



















# Summary

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Foreword

2013 has been an intense consolidation year for the AMSE project. Several new initiatives have been taken either to enrich the research program or to reinforce the research incentives package. New members have joined us and various of our colleagues have been distinguished with important grants and prizes. At the same time, AMSE has been gaining positions in the international rankings. Even if our scientific policy is not guided by the goal to maximize our ranking, this recent trend indicates that in aggregate terms our scientific production is becoming more visible and that is important for us.

Perhaps the most important achievement is the first ERC grant awarded to AMSE: Yann Bramoullé's research project on networks and markets (see details later in this report) has won a very well deserved ERC consolidation grant. This is a great source of pride for us. We are also proud of the first Maurice Allais prize awarded to two of our members, Carine Nourry and Alain Venditti (joint with Roger Farmer), by the Foundation ParisTech on the (in)efficiency of financial markets (also see details later).

Our research program has been enriched with new regular events in 2013. Let us stress the new lectures series, AMSE Policy Lectures, which are the policy counterpart of our AMSE Globalization Lectures. The first policy lecture has been given by former ECB director Jean-Claude Trichet on "Governance in the Euro zone: towards economic and fiscal federation", a wonderful start indeed thanks to the analytical and oratorical skills of the speaker.

During the last year, particular attention has been given to attract promising junior researchers and to improve the working conditions of the youngest AMSE members. Along this line, a full AMSE doctoral grant has been created in 2013. Moreover, the AMSE ExCom has decided to fund small innovative internal projects especially devoted to help the junior members, who are typically penalized in the race for external funding.

Let us finally welcome our new members and advisors. We particularly thank George Evans (University of Oregon) and Sanjeev Goyal (Cambridge) for having accepted to join our research council to supervise research in globalization and macroeconomic instabilities, and networks respectively. We are also happy to welcome two new AMSE members, Marc Sangnier (international economics) and Sébastien Laurent (financial econometrics).

Raouf Boucekkine, Scientific Director and Alain Trannoy, AMSE Director



AMSE committees and staff



## Research council

# The Council is composed of:

the director and research director of AMSE, ex officio

a leading external researcher for each of the five research streams of the AMSE founding research project, plus one in the area of networks which is one of the preeminent research areas at AMSE.



**Tony Atkinson**Nuffield College, Oxford University

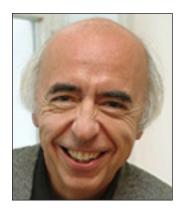


**David Bloom** Harvard School of Public Health



Joan Esteban Institut d'Anàlisi Economica (CSIC) and Barcelona GSE

Research council



**Jacques Thisse** Université Catholique de Louvain



**Sanjeev Goyal** University of Cambridge



**George Evans**University of Oregon

The Council's duties and authorities include:

- the assessment of the quality of the research output and activities at AMSE,
- the advice and guidance on priority research lines and initiatives within the streams of the AMSE founding project,
- the supervision of the evaluation process of research applications within the AMSE project,
- and advice on academic recruitment in AMSE.

The Council may resort to external referees to perform its research assessment and supervision tasks.



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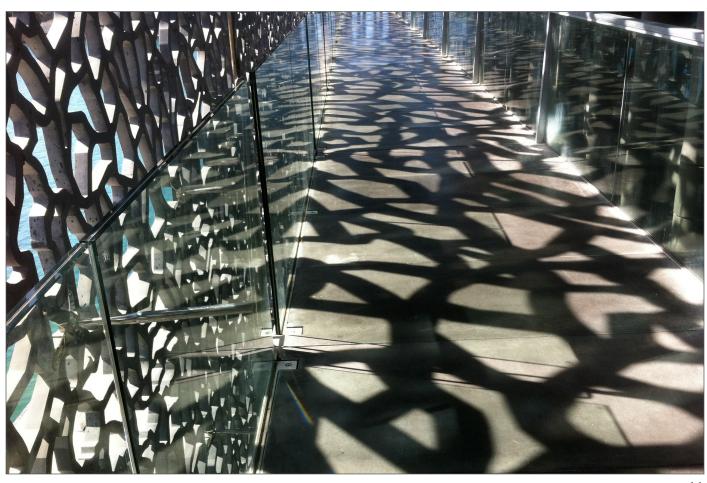
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AMSE Members





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- Health economics, economics of inequality
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- Finance, time series econometrics



**Dominique Ami** 

- Tenured Assistant Professor, AMU
- Head of the Master program: Environmental economics
- Environmental and natural resource economics, nonmarket valuation, applied econometrics
- Assistant professor at École Normale Supérieure de Cachan; Visiting Scholar, Graduate School of Business. Columbia University. New York. (1991)



Frédéric Aprahamian

- Tenured Assistant Professor at Université du Sud-Toulon-Var
- Applied economics, environmental economics



**Patricia Augier** 

- Tenured Assistant Professor, AMU
- Development, trade, firm strategy in open economy, firm productivity
- △ Director of CEFI (Centre of International Economics and Finance, EA 3782, University of Mediterranean) from 2004 to 2007; Co-director of the Master program: Economics, Finance and International Business, Faculty of Economics and Business, University of the Mediterranean (from its creation in 2004 to 2005); Director of Business Department, University and Technological Institute, Aix-en-Provence, from 1996 to 1999; Member of Steering Committee of network FEMISE, since April 2008.



## **Olivier Bargain**

- Associate Professor, AMU, research director of the Institute of Public Economics (IDEP), head of the Master track «Public Policy Evaluation»
- Public economics, labor economics, development economics
- Lecturer in Economics at University College Dublin in 2006-11; Research Associate at the Institute for the Study of Labour (IZA), Bonn, 2004-2006; Research fellow of IZA, CEPS-INSTEAD, the Geary Institute, the ESRI, the Centre for Household, Income, Labour and Demographic Economics; Visiting professor positions held at Université of Cergy-Pontoise (2008), Bonn University (2008), University of Warsaw (2007) and UQAM (2003).
- Co-editor of the US book series Research in Labor Economics (Elsevier, North-Holland) in 2006 and 2007.





## Stephen Bazen

- Professor, AMU
- Director of the Magistere programme
- Labour economics, Econometrics, Public Economics
- Lecturer University of Kent, UK 1984-91; Tenured Assistant Professor, Université de Bordeaux IV 1991-2001; Professor of Economics, Université de Bordeaux IV, 2001-2004; Professor of Economics, Université de Savoie; 2004-2008; Professor of Economics, AMU, 2008 ; Visiting Professor, Université de Genève, 2006-09; Visiting Professor, Universita Cattolica, Milan, 2004-06.
- Associate Editor, Economics Bulletin, 2012.



## Mohamed Belhaj

- Tenured assistant professor, Ecole Centrale de Paris
- Banking, finance, insurance
- Teaching positions in Toulouse University, 2004-2006.



## **Philippe Bertrand**

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- Financial markets
- A Member of the Editorial Advisory Board of Competitiveness Review: An International Business Journal, Emerald Publishing.



#### **Sebastian Bervoets**

- First class Research Fellow, CNRS
- Social choice theory, economic networks theory
- Research assistant at the Universidad Autonoma, Barcelona, 2006 2008; Juan de la Cierva research fellow at the Universidad Autonoma in 2008
- Scientific Excellence Award CNRS, 2010 ; Juan de la Cierva Grant, 2008 ; Best Thesis Award from the Université de la Méditerrannée- AMU in 2006.



## **Raouf Boucekkine**

- Professor, AMU, and research director, AMSE
- Mathematical methods, dynamic optimization, growth theory, sustainable growth, economic dynamics, demography
- Assistant professor, Universidad Carlos III de Madrid, 1993-1997; associate professor, Universidad Carlos III de Madrid, 1997-1998; associate professor, UCLouvain, 1998-2002; professor, UCLouvain, 2002-2013; Research co-director, CORE-UCLouvain, 2009-2010; Part-time chair, Glasgow University, 2007-2010; Visiting positions held at HEC-Paris, 2003-2007, KULeuven, 2001-2005 and Université Louis Pasteur, Strasbourg, 2001-2003.
- Associate editor: Macroeconomic Dynamics, Mathematical Social Sciences, Journal of Public Economic Theory, Annals of Economics and Statistics, Theoretical Economics Letters, Mathematical Economics Letters, Journal of Calculus of Variations
- Former associate editor of *Mathematical Population Studies*, 2008-2010, and *Investigaciones Economicas*. 2003-2009
- △ Guest editor of numerous special issues: among others *Mathematical Social Sciences* (2010), *Mathematical Population Studies* (2008, 2012), *Louvain Economic Review* (2002).



#### Renaud Bourlès

- Tenured Assistant professor, Ecole Centrale de Marseille
- Theory of insurance, decision theory, growth and productivity
- Lecturer, Université Toulouse Sciences Sociales, 2008-2009
- 2010 Ernst Meyer Prize, The Geneva Association (International Association for the Study of Insurance Economics); 2008 Ph. D. Thesis Award, Université de la Mediterranée-AMU.



Sylvie Boyer

- Senior research officer, INSERM
- A Health services efficiency, decentralization, economic accessibility to medical care and HIV infection treatment and economics evaluation



Yann Bramoullé

- Research professor, CNRS
- Economics of social networks, environmental economics
- Associate professor, Département d'économique, Université Laval (Québec), 2009-2012; Assistant professor, Département d'économique, Université Laval (Qué¬bec), 2004-2009; Director of a research axis, CIRPÉE (Centre Interuniversitaire sur le Risque, les Politiques Économiques et l'Emploi), 2008-2012; Postdoctoral research fellow, LERNA, Université des Sciences Sociales de Toulouse, 2002-2004; Visiting professor at Cambridge University, 2009, and Toulouse School of Economics, 2008.
- Coeditor of the forthcoming Oxford Handbook on the Economics of Networks; associate editor at « Network Science ».
- Consolidator Grant of the European Research Council, 2014; Nominated to the prize of the best French young economist, 2013; Excellence in Refereeing Award, American Economic Review; 2010: Young Economist Award, European Economic Association, 2003.



## Gilles Campagnolo

- Research professor, CNRS
- History of economic thought, philosophy of economics, criticism of standard economic theory, economic history
- Global Network Coordinator for the European Commission Research Executive Agency Project (Marie Curie International Scheme for Exchange Research Staff): "LIBEAC: Liberalism In Between Europe and China"): 2013-2017; Research fellow at Tokyo University, Japan (Department of philosophy) and Hitotsubashi University (Department of Economics), 1997-1999, and at Harvard University (Augustus Clifford Tower Fellowship), 1995-1996. Visiting professor at the Japanese Society for the Promotion of Science Long-Term Fellowship, Hokkaido University, Sapporo, Fall 2011-Spring 2012, at International Center for Economic Research ICER, Turin, Italy, Spring 2011, at Rikkyo University, Tokyo, Japan, Fall 2009, at Saïtama University, Japan, Fall 2008, at International Research Center for Japanese Studies, Kyoto, Japan, Fall 2007- Spring 2008.
- Member of the editorial board of *Revue de philosophie économique*, and *Revue Cités. Philosophie,* politique, histoire
- Coopted member of the Verein für Socialpolitik (Berlin, 13/06/2008), section: Ausschuss für die Geschichte der Wirtschaft des Vereins für Socialpolitik.



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- Growth, productivity, employment and production economics





## **Olivier Chanel**

- First class research fellow, CNRS
- Applied microeconometrics, health and environmental economics
- Research fellow, Université Libre de Bruxelles, 1993-1994
- Co-editor of a book (Economica) in 2010, L'environnement dans la décision publique Refonder l'évaluation socio-économique pour des politiques de transport plus durables, with G. Faburel.
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- Member of the editorial boards of the Journal of Economic Geography, Regional Science and Urban Economics, and the Journal of Urban Economics
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#### Russell Davidson

- Emeritus Professor, AMU
- Econometrics, bootstrap, inequality
- Professor, McGill University, from 2002; professor, Université d'Aix-Marseille II, 1987-2006; professor, Queen's University, 1985-2002; associate professor, Queen's University, 1982-1985; assistant professor, Queen's University, 1977-1982; Research fellow at Université Libre de Bruxelles (NATO research fellow, 1966-1967), University of Texas at Austin, University of British Columbia in physics (197-1974); Visiting positions in Université of Laval (1981) and CORE-Université catholique de Louvain (1984-1985)...
- Associate Editor: Computational Statistics and DataAnalysis, Economie Publique-Public economics
- Fellow, Econometric Society (1994); Prize for Excellence in Research, Queen's University (2001).



#### **Bruno Decreuse**

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- Research fellow, CNRS and University Paris I Panthéon-Sorbonne, EUREQua UMR 8594, 2001-2004; Visiting professor at University of New South Wales, Sydney, in 2008, and at University of British Columbia, Vancouver, in 2005.
- PhD thesis award, Université de la Méditerranée-AMU in 2001; Second PhD thesis Prize of the French Economic Association (AFSE) in 2001; Junior member of the Institut Universitaire de France, 2013-
- Ranked First French national exam for full professorship (agrégation) in 2003.



## Christophe Deissenberg

- Professor, AMU
- Computational economics, agent-based modeling, complexity
- Permanent or visiting positions and senior fellowships at Princeton U, UCLA, LSE, IUE, U. of Illinois at UC, Universitaet Flensburg, Université du Québec à Montréal, and Université de Nantes.
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- Associate editor: *Macroeconomic Dynamics*; Member of the editorial Committee: *Computational Economics*, *Advances in Computational Management Sciences*, and *Transformationsforschung*.



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- Applied theory related to economic and social network, applications to development economics, industrial organization, finance, communication
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- Microeconometrics, development economics, labor economics
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- Distinguished Teaching Assistant Award, University of Maryland, in 2001.



