

# Harold Linh Cole

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## Business Address

Economics Department  
University of Pennsylvania  
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## Education

1986 *University of Rochester*, Ph.D.  
1986 *University of Rochester*, M.A.  
1979 *Bates College*, B.A., Economics

## Work Experience

2006-Present Professor of Economics, *University of Pennsylvania*  
2006-2023 Consultant, *Federal Reserve Bank of Philadelphia*  
2001, 2010-2015 Consultant, *Federal Reserve Bank of Minneapolis*  
2000–2006 Professor of Economics, *University of California, Los Angeles*  
1990–2000 Senior Economist, *Federal Reserve Bank of Minneapolis*  
1992–2000 Adjunct Research Professor, *University of Minnesota*  
1992–1994 Director, *Institute for Empirical Macroeconomics*  
Spring 1993 Visiting Professor, *University of Pennsylvania*  
Fall 1992 Consultant, *World Bank IBRD*  
1990 Visiting Scholar, *International Monetary Fund*  
1986–1992 Assistant Professor of Economics, *University of Pennsylvania*  
1985 Research Associate, Center for Public Policy, *University of Rochester*  
1984–1985 Lecturer, *University of Rochester*  
1981 Research Assistant, *University of Rochester*  
1979–1981 Statistician, *Federal Reserve Bank of New York*

## Honors, Grants and Professional Responsibilities

2015 Fellow of the Econometric Society  
2015 Kravis Award for Outstanding Undergraduate Teaching in Economics.  
2013 Plenary Speaker Society for Economic Dynamics, Seoul Korea.  
2011 Fellow of the Society for the Advancement of Economic Theory  
2010 NASDAQ OMX Award for the Best Paper on Asset Pricing: “Is the Volatility of the Market Price of Risk due

to Intermittent Portfolio Re-balancing?” with Yili Chien and Hanno Lustig.

2001 Koc University Prize for the Best Paper of the Year in Economic Design: “Investment and Concern for Relative Position,” with George Mailath and Andy Postlewaite.

Editor, *International Economic Review*, 2011 – 2019

Carnegie-Rochester Conference Series Advisory Board 2010 - present

Editorial Board, *Journal of Mathematical Economics* 2010 – 2012

Editorial Board, *International Economic Review* 2007 – 2011

Research Associate, National Bureau of Economic Research 2003 – present

National Science Foundation SES 2019-2022

National Science Foundation SES 2017-2020

National Science Foundation SES 2013-2016 (plus an extension)

National Science Foundation SES 2006-2008

National Science Foundation SES 2002-2005

## **Journal Articles**

Cole, Harold L. and Cooley, Thomas F., Rating Agencies (March 2014). NBER Working Paper No. w19972, revised January 2023; accepted *Review of Economic Dynamics*.

Cole, Harold L., Dirk Krueger, George J. Mailath, and Yena Park. "Trust in risk sharing: A double-edged sword." *Center for Financial Studies Working Paper* 697 (2023); accepted *Review of Economic Studies*.

Cole, Harold, Daniel Neuhann, and Guillermo Ordonez. "Asymmetric Information and Sovereign Debt: Theory Meets Mexican Data", *Journal of Political Economy* 130.8 (2022) 2055-2109.

Aguiar, Mark, Satyajit Chatterjee, Harold Cole and Zachary Stangebye “Self-Fulfilling Debt Crises Revisited”, *Journal of Political Economy* 130.5 (2022) 1147-1183.

“Analyzing the Effects of Insuring Health Risks: On the Trade-Off between Short Run Insurance Benefits and Long Run Incentive Costs,” joint with Soojin Kim and Dirk Krueger, *Review of Economic Studies* 86.3 (2019): 1123-1169.

“Why Doesn’t Technology Flow to Poor Countries,” joint with Jeremy Greenwood and Juan Sanchez, *Econometrica* (2016) 84(4), 1477-1521.

“Implications of Heterogeneity in Preferences, Beliefs and Asset Trading Technologies for the Macroeconomy,” joint with Yili Chien and Hanno Lustig, *Review of Economic Dynamics* (2016) 20, 215-239.

“Self-Enforcing Stochastic Monitoring, Misreporting and the Existence of Debt and Equity Claims,” *Journal of Monetary Economics* (2013) vol. 60(6), 632-649.

“Recursive Contracts, Lotteries and Weakly Concave Pareto Sets, with Felix Kubler, *Review of Economic Dynamics* (2012), vol. 15(4), 479-500.

"Is the Volatility of the Market Price of Risk due to Intermittent Portfolio Rebalancing?," with Yili Chien and Hanno Lustig, *American Economic Review* (2012), 102(6), 2859-96.

"A Multiplier Approach to Understanding the Macro Implications of Household Finance," with Yili Chien and Hanno Lustig, *Review of Economic Studies* (2011), 199-234.

