



MAGYAR NEMZETI BANK

THE CENTRAL BANK OF HUNGARY



## BUDAPEST SCHOOL FOR CENTRAL BANK STUDIES

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### Courses 2013





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THE CENTRAL BANK OF HUNGARY





## Concept of training for central bankers

The **Budapest School for Central Bank Studies**, established by the Magyar Nemzeti Bank (the central bank of Hungary) in 2008, offers intensive weekly courses for central bank and government economists in macroeconomics, monetary economics, international economics, banking and financial economics and quantitative and econometric methods specifically tailored to the needs of public policy institutions. Interested academic participants are also welcome to attend. All courses are in English.

The **programme director** is Professor **Fabio Canova** (EUI, ICREA Research Professor at UPF, and CEPR), a world leading expert in the field of macroeconomics and quantitative methods, who has taught numerous courses in central banks and international institutions for almost two decades.

The two weeks in the **Spring 2013** term (April 2–12) are devoted to **intermediate level** courses. These courses cover essential topics in macroeconomics, monetary economics, international economics and quantitative methods in order to endow staff with diverse educational backgrounds with the fundamental tools of modern macroeconomics. The 2013 titles are time series methods, open economy macroeconomics and fiscal policy in closed and open economies. These courses are aimed at people with a Masters degree, e.g. mid-career officials who want to refresh their general knowledge, and especially young staff members who desire a systematic introduction



to the language and the working tools needed to do research-based policy work.

The two weeks in the **Summer 2013** term (between July 22–August 2) are devoted to **advanced** courses. These courses cover topics in macroeconomics, monetary economics, international economics and quantitative methods that build on the intermediate level courses and develop knowledge on a wide range of topics of interest to central bankers. The 2013 titles are Markov switching DSGEs and VARs (organized jointly with the Euro Area Business Cycle Network), and financial frictions in open economy macroeconomics. These courses are directed at (i) staff who want to fill gaps in their knowledge about important macroeconomic issues, (ii) mid-career officials who want to reestablish links with the frontiers of current macroeconomic research, and (iii) anyone interested in refreshing or acquiring knowledge about recent developments in academic macroeconomics and their applications in policy analysis and debates.

### Price of the courses

A **1,200 euro fee per full week**, and 700 euro/half week will be charged for the courses. A weekly session consists of **five days** with five hours of classes **per day**. The first week course of Spring (Time series methods by Fabio Canova) consists of four days with five hours of classes per day, and the fee is 1,000 euro. The fee includes course materials and a social event per week. Computers with Matlab will be available, but participants are encouraged to bring their own laptop with Matlab installed.



## Organization of the courses

The number of participants is limited to 30 per course. Spaces are allocated on a first come, first serve basis. Courses are held in the conference center of the Magyar Nemzeti Bank in downtown Budapest, Hungary. Participants pay for their own travel and accommodation expenses, and meals. The Bank can provide assistance in arranging accommodation.

## Application and further information

Please fill out the application form and return it by email to [budapestschool@mnb.hu](mailto:budapestschool@mnb.hu) by **12 March 2013** for the Spring courses and by **5 July 2013** for the Summer courses. For the application form and for further information please email us, at [budapestschool@mnb.hu](mailto:budapestschool@mnb.hu), or visit the School's website at <http://english.mnb.hu/Kutatas/budapest-school-for-central-bank-studies>.

**We look forward to meeting you in the Budapest School for Central Bank Studies.**



## Spring 2013 Week 1

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### Time series methods

April 2–5, 2013 (4 days)

#### Prof Fabio Canova

EUI, ICREA Research Professor at UPF, and CEPR

<http://www.eui.eu/DepartmentsAndCentres/Economics/People/Professors/Canova.aspx>

#### Objectives:

- to make participants familiar with standard VAR, BVAR and SVAR models,
- to introduce recent advances such as factor augmented VARs, panel VARs, global VARs, Kalman filtering, time varying coefficient models and stochastic volatility,
- to acquaint participants with Matlab implementation of these techniques.

#### Topics covered:

- VARs, BVARs and structural VARs
- Factor Models, FAVARs
- Panel Macro models, Panel VARs and Global VARs
- State Space models: Kalman filter and the Gibbs sampler
- Time-varying coefficient models and stochastic volatility

#### Intended learning outcomes: at the end of the course participants will

- understand the working of simple and extended VARs,
- be able to estimate such models in MATLAB,
- be able to employ these techniques in policy analysis.