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- International trade, Firm productivity, MENA region
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- Professor, AMU
- Macroeconomics, business cycles
- ≥ 2006 2012: Professor at the University of Strasbourg, 2006 2012; tenured assistant professor at the University of Strasbourg, 2002-2006
- 2011: "Guy Ourisson" prize granted by the Cercle Gutenberg.
- 2010: Junior Member at the Institut Universitaire de France.



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- Development Economics, Macroeconomic Policies, Econometric Models
- Guest editor: Studies in nonlinear Dynamics and Econometrics, 2013; Economic Modelling, 2013 & 2014; International Journal of Economics and Finance, 2014; Applied Economics, 2014.
- Turgot 2014 Prize award for the best collective book on financial economics for «Les politiques budgétaires dans la crise», De Boeck (2013) (with C. Bouthevillain, P. Frouté and L. Paul).



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- Research Officer, London School of Economics STICERD (2000-2001); Research Officer, Université Catholique de Louvain CORE (1998-1999)
- Associate editor: Annals of Economics and Statistics
- Ranked First in the French national exam for full professorship (agrégation) in 2008.



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- Decision theory, social choice
- Research fellow CNRS-CREST, 2001-2005; Research fellow CNRS-Centre d'Economie de la Sorbonne, 2005-2010
- Associate editor: Theory and Decision, Mathematical Social Sciences
- CNRS Bronze Medal in 2008.



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- Professor, AMU
- Theories of social justice (utilitarianism, liberalism, post-welfarism) and applications to different fields of public economics: education (equality of opportunity), social benefits (basic income), fiscal system (ELIE transfers)
- Professor of economics at university Paul Cézanne (Aix-Marseille III) since 1992, inserted in AMU from 2012; Professor of economics at university of La Réunion (Reunion Island / Indian Ocean), 1988-1992; Visiting position at Université du Québec à Montréal (UQAM/Department of philosophy).
- Since 2005, member of the International Advisory Board of Basic Income Studies (BIS)
- Since 2001, member of the Editorial Board of *Economie publique/Public economics*, review of the Institute for Public Economics (IDEP-Marseille).
- Former editor of Economie publique/Public economics, 2001-2003.



## Cecilia Garcia-Peñalosa

- Research professor, CNRS, AMSE Executive Committee: Head of recruitment
- Economic growth, income inequality, gender inequality in labour markets
- GREQAM, Marseille, France, GRIT research fellow, 1999-2000; Nuffield College, Oxford University, UK, Prize Research Fellow, 1996-1999; Universitat Autonoma de Barcelona, Spain, Lecturer, 1995-1996
- Associate editor: European Economic Review, Journal of Economic Inequality
- Best MPhil teacher award, Oxford University, 1999
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- Open economy macroeconomics, exchange rates, capital flows, economic growth
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- Junior Member, Institut Universitaire de France.



#### Julien Hanoteau

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- Environmental economics and policies, lobbying, corruption
- Associate Professor, KEDGE Business School, Marseille, from 2004, Head of the Strategy-Sustainability-Entrepreneurship department.





## **Dominique Henriet**

- Professor, Ecole Centrale de Marseille
- Economics of insurance, public economics
- Associate professor, Ecole polytechnique 1998-2000; professor, Université de la Méditerranée 1995-2004; Dean of the Faculty 1999-2004; Deputy Director, Ecole Centrale Marseille 2007-2013.



**Xavier Joutard** 

- Tenured assistant professor, AMU
- Econometrics, Labour economics



#### Alan Kirman

- Professor emeritus, AMU and EHESS
- Microeconomics, market structure, network analysis, complex systems
- Assistant professor Johns Hopkins University; Assistant professor, Université catholique de Louvain; Honorary professor, Université Libre de Bruxelles; Professor, Warwick University; Professor, Université d'Aix Marseille 2; Director of Studies, EHESS; Professor, European University Institute, Florence; Professor, Université Paul Cézanne, Marseille
- ➤ Visiting positions held at University College London, Scuola Superiore Sant' Anna de Plse, University of Bristol, University of Ancona, University of New South Wales Australia, Waseda University Japan, University of Bristol, and Luiss University Rome; , Member Institute for Advanced Study Princeton
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- Former associate editor: Review of Economic Studies, Journal of Mathematical Economics
- Fellow of the Econometric Society; Member of Institut Universitaire de France; Fellow of the European Economic Association (EEA)
- Alexander von Humboldt Stiftung prize
- Chevalier de l'Ordre des Palmes Académiques
- Fondation Urrutia Prize for Economic Diversity.



## **Thomas Lagoarde-Segot**

- Research associate, AMU
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- Assistant Professor, Euromed Management Marseille (2007-2010); Associate Professor, Euromed Management Marseille (Kedge Business School) from 2010; Visiting Professor, Trinity College Dublin (2009, 2010, 2011)
- Editor: Research in International Business and Finance
- Associate Editor: International Review of Financial Analysis.



## **André Lapied**

- Professor, AML
- Economics and philosophy, risk, decision theory, finance, insurance
- Tenured assistant professor, Université de Toulon et du Var, 1988-1990 ; Professor, Université de Toulon et du Var, 1990-1993 ; Professor, Université d'Aix-Marseille 3, 1993-2011.



Sébastien Laurent

- Professor, IAE, AMU
- Financial Econometrics
- Associate professor in Econometrics, (FUNDP), 2003-2009.

Visiting professor at LSE, Finance Department (London), 2008 and 2009.

Associate professor in Econometrics, Maastricht University, The Netherlands, 2009-1013.

Associate editor of Journal of Time Series Analysis (Wiley), since 2013.



#### **Didier Laussel**

- Professor, AMU
- Industrial organization, media economics, international economics, political economy
- Professor positions held at Université de Grenoble 2, 1975-1977, Université de Perpignan, 1977-1981
- Associate editor: Journal of Public Economic Theory



#### Michel Lubrano

- Research professor, CNRS
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- 🔑 Visiting scholar at CORE-UCL, 1998-1999 and University of California at San Diego, January 1992
- Guest editor: *Journal of Econometrics*, special issue on "Bayesian and Classical Econometric Modelling of Time Series", 1992; *Journal of Econometrics*, special issue on "Recent Advances in Bayesian Econometrics" (with L.Bauwens et H. van Dijk), 2001; *Journal of Applied Econometrics*, special issue on "The Econometrics of Industrial Organisation" (with A. Escribano and L. Bauwens), 2005.
- A Books: Bayesian Inference in Dynamic Econometric Models (with L. Bauwens and JF. Richard, Preface by Jacques Drèze), Oxford University Press, 1999; On Kolm's Theory of Macrojustice: A pluridisciplinary Forum of Exchange, C. Gamel and M. Lubrano, editors. Springer Verlag, Heidelberg, 2011.



## Stéphane Luchini

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- ► Health economics, environmental economics, experimental economics and survey methods, applied econometrics
- ✓ Visiting scholar, University of New South Wales, Sydney Australia, .2011 MIT Sloan School of Management, Cambridge, USA, 2011; Public University of Navarra, Pamplona, Spain, 2012. Harvard School of Public Health, Cambridge, USA, 2010. Stanford School of Public Health, USA, 2009. Visiting lecturer, Department of Economics, University of Vienna, 2012. Research Fellow, Center for Microeconomics, University of Cambridge, UK, 2009.



## Jean-Magnan de Bornier

- Professor, AMU
- History of economic thought, economic philosophy, law and economics
- Assistant professor, université de Rouen 1978-1984; Professor, Université de Dijon, 1984-1990; Professor, Université Paul Cézanne (Aix-Marseille University) since 1990
- 1978 Best Thesis award from the French economic association AFSE.





## Velayoudoum Marimoutou

- Professor, AMU, head of the Institute of Public Economics, IDEP
- Econometrics
- Director French Institute of Pondichery UMR CNRS-MAEE (2008-2011); Director USR CNRS « Savoirs et Mondes Indiens (2008-2011); Deputy director section 37, department of Social Sciences at CNRS (2006-2008); Directeur du GREQAM (2000-2004); Dean of the Faculy of economics and management at Université Montesquieu Bordeaux 4
- ✓ Visiting positions at: Indian Statistical Institute Jodhpur 2013- ; Université de Genève, département HEC 1998,1999 : Université de Fès, Marroco 1997, 2003, 2004 ; Université de Casablanca, Marroco 1998,1999 ; Université de Marrackech, Marroco, 2002 ; Université de Ouagadougou , Burkina Faso PTCI 1996-1999 ; Université de Lausanne , 2003 ; ISEC (Institut des Sciences Economiques) , Bangalore, India 2011
- Editorial positions at: Journal of Econometrics, Economie et prévision, International Journal of Finance and Economy, Compte Rendu de l'Académie des Sciences, Energy economics, Economic Bulletin
- Books: Econometric Modeling and Inference with J.P Florens and A.Peguin-Feissolle, Cambridge University press, 2007.



#### Jean-Paul Moatti

- Professor of Health Economics, Faculty of Economics & Management, AMU, Director of Aix-Marseille University/INSERM (French NIH)/IRD (French Institute for Research in developing countries) Research Unit 912 SESSTIM (Economic, Social & Information Sciences Applied to Health)
- Health economics, development Economics
- Member of Board of Directors of Aix Marseille University (AMU)
- Member of Scientific Board Public Health Program Open Society Foundation (Georges Soros)
- Member of Editorial Boards of the following journals: AIDS, AIDS CARE, International Journal of Technology Assessment in Health Care, Health Services, Outcomes Research Methodology.
- Director of Institute of Public Health (ISP) for the French Alliance for Health & Life Sciences (AVIESAN), the national coordinating body for all publicly funded research in the field.
- Vice-chair of INSERM (French NIH) Scientific Advisory Board (2008-2011).
- Chair of INPES (French Agency for Health Education) (2004-2009)
- Member of Advisory Committee for Health Research for Executive Director of the World Health Organization (WHO-2003/2009)
- Special Advisor to the Executive Director of the Global fund to Fight AIDS, TB and Malaria (GFATM) (2009-2010).
- Chair of Public Health and Social sciences Committee of the French Agency for AIDS and Hepatitis Research (ANRS- 2002-2008).



## **Christophe Muller**

- Professor, AMU, AMSE Executive Committee Member in charge of the area of development economics
- Microeconomic theory, econometric theory, applied development economics
- From January 2010; Professor (first class), UMU; Sept 2007- Dec 2009; Professor, THEMA, University of Cergy-Pontoise, France; Oct 2003- Sept 2007; Visiting Professor, Department of Fundamental Economics, University of Alicante, Alicante, Spain; Nov 1998-Sept 2003; Senior Research Fellow, School of Economics, Centre for Research in Economic Development and International Trade, University of Nottingham, UK.; Jan 1996-Oct 1998; Research Fellow, Centre for the Studies of African Economies, University of Oxford, UK.; Sept 1995-Dec 1995; Lecturer, Economics Dept, University of Addis Abeba, Ethiopia; Sept 1993-Aug 1995; Assistant Professor, Economics Dept, Université Laval, Québec, Canada; Jan 1992-Aug 1993; Lecturer at Laboratoire d'Econométrie du CNAM (Conservatoire National des Arts et Métiers, Paris).
- Member of the Editorial Board of the Korean Journal of Economics, 2009-12.
- Admitted as Research Director at the Institut de Recherche sur le Développement (IRD); External Research Fellow of the University of Nottingham; HiCN Affiliate (Households in Conflict Network); Research Associate of DIAL in Paris; Research Associate of Poverty and Economic Policy Research Network at Université Laval in Canada; Research Associate of ESG Tunis.



**Carine Nourry** 

- Professor, AMU
- Macroeconomic dynamics, international macroeconomics, growth, business cycles
- Assistant Professor, 1999 2003 : University of Evry-Val d'Essonne; Postdoctorate Fellow, 1999 : National University of Singapore
- ▲ Junior member of the Institut Universitaire de France.



## Fabienne Orsi

- Tenured Research Fellow, IRD
- Intellectual property rights in the field of pharmaceuticals, economics of innovation and access to knowledge and drugs



## Magali Orillard

- Professor, AMU
- Autonomy, cognitive networks, mediation, interactive governance
- Co-editor with J.Finch: Complexity and the Economy: Implications for Economic Policy, Cheltemham, Edward Elgar.
- Chevalier dans l'Ordre des Palmes Académiques.



## **Alain Paraponaris**

- Tenured Assistant Professor, SESSTIM, INSERM 912 & IRD
- Health economics, economics of ageing, economics of informal care, health econometrics, health and socioeconomic status, economics of the health working force, measurement bias in population health survey
- Vice-Dean, Faculty of Economics and Management, Aix-Marseille University.



## Anne Péguin-Feissolle

- Research professor, CNRS, co-director, GREQAM
- Econometrics, nonlinear econometrics, applied Macroeconomics, financial econometrics.
- ▶ Books: Econometric Modeling and Inference with J.P Florens and V. Marimoutou, Cambridge University press, 2007.



## Patrick Pintus

- Professor, AMU, AMSE Executive Committee Member in charge of non-academic partnerships, Director of AMSE master program
- Macroeconomics, international macroeconomics, public economics
- July 2002, june-august 2011: University of California at Los Angeles, Economics Department, Visiting Professor; April 2007, september 2007-june 2008: Washington University in St. Louis, Center for Dynamic Economics and Economics Department, Visiting professor; September 2007 to june 2008: Federal Reserve Bank of St. Louis, Research Group, Visiting researcher; 1997-98: Assistant Professor, Economics Department, Université de Cergy-Pontoise & THEMA; December 1996 june 1997: University of California at Los Angeles, Economics Department, Visiting Scholar (Program for Dynamic Economics)
- Associate editor: Macroeconomic Dynamics, Annals of Economics and Statistics
- Institut Universitaire de France (Junior Member): 2009-2014.





