

## **ROBERT B. AVERY**

### **CURRICULUM VITAE**

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#### **CONTACT INFORMATION**

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#### **EDUCATION**

University of Pennsylvania, B.A. with Honors in Economics; 1969

University of Wisconsin (Madison), Ph.D. in Economics; 1979

Major: Monetary Economics.

Minor: Econometrics.

Dissertation: "Racial Differences in Consumer Debt Holdings: The Impacts of Direct and Indirect Screening."

#### **AWARDS AND FELLOWSHIPS**

Dissertation Fellowship, Federal Deposit Insurance Corporation.

1980 GSIA Award for Excellence in Teaching.

Special Achievement Award, Board of Governors of the Federal Reserve Board, December 2000.

Homer Hoyt Fellow in Real Estate and Land Economics, 2013.

#### **FIELDS OF INTEREST**

Consumer finance and regulation; discrimination in lending markets, consumer surveys and empirical economics; sampling methods in supervisory examinations, credit scoring; the study of wealth and income; econometrics; urban economics and housing finance.

#### **CURRENT POSITION**

Visiting Scholar, Consumer Finance Institute, Federal Reserve Bank of Philadelphia, September 2023-

#### **PREVIOUS POSITIONS**

Project Director, National Mortgage Database, Federal Housing Finance Agency (co-funded by the Consumer Financial Protection Bureau), September 2012-September 2023 (retired).

Developed and maintain a nationally-representative sample of US mortgages active at any point from 1998 to the present created by combining administrative and credit bureau data;

Includes a nationally-representative panel of people who have had an active mortgage during the same time period;

Includes loan-level (and person-level) databases updated monthly and made available to

Federal Government researchers and analysts. Summary tables are distributed to the general public quarterly;

Includes a quarterly mail survey of new mortgage borrowers derived from the same database starting in 2013. Public-use file released annually;

Includes an annual “special topics” mail survey derived from the same database starting in 2016;

All data cleaning for the databases and surveys handled “in house.”

Senior Economist, Financial Structure Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System; August 1994-September 2012 (retired).

Co-director of the prototype version of the National Mortgage Database;

Developed (and implemented) examination sampling methods for the interagency Shared National Credit program;

Congressional study of credit scoring;

Congressional study of the performance and profitability of CRA-related lending;

Analytic work in support of revisions to HOEPA;

Analytic work in support of revisions to the Community Reinvestment Act;

Analytic work in support of revisions to Regulation B (fair lending);

Analytic work in support of revisions to the Home Mortgage Disclosure Act;

Developed the sampling methods for Federal Reserve fair lending examinations;

Developed the sampling procedures for Federal Reserve small bank business loan review;

Co-directed survey of changes in underwriting standards;

Steering group for surveillance models and early warning procedures;

Analytic support for Basel II capital standards benchmarking committee;

Visitor, Monetary and Economic Department, Bank for International Settlements, Basel Switzerland, April 2003 - August 2003.

Professor, Department of Consumer Economics and Housing, Cornell University. Also admitted to the fields of Real Estate and Public Affairs. Major Professor for five Ph.D. students. Courses taught: Undergraduate Macro Principles, Money and Banking; Graduate Econometrics, Survey Methodology, Income Distribution, Special topics in Housing and Urban Economics. August 1988 - August 1996.

Research Associate, Federal Reserve Bank of Cleveland; November 1988 - August 1994.

Senior Economist, Monetary and Financial Studies Unit, Board of Governors of the Federal Reserve System; September 1981 - August 1988.

Policy Work: Project director of the 1983, 1986, and 1989 Surveys of Consumer Finances; evaluation of Regulation B, Equal Credit Opportunity Act; staggered and contemporaneous reserve accounting; government check float; co-author of the 1984 and 1986 Surveys of Currency and Transaction Account Usage; bank failure and deposit insurance; Basel I risk-based bank capital.

Lecturer, School of Business, Georgetown University; March 1984 -December 1984.

Assistant Professor of Economics, Graduate School of Industrial Administration, Carnegie Mellon University. Courses taught: Undergraduate Economic Principles, Money and Banking, Econometrics; MBA Marketing Models, Econometrics, Financial Institutions; Ph.D. Econometrics. September 1975 - June 1982.

Consultant and Research Associate, Federal Reserve Bank of Cleveland; May 1980 - September 1981.

Research Assistant and Consultant, New Jersey and Rural Graduated Work Incentive Experiments, Poverty Institute, University of Wisconsin; August 1972 -July 1974.

Research Assistant, Economic Research Unit, Federal Deposit Insurance Corporation, Washington, D.C.; September 1969 - September 1971.

## EDITORIAL BOARDS

Board of Editors, Review of Income and Wealth, 1989 - 1994.  
 Editor, Consumer Closeups, Cornell University, 1990 - 1991.

## BOOKS, BOOK CHAPTERS, AND JOURNAL ARTICLES

“Guest Editors’ Introduction: National Survey of Mortgage Originations,” Cityscape, Volume 21, Number 2, July 2019, pp. 3-7 (also co-editor of special issue, with Ron Borzekowski).

“Death and Taxes: An Evaluation of the Impact of Prospective Policies for Taxing wealth at the Time of Death,” National Tax Journal, Volume 68, Issue 3, September 2015, pp 601-632 (with Daniel J. Grodzicki and Kevin B. Moore).

“The Subprime Crisis: Is Government Housing Policy to Blame?” Review of Economics and Statistics, Volume 97, Issue 2, May 2015, pp. 352-363 (with Kenneth P. Brevoort).

“The Creation of the National Mortgage Database,” in What Counts: Harnessing Data for America’s Communities, the Federal Reserve Bank of San Francisco and the Urban Institute, November 2014, pp. 124-136 (with Marsha J. Courchane and Peter M. Zorn).

“Credit Where None is Due? Authorized-User Account Status and Piggybacking Credit,” Journal of Consumer Affairs, Volume 47, Issue 3, November 2013, pp. 518-547 (With Kenneth P. Brevoort, and Glenn B. Canner).

“The Mortgage Market in 2011: Highlights from the Data Reported under the Home Mortgage Disclosure Act,” The Federal Reserve Bulletin, Volume 98, Number 6, December 2012, pp. 1-46 (with Neil Bhutta, Kenneth P. Brevoort, and Glenn B. Canner).

“Does Credit Scoring Produce a Disparate Impact?” Real Estate Economics, Volume 40, S1, 2012, pp. S65-S114 (with Kenneth P. Brevoort and Glenn B. Canner).

“The Mortgage Market in 2010: Highlights from the Data Reported under the Home Mortgage Disclosure Act,” The Federal Reserve Bulletin, Volume 97, Number 6, December 2011, pp. 1-60 (with Neil Bhutta, Kenneth P. Brevoort, and Glenn B. Canner).

“The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress,” The Federal Reserve Bulletin, Volume 96, December 2010, pp. A39-A77 (with Neil Bhutta, Kenneth P. Brevoort, and Glenn B. Canner).

“The 2008 HMDA Data: The Mortgage Market during a Turbulent Year,” The Federal Reserve Bulletin, Volume 95, April 2010, pp. A169-A211 (with Neil Bhutta, Kenneth P. Brevoort, Glenn B. Canner, and Christa N. Gibbs).

“Credit Scoring and Its Effects of the Availability and Affordability of Credit,” Journal of Consumer Affairs, Volume 43, Number 3, Fall 2009, pp. 516-530 (with Kenneth P. Brevoort and Glenn B. Canner).