## Spring 2013 Week 2

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### Open economy macroeconomics

April 8–10, 2013 (2.5 days)

#### Prof Gianluca Benigno

London School of Economics

<http://personal.lse.ac.uk/BENIGNO/>

#### Objectives:

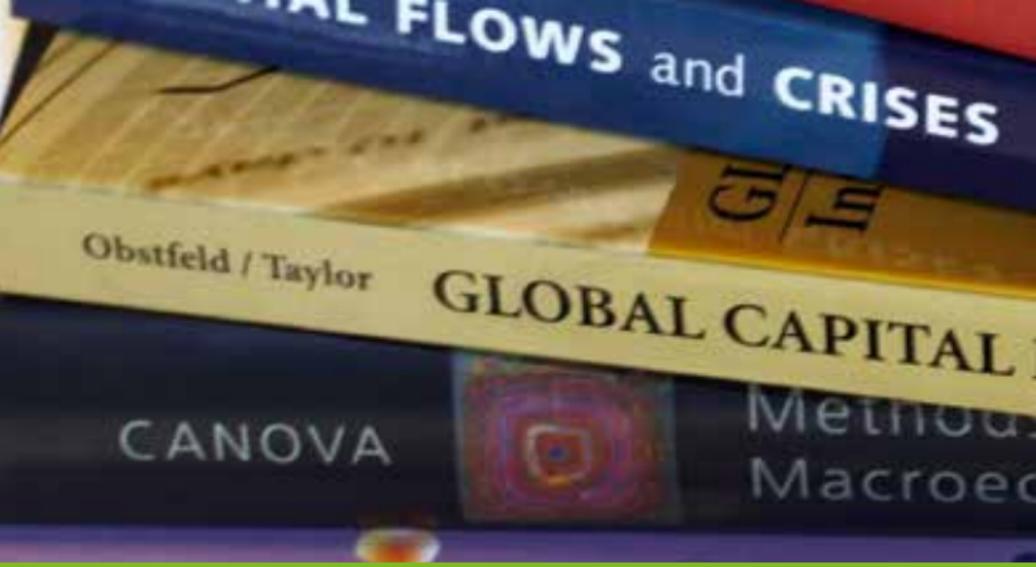
- to make participants familiar with the state of the art open economy macroeconomic frameworks,
- be able to study policy questions within those frameworks.

#### Topics covered:

- The International Real Business Cycle model
- Exchange rate determination and monetary policy in open economies
- Financial crises and policy responses
- Reserve accumulation and growth

#### Intended learning outcomes: at the end of the course participants will

- understand the structure and the working of the workhorse international real business cycle model,
- understand the determinants of exchange rates and monetary policy in open economies,
- acquire knowledge of models of financial crises, reserve accumulation and their policy implications.



## Spring 2013 Week 2

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### Fiscal and Monetary Policy

April 10–12, 2013 (2.5 days)

**Prof Evi Pappa**

European University Institute

<http://www.eui.eu/DepartmentsAndCentres/Economics/People/Professors/Pappa.aspx>

#### **Objectives:**

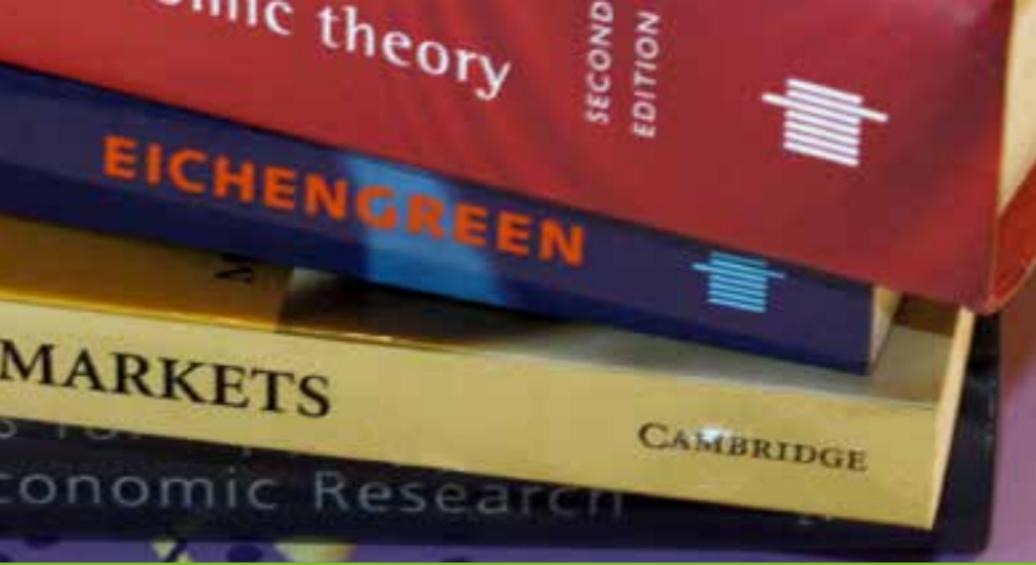
- to make participants familiar with currently available empirical evidence on the functioning and effect of government policies,
- to provide multiple frameworks for analyzing the impact of government spending and tax shocks in closed and open economies.