Christel Protière

- Senior researcher, INSERM
- Patient-physician relationships, patients' information, microeconomics
- PhD prize Aix-Marseille University



Céline Pulcini

- Research associate
- Antibiotic stewardship, infectious diseases, public Health, vaccination
- 2007: Research fellowship in Scotland(Dundee University); since 2010: Nice University: tenured assistant professor Hospital practitioner
- 2013: Scientific Award (Infectiopôle Sud)
- 2012: Elected executive member of the ESGAP (ESCMID Study Group for Antibiotic Policies).



## Juliette Rouchier

- First-class research fellow, CNRS
- Agent-Based Computational Economics, micro-economics, socio-economics, quality on markets
- Editorial positions held at Journal of Artificial Society and Social Simulation, Computational and Mathematical Organization Theory.



**Marc Sangnier** 

- Associate professor, AMU
- Macroeconomics and international economics
- 2008-2012: PhD programme Analyse et Politique Économiques, EHESS, PSE
- Referee for British Journal of Industrial Relations, Economica, European Economic Review, International Review of Financial Analysis, Journa of Comparative Economics, Journal of the European Economi Association, Kyklos, Labour Economics, Scandinvian Journal of Economics, Stata Journal, Quality & Quatity.



**Christian Schluter** 

- Professor AMU, co-organizer of the AMSE growth & development workshop.
- Applied econometrics
- 2012-; Part-time Faculty, University of Southampton; 2002-2012; Reader in Economics, University of Southampton; 1997-2002; Lecturer in Economics, University of Bristol, tenure awarded in 2000; 1997-2009; Research Associate, Centre for the Analysis of Social Exclusion, LSE.



**Thomas Seegmuller** 

- Research professor, CNRS
- ✓ Macroeconomic dynamics, endogenous fluctuations, market distortions in macroeconomics, heterogeneous agents, borrowing constraints, rational bubbles, environmental economics, fertility
   ✓ October 2004 June 2009: Member of EUREQua-CES, University Paris 1; January 2008 June 2009: Associate Professor at Paris School of Economics; January 2004-March 2004: Post-doc position at Universidade Catòlica Portuguesa, Lisbon.



Valérie Seror

- Research Associate, INSERM
- Health economics, collective choice, individual behavior, prevention and screening



Benoît Sévi

- Tenured assistant professor, AMU
- Empirical finance, volatility modeling and forecasting, commodity markets
- Tenured assistant professor, Université d'Angers 2006-2009 ; Visiting Assistant Professor, London Business School, 2009-2010.



## **Antoine Soubeyran**

- Professor emeritus, AMU
- International economics, environmental economics, industrial economics, behavioral economics.



#### **Hubert Stahn**

- Professor, AMU, AMSE Deputy Director
- Microeconomics, general equilibrium theory, games, environmental economics, industrial organization
- Tenured assistant professor, Université Louis Pasteur, Strasbourg, 1991-1994; Professor, Université Louis Pasteur, Strasbourg, 1994-2003.



## Miriam Teschl

- Associate professor, EHESS
- Consumer Behavior, Psychology, Cognitive Science, Welfare Economics, Self and Identity, Rational Choice, Philosophy Of Economics, Consciousness, Behavioral Economics, Bounded Rationality, Personal Identity, Theory of Individual Choice, and Philosophy of Mind



## **Alain Trannoy**

- Research professor, EHESS, AMSE Director
- Taxation, public economics, inequality & redistribution, housing economics, voting, higher education economics, theories of Justice
- △ 1991 2002 Professor of Economics, University of Cergy-Pontoise; 1988 1991 Professor of Economics, University of Rennes 1
- Former editor of Annales d'Economie et de Statistique, 2005-2009
- Member of the steering committee of Annales d'Economie et de Statistique, 2009-2012
- Former editor of Economie Publique/Public Economics, 2003-2011
- Former associate editor: Journal of Public Economic Theory, 2003-2011
- Associate editor: Journal of Economic Inequality
- Elected Member of the Council of the Society of Social Choice and Welfare, 2010
- Elected second Vice-President of the French Association of Economics, 2012
- Member of the *French Council of Economic Advisors*, November 2012 (who report to the French Prime Minister)
- Member of the Council of Compulsory levies (Paris)
- Responsible for the Chair in Public Economics and Sustainable Development of the University of Marseille- 2009-2012
- Scientific Adviser of the Council of Strategic Analysis (Paris) 2007-
- Member of the Economic Council of Sustainable Development (Paris) 2009-
- ✓ Vice-president of the scientific council of the JECO (Lyon) 2007-





#### Federico Trionfetti

- Professor, AMU, AMSE Executive Committee Member in charge of academic pertnerships
- ▲ International trade, economic geography
- № 1996-1997 Assistant professor, Ohio University, Athens OH, USA; 1997-1998 Visiting Scholar, Harvard University, Cambridge MA, USA; 1998-2000 Marie Curie Research Fellow, London School of Economics, UK; 2000-2001 Lecturer (permanent position), Queen's University of Belfast, UK; 2001-2002 Lecturer (permanent position), King's College London, UK; 2004-2008 Adjoint FNS Professor, Graduate Institute of International Studies, Gevena, CH.; 2002-2006 Professor of Economics, Université Paris 13.
- Former co-editor of Economie Internationale / International Economics from July 2005 to June 2009.



## **Tanguy Van Ypersele**

- Professor, AMU
- Public economics, law and economics, trade
- Visiting Scholar at Harvard University and Fellow of the Belgian-American-Educational-Foundation. (1997-1998); Assistant professor at Tilburg University, fellow of CenTER and invited professor at CORE-UCL (1998-1999); Lecturer, University of Namur, Belgium, CORE member (1999-2003)
- CEPR fellow
- IUF junior member.



#### Alain Venditti

- Research professor, CNRS, GREQAM co-director
- Macroeconomic dynamics, international macroeconomics, growth, business cycles
- Associate Professor at EDHEC Nice from 2009; Associate Professor, Ecole Supérieure de Mécanique de Marseille, Université de la Méditerranée, 1996-1997; Associate Professor, Université du Littoral, Boulogne-sur-Mer, 1995-1996
- Member of the Editorial Board: Revue d'Economie Politique, International Journal of Economic Theory, Portuguese Economic Journal
- ⚠ Guest co-editor of a special issue of *Macroeconomic Dynamics* in honor of Kazuo Nishimura on «Nonlinear Dynamics in Equilibrium Models», 16, 2012; guest co-editor of a special issue of *Journal of Mathematical Economics* on «Instability and fluctuations in intertemporal equilibrium models», 43, 2007; Co-editor of the book *Equilibrium Dynamics*. *Selected Papers of Kazuo Nishimura*, Springer-Verlag, 2012.
- CNRS Bronze Medal, 1999
- IJET Lionel W. McKenzie Prize for contributions to economic theory, 2007.



#### Bruno Ventelou

- Research professor, CNRS, AMSE Executive Committee Member in charge of the health economics area
- Health economics, macroeconomics
- Member of the editorial board of Journal of Healthcare Management and Economy
- Laureate of the 2005 AVENIR programme
- Member of the Scientific Council of the French agency for the security of drugs and health products (ANSM)
- Member of the Scientific Council of the French agency for research on AIDS (ANRS).



## Pierre Verger

- Doctor of epidemiology, INSERM
- ← General medicine and public health, access inequalities to medicines in mental health area and link between mental health and quality of environment



Virginie Vial

- Assistant professor, Kedge Business School, AMU
- Development economics



## Jean-Benoît Zimmermann

- Research professor, CNRS
- Interaction and networks economics, proximities economics, economic models of knowledge sharing (like open source software).
- © GREQAM former director (2007-2011), member of the Scientific Council of Aix-Marseille Université since 2012; member of several scientific assessment committes for ANR and AERES (France) and CSRH (Canada).
- Editorial positions held at Revue Economie publique, Revue d'Economie Industrielle, Innovation Economics, Industry and Innovation, Revue d'Economie Régionale et Urbaine, Recherches Economiques de Louvain, Revue de la Régulation, Economie Appliquée
- Current director of the national-wide CNRS committee in economics (Section 37).



# PhD students

Last Name	First Name	Supervisor	Subject
Abad	Nicolas	Thomas Seegmuller/Alain Venditti	Politiques fiscales, règle d'équilibre budgétaire et destabilisation économique
Al Hajj	Fadia	Gilles Dufrenot	Optimum, exchange rate regime and monetary policies in ECOWAS countries
André	Eric	André Lapied	Choix de portefeuille en temps continu et ambi- guïté
Apedo Amah	Marie-Christine	Cecilia Garcia-Penalosa	Modelisation and analysis of NGOs impact on economic growth of developing countries
Ben Hadj Boubaker	Houda	Eric Girardin	DSGE modelling of monetary policy and Emerging Markets
Ben Romdhane	Hajri Aymen	Eric Girardin/M. Jelassi	Stabilité structurelle et pouvoirs explicatif et prédi- catif du flux d'ordre et des fondamentaux macro- économiques de la dynamique et de la volatilité du taux de change. Cas des taux Euro-Dollar Américain et Yuan Chinois - Dollar Américain
Bonleu	Antoine	Bruno Decreuse/Tanguy Van Ypersele	Valeurs familiales, régulation du marché immobi- lier et régulation sur le marché du travail
Bousmah	Qays Marwan	Raouf Boucekkine/Bruno Ventelou	Essays on the relationship between fertility and child mortality
Caudal	Nicolas	Frédéric Dufourt	Anticipation, risque et intermédiation financière dans les modèles macroéconomiques
Charni	Kadija	Steve Bazen	Marché du travail des séniors : trajectoires sala- riales, offre de travail et emploi
Chiambretto	Anne-Sarah	Hubert Stahn	Approches volontaires et régulation environne- mentale : une perspective normative
Chuffart	Thomas	Emmanuel Flachaire/Anne Péguin	Problèmes de choix de modèles dans la volatilité conditionnelle
Clain-Chamosset-Yvrard	Lise	Thomas Seegmuller	Bulles rationnelles et fluctuations macroécono- miques en présence de contraintes d'emprunt
Constant	Karine	Seegmuller Thomas/Carine Nourry	Environnement, croissance et fécondité
Cozarenco	Anastasia	Henriet Dominique	Essays on micro-finance in developed countries : the role of business development services, information and regulation
Davin	Marion	Nourry Carine/Karine Gente	Essai en macroéconomie théorique sur l'éducation
De Truchis	Gilles	Aloy Marcel/Dufrenot Gilles	Étude des systèmes de cointégration fractionnaire et applications à l'analyse de l'intégration moné- taire et financière en Asie
Dell'Eva	Cyril		Politique Monétaire et Carry Trade
Diallo	Abdourahmane	Olivier Chanel/Ghislain Geniaux	Analyse rétrospective et prospective du processus d'urbanisation à l'échelle parcellaire en Provence
Dubois	Florent	Christophe Muller	Dynamic models of segregation
Fall	Elhadji Moussa Kébé	Marcel Aloy/Eric Girardin	Modélisation de l'interdépendance macroécono- mique et financière des pays de l'Asie de l'Est
Gueuder	Maxime	Alan Kirman	Crise, inflation et inégalités
Guiraud	Noé	Juliette Rouchier / V. Laper- riere	Etude des circuits courts alimentaires dans la région PACA

Hannafi	Cyrine	Christophe Muller	The poverty-economic growth-children health triangle
Hooper	Emma	Patrick Pintus	Développement financier et croissance écono- mique dans les pays riches en ressources natu- relles
Hua	Jian	Eric Girardin	La découverte du prix des sociétés à double cota- tion sur les marchés boursiers chinois
Kankeu	Hyacinthe	Bruno Ventelou	Ampleur, déterminants et impact des paiements informels sur l'accès aux soins dans les pays d'Afrique sub-saharienne
Khayat	Anwar	Gilles Dufrenot	Unconventional monetary and fiscal policies
Klabi	Ramzi	Jean Magnan de Bornier	Relativité du temps et dynamique monétaire chez Maurice Allais
Lasram	Hejer	Didier Laussel / R. Lahman- di-Ayed	Secteur éducatif et marché du travail : rôle de l'Etat dans un marché différencié
Lassassi	Moundir	Christophe Muller	Le marché du travail en Algérie : réseaux sociaux, choix occupationnel et salaires
Le Huy	Chinh	Marcel Aloy/Gilles Dufre- not	Monetary policy in the context of Vietnamese economy
Le Riche	Antoine	Alain Venditti/Carine Nourry	Commerce international dans le modèle bi-secto- riel à générations imbriquées
Lespagnol	Vivien	Juliette Rouchier	Les comportements, les cognitions et les interac- tions des individus au niveau microéconomique et leurs conséquences au niveau macroéconomique : le cas concret de la liquidité des marchés
Lunven	Sandrine	Eric Girardin	Déterminants et transmission de la politique monétaire en Chine
Martelli	Victor	Dominique Henriet	Essai sur les bulles spéculatives
Michel Lepage	Audrey	Bruno Ventelou	Le rôle des mécanismes incitatifs dans l'améliora- tion des prescriptions antibiotiques en médecine de ville
Monsia	Atoké Frédia	Karine Gente/Gilles Dufre- not	Déséquilibres macroéconomiques, crises, gestion des crises dans les pays de la zone euro
Morault	Pauline	Yann Bramoullé	Elites, Réseaux et Développement. Stratégies de protection des privilèges : le cas de Madagascar
Niang	Mouhamadou Moustapha	Bazen Stephen / Xavier Joutard	Inégalités de chômage entre hommes et femmes en France
Pedrono	Justine	Patrick Pintus	Financial Stability in a Multipolar Monetary System
Ray	Simon	Patrick Pintus	Prix de l'immobilier, investissement, emploi et salaires
Rongiconi	Thomas	André Lapied	Théorie de la décision dans l'ambiguité et modèles de tentation
Sadania	Clémentine	Patricia Augier / Marion Dovis	The Role Of Women's Empowerment In Inclusive Growth Process
Sanhaji	Bilel	Anne Péguin	Modèles multivariés à hétéroscédasticité condi- tionnelle : applications en macroéconomie et finance
Sans	Damien	Hubert Sthan	Régulation optimale de la pollution en concur- rence imparfaite, économie de l'environnement théorique



