PROFESSOR MARVIN GOODFRIEND

David A. Tepper School of Business Carnegie Mellon University 5000 Forbes Avenue Pittsburgh, Pennsylvania, 15213-3890

PROFESSIONAL EXPERIENCE

EMPLOYMENT, TEACHING, RESEARCH AND POLICY

Principal Employment:

Friends of Allan Meltzer Professorship, October 2012-present Professor of Economics, Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania, September 2005-present Chairman, Gailliot Center for Public Policy, Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania, September 2005-2012 Senior Vice President and Policy Advisor, Federal Reserve Bank of Richmond, 1999 to 2005: policy advisor and member of senior management committee Chief Monetary Policy Advisor, Federal Reserve Bank of Richmond--drafted FOMC policy statements for Al Broaddus, President of the Richmond Fed, and attended FOMC meetings regularly, 1993 to 2005 Senior Vice President and Director of Research, Federal Reserve Bank of Richmond, 1993 to 1999: responsible for economic research department, community affairs department, public information department, statistics department, and member of senior management committee Associate Director of Research, Federal Reserve Bank of Richmond, 1990-1992 Senior Staff Economist, Council of Economic Advisers, The White House, 1984-1985 Vice President, Federal Reserve Bank of Richmond, 1984-1990 Visiting Economist, Econometrics and Computer Applications Section, Division of Research and Statistics, Federal Reserve Board, Washington, D.C., 1982-1983 Research Economist, Federal Reserve Bank of Richmond, 1978; Officer, 1980

Teaching:

- Money, Banking, and Financial Markets (MBA), Tepper School of Business, Carnegie Mellon University, 2006 through 2019
- Monetary Policy in the US and Abroad (MBA), Tepper School of Business, Carnegie Mellon University, 2006 through 2019
- Short Course on Monetary Theory and Policy, Study Center Gerzensee, Gerzensee, Switzerland, June 15-26, 2015
- "Macroeconomic View of Bank Regulation," Executive Education for PNC Bank Staff, Tepper School of Business, Carnegie Mellon University, June 4, Nov. 4, 2014 and Mar. 11, Feb.19, April 8, 2015

- Hybrid (distance learning) MBA Course on Money, Banking, and Financial Markets, Tepper School of Business, Carnegie Mellon University, Winter 2015, Spring 2016
- Short Course on Monetary Policy in the Global Economy, Bank of Korea Academy, Seoul, Korea, July 16-20, 2012, July 22-26, 2013, July 14-18, 2014
- Modern Money, Banking, and Central Banking, China Academy of Financial Research, Shanghai Jiao Tong University, Shanghai, China, November 29-December 5, 2012
- The Global Economic Environment, Executive MBA in Asset and Wealth Management, Tepper School of Business, Carnegie Mellon University, August 22-27, 2011, August 13-17, 2012
- Short Course on Money, Banking, and Central Banking, Institute for Financial Studies, Southwestern University of Finance and Economics, Chengdu, Sichuan Province, China, July 30-August 3, 2012
- Two Lectures on New Challenges for Monetary Policy, Kiel Institute for the World Economy, Kiel, Germany, July 2010
- Short Course on Monetary Policy: Theory and Practice, Study Center Gerzensee, Gerzensee, Switzerland, August 17-21, 2010
- Short Course on the Theory and Practice of Monetary Policy, Graduate School of Commerce and Management, Hitotsubashi University, Kunitachi, Japan, August 2007
- International Money and Finance (undergraduate), Tepper School of Business, Carnegie Mellon University, 2007 through 2014, and 2019
- Short Course on Monetary Policy: Theory and Practice, Kiel Institute Advanced Studies Program, Kiel, Germany, September 2002, December 2006, September 2008
- Short Course on Monetary Theory and Policy, International Monetary Fund, Washington, DC, May 2004
- Short Course on Monetary Policy, Stanford Executive Program, Graduate School of Business, Stanford University, July 2002
- Adjunct Professor of Economics, Graduate School of Business, University of Chicago (Fall 2001): Money and Banking
- Short Course on Monetary Theory and Policy, Summer School in International Macro and Monetary Economics, Bonn University, Bonn, Germany, August 2001
- Term Professor, University of Virginia (1995-2000): Graduate Monetary Economics, Undergraduate Macroeconomic Policy
- Lectures on Monetary Theory and Policy, Bank of Finland, Helsinki, Finland, May 1996
- Advanced Course for Central Bank Research Economists, Study Center Gerzensee, Switzerland, May 1994 and October 1995
- Lectures for Central Bank Research Economists on the New Economics of Growth and Development, with R. King and R. Levine, Study Center Gerzensee, Switzerland, August 1994
- Visiting Professor, University of Virginia (1993-95): Graduate Monetary Economics
- Visiting Professor of Business Economics, Graduate School of Business, University of Chicago (1988-90): Macroeconomics, Money and Banking
- Graduate Lectures on Macroeconomic Theory, Gerzensee, Switzerland, August 1989 Visiting Associate Professor, University of Virginia (1987): Macroeconomic Policy

- Visiting Associate Professor, University of Rochester (1986-87): Intermediate Macroeconomics, Monetary and Banking Policy
- Teaching Associate, Brown University (1977): International Monetary Relations in the Twentieth Century
- Instructor, Wheaton College, Norton, Massachusetts (1977): Applied Statistics, International Economics, Mathematical Economics
- Teaching Assistant, Brown University (1974-77): International Finance, Macroeconomics, Microeconomics, Public Finance

