

Online registration at:

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FONS GRÀFIC



*Barcelona*  
**MACROECONOMICS**  
*Summer School*  
**BMSS 2015**



# INTRODUCTION

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The seventeenth edition of CREI's Barcelona Macroeconomics Summer School (BMSS 2015) will be held on the Ciutadella campus of Universitat Pompeu Fabra (UPF) in Barcelona, from June 22 to July 10, 2015. BMSS 2015 will offer a variety of courses taught by recognized experts in their fields. The courses will cover recent developments in different areas of macroeconomics, including growth, international finance and trade, monetary policy and forecasting. The courses are aimed at graduate students as well as more senior researchers willing to brush up their knowledge and expose themselves to the latest advances in academic research. During the summer school, faculty will be available for discussion of participants' research ideas, as well as the lectures' contents.

BMSS 2015 will take place on UPF's social sciences campus, located in downtown Barcelona, at walking distance to the beach. In addition to the intellectual excitement, summer school participants are guaranteed to find in Barcelona cultural and entertainment events that suit every taste and pocket.

BMSS 2015 is organized by the *Center for Research in International Economics* (CREI), a research institute sponsored by the Generalitat de Catalunya and Universitat Pompeu Fabra, in fulfilment of its aim to promote the dissemination of research in macroeconomics and related areas. Further information about CREI can be found at <http://www.crei.cat>

We look forward to meeting you in our Summer School!

# COURSES

Week 1 June 22 – June 26

## *An Introduction to the New Keynesian Framework and its Monetary Policy Applications*

Instructor: Jordi Galí

### Selected Topics:

- A simple framework for monetary policy analysis
- Optimal monetary policy
- Simple monetary policy rules
- Extensions and recent developments

Dates: June 22 – June 26

Time: 9:00 – 11:00 h

## *Firms, Linkages and Aggregate Fluctuations*

Instructor: Julian di Giovanni

### Selected Topics:

- International linkages and macroeconomic volatility

- Cross-country business cycle comovement
- Sectoral input-output linkage and the transmission of shocks
- Firms, Zipf's Law, and granular fluctuations
- The role of firm- and sector-level shocks in generating aggregate fluctuations

Dates: June 22 – June 26

Time: 11:15 – 13:15 h



## *Learning in Finance and Macroeconomics*

**Instructor:** Albert Marcet

### **Selected Topics:**

- Learning, expectations formation and convergence to rational expectations
- Optimal signal extraction and Kalman filter
- Monetary policy and learning: hyperinflations, stability of Taylor rules, explaining US experience on monetary

- Fiscal policy, stability and fiscal sustainability under learning
- Stock price volatility
- Modelling expectations, internal rationality
- Survey expectations

**Dates:** June 22 – June 26

**Time:** 14:00 – 16:00 h

## *Systemic Risk, Crises, Macroprudential and Monetary Policy*

**Instructor:** José-Luis Peydró

### **Selected Topics:**

- History of financial crises, recent crises
- Systemic risk: definition, sources and evidence
- Credit cycles, asset-price cycles
- Macroprudential policy, capital and excessive risk-taking
- Contagion and liquidity
- Monetary policy and bubbles

**Dates:** June 22 – June 26

**Time:** 16:15 – 18:15 h



Week 2 June 29 – July 3

## *The Macroeconomics of Credit and Asset Bubbles*

**Instructor:** Jaume Ventura

### **Selected Topics:**

- The theory of rational bubbles
- Credit and asset bubbles in business cycle models
- Policy design (I): the role of a lender of last resort
- Policy design (II): international policy coordination

**Dates:** June 29 – July 3

**Time:** 9:00 – 11:00 h



## *Finance, Firm Dynamics and the Business Cycle: Theory and Evidence*

**Instructor:** Andrea Caggese

### **Selected Topics:**

- Finance and firm dynamics: the facts
- Entry, exit, and the aggregate implications of firm level financial frictions
- Finance, innovation, and productivity growth
- Credit cycles: the basic framework

- Finance, firm dynamics and the business cycle: theory and applications to the 2007-2009 recession

