

Scott D. Schuh

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Education

Johns Hopkins University, 1992	Ph.D., M.A. (economics)
California State University, Sacramento, 1985	B.A. (economics and journalism)
Arizona Automotive Institute, 1981	Diploma

Work experience (selected)

- West Virginia University, Department of Economics, Associate Professor, 2018–
- Federal Reserve Bank of Boston, 1997–2018
 - *Director and Economist, Consumer Payments Research Center (CPRC), 2008–2018*
 - *Senior Economist and Policy Advisor, 2005–*
 - *Assistant VP, 2002–2005*
 - *Senior Economist, 2000–2002*
 - *Economist, 1997–2000*
- Board of Governors of the Federal Reserve System, Economist, 1991–1997
- U.S. Census Bureau, 1988–2003
 - *Research Associate, Boston (MA) Regional Data Center, 1997–2003*
 - *Research Associate, Center for Economic Studies, Suitland MD, 1988–1997*
 - *Statistician, 1990–1991*
- University of Maryland, Research and Teaching Assistant, 1986–1990
- Johns Hopkins University, Research Assistant, 1988–1989
- President Reagan's Council of Economic Advisers, Staff Economist, 1987–1988
- Congressional Budget Office, Intern, 1987
- U.S. Department of Interior, Intern, 1986
- *The Wall Street Journal*, San Francisco Bureau, Intern, 1984
- *The Sacramento Bee*, Sports Correspondent, 1983–85

Teaching experience

WVU (Assoc. Prof.), 2018–	Money & Banking (BA)
Boston University (Lecturer), 2012–2014	Money & Banking (BA); Financial Intermed. (MA)
Boston College (Adjunct), 2004	Math for Economists (PhD)
Johns Hopkins University (Adjunct), 1996	Macroeconomic Principles (BA)

Books and edited volumes

Job Creation, Job Destruction, and International Competition (with Michael W. Klein and Robert K. Triest), Kalamazoo, MI: Upjohn Institute for Employment Research, 2003.

Jeffrey Fuhrer and Scott Schuh, eds., *Beyond Shocks: What Causes Business Cycles?* Federal Reserve Bank of Boston Conference Series No. 42, 1998.

Job Creation and Destruction (with Steven J. Davis and John C. Haltiwanger), Cambridge, MA: MIT Press, 1996.

Current unpublished papers

- “U.S. Consumer Demand for Cash in the Era of Low Interest Rates and Electronic Payments,” (with Tamas Briglevics), *FRB Boston Working Paper* 13-23, 2013. Revise & resubmit @ *Journal of Monetary Economics*.
- “U.S. Consumer Cash Use, 2012 and 2015: An Introduction to the Diary of Consumer Payment Choice” (with Claire Greene and Shaun O’Brien), Federal Reserve Bank of Boston *Research Data Report* No. 17-6. Revise & resubmit @ *Contemporary Economic Policy*.
- “This Is What’s in Your Wallet...and Here’s How You Use It,” (with Tamas Briglevics), *FRB Boston Working Paper* 14-5, 2014; updated February 2017. Under revision.
- Last presented @ *NASM Econometric Society, June 2016*
- “Credit Card Utilization and Consumption over the Life Cycle and Business Cycle” (with Scott L. Fulford), *FRB Boston Working Paper* 17-14, 2017. Under revision for submission.
- Last presented @ *CEPR European Workshop on Household Finance, April 2017*
 - Presented @ *NBER Summer Institute, July 2016*
- “Consumer Revolving Credit and Debt over the Life Cycle and Business Cycle” (with Scott L. Fulford), *FRB Boston Working Paper* 15-17, 2015; updated November 2016.
- “U.S. Consumers’ Adoption and Use of Bitcoin and Other Virtual Currencies” (with Oz Shy), April 2016. Under revision.
- Last presented @ *WEAI Annual Meetings, June 2016*
- “Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations,” (with Oz Shy and Joanna Stavins), *FRB Boston Public Policy Discussion Paper* 10-3, 2010; updated 2013. Under revision.
- “Homing in Payment Instrument Choice” (with Tamas Briglevics and David Zhang), unpublished working paper, December 2017. Under revision.
- “Matching Consumer Survey Data with Credit Bureau Data,” (with Allison Cole and Joanna Stavins). Unpublished working paper, January 2018.
- “U.S. Consumers’ Holdings and Use of \$100 Bills,” *FRB Boston Research Data Report* 14-3, 2014.

