

James D. Hamilton  
Curriculum Vitae

August 2019

**DATE OF BIRTH:** November 29, 1954

**CITIZENSHIP:** USA

**MARITAL STATUS:** Married to Marjorie A. Flavin

**EMAIL:** jhamilton@ucsd.edu

**WEB PAGES:**

teaching and research:

<http://econweb.ucsd.edu/~jhamilto/>

analysis of current economic conditions and policy:

<http://econbrowser.com>

**CURRENT POSITION:**

Robert F. Engle Professor of Economics, UCSD

phone: (858) 534-5986

FAX: (858) 534-7040

Address:

Department of Economics, 0508

University of California, San Diego

9500 Gilman Drive

La Jolla, CA 92093-0508

**PAST POSITIONS:**

Visiting Professor, Department of Economics, Harvard University  
(2013)

Chair of Economics Department, University of California, San Diego  
(1999-2002)

Professor, Department of Economics, University of Virginia (1991-  
1992)

Associate Professor, Department of Economics, University of Vir-  
ginia (1987-1991)

Assistant Professor, Department of Economics, University of Virginia  
(1981-1987)

Visiting Professor, Department of Economics, University of Califor-  
nia, San Diego (1984-1985)

**EDUCATION:**

Ph.D., Economics, University of California, Berkeley, 1983

M.A. Economics, University of California, Berkeley, 1981

B.A., Economics, Colorado College, 1977

**PRIMARY FIELDS:**

Macroeconomics

Econometrics

Energy economics

**KEYNOTE TALKS AND HONORARY LECTURES:**

Keynote Speaker, China Annual Conference of the Chinese Economists Society, Dalian, China, June 2019

Keynote Speaker, Fifth International Symposium in Computational Economics and Finance, Paris, April 2018

Keynote Speaker, Continuing Education in Macroeconometrics, Wellington, New Zealand, December 2016

CREATES Distinguished Speaker, Aarhus University, November 2015

Keynote Speaker, Fixed Income Risk: Measurement, Modeling and Management, New York University Volatility Institute, April 2015

Eric Hanson Memorial Lecture, University of Alberta, March 2015

Keynote Speaker, first annual meeting of the International Association for Applied Econometrics, London, June 2014

Keynote Speaker, Workshop on Commodity Price Dynamics and Financialization, Oslo, June 2014

Keynote Speaker (Granger Memorial Lecture), International Symposium on Forecasting, Seoul Korea, June 2013

Keynote Speaker, Workshop on Oil and Economy, Bank of France, Paris, France November 2012

Keynote Speaker, 50th Annual Winter Institute, St. Cloud, MN February 2012

Invited Speaker, Society for Financial Econometrics Fourth Annual Conference, Chicago, IL June 2011

Keynote Speaker, United States Flat Panel Display Conference, San Diego, CA, March 2011

Keynote Speaker, UCR Conference on Business Cycles: Theoretical and Empirical Advances, Riverside, CA, April 2009

Keynote Speaker, 5th Colloquium on Modern Tools for Business Cycle Analysis, Luxembourg, September 2008

Keynote Speaker (Esther Peterson Lecture), Joint Meeting of the American Agricultural Economics Association and the American Council on Consumer Interests, Orlando, FL July 2008

Keynote Speaker, Society for Nonlinear Dynamics and Econometrics Sixteenth Annual Symposium, San Francisco, CA, April 2008

Keynote Speaker, Missouri Economic Conference, Columbia, MO, March 2007

Keynote Speaker, Seventeenth Annual European Conference of the Econometrics Community, Rotterdam, Amsterdam, December 2006

Keynote Speaker, Fifteenth Mexican Colloquium on Mathematical Economics and Econometrics, Tijuana, Mexico, November 2005

Invited Speaker, Far Eastern Meetings of the Econometric Society, Seoul, Korea, July 2004

Keynote Speaker (E. J. Hannan Lecture), Australasian Meeting of the Econometric Society, Brisbane, Australia, July 2002

Keynote Speaker, Conference on State-Space Models, Regime-Switching, and Identification, Washington University, St. Louis, Missouri, May 2002

Clarence Tow Lecture, University of Iowa, April 2002

Plenary Speaker, Midwest Macroeconomics Conference, Nashville, TN, April 2002

J. Fish and Lillian F. Smith Lecture, Brigham Young University, March 1999

#### **OTHER HONORS AND AWARDS:**

Founding Fellow of International Association for Applied Econometrics (since 2018)