**Dates:** June 29 – July 3

**Time:** 11:15 – 13:15 h

## *Economic Growth: Inequality, Competitiveness and Innovation*

**Instructor:** Xavier Sala-i-Martin

### **Selected Topics:**

- The economics of ideas: innovation, research, and creativity
- Economic competitiveness
- Inequality and growth
- The effectiveness of development aid

**Dates:** June 29 – July 3

**Time:** 14:00 – 16:00 h

## *Trade, Technology and Macroeconomic Outcomes*

**Instructor:** Gino Gancia

### **Selected Topics:**

- Technology, geography and trade: a quantitative analysis

- Applications: trade and the great recession, global imbalances
- Global growth: offshoring, innovation and the rise of China
- Trade, technology and inequality: what drives the increase in capital shares, top-income inequality and skill premia?
- Trade, unemployment and labor market institutions

**Dates:** June 29 – July 3

**Time:** 16:15 – 18:15 h



Week 3 July 6 - 10

## *Sovereign Debt Crises*

**Instructor:** Fernando Broner

### **Selected Topics:**

- What are the costs of sovereign default? Reputation and sanctions
- Market structure and defaults: secondary markets and collateral damage
- Rollover crises: Lender of last resort and moral hazard

- Solvency crises: Debt overhang, buybacks and restructuring
- Lessons for Europe

**Dates:** July 6 – July 10

**Time:** 9:00 – 11:00 h

## *The Macroeconomics of Financial Globalization*

**Instructor:** Alberto Martín

### **Selected Topics:**

- Financial globalization: the facts

- Macroeconomic effects of financial globalization: conventional view and evidence
- Rethinking the convention: a workhorse model of capital flows and financial frictions
- Policy implications: the case for capital controls
- Causes and consequences of global imbalances
- Capital flows, the financial crisis of 2007-08, and Europe's banking woes

**Dates:** July 6 – July 10

**Time:** 11:15 – 13:15 h



## Recent Developments in Forecasting

Instructor: Barbara Rossi

### Selected Topics:

- Recent developments in forecasting methodologies (e.g. forecasting with many predictors)
- New methods for evaluating models' forecasts
- Application 1: How well can we forecast inflation and output growth?
- Application 2: Do reduced-form models forecast better than DSGE models?

Dates: July 6 – July 10

Time: 14:00 – 16:00 h (lectures)

16:30 – 17:30 h (optional computer lab practicals\*)

\* The computer lab offers practical sessions where students will implement the material discussed in class using Matlab, gaining valuable firsthand experience. Empirical examples will illustrate practical issues that researchers encounter while applying the techniques in practice to real data; the examples will focus on forecasting exchange rates, output growth, inflation and asset prices, among others.



## BIOGRAPHICAL SKETCHES

**Fernando Broner** earned his PhD in Economics at the Massachusetts Institute of Technology (MIT) in 2000. Currently, he is a Senior Researcher at the Center for Research in International Economics (CREI) and an Adjunct Professor at Universitat Pompeu Fabra (UPF). He is also Co-Director of the MSc. in International Trade, Finance and Development at the Barcelona GSE and a Research Fellow at CEPR. He has been Visiting Professor at MIT, advisor at the Bank of Spain's Division of International Economics, Visiting Scholar at the IMF and World Bank, and Assistant Professor at the University of Maryland. He has served as an Associate Editor of the *Journal of International Economics*. He was awarded a European Research Council Starting Grant in 2010. His research interests include international economics, finance, and macroeconomics.

### Selected publications:

- "Sovereign Debt Markets in Turbulent Times: Creditor Discrimination and Crowding-Out Effects", (with A. Erce, A. Martin, and J. Ventura), *Journal of Monetary Economics*, 61, 114-142, 2014.
- "Why do Emerging Economies Borrow Short Term?" (with G. Lorenzoni and S. Schmukler), *Journal of the European Economic Association*, 11(S1), 67-100, 2013.
- "Globalization and Risk Sharing", (with J. Ventura), *Review of Economic Studies*, 78(1), 49-82, 2011.
- "Sovereign Risk and Secondary Markets", (with J. Ventura and A. Martin), *American Economic Review*, 100(4), 1523-1555, 2010.
- "Discrete Devaluations and Multiple Equilibria in a First Generation Model of Currency Crises," *Journal of Monetary Economics*, 55(3), 592-605, 2008.
- "When in Peril Retrench: Testing the Portfolio Channel of Contagion," (with G. Gelos and C. Reinhart), *Journal of International Economics*, 69(1), 203-230, 2006.