#### **Topics covered:**

- Empirics of fiscal shocks
- Fiscal policy in basic RBC and New Keynesian models
- Fiscal policy in models with labor frictions
- Fiscal multipliers
- Open economy fiscal models

#### **Intended learning outcomes: at the end of the course participants will**

- understand the main challenges in the identification of fiscal shocks and the estimation of the impact of fiscal policies,
- acquire a suit of models capable of assessing the effect of government policies on the real economy and the labor market.



## Summer 2013 Week 1

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### Markov switching VARs and DSGEs

July 22–26, 2013

#### Prof Tao Zha

Federal Reserve Bank of Atlanta

[http://www.frbatlanta.org/research/economists/tao\\_zha.cfm](http://www.frbatlanta.org/research/economists/tao_zha.cfm)

(organized jointly with the EABCN)

#### Objectives:

- to introduce participants to the main identification and estimation issues of structural VARs and DSGE models,
- to develop the theory, estimation and applications of a wide range of Markov-switching models.

#### Topics covered:

- Local and global identification of structural VARs and DSGE models
- General approach to a wide class of Markov-switching models
- Estimation of Markov-switching BVARs (MSBVARs)
- Theory of Markov-switching rational expectation (MSRE) models
- Estimation of MSRE models

#### Intended learning outcomes: at the end of the course participants will

- understand the theoretical underpinnings of local and global identification of SVAR and DSGE models,
- learn a general approach to a wide class of Markov-switching models,

# Some International Evidence on Output-Inflation Tradeoffs

This paper reports the results of an empirical study of real output-inflation tradeoffs, based on annual time-series from ten countries over the years 1951-67. These data are examined from the point of view of the hypothesis that average tradeoffs are invariant under changes in the rate of

presumption is that inferences on relevant, unobserved prices are optimally (or "rationally") in light of the stochastic character of the economic process.

As I have argued elsewhere, theories developed along these lines do not place testable restrictions on the coefficients of estimated Phillips curves. They will not, for example, be able to perform estimates of Markov-switching BVARs and rational expectation models and apply them to policy questions.

- be able to perform estimates of Markov-switching BVARs and rational expectation models and apply them to policy questions.

# A CONTRIBUTION TO THE THEORY OF ECONOMIC GROWTH

I. Introduction, 65. — II. A model of long-run growth, 66. — III. Growth patterns, 68. — IV. Examples, 73. — V. Behavior of interest rates, 78. — VI. Extensions, 85. — VII. Qualifications, 91.

## I. INTRODUCTION

All theory depends on assumptions which are not quite true. That is what makes it theory. The art of successful theorizing is to make the inevitable simplifying assumptions in such a way that the final results are not very sensitive to errors in the assumptions on which they are based.

## Summer 2013 Week 2

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### Financial Frictions in International Macroeconomics

July 29–August 2, 2013

**Prof Enrique G. Mendoza**

University of Maryland and University of Pennsylvania

<http://econ-server.umd.edu/~mendoza/>

#### Objectives:

- to make participants familiar with the workhorse models of current account dynamics and small open economy business cycle models,
- to show how to incorporate financial amplification and crises into such frameworks,
- to provide a framework for macroprudential policy questions, and for analyzing financial development and global imbalances.