Chancellor's Associates Award for Excellence in Research in Humanities and Social Sciences, University of California at San Diego, April 2015

Conference in Honor of James Hamilton, Federal Reserve Bank of San Francisco, September 2014

Award for Outstanding Contributions to the Profession of Energy Economics and to its Literature, International Association for Energy Economics, June 2014

UCSD Economics Graduate Teaching Award (2014, 2013, 2011, 2008, 2007)

UCSD Economics Undergraduate Teaching Award (2016)

Best Paper Award 2010-2011, International Institute of Forecasters  
Fellow of *Journal of Econometrics* (since 2003)  
Listed in *Who's Who in Economics*, Fourth Edition, 2003  
Research Associate of the National Bureau of Economic Research (since 1999)  
Fellow of Econometric Society (since 1996)  
Ranked among the 50 most productive American economists during 1984-93 in "Trends in Rankings of Economics Departments in the U.S.: An Update," L. C. Scott and P. M. Mitias, *Economic Inquiry*, April 1996, pp. 378-400  
Colorado State Debate Champion, 1973

#### **CURRENT WORKING PAPERS:**

"Structural Interpretation of Vector Autoregressions with Incomplete Identification: Setting the Record Straight," coauthored with Christiane Baumeister, August 2019.

"Perspectives on U.S. Monetary Policy Tools and Instruments," May 2019.

— — — "Measuring Labor-Force Participation and the Incidence and Duration of Unemployment," coauthored with Hie Joo Ahn, revised May 2019.

#### **BOOKS:**

*Time Series Analysis*, Princeton University Press, 1994. Over 50,000 copies sold. Italian translation published by Monduzzi Editore, 1995. Chinese translation, Shanghai People's Publishing House. Japanese translation: The Asano Agency, Inc.

*Advances in Markov-Switching Models*, Physica-Verlag, 2002. Co-edited with Baldev Raj.

#### **JOURNAL ARTICLES:**

"Measuring Global Economic Activity," forthcoming, *Journal of Applied Econometrics*.

"Heterogeneity and Unemployment Dynamics," *Journal of Business and Economic Statistics*, forthcoming (coauthored with Hie Joo Ahn).

"Structural Interpretation of Vector Autoregressions with Incomplete Identification: Revisiting the Role of Oil Supply and Demand Shocks," *American Economic Review*, 109 (May 2019): 1873-1920 (coauthored with Christiane Baumeister).

“Inference in Structural Vector Autoregressions When the Identifying Assumptions are Not Fully Believed: Re-evaluating the Role of Monetary Policy in Economic Fluctuations,” *Journal of Monetary Economics*, 100 (December 2018): 48-65 (coauthored with Christiane Baumeister).

“Why You Should Never Use the Hodrick-Prescott Filter,” *Review of Economics and Statistics*, 100 (December 2018): 831-843.

“The Efficacy of Large-Scale Asset Purchases When the Short-term Interest Rate is at its Effective Lower Bound,” *Brookings Papers on Economic Activity*, Fall 2018, forthcoming.

“Robust Bond Risk Premia,” *Review of Financial Studies* 31 (February 2018): 399-448 (coauthored with Michael Bauer).

“The Equilibrium Real Funds Rate: Past, Present and Future,” *IMF Economic Review* 64 (November 2016): 660-707 (coauthored with Ethan Harris, Jan Hatzius and Kenneth West).

“Sign Restrictions, Structural Vector Autoregressions, and Useful Prior Information,” *Econometrica* 83 (September 2015): 1963-1999 (coauthored with Christiane Baumeister).

“Effects of Index-Fund Investing on Commodity Futures Prices,” *International Economic Review* 56 (February 2015): 187-205 (coauthored with Jing Cynthia Wu).

“Off-Balance-Sheet Federal Liabilities,” *Cato Papers on Public Policy* 3 (2013-2014): 1-40.

“Risk Premia in Crude Oil Futures Prices,” *Journal of International Money and Finance* 42 (April 2014): 9-37 (coauthored with Jing Cynthia Wu).

“Testable Implications of Affine-Term-Structure Models,” *Journal of Econometrics* 178 (January 2014): 231-242 (coauthored with Jing Cynthia Wu).

“The Propagation of Regional Recessions,” *Review of Economics and Statistics* 94, no. 4 (November 2012): 935-947 (coauthored with Michael T. Owyang).