$$\delta = \frac{1 - \sqrt{1 - 4\beta a^2}}{2a\beta} \in \mathbb{R}$$

**Andrea Caggese** earned his PhD in Economics at London School of Economics and Political Science in 2002. Currently he is an Associate Professor at Universitat Pompeu Fabra (UPF), an Affiliated Professor at Barcelona GSE, and a Research Associate at the Center for Research in International Economics (CREI). He is also the Director of the Master of Research in Economics, Finance and Management at the Department of Economics and Business at Universitat Pompeu Fabra (UPF). His work has appeared in the *Journal of Financial Economics*, the *Journal of Monetary Economics*, the *Economic Journal* and the *Review of Economic Dynamics*. His research interests include finance, investment theory and macroeconomics.

**Selected publications:**

- "Financing Constraints, Firm Dynamics, Export Decisions, and Aggregate Productivity", (with V. Cuñat) *Review of Economic Dynamics*, 16(1), 177-193, 2013.
- "Entrepreneurial Risk, Investment and Innovation", *Journal of Financial Economics*, 106(2), 287-307, 2012
- "Financing Constraints and Fixed Term Employment Contracts", (with V. Cuñat), *Economic Journal*, 118 (533), 2013-2046, 2008.
- "Testing Financing Constraints on Firm Investment Using Variable Capital", *Journal of Financial Economics*, 86, 683-723, 2007.
- "Financing Constraints, Irreversibility and Investment Dynamics", *Journal of Monetary Economics*, 54, 2102-2130, 2007.



**Julian di Giovanni** earned his PhD in Economics at the University of California, Berkeley in 2004. Currently he is an Associate Professor at Universitat Pompeu Fabra (UPF), an Affiliated Professor at Barcelona GSE, a Research Associate at the Center for Research in International Economics (CREI), and a Research Fellow at the CEPR. He worked for the Research Department of the International Monetary Fund from 2004-2013, and was a Visiting Assistant Professor at the University of Toronto in 2011-2012. He was recently awarded an International Incoming Fellowship (European Research Council Marie Curie Actions). His research interests include international economics and macroeconomics.

**Selected Publications:**

- "Firms, Destinations, and Aggregate Fluctuations," (with A. Levchenko and I. Méjean), *Econometrica*, 82(4), 1303-1340, 2014.
- "Firm Entry, Trade, and Welfare in Zipf's World," (with A. Levchenko), *Journal of International Economics*, 89(2), 283-296, 2013.
- "Country Size, International Trade and Aggregate Fluctuations in Granular Economies," (with A. Levchenko), *Journal of Political Economy*, 120(6), 1083-1132, 2012.
- "Power Laws in Firm Size and Openness to Trade: Measurement and Implications," (with A. Levchenko and R. Rancière), *Journal of International Economics*, 85(1), 42-52, 2011.
- "Putting the Parts Together: Trade, Vertical Linkages, and Business Cycle Comovement," (with A. Levchenko), *American Economic Journal: Macroeconomics*, 2(2), 95-124, 2010.
- "Trade Openness and Volatility," (with A. Levchenko), *Review of Economics and Statistics*, 91(3), 558-585, 2009.



**Jordi Galí** earned his PhD in Economics at the Massachusetts Institute of Technology (MIT) in 1989. Currently he is Director and Senior Researcher at the Center for Research in International Economics (CREI), Professor at Universitat Pompeu Fabra (UPF) and Research Professor at the Barcelona GSE. He has held academic positions at New York University and Columbia University. He has been a Visiting Professor at MIT. He is a Research Fellow at the CEPR, a Research Associate at the NBER, and a Fellow of the Econometric Society. He has served as a co-editor of the *Journal of the European Economic Association* and co-director of the CEPR International Macroeconomics Programme. In 2012 he served as President of the European Economic Association. Among other awards, Galí received the National Research Prize from the Government of Catalonia in 2011, and was co-recipient of the 2005 Yrjö Jahnsson Award. He is a regular consultant to the ECB, the Sveriges Riksbank and the Norges Bank. His research interests include macroeconomics and monetary theory.