"Latin America in the Rear View Mirror," with Lee Ohanian, Alvaro Riascos and James Schmitz, *Journal of Monetary Economics*, vol. 52(1), 69-107, 2005.

"Finite Memory and Imperfect Monitoring," with Narayana Kocherlakota, *Games and Economic Behavior*, vol. 53 (1), 59-72, 2005.

"New Deal Policies and the Persistence of the Great Depression: A General Equilibrium Analysis," with Lee Ohanian, *Journal of Political Economy*. 112(4), 779-816, 2004.

"The U.S. and U.K. Great Depressions through the Lens of Neoclassical Growth Theory," with Lee Ohanian, *American Economic Review*, 92(2), 28-32, 2002.

"The Great U.K. Depression: A Puzzle and Possible Resolution," with Lee Ohanian, *Review of Economic Dynamics*, 5(1), 19-44, 2002.

"Shrinking Money: the Demand for Money and the Nonneutrality of Money," with Lee Ohanian, *Journal of Monetary Economics*, 49, 653-686, 2002.

"Investment and Concern with Relative Position," with George Mailath and Andrew Postlewaite, *Review of Economic Design*, 6, 241-261, 2002.

"Efficient Non-contractible Investments in Large Economies," with George Mailath and Andrew Postlewaite, *Journal of Economic Theory*, 101(2), 333-73, 2001.

"Dynamic Games With Hidden Actions and Hidden States," with Narayana Kocherlakota, *Journal of Economic Theory*, 98, 114-126 (2001)

"Efficient Allocations with Hidden Income and Hidden Storage," with Narayana Kocherlakota, *Review of Economic Studies*, 68(3), 523-42, 2001.

"Efficient Non-contractible Investments with Finite Economies," with George Mailath and Andrew Postlewaite, *Advances in Theoretical Economics*: Vol. 1: No. 1, Article 2.

"Self-Fulfilling Debt Crises," with Timothy Kehoe, *Review of Economic Studies*, vol 67(1), no. 230, 91-116, 2000.

"Can the Mortensen-Pissairdes Matching Model Match the Business Cycle Facts?" with Richard Rogerson, *International Economic Review*, vol 40, no. 4, 933-960, 1999.

"Class Systems and the Enforcement of Social Norms," with George Mailath and Andrew Postlewaite, *Journal of Public Economics*, vol. 70, 5-35, 1998.

"Models of Sovereign Debt: Partial vs. General Reputations," with Patrick Kehoe, *International Economic Review*, vol. 39(1), February 1998.

"Valuation Equilibria With Clubs," with Edward Prescott, *Journal of Economic Theory*, 74 (1), 19-39, May 1997.

"A Self-Fulfilling Model of Mexico's 1994-95 Debt Crisis," *Journal of International Economics*, 41 (3-4), November 1996.

"The Role of Institutions in Reputation Models of Sovereign Debt," with Patrick Kehoe, *Journal of Monetary*

*Economics* 35, 1995.

"Default, Settlement, and Signalling, Lending Resumption in a Reputational Model of Sovereign Debt," with James Dow and William English, *International Economic Review* 36 (2), May 1995.

"Social Norms, Savings Behavior and Growth," with George Mailath and Andrew Postlewaite, *Journal of Political Economy* 100 (6), December 1992. "Response to 'Aristocratic Equilibria'," *Journal of Political Economy* 103 (2), April 1995.

"Two-Sided Expropriation and International Equity Contracts," with William English, *Journal of International Economics* 33, 1992.

"Specialization in Production and the Rate of Growth of Money," with Alan Stockman, *International Economic Review* 33 (2), May 1992.

"Commodity Trade and International Risk Sharing: How Much Do Financial Markets Matter," with Maurice Obstfeld, *Journal of Monetary Economics* 28, 3–24, 1991.

"Expropriation and Direct Investment," with William English, *Journal of International Economics* 30, 201–27, 1991.

"Comment: General Competitive Analysis in an Economy With Private Information," *International Economic Review* 30 (1), 249–52, February 1989.

"Financial Structure and International Trade," *International Economic Review* 29 (2), 237–59, May 1988.

## **Other Publications**

Cole, Harold, Daniel Neuhann, and Guillermo Ordonez. "Sovereign Debt Auctions in Turbulent Times", *American Economic Review: Papers and Proceedings* (2022): vol. 112, 526-530.

Monetary and Fiscal Policy Through a DSGE Lens. Oxford University Press, 2020.

Finance and Financial Intermediation: A Modern Treatment of Money, Credit, and Banking. Oxford University Press, 2019.

"Discussion of Kocherlakota: Practical Policy Evaluation," *Journal of Monetary Economics*, 102.C (2019): 46-52.

"Quantitative Models of Sovereign Debt Crises", with M. Aguiar, S. Chatterjee, and Z. Stangebye, *Handbook of Macroeconomics*, (2016) vol. 2, 1697-1755.

