

## **Ray C. Fair**

### **Curriculum Vitae**

**Date:** April 2025

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**Date of Birth:** October 4, 1942

**Place of Birth:** Fresno, CA

**Citizenship:** United States

**Education:**

1964-1968: M.I.T., Ph.D., Economics, February 1968

1960-1964: Fresno State College, B.A., Economics, June 1964

**Positions:**

2000–: Fellow, International Center for Finance at Yale

1979–: Professor, Cowles Foundation, Department of Economics, Yale University

1974–1979: Associate Professor, Cowles Foundation, Department of Economics, Yale University

Fall 1977: Visiting Associate Professor, Department of Economics, M.I.T.

1968–1974: Assistant Professor, Department of Economics, Princeton University

**Teaching:** Macroeconomic Theory, Econometrics, Macroeconometric Models

**Fellowships:**

Elected Fellow of the Econometric Society—1977

Woodrow Wilson Dissertation Fellowship—1967–1968

National Science Foundation Fellowship—1965–1966, 1966–1967

Woodrow Wilson Fellowship—1964–1965

**Research:**

- *Macroeconomic Modeling: The Cowles Commission Approach*, 2024, The MIT Press.
- “U.S. Infrastructure: 1929-2023,” February 2025, in progress.
- “Inflation Expectations, Price Equations, and Fed Effects,” *Business Economics*, 2024.
- “Physical Decline Rates: Men versus Women,” *Sports Economic Review*, 2025.

- "Shocks, Frictions, and Inequality in US Business Cycles: Comment," June 2024, in progress.
- "The Cost of Contact in Ivy League Sports," March 2024, in progress.
- "Presidential and Congressional Vote-Share Equations: November 2022 Update," November 23, 2022, unpublished.
- "A Note on Estimating Sports Injuries at Ivy League Universities," July 2022, in progress.
- "Estimated Costs of Injuries in College and High School Female Sports," (with Christopher Champa), *Sports Economic Review*, 2022.
- "Why Have Interest Rates Been Low?" July 2022, in progress.
- "A Note on the Fed's Power to Lower Inflation," *Business Economics*, 2022.
- "What Do Price Equations Say About Future Inflation?" *Business Economics*, 2021.
- "Retrospective Voting Versus Risk-Aversion Voting: A Comment on Pástor and Veronesi (2020)," July 2021, in progress.
- "Are Stock Returns and Output Growth Higher Under Democrats?" September 2021, in progress.
- "Analysis of Nine U.S. Recessions and Three Expansions," January 2022, in progress.
- "Trade Models and Macroeconomics," *Economic Modeling*, 2021.
- "Variable Mismeasurement in a Class of DSGE Models: Comment," *Journal of Macroeconomics*, December 2020.
- "Some Important Macro Points," *Oxford Review of Economic Policy*, 2020.
- "Information Content of DSGE Forecasts," *Journal of Forecasting*, 2019, 1-6.
- "Estimated Costs of Contact in College and High School Male Sports," (with Christopher Champa), *Journal of Sports Economics*, 2019, 690-717.

- “Presidential and Congressional Vote-Share Equations: November 2018 Update,” November 14, 2018, vote update, unpublished.
- “Explaining the Slow U.S. Recovery: 2010–2017,” *Business Economics*, October 2018, 184-194.
- “Estimating Aging Effects in Running Events,” (with Edward H. Kaplan), *The Review of Economics and Statistics*, October 2018, 704-711.
- “Wealth Effects on World Private Financial Saving,” *International Economics*, May 2017, 15-26.
- “Household Wealth and Macroeconomic Activity: 2008-2013,” *Journal of Money, Credit and Banking*, March-April 2017, 495-523.
- “The Optimal Distribution of Income Revisited,” August 2017, unpublished.
- “A Mini Version of the US Model,” July 2016, unpublished.
- “Reflections on Macroeconometric Modeling,” *The B.E. Journal of Macroeconomics*, Volume 15, Issue 1, 445-466, 2015.
- “How Might a Central Bank Report Uncertainty?” *Economics: The Open-Access, Open-Assessment E-Journal*, Vol. 8, 2014-27, 2014.
- “Is Fiscal Stimulus a Good Idea?” *Business Economics*, October 2014, 244-252.
- “Presidential and Congressional Vote-Share Equations: November 2014 Update,” November 11, 2014, vote update, unpublished.
- “Has Macro Progressed?” *Journal of Macroeconomics*, 2012, 2-10.
- “Analyzing Macroeconomic Forecastability,” *Journal of Forecasting*, 2012, 99-108.
- “What It Takes To Solve the U.S. Government Deficit Problem,” *Contemporary Economic Policy*, October 2012, 618-628.
- *Predicting Presidential Elections and Other Things, Second Edition*, 2012, Stanford University Press.