#### Topics covered:

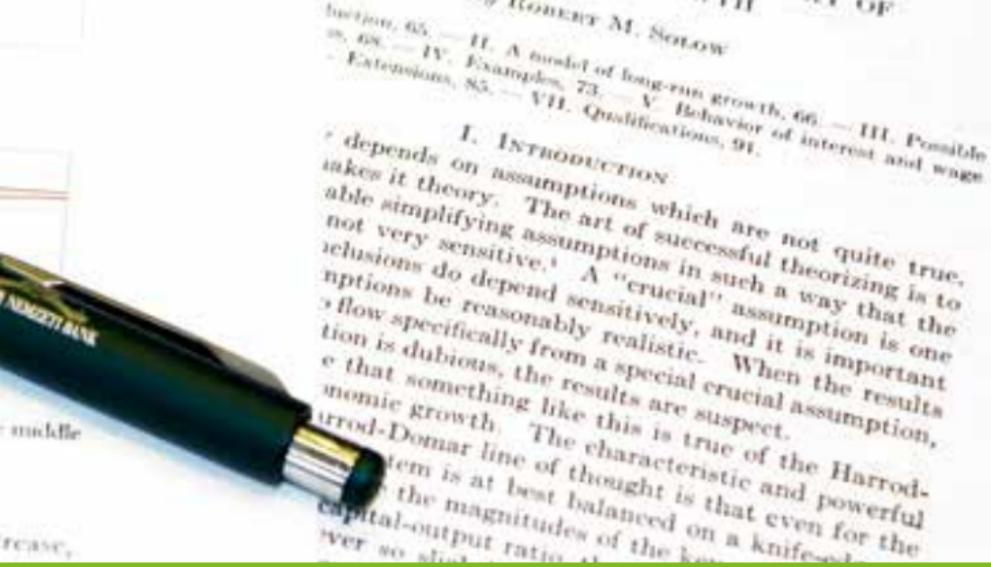
- Workhorse models of current account dynamics
- Real-business-cycle models of small open economies with incomplete markets
- Fisherian credit constraints, financial amplification and financial crises
- Macro-prudential policy
- Financial development and global imbalances

#### Intended learning outcomes: at the end of the course participants will

- understand the working of open economy macro-finance models,



- possess a toolkit for addressing financial amplification and crises in open economies,
- be able to use the tools introduced in the course to analyze issues in macroprudential policy, financial development and global imbalances.



## Instructors 2013

### Gianluca Benigno

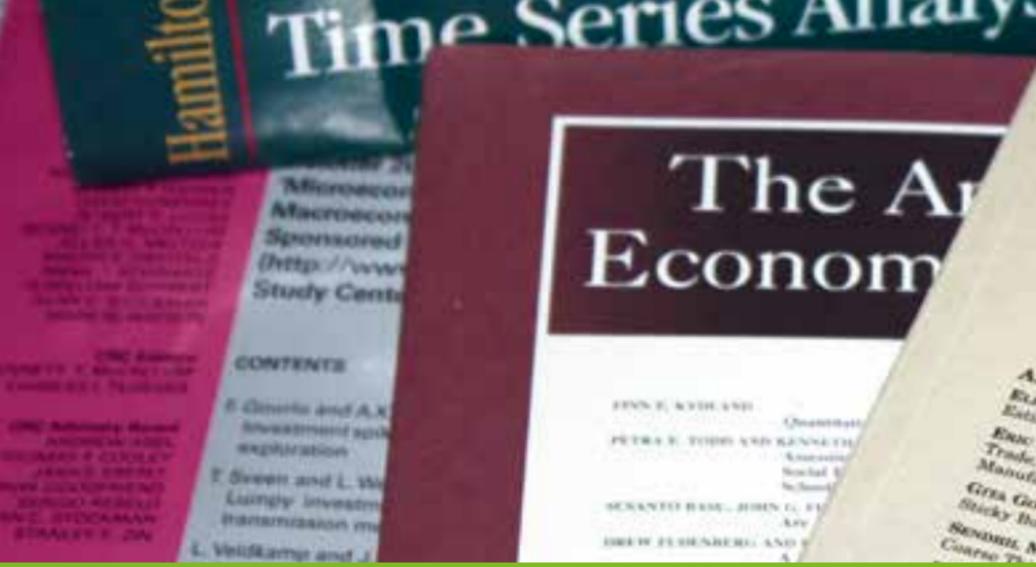


Gianluca Benigno received his Ph.D. from the University of California at Berkeley in 2000. He has been an economist at the Bank of England, assistant professor (lecturer) at the London School of Economics, senior economist at the New York FED, and associate professor (reader) at LSE.