Teaching Awards:

George Leland Bach Excellence in Teaching Award, MBA Program, Tepper School of Business, Carnegie Mellon University, May 2016

Teaching Award for "Excellence in the Classroom," Undergraduate Economics Program, Tepper School of Business, Carnegie Mellon University, May 2007

Ph.D. Dissertation Advising

- Primary Advisor for Majid Bazarbash's Ph.D. Dissertation "Banking Stress and Interest Rate Spreads in Macroeconomics," Tepper School of Business, Carnegie Mellon University, completed, April 2016
- Committee Member: Takushi Kurozumi (Bank of Japan), Sompop Pattanariyankool (Government of Singapore), Willem Van Zandweghe (Federal Reserve Bank of Kansas City)

MBA Student Advisor

Adam Smith Society, Tepper School of Business, Carnegie Mellon University, 2016-17

Research and Policy:

- Nominated by the President of the United States to the Board of Governors of the Federal Reserve System, November 29, 2017; Advanced on February 8, 2018 to the full Senate after a Confirmation Hearing by the Senate Banking Committee; nomination expired without a vote on December 31, 2018
- Commissioned by the Swedish Riksdag, with Mervyn King, Governor Bank of England 2003-2013, to undertake an External Review of the Riksbank and Swedish Monetary Policy: Visited Stockholm for extensive interviews in March, June, September 2015, published <u>Review of the Riksbank's Monetary Policy 2010-2015</u>, January 2016 (144 pages), November 2014 to May 2016

- Honorary Advisor to the Institute for Monetary and Economic Studies of the Bank of Japan, annual spring international conference in Japan, 2011-2017
- Economic Advisory Panel of the Federal Reserve Bank of New York, spring and fall meetings, 2009-2017
- Research Associate, National Bureau of Economic Research, 2007- present
- Member of the Shadow Open Market Committee, spring and fall meetings, 2009-present
- Federal Reserve System's Centennial Advisory Council Member, October 2011-2013
- Economic Advisory Panel, Federal Reserve Bank of Cleveland, September 8, 2011
- Visiting Scholar, De Nederlandsche Bank, Amsterdam, The Netherlands, June 2010 Visiting Scholar, Bank of Japan, Tokyo, September-October 2010
- Monetary Policy Advisory Panel of the Federal Reserve Bank of NY, 2008-09
- Visiting Scholar, Federal Reserve Bank of New York, July-August—2006 through 2009; Federal Reserve Bank of Atlanta, 2007, 2009; Federal Reserve Bank of Kansas City, 2008-2009; Research Associate, Federal Reserve Bank of Cleveland, 2008-2010
- Member, Panel for External Review of Swedish Riksbank Research Division (with Lucrezia Reichlin and Greg Udell), October 2008
- Guest of United States Studies Center, University of Sydney, Sydney, Australia, June 9-13, 2008
- Guest of Reserve Bank of India, Mumbai, India, October 1-10, 2007, and Invited Foundation Day Lecture, Silver Jubilee of the Reserve Bank of India Archives, October 5, 2007
- Visiting Scholar, Board of Governors of the Federal Reserve System, September 1992, July 1999, and September 2007
- Member, "Norges Bank Watch 2007" Panel (with Knut Mork and Ulf Soderstrom) to evaluate the conduct of Norwegian monetary policy, December 2006--February 2007
- Member, Three-Person Panel (with Otmar Issing and John Murray) for External Review of Research and Policy Support Activities at the Swiss National Bank, Zurich, Switzerland, August-September 2006
- Visiting Scholar, International Monetary Fund, Research Department, February 1990, October and December 2005, and March 2006
- Member, Three-Person Panel (with Rafael Repullo and Reiner Konig) for the External Evaluation of Research Activities at the European Central Bank, September 2003 – February 2004
- Visiting Scholar, Centre for Financial Studies, Frankfurt, Germany, June 1999
- Technical Assistance Expert, International Monetary Fund, Inflation Targeting Seminar, Central Bank of Brazil, Rio de Janeiro, May 1999 and July 2000
- Visiting Scholar, European Central Bank, Frankfurt, Germany, February 1999
- Technical Assistance Expert, Saudi Arabian Monetary Agency (SAMA),
 - Riyadh, Saudi Arabia, March 3-11, 1994
- Visiting Research Fellow, Institute for International Economic Studies, University of Stockholm, Stockholm, Sweden, November-December 1992
- Visiting Scholar, Swiss National Bank, Zurich, Switzerland, May to July 1988

EDITORIAL

 Co-Editor (T. Cooley, S. Zin): <u>Carnegie Rochester NYU Conference Series on Public</u> <u>Policy</u>, Organize and host November CR NYU Conferences at the Tepper School of Business, Carnegie Mellon University, and edit papers for the following July <u>Journal</u> <u>of Monetary Economics</u> conference volume, 2010-present
 Advisory Board: <u>Journal of Monetary Economics</u>, 1995-2009
 Associate Editor: <u>International Journal of Central Banking</u>, 2005-2014 <u>Journal of Monetary Economics</u>, 1984-1995

Advisory Committee: Carnegie-Rochester Conference Series on Public Policy, 1998-2010