- “Possible Macroeconomic Consequences of Large Future Federal Government Deficits,” 2011, NBER, *Tax Policy and the Economy*, Vol. 25, 89-108.
- “Presidential and Congressional Vote-Share Equations: November 2010 Update,” November 11, 2010, vote update, unpublished.
- “Estimated Macroeconomic Effects of the U.S. Stimulus Bill,” *Contemporary Economic Policy*, October 2010, 439-452.
- “Estimated Macroeconomic Effects of a Chinese Yuan Appreciation,” *Business Economics*, October 2010, 233-243.
- “Interpreting the Predictive Uncertainty of Elections,” *The Journal of Politics*, April 2009, 612-626.
- “Presidential and Congressional Vote-Share Equations,” *American Journal of Political Science*, January 2009, 55-72.
- “Testing Price Equations,” *European Economic Review*, November 2008, 1424-1437.
- “Estimated Age Effects in Baseball,” 2008, *Journal of Quantitative Analysis in Sports*, Vol. 4: Iss. 1, Article 1.
- “Branch Rickey’s Equation Fifty Years Later,” (with Danielle Catambay), *Nine*, Fall 2008, 111-119.
- “Evaluating Inflation Targeting Using a Macroeconometric Model,” *Economics: The Open-Access, Open-Assessment E-Journal*, Vol. 1, 2007-8, 2007.
- “A Comparison of Five Federal Reserve Chairmen: Was Greenspan the Best?” 2007, *The B.E. Journal of Macroeconomics*, Vol. 7: Iss. 1 (Contributions), Article 12.
- “Estimated Age Effects in Athletic Events and Chess,” *Experimental Aging Research*, 2007, 37-57.
- “College Football Rankings and Market Efficiency,” (with John F. Oster), *Journal of Sports Economics*, February 2007, 3-18.

- “The Effect of Economic Events on Votes for President: 2004 Update,” November 1, 2006, vote update, unpublished.
- “Policy Effects in the Post Boom U.S. Economy,” 2005, *Topics in Macroeconomics*, Vol. 5: Iss. 1, Article 19.
- “Estimates of the Effectiveness of Monetary Policy,” *Journal of Money, Credit and Banking*, August 2005, 645-660.
- “Natural Concepts in Macroeconomics,” June 2005, unpublished.
- *Estimating How the Macroeconomy Works*, Harvard University Press, 2004.
- “Testing for a New Economy in the 1990s,” *Business Economics*, January 2004, 43-53.
- “Optimal Control and Stochastic Simulation of Large Nonlinear Models with Rational Expectations,” *Computational Economics*, June 2003, 245-256.
- “Bootstrapping Macroeconometric Models,” 2003, *Studies in Nonlinear Dynamics & Econometrics*, Vol. 7: No. 4, Article 1.
- “The Great Gatsby: Yale, Princeton, Columbia, Harvard, Oxford,” *Eastern Economic Journal*, Spring 2003, 159-163.
- “Risk Aversion and Stock Prices,” February 2003, unpublished.
- “Shock Effects on Stocks, Bonds, and Exchange Rates,” *Journal of International Money and Finance*, 2003, 307-341.
- “The Effect of Economic Events on Votes for President: 2000 Update,” November 1, 2002, vote update, unpublished.
- “Events that Shook the Market,” *Journal of Business*, October 2002, 713-732.
- “On Modeling the Effects of Inflation Shocks,” 2002, *Contributions to Macroeconomics*, Vol. 2: No. 1, Article 3.
- *Predicting Presidential Elections and Other Things*, 2002, Stanford University Press.