## PhD students

Sawadogo	Régis	Cecilia Garcia-Penalosa	State Capacity and Unified Growth Theory
Singh	Sauman	Fabienne Orsi	Analyse de l'entrée dans le marché et stratégies d'opération des firmes indiennes, et mécanismes de négociation des financeurs internationaux pour améliorer d'accès aux médicaments antiré- troviraux et antipaludéens dans les pays d'Afrique sub-saharienne
Soury	Manel	Vêlayoudom Marimoutou	Time Varying Vines Copula Model
Tison	Aurélia	Alain Paraponaris/ Bruno Ventelou	La décision sur le marché du travail dans un contexte de double incertitude économique et sanitaire : les travailleurs indépendants face au cancer
Varandas	Joao	Nicolas Gravel	An Inquiry into the Implications of Multiple Rationales to Economics
Weeks	William B.	Bruno Ventelou	Variation in healthcare: service utilization, physician incomes, and return on educational investment
Xun	17hou	Michel Lubrano / Emma- nuel Flachaire	Contributions in Happiness Econometrics
Zeidan	Jinan	Olivier Bargain	Trois essais sur les déterminants du bien-être subjectif dans les pays en développement

# PhD Theses 2013

Afridi Asim Muhammad – Aix-Marseille Université (Sesstim) The Effect of Health Aid on Health Outcomes: Public Versus Private Channels Supervisors: B. Ventelou and J.P. Moatti, April 10 th, 2013

Arrighi Yves – Aix-Marseille Université Four Essays in the Economics of Health Policies Supervisor: B. Ventelou and A. Trannoy, December 13rd, 2013

Ben Yahmed Sarra – Aix-Marseille Université

Inégalité entre hommes et femmes sur le marché du travail, les rôles du commerce international et du secteur informel Supervisors: A. Trannoy and C. Garcia-Penalosa, December 13rd, 2013

Chen Changsheng - Aix-Marseille Université Dynamique de l'inflation dans les provinces chinoises Supervisor: E. Girardin, July 24th, 2013

Delattre Laurence - EHESS

Analyse des determinants des choix de preservation des espaces agricoles et naturels dans les politiques locales d'urbanisme Supervisor: O. Chanel, June 26 th, 2013

Hili Amal – Aix-Marseille Université/Université de Sousse Essais sur les incitations salariales Supervisors: D. Laussel and R. Lahmandi Ayed (co-tuelle), February 19th, 2013

Keddad Benjamin – Aix-Marseille Université Four Essays on Monetary and Financial Integration in Asia Supervisor: G. Dufrenot, November 7th, 2013

PhD Students

Klimenko Pakhomova Natalyia - Aix-Marseille Université Essays on Banking and Corporate Finance Supervisors: D. Henriet and M. Belhaj, September 30th, 2013

Lapointe Vincent – Aix-Marseille Université Essays on Corporate Social Responsibility and Socially Responsible Investment Supervisor: P. Bertrand, December 9th, 2013

Lollo Eleonora – Aix-Marseille Université

Le capital social dans le contexte du développement : quelle mesure et quel impact pour l'empowerment des femmes en Indonésie ? (Social capital in the context of development : Which measure and which impact on women empowerment in Indonesia ?)

Supervisors: P. Augier et V. Vial, December 9th, 2013

Louis Assaad Maryse – Aix-Marseille Université Migration-Development Nexus : Macro and Micro Empirical Evidence Supervisor: P. Augier, December 12th, 2013

Manas Arnaud - Aix-Marseille Université Essais sur le Club de Paris, la loi de Gibrat et l'Histoire de la Banque de France Supervisor: G. Dufrenot, October 16th, 2013

Ndoye Aziz - Aix-Marseille Université Essais à l'économétrie des mesures d'inégalité et de pauvreté Supervisor: M. Lubrano, July 2nd, 2013

Ngo Chi Thanh – Aix-Marseille Université Food distribution system in Vietnam : An imperfect competition approach Supervisor: H. Stahn, June 18 th, 2013

Renault Olivier – Aix-Marseille Université Essais sur la théorie de l'actualisation : utilité escomptée subjective et sensibilité à la variation Supervisors: A. Lapied, November 29th, 2013

Sall Cheikh – Aix-Marseille Université

Dynamique et persistance de l'inflation dans l'UEMOA: le rôle des facteurs globaux, régionaux et nationaux

Supervisors: E. Girardin and M. Boutahar, December 3rd, 2013

Woode Maame Esi – Aix-Marseille Université Health Care Financing and the Macroeconomy Supervisors: B. Ventelou and C. Nourry, November 30th, 2013

Yan Hui Jie – Aix-Marseille Université Challenges of China's sustainability: integrating energy, environment and health policies Supervisor: C. Muller, December 6th, 2013



AMSE Research program

Prizes and honours Innovative projects



Two prizes were awarded to AMSE researchers in 2013. The first is a consolidation grant awarded by the European Research Council (ERC) to Yann Bramoullé (CNRS, Greqam) for his research project "Markets and networks." The second rewards Carine Noury (Aix-Marseille University, Greqam), Alain Venditti (CNRS, Greqam), and Roger Farmer, first Maurice Allais prize winners decerned by the Foundation ParisTech for their joint article "The Inefficient Markets Hypothesis: Why Financial Markets do not work well in the Real World, published in 2012 in the NBER working Papers and working Papers AMSE (2013-11). They present their work below.

#### Markets and Networks by Yann Bramoullé



The study of the patterns of relationships between agents and of their determinants and consequences was not really considered part of economics twenty years ago. This has changed dramatically. Economists have realized the importance and ubiquitiy of social networks and the role they play in explaining, among others, consumers'

behavior, voting patterns, job search, information diffusion, innovation adoption, international trade and risk sharing. The economics of social networks now constitutes a field in its own right and one of the most active areas of current research in economics. Economists have made some significant progress in their study of networks. However, our understanding of the economics of social networks per se, and in particular of the relations between markets and networks, remains poor and fragmentary.

When do social networks help markets function and when do they crowd out economic activity? Do social networks provide a general informal answer to information problems and search frictions, or do they embody favoritism and inefficient exchange? When are markets and networks substitutes and when are they complement? I believe we are now entering a second stage of the economic research on networks where the main contributions will come from a more detailed investigation of these issues. The objective of my research project is to contribute to this research program by analyzing the relations between markets and networks in two contexts. I will study the interaction between formal insurance and networks of informal insurance and the impact of networks on markets with search frictions.

Poor households in developing countries live in an environment characterized by high risk and high stakes. Formal insurance is typically lacking and informal insurance plays an important role in helping households cope with risk. Informal insurance is generally organized along network lines: Family members, friends, and neighbors help each other out in case of need. Informal insurance is also imperfect and may aggravate inequalities. Poor households still bear too much risk and those who lack social capital cannot rely on this safety

net. Following the global success of microcredit, governments and non-governmental organizations have recently tried to introduce microinsurance schemes throughout the developing world. These efforts have met with limited success and adoption rates have been much lower than anticipated. A possible explanation is that informal insurance crowds out formal insurance. Poor households and individuals who are already relatively protected by informal insurance arrangements may have low incentives to adopt these new and untested formal schemes. Crowding out can also operate in the opposite direction. Adoption of formal insurance could lead to an unraveling of the traditional risk-sharing networks with potentially damaging effects on social welfare. These questions have been little studied by economic theorists. Economists generally have a poor understanding of the interaction between formal and informal insurance and of how this interaction depends on the structure of the risk-sharing network.

I will tackle this guestion and study the interaction between formal and informal insurance when agents share risk on an arbitrary social network. This project will be realized in collaboration with Rachel Kranton at Duke University and Renaud Bourlès at Aix-Marseille School of Economics. Our primary aim is to develop a theoretical analysis of the interaction between formal insurance and networks of informal insurance. There are two key objectives. The first objective is to understand how the existence of informal insurance affect the introduction of formal insurance into a community. Does informal insurance always reduce the demand for formal insurance and how does this depend on preferences and risks? How do individual incentives to adopt formal insurance depend on the position in the network of risk-sharing arrangements? Under substitution effects, we expect more central agents to have a lower demand for formal insurance. And hence, socially excluded households may have more incentive to adopt formal insurance. How does the structure of the network affect the overall adoption rate? Finally, how is the answer to these guestions affected by moral hazard, when agents can exert effort to reduce the risk faced?

The second objective is to understand how the introduction of formal insurance, in turn, affect informal insurance arrangements and overall welfare and inequality. Can formal insurance lead adopters to renege on their informal obligations and to secede from the informal risk-sharing community? Or, on the opposite, can formal insurance strengthen



informal insurance arrangements? In preliminary analysis, we found that welfare may be highest for intermediate levels of adoption. As long as the informal arrangements holds, formal adoption by some members improve the overall risk-sharing capability and benefit everyone else in the community. However, above a threshold level of adoption, the adopters have an incentive to secede and to form their own risk-sharing group. The situation of the non-adopters worsens and welfare may deteriorate. We will study how these effects interplay with the network structure.

Economists have made much progress in the past twenty years to understand the properties of markets with search frictions. This progress has been recognized, for instance, by the attribution of the 2010 Nobel prize to Peter Diamond, Dale Mortensen and Christopher Pissarides. In most existing models of this literature, the matching process embodies some assumption of uniform random matching. Conditional on seekers' types and efforts, two participants in the same market typically have the same probability to end up in a match. This assumption is in contradiction with the key role played by social networks in the search process in many markets. For instance in the labor market between one third and two thirds of all jobs are found through networks. In general, a lot of information diffuses through networks and, in addition to jobs, network-based search plays an important role in the choice of doctors, restaurants and universities. In all these contexts, social networks influence the matching process and this leads to a breakdown of the assumption of uniform random matching. A job seeker with better social capital has a higher probability to find a job. Moreover, matching may depend on fine details of the network structure and of its interaction with past and current outcomes. The economic theory of matching, to date, is essentially a theory of anonymous search and frictions. When networks matter, however, search and frictions are not anonymous.

The primary aim of this part is to develop models where social networks affect the matching process in markets with search frictions and to revisit the models, outcomes, and conclusions of the matching literature with a network angle. This part is composed of two specific projects. I will first develop an original network model of search and matching in the labor market. This project will be realized in collaboration with Bruno Decreuse at Aix-Marseille School of Economics. We have three research objectives. First, we will develop a new model to account for the firms' and the workers' side of the market. We will notably study issues of correlations of informations received through the network and we will provide the first economic analysis of the strength of weak ties. Second, we will analyze the matching function generated by this network-based matching process. We will develop aggregation techniques to understand how structural features of the network induce macro-scale properties of the matching function. And third, we will introduce this network model into a classical matching framework. We will derive the full-fledged equilibrium implications of network-based search. We will study the following questions. How does the position of an individual in the network affect his wage and labor market outcome? How does the structure of the network affect overall unemployment and labor market turnover? What are the impacts of persistent relations between social neighbors on labor market dynamics and outcomes?

Second, I will develop a finite-horizon matching model with recall. This project will be realized with Brian Rogers at Washington University in Saint-Louis. We will relax the no-recall assumption typically made in matching models. This assumption means that two agents who meet but do not trade in some period cannot trade together in later periods, even if they wanted to. This seems hard to justify in contexts where communication technologies are well-developped. In contrast with recall, a network of potential partners emerges endogenously from the market dynamics. We will study the shape and properties of this endogenous network and how it affects matching outcomes. Preliminary results indicate that the analysis and outcomes are deeply modified. In particular, matching age may be non-monotonic in type: low types match late because they are unattractive while very high types match late because they can be picky. This may lead to revisit conclusions from this literature. More generally, our analysis will provide one of the first bridges between the literature on buyer-seller networks and the literature on search and match-



Our work provides an explanation for the volatility of the stochastic discount factor in real world data. We do not rely on frictions, market incompleteness or transactions costs of any kind. Instead, we modify a simple stochastic representative agent model by allowing for birth and death and by allowing for heterogeneity in agents' discount factors. We show that these two minor and realistic changes to the timeless Arrow-Debreu paradigm are sufficient to invalidate the implication that competitive financial markets efficiently allocate risk. Our paper demonstrates that financial markets, by their very nature, cannot be Pareto efficient, except by chance. Although individuals in our model are rational; markets are not. Because there are multiple equilibria, only one of which is Pareto efficient. For all other equilibria, the whims of market participants cause the welfare of the young to vary substantially in a way they would prefer to avoid, if given the choice. This invalidates the first welfare theorem and the idea of financial market efficiency. We also show that this can generate, or amplify, fluctuations caused by shocks that do not affect the economic fundamentals, called in the literature «sunspot shocks».

Following the review of Justin Fox's book The Myth of the Efficient Market, Richard Thaler (2009) has drawn attention to two dimensions of the efficient markets hypothesis (EMH) (Samuelson,1963; Fama, 1963, 1965a,b), what he refers to as:

- 'No free lunch', what economists refer to as 'informational efficiency'. If markets are efficient in this sense, uninformed traders cannot hope to profit from clever trading strategies.;
- 'The price is right', what economists refer to as 'Pareto efficiency'.

