal Reserve Bank of St. Louis *Review* 41, December 1995.

"The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee Comment," with Dennis Carlton, 63 *Antitrust Law Journal* No. 3, Spring 1995.

"The Antitrust Economics of Credit Card Networks," with Dennis Carlton, 63 *Antitrust Law Journal* No. 2, Winter 1995.

<u>Countervailing Effects of Automobile Emission Control Regulations</u>, Ph.D. dissertation, University of Chicago, Department of Economics, 1986.

SPEECHES

"The Consumer's Stake in Payment System Disputes," The Conference on Consumer Finance Law, Loyola University Chicago School of Law, May 2019

"The Economics of Antitrust Class Action Opt-Out Litigation," Bloomberg Law, New Revenue Streams: Analyzing Antitrust Class Action Settlement Claims, May 2019

The Knowledge Group, "The Legal and Economic Implications of the Supreme Court's AmEx Decision: What You Should Know," January 2019.

New York State Bar Association Antitrust Law Section Annual Antitrust Symposium, "Multi-Sided Antitrust Markets: Smoke & Mirrors or Dynamic Competition?" New York City, December 2017.

"Designing Competitive Payments Markets," Centro de Estudios Públicos, Santiago, Chile, November 2015.

"Two-Sided Diversions in Payment Card Cases," Canadian Bar Association, Toronto, June 2015

"Retail Payment Systems Conference," Harvard Law School Program on International Financial Systems, February 2015.

"Who May Be Steering Off Course: Updates on the Anti-Steering Rules Challenges," American Bar Association Section of Antitrust Law, Pricing Conduct and Economics Committees, January 2015.

"Antitrust Issues Arising out of Multiple Recent Class Actions by Merchants and Consumers Against Payment Card Networks," panelist, American Antitrust Institute, December 2014.

"Comments on Kay, Manuszak and Vojtech," The Economics of Payments VII, Federal Reserve Bank of Boston, April 2014.

"Interchange Regulation – A Pitched Battle of Ideas," panelist, The Clearing House annual meeting, November 2012.

"Payment Innovation: Competitive Impediments and Opportunities," presented at *Consumer Payment Innovation in the Connected Age*, Federal Reserve Bank of Kansas City, March 2012.

"Does Disclosure Matter?," American Bar Association Section of Antitrust Law, Panel on the Proposed Consumer Financial Protection Agency, Washington, DC, April 2010.

"The MasterCard Decision: An Economic Review," Organization for Economic Cooperation and Development, Paris, France, June 2008.

"Towards a Competitive Card Payments Marketplace," Reserve Bank of Australia and Melbourne Business School, Sydney, Australia, November 2007.

"Evaluating Self-Regulation of Interchange Fees," Organization for Economic Cooperation and Development, Paris, France, June 2006.

"A More Competitive, Deregulated Market Structure: The Role of Networks vs. the Role of Banks," International Cards & Payments Council, Rome, Italy, October 2005.

"House of Cards: The Economics of Interchange Fees," Presented at *Antitrust Activity in Card-Based Payment Systems: Causes and Consequences*, Federal Reserve Bank of New York, September 2005.

"Dysfunctional Competition in Retail Payment Systems," Presented at *Innovations, Incentives, and Regulation: Forces Shaping the Payments Environment*, Federal Reserve Bank of Chicago, May 2005.

"Interchange Fees in Various Countries: Comments on Weiner and Wright," Presented at *Interchange Fees in Credit and Debit Card Industries: What Role for Public Authorities?* Federal Reserve Bank of Kansas City, Santa Fe, New Mexico, May 2005.

Columbia University School of Law, Conference on Two-Sided Markets, April 2005.

Chicago Bar Association Antitrust Committee speaker, Credit Card Issues, February 2002.

"Anticompetitive Effects of Interchange Fees," Econometric Society Australasian Meetings, Auckland, New Zealand, July 2001.

American Bar Association Antitrust Section, Financial Markets Committee *Brownbag Seminar* on interchange fees, Washington, DC, March 2001.

"The Economic Analysis of Intellectual Property Damages," Panel discussion moderator, Chicago, Illinois, October 1998.

Spring Antitrust Developments panelist, Vedder, Price, Kaufman & Kammholz, P.C., May 1997.

Credit Card Pricing and Competition: The Environment Today and Future Marketplace and Regulatory Trends, before the American Bar Association, Consumer Financial Services Committee, November 1995.

"Antitrust and Payment Technologies," presented at Antitrust and Payment Systems, Federal Reserve Bank of St. Louis, May 1995.

FELLOWSHIPS

Olin Foundation Fellowship, Center for the Study of the Economy and the State, Graduate School of Business, University of Chicago, 1984.