- "Actual Federal Reserve Policy Behavior and Interest Rate Rules," *FRBNY Economic Policy Review*, March 2001, 61-72.
- "Fed Policy and the Effects of a Stock Market Crash on the Economy," *Business Economics*, April 2000, 7-14.
- "Testing the NAIRU Model for the United States," *The Review of Economics and Statistics*, February 2000, 64-71.
- "What Can Macroeconometric Models Say About Asia-Type Crises?" May 1999, for presentation at the Twelfth World Congress of the International Economic Association, Buenos Aires, Argentina, August 23-27, 1999, unpublished.
- "Does the NAIRU Have the Right Dynamics,?" *The American Economic Review*, May 1999, 58-62.
- "Evaluating the Information Content and Money Making Ability of Forecasts from Exchange Rate Equations," May 1999, unpublished.
- "A Fiscal Policy Rule for Stabilization," February 1999, unpublished.
- "Estimated Inflation Costs Had European Unemployment Been Reduced in the 1980s by Macro Policies," *Journal of Macroeconomics*, Winter 1999, 1-28.
- "The Effect of Economic Events on Votes for President: 1996 Update," November 6, 1998, vote update, unpublished.
- "Estimated Stabilization Costs of the EMU," *National Institute Economic Review*, April 1998, 90-99.
- "Explaining the Labor Force Participation of Women 20-24," (with D. J. Macunovich), February 1997, unpublished.
- "Computational Methods for Macroeconometric Models," in H.M. Amman, D.A. Kendrick, and J. Rust (eds.), *Handbook of Computational Economics*, North-Holland Publishing Co., 1996, 143-169.
- "Computing Median Unbiased Estimates in Macroeconometric Models," *Journal of Applied Econometrics*, 1996, 431-435.

- “Evaluating Alternative Monetary Policy Rules,” (with E.P. Howrey), *Journal of Monetary Economics*, October 1996, 173-193.
- “Econometrics and Presidential Elections,” *The Journal of Economic Perspectives*, Summer 1996, 89-102.
- “The Effect of Economic Events on Votes for President: 1992 Update,” *Political Behavior*, June 1996, 119-139.
- “Can A Tax Plan Save Baseball?” (with Sharon M. Oster), *For The Record*, December 1994/ January 1995, 9.
- *Testing Macroeconometric Models*, Harvard University Press, 1994.
- “How Fast Do Old Men Slow Down?” *The Review of Economics and Statistics*, February 1994, 103-118.
- “Estimating Event Probabilities in Macroeconometric Models using Stochastic Simulation,” in J. Stock and M. Watson (eds.), *Business Cycles, Indicators, and Forecasting*, The University of Chicago Press, 1993, 157-176.
- “Testing the Rational Expectations Hypothesis in Macroeconometric Models,” *Oxford Economic Papers*, 1993, 169-190.
- “Testing Macroeconometric Models,” *The American Economic Review*, May 1993, 287-293.
- “Inflationary Expectations and Price Setting Behavior,” *The Review of Economics and Statistics*, February 1993, 8-18.
- “The Cowles Commission Approach, Real Business Cycle Theories, and New Keynesian Economics,” in Michael T. Belongia and Michelle R. Garfinkel, eds., *The Business Cycle: Theories and Evidence*, Kluwer Academic Publishers, 1992, 133-147.
- “Estimation of Distributed Lags and Leads with End Point Constraints,” (with D. K. Andrews), *Journal of Econometrics*, 1992, 123-139.
- “A Comparison of the Michigan and Fair Models,” (with L. Alexander), in Lawrence R. Klein (ed.), *Comparative Performance of U.S. Econometric Models*, Oxford University Press, 1991, 168-197.