"Credit Ratings and Regulatory Risk Weights," VOX June 22, 2014, <http://www.voxeu.org/article/credit-ratings-and-regulatory-risk-weights>

"Stimulus and the Depression: The Untold Story," joint with Lee Ohanian, Wall Street Journal opinion piece, September 26, 2011.

"Discussion of Gertler and Karadi: A model of unconventional monetary policy," *Journal of Monetary Economics* (2011) 58, 35-38.

"Comment on Bordo and Haubrich," *Journal of Monetary Economics* (2010) 57, 19-23.

"How Government Prolonged the Depression," with Lee Ohanian, Wall Street Journal opinion piece, February 2, 2009.

"A Second Look at the U.S. Great Depression from a Neoclassical Perspective," with L. Ohanian, in *Great*

Depressions of the Twentieth Century eds. T. Kehoe and E. Prescott, Federal Reserve Bank of Minneapolis, 2007, p. 21-58..

"Re-Examining the Contributions of Money and Banking Shocks to the U.S. Great Depression," with Lee Ohanian, eds. B. Bernanke and K. Rogoff, NBER Macro Annual 2000 vol. 15, The M.I.T. Press, 2000.

"Aggregate Returns to Scale: Why Measurement is Imprecise," with Lee Ohanian, *Federal Reserve Bank of Minneapolis Quarterly Review*, Summer 1999.

"The Great Depression in the United States from a Neoclassical Perspective," with Lee Ohanian, *Federal Reserve Bank of Minneapolis Quarterly Review*, Winter 1999.

"Zero Nominal Interest Rates: Why They're Good and How to Get Them," with Narayana Kocherlakota, *Federal Reserve Bank of Minneapolis Quarterly Review*, Spring 1998.

"A Few Speculations on the Role of Financial Intermediaries in Transitional Economies," *Carnegie-Rochester Conference Series on Public Policy*, June 1995, vol 42, 303-307.

"Reviving Reputation Models of International Debt," with Patrick Kehoe, *Federal Reserve Bank of Minneapolis Quarterly Review*, Winter 1997.

"Incorporating Concerns for Relative Wealth Into Economic Models," with George Mailath and Andrew Postlewaite, *Federal Reserve Bank of Minneapolis Quarterly Review* 19 (3), 12–21, Summer 1995.

"The Macroeconomic Effects of World Trade in Financial Assets," *Federal Reserve Bank of Minneapolis Quarterly Review* 17 (3), 12–21, Summer 1993. (Based upon "Financial Structure and International Trade," *International Economic Review*, 1988.)

"Direct Investment: A Doubtful Alternative to International Debt," with William English, *Federal Reserve Bank of Minneapolis Quarterly Review* 16 (1), 12–21, Winter 1992. (Based upon "Expropriation and Direct Investment," *Journal of International Economics*, 1991.)

"Sovereign Default," in P. Newman, M. Milgate and J. Eatwell, eds., *The New Palgrave Dictionary of Money and Finance*, Macmillian Press, London, 495–96, 1992.

"Comment: Internationalization of Financial Markets and Balance of Payments Imbalances: A Japanese Perspective," *Carnegie-Rochester Conference Series on Public Policy* 30, 221–27, Spring 1989.

"Market Makers Reaction to Insiders: Casinos vs. Card Counters," with Peter Garber, *The Gambling Studies: Proceedings of the Sixth National Conference on Gambling and Risk Taking* 4, 158–69, 1985.

"Oil Decontrol and Beyond," with Paul Bennet and Steven Dym, *Federal Reserve Bank of New York Quarterly Review* 5 (4), 36–42, 1981.

## **Unpublished Research Papers**

Azinovic, Marlon and Cole, Harold L. and Kubler, Felix, Asset Pricing in a Low Rate Environment (May 6, 2023). Swiss Finance Institute Research Paper No. 23-31.

Cole, Harold, Daniel Neuhann, and Guillermo Ordonez. "Information Spillovers in Debt Auctions". NBER working paper # 22330, revised March 2021.

Cole, Harold, Daniel Neuhann, and Guillermo Ordonez. "A Walrasian Theory of Sovereign Debt Auctions with Asymmetric Information", joint with Daniel Neuhann and Guillermo Ordonez, SSRN working paper 6/2017.

**List of Students Supervised in their Ph.D.**

1. Daniel Wills (Econ. Dept., Universidad de Los Andes, Columbia)
2. Daniel Neuhann (McCombs School of Bus., University of Texas @ Austin)
3. Yena Park (Econ. Dept. U. of Rochester)
4. Alvaro Aguirre (Central Bank of Chile)
5. Soojin Kim (Econ. Dept. Purdue U)
6. Felipe Saffie (Econ. Dept. U of Maryland)
7. Yili Chien (FRB St. Louis)
8. Minsuk Kim (unknown)
9. Aasim Hussain (IMF)