He has also been a visiting scholar at numerous universities and policy institutions, including Banque de France, IADB, Bank of England and the IMF. His main research area is International Macroeconomics, covering topics such as exchange rates, price stability, inflation targeting, capital flows, credit constraints and financial crises. He has been the principal investigator in ESRC grants on The Macroeconomics of Capital Account Liberalization and Designing Monetary Policy for Developing and Developed Countries. His research has appeared in major international journals such as the *Review of Economic Studies*, the *Journal of Monetary Economics* and the *Economic Journal*.

### Recent publications

- 'Financial Crises and Macro-Prudential Policies' (with H. Chen, C. Otrok, A. Rebucci and E. Young), *Journal of International Economics*, forthcoming.



- 'Risk, Monetary Policy and the Exchange Rate' (with P. Benigno and S. Nistico'), *NBER Macro Annual*, 2011.
- 'On the International Dimension of Fiscal Policy' (with B. De Paoli), *Journal of Money, Credit and Banking*, 2010.
- 'Exchange Rate Determination under Interest Rate Rules' (with P. Benigno), *Journal of International Money and Finance*, 2008.
- 'Consumption and Real Exchange Rates with Incomplete Markets and Non-traded Goods' (with C. Thoenissen), *Journal of International Money and Finance*, 2008.
- 'Implementing Monetary Cooperation Through Inflation Targeting' (with P. Benigno), *Macroeconomic Dynamics*, 2008.
- 'Interest Rate Rules for Fixed Exchange Rate Regimes' (with P. Benigno and F. Ghironi), *Journal of Economic Dynamics and Control*, 2007.
- 'Capital Flows and Asset Prices' (with K. Aoki and N. Kiyotaki), *NBER International Seminar on Macroeconomics*, 2007.



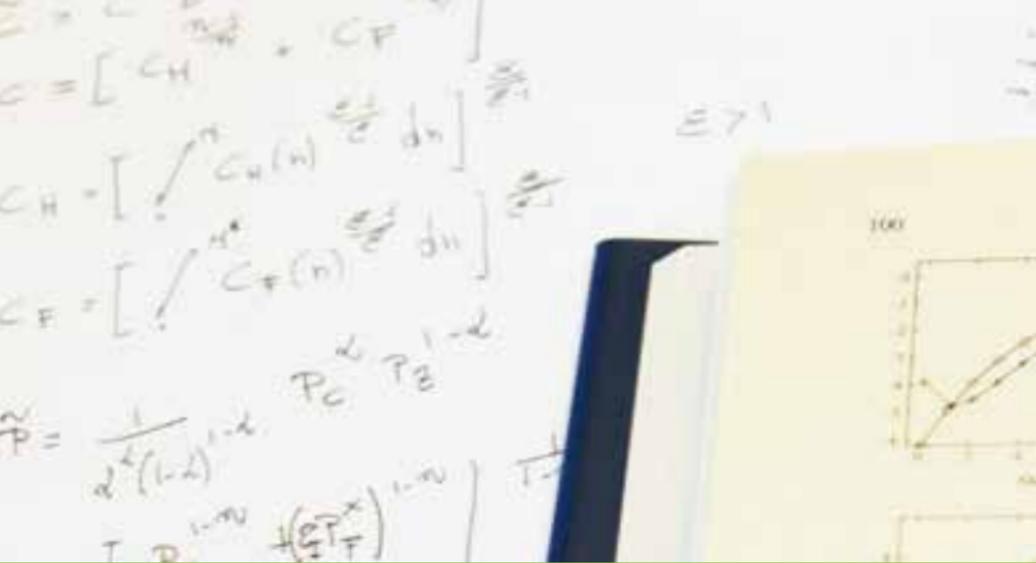
## Fabio Canova



Fabio Canova received his Ph.D. from the University of Minnesota. He has been an assistant professor at Brown University and University of Rochester; associate professor at EUI and Brown University; and full professor at the University of Catania, Modena, Southampton, and Universitat Pompeu Fabra. He

has held a Chair in Monetary Economics at the University of Bern, and he has been ICREA research professor, and he currently holds a chair at the EUI. He has been an associate researcher with CREI, CREMeD, and Eprism and he is currently a researcher with the CEPR.