- Guest Editor and Organizer for Carnegie Rochester Conference "Distress in Credit Markets: Theory, Empirics, and Policy," November 2008, published in July 2009 Journal of Monetary Economics
- Referee: <u>American Economic Review</u>, <u>American Economic Journal Macroeconomics</u>, Bank of England, Cambridge University Press, <u>Canadian Journal of Economics</u>, <u>Economic Inquiry</u>, <u>Economic Journal</u>, <u>Economic Letters</u>, <u>Journal of Banking and Finance</u>, <u>European Economic Review</u>, Federal Reserve Bank of Richmond <u>Economic Quarterly</u>, <u>IMF Staff Papers</u>, <u>International Finance</u>, <u>International Journal of Central Banking</u>, <u>Journal of Economic Literature</u>, <u>Journal of International Economics</u>, <u>Journal of Money</u>, <u>Credit</u>, and Banking, <u>Journal of Political Economy</u>, National Science Foundation, <u>Quarterly Journal of Economics</u>, <u>Scandinavian Journal of Economics</u>, <u>Swiss National Bank</u>; Blackwell Publishers Ltd., MIT Press, University of Chicago Press

Mathematical Proofreader: American Economic Review, 1975-78

EDUCATION

Ph.D., M.A., Economics, 1980, Brown University, Providence, R.I.
B.S., Mathematics, 1972, Union College, Schenectady, N.Y.
Ph.D. THESIS: "Money, the Terms of Trade, and Balance of Payments Adjustment with a Flexible Exchange Rate: A Theoretical and Empirical Study of International Adjustment."

FIELDS OF SPECIALIZATION

Monetary Economics, Macroeconomics, Banking, and Economic Development

GRANTS

Co-principal Investigator on \$300,000 National Science Foundation Grant for the "Carnegie Rochester NYU Conference on Public Policy," to NYU under the direction of Stanley Zin (NYU) and Marvin Goodfriend (Carnegie Mellon University), September 2017 to August 2020. The award funds two conferences per year for three years.

Principal Investigator on \$300,000 National Science Foundation Grant for the "Carnegie Rochester NYU Conference on Public Policy," to Carnegie Mellon University under the direction of Marvin Goodfriend (Carnegie Mellon University) and Thomas F. Cooley (NYU), September 2014 to September 2017. The award funds two conferences per year for three years.

Co-principal Investigator on \$300,000 National Science Foundation Grant for the "Carnegie Rochester NYU Conference on Public Policy," to NYU under the direction of Thomas F. Cooley (NYU) and Marvin Goodfriend (Carnegie Mellon University), September 2011 to September 2014. The award funds two conferences per year for three years.

PUBLICATIONS

ACADEMIC JOURNALS:

- "A Note on the Neutrality of Temporary Monetary Disturbances," with Robert G. King, Journal of Monetary Economics, May 1981, pp. 371-85
- "An Alternate Method of Estimating the Cagan Money Demand Function in Hyperinflation Under Rational Expectations," <u>Journal of Monetary Economics</u>, January 1982, pp. 43-57.
- "Discount Window Borrowing, Monetary Policy, and the Post-October 6, 1979 Federal Reserve Operating Procedure," <u>Journal of Monetary Economics</u>, September 1983, pp. 343-56.
- Discussion of Preston Miller, "Income Stability and Economic Efficiency Under Alternative Tax Schemes." In Karl Brunner and Allan Meltzer, eds., <u>Carnegie-Rochester Conference</u> <u>Series on Public Policy</u>, Vol. 20 (1984), pp. 143-45.
- Book review of Frank Hahn, <u>Money and Inflation</u>, Boston: MIT Press 1983, <u>Journal of Money, Credit, and Banking</u>, August 1984, pp. 382-85.
- "Reinterpreting Money Demand Regressions." In Karl Brunner and Allan Meltzer, eds., <u>Carnegie-Rochester Conference Series on Public Policy</u>, Vol. 22 (1985), pp. 207-41.

Book review of C. Goodhart, Monetary Theory and Practice, the U.K. Experience,

- "Monetary Mystique: Secrecy and Central Banking." In <u>Contributions in Honor of Karl</u> <u>Brunner</u>, Journal of Monetary Economics, January 1986, pp. 63-92; reprinted in <u>Monetarism</u>, A. Chrystal, ed., London: Edward Elgar Publishing, 1990.
- "Interest Rate Smoothing and Price Level Trend-Stationarity," Journal of Monetary Economics, May 1987, pp. 335-48.
- Discussion of Mark Gertler, "Financial Structure and Aggregate Economic Activity: An Overview," Conference on Recent Developments in Macroeconomics, Journal of Money, Credit, and Banking, August 1988, part 2, pp. 589-93.
- Review Essay on <u>Central Bankers</u>, <u>Bureaucratic Incentives</u>, and <u>Monetary Policy</u>, edited by E.F. Toma and M. Toma, Boston: Kluwer Academic Publishers, 1986; <u>Journal of Monetary Economics</u>, November 1988, pp. 517-22.
- "Central Banking Under the Gold Standard." In <u>Money, Cycles, and Exchange Rates:</u> <u>Essays in Honor of Allan H. Meltzer</u>, Karl Brunner and Allan Meltzer, eds., <u>Carnegie-Rochester Conference Series on Public Policy</u>, Vol. 29 (1988), pp. 85-124.
- Book review of Jacob Cohen, <u>The Flow of Funds in Theory and Practice</u>, Boston: Kluwer Academic Publishers, 1987, <u>Journal of Economic Literature</u>, September 1989, pp. 1187-88.
- Discussion of K. Cuthbertson and M. Taylor, "Money Demand, Expectations, and the Forward-Looking Model," Conference on Understanding Velocity, Journal of Policy Modeling, Summer 1990, pp. 317-22.
- "Interest Rates and the Conduct of Monetary Policy." In Allan Meltzer and Charles Plosser, eds., <u>Carnegie-Rochester Conference Series on Public Policy</u>, Vol. 34 (1991), pp. 7-30.