- “The CRA within a Changing Financial Landscape,” in Revisiting the CRA: Perspectives on the Future of the Community Reinvestment Act, the Federal Reserve Banks of Boston and San Francisco, February 2009, pp. 30-46 (with Marsha J. Courchane and Peter M. Zorn).
- “The 2007 HMDA Data,” The Federal Reserve Bulletin, Volume 94, December 2008, pp. A107-A146 (with Kenneth P. Brevoort and Glenn B. Canner).
- “Opportunities and Issues in Using HMDA Data,” Journal of Real Estate Research, Volume 29, Number 4, 2007, pp. 351-379 (with Kenneth P. Brevoort and Glenn B. Canner).
- “The 2006 HMDA Data,” The Federal Reserve Bulletin, Volume 93, September 2007, pp. A73-A109 (with Kenneth P. Brevoort and Glenn B. Canner).
- “Higher-Priced Home Lending and the 2005 HMDA Data,” The Federal Reserve Bulletin, Volume 92, September 2006, pp. A123-A166 (with Kenneth P. Brevoort and Glenn B. Canner).
- “New Information Reported under HMDA and Its Application in Fair Lending Enforcement,” The Federal Reserve Bulletin, Volume 91, Number 3, Summer 2005, pp. 344-394 (with Glenn B. Canner and Robert E. Cook).
- “Community Banks and Rural Development: Research Relating to Proposals to Revise the Regulations That Implement the Community Reinvestment Act,” The Federal Reserve Bulletin, Volume 91, Number 23, Spring 2005, pp. 202-235 (with Glenn B. Canner, Shannon C. Mok and Dan S. Sokolov).
- “Assessing the CRA’s Necessity and Efficiency,” Housing Policy Debate, Volume 16, Number 1, 2005, pp. 143-172 (with Raphael W. Bostic and Glenn B. Canner).
- “Credit Report Accuracy and Access to Credit,” The Federal Reserve Bulletin, Volume 90, Number 3, Summer 2004, pp. 297-322 (with Paul S. Calem, and Glenn B. Canner).
- “Bank Consolidation and Small Business Lending: The Role of Community Banks,” Journal of Financial Services Research, Volume 25, Number 2/3, April-June 2004, pp. 291-325 (with Katherine A. Samolyk).
- “Consumer Credit Scoring: Do Situational Circumstances Matter?” Journal of Banking and Finance, Volume 28, Issue 4, April 2004, pp. 835-856 (with Paul S. Calem, and Glenn B. Canner).
- “An Overview of Consumer Data at Credit Bureaus,” The Federal Reserve Bulletin, Volume 89, Number 2, February 2003, pp. 47-73 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).
- “Lifetime Inheritances of Three Generations of Whites and Blacks,” American Journal of Sociology, Volume 107, Number 5, March 2002, pp. 1300-1346 (with Michael S. Rendall).
- “CRA Special Lending Programs,” The Federal Reserve Bulletin, Volume 86, Number 11, November 2000, pp. 711-731 (with Raphael W. Bostic and Glenn B. Canner).

“Credit Scoring: Statistical Issues and Evidence from Credit-Bureau Files,” Real Estate Economics, Volume 28, Number 3, Fall 2000, pp. 523-547 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“Neighborhood Information and Home Mortgage Lending,” Journal of Urban Economics, Volume 45, Number 2, March 1999, pp.287-310 (with Patricia E. Beeson and Mark S. Sniderman).

“Consolidation and Bank Branching Patterns,” Journal of Banking and Finance, Volume 23, February 1999, pp. 497-522 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“Trends in Home Purchase Lending: Consolidation and the Community Reinvestment Act,” The Federal Reserve Bulletin, Volume 85, Number 2, February 1999, pp. 81-110 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“The Role of Personal Wealth in Small Business Finance,” Journal of Banking and Finance, Volume 22, August 1998, pp.1019-1061 (with Raphael W. Bostic and Katherine A. Samolyk).

“Changes in the Distribution of Banking Offices,” The Federal Reserve Bulletin, Volume 83, Number 9, September 1997, pp. 707-731 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“Using HMDA Data as a Regulatory Screen for Fair Lending Compliance,” The Journal of Financial Services Research, Volume 11, Numbers ½, February/April 1997, pp. 9-42 (with Patricia E. Beeson and Paul S. Calem).

“Credit Risk, Credit Scoring, and the Performance of Home Mortgages,” The Federal Reserve Bulletin, Volume 82, Number 7, July 1996, pp. 621-648 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“Posted Rates and Mortgage Lending Activity,” The Journal of Real Estate Finance and Economics, Volume 13, Number 1, July 1996, pp. 11-26 (with Patricia E. Beeson and Mark S. Sniderman).

“Accounting for Racial Differences in Housing Credit Markets,” in Mortgage Lending, Racial Discrimination, and Federal Policy, eds. John Goering and Ron Wienk, Washington DC: The Urban Institute Press, 1996, pp. 75-141 (with Patricia E. Beeson and Mark S. Sniderman).

“An Evaluation of The HMDA Data,” in Fair Lending Analysis, ed. Anthony M. Yezer, Washington DC: American Bankers Association, 1995, pp. 37-44 (with Patricia E. Beeson and Mark S. Sniderman).

“Cross-Lender Variation in Home Mortgage Lending,” Economic Review, Federal Reserve Bank of Cleveland, Quarter 4, 1994, pp. 15-29 (with Patricia E. Beeson and Mark S. Sniderman).

“U.S. Household Wealth: Changes From 1983 to 1986,” in Research in Economic Inequality: Festschrifte to Nancy Ruggles, Volume 4, ed. Edward Wolff, Greenwich, Conn: JAI Press, 1993, pp. 27-68 (with Arthur B. Kennickell).

“Money and Interest Rates Under a Reserves Operating Target,” Economic Review, Federal Reserve Bank of Cleveland, Quarter 2, 1993, pp. 24-34 (with Myron L. Kwast).

“Empirical Models of Debt Rescheduling with Sovereign Immunity,” in Country Risk Analysis: A handbook, ed. Ronald A. Solberg, London: Unwin-Hyman, Inc., 1992, pp. 100-117 (with Eric O’N. Fisher).

“Household Savings in the U.S.,” Review of Income and Wealth, Volume 37, Number 4, December 1991, pp. 409-432 (with Arthur B. Kennickell).

“An Analysis of Risk-Based Capital and its Relation to Deposit Insurance Reform,” Journal of Banking and Finance, Volume 15, Numbers 4/5, September 1991, pp. 847-874 (with Allen N. Berger).

“Deregulation and the Location of Financial Institution Offices,” Economic Review, Federal Reserve Bank of Cleveland, Quarter 3, 1991, pp. 30-42.

“Loan Commitments and Bank Risk Exposure,” Journal of Banking and Finance, Volume 15, Number 1, February 1991, pp. 173-192 (with Allen N. Berger).

“Rich Rewards,” American Demographics, Volume 11, Number 6, June 1989, pp. 34-48 (with Arthur B. Kennickell).

“Measuring Wealth With Survey Data: An evaluation of the 1983 Survey of Consumer Finances,” Review of Income and Wealth, Volume 34, Number 4, December 1988, pp. 339-369 (with Gregory E. Elliehausen and Arthur B. Kennickell).

“Market Discipline in Regulating Bank Risk: New Evidence from the Capital Markets,” Journal of Money Credit and Banking, Volume 20, Number 4, November 1988, pp. 597-610 (with Terrence M. Belton and Michael A. Goldberg).

“A Comparison of Risk-Based Capital and Risk-Based Deposit Insurance,” Economic Review, Federal Reserve Bank of Cleveland, Quarter 4, 1987, pp. 20-30 (with Terrence M. Belton).

“Changes in Consumer Installment Debt: Evidence from the 1983 and 1986 Surveys of Consumer Finances,” Federal Reserve Bulletin, Volume 73, Number 10, October 1987, pp. 761-778 (with Gregory E. Elliehausen and Arthur B. Kennickell). Reprinted in Credit World, Volume 77, Number 4, March-April 1989, pp. 34-38.

“Changes in the Use of Transaction Accounts and Cash From 1984 to 1986,” Federal Reserve Bulletin, Volume 73, Number 3, March 1987, pp. 179-196 (with Gregory E. Elliehausen, Arthur B. Kennickell, and Paul A. Spindt).