**Selected Publications:**

- “Monetary Policy and Rational Asset Price Bubbles”, *American Economic Review*, 104(3), 721-752, 2014
- “Labor Market Frictions and Monetary Policy: A New Keynesian Model with Unemployment,” (with O. Blanchard), *American Economic Journal: Macroeconomics*, 2(2), 1-30, 2010.
- *Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework*, Princeton University Press, (Princeton, NJ), 2008.
- “Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?” *American Economic Review*, 249-271, 1999.
- “Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory”, (with R. Clarida and M. Gertler), *Quarterly Journal of Economics*, vol. CXV(1), 147-180, 2000.
- “The Science of Monetary Policy: A New Keynesian Perspective”, *Journal of Economic Literature*, 37(4), 1661-1707, 1999.



**Gino Gancia** earned his PhD in Economics at the Institute for International Economic Studies (Stockholm University) in 2003. Currently, he is a Senior Researcher at the Center for Research in International Economics (CREI), Affiliated Professor at the Barcelona GSE and a Research Fellow at the CEPR. He is Member of the Editorial Board of the *Review of Economic Studies* and Associate Editor of the *Journal of the European Economic Association*, the *Economic Journal* and the *Review of Economic Dynamics*. He has been a Visiting Scholar at MIT during 2001-2003 and has been awarded the 2009 Excellence Award in Global Economic Affairs (Kiel Institute for the World Economy) and the 2004 Young Economist Award (European Economic Association). His research interests include international trade theory, economic growth and macroeconomics.

**Selected publications:**

- “Offshoring and Directed Technical Change,” (with D. Acemoglu and F. Zilibotti), *American Economic Journal: Macroeconomics*, forthcoming.
- “Competing Engines of Growth: Innovation and Standardization”, (with D. Acemoglu and F. Zilibotti), *Journal of Economic Theory*, 147, 570-601, 2012.
- “Trade, Markup Heterogeneity and Misallocations”, (with P. Epifani), *Journal of International Economics*, 83, 1-13, 2011.
- “Openness, Government Size and the Terms of Trade”, (with P. Epifani), *Review of Economic Studies*, 76, 629-668, 2009.
- “The Skill Bias of World Trade”, (with P. Epifani), *Economic Journal*, 118, 927-960, 2008.
- “Increasing Returns, Imperfect Competition and Factor Prices”, (with P. Epifani), *Review of Economics and Statistics*, 88, 583-598, 2006.



$$\delta = \frac{1 - \sqrt{1 - 4\beta a^2}}{2}$$

**Albert Marcet** graduated in Economics

at the Universitat Autònoma de Barcelona (1982) and earned his PhD in Economics at the University of Minnesota (1987). He is an ICREA Research Professor at the Institut d'Anàlisi Econòmica, Axa Research Chair on Macroeconomics at Barcelona GSE and Bank of Spain Professor. He has also been Professor at the London School of Economics (2009-2011), Universitat Pompeu Fabra (1990-2003) and Carnegie-Mellon University, Pittsburgh (1986-1992) and has been a Visitor at the ECB, London Business School, CEMFI (Madrid), the Federal Reserve Bank of Minneapolis and the Universitat Autònoma of Barcelona. His main areas of research are macroeconomics, fiscal policy, solution methods of dynamic models, financial economics and learning models.