"Information-Aggregation Bias," American Economic Review, June 1992, pp. 508-19.

- Book review of <u>The Political Economy of American Monetary Policy</u>, Thomas Mayer, ed., New York: Cambridge University Press, 1990, <u>Journal of Money</u>, <u>Credit</u>, and <u>Banking</u>, May 1992, pp. 274-76.
- Book review of James L. Pierce, <u>The Future of Banking</u>, New Haven: Yale University Press, 1991, <u>Journal of Economic Literature</u>, March 1993, pp. 253-4.

- "Why We Need an "Accord" for Federal Reserve Credit Policy," <u>Journal of Money, Credit</u>, <u>and Banking</u>, August 1994, Part 2, pp. 572-80. Reprinted in Federal Reserve Bank of Richmond Economic Quarterly, Winter 2001, pp.23-32.
- "Early Development," with John McDermott, <u>American Economic Review</u>, March 1995, pp. 116-33.
- Discussion of "The Impact of Monetary Policy on Bank Balance Sheets," by Anil Kashyap and Jeremy Stein. In Allan Meltzer and Charles Plosser, eds., <u>Carnegie-Rochester</u> <u>Conference Series on Public Policy</u>, Vol. 42 (1995), pp. 197-202.
- Book review of <u>The Future of Central Banking: The Tercentenary Symposium of the Bank</u> of England by Forrest Capie, Charles Goodhart, Stanley Fischer, and Norbert Schnadt, London: Cambridge University Press, 1994, <u>Journal of Economic Literature</u>, December 1996, pp. 1963-65.
- "A Framework for the Analysis of Moderate Inflations," Journal of Monetary Economics, June 1997, pp. 45-65.
- "The New Neoclassical Synthesis and the Role of Monetary Policy," with Robert G. King. In B. Bernanke and J. Rotemberg, eds., National Bureau of Economic Research <u>Macroeconomics Annual 1997</u>, Cambridge: MIT Press, pp. 231-95.
- "Industrial Development and the Convergence Question," with John McDermott, <u>American Economic Review</u>, December 1998, pp. 1277-89.
- "The Role of a Regional Bank in a System of Central Banks." In Bennett McCallum and Charles Plosser, eds., <u>Carnegie-Rochester Conference Series on Public Policy</u>, Vol. 51 (1999), pp. 51-71. Reprinted in Federal Reserve Bank of Richmond 2000 <u>Annual</u> <u>Report</u>, and <u>Economic Quarterly</u>, Winter 2000, pp. 7-25.
- "Overcoming the Zero Bound on Interest Rate Policy." In proceedings of a Federal Reserve System Conference, "Monetary Policy in a Low Inflation Environment," <u>Journal of Money, Credit, and Banking</u>, November 2000, Part 2, pp. 1007-35. Reprinted in <u>Recent Developments in Monetary Policy</u>, Alec Crystal and Paul Mizen, eds., London: Edward Elgar 2009 (The International Library of Critical Writings in Economics edited by Mark Blaug).

"Federal Reserve Asset Acquisition: A Proposal," with J. Alfred Broaddus, Jr., Panel

Presentation at the Federal Reserve Bank of Cleveland Conference on Declining Treasury Debt, Journal of Money, Credit, and Banking, August 2002, Part 2, pp. 946-51.

- "Monetary Policy in the New Neoclassical Synthesis: A Primer," <u>International Finance</u>, Summer 2002, pp. 165-92. Reprinted in Federal Reserve Bank of Richmond <u>Economic</u> <u>Quarterly</u>, Summer 2004, pp. 21-45. Translated into Swedish and reprinted in Swedish Riksbank <u>Penning-och valutapolitik (Tidskrift utgiven av Sveriges Riksbank)</u>, 2007:2, pp. 5-32.
- Discussion of "Efficient Inflation Targets for Distorted Dynamic Economies," by Costas Azariadis and Raphael Lam. In Federal Reserve Bank of Cleveland Conference on Low Inflation Economies, Journal of Money, Credit, and Banking, November 2003.
- Book Review of <u>Towards a New Paradigm for Monetary Economics</u> by Joseph Stiglitz and Bruce Greenwald, London: Cambridge University Press, 2003, <u>Journal of Economic</u> <u>Literature</u>, June 2005, pp. 503-4.
- "The Incredible Volcker Disinflation," with Robert G. King. In Carnegie-Rochester Conference Series on Public Policy, <u>Essays in Honor of Bennett T. McCallum</u>, <u>Journal</u> <u>of Monetary Economics</u>, July/August 2005, pp. 981-1015.
- "A Framework for Independent Monetary Policy in China," with Eswar Prasad, <u>CESifo</u> <u>Economic Studies</u>, January 2007. (International Monetary Fund, Working Paper 06/111.)
- "Banking and Interest Rates in Monetary Policy Analysis: A Quantitative Exploration," with Bennett T. McCallum, Carnegie-Rochester Conference Series on Public Policy, Journal of Monetary Economics, July/August 2007, pp. 1480-1507. Reprinted in <u>Recent Developments In Monetary Policy</u>, Alec Crystal and Paul Mizen, eds., London: Edward Elgar 2009 (The International Library of Critical Writings in Economics edited by Mark Blaug).
- "How the World Achieved Consensus on Monetary Policy," <u>Journal of Economic</u> <u>Perspectives</u>," Volume 21, Number 4, Fall 2007, pp. 47-68.
- "Elements of Effective Central Banking: Theory, Practice, and History," <u>Economic</u> <u>Developments in India</u> (Volume 118, 2007), pp. 51-66.
- "The Great Inflation Drift" (with Robert G. King), presented at The NBER Great Inflation Conference, September 2008, in <u>The Great Inflation</u>, edited by M. Bordo and A. Orphanides, National Bureau of Economic Research, University of Chicago Press 2013. (NBER Working Paper #14862, April 2009.)