“Pension and Social Security in Household Portfolios: Evidence from the 1983 Survey of Consumer Finances,” in Savings and Capital Formation: The Policy Options, eds. F. Gerard Adams and Susan M. Wachter, Lexington, Mass: D.C. Heath and Co., 1986, pp. 127-160 (with Gregory E. Elliehausen and Thomas A. Gustafson).

“Financial Characteristics of High-Income Families,” Federal Reserve Bulletin, Volume 72, Number 3, March 1986, pp. 163-177 (with Gregory E. Elliehausen).

“The Use of Cash and Transaction Accounts by American Families,” Federal Reserve Bulletin, Volume 72, Number 2, February 1986, pp. 87-108 (with Gregory E. Elliehausen, Arthur B. Kennickell, and Paul A. Spindt).

“How People Use Financial Services,” American Demographics, Volume 7, Number 9, September 1985, pp. 34-48 (with Gregory E. Elliehausen and Thomas A. Gustafson).

“Survey of Consumer Finances, 1983: A Second Report,” Federal Reserve Bulletin, Volume 70, Number 12, December 1984, pp. 857-868 (with Gregory E. Elliehausen, Glenn B. Canner, and Thomas A. Gustafson). Reprinted in Credit World, Volume 74, Number 1, September-October 1985, pp. 34-39.

“Survey of Consumer Finances, 1983,” Federal Reserve Bulletin, Volume 70, Number 9, September 1984, pp. 679-692 (with Gregory E. Elliehausen, Glen B. Canner, and Thomas A. Gustafson). Reprinted in Credit World, Volume 73, Number 2, November-December 1984, pp. 6-20.

“Statistical Approaches to Modeling Absenteeism,” in Absenteeism: Theory, Methods, and Practice, eds. Paul S. Goodman and Robert S. Atkin, San Francisco: Jossey-Bass Inc., 1984, pp. 158-193 (with V. Joseph Hotz).

“Multiperiod Probit Models and Orthogonality Condition Estimation,” International Economic Review, Volume 24, Number 1, February 1983, pp. 21-35 (with Lars Peter Hansen and V. Joseph Hotz).

“Mortgage Redlining-Some New Evidence,” Economic Review, Federal Reserve Bank of Cleveland, Summer 1981, pp. 18-32 (with Thomas Buynak).

“Estimating Credit Constraints by Switching Regression,” in Structural Analysis of Discrete Data: With Econometric Applications, eds. Charles F. Manski and Daniel McFadden, Cambridge, Mass.: M.I.T. Press, 1981, pp. 435-472.

Application of Clarification Techniques in Business, Banking and Finance, Greenwich, Conn: JAI Press, 1981 (with Edward I. Altman, Robert A. Eisenbeis, and Joseph F. Sinkey Jr.).

“Modeling Monetary Policy As An Unobserved Variable,” Journal of Econometrics, Volume 10, Number 3, August 1979, pp. 291-311.

“Information, Uncertainty and Advertising Effects,” in The Effect of Information on Consumer and Market Behavior, ed. Andrew A. Mitchell, Chicago: American Marketing Association, 1979, pp. 22-26 (with Andrew A. Mitchell).

“The Application of an Error Components Model to Experimental Panel Data,” in The New Jersey Income-Maintenance Experiment, Volume 2, Labor Supply Responses, eds. H.W. Watts and A. Rees, New York: Academic Press, 1977, pp. 383-391 (with Harold W. Watts).

“Effects of Welfare 'Bias' on Family Earnings Response,” in The New Jersey Income-Maintenance Experiment, Volume 3, Expenditures, Health and Social Behavior; and the Quality of the Evidence, eds. H.W. Watts and A. Rees, New York: Academic Press, 1977, pp. 303-321.

“Error Components and Seemingly Unrelated Regressions,” Econometrica, Volume 45, Number 1, January 1977, pp. 199-209.

“Comparison of Linear and Quadratic Classification Procedures with Unequal Sample Dispersions,” The Indian Economic Journal, Volume 22, Number 2 October-December 1974, pp. 95-104 (with Robert A. Eisenbeis).

“The Labor-Supply Response of Husbands,” Journal of Human Resources, Vol 9, Number 2, Spring 1974, pp. 181-200 (with Harold W. Watts, et.al.).

“The Role of Money in an Economy and the Optimum Quantity of Money,” Economica, Volume 40, Number 160, November 1973, pp. 416-432 (with E.L. Feige, M. Parkin, and C. Stone).

“Two Aspects of Investigating Group Differences in Linear Discriminant Analysis,” Decision Sciences, Volume 4, Number 4, October 1973, pp. 487-493 (with Robert A. Eisenbeis).

“Investigating the Relative Importance of Individual Variables and Variable Subsets in Discriminant Analysis,” Communications in Statistics, Volume 2, Number 3, September 1973, pp. 205-219 (with Robert A. Eisenbeis and Gary Gilbert).

Discriminant Analysis and Classification Procedures: Theory and Applications, Lexington, Mass.: D.C. Heath and Co., 1972 (with Robert A. Eisenbeis).

## CONFERENCE PROCEEDINGS AND OTHER PUBLICATIONS

“Lessons Learned from the Construction and Use of the National Mortgage Database,” in Improving the American Community Survey: Proceedings of a Workshop, The National Academies of Science Engineering and Medicine, May 2019, pp. 69-74.

“The Value of Location in Bank Competition: Examining the Effect of Wal-mart Branches,” in Proceedings of a Conference on Bank Structure and Competition (2007), Federal Reserve Bank of Chicago, July 2007 (with Robert M. Adams and Ron Borzekowski).

“Assessing the Impact of the CRA on Banking Institutions,” in Proceedings of a Conference on Changing Financial Markets and Community Development, Federal Reserve System, 2001, pp. 301-319 (with Raphael W. Bostic and Glenn B. Canner).

“The Performance and Profitability of CRA-Related Lending,” Economic Commentary, Federal Reserve Bank of Cleveland, November 2000 (with Raphael W. Bostic and Glenn B. Canner).

“CRA: Performance and Profitability,” Housing America Update, Volume 1, Number 2, Fall 2000, p. 5 (with Raphael W. Bostic and Glenn B. Canner).

“Access to Credit for Minority-owned Businesses, Discussion Comments,” in Proceedings of a Conference on Business Access to Credit and Capital, Federal Reserve System, 1999, pp. 277-284.

“The Distribution of Credit Scores: Findings and Implications for the Provision of Financial Services,” in Proceedings of a Conference on Bank Structure and Competition (1997), Federal Reserve Bank of Chicago, 1997, pp. 521-543 (with Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner).

“Off-site Surveillance Systems in the 1980's and Lessons for the Future,” in History of the 80's -- Lessons for the Future, Volume II, Federal Deposit Insurance Corporation, 1997, pp. 25-29.



“Information Dynamics and CRA Strategy,” Economic Commentary, Federal Reserve Bank of Cleveland, February 1, 1997 (with Patricia E. Beeson and Mark S. Sniderman).

“Comment on Cash, Paper, and Electronic Payments: A Cross-Country Analysis,” Journal of Money, Credit, and Banking, Volume 28, November 1996, Part 2, pp. 940-941.

“Comments on Peek and Rosengren and Hancock, Laing, and Wilcox,” Journal of Banking and Finance, Volume 19, 1995, pp. 713-715.

“Comment on Morgan and Juster,” in Aspects of Distribution of Wealth & Income, ed. Dimitri B. Papadimitriou, New York: St. Martin's Press, 1994, pp. 29-30.

“Estimating the Size and Distribution of Baby Boomers' Prospective Inheritances,” 1993 Proceedings of the Section on Survey Research Methods, American Statistical Association, 1994 (with Michael S. Rendall).

