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Division of Monetary Affairs
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Citizenship: Italian

Research areas: Macroeconomics, Monetary Economics and Bayesian Econometrics

Education

University of California, Los Angeles
Ph.D., Economics
M.A., Economics

Jun 2018

Sep 2014

Bocconi University, Milan
M.A., Economics, 110/110 *cum laude*
B.A., Institutions and Financial Markets Management, 110/110

Apr 2011

Jun 2008

Employment

Board of Governors of the Federal Reserve System, Washington DC
Senior Economist, Monetary Affairs Division
Economist, Monetary Affairs Division
Dissertation Fellow, Monetary Affairs Division

Aug 2021 - Present

Aug 2018 - Aug 2021

Jun 2017 - Sep 2017

National Institute of Economic and Social Research, London
Visitor, Research Division

Sep 2016 - Dec 2016

Federal Reserve Bank of St. Louis
Dissertation Fellow, Research Division

Jun 2016 - Jul 2016

European Central Bank, Frankfurt am Main
Consultant, Directorate General Research
Research Assistant, Directorate General Research

Mar 2015 - Aug 2015

Sep 2011 - Jul 2012

Working Papers

“U.S. Monetary Policy and Indeterminacy,” R&R at *Journal of Applied Econometrics*. **New draft: 2/2/2022.**

[Note: This paper was previously circulated as “Monetary Policy, Self-Fulfilling Expectations and the U.S. Business Cycle.”]

In this paper, I investigate the stance of U.S. monetary policy in the post-war period. To this end, I show that two features are key: a medium-scale structural model and, to allow for indeterminacy, the novel solution method of Bianchi and Nicolò (2021). Using data simulated with a determinate version of the medium-scale model, the estimation of a small-scale model misinterprets missing propagation mechanisms as indeterminacy. In addition, using data simulated with an indeterminate version of the medium-scale model, I correctly recover the evidence of indeterminacy if I estimate the model implementing the method of Bianchi and Nicolò (2021), although I find evidence of determinacy if I adopt existing solution methods. As a result, I estimate the medium-scale model on U.S. macroeconomic

data using the method of Bianchi and Nicolò (2021). The evidence of a passive monetary policy in the period prior to 1979 is pervasive and robust to the use of alternative model specifications and data. By contrast, the evidence of an active stance after 1979 is overturned if the period of the Volcker disinflation is excluded or if the model is estimated including a time-varying inflation target, also when using data on inflation expectations.

Publications

“A Generalized Approach to Indeterminacy in Linear Rational Expectations Models,” with Francesco Bianchi, *Quantitative Economics*, 2021, vol. 21, no. 3, pp. 843-868. [Prepublication version](#).

We propose a novel approach to deal with the problem of indeterminacy in Linear Rational Expectations models. The method consists of augmenting the original state space with a set of auxiliary exogenous equations to provide the adequate number of explosive roots in presence of indeterminacy. The solution in this expanded state space, if it exists, is always determinate, and is identical to the indeterminate solution of the original model. The proposed approach accommodates determinacy and any degree of indeterminacy, and it can be implemented even when the boundaries of the determinacy region are unknown. Thus, the researcher can estimate the model by using standard packages without restricting the estimates to the determinacy region. We apply our method to estimate the New-Keynesian model with rational bubbles by Galí (2017) over the period 1982:Q4 until 2007:Q3. We find that the data support the presence of two degrees of indeterminacy, implying that the central bank was not reacting strongly enough to the bubble component.

“Some International Evidence for Keynesian Economics without the Phillips Curve,” with Roger E. A. Farmer, *The Manchester School*, 2021, vol. 89, no. S1, pp. 1-22. Available as [NBER WP 25743](#) and [VoxEU article](#).

Farmer and Nicolò (2018) show that the Farmer Monetary (FM)-Model outperforms the three-equation New-Keynesian (NK)-model in post-war U.S. data. In this paper, we compare the marginal data density of the FM-model with marginal data densities for determinate and indeterminate versions of the NK-model for three separate samples using U.S., U.K. and Canadian data. We estimate versions of both models that restrict the parameters of the private sector equations to be the same for all three countries. Our preferred specification is the constrained version of the FM-model which has a marginal data density that is more than 30 log points higher than the NK alternative. Our findings also demonstrate that cross-country macroeconomic differences are well explained by the different shocks that hit each economy and by differences in the ways in which national central banks reacted to those shocks.

“Keynesian Economics Without the Phillips Curve,” with Roger E. A. Farmer, *Journal of Economic Dynamics and Control*, April 2018, vol. 89, pp. 137-150. [Prepublication version](#).

We extend Farmer’s (2012b) Monetary (FM) Model in three ways. First, we derive an analog of the Taylor Principle and we show that it fails in U.S. data. Second, we use the fact that the model displays dynamic indeterminacy to explain the real effects of nominal shocks. Third, we use the fact that the model displays steady-state indeterminacy to explain the persistence of unemployment. We show that the FM model outperforms the New-Keynesian model and we argue that its superior performance arises from the fact that the reduced form of the FM model is a VECM as opposed to a VAR.

“Solving and Estimating Indeterminate DSGE Models,” with Roger E. A. Farmer and Vadim Khrarov, *Journal of Economic Dynamics and Control*, 2015, vol. 54, pp. 17-36.

We propose a method for solving and estimating Linear Rational Expectations models that exhibit indeterminacy and we provide step-by-step guidelines for implementing this method in the Matlab-based packages Dynare and Gensys. Our method redefines a subset of expectational errors as new

fundamentals. This redefinition allows us to treat indeterminate models as determinate and to apply standard solution algorithms. We prove that our method is equivalent to the solution method proposed by Lubik and Schorfheide (2003, 2004), and using the New-Keynesian model described in Lubik and Schorfheide (2004), we demonstrate how to apply our theoretical results with a practical exercise.