**Selected Publications:**

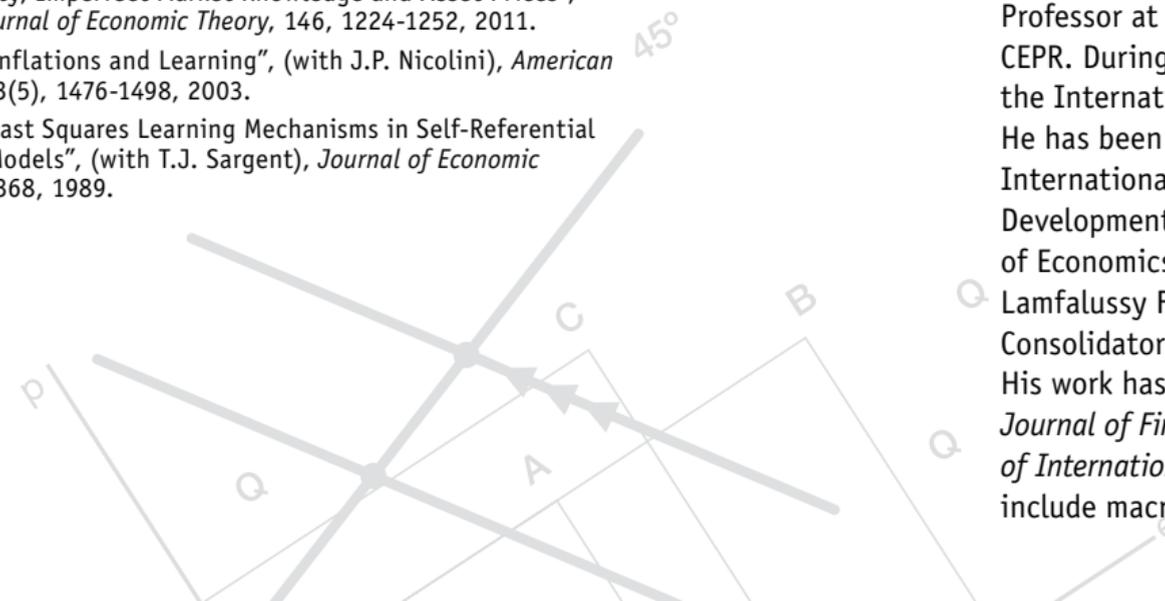
- "House Price Booms and the Current Account", (with K. Adam and P. Kuang), in D. Acemoglu and M. Woodford (eds.), *NBER Macroeconomics Annual 2011*, Chicago (IL): University of Chicago Press, 26, 77-122, 2012.
- "Internal Rationality, Imperfect Market Knowledge and Asset Prices", (with K. Adam), *Journal of Economic Theory*, 146, 1224-1252, 2011.
- "Recurrent Hyperinflations and Learning", (with J.P. Nicolini), *American Economic Review*, 93(5), 1476-1498, 2003.
- "Convergence of Least Squares Learning Mechanisms in Self-Referential Linear Stochastic Models", (with T.J. Sargent), *Journal of Economic Theory*, 48(2), 337-368, 1989.

**Alberto Martin** earned his PhD in Economics at Columbia

University in 2005. Currently, he is a Senior Researcher at the Center for Research in International Economics (CREI), an Adjunct Professor at Universitat Pompeu Fabra, a Research Professor at the Barcelona GSE and a Research Fellow at the CEPR. During the current academic year, he is also working at the International Monetary Fund's (IMF) research department. He has been a Visiting Scholar and a Research Fellow at the International Monetary Fund, a consultant for the United Nations Development Programme, and an economist in Argentina's Ministry of Economics. He has been awarded a Fulbright Fellowship, a Lamfalussy Fellowship from the European Central Bank, and a Consolidator Research Grant from the European Research Council. His work has appeared in the *American Economic Review*, the *Journal of Finance*, the *Journal of Economic Theory* and the *Journal of International Economics*, among others. His research interests include macroeconomics, finance and international economics.

**Selected publications:**

- "Sovereign Default, Domestic Banks, and Financial Institutions", (with N. Gennaioli and S. Rossi), *The Journal of Finance*, 69(2), 819-866, 2014
- "International Capital Flows and Credit Market Imperfections: A Tale of Two Frictions", (with F. Taddei), *Journal of International Economics*, 89(2), 441-452, 2013.
- "Economic Growth with Bubbles", (with J. Ventura), *American Economic Review*, 102(6), 3033-3058, 2012.
- "Theoretical Notes on Bubbles and the Current Crisis", (with J. Ventura), *IMF Economic Review*, 59(1), 6-40, 2011.
- "Sovereign Risk and Secondary Markets", (with F. Broner and J. Ventura), *American Economic Review*, 100(4), 1523-1555, 2010.
- "A Model of Collateral, Investment, and Adverse Selection", *Journal of Economic Theory*, 144(4), 1572-1588, 2009.