“The Pending Intergenerational Transfer,” Philanthropy, Volume 8, Number 1, pp. 5, 28-29, 1993 (with Michael S. Rendall).

“Policy Forum,” in Poverty and Prosperity in the USA in the Late Twentieth Century, eds. Dimitri B. Papadimitriou and Edward N. Wolff, London: MacMillan Press, 1993, pp. 358-359, 372.

“Lender Consistency in Housing Credit Markets,” in Proceedings of a Conference on Bank Structure and Competition (1993), Federal Reserve Bank of Chicago, pp. 339-358 (with Patricia E. Beeson and Mark S. Sniderman).

“Home Mortgage Lending By the Numbers,” Economic Commentary, Federal Reserve Bank of Cleveland, February 15, 1993 (with Patricia E. Beeson and Mark S. Sniderman).

“Comments on What is the Impact of Pensions on Savings? The Need for Good Data,” in Pensions and the Economy: Sources, Uses, and Limitations of Data, eds. Zvi Bodie and Alice H. Munnell, Philadelphia: University of Pennsylvania Press, 1992, pp. 140-143.

“Making Judgments about Mortgage Lending Patterns,” Economic Commentary, Federal Reserve Bank of Cleveland, December 15, 1989.

“Comments on The Crisis in Deposit Insurance: Issues and Options,” in Capital Issues in Banking, Association of Reserve City Bankers, 1989, pp. 198-201.

“Comments on Long Term Trends in U.S. Wealth Inequality: Methodological Issues and Results,” in The Measurement of Savings, Investment, and Wealth, eds. Robert E. Lipsey and Helen Stone Tice, NBER Studies in Income and Wealth Volume 52, University of Chicago Press, 1989, pp. 839-844.

“The Household Balance Sheet,” Consumer Closeups, Cornell University, 1988-89: 4, December 1988 (with Arthur B. Kennickell).

“Risk-Based Capital and Off-Balance Sheet Activities,” in Proceedings of a Conference on Bank Structure and Competition (1988), Federal Reserve Bank of Chicago, Fall 1988, pp. 261-287 (with Allen N. Berger).

“Discussion of Ruggles and Witte/Lahmann,” in Proceedings of the Fourth Annual Research Conference, U.S. Bureau of the Census, July 1988, pp. 449-451.

“Are We Better Off than We Were Twenty-five Years Ago?,” Selected Proceedings, National Family Economics Extension Specialists Workshop, April 1988, pp. 7-14 (with Arthur B. Kennickell).

“Reconciling Flow of Funds and Survey-Based Measures of Household Wealth,” 1987 Proceedings of the Section on Survey Research Methods, American Statistical Association, 1987, pp. 28-37 (with Gregory E. Elliehausen and Arthur B. Kennickell). Reprinted in Statistics of Income and Related Administrative Record Research: 1986-1987, eds. Wendy Alvey and Beth Kliss, Internal Revenue Service, November 1987, pp. 3-13.

“An Analysis of Risk-based Deposit Insurance for Commercial Banks,” in Proceedings of a Conference on Bank Structure and Competition (1985), Federal Reserve Bank of Chicago, Fall 1985, pp. 217-250 (with Gerald A. Hanweck and Myron L. Kwast).

“A Dynamic Analysis of Bank Failures,” in Proceedings of a Conference on Bank Structure and Competition (1984), Federal Reserve Bank of Chicago, Fall 1984, pp. 380-401 (with Gerald A. Hanweck).

“Comments on a Theory for Pricing Non-Featured Products in Supermarkets,” Journal of Business, Volume 53, Number 3, pt. 2, July 1980, pp. S211-S213.

“Issues in Modeling the Carryover Effects of Advertising,” Proceedings, Fall Conference, American Marketing Association, 1976, pp. 473-477 (with Andrew A. Mitchell and Russell Winer).

## UNPUBLISHED PAPERS

National Survey of Mortgage Originations,” NMDB Technical Report 2, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, Last Updated March 2023 (with Mary F. Bilinski, Craig Davis, Elizabeth Hoeffel, Ian H. Keith, Ismail E. Mohamed, Saty Patrabansh, Jay D. Schultz, and Rebecca Sullivan).

“National Mortgage Database,” NMDB Technical Report 1, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, Last Updated December 2022 (with Craig Davis, Elizabeth Hoeffel, Ian H. Keith, Ismail E. Mohamed, Saty Patrabansh, Jay D. Schultz, and Rebecca Sullivan).

“A Profile of 2016 Mortgage Borrowers: Statistics from the National Survey of Mortgage Originations,” NMDB Technical Report 6, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, November 2018 (with Mary F. Bilinski, Audrey Clement, Tim Critchfield, Samuel Frumkin, Ian H. Keith, Ismail E. Mohamed, Julia Nguyen, Forrest W. Pafenberg, Saty Patrabansh, and Jay D. Schultz).

“A Profile of 2015 Mortgage Borrowers: Statistics from the National Survey of Mortgage Originations,” NMDB Technical Report 5, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, November 2017 (with Mary F. Bilinski, Audrey Clement, Tim Critchfield, Samuel Frumkin, Ian H. Keith, Ismail E. Mohamed, Julia Nguyen, Forrest W. Pafenberg, Saty Patrabansh, and Jay D. Schultz).

“A Profile of 2014 Mortgage Borrowers: Statistics from the National Survey of Mortgage Originations,” NMDB Technical Report 4, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, March 2017 (with Mary F. Bilinski, Brian K. Bucks, Christine Chai, Ming Chow, Audrey Clement, Tim Critchfield, Samuel Frumkin, Ian H. Keith, Ismail E. Mohamed, Forrest W. Pafenberg, Saty Patrabansh, Jay D. Schultz, and Claudia E. Wood).

“A Profile of 2013 Mortgage Borrowers: Statistics from the National Survey of Mortgage Originations,” NMDB Technical Report 3, Federal Housing Finance Agency and the Consumer Financial Protection Bureau, Updated March 2017 (with Mary F. Bilinski, Brian K. Bucks, Christine Chai, Tim Critchfield, Ian H. Keith, Ismail E. Mohamed, Forrest W. Pafenberg, Saty Patrabansh, Jay D. Schultz, and Claudia E. Wood).

“Measuring the Quality of Bank Loan Monitoring: Evidence from U.S. Syndicated Loans,” November 2011, presented at the Federal Reserve System Committee Meetings on Financial Structure and Regulation, (with Lewis Gaul, Douglas Robertson, and Leonard Nakamura).

“Payday Loans versus Pawn Shops: The Effect of Loan Fee Limits on Household Use,” April 2011, presented at the 2011 Federal Reserve Community Affairs Research Conference, Arlington VA (with Katherine A. Samolyk).

“Housing Cycles, Household Credit Performance, and Economic Activity,” working paper, presented at the Research Task Force Meetings, Oslo, January 2011, (with Kenneth P. Brevoort and Katherine A. Samolyk).

“Race and Consumer Credit: New Evidence from Credit Records,” draft, September 2010, (with Kenneth P. Brevoort and Glenn B. Canner).

“Insights from Credit Record Data on the Current Mortgage Crisis,” presented at the 2009 AREUEA Annual Meetings, January 2009 (with Kenneth P. Brevoort and Glenn B. Canner).

“Originations in the Mortgage Market,” presented at the 2009 AREUEA Annual Meetings, January 2009 (with Ron Borzekowski and Brent Goldfarb).

“Geographic Patterns in Mortgage Loan Performance,” draft, February 2009 (with Kenneth P. Brevoort and Glenn B. Canner).

“Gender and Credit-You've Come a Long Way Baby,” draft, September 2008 (with Kenneth P. Brevoort and Glenn B. Canner).

Report to the Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit, Report by the Board of Governors of the Federal Reserve System, submitted to the Congress pursuant to Section 215 of the Fair and Accurate Credit Transaction Act of 2003, August 2007 (with Kenneth P. Brevoort and Glenn B. Canner).