Peer-reviewed publications

- “Costs and Benefits of Building Faster Payment Systems: The U.K. Experience and Implications for the United States,” (with Claire Greene, Marc Rysman, and Oz Shy). Accepted at *Journal of Financial Transformation* subject to minor editorial changes. Forthcoming.
- “U.S. Consumer Cash Use, 2012-2015: An Introduction to the Diary of Consumer Payment Choice” (with Claire Greene and Shaun O’Brien), *International Cash Conference 2017: The War on Cash: Is there a Future for Cash?* Deutsche Bundesbank, 2017.
- “Integrated Household Financial Surveys: An Assessment of U.S. Methods and an Innovation” (with Krislert Sampranathak and Robert M. Townsend), *Economic Inquiry*, 56(1), January 2018, 50-80.

- “Measuring Consumer Expenditures with Payment Diary Surveys,” *Economic Inquiry*, 56(1), January 2018, 13-49.
- “New Innovations in Payments” (with Marc Rysman), in Shane Greenstein, Josh Lerner, and Scott Stern eds., *NBER Innovation Policy and the Economy*, vol. 17, 27-48. Chicago: The University of Chicago Press, 2017.
- “Consumer Cash Usage: A Cross-Country Comparison with Payment Diary Survey Data” (with John Bagnall, David Bounie, Kim Huynh, Anneke Kosse, Tobias Schmidt, and Helmut Stix), *International Journal of Central Banking*, 12(4), December 2016, 1–62.
- “How Do Speed and Security Influence Consumers’ Payment Behavior?” (with Joanna Stavins), *Contemporary Economic Policy*, 34(4), October 2016, 595–613.
- “Explaining Consumer Adoption and Use of Payment Instruments,” (with Sergei Koulayev, Marc Rysman and Joanna Stavins), *The RAND Journal of Economics*, 47(2), Summer 2016, 293–325.
- “An Initial Look at How the Electronic Payments Transformation Is Changing Consumer Payments, (with Tamas Briglevics), in *International Cash Conference 2014: The usage, cost and benefits of cash revisited*, Deutsche Bundesbank, 2014, 391–401.
- “Measuring Household Spending and Payment Habits: The Role of ‘Typical’ and ‘Specific’ Time Frames in Survey Questions,” (with Marco Angrisani and Arie Kapteyn), in Christopher D. Carroll, Thomas F. Crossley, and John Sabelhaus, eds., *Improving the Measurement of Consumer Expenditures*, 414–440. Chicago: NBER and The University of Chicago Press, 2015.
- “How Consumers Pay: Adoption and Use of Payments” (with Joanna Stavins), *Accounting and Finance Research*, 2(2), May 2013, 1–21.
- “An Economic Analysis of the 2010 Proposed Settlement between the Department of Justice and Credit Card Networks,” (with Oz Shy, Joanna Stavins, and Robert K. Triest), *Journal of Competition Law and Economics*, 8(1), March 2012, 107–144.
- “Input and Output Inventories in General Equilibrium,” (with Matteo Iacoviello and Fabio Schiantarelli), *International Economic Review*, 52(4), November 2011, 1179–1213
- “Why Are (Some) Consumers (Finally) Writing Fewer Checks? The Role of Payment Characteristics,” (with Joanna Stavins), *Journal of Banking and Finance*, 34(8), August 2010, 1745–1758.
- “Frontier Policy Issues in Consumer Payment Behavior,” (with Joanna Stavins), *Journal of Payments Strategy and Systems*, 3(4), Winter 2009, 333–348.
- “Productivity and U.S. Macroeconomic Performance: Interpreting the Past and Predicting the Future with a Two-Sector Real Business Cycle Model,” (with Peter N. Ireland), *Review of Economic Dynamics*, 11(3), July 2008, 473–492.
- “Interest Sensitivity and Volatility Reductions: Cross-Section Evidence,” (with F. Owen Irvine), *International Journal of Production Economics*, 108(1–2), July 2007, 31–42.
- “Inventory Investment and Output Volatility,” (with F. Owen Irvine), *International Journal of Production Economics*, 93-94(4), January 2005, 75–86.