He has taught classes in numerous universities around the world and given professional courses at the Bank of England, Riksbank, Bank of Italy, Bundesbank, ECB, Bank of Spain, Bank of Portugal, Bank of Hungary, Bank of Argentina, Banco do Brazil, Banco de Peru, South African Central Bank, Central Bank of Indonesia, Swiss National Bank, Banco de Mexico, Banco de La Republica de Colombia, Banco de Venezuela, Banco de Chile, Bank of Israel, Monetary and Banking Institute of Iran, Waifem, at the EABCN, at the Central Bank course in Genzersee, the EU commission, the UK Foreign Office and UK treasury, among others. He has held consultancy positions with the Bank of England, the ECB, the Bank of Italy and the Bank of Spain and the IMF.

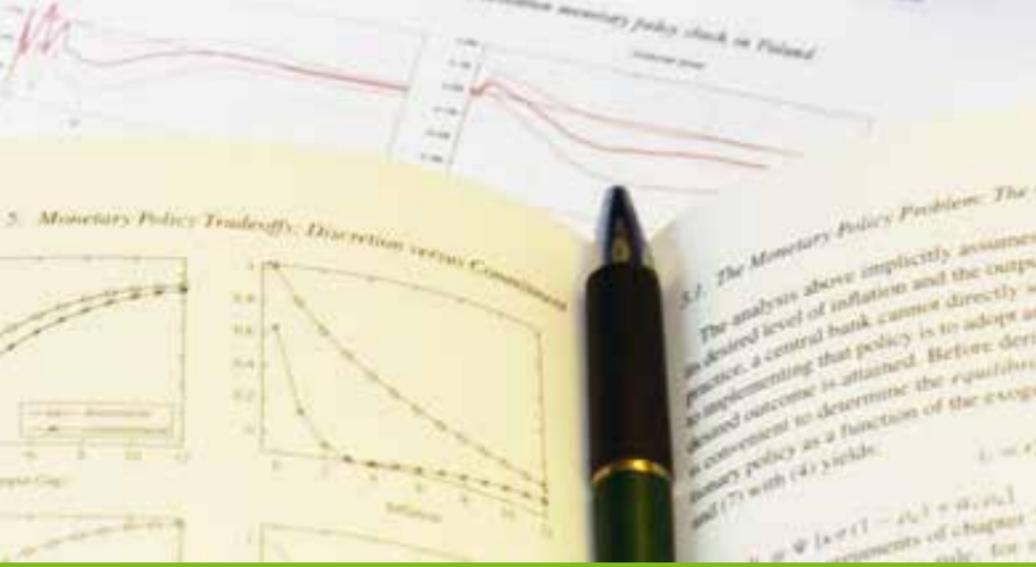


He has been ranked in the Econometrics and Applied Econometrics Hall of Fame and in the Top 100 most productive economists of the world in several polls over the last 10 years. He is also program director of the Budapest School of Central Bank Studies, member of the scientific committee of the EABCN, program chair for the European Meetings of the Econometric Society 2014, panelist of ANVUR and member of research evaluation teams in Portugal, Spain, Greece and Cyprus.

He is currently coeditor of the *Journal of the European Economic Association* and of the *Journal of Applied Econometrics*. He has published over 85 articles in international journals and his graduate textbook, *Methods for Applied Macroeconomic Research*, was published in 2007 by Princeton University Press.

### Recent publications

- 'ClubMed? Cyclical fluctuations in the Mediterranean basin' (with M. Ciccarelli), *Journal of International Economics*, 2012.
- 'Business cycle measurement with some theory' (with M. Paustian), *Journal of Monetary Economics*, 2011.
- 'Multiple Filtering Devices for the Estimation of Cyclical DSGE Models' (with F. Ferroni), *Quantitative Economics*, 2011.
- 'Estimating Multi-country VAR Models' (with M. Ciccarelli), *International Economic Review*, 2009.
- 'Back to Square One: Identification Issues in DSGE Models' (with L. Sala), *Journal of Monetary Economics*, 2009.