- “Effects of the Changing U.S. Age Distribution on Macroeconomic Equations,” (with K. M. Dominguez), *The American Economic Review*, December 1991, 1276-1294.
- “The Effect of Economic Events on Votes for President: 1988 Update,” November 1990, vote update, unpublished.
- “Full Information Estimation and Stochastic Simulation of Models with Rational Expectations,” (with J. B. Taylor), *Journal of Applied Econometrics*, October-December 1990, 381-392.
- “Comparing Information in Forecasts from Econometric Models,” (with R. J. Shiller), *The American Economic Review*, June 1990, 375-389.
- “The Production Smoothing Model is Alive and Well,” *Journal of Monetary Economics*, November 1989, 353-370.
- “The Informational Content of Ex Ante Forecasts,” (with R. J. Shiller), *The Review of Economics and Statistics*, May 1989, 325-331.
- “The Effect of Economic Events on Votes for President: 1984 Update,” *Political Behavior*, 1988, 168-179.
- “Inference in Nonlinear Econometric Models with Structural Change,” (with D. K. Andrews), *Review of Economic Studies*, October 1988, 615-640.
- “Forecasting the Depression: Harvard versus Yale,” (with K. M. Dominguez and M. S. Shapiro), *The American Economic Review*, September 1988, 595-612.
- “Optimal Choice of Monetary Policy Instruments in a Macroeconometric Model,” *Journal of Monetary Economics*, September 1988, 301-315.
- “Sources of Economic Fluctuations in the United States,” *The Quarterly Journal of Economics*, May 1988, 313-332.
- “International Evidence on the Demand for Money,” *The Review of Economics and Statistics*, August 1987, 473-480.
- “Properties of a Multicountry Econometric Model,” *Journal of Policy Modeling*, Spring 1987, 83-123.



- “A Comparison of the Michigan and Fair Models: Further Results,” (with L. Alexander), in D. A. Belsley and E. Kuh (eds.), *Model Reliability*, M.I.T. Press, 1986, 191-212.
- “Evaluating the Predictive Accuracy of Models,” in Z. Griliches and M. D. Intriligator (eds.), *Handbook of Econometrics*, Volume III, North-Holland Publishing Co., 1986, 1979-1995.
- “Macro Simulations for PCs in the Classroom,” (with K. E. Case), *The American Economic Review*, May 1985, 85-90.
- “Excess Labor and the Business Cycle,” *The American Economic Review*, March 1985, 239-245.
- *Specification, Estimation, and Analysis of Macroeconometric Models*, Harvard University Press, 1984.
- “Estimated Tradeoffs Between Unemployment and Inflation,” in *Price Stability and Public Policy*, Federal Reserve Bank of Kansas City, 1984, 57-96.
- “Solution and Maximum Likelihood Estimation of Dynamic Rational Expectations Models,” (with J. B. Taylor), *Econometrica*, July 1983, 1169-1185.
- “The Effects of Misspecification on Predictive Accuracy,” in G. C. Chow and P. Corsi (eds.), *Evaluating the Reliability of Macro-Economic Models*, John Wiley & Sons, 1982, 193-213.
- “Estimated Output, Price, Interest Rate, and Exchange Rate Linkages Among Countries,” *Journal of Political Economy*, June 1982, 507-535.
- “The Effect of Economic Events on Votes for President: 1980 Results,” *The Review of Economics and Statistics*, May 1982, 322-325.
- “The Effects of Relative Prices on Trade Shares,” Cowles Foundation Discussion Paper No. 597, June 1981.
- “Estimated Effects of the October 1979 Change in Monetary Policy on the 1980 Economy,” *The American Economic Review*, May 1981, 160-165.
- “A Multicountry Econometric Model,” Cowles Foundation Discussion Paper No. 541R, April 1981.