- “Job Creation, Job Destruction, and the Real Exchange Rate,” (with Michael W. Klein and Robert K. Triest), *Journal of International Economics*, 59(2), March 2003, 239–265.
- “Monetary Policy, Housing, and Heterogeneous Regional Markets” (with Michael Fratantoni), *Journal of Money, Credit, and Banking*, 35(4), August 2003, 557–589.
- “The Evolution of Regional Manufacturing Employment: Gross Job Flows within and between Firms and Industries,” (with Robert K. Triest), *New England Economic Review*, Third Quarter, 2002, 35–53).
- “Input and Output Inventories” (with Brad R. Humphreys and Louis J. Maccini), *Journal of Monetary Economics*, 47(2) April 2001, 347–375
- “An Evaluation of Recent Macroeconomic Forecasting Errors,” *New England Economic Review*, January/February 2001, 35–56.
- “The Role of Firms in Job Creation and Destruction in U.S. Manufacturing” (with Robert K. Triest), *New England Economic Review*, March/April 2000, 29–44.
- “Gross Job Flows and Firms,” (with Robert K. Triest). *1999 Proceedings of the American Statistical Association*, Government Statistics Section, 13–22.
- “Gross Job Flows between Plants and Industries,” (with John C. Haltiwanger), *New England Economic Review*, March/April 1999, 41–64.
- “Beyond Shocks: What Causes Business Cycles? An Overview,” (with Jeffrey C. Fuhrer), *New England Economic Review*, 1998 (November/December), 3–23.
- “Untangling the Causes of Recession,” (with Robert K. Triest), *Federal Reserve Bank of Boston Regional Review*, 8(4), 1998:Q4, 5.
- “Job Reallocation and the Business Cycle: New Facts for an Old Debate,” (with Robert K. Triest), in Jeffrey C. Fuhrer and Scott Schuh, eds., *Beyond Shocks: What Causes Business Cycles?* Federal Reserve Bank of Boston Conference Series, No. 42, 1998, 271–337.
- “Review of *Industrial Evolution in Developing Countries*, Mark J. Roberts and James R. Tybout, eds., *Journal of Economic Literature*, 36(2), June 1998, 946–48.
- “Small Business and Job Creation: Dissecting the Myth and Reassessing the Facts,” (with Steven J. Davis and John C. Haltiwanger), reprinted in *Small Business Economics: An International Journal*, 8(4), August 1996, 297–315.
- “Estimating the Linear-Quadratic Inventory Model: Maximum Likelihood versus Generalized Method of Moments,” (with Jeffrey C. Fuhrer and George R. Moore), *Journal of Monetary Economics*, 35(1), February 1995, 115–57.
- “Small Business and Job Creation: Dissecting the Myth and Reassessing the Facts,” (with Steven J. Davis and John C. Haltiwanger), abridged version in *Business Economics*, 29(3), July 1994, 13–21.
- “Small Business and Job Creation: Dissecting the Myth and Reassessing the Facts,” (with Steven J. Davis and John C. Haltiwanger), in Lewis C. Solomon and Alec R. Levenson, eds., *Labor Markets, Employment Policy, and Job Creation*, Boulder, CO: Westview Press, 1994, 169–199.