Our paper is about the second dimension of the efficient markets hypothesis. We argue here that unregulated financial markets do not lead to Pareto efficient outcomes, except by chance, and that the failure of complete financial markets to deliver socially efficient allocations has nothing to do with financial constraints, transactions costs or barriers to trade. We show that the first welfare theorem fails in any model of financial markets that reflects realistic population demographics.

As in Cass and Shell (1983), we differentiate between uncertainty generated by shocks to preferences, technology or en-

"The Inefficient Markets Hypothesis: Why Financial Markets do not work well in the Real World?" by Roger Farmer, Carine Nourry and Alain Venditti

# FONDATION ParisTech

Prix Maurice Allais de Science Economique

Carine Nourry, first on the left and Alain Venditti, second from the right Photo © Nicolas Tavernier

dowments – intrinsic uncertainty– and shocks that do not affect any of the economic fundamentals – extrinsic uncertainty. When consumption allocations differ in the face of extrinsic uncertainty, Cass and Shell say that sunspots matter. Our paper demonstrates that the existence of equilibria with extrinsic uncertainty has important practical implications for real world economies. We show that sunspots really do matter: And they matter in a bigway in any model that is calibrated to fit realistic probabilities of birth and death.

#### What is the source of this inefficiency?

Inefficiency occurs in overlapping generations models for two reasons. The first, is dynamic inefficiency that occurs because there is a double infinity of agents and commodities. The second is sunspot inefficiency that occurs because agents are unable to insure against events that occur before they are born.

It has long been understood that the overlapping generations model, (Allais 1947, Samuelson 1958) leads to equilibria that are dynamically inefficient. The cause of that inefficiency was identified by Shell (1971) who showed that, even if all agents could trade contingent commodities at the beginning of time, the non-stochastic OLG model would still contain equilibria that are dynamically inefficient. The first welfare theorem fails in that environment because the wealth of all individuals is finite in an inefficient equilibrium even when social wealth is unbounded. We do not rely on dynamic inefficiency in this paper and, in the absence of uncertainty, our model has a unique dynamically efficient equilibrium.

The second source of inefficiency in overlapping generations models arises from the absence of insurance opportunities. In their (1983) paper, Cass and Shell showed that equilibria may be inefficient if some agents are unable to participate in markets that open before they are born and Azariadis (1981) provided a dynamic example of a model where sunspots influence economic activity. The example that Cass and Shell provided in the body of their paper relied on the existence of multiple equilibria in the underlying, non-stochastic economy. As a result, the majority of the work on sunspots that followed Azariadis and Cass and Shell has sought to construct examples of



models where there are multiple equilibria in the underlying economy as in the work of Farmer and Woodford (1984, 1997), Benhabib and Farmer (1994); Farmer and Guo(1994) and Wen (1998).

We depart from this literature. Unlike previous papers that have constructed calibrated examples of sunspot models, our work does not rely on randomizing over the multiple equilibria of an underlying non-stochastic model. Instead, as in Farmer (2012b), and the example constructed in the appendix to Cass and Shell (1983), equilibrium in the non-stochastic version of our model is unique.

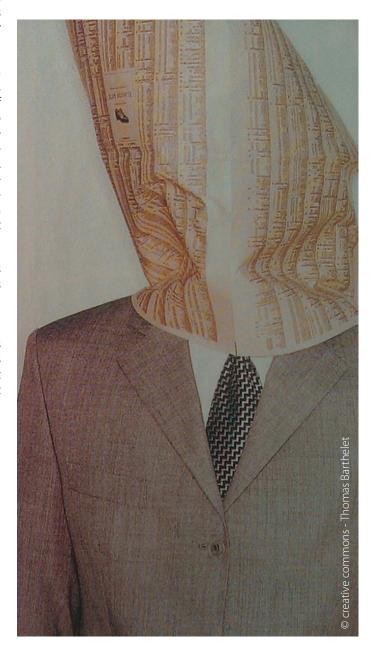
Angeletos and La'O (2011) and Benhabib, Wang, and Wen (2012) also construct sunspot models where there is a unique underlying equilibrium. Unlike their work, however, our model does not rely on informational frictions, nor do we assume that there are credit constraints, borrowing constraints or liquidity constraints. Our only departure from a frictionless, timeless, Arrow Debreu model is the assumption that agents cannot participate in financial markets that open before they are born.

Quantitatively, we show that when agents have realistic death probabilities and discount factors ranging from 2% to 10%, the human wealth of new-born agents can differ by a factor of 25% depending on whether they are born into a boom or into a recession. These numbers are similar in magnitude to the long-term costs of job loss reported by Davis and Von Wachter (2012) in their study of the effects of severe recessions. Although we do not provide an explicit model of unemployment in this paper, related work by Farmer (2012a,c, 2013), Farmer and Plotnikov (2012) and Plotnikov (2012) does provide a mechanism that translates asset price shocks into persistent unemployment.

In conjunction with these related papers, our work provides an explanation for the large welfare costs of business cycles that Davis and Von-Wachter find in the data.

Our work has implications for the appropriate role of central bank intervention in financial markets. Farmer (2012b) argues that the inefficiency of competitive financial markets provides a justification for central bank intervention to stabilize asset prices. That argument applies, a fortiori, to the environment we develop here.

"Our work provides an explanation for the large welfare costs of business cycles that Davis and Von-Wachter find in the data."



From 2013, the ExCom of AMSE has decided to fund a few small internal two years long projects targeting the principal research lines of the founding AMSE project on globalization and public policy. These funds are specially open to young researchers who are typically penalized in the race for external funding. 6 innovative projects have been funded in 2013. 2 of them are those distinguished by the prizes mentioned in the previous section. Hereafter, the 4 remaining ones are briefly described.

Governance in Sports: How to Fight Doping?

Sebastian Bervoets (Project Coordinator) Bruno Decreuse Mathieu Faure

This project aims at investigating the problem of doping in sports, and in particular at suggesting new approaches to understand why athletes use performance enhancing drugs, as well as analysing the failure of the current institutional bodies in their struggle to fight doping. The objective is to provide alternative solutions for the governance of sports to be more efficient in promoting a clean sport.

#### Report and state of the project

The theoretical part of the project is now very advanced; we already wrote a working paper, in which the model is clearly introduced and our main theoretical contributions are proved. Let us describe more precisely the main contributions (so far) of our first paper.

Our paper focuses on a simple but novel argument whereby performance-enhancing drugs (PED) allow the athletes to compete at their best level with higher frequency. They not only reach greater performances on average, but also such performances are concentrated around the best outcomes. This argument has important implications for the understanding of doping conducts by different athlete types. Namely, the return to doping increases with inner talent, which implies that the best athletes tend to dope more. Moreover, the best athletes derive large benefits from PED and their well-being would decrease if PED did not exist. This particular pattern by type and the nexus of strategic interactions between athletes renews policy suggestions. Anti-doping tests have contrasted effects on athlete types. Targeting tests to the expected winners of a competition for instance provides the outsiders with incentive to dope.

So far, we do not have strong empirical evidence to support our main theoretical findings. This is due to the fact that doping levels cannot be observed. Thus our main results can hardly be empirically validated by a direct strategy. However, we do observe the absolute and relative performances of each athlete. We hope that we will be able to infer something from these observations to support what our model forecasts.

The issues covered in our paper have applications beyond the doping case. We are con\_dent that we could pursue our analysis to other economical issues. Exam cheating for instance provides another illustration. For most of the students, the problem is to fail or pass the exam. The cheating technology bears costs (here mostly the risk of being discovered and its consequences) and gains (increased performance). The least able students have incentive to cheat: their failure probability is very high so there is not much to lose. However, for more talented students, the problem is to belong to the top of the grade distribution. They might be tempted to cheat as a result, whereas students of intermediate talent have no chance anyway to reach such grades. A recent survey on university students who answer di\_erent questions on their cheating practice reveals that, other things equal, cheaters are over-represented among the less able and the most able students. Adapting the present framework to this situation, we predict that intensifying cheating monitoring may decrease cheating among the top students, whereas it may encourage cheating among their immediate followers.



#### **Optimal Network Policy**

Mohamed Belhaj Frédéric Deroïan

We investigate games played on a fixed network of bilateral relationships. Agents interact with their neighbors, and actions are strategic complements, i.e. the higher the average level of neighbors' actions, the higher then incentive to increase own action. In our setting, actions are desirable from a public policy perspective. For instance, actions can represent an effort to undertake education, to learn or to innovate. A policymaker, who wants to increase aggregate efforts, has a budget that can be used to subsidize individual efforts. This kind of policy issue can arise in many contexts, ranging from firms' organization to development economics or economics of innovation. To illustrate, the Progresa program consists in giving some financial resources to some specific households in rural villages in order to encourage local development. Similarly, in industrialized countries, public institutions like EU or US often promote R&D innovations by targeting subsides to some specific firms in a given industry. According to the context, strategic complementarities can stem from technological spillovers, informational synergies. Interestingly, some institutions condition their rewards to a certain level of effort. For instance, local authorities in Bogota recently provided financial support to households in the purpose of enhancing school achievement of children, and funds were delivered conditional on children school attendance.

Because of behaviors' interdependencies, the policymaker has to take into account the contagion effect of subsidizing a group of agents on the rest of the society through network channel. The network may therefore substantially affect policy intervention, which raises some general questions. When the policymaker is perfectly informed about the details of the network, how should the budget be optimally used? How does the network shape optimal contracts, and in particular, should the policymaker concentrate or distribute the budget? How does network structure affect policy efficacy? Does the policymaker need to observe the network to design an optimal policy?

In this paper, we examine these issues in a simple model of linear interaction with strategic complementarities. This setting is useful for at least two reasons. First, these games admitting a unique equilibrium, we can examine the impact of policy intervention without the complication of equilibrium jumps. Second, we are able to quantify the contagion effects induced by sponsoring some agents, which is crucial to provide tractable analytical results (the impact of non-linearities is still an open issue).

We first address the issue in a context where the policymaker observes both the efforts of agents and the network. We show that the best action to do is to propose a joint contract, stipulating, for each agent, a level of effort and a reward and guaranteeing the same utility level as before policy intervention. The contracts are joint in the sense that any individual refusal invalidates all contracts. The optimal joint contracts, that we call the first-best, satisfy that, for large budgets, every agent is rewarded, while for low budget only a subset of agents is rewarded. Furthermore, we make clear that the networked contagion effects are crucial to understand concentration. When this kind of contract cannot be raised, unilateral contracts can be set up, where individual acceptances are not tied to each others. In this case, the optimum should now be such that individuals find profitable to accept the contract given others' acceptance. This setting leads to a second-best outcome. In contrast with the first-best contract, every agent is rewarded here whatever the value of budget, and we fully characterize the optimum and the way the second-best contract takes care of the positions of agents in the network. Last, we show that this second-best contract can be implemented using a simple linear contract.

Then we examine the case where the policymaker only observes efforts, i.e. he observes neither the network nor private returns of efforts. Hence, he cannot infer the network. We propose a simple protocol through which the policymaker can nevertheless implement the second-best. To show this, we first consider a natural linear contract, where agents were rewarded according to their excess-effort. We show that this contract can be used to extract information about the network structure; this information is sufficient to implement the second-best contract by the means of a procedure à la Holmstrom (1982), where agents are asked to coordinate collectively in order to reach the aggregate level of effort corresponding to the second-best. Hence, even in absence of information, the policymaker can reach the second-best.

We complement these results along two lines. First, we consider a realistic setting where the policymaker cannot propose contracts to the whole population. This kind of constraint arises naturally in case the population is large. We study the extreme case where the policymaker has no choice than selecting a unique agent, and we compare the performances of the second-best contract and the best linear (in excess effort) contract (of course, studying joint contracts is incompatible with this extreme constraint). Interestingly, the agent to be targeted is contract-sensitive. The best linear contract prescribes to subsidize the key player, i.e. the agent with highest inter-centrality index, as defined in Ballester, Calv\`{o}-Armengol and Zenou (2006). This finding echoes their key player analysis where the problem consists in targeting the agent whose drop out minimizes

aggregate efforts. However, this target is not the optimal one in our context. Indeed, the best unilateral contract prescribes to target the agent with the largest non weighted Bonacich centrality. This simple result may sound as a good news to the extent that this index is simpler to compute than the inter-centrality index.

Second, we consider utility maximization. Obviously, the first-best joint contracts that we identified in the frame of effort maximization are incompatible with utility maximization, since those contracts extract maximum effort by lowering utilities at maximum (that is, the level compatible with individual consent to contracting). Examining both second-best and linear contracts, we prove that, in both cases, every agent receives a positive reward, and we characterize these rewards. Both proofs are rather technical and, interestingly, similar. In short, the theory of symmetric M-matrices allows to interpret rewards as centralities, which is deeply tied to positiveness.

Related literature. Network policy has not been much explored in the economic literature on networks. One famous example lies in Calv\`{o}-Armengol and Jackson (2004). In this paper related to labor market issues, the authors examine a binary game played on networks in a setting where neighbors' efforts are complementary. In short, being at 0 means being dropped out of labor market, while being at 1 means being active on the labor market. A planner can fix some agents to 1, and see the consequence on the number of agents dropping in. The question asked is: whom should the planner target if she wants to favor the ultimate number of active agents? The authors illustrate that whether the planner should concentrate targets or span them on the network them differently on the network depends very much on both network structure and the individual cost of passing from 0 to 1. This kind of issue arises also in models of innovation adoption with networked cascade effects.