“Identification and Estimation of Gaussian Affine Term Structure Models,” *Journal of Econometrics* 168, no. 2 (June 2012): 315-331 (coauthored with Jing Cynthia Wu).

“The Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment,” *Journal of Money, Credit and Banking* 44, no. 1 (Supplement, February 2012): 3-46 (coauthored with Jing Cynthia Wu).

- “Nonlinearities and the Macroeconomic Effects of Oil Prices,” *Macroeconomic Dynamics*, 15, no. S3 (2011): 364-378
- “Calling Recessions in Real Time,” *International Journal of Forecasting* 27, no. 4 (October-December 2011): 1006-1026. Winner of International Journal of Forecasting Best Paper Award 2010-2011. “Response to Comments,” pages 1039-1040.
- “The Market-Perceived Monetary Policy Rule,” *American Economic Journal: Macroeconomics* 3 (July 2011): 1-28 (coauthored with Seth Pruitt and Scott Borger).
- “Sources of Variation in Holding Returns for Fed Funds Futures Contracts,” *Journal of Futures Markets* 31, no. 3 (2011): 205-229 (coauthored with Tatsuyoshi Okimoto).
- “Causes and Consequences of the Oil Shock of 2007-08,” *Brookings Papers on Economic Activity*, Spring 2009: 215-259.
- “Daily Changes in Fed Funds Futures Prices,” *Journal of Money, Credit, and Banking*, 41, no. 4 (June 2009): 567-582.
- “Understanding Crude Oil Prices,” *Energy Journal*, 30, no. 2 (2009): 179-206.
- “Daily Monetary Policy Shocks and New Home Sales,” 2008, *Journal of Monetary Economics*, 55 (2008): 1171-1190.
- “Assessing Monetary Policy Effects Using Daily Fed Funds Futures,” *Federal Reserve Bank of St. Louis Review*, July/August 2008: 377-393.
- “Normalization in Econometrics,” *Econometric Reviews*, 2007 (26, nos. 2-4): 221-252. (coauthored with Daniel F. Waggoner and Tao Zha).
- “Computing Power and the Power of Econometrics,” *Medium Econometrische Toepassingen*, 14(2) (Spring 2006): 32-38.
- “What’s Real About the Business Cycle?” *Federal Reserve Bank of St. Louis Review*, July/August 2005 (87, no. 4): 435-452.
- “Oil Shocks and Aggregate Macroeconomic Behavior: The Role of Monetary Policy,” *Journal of Money, Credit, and Banking*, 36 (April 2004): 265-286 (coauthored with Ana Maria Herrera).
- “Why Are Prices Sticky? The Dynamics of Wholesale Gasoline Prices,” *Journal of Money, Credit, and Banking*, 36 (February 2004): 17-37 (coauthored with Michael C. Davis).
- “What Is an Oil Shock?”, *Journal of Econometrics*, 113 (April 2003): 363-398.

- “A Model of the Federal Funds Target,” *Journal of Political Economy*, 110 (October 2002): 1135-1167 (coauthored with Oscar Jorda).
- “On the Interpretation of Cointegration in the Linear-Quadratic Inventory Model,” *Journal of Economic Dynamics and Control*, 26 (October 2002): 2037-2049.
- “New Directions in Business Cycle Research and Financial Analysis,” *Empirical Economics*, 27 (2002): 149-162 (coauthored with Baldev Raj).
- “A Re-Examination of the Predictability of the Yield Spread for Real Economic Activity,” *Journal of Money, Credit and Banking*, 34 (May 2002): 340-360 (coauthored with Dong Heon Kim).
- “A Parametric Approach to Flexible Nonlinear Inference,” *Econometrica*, 69 (May 2001): 537-573.
- “The Augmented Solow Model and the Productivity Slowdown,” *Journal of Monetary Economics*, 42 (December 1998): 495-509 (coauthored with Josefina Monteagudo).
- “Measuring the Liquidity Effect,” *American Economic Review*, 87, no. 1 (March 1997): 80-97.
- “Stock Market Volatility and the Business Cycle,” *Journal of Applied Econometrics*, 11, no. 5 (September-October 1996): 573-593 (coauthored with Gang Lin).
- “The Daily Market for Federal Funds,” *Journal of Political Economy*, 104, no. 1 (February 1996): 26-56.
- “Specification Testing in Markov-Switching Time-Series Models,” *Journal of Econometrics*, 70, no. 1 (January 1996): 127-157. Spanish translation published in *Cuadernos Economicos de ICE*, Sept. 1994.
- “What Do the Leading Indicators Lead?,” *Journal of Business*, 69, no. 1 (January 1996): 27-49 (coauthored with Gabriel Perez-Quiros).
- “Autoregressive Conditional Heteroskedasticity and Changes in Regime,” *Journal of Econometrics*, September/October 1994, 64, pp. 307-333 (coauthored with Raul Susmel).
- “Was the Deflation During the Great Depression Anticipated? Evidence from the Commodity Futures Market,” *American Economic Review*, March 1992, pp. 157-178. Reprinted in *The Economics of Deflation*, edited by Pierre L. Siklos, Edward Elgar Publishing Inc., 2005.
- “A Quasi-Bayesian Approach to Estimating Parameters for Mixtures of Normal Distributions,” *Journal of Business and Economic Statistics*, 9, January 1991, pp. 27-39.