University of Chicago Graduate Economics Fellowship, 1982 - 1984.

PROFESSIONAL AFFILIATIONS

Member, American Economic Association, 1984 - present.

Associate Member, American Bar Association, (Section of Antitrust Law, Section of Intellectual Property Law) 1991 - present.

TESTIMONY AND OFFICIAL PROCEEDINGS

Report in AngioDynamics, Inc. v. C.R. Bard, Inc. and Bard Access Systems, Inc.

Report and Deposition, in Oxbow Carbon & Minerals LLC, et al. v. Union Pacific Railroad Company, et al.

Rebuttal Verified Statement, in <u>Application of the National Railroad Passenger Corporation</u> Under 49 U.S.C. § 24308(a) – Canadian National Railway Company

Report, Rebuttal Report, deposition, and declaration, in <u>Peter Kravitz, as Trustee for the</u> <u>RSH Liquidating Trust v. Sony Corporation, et al.</u>, and <u>Alfred Siegel, as Trustee for the</u> <u>Circuit City Stores, Inc. Liquidating Trust v. Sony Corporation, et al</u>.

Report, reply report, and deposition in Social Ranger, LLC v. Facebook, Inc.

Amicus Brief in Expressions Hair Design, et al. v. Eric T. Schneiderman, et al.

Report and Testimony in Recommendation Proceeding on Credit and Debit Card Acceptance Services (Transbank), (Santiago, Chile).

Amicus Brief in United States of America, et al. v. American Express Company, et al.

Report and Deposition in <u>Wallach et al v. Eaton Corporation et al</u>. and <u>In Re: Class 8</u> <u>Transmission Indirect Purchaser Antitrust Litigation</u>.

Report in Ford Motor Company v. Carpenter Co., et al., In re Polyurethane Foam Antitrust Litigation.

Reports, supplemental reports, rebuttal reports and depositions in re: <u>Cathode Ray Tube</u> (<u>CRT</u>) <u>Antitrust Litigation</u> (cases: Best Buy Co., Inc. et al.; Interbond Corporation of America, d/b/a BrandsMart USA; Alfred H. Siegel, as Trustee of the Circuit City Stores, Inc. Liquidating Trust; Compucom Systems, Inc.; Costco Wholesale Corporation; Electrograph Systems Inc. et al.; Office Depot, Inc.; P.C. Richard & Son Long Island Corporation, MARTA Cooperative and ABC Appliance, Inc.; Sears, Roebuck and Co. and Kmart Corp.; Target Corp.; Tech Data Corporation, et al.; Schultze Agency Services, LLC on behalf of Tweeter Opco, LLC et al.).

Declaration and Reply Declaration, in re: <u>American Express Anti-Steering Rules Antitrust</u> <u>Litigation</u> and <u>The Marcus Corporation v. American Express Company, et al</u>.

Report, Deposition, and Supplemental Report in <u>Marchbanks Truck Service, Inc. et al. v.</u> <u>Comdata Network, et al</u>.

Report, Reply Report and Testimony in <u>The Matter Between The Commissioner of</u> <u>Competition and Visa Canada Corporation and MasterCard International Incorporated</u>.

Joint Report, Rebuttal Report, Deposition and Trial Testimony in <u>Best Buy Co., Inc., v. AU</u> <u>Optronics Corp., et al., In Re LCD (Flat Panel) Antitrust Litigation</u>, United States District Court, Northern District Of California, San Francisco Division.

Testimony before the European Commission in Visa Europe.

Brief of Evidence and Reply Brief of Evidence, in <u>New Zealand Commerce Commission v.</u> Cards NZ Limited and Others, DSE (NZ) Limited and Others.

Report to the Reserve Bank of Australia in its Review of Payment Systems Reforms.

Brief of Evidence, in <u>New Zealand Commerce Commission v. American Express</u> International (NZ) Incorporated. Testimony before the European Commission in MasterCard.

Brief of Evidence, in <u>New Zealand Commerce Commission v. Westpac Banking</u> <u>Corporation</u>, District Court, Auckland, New Zealand.

Brief of Evidence, in <u>New Zealand Commerce Commission v. Bank of New Zealand,</u> <u>Limited</u>, District Court, Auckland, New Zealand.

Joint Report, <u>In the Matter of the Decision of the Office of Fair Trading dated 6 September</u> 2005 No. CA 98/05/05 of 6 September 2005 in Case CP/0090/00/S (MasterCard <u>Multilateral Interchange Fee)</u>, Competition Appeal Tribunal (U.K.).

Declaration, Report, Rebuttal Report, Deposition and Declaration and Reply Declaration Regarding Proposed Class Settlement, <u>In Re Payment Card Interchange Fee and</u> <u>Merchant Discount Antitrust Litigation</u>, U.S. District Court, Eastern District of New York.