Another close literature considers an institution which is tries to extract some rent from consumers. Bloch and Quérou (2013) or Candogan et al. (2012) study models where a monopolist charges a prices to interdependent consumers. These models exhibit an interesting tradeoff for the firm regarding pricing policy: central agents have increased demand for products, but they also originate large cascade effects on other consumers. In our paper, the institution does not try to extract some rent from agents.

Although models with linear interaction are well-known to economists, their use in the context of networked interactions is recent. A couple of papers can be commented in regard to our project. In their pioneering work, Ballester et al. (2006) introduce models of linear interaction on networks, including strategic complementarity, and ask about a specific a public policy: the key player. In short, in a context of strategic complementarities, which guy should you eliminate from a network in order to maximize the decrease of aggregate efforts? The authors show that the good target is an agent maximizing a specific centrality measure (Ballester and Zenou 2010 and 2012 elaborate on this seminal work). Key player analysis is related to our project in the sense that eliminating some agent can be conceived as taxing one agent at a level that deters him from providing any positive effort level. Recently, Allouch (2012) consider a model of local public good under linear interaction, and ask about optimal transfers in order to improve aggregate effort (the problem is equivalent to a zero-budget setting). The author shows that network structure decisively shapes optimal transfers.

This paper is also related to the literature on imperfect information on networks. For instance, Galeotti et al. (2010) consider situations where agents are not well informed about the network, and it is shown that imperfectness of information can shrink multiplicity issue. These studies do not incorporate any policymaker, and in our setting this is the public institution that lacks information.



Globalization, life cycle and inequality perception

Michel Lubrano (Head of the project)
Collaborations: Aziz NDOYE, Zhou XUN, PhD students

#### Scientific achievements

Essentially, one paper was written by Zhou Xun and Michel Lubrano. The title of the paper is: Globalization, income mobility and the preference for redistribution. The aim of the present paper is to explicit the relation between income dynamics and the demand for redistribution. Going beyond the theory of the median voter, we consider an extension of the model of Benabou and Ok (2001) where individuals with an income below the mean might vote against redistribution because they expect an increase in their future income. This is the POUM effect or Prospect of Upward Mobility. A crucial hypothesis concerns the properties of the income dynamics. If a Markov model is adopted for income dynamics, the matrix has to be regular and progressive to obtain their result. In this paper, we relax most of the assumptions made by Benabou and Ok, in particular those concerning individual heterogeneity and income dynamics. As we lose Benabou and Ok's main result at the aggregate level, we have to confront our model of income dynamics with data on preferences for redistribution. We build a three stage dynamic model and estimate it using the BHPS data set covering the period 1991-2008. Our main result is that preference for redistribution is highly dependant on job status and mobility perspectives so that the individual risk for unemployment can greatly counterbalance the POUM effect. The POUM effect is different when it concerns the personal income or the partner income.

The unemployed or "out of the labour market" individuals are on average more in favour of redistribution, but are sensitive to the probability of going back to work and to the income dynamics of their partner. We thus find evidences for the compensation hypothesis of Rodrick (1998).

The work initiated in this project continued under the auspices of the project DynlPer financed by the AMIDEX. The initial grant was essential to start that project. This paper was first presented at the starting workshop of the DynlPer project in January 2013. A revised version was presented at the 13<sup>th</sup> Journées Louis-André Gérard-Varet. It will be also presented at the IIPPE Conference (International Initiative for Promoting Political Economy), September 16-18, Naples, Italy. Both sources of financing are acknowledged in the paper.

The work on well-being and the perception of inequality in relation with globalisation has continued with a paper by Zhou Xun that was presented at the second workshop of the DynlPer project in July 2014. The title is as follows: Preference for redistribution and inequality perception in China: Evidence from the 2006 CGSS.

Not many researchers have used that survey which contains very interesting data on values and opinions for China. In this paper, Zhou examins the preference for redistribution simultaneously with the opinions on the causes of poverty: is poverty due to circumstances or to lazyness? He explains those three variables in a trivariate ordered probit model for which he has proposed a new estimation technique based on the GHK simulator. He found that opinions on effort and opinion on circumstances are not correlated, but both are correlated with opinions about preferences for redistribution. The correlation is strong and positive with circumstances and weaker and negative with lack of effort. So both explanations are not exclusive. He introduces the usual explanatory variables, together with the social status of the father in order to detect a possible POUM effect, which he found to be present. However, the usual occupation prestige scale had to be modified and adapted to China in order to find that result.

This paper was presented at the 13<sup>th</sup> Journées Louis-André Gérard-Varet and will be presented at the IIPPE Conference, September 16-18, Naples, Italy.

A side paper was completed under the auspices of this financing. It is a paper co-authored with Aziz Ndoye and entitled: "Tournaments and Superstar models: A Mixture of two Pareto distributions".

We provide a Bayesian inference for a mixture of two Pareto distributions which is then used to approximate the upper tail of a wage distribution. The model is applied to the data from the CPS Outgoing Rotation Group to analyze the recent structure of top wages in U.S. from 1992 through 2009. We find an enormous earnings inequality between the very highest wage earners (the "superstars"), and the other high wage earners. These findings are largely in accordance with the alternative explanations combining the model of superstars and the model of tournaments in hierarchical organization structure. The approach can be used to analyze the recent pay gaps among top executives in large firms so as to exhibit the "superstar" effect.

This paper was presented at a conference held in Bari, Italy, 21-25 September 2013.

Bubble fluctuations and the stabilizing role of monetary versus fiscal policies

Contributors:

Lise Clain-Chamosset-Yvrard (AMSE)

Thomas Seegmuller (AMSE)

#### Motivation

In dynamic general equilibrium models, Tirole (1982, 1985) explains how speculative rational bubbles may exist and persist in the long run. In overlapping generations economies, Tirole (1985) proves the existence of a unique monotonic growth path which converges to a bubbly steady state. However, in this rational framework, any fluctuation of financial asset is precluded.

The issue of fluctuations of a rational bubble within overlapping generations models has been addressed only in few works (Grandmont (1985), Michel and Wigniolle (2003, 2005), Bosi and Seegmuller (2010, 2013), Clain-Chamosset-Yvrard and Seegmuller (2012) and Wigniolle (2014)). There is also a renewal of interest on the interplay between fluctuations, rational bubbles and bubble bursting in models with infinitely-lived households. A well-known contribution is Kocherlakota (2009), where the bubble bursts in a model with heterogeneous entrepreneurs facing borrowing constraints. In Kamihigashi (2008), the mechanism is different: Sunspot fluctuations of a bubble emerge because agents have utility for wealth.

The recent period also asks economists to develop new policy tools to stabilize or enhance economic activity. On one hand, the sovereign debt crisis and the constraints on public debt sustainability give strong incentives to governments to think of fiscal policies under a balanced budget. On the other hand, the conduct of the monetary policy has to be reexamined. For instance, in his recent speech, Bernanke (2011) argues that: « In my view, the issue is not whether central bankers should ignore possible financial imbalances - they should not - but, rather, what « the right tool for the job » is to respond to such imbalances. » Surprisingly, the stabilizing role of fiscal and monetary policies in models with bubble fluctuations has been analyzed only in few contributions (Bosi and Seegmuller (2010, 2013), Clain-Chamosset-Yvrard and Seegmuller (2012)).

#### Contribution

We provide an explanation of fluctuations of speculative bubbles when they affect the real side of the economy, and examine which policy (fiscal or monetary) is the most powerful to stabilize such fluctuations.

Considering a framework with an interplay between the financial and the real spheres, our explanation of business fluctuations in presence of a speculative bubble is based on consumers' credit constraint, the role of collateral and a portfolio choice between three assets, money, bonds and capital. Since we are interested in fluctuations with a speculative bubble, expectations play a key role in our analysis, but not only for the existence of the bubble. Indeed, we focus on fluctuations driven by the volatility of expectations. We also analyze the stabilizing role of fiscal and monetary policies, and compare them. We focus on the progressiveness of capital income taxation under a balanced budget and a monetary policy based on a Taylor.

Since we underline the role of consumers' credit market imperfections, collateral, bubble and a portfolio choice, we consider an otherwise simple overlapping generations model with two-period lived households and production. Households save through three assets, capital, bonds and money. Capital is used for the production, bonds sold by the monetary authority to supply money, and money hold by households to finance a share of their consumption in the second period of their life. Collateral plays a role: Holding more capital allows each household to decrease the share of consumption financed through money and increase the share of consumption financed by credit. In other words, when a household holds more capital, she reduces the credit market imperfections she faces, by decreasing real balances. The three assets have different returns. Bonds have a larger return than capital because capital is used as a collateral to relax the consumer credit constraint, and bonds have a larger return than money because we focus on equilibria with binding finance constraints. As a direct implication, the Fisher relationship is not satisfied. Because of the role of collateral, the gross return of capital is no more equal to the gross nominal interest of bonds deflated by inflation. It explains some portfolio choices that promote indeterminacy.

More precisely, we show that expectation-driven fluctuations occur under realistic conditions, like not too large credit market distortions and gross substitutability. Moreover, in contrast to several existing papers (Farmer (1986), Benhabib and Laroque (1988), Rochon and Polemarchakis (2006)), endogenous fluctuations occur in the neighborhood of a steady state with a positive bubble on bonds, without requiring arbitrarily large increasing returns to scale (Cazzavillan and Pintus (2005), Azariadis and Reichlin (1996)), and for reasonable values of input substitution. Besides, the occurrence of fluctuations under gross



substitutability is also connected to a multiplicity of steady states, i.e. a form of global indeterminacy.

Our framework is enriched to discuss the stabilizing role of fiscal and monetary policies. Starting with fiscal policy, we introduce progressive capital income taxation, used to finance useless public spending under a balanced budget. In our framework, it is relevant to tax capital than labor income because fluctuations will be mainly explained by portfolio choices between capital, money and bonds, and also because labor supply is exogenous. We show that increasing the degree of marginal progressivity may rule out expectation-driven fluctuations under gross substitutability by reducing the range of parameters for indeterminacy and for the multiplicity of steady states. The stabilizing role of progressivity in models with expectation-driven fluctuations has been underlined by Guo and Lansing (1998). Labor income taxation plays the key role by ruling out the so-called wrong slopes on the labor market. In our framework, the economic mechanism is different: The key ingredient is the portfolio choice between the different assets which is dampened.

In a second step, we will investigate the stabilizing virtues of monetary policy. We consider that the interest rate is determined according to a Taylor rule on expected inflation. In this case, the results are mitigated. A weakly active policy can even promote endogenous fluctuations for some relevant parameter configurations. In addition, such a policy has no effect on the multiplicity of steady states.

To summarize, in contrast to a Taylor rule, a progressive taxation of capital income is powerful to stabilize the economy which expériences a positive rational bubble. These opposite results are however mitigated by comparative statics on stationary allocations. We show that a Taylor rule can be welfare improving at the stationary equilibrium, while capital taxation may reduce or even rule out over-accumulation of capital.

AMSE Scientific Events

Globalization lectures
Policy lectures
AMSE workshops
AMSE conferences



#### Scientific events in 2013

The AMSE research program has been organized around 7 regular events ranging from prestige events (AMSE Globalization Lectures or AMSE Policy Lectures) to traditional international conferences and workshops, in addition to other joint events we are starting (like the recent partnership with Banque de France). 6 out of 7 regular events have been started in 2012, the AMSE Policy Lectures being the only event delayed to 2013.

#### > AMSE Globalization Lectures (AGL)

This lectures series are an opportunity for faculty members and PhD students to catch up with frontier research in all the topics of globalization given by world leading experts. The series has been started in February 2012. Four lectures have been given in 2013.

#### ■ AGL4: Giuseppe Bertola (EDHEC Business School) - Thursday, February 07, 2013

Economic Integration, Institutional Convergence, and Financial Imbalances

Giuseppe Bertola, specialist in macroeconomics of labour, and financial market structures and institutions, joined EDHEC Business School as Professor of Economics in 2011. He has held faculty positions with the University of Turin, the European University Institute, and Princeton University. He has advised such international organisations as the European Commission and the European Central Bank. His research focuses on labour and financial market structures and institutions in an international comparative perspective. He has published widely in leading economics journals such as American Economic Review, European Economic Review, International Economic Review, Journal of Money, Credit and Banking, and Review of Economic Studies. He has received numerous research awards and grants and edited for various journals. He serves as Labour Economics Programme Director of the Centre for Economic Policy Research.

Discussant: Raouf Boucekkine, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.

#### ■ AGL5: Esteban Rossi-Hansberg (Princeton University) - Friday, May 31, 2013

On the Spatial Economic Impact of Global Warming (with Klaus Desmet, Universidad Carlos III)

The author proposes a dynamic spatial theory to analyze the geographic impact of climate change. Agricultural and manufacturing firms locate on a hemisphere. Trade across locations is costly, firms innovate, and technology diffuses over space. Energy used in production leads to emissions that contribute to the global stock of carbon in the atmosphere, which affects temperature. The rise in temperature differs across latitudes and sectors. We calibrate the model to analyze how climate change affects the spatial distribution of economic activity, trade, migration, growth, and welfare. We assess quantitatively the impact of migration and trade restrictions, energy taxes, and innovation subsidies.

Discussant: Olivier Chanel, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.