**José-Luis Peydró** earned his PhD in Finance at INSEAD in 2005 and a Master in Economics from CEMFI. He won the National Award of Bachelor Studies in Economics (Premio Nacional) given by the Government of Spain for the highest GPA in Spain in Economics, 1997. He is an ICREA Professor of Economics at Universitat Pompeu Fabra (UPF), Barcelona GSE Research Professor, Research Associate at the Center for Research in International Economics (CREI), Research Fellow at the CEPR and at IESE, and an Associate Editor for the *Review of Finance*, the *Journal of the European Finance Association*. He has been consultant for several central banks and international organizations, serves as an advisor to the Financial Stability department of the Bank of Spain since 2011, and has held visiting appointments at MIT Sloan, Chicago and at the IMF. His research interests are at the intersection of finance and macroeconomics, including systemic risk and central bank policies. He has recently completed a book on *Systemic Risk, Crises and Macroprudential Policy* (MIT Press, forthcoming).

**Selected publications:**

- “Hazardous Times for Monetary Policy: What do 23 Million Loans Say about the Impact of Monetary Policy on Credit Risk-Taking?” (with G. Jiménez, S. Ongena and J. Saurina), in *Econometrica* forthcoming
- “The Interbank Liquidity Crunch and the Firm Credit Crunch: Evidence from the 2007-09 Crisis” (with R. Iyer, S. Lopes and A. Schoar) *Review of Financial Studies*, 27(1), 347-372, 2014.
- “Financial Regulation, Globalization and Synchronization of Economic Activity” (with S. Kalemli-Ozcan and E. Papaioannou) *Journal of Finance*, 68(3), 1179-1228, 2013.
- “Credit Supply and Monetary Policy: Identifying the Bank Balance-Sheet Channel with Loan Applications” (with G. Jiménez, S. Ongena and J. Saurina) *American Economic Review*, 102(5), 2301-2326, 2012.
- “Bank Risk-Taking, Securitization, Supervision, and Low Interest Rates: Evidence from the Euro-area and the U.S. Lending Standards” (with A. Maddaloni) *Review of Financial Studies*, 24(6), 2011, 2121-2165
- “Interbank Contagion at Work: Evidence from a Natural Experiment” (with R. Iyer) *Review of Financial Studies*, 24(4), 1337-1377, 2011.



**Barbara Rossi** earned her PhD in Economics at Princeton University in 2001. Currently she is an ICREA Professor at Universitat Pompeu Fabra (UPF), an Affiliated Professor at Barcelona GSE, and a Research Associate at the Center for Research in International Economics (CREI). She has held an academic tenured position at Duke University and visiting positions at Berkeley University, UCSD and the Philadelphia Fed, among others. She is a Research Fellow at the CEPR and a member of the CEPR Business Cycle Committee. She is currently an Associate Editor for the *Journal of Business and Economic Statistics*, the *Journal of Economic Dynamics and Control*, and the *Journal of Applied Econometrics*. She has been awarded two National Science Foundation grants.



**Selected Publications:**

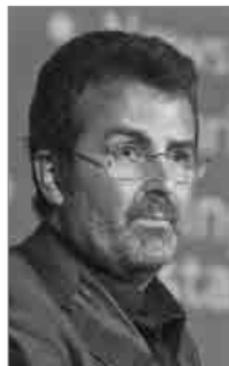
- “Advances in Forecasting under Model Instability”, in G. Elliott and A. Timmermann (eds.), *Handbook of Forecasting*, Volume 2, Amsterdam: Elsevier, forthcoming.
- “Forecasting in Macroeconomics”, (with R. Giacomini), in N. Hashimzade and M. Thornton (eds.), *Handbook of Research Methods and Applications in Empirical Macroeconomics*, Cheltenham (UK): Edward Elgar Publishing Ltd, forthcoming.
- “Exchange Rate Predictability” *Journal of Economic Literature* 51(4), December 2013.
- “Can Exchange Rates Forecast Commodity Prices?” (with Y. Chen and K. Rogoff), *Quarterly Journal of Economics*, 125(3), 1145-1194, 2010.
- “Out-of-Sample Forecast Tests Robust to Choice of Window Size”, (with A. Inoue), *Journal of Business and Economic Statistics*, 30(3), 432-453, 2012.
- “Detecting and Predicting Forecast Breakdowns”, (with R. Giacomini), *Review of Economic Studies*, 76(2), 669-705, 2009.