“Patterns of Higher-Priced Lending by Race and Ethnicity” presented at the 2006 Bank Structure Conference, Federal Reserve Bank of Chicago, May 2006 (with Kenneth P. Brevoort and Glenn B. Canner).

“Bank Branches: Do they matter to the health of local Neighborhoods?” presented at the 2005 AREUEA Annual Meetings, January 2005.

“Credit Information Reporting and the Practical Implications of Inaccurate or Missing Information in Underwriting Decisions,” presented at the conference Building Assets, Building Credit: A Symposium on Improving Financial Services in Low-Income Communities, Harvard University, November 2003, reprinted as working paper BABC 04-11, Joint Center for Housing Studies, Harvard University, February 2004 (with Paul S. Calem and Glenn B. Canner).

“The Effects of the Community Reinvestment Act on Local Communities,” presented at the 2003 Federal Reserve Community Affairs Research Conference,” March 2003 (with Paul S. Calem and Glenn B. Canner).

“The Community Reinvestment Act and Small Business Lending,” working paper, November 2001 (with Raphael W. Bostic and Glenn B. Canner).

The Performance and Profitability of CRA-Related Lending, Report by the Board of Governors of the Federal Reserve System, submitted to the Congress pursuant to Section 713 of the Gramm-Leach-Bliley Act of 1999, July 2000 (with Raphael W. Bostic and Glenn B. Canner).

“Neighborhood Race and the Mortgage Market: Evidence from HMDA Data,” working paper, June 1998 (with Patricia E. Beeson and Mark S. Sniderman).

“Estimation of a Markov Model of Loan Seasoning with Aggregated Performance Data,” Presented at the Third International Conference on Computation in Economics and Finance, July 1997 (with Michael B. Gordy).

“Loan Growth, Economic Activity and Bank Performance,” Presented at the 1996 FMA annual meetings, October 1996 (with Michael B. Gordy).

The 1992 Survey of Float on U.S. Government Checks, staff report, Board of Governors of the Federal Reserve System, April 1993 (with Thomas C. Luck).

The 1986 Survey of Consumer Finances: Technical Manual and Codebook, Board of Governors of the Federal Reserve, August 1988 (with Arthur B. Kennickell).

“The Survey of Consumer Finances and Other Federal Reserve Board Data,” presented at the 1988 American Council on Consumer Interest annual meetings (with Arthur B. Kennickell).

“Measuring Debt Changes from Panel Data: Preliminary Evidence from the 1983 and 1986 Surveys of Consumer Finances,” presented at the 1987 American Statistical Association summer meetings (with Gregory E. Elliehausen and Arthur B. Kennickell).

“A Microanalytic View of the Payments Mechanism: Some Preliminary Results from the Survey of Currency and Transaction Account Usage,” working paper, Board of Governors of the Federal Reserve System, presented at the 1985 Financial Management Association annual meetings (with Gregory E. Elliehausen, Arthur B. Kennickell, and Paul A. Spindt).

HOTZTRAN Users Manual, CERA Economic Consultants, June 1985 (with V. Joseph Hotz).

The 1983 Survey of Consumer Finances: Technical Manual and Codebook, Board of Governors of the Federal Reserve System, April 1985 (with Gregory E. Elliehausen).

Social Security Check Float, Staff Report, Board of Governors of the Federal Reserve System, January 1984, also presented at the 1984 ORSA/TIMS fall meetings (with William Dudley and Eugene Snyder).

“Mortgage Redlining: A Multicity Cross-Section Analysis,” working paper, Board of Governors of the Federal Reserve System, presented at the 1983 American Finance Association annual meetings (with Glenn B. Canner).

“Estimating Systems of Nonlinear Equations With Limited Dependent Variables,” working paper, NORC University of Chicago, presented at the 1982 Econometric Society summer meetings (with V. Joseph Hotz).

“Discrimination in Consumer Credit Markets,” working paper, Board of Governors of the Federal Reserve System, 1982.

“Credit Scoring Models With Discriminant Analysis and Truncated Samples,” working paper, Board of Governors of the Federal Reserve System, 1981.

“Indirect Screening and the Equal Credit Opportunity Act,” working paper, Board of Governors of the Federal Reserve System, presented at the 1980 American Finance Association annual meetings.

“Implicit Contracts and Worker Layoff Behavior,” working paper, presented at the 1979 Econometric Society annual meetings (with V. Joseph Hotz).

“Qualitative Dependent Variable Program CRAWTRAN,” working paper, Carnegie Mellon University, 1979.

“Regression Program AVETTRAN Instruction Manual,” working paper, Carnegie Mellon University, 1975.

“Bank Crime and Security Devices, 1969-1971,” working paper, Federal Deposit Insurance Corporation, 1975.

“Program Write-up for Multiple Discriminant Analysis Program MULDIS,” Data and Program Library Service, University of Wisconsin, 1972 (with Robert A. Eisenbeis).

## **DISCUSSION AND PRESENTATIONS**

Program Committee, AREUEA National Conference, Washington, June 2023.

Presentation, Federal Reserve Bank of Philadelphia, Philadelphia, May 2022.

Keynote, Conference on Artificial Intelligence in Consumer Finance: Defining and Insuring Fairness, Federal Reserve Banks of Cleveland and Philadelphia, Philadelphia, November 2021.

Presentation, FHFA Economic Summit, September 2020.

Presentation, Urban Institute, August 2020.

Presentation, Office of Financial Research, Washington, July 2019.

Presentation, Federal Reserve Board, Washington, July 2019.

Presentation, Federal Deposit Insurance Corporation, Washington, May 2019.

Presentation, Federal Reserve Bank of Cleveland, Cleveland, April 2019.

Presentation, Workshop on Improving the American Community Survey, The National Academies of Science Engineering and Medicine, Washington, September 2018.

Panelist, FRB/CFPB/Philadelphia Fed Brownbag, Washington, June 2018.

Presentation, CoreLogic Federal Symposium, Washington, January 2018.  
 Presentation, Housing Statistics Users Group, Washington, May 2017.  
 Presentation, CoreLogic Federal Symposium, Washington, February 2017.  
 Presentation, Conference on Big Data in Finance, University of Michigan Law School, Ann Arbor MI, October 2016.  
 Panelist, Association of Public Data Users Annual Conference, Washington, September 2016.  
 Panelist, Regulatory Data Workshop, Washington, September 2016.  
 Presentation, Society for Economic Measurement Conference, Thessaloniki Greece, July 2016.  
 Discussant, AREUEA National Conference, Washington, June 2016.  
 Presentation, Experian Vision Conference, Scottsdale AZ, May 2016.  
 Presentation, Americans for Financial Reform, Washington, February 2016.  
 Presentation, FDIC, Washington, January 2016.  
 Keynote Address, CoreLogic Property Data Roundtable, Irvine CA, September 2015.  
 Panelist, Wisconsin Real Estate and Economic Outlook Conference, University of Wisconsin, Madison WI, September 2015.  
 Panelist, Association of Public Data Users Annual Conference, Washington, September 2015.  
 Discussant, Regulating Consumer Credit, Federal Reserve Bank of Philadelphia and the Journal of Economics and Business, Philadelphia, May 2015.  
 Presentation, Federal Reserve Bank of Philadelphia, Philadelphia, December 2014.  
 Presentation, Office of the Comptroller of the Currency, Washington, November 2014.  
 Presentation, Council of Economic Advisors, Washington, September 2014.  
 Presentation, Property Records Industry Association Conference, Naples FL, July 2014.  
 Session Chair, AREUEA National Conference, Washington, May 2014.  
 Panelist, Conference Honoring Ned Gramlich and the Importance of Policy Research, Gerald R. Ford School of Public Policy, Washington, May 2014.  
 Discussant, Lunchtime Data Talk, Urban Institute, Washington, March 2014.  
 Presentation, Academic Advisors, Federal Reserve Bank of Cleveland, Cleveland, January 2014.  
 Presentation, National Consumer Reporting Association Annual Conference, Albuquerque, November 2013.  
 Presentation, Americastalyst 2013, Austin TX, October 2013.  
 Session Chair, Annual Consumer Affairs Conference, Federal Reserve Bank of Cleveland, Cleveland, September 2013.  
 Presentation, Association of Public Data Users Annual Conference, Washington, September 2013  
 Presentation, Office of the Comptroller of the Currency, Washington, August 2013.  
 Presentation, American Enterprise Institute, Washington, July 2013.  
 Presentation, The Tax Economists Forum, Washington, July 2013.  
 Presentation, AREUEA International Conference, Jerusalem, June 2013.  
 Presentation, Lunchtime Data Talk, Urban Institute, Washington, June 2013.  
 Panel Member, Property Records Industry Association Conference, Washington, February 2013.  
 Presentation, 3rd Annual Data Regulatory Workshop, Arlington VA, February 2013.  
 Homer Hoyt Fellow Lecture, Weimer School of Advanced Studies in Real Estate and Land Economics, Palm Beach FL, January 2013.  
 Presentation and Discussant, Risk Quantification Forum, Federal Reserve Bank of Philadelphia, Philadelphia, December 2012.  
 Presentation, Housing Statistics Users Group, Washington, November 2012.  
 Presentation, FHLBank Advisory Council Leadership meeting, Washington, October 2012.  
 Panel Member, Conference on Consumer Financial Protection Regulations: How do they Measure Up?, Federal Reserve Bank of Philadelphia, Philadelphia, September 2012.  
 Presentation, Consumer Financial Protection Bureau, Washington, March 2012.  
 Presentation, Federal Housing Finance Agency, Washington, March 2012.