## Enrique Mendoza



Enrique G. Mendoza is the Neil Moskowitz Professor of International Macroeconomics and Finance at the University of Maryland, where he joined in 2002. In January 2013 he will be appointed Presidential Professor of Economics at the University of Pennsylvania. Before 2002, he held positions at the

International Monetary Fund, the Board of Governors of the Federal Reserve System and Duke University. He holds PhD (1989) and MA (1986) degrees from the University of Western Ontario. He is also a Research Associate of the NBER, a former panel member of the NSF Economics program and has served in the editorial boards of several academic journals, including the *American Economic Review*. He has published extensively on research topics such as international capital flows, financial crises, sovereign debt and international business cycles.

### Recent publications

- 'Capital Mobility and International Sharing of Cyclical Risk' (with J. Bengui & V. Quadrini), *Journal of Monetary Economics* (Carnegie-Rochester Conference), forthcoming.
- 'How Big (Small) are Fiscal Multipliers?' (with E. Ilzetzki & C. Vegh), *Journal of Monetary Economics*, forthcoming.

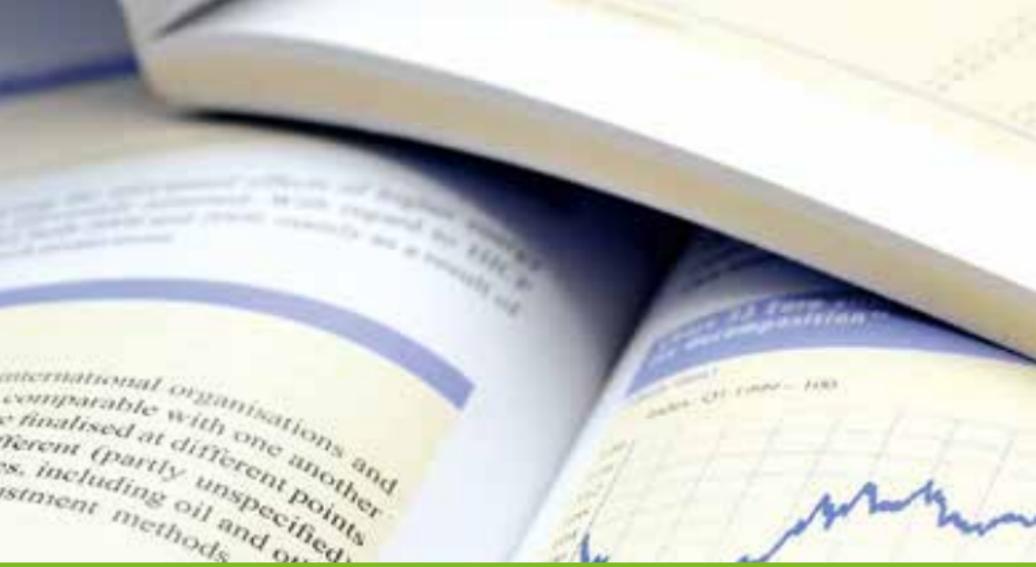
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- 'A General Equilibrium Model of Sovereign Default and Business Cycles' (with V. Yue), *Quarterly Journal of Economics*, 2012.
  - 'The Finnish Great Depression: From Russia with Love' (with Y. Gorodnichenko and L. Tesar), *American Economic Review*, 2012.
  - 'Sudden Stops, Financial Crises & Leverage' *American Economic Review* (lead article), 2010.
  - 'Financial Integration, Financial Development and Global Imbalances' (with V. Quadrini and J. V. Rios-Rull), *Journal of Political Economy* (lead article), 2009.



## Evi Pappa



She has been Professor of macroeconomics in the European University Institute since September 2011, currently on leave from Universitat Autònoma de Barcelona, and also Research Professor of Barcelona GSE. After graduating from UPF, she was an assistant professor of economics at the LSE, 2001–2006, Bocconi University (Milan), 2004–2005, and UAB, 2005–2006. Her main research interests are International Macroeconomics and Monetary and Fiscal Policy. Given Evi's interest in monetary policy analysis, she has been a visiting researcher in many Central Banks, such as the Bank of England, the European Central Bank, the Federal Reserve Bank of Atlanta, and the Riksbank (Sweden). She is a member of the Applied Macroeconomics Network (Amen), is a MOVE (Markets Organizations and Voting in Economics) Research Fellow and a Research Affiliate with Center for Economic Policy Research (CEPR). She has received the IGIER Scholarship for Young Researchers in 2003–2004, and the Paolo Baffi Fellowship in 2008 and the Ramon Areces scholarship in 2010. She has published in international journals such as *Journal of Monetary Economics*, *International Economic Review*, *Journal of Public Economics* and *Economic Policy*.