Conferences, Seminars & Discussions

- Conferences: New Approaches for Modelling Expectations in Economics (BoE, Dec 2-3, 2019), XXI Annual Inflation Targeting Conference (Banco Central do Brasil, May 23, 2019), Theories and Methods in Macroeconomics (IAB, Nuremberg, Germany, Mar 23, 2019)
- Advances in Applied Macro-Finance (Bilgi University, Istanbul, Dec 4, 2018), Midwest Econometrics Group Conference (UW-Madison, Oct 27, 2018)
- European Winter Meeting of the Econometric Society (Barcelona GSE, Dec 13, 2017), Monetary Affairs Workshop (Federal Reserve Board, Aug 15, 2017), The Society for Economic Measurement's Fourth Conference (MIT, Jul 26-28, 2017), Applications of Behavioral Economics, and Multiple Equilibrium Models to Macroeconomic Policy Conference (BoE, Jul 3-4, 2017), Asian Meeting of the Econometric Society (Hong Kong, Jun 3-5, 2017), NBER-NSF Conference on Bayesian Inference in Econometrics and Statistics (Washington University in St. Louis, May 26-27, 2017)
- University of Warwick (UK, Nov 15, 2016), National Institute of Economic and Social Research (London, Nov 11, 2016), 12th Dynare Conference (Bank of Italy, Sep 30, 2016), Presentation to the President of the Federal Reserve Bank of St. Louis, James Bullard (Jul 7, 2016), Society for Economic Dynamics (SED, Toulouse, Jun 30, 2016), Federal Reserve Bank of St. Louis (Jun 14, 2016), CEPR-IMFS New Methods for Macroeconomic Modeling, Model Comparison and Policy Analysis (Frankfurt, Apr 6, 2016), NBER Multiple Equilibria and Financial Crises (NYU, Feb 27, 2016)
- NBER Summer Institute (Boston, Jul 9, 2015), European Central Bank (Frankfurt, Jun 12, 2015)
- Seminars: Banque de France (Dec 9, 2019), University of Virginia (Nov 13, 2019), Université du Québec à Montréal (Oct 11, 2019), University of California, Irvine (Apr 11, 2018)
- Discussions: *Golden Fetters and the Causal Effects of Countercyclical Monetary Policy*, by Kris Mitchener (Santa Clara University) and Goncalo Pina (Santa Clara University) *Uncertainty and Monetary Policy in the US: A Journey Into Non-Linear Territory*, by Giovanni Pellegrino (Aarhus University)
- Organization: Scientific Committee for the FRB-NYFED Conference on Developments in Empirical Macro, May 30-31, 2019

Academic Refereeing

American Economic Review: Insights; American Economic Journal: Macroeconomics; Decisions in Economics and Finance; Economics Bulletin; Economics Letters; European Economic Review; International Journal of Central Banking; Journal of Applied Econometrics; Journal of Econometrics; Journal of Economics and Business; Journal of Economic Dynamics and Control; Journal of International Money and Finance; Journal of Macroeconomics; Journal of Monetary Economics; Journal of Money, Credit and Banking; Macroeconomic Dynamics; Review of Economic Dynamics; SN Business & Economics.

Fellowships, Awards and Prizes

Dissertation Year Fellowship: a.y. 2017-2018
 Marcia and Herbert Howard Graduate Fellowship, Best Paper Award, 2017
 UCLA Alumni Association Fellowship Award: a.y. 2016-2017
 Graduate University Fellowship: a.y. 2012-2013, a.y. 2013-2014
 UCLA Graduate Dean Scholarship Award: Fall 2012, Summer 2013

Academic Trainings

Princeton University, *Sep 11-13, 2015*
 Princeton Initiative: "Macro, Money and Finance," taught by Markus Brunnermeier and Yuliy San-
 nikov
 European University Institute, *May 15-17, 2012*
 EABCN Training School: "Forecasting Inflation," taught by Jonathan Wright

Teaching Assistant

Graduate

Ph.D. course, Macroeconomic Theory (University of Warwick): *Fall 2016* (Prof. Roger Farmer)
 ECON 406, Money and Banking: *Spring 2017* (Prof. Andrew Atkeson)
 ECON 402B, Applied Macroeconomics: *Winter 2017* (Prof. Roger Farmer)

Undergraduate

ECON 102, Macroeconomic Theory: *Spring 2014, Fall 2014, Fall 2015, Winter 2016, Spring 2016*
 ECON 2, Principles of Economics (macroeconomics): *Fall 2013, Winter 2014*
 ECON 1, Principles of Economics (microeconomics): *Winter 2015*

References

Prof. Roger E. A. Farmer
 Department of Economics
 UCLA
rfarmer@econ.ucla.edu

Prof. Aaron Tornell
 Department of Economics
 UCLA
tornell@econ.ucla.edu

Prof. Francesco Bianchi
 Department of Economics
 Duke University
francesco.bianchi@duke.edu

Prof. Vincenzo Quadrini
 Department of Finance and Business Economics
 Marshall School of Business, USC
quadrini@usc.edu

Skills and Languages

Programming: Matlab, Stata, L^AT_EX, Scientific WorkPlace, LyX
 Languages: Italian (Native language), English (Fluent), Spanish (Fluent), Portuguese (Fluent)

Vox CEPR's Policy Portal

Video Vox: "[Psychology and the Economy](#)," Bank of England, July 2017.

Last updated: March 24, 2022