- “Full-Information Estimates of a Nonlinear Macroeconometric Model,” (with W. R. Parke), *Journal of Econometrics*, September 1980, 269-291.
- “Estimating the Uncertainty of Policy Effects in Nonlinear Models,” *Econometrica*, September 1980, 1381-1391.
- “Estimating the Expected Predictive Accuracy of Econometric Models,” *International Economic Review*, June 1980, 355-378.
- “On Modeling the Economic Linkages Among Countries,” in R. Dornbusch and J. A. Frenkel (eds.), *International Economic Policy: Theory and Evidence*, The Johns Hopkins University Press, 1979, 209-239.
- “An Analysis of a Macro-Econometric Model with Rational Expectations in the Bond and Stock Markets,” *The American Economic Review*, September 1979, 539-552.
- “An Analysis of the Accuracy of Four Macroeconometric Models,” *Journal of Political Economy*, August 1979, 701-718.
- “On Modeling the Effects of Government Policies,” *The American Economic Review*, May 1979, 86-91.
- “A Model of the Balance of Payments,” *Journal of International Economics*, February 1979, 25-46.
- “A Criticism of One Class of Macroeconomic Models with Rational Expectations,” *Journal of Money, Credit and Banking*, November 1978, 411-417.
- “The Sensitivity of Fiscal-Policy Effects to Assumptions About the Behavior of the Federal Reserve,” *Econometrica*, September 1978, 1165-1179.
- “Inflation and Unemployment in a Macroeconometric Model,” in *After The Phillips Curve: Persistence of High Inflation and High Unemployment*, Federal Reserve Bank of Boston, Conference Series No. 19, June 1978, 164-193.
- “The Use of Optimal Control Techniques to Measure Economic Performance,” *International Economic Review*, June 1978, 289-309.
- “The Effect of Economic Events on Votes for President,” *The Review of Economics and Statistics*, May 1978, 159-173.

- “A Theory of Extramarital Affairs,” *Journal of Political Economy*, February 1978, 45-61.
- “A Note on the Computation of the Tobit Estimator,” *Econometrica*, October 1977, 1723-1727.
- *A Model of Macroeconomic Activity. Volume II: The Empirical Model*, Ballinger Publishing Co., 1976.
- *A Model of Macroeconomic Activity. Volume I: The Theoretical Model*, Ballinger Publishing Co., 1974.
- “On the Robust Estimation of Econometric Models,” *Annals of Economic and Social Measurement*, October 1974, 667-677.
- “An Evaluation of A Short-Run Forecasting Model,” *International Economic Review*, June 1974, 285-303.
- “Methods of Estimation for Markets in Disequilibrium: A Further Study,” (with H. H. Kelejian), *Econometrica*, January 1974, 177-190.
- “On the Solution of Optimal Control Problems as Maximization Problems,” *Annals of Economic and Social Measurement*, January 1974, 135-154.
- “A Comparison of Alternative Estimators of Macroeconomic Models,” *International Economic Review*, June 1973, 261-277.
- “Maximum Likelihood Estimation of Linear Equation Systems with Auto-regressive Residuals,” (with G. C. Chow), *Annals of Economic and Social Measurement*, January 1973, 17-28.
- “Efficient Estimation of Simultaneous Equations with Auto-regressive Errors by Instrumental Variables,” *The Review of Economics and Statistics*, November 1972, 444-449.
- “The Implications of the Proposals of the Hunt Commission for the Mortgage and Housing Markets: An Empirical Study,” (with D. M. Jaffee), in *Policies for A More Competitive Financial System*, Federal Reserve Bank of Boston, Conference Series No. 8, June 1972, 99-148.
- “Disequilibrium in Housing Models,” *Journal of Finance*, May 1972, 207-221.

- “Methods of Estimation for Markets in Disequilibrium,” (with D. M. Jaffee), *Econometrica*, May 1972, 497-514.
- *A Short-Run Forecasting Model of the United States Economy*, D. C. Heath and Co., 1971.
- “The Optimal Distribution of Income,” *The Quarterly Journal of Economics*, November 1971, 551-579.
- “The Determination of Yield Differentials Between Debt Instruments of the Same Maturity,” (with B. G. Malkiel), *Journal of Money, Credit and Banking*, November 1971, 733-749.
- “Labor Force Participation, Wage Rates, and Money Illusion,” *The Review of Economics and Statistics*, May 1971, 164-168.
- “Sales Expectations and Short-Run Production Decisions,” *Southern Economic Journal*, January 1971, 267-275.
- “Aggregate Price Changes and Price Expectations,” *Federal Reserve Bank of St. Louis Review*, November 1970, 18-28.
- “The Estimation of Simultaneous Equation Models with Lagged Endogenous Variables and First Order Serially Correlated Errors,” *Econometrica*, May 1970, 507-516.
- *The Short-Run Demand for Workers and Hours*, North-Holland Publishing Co., 1969.