Homer Hoyt Fellow Lecture, Weimer School of Advanced Studies in Real Estate and Land Economics, Palm Beach FL, January 2012.

Paper Presented, Federal Reserve System Committee on Financial Structure and Regulation, Richmond VA, November 2011.

Presentation, Housing Statistics Users Group, Washington, November 2011.

Presentation, Council of Economic Advisors, Washington, November 2011

Presentation, New Research of Sustainable Mortgages and Access to Credit, Consumer Financial Protection Bureau Symposium, Washington, September 2011.

Paper Presented and Discussant, Western Economics Association Meetings, San Diego, July 2011.

Paper Presented, 2011 Federal Reserve Community Affairs Research Conference, Arlington VA, April 2011.

Colston E. Warne Lecture, American Council on the Consumer Interest, Washington DC, April 2011.

Presentation, Conference on The New Landscape for Consumer Credit and Payments, Federal Reserve Bank of Philadelphia, Philadelphia, December 2010.

Presentation, Housing Statistics Users Group, Washington, November 2010.

Session Chair and Discussant, Conference on Mortgages & the Future of Housing Finance, FDIC, Arlington VA, October 2010.

Presentation, Congressional Research Service Housing Brown bag, September 2010.

Presentation, National Fair Housing Policy Conference, Department of Housing and Urban Development, New Orleans, July 2010.

Paper Presented, Joint GW/George Mason Real Estate Conference, Washington, May 2010.

Presentation, Housing Statistics Users Group, Washington, April 2010.

Paper Presented, AREUEA annual meetings, Atlanta, January 2010.

Panel Member, AREUEA annual meetings, Atlanta, January 2010.

Presentation, Congressional Research Service Housing Brown bag, September 2009.

Co-Organizer and Panel Member, Conference on Mortgage Data, Federal Reserve Bank of Philadelphia, Philadelphia, June 2009.

Presentation, Mid-year AREUEA Meetings, Washington, May 2009.

Presentation, Risk Summit, Trans Union Corporation, Chicago, May 2009.

Panel Member, ARES Annual Conference, Monterey CA, April 2009.

Presentation, Conference on the Community Reinvestment Act, Federal Reserve Bank of Cleveland, Cleveland, February 2009.

Papers Presented (2), AREUEA annual meetings, San Francisco, January 2009.

Discussant, Federal Reserve System Day Ahead Conference, San Francisco, January 2009.

Presentation, Fair Lending Conference, Office of Comptroller of the Currency, New Orleans, September 2008.

Presentation, Congressional Research Service Housing Brown bag, September 2008.

Seminar presentation, Federal Reserve Bank of Chicago, August 2008.

Discussant, AREUEA midyear meetings, Washington, May 2008.

Presentation, National Fair Housing Policy Conference, Department of Housing and Urban Development, Atlanta, April 2008.

Presentation, Housing Statistics User Group, Washington, January 2008.

Presentation, Mortgage Outlook 2008 Conference, New York, November 2007.

Presentation, Consumer Bankers Association, Arlington VA, November 2007.

Panel Member, Conference on Access, Assets, and Poverty, National Poverty Center, Washington, October 2007.

Presentation, Congressional Research Service Housing Brown bag, September 2007.

Presentation, Fair Housing Assistance Program Training Roundtable, Department of Housing and Urban Development, September 2007.

Keynote, Fair Lending Modeling Symposium, American Bankers Association, Atlanta, June 2007.

- Paper Presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 2007.
- Panel Member, Fair Lending Summit 2007, Arlington VA, March 2007.
- Paper Presented, AREUEA annual meetings, Chicago, January 2007.
- Panel Member, Consumer Empowerment Forum, Fair Isaacs Company, Arlington VA, September 2006.
- Panel Member, Consumer Behavior and Payment Choice–Second Annual Research Conference, Federal Reserve Bank of Boston, July 2006.
- Presentation, National Fair Housing Policy Conference, Department of Housing and Urban Development, Anaheim CA, June 2006.
- Paper Presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 2006.
- Presentation, Interact Conference, Fair Isaacs Company, San Francisco, May 2006.
- Presentation, National Association of Affordable Housing Lenders, Washington, February 2006.
- Paper Presented, Department of Housing and Urban Development, November 2005.
- Panel Member, 2<sup>nd</sup> National Corporate Counsel Forum on HMDA, ACI, Las Vegas, November 2005.
- Panel Member, Consumer Bankers Association Conference, Arlington VA, November 2005.
- Presentation, National Home Equity Mortgage Association, Washington, September 2005.
- Panel Member, Annual Risk Summit, Loan Performance Corporation, Carlsbad CA., July 2005.
- Paper Presented, School of Public Policy, University of Southern California, March 2005.
- Paper Presented, Washington Statistical Society, January 2005.
- Session Chairman, AREUEA annual meetings, Philadelphia, January 2005.
- Paper Presented, AREUEA annual meetings, Philadelphia, January 2005.
- Paper Presented, Federal Reserve Bank of Philadelphia, September 2004.
- Discussant, Credit Rating and Credit Scoring Conference, Office of the Comptroller of the Currency, Washington, May 2004.
- Paper Presented, Conference on Building Assets, Building Credit: A Symposium on Improving Financial Services in Low-Income Communities, Harvard University, November 2003.
- Paper Presented, Conference of the Federal Reserve System Committee on Banking and Financial Structure, Federal Reserve Bank of Chicago, September 2003.
- Paper Presented, Bank for International Settlements, June 2003.
- Paper Presented, Conference on Retail Credit Risk Management and Measurement, Federal Reserve Bank of Philadelphia, April 2003.
- Paper Presented, Conference on Whither the Community Bank, Federal Reserve Bank of Chicago, March 2003.
- Paper Presented, Conference on Sustainable Community Development: What Works, What Doesn't, and Why, Federal Reserve System, March 2003.
- Discussant, AREUEA annual meetings, Washington, January 2003.
- Paper Presented, Conference on Credit Risk Modeling and Decisioning, Federal Reserve bank of Philadelphia and the Wharton School, Philadelphia, May 2002.
- Paper Presented, AREUEA annual meetings, Atlanta, January 2002.
- Paper Presented, Association of Public Policy, Analysis, and Management annual research conference, Washington, November 2001.
- Panel Member, Atlantic Economic Association annual meetings, Philadelphia, October 2001.
- Paper Presented, Conference on Changing Financial Markets & Community Development, Federal Reserve System, April 2001.
- Paper Presented, USASBE annual meetings, Orlando, February 2001.
- Panel Member, Conference on Lending for the Millennium: Trends and Transition, Cleveland State University, Cleveland, December 2000.
- Paper Presented, Regional Science Association International 47<sup>th</sup> North American meetings, Chicago, November 2000.