Discussion of T. Jordan, M. Peytrignet, and E. Rossi "Ten Years Experience with the Swiss

National Bank's Monetary Policy Strategy," at the Swiss National Bank Conference "The SNB's New Monetary Policy Framework Ten Years On," Zurich, Switzerland, October 2009 in <u>Swiss Journal of Economics and Statistics</u>, March 2010, pp. 91-100.

- "Central Banking in the Credit Turmoil: An Assessment of Federal Reserve Practice," <u>Journal of Monetary Economics</u>, January 2011, Volume 58, Issue 1, pp. 1-12. Prepared initially for presentations at the Bank of Japan International Conference: Financial System and Monetary Policy Implementation, May 2009 and the Conference on Monetary-Fiscal Policy Interactions, Expectations, and Dynamics in the Current Economic Crisis, Princeton University, May 2009.
- "Money Markets," in <u>Annual Review of Financial Economics</u>, A. Lo and R. Merton, eds., Volume 3, 2011, pp. 119-37. Reprinted in <u>Annual Review of Financial Economics: A</u> <u>Ten Year Compilation</u>, A. Lo and R. Merton, eds., 2018, pp. 255-273
- "Lessons from a Century of Fed Policy: Why Monetary and Credit Policies Need Rules and Boundaries," Journal of Economic Dynamics and Control, Vol 49, December 2014, pp. 112-20. Conference volume "Frameworks for Central Banking in the Next Century: A Special issue on the Occasion of the Centennial of the Founding of the Federal Reserve," M. Bordo, W. Dupor, and J. B. Taylor, eds., Hoover Institution, Stanford University, May 2014

OTHER:

- "Exchange Rate Policy and the Dual Role of Exchange Rate Movements in International Adjustment," Federal Reserve Bank of Richmond Economic Review, September/ October 1979, pp. 16-26.
- "Recent Financial Innovations: Causes, Consequences for the Payments System, and Implications for Monetary Control" with James Parthemos and Bruce Summers, Federal Reserve Bank of Richmond <u>Economic Review</u>, March/April 1980, pp. 5-19; reprinted in John R. Brick, ed., <u>Financial Markets: Instruments and Concepts</u>, Richmond: Robert F. Dame, Inc., 1981.

"Credit Cards and Monetary Policy," <u>The Money Manager</u>, April 13, 1981, pp. 3 and 23.

"Eurodollars," Federal Reserve Bank of Richmond Economic Review, May/June 1981, pp. 12-18. Reprinted in the Federal Reserve Bank of Richmond Instruments of the Money Market, 5th ed.; also in John R. Brick, ed., Financial Markets: Instruments and Concepts, Richmond: Robert F. Dame, Inc., 1981, in The Commodity Journal, November/ December 1981, in Robert W. Kolb and Gerald D. Gay, eds., International Finance: Concepts and Issues, Richmond: Robert F. Dame, Inc., 1982, in Thomas Havrilesky, Current Perspectives in Financial Markets and Institutions, 1983, in Donald R. Fraser

and Peter S. Rose, eds., <u>Financial Institutions and Markets in a Changing World</u>, Business Publications, Inc., 1984, and in <u>The Money Encyclopedia</u>, Harper and Row, 1984; Revised 1986, in Federal Reserve Bank of Richmond, <u>Instruments of the Money</u> <u>Market</u>, 6th ed, in James A. Wilcox, ed., <u>Current Readings on Money</u>, <u>Banking</u>, and <u>Financial Markets</u>, Boston: Little, Brown and Company, 1987. Revised for <u>Instruments</u> <u>of the Money Market</u>, 6th ed., 1993.

- "A Prescription for Monetary Policy 1981," Federal Reserve Bank of Richmond <u>Economic Review</u>, November/December 1981, pp. 11-18.
- "A Model of Money Stock Determination with Loan Demand and a Banking System Balance Sheet Constraint," Federal Reserve Bank of Richmond <u>Economic Review</u>, January/February 1982, pp. 3-16.
- "A Historical Assessment of the Rationales and Functions of Reserve Requirements," with Monica Hargraves, Federal Reserve Bank of Richmond 1982 <u>Annual Report</u>, pp. 5-23. Reprinted in Federal Reserve Bank of Richmond <u>Economic Review</u>, March/April 1983, and in Donald R. Fraser and Peter S. Rose, eds., <u>Financial Institutions</u> <u>and Markets in a Changing World</u>, Business Publications, Inc., 1984.
- "The Promises and Pitfalls of Contemporaneous Reserve Requirements for the Implementation of Monetary Policy," Federal Reserve Bank of Richmond <u>Economic</u> <u>Review</u>, May/June 1984, pp. 3-12.
- "Base Drift and the Longer Run Growth of M1: Experience from a Decade of Monetary Targeting," with J. Alfred Broaddus, Jr., Federal Reserve Bank of Richmond Economic Review, November/December 1984, pp. 1-14.
- "A Weekly Rational Expectations Model of the Nonborrowed Reserve Operating Procedure," with Gary Anderson, Anil Kashyap, George Moore, and Richard D. Porter, Federal Reserve Bank of Richmond <u>Economic Review</u>, January/February 1986, pp. 11-28.