# ■ AGL6: Jean-Marie Baland (Centre for Research in Economic Development (CRED), University of Namur) - Monday, 18 November 2013

The Economic Consequences of Mutual Help in Extended Families (joint with Isabelle Bonjean, Catherine Guirkinger, Roberta Ziparo, Centre for Research in Economic Development (CRED), University of Namur)

In the absence of well-developed markets for credit and insurance, extended families play a major role as a traditional systems of mutual help. However these arrangements also involve important inefficiencies. As stressed by Kennedy (1988) and Platteau (1991), the taxation implicit in family transfers has large disincentive effects, in particular on effort and investment. In this paper, we use first hand data from Western Cameroon to explore this question. We find that the large majority of transfers follow a given pattern whereby elder siblings support their younger siblings in the early stages of their lives who in turn reciprocate by supporting their elder siblings when they have children. We interpret this pattern as a generalized system of informal credit within the extended family. We then explore the implications of this pattern on labour market outcomes and find evidence for

strong negative effects. Moreover this pattern implies that younger siblings tend to be net donors at the time at which their own children are growing up which has consequences for fertility and education outcomes. As expected, we find that younger siblings have fewer children who also tend to be less educated.

#### Discussants:

- . Habiba Djebbari, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.
- . Yann Bramoullé, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.



#### ■ AGL7: Fernando Vega-Redondo (European University Institute) - Tuesday, 3 December 2013

Social Networks and Globalization: Theory and International-trade Evidence

This lecture proposes an approach to understanding globalization as a social-network phenomenon. In essence, it is conceived as a a situation in which the economic agents are close in the social network but typically far away in some underlying fixed (say, geographical) space. This is taken to favor the exchange of ideas, the support of trust, and the identification of new opportunities -- all of which are essential in promoting entrepreneurship and thus innovation and growth. The lecture will be divided in three parts. The first part will be theoretical, and in it I will outline a model that helps shed light on the phenomenon and provides some indication of how it comes about (or not), whether its is robust, and how policy can bear on it. The next two parts will have an empirical character. The second will explore econometrically the relationship between growth and globalization (or, equivalently, integration) among the full set of countries in the world during the fast-changing period 1965-2005. The third part will describe a field (development) project in Ghana on a set of villages currently served by a sustainable microfinance program. The objective is to conduct a random controlled experiment to test whether those villages that are connected by a virtual social network display significantly higher entrepreneurship and hence growth.

#### Discussants:

- . Yann Bramoullé, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.
- . Federico Trionfetti, Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS.



#### > AMSE Policy Lectures (APL)

AMSE Policy Lectures target the hottest economic policy debates related to globalization. They are typically given by key economic decision makers and designed to be accessible to a large academic and non-academic audience.

# ■ APL1 > Jean-Claude Trichet, European Central Bank Director (ECB) from 2003 to 2011 and Honorary Governor of the Banque de France - February 08<sup>th</sup>, 2013

Governance in the Euro zone: towards economic and fiscal federation

Jean-Claude Trichet was invited by the School of Economics of Aix-Marseille / Aix-Marseille School of Economics (AMSE) on the occasion of its first anniversary. Jean-Claude Trichet launched the AMSE Policy Lectures' series on February 8th, 2013.

A former Governor of the French central bank from 1993 to 2003 and President of the European Central Bank (ECB) from 2003 to 2011, Jean-Claude Trichet has presented, in a plenary session in front of an audience with more than 200 people, the different steps and issues that marked the birth and development of the Euro currency. After exposing his analysis of the events that led to the global recession of 2008-2009 and the Euro crisis in 2010-2011, Jean-Claude Trichet has argued that the future of Europe lies in the creation of an economic and budgetary federation.





#### ■ APL2 > Hamid Temmar (Algerian Minister 1999-2012) - Wednesday, October 9, 2013

La transition de l'Économie émergente. Problématiques et Stratégie / The transition of emerging economies: Issues and strategies

Based on the policies implemented around the world and on his own experience, Hamid Temmar, minister responsible for the transformation of the Algerian economy between 1999 and 2012, will discuss the transformation of emerging economies and explore the strategic choices to be made:

"Given the history of most emerging countries, the dynamics of international markets, the lack of social cohesion and the weakness of the political systems developed over the last thirty years, the response to globalization entails the preparation of both the national economy and national enterprise to make them efficient, i.e., highly productive and competitive. This calls for the prior establishment of a stable institutional, political and social framework and the intervention of a solid, pro-active government."

This response must be addressed on two different levels:

- Policy content: What needs to be done to transform the economy into a diversified and competitive whole, capable of operating endogenously, limiting imports and conquering foreign markets?
- Policy implementation: How to achieve this transformation, and which institutional model can guarantee sustainable growth coupled with social equilibrium?

Only in French





#### > AMSE Workshops

# ■ Workshop on Heterogeneity and Networks in (Financial) Markets March 21st-22nd, 2013

The objective of this workshop is to bring together researchers who try to better understand the functioning of markets (in particular financial markets but not restricted to them) and economy by focusing on heterogeneity among (not necessarily rational) actors, and the structure of their interaction represented by networks. Variety of methodologies are employed: laboratory experiments, mathematical analyses, computater simulations, and data analyses. The workshop places particular emphasis on discussion among participants.

This workshop is organized as a part of two French-Japanese bilateral research projects (ANR-JSPS "BECOA" (2011-2014) and CNRS-JSPS (2011-2013)) and co-financed by Aix-Marseille School of Economics.

Organizer: Nobuyuki Hanaki

#### Invited speakers:

- Cars Homme, University of Amsterdam,
- Stephano Battiston, ETH Zurich,
- Thomas Lux, University of Kiel,
- Reiner Franke, University of Kiel,
- Frank Westerhoff, University of Banberg,
- Charles Noussair, Tilburg University.

#### ■ 3<sup>rd</sup> AMSE Workshop on Growth and Development June 17<sup>th</sup>, 2013

Workshop organized by Raouf Boucekkine with Rajeev Dehejia, NYU, AMSE Visitor, from the 3rd to the 30th of June.

#### Program

8:45	Welcome
9:00	First morning session - Chair: Raouf Boucekkine (AMSE)
9:00-9:50	Rajeev Dehejia (NYU Wagner School) Entrepreneurship and finance in a developing economy
9:50-10:40	Habiba Djebari (AMSE)
11:10	Second morning session - Chair: Renaud Bourlès (AMSE)
11:10-12:00	Christophe Muller (AMSE) Knowledge and Participation
12:00-12:50	Yann Bramoullé (AMSE) Altruism in networks

14:30 Afternoon session – Joint with the SAE seminar - Chair: Thomas Seegmuller (AMSE)

14:30-15.45 Rajeev Dehejia (NYU Wagner School) & Arvind Panagariya (Columbia Univ.)

Understanding India's Unique Growth Trajectory: The Role of Manufacturing in the Rise of the Service Sector

#### ■ Workshop on Re-evaluating Value – non-market value models for changing times

June 17-18, 2013 - Mediterranean Institute for Advanced Research, Aix-Marseille University, Marseille, France

#### The Topic

Value is a major aspect of any economic theory: what it is, how it is produced, measured, stored and transferred between agents. Indeed, historically, these aspects characterise different schools of political economy. Some approaches focus on an objective basis for value such as labour or physical resources. Others place emphasis on subjective judgments by individual agents and free exchange between them.

Recent, often ICT mediated, developments such as "commons based peer production", "crowd funding", "freecycling" and new virtual currencies do not fit easily into existing economic models of value. On the other hand "complexity science" tools and approaches allow for a widening of traditional models of value.

Traditional models have focused on agents using either object or subjective notions of value and equilibrium points. Agent-based modelling allows for experimentation with new and hybrid notions of value in non-equilibrium conditions. In these, value might be an emergent phenomena where agents construct notions of value through the interplay of subjective and objective factors supporting novel forms of exchange and cooperation.

In this workshop we aim to bring together researchers from different disciplines such as economics, philosophy, anthropology, law and computer science, who are working towards new conceptions of value, models that embody them and real world systems that depend on them.

#### **Program**

Day 1 - Grand Challenges

The first day of this workshop is devoted to opening up the key issues to do with theories and approaches to understanding value at the present time. It is open to all who are interested. Talks will be 30 mins long plus 10 mins for discussion.

09:30 Jean Magnan de Bornier, Aix-Marseille Université, Greqam Value in economics: datum, construct or instrument?

10:10 Jean-Benoît Zimmerman, CNRS, Greqam-AMSE Jamendo: the heartbeat of free music!

11:20 Jeremy Pitt , Imperial College London
The Reinvention of Social Capital for Self-Organising Electronic Institutions

12:00 Bruno Vetel, Telecom ParisTech

Who benefits from the value? Virtual currencies design for a massively multiplayer online role playing game.

14:10 Bruce Edmonds , Centre for Policy Modelling Towards modelling mundane value

14:50 Jeff Johnson, East Carolina University Value from first principles



15:50 Final Discussion

Day 2 – Developing Agent-Based Models to Meet the Challenges

The second day of the workshop is devoted to informal discussions about developing simulation models that start to address some of the different conceptions of value. It is not expected that everyone will stay for day 2, or all of day 2, but is open to all who want to seriously discuss the development of relevant simulation models. The day will start at 10am and continue for the rest of the day, or until everyone is tired. The structure will be determined by the participants who are there, but this is an indicative timetable.

- 10.00 David Hales, University of Szeged, Hungary
- 11.30 Paul Ormerod, St Catherine's College, Oxford, Christ's College
- 12.45 Lunch
- 2.15 Juliette Rouchier, CNRS, Gregam-AMSE
- 3.15 Coffee
- 3.45 Mario Paulucci, Institute of cognitive sciences and technologies, Italy

#### Workshop on Social Networks

November 26th, 2013

with Matthew Jackson, Stanford University, and AMSE researchers:

Yann Bramoullé, Habiba Djebbari, Frédéric Deroian, Christian Schluter, Alan Kirman, Aix-Marseille School of Economics & GREQAM, Anja Prummer, Cambridge-INET University and Bryony Reich, University of Cambridge.

Aix-Marseille University was awarding Matthew Jackson a Honorary Doctorate on November 25th.

At this occasion, Aix-Marseille School of Economics has organized a workshop on the economics of social networks in his honor and with his participation. The research presented in this workshop has been illustrative of the broad range of questions and methods covered by this new field of research.

#### **Program**

Session 1

Frédéric Deroïan (AMSE - Gregam)

"Optimal Network policy" - joint with M. Belhaj (AMSE - Gregam)

Alan Kirman (AMSE – Gregam)

"Epidemics of rules, information aggregation failure and market crashes" – joint with M. Marsili (ICTP - Trieste) and K. Anand (Bank of Canada)

Session 2

Christian Schluter (AMSE – Greqam) "Local Interactions, Social Networks, and the Return Decision of Recent Migrants"

Bryony Reich (Univ. of Cambridge) "Culture, Community and Segregation"

#### Session 3

Matthew Jackson (Stanford Univ.) "Tractable Models of Strategic Network Formation"

Habiba Djebbari (AMSE – Greqam) "Accounting for Peer Effects in Treatment Response" – joint with R. Dieye (Univ. Laval) and F. Barrera (Harvard GSE)

#### Session 4

Anja Prummer (Univ. of Cambridge) "Opinion Leaders in Influence Networks- An Application to the Integration of Immigrant Communities" joint with J-P. Siedlarek (Univ. of Mannheim)

Yann Bramoullé (AMSE – Greqam) "Altruism in Networks" – joint with R. Bourlès (AMSE – Greqam)

## AMSE Marseille Macroeconomics Meeting #2 December 4th, 2013

"Learning in Macroeconomics: Beyond Rational Expectations"

Organizer: Patrick Pintus, Aix-Marseille Université, AMSE

#### Speakers:

- Klaus Adam, Universität Mannheim,
- Martin Guzman, Columbia University,
- David Laibson, Harvard University,
- Roberto Pancrazi, Warwick University,
- Jacek Suda, Banque de France,
- Roberto Ulbricht, Toulouse School of Economics





#### > AMSE Conferences

■ The 62<sup>nd</sup> Annual Meeting of the French Economic Association (Association Française de Science Économique, AFSE) and The 12<sup>th</sup> Journées Louis-André Gérard-Varet (LAGV), Conference in Public Economics

Joint conference > June 24th-28th, 2013

The two meetings will be hosted by the Aix-Marseille School of Economics. Each has its own organization and rules (in particular concerning the paper selection process), though they will share the Wednesday June 26th in common with two plenary speakers:

- △ Jean-Charles Rochet, Zurich University and Toulouse School of Economics
- ▲ Hal Varian, University of Berkeley

Keynote speakers AFSE:

- Philippe Aghion, Harvard and NBER
- △ Gilbert Cette, University of Aix-Marseille and Banque de France

Keynote speakers LAGV:

- Abhijit Banerjee, MIT
- Guido Tabellini, Universitá L. Bocconi



■ 2<sup>nd</sup> Aix-Marseille School of Economics - Banque de France Labor market Conference December 16<sup>th</sup>-17<sup>th</sup>, 2013, Paris

"Labor market: Institutions and Reforms" AMSE and Banque de France organize their second yearly Labor Market Conference.