Discussant, Washington Statistical Society, October 2000.

Discussant, Western Economic Association annual meetings, Vancouver, July 2000.

Presentation, SBA Banking Conference, Washington, June 2000.

Presentation, Civil Rights Division, Department of Justice, May 2000.

Discussant, AREUEA annual meetings, Boston, January 2000.

Paper Presented, AREUEA annual meetings, Boston, January 2000.

Discussant, Southern Finance Association annual meetings, Key West, November 1999.

Presentation, Semi-Annual Surveillance Conference, Federal Reserve Bank of Chicago, July 1999.

Paper Presented, Western Economic Association annual meetings, San Diego, July 1999.

Paper Presented, Basel Committee Workshop, Amsterdam, June 1999.

Panel Member, Women's Venture Fund Conference, New York, April 1999.

Discussant, Conference on Business Access to Capital and Credit, Federal Reserve System, March 1999.

Discussant, AEA/NEA annual meetings, New York, January 1999.

Presentation, Semi-Annual Surveillance Conference, Federal Reserve Bank of Cleveland, November 1998.

Presentation, Semi-Annual Surveillance Conference, Federal Reserve Bank of Kansas City, May 1998.

Paper Presented, Conference on the Consolidation of the Financial Services Industry, Federal Reserve Bank of New York, March 1998.

Paper Presented, AEA/NEA annual meetings, Chicago, January 1998.

Seminar, Federal Reserve Bank of New York, December 1997.

Paper Presented, Financial Management Association annual meetings, Honolulu, October 1997.

Panel Member, Financial Management Association annual meetings, Honolulu, October 1997.

Paper Presented, Third International Conference on Computation in Economics and Finance, Society of Computational Economics, Palo Alto CA, July 1997.

Presentation, Annual Examiner Conference of the Federal Reserve System, Dallas, June 1997.

Paper Presented, Conference on the Economics of Small Business Finance, NYU Stern School, May 1997.

Paper Presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1997.

Discussant, Symposium on History of the 80's -- Lessons for the Future, Federal Deposit Insurance Corporation, January 1997.

Paper Presented, Federal Deposit Insurance Corporation, December 1996.

Paper Presented, Fannie Mae, November 1996.

Paper Presented, Freddie Mac, November 1996.

Paper Presented, Washington Statistical Society, October 1996.

Paper Presented, Financial Management Association annual meetings, New Orleans, October 1996.

Panel Member, Financial Management Association annual meetings, New Orleans, October 1996.

Paper Presented, Workshop on Discrimination in Financial Services, Federal Reserve Bank of Chicago, March 1996.

Paper Presented, Society for Government Economists, February 1996.

Paper Presented, AREUEA annual meetings, San Francisco, January 1996.

Discussant, JMCB/FRB Payment Systems Research and Public Policy Conference, Washington, December 1995.

Panel Member, Financial Management Association annual meetings, New York, October 1995.

Panel Member, NFBPA annual meetings, Nashville, July 1995.

Discussant, AREUEA mid-year meetings, Washington, May 1995.

Seminar, Federal Reserve Bank of New York, January 1995.

Paper Presented, AREUEA annual meeting, Washington, January 1995.

Discussant, Conference of the Federal Reserve System Committee on Banking and Financial Structure, Charlotte, November 1994.

Discussant, Financial Management Association annual meetings, St. Louis, October 1994.  
 Paper Presented, OFEO, September 1994.  
 Paper Presented, Western Economic Association annual meetings, Vancouver, July 1994.  
 Paper Presented, Federal National Mortgage Corporation, June 1994.  
 Panel Member, Conference on Housing Finance, HUD, May 1994  
 Paper Presented, Population Association of America annual meetings, May 1994.  
 Discussant, Conference on the Role of Capital in Financial Institutions, University of Pennsylvania, March 1994.  
 Paper Presented, Federal Reserve Bank of Philadelphia Conference on Information and Screening in Real Estate Finance, March 1994.  
 Paper Presented, AREUEA annual meetings, Boston, January 1994.  
 Paper Presented, Race, Poverty, and Housing Conference, University of Minnesota, December 1993.  
 Presentation, The Philanthropy Roundtable annual meetings, Hot Springs VA, November 1993.  
 Paper Presented, American Statistical Association summer meetings, San Francisco, August 1993.  
 Co-organizer and Paper presented, HUD Conference on Mortgage Discrimination, Washington D.C., May 1993.  
 Paper Presented, University of Chicago, May 1993.  
 Paper Presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1993.  
 Paper Presented, University of Pittsburgh, April 1993.  
 Paper Presented, Syracuse University, April 1993.  
 Paper Presented, AREUEA annual meetings, Anaheim CA, January 1993  
 Co-organizer and presenter, Conference on a new Mortgage Survey, Fannie Mae, November 1992.  
 Paper Presented, Western Economic Association annual meetings, San Francisco, July 1992.  
 Presentation, BEI Golembe Conference on Banking, Palm Springs, February 1992.  
 Panel Member, Consumer Financial Services Committee of the American Bar Association fall meetings, San Diego, November 1991.  
 Discussant, Conference on Poverty & Prosperity in America at the Close of the Twentieth Century, Jerome Levy Economics Institute, Bard College, June 1991.  
 Paper Presented, Conference on Deposit Insurance, New York University, May 1991.  
 Discussant, Financial Management Association annual meetings, Orlando, October 1990.  
 Panel Member, 65th Anniversary Conference, College of Human Ecology, Cornell University, October 1990.  
 Discussant, Conference on Aspects of Distribution of Wealth and Income, Jerome Levy Economics Institute, Bard College, September 1990.  
 Seminar, The Ohio State University, April 1990.  
 Paper presented and Session Chair, American Council of Consumer Interest annual meetings, New Orleans, April 1990.  
 Discussant, Conference on Pensions and the U.S. Economy: The Need for Good Data, Pension Research Council, University of Pennsylvania, March 1990.  
 Discussant, AREUEA annual meetings, Atlanta, December 1989.  
 Presentation, Economic Outlook for 1990 Economic Training School, Cornell University, December 1989.  
 Discussant, Financial Management Association annual meetings, Boston, October 1989.  
 Presentation, Ivy League Development Officers annual meetings, Ithaca, September 1989.  
 Paper presented, 21st Congress of the International Association for Research on Income and Wealth, Lahnstein, FRG, September 1989.  
 Presentation, Cortland County NY Extension, June 1989.  
 Discussant, Population Association of America annual meetings, Baltimore, April 1989.  
 Discussant, Eastern Economics Association annual meetings, Baltimore, March 1989.  
 Discussant, ARCB-BRC Conference on Bank Capital, Northwestern University, December 1988.

Seminar, Arizona State University, November 1988.

Discussant, Financial Management Association annual meetings, New Orleans, October 1988.

Paper presented, NBER Conference on Research in Income and Wealth, Washington, May 1988.

Paper presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1988.

Paper presented, National Family Economics Extension Specialists Workshop, Chicago, April 1988.

Paper presented, American Council of Consumer Interest annual meetings, Chicago, April 1988.

Discussant, Fourth Annual Research Conference, Bureau of the Census, Washington, March 1988.