"Fed Secrecy and the Choice of a Rule," The Cato Journal, Fall 1986, pp. 557-62.

"Federal Funds: Instrument of Federal Reserve Policy," with Bill Whelpley, Federal Reserve Bank of Richmond <u>Economic Review</u>, September/October 1986. Reprinted in Federal Reserve Bank of Richmond, <u>Instruments of the Money Market</u>, 6th ed.; reprinted in Thomas M. Havrilesky and Robert Schweitzer, eds., <u>Contemporary</u> <u>Developments in Financial Institutions and Markets</u>, second edition, Harlan Davidson, Inc. 1987. Revised for <u>Instruments of the Money Market</u>, 6th ed., 1993.

- "Federal Reserve Interest Rate Smoothing." In C. England and T. Huertas, eds. <u>The Financial</u> <u>Services Revolution</u>, Boston: Kluwer Academic Publishers, 1987, pp. 227-34.
- "Theoretical Analysis of the Demand for Money," with Bennett McCallum, in <u>The New</u> <u>Palgrave: A Dictionary of Economic Theory and Doctrine</u>, edited by J. Eatwell, et. al, New York: The Stockton Press, 1987, Vol. 1, pp. 775-81. Reprinted in Federal Reserve Bank of Richmond <u>Economic Review</u>, January/February 1988, in <u>Money</u>, edited by J. Eatwell, et. al., New York: W.W. Norton, 1989, and in <u>The New Palgrave Dictionary of</u> <u>Money and Finance</u>, edited by P. Newman, et al, New York: The Stockton Press, 1992, pp. 611-17.
- "Financial Deregulation, Monetary Policy, and Central Banking," with Robert G. King. In <u>Restructuring Banking and Financial Services in America</u>, William S. Haraf and Rose Kushmeider, eds., American Enterprise Institute, Washington, D.C., 1988, pp. 216-53. Reprinted in Federal Reserve Bank of Richmond <u>Economic Review</u>, May/June 1988, pp. 3-22. And reprinted (with excerpts) in <u>Financial Crises, Contagion, and the Lender of Last Resort: A Reader</u>, Charles Goodhart and Gerhard Illing, eds., London: Oxford University Press, 2002, pp. 145-68.
- Discussion of V. Reinhart, "The Design of an Interest Rate Rule in an Optimizing Model." In R.D. Porter, ed., Proceedings of the Monetary Affairs Workshop on <u>Asset Prices and</u> <u>the Conduct of Monetary Policy</u>, Board of Governors of the Federal Reserve System, April 1990.
- "Money, Credit, Banking, and Payments System Policy," David B. Humphrey, ed. <u>The U.S. Payments System: Efficiency, Risk, and the Role of the Federal</u> <u>Reserve</u>, Boston: Kluwer Academic Publishers, 1990. Reprinted in Federal Reserve Bank of Richmond <u>Economic Review</u>, January/February 1991, pp. 7-23.
- "Discount Window." In <u>The New Palgrave Dictionary of Money and Finance</u>, edited by P. Newman, et al, New York: The Stockton Press, 1992, pp. 677-79.
- "Financial Theory and Central Bank Policies," in S.F. Frowen, ed., <u>Monetary Theory and</u> <u>Monetary Policy: New Tracks for the 1990s</u>, Proceedings of a 1988 Symposium, Free University of Berlin, New York: St. Martin's Press, 1993.
- "Interest Rate Policy and the Inflation Scare Problem: 1979-1992," Federal Reserve Bank of Richmond 1993 <u>Annual Report</u>. Reprinted in Federal Reserve Bank of Richmond <u>Economic Quarterly</u>, Winter 1993, pp. 1-24, and in <u>Operating Procedures and the</u> <u>Conduct of Monetary Policy</u>: <u>Conference Proceedings</u>, Board of Governors of the Federal Reserve System, March 1993. A version entitled "Acquiring and Maintaining Credibility for Low Inflation," is in L. Leiderman and L. Svensson, eds., <u>Inflation</u> <u>Targets</u>, London: Center for Economic Policy Research, 1995.