Brief of Evidence, in <u>New Zealand Commerce Commission v. ANZ National Bank Limited</u>, <u>New Zealand Commerce Commission v. Bank of New Zealand, Limited</u>, District Court, Auckland, New Zealand.

Declaration in <u>David Salkin v. MasterCard International</u>, Court of Common Pleas, Philadelphia County, Pennsylvania.

Report in <u>CFS-Related Securities Litigation</u>, U.S. District Court, Northern District of Oklahoma, and District Court for Tulsa County, State of Oklahoma.

Report in <u>Commercial Financial Services, Inc., v. Mayer Brown Rowe & Maw, P.A., f/k/a</u> <u>Mayer Brown & Platt, and J.P. Morgan Securities, Inc., f/k/a Chase Securities, Inc</u>., Civil Action No. CJ 2002 03028, District Court of Tulsa County, State of Oklahoma.

Rebuttal Testimony and Affidavit in <u>TDS Metrocom, LLC v. Wisconsin Bell, Inc. d/b/a SBC</u> <u>Wisconsin</u>, Public Service Commission Of Wisconsin Docket No. 6720-TI-175.

Affidavit and Deposition in <u>Elizabeth A. Fischer and Jennifer Herbst, on Behalf of</u> <u>Themselves and All Others Similarly Situated, v. MasterCard International, Inc</u>.

Direct Testimony and Rebuttal Testimony on Behalf of SBC Illinois Before The Illinois Commerce Commission, Docket No. 03-0553.

Report in V.P. Intellectual Properties, L.L.C. v. Nobel Biocare USA, Inc., Implant Innovations, Inc. And Implant Innovations International Corporation v. Leonard I. Linkow, And Anthony W. Rinaldi.

Report and Trial Testimony in Enrique Calva-Cerqueira v. United States of America.

Report, Deposition, Amended Report, and Direct Testimony in <u>Charter Federal Savings</u> <u>Bank v. United States of America</u>.

Declaration, Deposition, Trial Testimony, and Rebuttal Testimony in <u>Adam Schwartz vs.</u> <u>Visa International, Inc., Visa International Service Association, Inc., Visa USA, Inc., and</u> <u>MasterCard International, Inc</u>.

Report in <u>Cardiac Pacemakers, Inc., Guidant Sales Corporation, and Eli Lilly and Company</u> v. St. Jude Medical, Inc., Pacesetter, Inc., and Ventritex, Inc.

Testimony before the European Commission in Visa International.

Declaration, Report, Deposition, and Supplemental Report in <u>Columbia First Bank, FSB v.</u> <u>United States of America</u>.

Affidavit in Century Shopping Center Fund I, Limited Partnership v. Frank Pio Crivello

Report and Deposition in <u>Gregory F. Daniel, et al. v. American Board of Emergency</u> <u>Medicine, et al.</u>

Report and Declaration in <u>1st Home Liquidating Trust v. Unites States of America</u>.

Report and Deposition in <u>Pi Electronics Corp. v. United States of America</u>.

Report in WDP Limited v. Gelatin Products International, Inc. and R.P. Scherer Corp.

Joint Declaration, Joint Report, Deposition, Trial Testimony, and Rebuttal Testimony in <u>C.</u> <u>Robert Suess, et al. v. United States of America</u>.

Declaration and Supplemental Declaration in <u>Robert Johnstone, et al. v. First Bank</u> <u>National Association, et al</u>.

Testimony in <u>Keisha Johnson, Shapearl, et al. v. Aronson Furniture Co. and Heilig-Meyers</u> <u>Co</u>.

Report, Deposition and Trial Testimony in <u>ProtoComm Corporation v. Novell Advanced</u> <u>Services</u> (Formerly Fluent).

Joint Affidavit in Kahn v. Emerson Electric Co., Hazeltine Corporation and Motorola, Inc. et al.

Affidavit, Deposition and Trial Testimony in <u>Masco Corporation of Indiana v. Price Pfister</u>, <u>Inc</u>.

Deposition in Loomis Armored, Inc. v. City of Chicago.

Joint Declaration, Joint Reply Declaration, and Joint Supplemental Declaration in the <u>Matter of Mahurkar Double Lumen Hemodialysis Catheter Patent Litigation</u>.

Deposition in American Fidelity Fire Insurance v. General Railway Signal Corp.

Deposition in General Farebox, et al. v. Landa Corp., et al.

Affidavit in Lincoln Savings & Loan Association v. Federal Home Loan Bank Board and M. Danny Wall.

OTHER

FAA-certified private pilot PADI-certified open water diver

January 2020