“Published versus Sample Statistics from the ASM: Implications for the LRD,” with Steven J. Davis and John C. Haltiwanger. *1990 Proceedings of the American Statistical Association*, Business and Economic Statistics Section.

Other working papers -- Payments

“The 2016 Diary of Consumer Payment Choice,” (with Claire Greene Stavins), *FRB Boston Research Data Report* 17-7, 2017.

“The 2015 Survey of Consumer Payment Choice: Summary Results,” (with Claire Greene and Joanna Stavins), *FRB Boston Research Data Report* 17-3, 2017.

“The 2014 Survey of Consumer Payment Choice: Summary Results,” (with Claire Greene and Joanna Stavins), *FRB Boston Research Data Report* 16-3, 2016.

“The 2013 Survey of Consumer Payment Choice: Summary Results,” (with Joanna Stavins), *FRB Boston Research Data Report* 15-4, 2015.

“The 2011 and 2012 Surveys of Consumer Payment Choice,” (with Joanna Stavins), *FRB Boston Research Data Report* 14-1, 2014.

“The 2010 Survey of Consumer Payment Choice,” (with Kevin Foster and Hanbing Zhang), *FRB Boston Research Data Report* 13-3, 2013.

“The 2009 Survey of Consumer Payment Choice,” (with Kevin Foster, Erik Meijer, and Michael A. Zabek), *FRB Boston Public Policy Discussion Paper* 11-1, 2011.

“The 2008 Survey of Consumer Payment Choice,” (with Kevin Foster, Erik Meijer, and Michael A. Zabek), *FRB Boston Public Policy Discussion Paper* 09-10, 2009.

“Summary of the Workshop on *Consumer Behavior and Payment Choice*,” (with Joanna Stavins), *Federal Reserve Bank of Boston Public Policy Discussion Paper* 08-5, 2008.

“Consumer Behavior and Payment Choice: 2006 Conference Summary,” (with Margaret Carten, Dan Littman, and Joanna Stavins), *Federal Reserve Bank of Boston Public Policy Discussion Paper* 07-4, 2007.

“The Boston Fed Study of Consumer Behavior and Payment Choice: A Survey of Federal Reserve System Employees,” (with Marques Benton, Krista Blair, and Marianne Crowe), *Federal Reserve Bank of Boston Public Policy Discussion Paper* 07-1, 2007.

“Consumer Behavior and Payment Choice: A Conference Summary,” (with Marianne Crowe and Joanna Stavins), *Federal Reserve Bank of Boston Public Policy Discussion Paper* 06-1, 2006.

Other working papers -- Macroeconomics

“The Roles of Co-movement and Inventory Investment in the Reduction of Output Volatility,” (with F. Owen Irvine), Federal Reserve Bank of Boston Working Paper 05-9, 2005; revised November 2007.

“Is the U.S. an Implicit Inflation Targeter?” (with Nicola Lostumbo), November 2008.

- “A Factor Model Interpretation of the Decline in GDP Volatility,” (with F. Owen Irvine), September 2007.
- “Permanent and Temporary Job Flows and the Real Exchange Rate,” (with Michael W. Klein and Robert K. Triest), October 2003.
- “Detrending and Inventory Behavior” (with Brad R. Humphreys), June 2001.
- “Macroeconomic Implications of the Relationship between Plant and Industry Gross Job Flows,” (with John C. Haltiwanger), October 1998.
- “Evidence on the Link between Firm-Level and Aggregate Inventory Behavior,” Federal Reserve Board Finance and Economics Discussion Series No. 1996-46, Nov. 1996.
- “Credit Market Conditions and Inventory Investment,” (with Louis J. Maccini), Jan. 1995.
- “Specification and Estimation of the New FRB/MPS Quarterly Macroeconomic Model,” (with Patrick Kennedy and David Reifschneider), Jan. 1995.
- “Job Flows, Worker Flows, and Unemployment Over the Business Cycle,” (with Steven J. Davis and John C. Haltiwanger), Nov. 1994.
- “Microeconomic Inventory and Production Dynamics and the Representative Firm,” Aug. 1992.
- “Inventory Models and Aggregation: An Investigation with Company-Level M3 Data,” Census Advisory Committee of the American Economic Association, April 1991.