- "Central Banking: Then and Now," speech written for president of the Federal Reserve Bank of Richmond. In Federal Reserve Bank of Richmond <u>Economic Quarterly</u>, Spring 1993, pp. 1-12. Reprinted in Federal Reserve Bank of Minneapolis <u>The Region</u>, September 1993, pp. 13-19.
- "Federal Reserve Automation Services," Federal Reserve Bank of Richmond 1994 <u>Annual</u> <u>Report</u>, pp. 6-12.
- Comment on M. Flannery, "Prudential Regulation of Banks," in K. Sawmoto, Z. Nakjina, and H. Taguchi, eds., <u>Financial Stability in a Changing Environment</u>, New York: St. Martin's Press, 1995 (The Bank of Japan's Sixth International Conference).
- "Foreign Exchange Operations and the Federal Reserve," with J. Alfred Broaddus, Jr., Federal Reserve Bank of Richmond 1996 <u>Annual Report</u>. Reprinted in Federal Reserve Bank of Richmond <u>Economic Quarterly</u>, Winter 1996, pp. 1-19.
- "Monetary Policy Comes of Age: A Twentieth Century Odyssey," Federal Reserve Bank of Richmond 1997 <u>Annual Report</u>. Reprinted in Federal Reserve Bank of Richmond <u>Economic Quarterly</u>, Winter 1997, pp. 1-22.
- Comment on K. Udea, "Japanese Monetary Policy, Rules or Discretion? A Reconsideration." In Iwao Kuroda, ed., <u>Towards a More Effective Monetary Policy</u>, MacMillan Press: London 1997, pp. 289-95. (The Bank of Japan's Seventh International Conference)
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- "Inflation Drift: Monetary Policy and Macroeconomic Stability," presented at a plenary session on Monetary Policy and Financial Markets (with Lars Hanson) at the North American Econometric Society Summer Meetings, June 2008
- "Monetary Policy During the Financial Turmoil: What Have We Learned?" The ECB and Its Watchers X, Frankfurt, September 2008
- "How the World Achieved Consensus on Monetary Policy," Opening Banquet Address at the National Teacher Conference for Advanced Placement in Economics, Federal Reserve Bank of Richmond, November 2008
- INTERVIEW on CentralBanking.com the online news service of Central Banking Publications, March 27, 2009 (Topic: An Accord for Federal Reserve Credit Policy)
- "Inflation Targeting and Monetary Policy," Video Lecture at the US Consulate, Mumbai, India, arranged by the US Department of State, Washington, DC, August 2009
- "Exiting Credit Policy to Preserve Sound Monetary Policy," (with Bennett McCallum) prepared for a meeting of the Shadow Open Market Committee, Cato Institution, Washington, DC, September 30, 2009; also presented at the Euro 50 Group Meeting, "Is There Still a Paradigm for Monetary Policy Today?" Paris, France, November 2009

Panelist at a Brookings Institution Event, "Monetary Policy and Financial Stability: An

- "The Federal Reserve's Exit Strategy," mini-conference presentation, Federal Reserve Bank of Cleveland, October 2009
- "Central Banking in the Credit Turmoil: An Assessment of Federal Reserve Practice," The McKenna Lecture, Saint Vincent College, Latrobe, Pennsylvania, February 2010
- Panelist at "End the Bailouts: A Greek Forum," hosted by Congressman Mike Pence and the House Republican Conference, US Capitol, Washington, DC, May 2010
- "Problems and Prospects for Euro Area Monetary Policy," presented at a forum on "Monetary and Fiscal Policy in Europe and the Future of the Euro" (with Francisco Giavazzi, Professor of Economics, Bocconi University) in Oslo, Norway, September 2010
- "Central Banking in the Credit Turmoil," International Central Banking School, Federal Reserve Bank of New York, October 2010 and 2011
- "The Boundary between Monetary and Fiscal Policy and the Future of Independent Central Banking," Keynote Address to the Bank of England's Chief Economists' Workshop, Bank of England, London, UK, May 2011
- Personal Reminiscences, Conference in Honor of Robert King, Federal Reserve Bank of Richmond, May 2011
- "Central Banking in the Credit Turmoil: An Assessment of Federal Reserve Practice," Chinese Academy of Social Science, Beijing, China, June 2011
- "Questions Regarding Central Bank Monetary and Credit Policy in Light of the Credit Turmoil," Keynote Speech, 28th Annual International Symposium on Money, Banking, and Finance, University of Reading, UK, June 2011
- "Central Bank Monetary, Credit, and Interest on Reserves Policies in Light of the Credit Turmoil," Joint CCBS-FRBNY Policy Forum on Central Bank Market Operations During and Post Crisis, Bank of England, June 2011
- Moderator, Initial Speaker, and Questioner for Policy Panel with Janet Yellen, Axel Weber, and Kiyohiko Nishimura, Bank of Japan International Conference, June 2011
- "The Increasing Overlap of Monetary and Fiscal Policy," Joint Central Bank Conference: Bank of Canada, Federal Reserve Banks of Atlanta and Cleveland, and Swiss National Bank, Zurich, Switzerland, November 2011

- "Macroeconomics and Accounting Standards," American Accounting Association Annual Meeting, Washington, DC, August 6, 2012
- "The Elusive Promise of Independent Central Banking," G-20 Conference on Financial and Systemic Risk, Istanbul, Turkey, September 27-8, 2012
- "Remarks upon Receiving the Friends of Allan Meltzer Professorship," Chair Reception, Tepper School, Carnegie Mellon University, October 8, 2012
- "Macroeconomic Approaches to Inflation," Federal Reserve Bank of San Francisco Symposium on Inflation," San Francisco, CA, May 17, 2013
- "Lessons from the Crisis for Monetary Policy (Policy Panel Presentation), National Bureau of Economic Research Conference "Lessons from the Crisis for Monetary Policy," October 18-19, 2013
- "Independent Fed Needs Support of the Fiscal Authorities in Exit from the Zero Interest Bound," Federal Reserve Bank of New York Central Banking Seminar, Federal Reserve Bank of New York, NYC, October 24, 2013
- "Central Bank Research and Policy Advice: Personal and Professional Perspectives," Bank of Korea Academy Conference, How to Cultivate 21st Century Central Bankers? Bank of Korea, Seoul, Korea, November 1, 2013
- "The 1951 Fed-Treasury Accord: Its Historic Significance and Relevance for Policy," Federal Reserve Bank of Philadelphia Forum, "The History of Central Banking in the United States, Federal Reserve Bank of Philadelphia, Philadelphia, PA, December 6, 2013
- "Current US Economic and Financial Conditions and the Yellen-Fischer Fed," Hotel La Reserve, Geneva, Switzerland, January 20, 2014
- "Bitcoin:--Money, Monetary Policy, and Financial Regulation," PNC Bitcoin and Cryptocurrency Seminar," Fairmont Hotel, Pittsburgh, PA, March 25, 2014
- "Monetary Policy as a Carry Trade," (based on paper to be published) Bank of Japan International Conference, Tokyo, June 4, 2014; Chautauqua, NY, Aug. 11, 2014; 90th International Business Cycle Conference, Kiel Institute for the World Economy, Berlin, Sept.15-16, 2014; Swiss National Bank Research Conference, Zurich, Sept.25-7, 2014; NY Forecasters Club, Dec. 18, 2014; National Association of Business Economists Session, Allied Social Sciences Meeting, Boston, MA, January 3, 2015
- "Overcoming the Zero Bound with Negative Interest Rate Policy," Conference on Removing the Zero Lower Bound on Interest Rates, Imperial College Business School, Brevan