“Long Swings in the Dollar: Are They in the Data and Do Markets Know It?”, *American Economic Review*, September 1990, pp. 689-713 (coauthored with Charles Engel).

“Analysis of Time Series Subject to Changes in Regime,” *Journal of Econometrics*, 45, July/August 1990, pp. 39-70.

“A New Approach to the Economic Analysis of Nonstationary Time Series and the Business Cycle,” *Econometrica*, 57, March 1989, pp. 357-384. Reprinted in *Financial Econometrics*, edited by Andrew Lo, Edward Elgar Publishing Ltd., 2006.

“Rational Expectations Econometric Analysis of Changes In Regime: An Investigation of the Term Structure of Interest Rates,” *Journal of Economic Dynamics and Control*, 12, June/September 1988, pp. 385-423.

“A Neoclassical Model of Unemployment and the Business Cycle,” *Journal of Political Economy*, 96, June 1988, pp. 593-617.

“The Role of the International Gold Standard in Propagating the Great Depression,” *Contemporary Policy Issues*, 6, April 1988, pp. 67-89.

“Monetary Factors in the Great Depression,” *Journal of Monetary Economics*, March 1987, pp. 145-169.

“A Standard Error for the Estimated State Vector of a State-Space Model,” *Journal of Econometrics*, December 1986, pp. 387-397.

“On Testing for Self-Fulfilling Speculative Price Bubbles,” *International Economic Review*, October 1986, pp. 545-552.

“On the Limitations of Government Borrowing: A Framework for Empirical Testing,” *American Economic Review*, September 1986, pp. 808-819, (coauthored with Marjorie A. Flavin).

“Kalman Filter Estimation of Unobserved Monthly Expectations of Inflation,” *Journal of Business and Economic Statistics*, April 1986, pp. 147-160, (coauthored with Edwin Burmeister and Kent D. Wall).

“Uncovering Financial Market Expectations of Inflation,” *Journal of Political Economy*, December, 1985, pp. 1224-1241.

“The Observable Implications of Self-Fulfilling Expectations,” *Journal of Monetary Economics*, November 1985, pp. 353-373, (coauthored with Charles H. Whiteman).

“Historical Causes of Postwar Oil Shocks and Recessions,” *Energy Journal*, January 1985, pp. 97-116.

“Oil and the Macroeconomy Since World War II,” *Journal of Political Economy*, April 1983, pp. 228-248.



“Dynamics of Terrorism,” *International Studies Quarterly*, March 1983, pp. 39-54, (coauthored with Lawrence C. Hamilton).

“Models of Social Contagion,” *Journal of Mathematical Sociology*, June 1981, pp. 133-160, (coauthored with Lawrence C. Hamilton).

#### **OTHER ARTICLES:**

“A Skeptical View of the Impact of the Fed’s Balance Sheet,” coauthored with David Greenlaw, Ethan Harris, and Kenneth West, *U.S. Monetary Policy Forum Critical-Issue Report*, 2018.

“The Efficacy of Large-Scale Asset Purchases When the Short-term Interest Rate is at its Effective Lower Bound,” *Brookings Papers on Economic Activity*, Fall 2018.

“Macroeconomic Regimes and Regime Shifts,” *Handbook of Macroeconomics*, Volume 2A, pp. 163-201, edited by Harald Uhlig and John Taylor, Amsterdam: Elsevier, 2016.

“Crunch Time: Fiscal Crises and the Role of Monetary Policy,” coauthored with David Greenlaw, Peter Hooper, and Frederic Mishkin, in *Proceedings of the U.S. Monetary Policy Forum 2013*, pp. 3-58. Initiative on Global Markets, Chicago Booth.