$$s = \frac{1 - \sqrt{1 - 4\beta a^2}}{2} \in (0, 1)$$

**Xavier Sala-i-Martin** earned his PhD in Economics at Harvard University in 1990. Currently he is Professor in the Department of Economics at Columbia University, and a Visiting Professor at Universitat Pompeu Fabra (UPF). He has been an Associate Professor at the Department of Economics at Yale University and a Visiting Professor at Harvard University. He has also taught at Universitat Pompeu Fabra, Harvard University, New York University, Yale University and the International Monetary Fund, among other places. He is senior economic adviser to the World Economic Forum (WEF), author of the Global Competitiveness Report of the WEF, Research Associate at the NBER and has been consultant for the World Bank and the International Monetary Fund. In 2006 he was the President of FC Barcelona. His research interests include economic growth, macroeconomics, public finance and social security, health and population economics, and monetary economics.

**Selected publications:**

- "The World Distribution of Income: Falling Inequality and Convergence, Period", *Quarterly Journal of Economics*, 121(2), 351-397, 2006.
- "Determinants of Long-Term Growth: A Bayesian Average of Classical Estimates (Bace) Approach", (with G. Doppelhoffer and R. Miller), *American Economic Review*, 94(4), 813-835, 2004.
- "The Economic Tragedy of the XXth Century: Growth in Africa", (with E.V. Artadi), in *African Competitiveness Report of the World Economic Forum*, 2003.
- *Economic Growth*, (with R. Barro), 2nd Edition The MIT Press, (Cambridge, MA), 2003.
- "Health Investment Complementarities under Competing Risks", (with W. Dow and T. Philipson), *American Economic Review*, 89(5), 1358-71, 1999.



**Jaume Ventura** earned his PhD in Economics at Harvard University in 1995. Currently he is a Senior Researcher at the Center for Research in International Economics (CREI), a Research Professor at the Barcelona GSE and a Professor at Universitat Pompeu Fabra (UPF). Previously, he has held academic positions at the MIT and the University of Chicago. He has served as a co-director of the International Macroeconomics Programme of the CEPR and also as an editor of the *Economic Journal*. He is a Research Fellow at the CEPR, a Research Associate at the NBER, and a Fellow of the European Economic Association. He has served as a consultant to the IMF, the World Bank and the Inter-American Development Bank. His research interests include international economics and macroeconomics.

**Selected publications:**

- "Economic Growth with Bubbles", (with A. Martin), *American Economic Review*, 102(6), 3033-3058, 2012.
- "Bubbles and Capital Flows", *Journal of Economic Theory*, 147(2), 738-758, 2012.
- "Theoretical Notes on Bubbles and the Current Crisis", (with A. Martin), *IMF Economic Review*, 59(1), 6-40, 2011.
- "Sovereign Risk and Secondary Markets", (with F. Broner and A. Martin), *American Economic Review*, 100(4), 1523-2555, 2010.
- "Comparative Advantage and the Cross-section of Business Cycles", (with A. Kraay), *Journal of the European Economic Association*, 5(6), 1300-1333, 2007.
- "The Dot-Com Bubble, the Bush Deficits, and the US Current Account", (with A. Kraay), in *G7 Current Account Imbalances: Sustainability and Adjustment*, R. Clarida (ed.), University of Chicago Press, 2007.



## Registration and Fees

Registration begins December 1st, 2014

### *Fees and discounts:*

Regular fee: **1100€** per course

Student fee: **600€** per course

Forecasting Computer Lab: **550€** (**300€** for students)

Students fees will be applied only to participants who can document their status as registered full-time students at an academic institution

Discounts on total fees for participants taking more than one course:

2 courses	<b>20%</b>
3 courses	<b>35%</b>
4 courses or more	<b>40%</b>

Early registration discount: **an additional 10% discount for full payment by credit card received by April 30, 2015**