Seminar, University of Dayton, January 1988.

Discussant, Econometric Society annual meetings, Chicago, December 1987.

Session Chair, Society of Government Economists annual meetings, Chicago, December 1987.

Seminar, U.S. Department of Agriculture, December 1987.

Seminar, University of Delaware, December 1987.

Paper presented, Conference of the Federal Reserve System Committee on Banking and Financial Structure, Miami, November 1987.

Paper presented, 20th Congress of the International Association for Research on Income and Wealth, Rocca di Papa, Italy, August 1987.

Papers presented (2), American Statistical Association summer meetings, San Francisco, August 1987.

Seminar, Virginia Polytechnical Institute, April 1987.

Discussant, American Council of Consumer Interest annual meetings, Denver, April 1987.

Discussant, NBER Conference on Research in Income and Wealth, Baltimore, March 1987.

Seminar, NORC University of Chicago, February 1987.

Paper presented, Econometric Society annual meetings, New Orleans, December 1986.

Seminar, Federal Reserve Bank of Cleveland, November 1986.

Discussant, Conference of the Federal Reserve System Committee on Banking and Financial Structure, Philadelphia, October 1986.

Paper presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1986.

Seminar, Cornell University, April 1986.

Presentation, Forum on Emerging CRA Issues, Federal Reserve Bank of Cleveland, March 1986.

Presentation, Conference on Low Cost Banking Services, Federal Reserve Bank of New York, February 1986.

Paper presented, American Economic Association annual meetings, New York, December 1985.

Paper presented, American Finance Association annual meetings, New York, December 1985.

Paper presented, Financial Management Association annual meetings, Denver, October 1985.

Co-organizer, Conference of the Federal Reserve System Committee on Banking and Financial Structure, New Orleans, September 1985.

Paper presented, Western Economic Association annual meetings, Anaheim, July 1985.

Paper presented, Conference on Savings, Wharton School and the Savings Forum, May 1985.

Paper presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1985.

Paper presented, ORSA/TIMS fall meetings, Dallas, November 1984.

Paper presented, Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, April 1984.

Co-organizer, Conference on The Future of Small Depository Institutions in an Era of Deregulation, Financial Innovation, and Technological Change, Board of Governors of the Federal Reserve System, January 1984.

Paper presented, Econometric Society annual meetings, San Francisco, December 1983.

Paper presented, American Finance Association annual meetings, San Francisco, December 1983.

Paper presented, Federal Reserve System Meeting on Financial Analysis, Cleveland, October 1983.  
 Seminar, University of North Carolina, April 1983.  
 Seminar, Federal Reserve Bank of Cleveland, April 1983.  
 Seminar, FTC, October 1982.  
 Co-organizer, Conference on Deregulation of Bank Product Lines, Board of Governors of the Federal Reserve System, July 1982.  
 Paper presented, Econometric Society summer meetings, Ithaca, June 1982.  
 Seminar, Board of Governors of the Federal Reserve System, June 1981.  
 Seminar, Federal Reserve Bank of Cleveland, June 1981.  
 Seminar, University of Pittsburgh, October 1980.  
 Paper presented, Econometric Society annual meetings, Denver, September 1980.  
 Paper presented, American Finance Association annual meetings, Denver, September 1980.  
 Discussant, Society of Government Economists annual meetings, Denver, September 1980.  
 Paper presented, American Economic Association annual meetings, Atlanta, December 1979.  
 Discussant, Econometric Society annual meetings, Atlanta, December 1979.  
 Discussant, Research Conference on the Employment Opportunity Pilot Projects Evaluation Design, U.S. Dept. of Labor, September 1979.  
 Paper presented, NBER-NSF Conference on Decision Rules and Uncertainty, Carnegie Mellon University, March 1978.  
 Discussant, The Conference on the Interfaces Between Marketing and Economics, University Rochester, April 1978.  
 Discussant, American Finance Association annual meetings, Chicago, August 1978.  
 Discussant, Econometric Society annual meetings, Chicago, August 1978.  
 Paper presented, joint Carnegie Mellon and American Marketing Association Conference, Carnegie Mellon University, May 1977.  
 Seminar, Columbia University, April 1977.  
 Paper presented, Econometric Society annual meetings, Atlantic City, N.J., September 1976.  
 Paper presented, American Marketing Association annual meetings, Memphis, August 1976.  
 Seminar, Mathematica Inc., October 1975.  
 Seminar, Urban Institute, August 1975.  
 Discussion Leader, Conference on the Negative Income Tax Experiment, HEW-Poverty Institute, July 1974.  
 Seminar, Cornell University, January 1974.

## **NATIONAL SURVEYS**

American Survey of Mortgage Borrowers, Project Director, Co-sponsored by the Federal Housing Finance Agency and the Consumer Financial Protection Bureau, annually since August 2016.  
 National Survey of Mortgage Originations, Project Director, Co-sponsored by the Federal Housing Finance Agency and the Consumer Financial Protection Bureau, quarterly since March 2014.  
 Survey of the Performance and Profitability of CRA-related Lending, Co-director and Co-author, Board of Governors of the Federal Reserve System, Spring 2000.  
 1993/4 Survey of Mortgage Borrowers, Pilot Study, Co-director and Co-author, Fannie Mae, Conducted by the Survey Research Facility, Cornell University.  
 1989 Survey of Consumer Finances, Co-director and Co-author, Board of Governors of the Federal Reserve System, Conducted by the Survey Research Center, University of Michigan.  
 1986 Survey of Currency and Transaction Account Usage, Co-director and Co-author, Board of Governors of the Federal Reserve System, Conducted by the Survey Research Center, University of Michigan.

- 1986 Survey of Consumer Finances, Project Director and Co-author, Board of Governors of the Federal Reserve System, Conducted by the Survey Research Center, University of Michigan.
- 1984 Survey of Currency and Transaction Account Usage, Co-director and Co-author, Board of Governors of the Federal Reserve System, Conducted by the Survey Research Center, University of Michigan.
- 1983 Survey of Consumer Finances, Project Director and Co-author, Board of Governors of the Federal Reserve System, Conducted by the Survey Research Center, University of Michigan.

## **OTHER PROFESSIONAL ACTIVITIES**

- Ph.D. reader, George Washington University Department of Economics, May 2019.
- Original Steering Committee, Supervisory Research and Policy Forum, Federal Reserve System, December 2017
- Steering Committee, Georgetown University Community Partnership, January 2015-
- Treasurer, DC Metropolitan Police Citizen's Advisory Board, January 2007-
- President, Foxhall Community Citizens Association, November 2005-
- Member, IMF Assistance Mission, Government of Peru, May 2003.
- Member, Assistance Mission, Central Bank of the Republic of Korea, April 1999.
- Member, Consumer Advisory Board, TRW Information Services, September 1992 - August 1994.
- Consultant, Financial Management Service, U.S. Department of the Treasury, June 1992 - May 1993.
- Research Associate, Economic Research Center, National Opinion Research Center, University of Chicago, July 1991 - August 1994.
- Member, Board of Advisors, Survey Research Facility, Cornell University, April 1990 - August 1994.
- Consultant, Board of Governors of the Federal Reserve System, March 1989 - December 1989.
- Member, IRS Intergenerational Wealth Study Advisory Panel, June 1987 - August 1994.
- Representative, Student Affairs Council, Carnegie Mellon University, September 1980 - May 1981.
- Member, Faculty Senate (executive committee), Carnegie Mellon University, August 1980 - August 1981.
- Consultant, Technical Panel Quality Control Systems in Public Assistance, DHHS, January 1980 - January 1982.
- Representative, Educational Affairs Council, Carnegie Mellon University, September 1979 - May 1980.

## **MEMBER**

- American Economic Association  
 American Real Estate and Urban Economics Association  
 International Association for Research in Income and Wealth  
 NBER Conference on Income and Wealth