“Oil Prices, Exhaustible Resources, and Economic Growth,” in *Handbook on Energy and Climate Change*, pp. 29-63, edited by Roger Fouquet, Cheltenham, United Kingdom: Edward Elgar Publishing, 2013.

“Historical Oil Shocks,” in *Routledge Handbook of Major Events in Economic History*, pp. 239-265, edited by Randall E. Parker and Robert Whaples, New York: Routledge Taylor and Francis Group, 2013.

“Macroeconomics and ARCH,” in *Festschrift in Honor of Robert F. Engle*, pp. 79-96, edited by Tim Bollerslev, Jeffrey R. Russell and Mark Watson, Oxford University Press, 2010.

“Concerns about the Fed’s New Balance Sheet,” in *The Road Ahead for the Fed*, pp. 67-84, edited by John D. Ciorciari and John B. Taylor, Stanford: Hoover Institution Press, 2009.

“Oil and the Macroeconomy,” in *New Palgrave Dictionary of Economics*, 2nd edition, edited by Steven Durlauf and Lawrence Blume, Palgrave MacMillan Ltd., 2008.

“Regime-Switching Models,” in *New Palgrave Dictionary of Economics*, 2nd edition, edited by Steven Durlauf and Lawrence Blume, Palgrave MacMillan Ltd., 2008.

“Dating Business Cycle Turning Points,” in *Nonlinear Time Series Analysis of Business Cycles*, pp. 1-54, edited by Costas Milas, Philip Rothman, and Dick van Dijk, Amsterdam: Elsevier, 2006. (co-authored with Marcelle Chauvet)

“The Supply and Demand for Federal Reserve Deposits,” *Carnegie-Rochester Conference Series on Public Policy*, Volume 49, December 1998, pp. 1-52, edited by Bennett T. McCallum, et. al.

“Supply Shocks,” *Business Cycles and Depressions: An Encyclopedia*, pp. 669-671, edited by David Glasner. New York: Garland Publishing, Inc., 1997.

“Rational Expectations and the Economic Consequences of Changes in Regime,” pp. 325-344, in *Macroeconometrics: Developments, Tensions, and Prospects*, edited by Kevin D. Hoover, Boston: Kluwer Academic Publishers, 1995.

“State-Space Models,” in *Handbook of Econometrics*, Volume 4, pp. 3039-3080, edited by R. Engle and D. McFadden, Amsterdam: North Holland, 1994.

“Estimation, Inference, and Forecasting of Time Series Subject to Changes in Regime,” in *Handbook of Statistics*, Volume 11, pp. 231-261, edited by G.S. Maddala, C. R. Rao, and H. D. Vinod, Amsterdam: North-Holland, 1993.

“Commercial Crises,” *New Palgrave Dictionary of Money and Finance*, Volume 1, pp. 387-389, edited by J. Eatwell, M. Milgate, and P. Newman. London: Macmillan Press, 1992.

#### **BOOK REVIEWS AND COMMENTS:**

“Comments on ‘Foreign Effects of Higher U.S. Interest Rates’”, *Journal of International Money and Finance*, July 2019, vol. 95, 290-293.

“Discussion of ‘Lower Bound Beliefs and Long-Term Interest Rates’”, *International Journal of Central Banking*, 2017, vol. 13, pp. 203-212.

“Comment on ‘Lower Oil Prices and the U.S. Economy: Is This Time Different?’”, *Brookings Paper on Economic Activity*, Fall 2016, 337-343.

“Comment on ‘The French Gold Sink and the Great Deflation of 1929-32’”, *Cato Papers on Public Policy*, vol. 2: 2012-2013, pp. 49-56, edited by Jeffrey Miron. Washington DC: Cato Institute.

“Commentary: Import Prices and Inflation,” *International Journal of Central Banking*, 2012, vol. 8, pp. 271-279.

“The Causes and Consequences of Rising Food Prices: Discussion,” *American Journal of Agricultural Economics*, 2009, vol. 91, no. 5, 1257-1258..

“Oil Prices and the Economic Downturn,” Testimony before the Joint Economic Committee of the United States Congress, May 20, 2009.

Review of *China and the Global Energy Crisis* by Tatsu Kambara and Christopher Howe, *Energy Journal*, 2008, vol. 29, pp. 185-186.

“Commentary: Housing and the Monetary Transmission Mechanism,” *Housing, Housing Finance, and Monetary Policy*, Federal Reserve Bank of Kansas City, pp. 415-422, 2008.