Selected conference participation

National Bureau of Economic Research (NBER)

- NBER Summer Institute, regular participant (various sessions), 1990–
- NBER Economic Fluctuations, occasional participant, 1990–
- NBER Universities Conference, 2008

Recent paper presentations

- *European Workshop on Household Finance*, CEPR, Copenhagen, April 2017
- *War on Cash: Is There a Future for Cash?*, Deutsche Bundesbank International Cash Conference, April 2017
- *New Perspectives on Consumption Measures*, STICERD, London School of Economics, December 2016
- *Conference on Electronic Money and Payments*, Bank of Canada, November 2016
- *WEAI Annual Meetings*, Portland OR, June 2016
- *Retail Payments: Mapping Out the Road Ahead*, De Nederlandsche Bank (DNB) Conference, Amsterdam, April 2016
- *Game Change, Incremental Step, or Passing Fad: Monetary Virtual Currency at the Federal Reserve*, Federal Reserve Bank of San Francisco, December 2015
- *Payment System Modernization: Opportunities and Challenges*, Canadian Payments Association and Bank of Canada, Ottawa ON, October 2015
- *Boulder Summer Conference on Household Decision Making*, University of Colorado, May 2015
- *The Economics of Payments Improvement*, Federal Reserve Bank of Atlanta, March 2015
- *WEAI Annual Meetings*, Denver CO, June 2014

- *Conference on Household Finance and Consumption*, European Central Bank, Frankfurt, October 2013
- *The Future of Retail Payments: Opportunities and Challenges*, European Central Bank and Australian National Bank, Vienna, May 2012

Conference organization

- *Frontiers of Measuring Household Economic Behavior*, Federal Reserve Bank of Boston, 2015
- *Economics of Payments VII*, Federal Reserve Bank of Boston, 2014
- *Consumer Behavior and Payment Choice*, Federal Reserve Bank of Boston, 2005-2006
- *Beyond Shocks*, Federal Reserve Bank of Boston Conference Series No. 42, 1998

Session organization

- “*Consumer Payment Behavior: Rational or Irrational Behavior?*” American Economic Association/ASSA meetings, co-organizer, 2008
- “*Consumer Payment Behavior: Rational or Irrational Behavior?*” Western Economic Association meetings, co-organizer and chair, 2007
- “*Inventory Research*,” International Society for Inventory Research (ISIR)/ASSA meetings 1995, 2002

Selected professional service

Member, American Economic Association 1991–
Federal Reserve Bank of Boston Fed Challenge judge and advisor, 1998–2008

Referee for: *American Economic Review*; *Econometrica*; *Quarterly Journal of Economics*, *Journal of Monetary Economics*; *International Economic Review*; *Review of Economic Studies*; *Review of Economics and Statistics*; *Journal of Money, Credit, and Banking*; *International Journal of Central Banking*, *Journal of Business and Economic Statistics*; *Journal of Business*; *Journal of Macroeconomics*; *Journal of Labor Economics*; *Journal of International Economics*; *Labour Economics*; *Journal of Productivity Analysis*; *National Science Foundation*; *Journal of Applied Econometrics*; *Small Business Economics*; *Managerial and Decision Economics*; *Southern Economic Journal*; *Journal of Financial Services Research*.

Selected public service

Community Service

- Wilmington Recreation Department, coach/assistant coach, 1997–2009
- Wilmington Youth Soccer Association, coach/assistant coach, 1999–2006
- Wilmington Little League, coach/assistant coach, 1998–2002

Gordon Conwell Theological Seminar, Center for Urban and Ministerial Education, Roxbury (MA)

- Board of Advisors, 2003–2017

Lexington (MA) Christian Academy

- Lecturer, 2008-2009 (Economics, high school level)
- President, Booster’s Club, 2005-2006