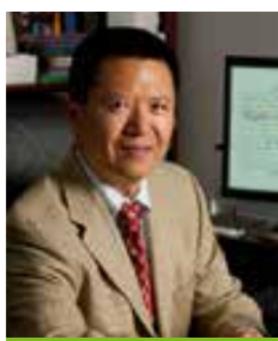


## Recent publications

- 'Fiscal Expansions, Unemployment, and Labor Participation' (with M. Brueckner), *International Economic Review*, 2012.
- 'Fiscal Policy, Pricing Frictions and Monetary Accommodation' (with F. Canova), *Economic Policy*, 2011.
- 'The effects of fiscal shock on employment and the real wage', *International Economic Review*, 2009.
- 'Gains from Coordination in a Multi-Sector Open Economy: Does it Pay to be Different?' (with Z. Liu), *Journal of Economic Dynamics and Control*, 2008.
- 'Structural Dynamics of US output and Inflation: What explains the changes?' (with L. Gambetti and F. Canova), *Journal of Money, Credit and Banking*, 2008.
- 'Price Dispersions in Monetary Unions: The Role of Fiscal Shocks' (with F. Canova), *Economic Journal*, 2007.
- 'The structural dynamics of output growth and inflation: some international evidence' (with L. Gambetti and F. Canova), *Economic Journal*, 2007.



## Tao Zha



Tao Zha is Director of the Center for Quantitative Economic Research in the research department of the Federal Reserve Bank of Atlanta and Professor of Economics at Emory University. His major fields of study are macroeconomics and econometrics. Dr Zha has served on the editorial board for several journals and published in many journals.

Dr Zha was born in 1962. He received his doctorate in economics from the University of Minnesota in 1993 and earned his master's degree in economics from Washington State University in 1988. He received a master's degree in statistics from the Southwestern University of Economics and Finance and earned a bachelor's degree in mathematics from the Chengdu University of Technology and Sciences in 1982.

### Recent publications

- 'Land Prices and Macroeconomic Fluctuations' (with Z. Liu and P. Wang), *Econometrica*, forthcoming.
- 'Structural Vector Autoregressions: Theory of Identification and Algorithms for Inference' (with J. Rubio-Ramirez and D. F. Waggoner), *Review of Economic Studies*, 2010.

# THE MONETARY POLICY OF THE

- 'Understanding Markov-Switching Rational Expectations Models' (with R. E. A. Farmer and D. F. Waggoner), *Journal of Economic Theory*, 2009.
- 'The Conquest of South American Inflation' (with T. J. Sargent and N. Williams), *Journal of Political Economy*, 2009.
- 'Shocks and Government Beliefs: The Rise and Fall of American Inflation' (with T. J. Sargent and N. Williams), *American Economic Review*, 2006.
- 'Were There Regime Switches in US Monetary Policy?', (with C. A. Sims), *American Economic Review*, 2006.

The image shows the top portion of a document. On the left, a white cover of a report is visible with the text 'POLICY ECB 2004' in blue and brown. To the right, a yellow page with a line graph is partially visible, showing a blue line fluctuating over time.

**POLICY**  
**ECB**  
2004

**Magyar Nemzeti Bank  
Budapest School for Central Bank Studies  
Courses 2013**

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*A question and some replies to it from the evaluation forms*

'Would you recommend the school / course to a colleague?'

*Replies:*

- I would definitely recommend this school.
- Absolutely. this course is excellent.
- Yes, the instructor was very good.
- The organization was good and the topic was interesting.
- Yes, because very serious programme, interesting and we learn a lot.
- Definitely yes. It is very useful for the working agendas in our institution.
- Yes. Because the course is very useful for central bankers staff doing empirical economics.
- I would strongly recommend it to our colleagues.
- Yes, because of its added value, level and because it is very 'up-to-date'
- Yes, it was useful, instructor was great in terms of teaching these advanced topics, real good.



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