“Inside the Economist’s Mind: A Book Review,” *Macroeconomic Dynamics*, 2008, vol. 12, pp. 112-116.

“Comment on ‘A Comparison of Two Business Cycle Dating Methods’,” *Journal of Economic Dynamics and Control*, July 2003, vol. 27, number 9, pp. 1691-1693.

Review of *State-Space Models with Regime Switching* by Chang-Jin Kim and Charles R. Nelson, *Econometric Reviews*, 2000, vol. 19, number 1, pp. 135-137.

“Comment on ‘U.S. Oil Consumption, Oil Prices, and the Macroeconomy’,” *Empirical Economics*, 1997, vol. 22, issue 1, pp. 153-156.

“This is What Happened to the Oil Price Macroeconomy Relation,” *Journal of Monetary Economics*, 38, no. 2 (October 1996): 215-220.

“Associate Editor’s Introduction: Changes in Regime and the Business Cycle,” *Journal of Business and Economic Statistics*, July 1994, p. 267.

“Comment on ‘Estimating Event Probabilities from Macroeconometric Models Using Stochastic Simulation’,” in *Business Cycles, Indicators, and Forecasting*, pp. 176-178, edited by James H. Stock and Mark W. Watson, University of Chicago Press, 1993.

“Comment on ‘The Quantitative Significance of the Lucas Critique’,” *Journal of Business and Economic Statistics*, 9, October 1991, pp. 388-389.

“Comment on ‘The Sustainability of Budget Deficits with Lump-Sum and with Income-Based Taxation’,” *Journal of Money, Credit, and Banking*, 23, August 1991, part 2, pp. 608-612.

“The Long Run Behavior of the Velocity of Money: A Review Essay,” *Journal of Monetary Economics*, 23, March 1989, pp. 335-344.

Review of *Money in Historical Perspective* by Anna J. Schwartz, *Journal of Economic Literature*, 27, March 1989, pp. 112-114.

Review of The Macroeconomic Effects of Energy Supply Disruptions by Bert Hickman, et. al., *Journal of Economic Literature*, 26 December 1988, pp. 1756-1757.

“Are the Macroeconomic Effects of Oil-Price Changes Symmetric? A Comment,” *Carnegie-Rochester Conference Series on Public Policy*, 28, 1988, pp. 369-378.

#### **RESEARCH GRANTS:**

“Advances in Macroeconomics and Econometrics,” NSF Grant No. SES-0215754, from August 2002 through July 2005.

“Inventories, Oil Shocks, and Macroeconomic Dynamics,” NSF Grant No. SES-0076072, from August 2000 through July 2002.

“A Flexible Parametric Approach to Nonlinear Data Analysis,” NSF Grant No. SBR-9707771, from August 1997 through July 2000.

“Analysis of the Transmission of Oil Price Shocks Through the Macroeconomy,” subcontract for Department of Energy Grant No. AC05-84OR21400, from July 1996 to December 1996

“The Federal Funds Rate and the Monetary Transmission Mechanism,” NSF Grant No. SBR-9308301, from August 1993 through July 1996

“Autoregressive Conditional Heteroskedasticity and Abrupt Changes in Regime,” NSF Grant No. SES-8920752, for June 1990 through February 1992

“The Economic Analysis of Systems Subject to Changes in Regime,” NSF Grant No. SES-8720731, for March 1988 through February 1990

National Science Foundation Graduate Fellowship, University of California, 1978-1981

#### **PROFESSIONAL AFFILIATIONS:**

Associate Editor:

Journal of Business and Economic Statistics

Journal of Money, Credit and Banking

Member of Board of Editors:

Panelist of U.S. Monetary Policy Forum:

University of Chicago, 2012 to present

Member of program committee:

2019 Oklahoma University Energy and Commodities Finance Conference

2019 International Association for Applied Econometrics Conference

2018 NBER/NSF Time Series Conference

1996 summer meetings of the Econometric Society

1991 winter meetings of the Econometric Society

1990 World Congress of the Econometric Society

Research Advisor:

Federal Reserve Bank of Richmond, 1988 to 1992

Visiting Scholar:

Federal Reserve Bank of Philadelphia, 2016

Board of Governors of the Federal Reserve System, Washington, D.C., 1991, 1992, 1994, 1996, and 2010

Federal Reserve Bank of New York, 1995

Federal Reserve Bank of Atlanta, 2009