Howard Centre for Financial Analysis, CEPR, and Swiss National Bank Event, London, UK, May 18, 2015

- "US Economic Situation and Perspectives on Central Bank Policies," Policy Panel Presentation, Bank of Japan International Conference, Bank of Japan, Tokyo, Japan, June 4, 2015
- "The Origin and Initial Use of the New Neoclassical Synthesis for Policy," Guggenheim Conference on Economic Research and Policy Making at the Federal Reserve, Geneva, Switzerland, June 27-8, 2015
- "The Federal Reserve's (Inconsistent) Contribution to Macro and Financial Stability," Deutsche Bundesbank Conference on Turning Points in History: How Crises Have Changed the Tasks and Practice of Central Banks, Frankfurt, Germany, July 9, 2015
- "Seven Years of Fed Policy at Zero Interest: What Now?" Spinoza Foundation Conference, Four Seasons Hotel, London, UK, September 9, 2015
- "China's Macroeconomic Adjustment Problem," Presentation to the Federal Reserve Bank of New York Economic Advisory Panel, New York, October 16, 2015 (available on New York Fed Advisory Panel website)
- "Removing the Zero Bound on Interest Rate Policy," Joint Central Bank Conference Organized by the Bank of Canada, the Federal Reserve Banks of Atlanta and Cleveland, and the Swiss National Bank, Berne, Switzerland, November 4, 2015
- "Review of the Riksbank's Monetary Policy 2010-2015," with Mervyn King, presented to the Committee on Finance, Swedish Riksdag, Stockholm, Sweden, January 19, 2016
- "The Fundamental Challenge for Communist Party Rule in China," Alumni Webinar, Tepper School of Business, Carnegie Mellon University, March 31, 2016 (video and written essay available on Tepper website)
- Money Markets, Monetary Policy, and Central Banking," Federal Reserve System Workshop on Money Markets and Monetary Policy Implementation, Federal Reserve Bank of Atlanta, Atlanta, Georgia, April 1, 2016
- "Central Banking and Money Markets in Light of the Credit Turmoil," Federal Reserve Bank of Atlanta Financial Markets Conference "Getting a Grip on Liquidity: Markets, Institutions, and Central Banks," Amelia Island, Florida, May 1-3, 2016
- "Understanding Central Banking in Light of the Credit Turmoil," Columbia University SIPA and Federal Reserve Bank of New York Workshop "Implementing Monetary Policy Post-Crisis: What Have We Learned? What Do We Need to Know?" New York City, May 4,

2016

- Hearing Before the Committee on Finance of the Swedish Riksdag on "Review of the Riksbank's Monetary Policy 2010-2015," by Marvin Goodfriend and Mervyn King, Stockholm, Sweden, May 12, 2016
- "Final Workshop Overview," Federal Reserve Bank of Richmond, "The Role of the Zero Bound in the Great Recession," Richmond, Virginia, May 17, 2016
- "Facilitating Monetary Policy Objectives by Going Cashless," Bank of Finland Conference "Going Cashless," Helsinki, Finland, June 14, 2016
- "INTERVIEW on Brexit with Questions and Answers," Tepper School of Business Facebook Page, June 24, 2016
- "Honorary Advisor INTERVIEW, Institute for Monetary and Economic Studies, partly published in *IMES Newsletter* (November), Bank of Japan, Tokyo, Japan, Sept. 2016
- "Review of the Riksbank's Monetary Policy 2010-2015," presentation at the 3rd Bank of Canada Bank of Japan Joint Workshop "Challenges to Central Bank Policies for Price Stability and Financial Stability," Tokyo, Japan, September 30, 2016
- "The Case (in Brief) for Unencumbering Interest Rate Policy at the Zero Bound," Alumni Webinar, Tepper School of Business, Carnegie Mellon University, October 13, 2016 (video and written essay available on Tepper website); and Macroeconomics Seminar, Tepper School of Business, November, 4, 2016; Invited Seminar, Bank of Canada, November 29, 2016
- "Importing the Adversarial Model into the Credit Rating Industry," Policy Panel Speaker, Credit Rating Agency Conference, Tepper School of Business, December 9, 2016
- "Reform of the Fed's Legislative Framework," Luncheon Briefing by Members of the Shadow Open Market Committee, Capitol Hill, Washington, D.C., January 26, 2017

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