The objectives of this conference, which gathers academics and policy-makers are:

- Explore the relationships between the labor and housing markets
- Discuss the role of labor relations for structural reforms
- Assess labor market policies impact on unemployment
- Analyse wage dynamics

Program
December 16<sup>th</sup>, 2013

14:00 - 14:15 Opening remarks

Alain Duchateau (Banque de France) – Alain Trannoy (AMSE)

14:15 - 15:15 Chair: Cecilia Garcia-Penalosa (AMSE)

Keynote Speaker: David G. Blanchflower (Dartmouth College)

Does High Home-Ownership Impair the Labor Market? (with Andrew J. Oswald, University of Warwick, and IZA)

15:30 – 17:30 Session 1: The housing and labor markets - Chair: David G. Blanchflower (Dartmouth College)

Christian Hilber (London School of Economics and SERC)

Housing Transfer Taxes and Household Mobility: Distortion on the Housing or Labour Market? (with Teemu Lyytikäinen, VATT and SERC)

Roland Rathelot (CREST)

The Geography of Job Search and Mismatch Unemployment (with Iona Marinescu, Harris School of Public Policy, University of Chicago)

Etienne Wasmer (Sciences Po and LIEPP)

Commuting and job search strategies: where and how do job seekers prospect? (with Elisa Guglielminetti, Sciences Po, Raphael Lalive, Université de Lausanne, Philipp Ruh, University of Zurich)

Discussant: Philippe Askenazy (Paris School of Economics)

18:00 - 19:00 Round table: Labor relations and reforms

Chair: Gilbert Cette (AMSE and Banque de France)

Gerhard Bosch (Universität Duisburg-Essen)

Pierre Cahuc (CREST-ENSAE, École Polytechnique)

Bruno Decreuse (AMSE)

Stefano Scarpetta (OECD)



#### December 17th, 2013

9:30 – 10:30 Chair: Gerhard Bosch (Universität Duisburg-Essen)

Keynote Speaker: Pierre Cahuc (CREST-ENSAE, École Polytechnique)

Hiring subsidies in bad times: do they work? (with Stéphane Carcillo, OECD, Sciences Po-Paris and IZA, and Thomas Le Barbanchon, CREST)



11:00 - 13:00 Session 2: Labor Market Policies and Unemployment

Chair: Muriel Roger (Banque de France, PSE(INRA)) Regis Barnichon (CREI and Universitat Pompeu Fabra)

The Inefficient Trickle-Down of Unemployment (with Yanos Zylberberg, CREI and Universitat Pompeu Fabra)

Cecilia Garcia-Penalosa (AMSE)

On gender gaps and self-fulfilling expectations: Theory, policies and some empirical evidence (with Juan J.Dolado, Universidad Carlos III, CEPR and IZA, Sara de la Rica, Universidad del País Vasco, FEDEA and IZA)

Nicholas Lawson (AMSE)

Fiscal Externalities and Optimal Unemployment Insurance

Discussant: Sébastien Roux (Banque de France, CREST and INED)

14:00 – 16:00 Session 3: Wage dynamics - Chair: Nicholas Lawson (AMSE)

Erwan Gautier (Banque de France and Université de Nantes)

International Trade, Wage Outcomes and Firm-Level Bargaining: Evidence from France (with Juan Carluccio, Banque de France and Surrey University, Denis Fougère, CREST, LIEPP and Banque de France)

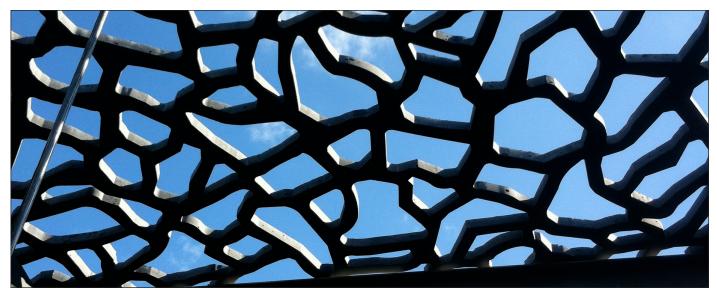
Michele Pellizzari (University of Geneva)

Wage Compression and Spillover Effects: Evidence from the Scala Mobile in Italy (with Marco Leonardi, University of Milan and IZA)

Muriel Roger (Banque de France, PSE (INRA))

Heterogeneity matters: labour productivity differentiated by age and skills (with Patrick Aubert, SG-COR and CREST-INSEE, Malgorzata Wasmer, CNRS GATE Lyon, Office fédéral de la santé public Suisse)

Discussant: Bruno Decreuse (AMSE)



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AMSE mobility and visiting program



#### AMSE mobility and visiting program

#### Co-authorship mobility:

#### Visit of co-author:

Renaud Bourlès, AMSE: Michael Dorsch, American University of Paris – January 2013

Tanguy van Ypersele, AMSE: Julien Jaqmin, CEREC, FUSL – January 2013

Eric Girardin, AMSE: Michael M. Hutchinson, University of California, Santa Cruz - April 2013

Patrick Pintus, AMSE: Jacek Suda, Banque de France – May 2013

Pierre-Philippe Combes, AMSE: Gilles Duranton, Wharton, USA – March 2013

Pierre-Philippe Combes, AMSE: Laurent Gobillon, Ined – March 2013

Pierre-Philippe Combes, AMSE: Camille Dufour, ENSAE Paris Tech – April 2013

Alain Trannoy, AMSE: Gaston Yanoletsky, University of Leeds – June 2013

Philippe Bertrand, AMSE: Jean-Luc Prigent, THEMA, Université de Cergy-Pontoise – June 2013

Habiba Djebbari, AMSE: Rokhaya Dieye, Université de Laval – June-July 2013 Christophe Muller, AMSE: Tae-hwan Kim, Yonsei University, Korea – July 2013

Alice Fabre, AMSE: Robert Tamura, Clemson University and Federal Reserve Bank of Atlanta – July 2013

Philippe Bertrand, AMSE: Jean-Luc Prigent, THEMA, Université de Cergy-Pontoise – October 2013

Raouf Boucekkine, AMSE: Fausto Gozzi, LUISS Guido Carli – October 2013

Raouf Boucekkine, AMSE: Mathieu Parenti and Hélène Latzer, Université Catholique de Louvain – November 2013

Gilles Dufrénot, AMSE: Kimiko Sugimito, Konan University – November 2013 Patrick Pintus, AMSE: Martin Guzman, Columbia University – December 2013

#### Visit by an AMSE member:

Christophe Muller, AMSE: Jean-Yves Duclos, Université de Laval – May 2013

Tanguy van Ypersele, AMSE: Steeve Mongrain, Simon Fraser – May-June 2013

Marc Sangnier, AMSE: Pauline Grosjean, University of New South Wales, Australia, and Mathieu Couttenier, Sciences Po, Paris – June 2013

Mathieu Faure, AMSE: Sebastian Schreiber, University of California – April 2013 Alice Fabre, AMSE: Stéphane Paillage, UQAM – October-November 2013 Mathieu Faure, AMSE: Mario Bravo, University of Chile – December 2013

#### Visitors:

Luc Bauwens, CORE, Université Catholique de Louvain: Sept. – Oct. – Nov. 2013. Invited by Michel Lubrano, CNRS, Greqam-AMSE

John Dyonisos Aliprentis, Federal Reserve Bank of Cleveland: April 2013. Invited by Cecilia Garcia-Penalosa, CNRS, Greqam-AMSE

#### AMSE members' long visits:

Emmanuel Flachaire, Aix-Marseille Université, Greqam-AMSE: Université Mc Gill, Feb.-July 2013
Bruno Decreuse, Aix-Marseille Université, Greqam-AMSE: Université Bristish Columbia, Vancouver, May-July 2013
Karine Gente, Aix-Marseille Université, Greqam-AMSE: Université Bristish Columbia, Vancouver, May-July 2013

AMSE mobility and visiting program

#### AMSE PhDs' long visits

Bilel Sanhaji, supervisor Anne Péguin, CNRS, AMSE, invited by Timo Teräsvirta, Aarhus, Denmark: April-July 2013

Anastasia Cozarenco, supervisor Dominique Henriet, invited by Ariane Szafarz, Université Libre de Bruxelles (ULB), SBS-EM, Centre Emile Bernheim, and Centre for European Research in Microfinance (CERMi), Belgium: Feb.-May 2013

Aurelia Tison, superviors Bruno Ventelou, CNRS, AMSE and Alain Paraponaris, Aix-Marseille Université, AMSE, invited by James K. Hammitt, Harvard University: November 2013

Maty Konte, supervisor Cecilia Garcia-Penalosa, CNRS, AMSE, invited by Theo Eicher, University of Washington, Seattle, US: Jan.-March 2013





Together with the mobility program (which is also open to junior AMSE members), AMSE has launched a junior program both at the pre-doctoral and postdoctoral levels. 4 postdoctoral fellowships have been awarded in 2013 while 8 predoctoral grants (all at GREQAM) have been attributed. All the fellows' research topics belong to the AMSE agenda. Details are given just below. It should be noted that predoctoral fellowships concern advanced PhD students (one-year fellowship) coming from renowned French and foreign universities (University of Bocconi, Science-Po Paris or Paris School of Economics in 2013 for example), the idea being to foster research at the junior level and also to initiate early professional contacts with this type of PhD students (for possible hiring on more permanent positions).

## **AMSE** postdoctoral fellows

#### **Nicholas Lawson**

- Post-doctoral fellow, AMSE (GREQAM)
- PhD in economics, Princeton University, 2013
- Public Finance, Labour Economics, Development, Applied Theory & Policy Evaluation
- Main works: "Is Collective Bargaining Pareto Efficient? A Survey of the Literature," 2011, Journal of Labor Research, 32(3), 282-304; "Fiscal Externalities and Optimal Unemployment Insurance," July 2014 (submitted): previous version available as Aix-Marseille School of Economics Working Paper No. 2014-04; "What Doesn't Kill You Makes You Poorer: Adult Wages and the Early-Life Disease Environment in India" (with Dean Spears), August 2014 (submitted); "Taxing the Job Creators: Efficient Progressive Taxation with Wage Bargaining," September 2014, Aix-Marseille School of Economics Working Paper No. 2014-42 (submitted); "Social Program Substitution and Optimal Policy," May 2014, Aix-Marseille School of Economics Working Paper No. 2014-17.

#### Nicolas Sheard

- Post-doctoral fellow, AMSE (GREQAM)
- PhD in economics, Stockholm University, 2012
- Urban Economics, Transportation economics, International economics
- Main works: "Regional policy in a multiregional setting: when the poorest are hurt by subsidies",

  Review of World Economics; "Learning to export and the timing of entry to export markets", Stockholm University,

  Working Papers in Economics; "Airports and the production of goods and services", Stockholm University, Working

  Papers in Economics.

#### **Sophie Massin**

- Post-doctoral fellow, AMSE (SESSTIM)
- PhD in economics, University Paris I, 2011
- Health economics
- Main works: ``Is harm reduction profitable? An analytical framework for Corporate Social Responsibility based on an epidemic model of addictive consumption", *Social Science & Medicine*; ``Panorama des questionnements économiques liés aux addictions", *Psychotropes*; ``Knowledge, attitudes, beliefs and practices of general practitioners towards measles and MMR vaccination in southeastern France in 2012", *Clinical Microbiology and Infection*.

#### **Linas Tarasonis**

- Postdoctoral fellow, AMSE
- PhD in economics, Paris School of Economics, 2013
- Applied Microeconomics; Economics of Discrimination; Labour Economics.
- Main works: `Racial Discrimination in the U.S. Labor Market: Employment and Wage Differentials by Skill (with D. Borowczyk-Martins and J. Bradley); Wage Responsiveness within the Firm: Evidence from France (with T. Le Barbanchon).

#### Joachim Jarreau

- Postdoctoral fellow, AMSE
- PhD in economics, Paris School of Economics, 2013
- Political economy of trade policy. Migration: political economy of immigration policy; Distributive impacts of trade; Trade and financial development.
- A Main works: "Export Sophistication and Growth: Evidence from Chinese provinces", with Sandra Poncet. *Journal of Development Economics*, May 2011; "Chine: Fin du modèle de croissance extravertie", with G. Gaulier, F. Lemoine and S. Poncet. *La Lettre du Cepii*, N°298, April 2010.



## **AMSE** predoctoral fellows

#### **2012-2013**

#### Paolo Piacquadio

- Predoctoral fellow, AMSE
- PhD student, CORE-UCLouvain; PhD thesis defended at CORE, December 2012: Essays on Intergenerational Justice. (R. Boucekkine and F. Maniquet, co-advisors)
- Welfare Economics; Game Theory; Public Economics; Intergenerational Equity
- Main works: ``Equity and Effciency in an Overlapping Generation Model," (with T. Isaac), CORE Discussion Paper; ``Intergenerational orderings in risky environments", Job Market Paper; ``Announcements as an Equilibrium Selection Device," (with N. Acocella, G. Di Bartolomeo and A. Hughes-Hallett), Oxford Economic Papers.
- 2007 Oddone Fantini Prize for the best graduate dissertation by "Associazione Nazionale per lo Studio dei Problemi del Credito" (ANSPC).

#### **Camille Hemet**

- Predoctoral fellow, AMSE
- PhD student, Sciences Po, Paris
- Population and labor economics, ethnic diversity, neighborhood effects
- Main works: ``The social effects of ethnic diversity at the local level: a natural experiment with exogenous residential allocation,." (with Y. Algan and D. Laitin); ``Ethnic networks and the informal labor market: a theoretical approach", Science Po Discussion Papers.
- Visiting research student, Stanford University, Fall 2011

#### Mathieu Solignac

- Predoctoral fellow, AMSE
- PhD student, University of Paris I
- Economic Demography, Regional & Urban Economics (internal mobility, housing tenure choice, spatial inequalities in employment and return migration) and Law Economics (corporal damages).
- Main works: ``Neighborhood effect and labor market integration, " (with M. Tô); ``Location and Labour Market Integration of African Immigrants' Children in France," (with M. Tô)

#### **Grigorio Spanos**

- Predoctoral fellow, AMSE
- PhD student, University of Toronto
- Urban economics
- Main works: "Occupational Sorting in the French Labor Market"

#### **2013-2014**

#### Maddalena Ferranna

- Predoctoral fellow, AMSE
- PhD student, Fondazione Eni Enrico Mattei
- Evaluation of long-term social risks; economics of risk and insurance; environmental economics
- △ "Collective risk management: prevention and risk sharing", working paper; "Distributive justice and the willingness to pay for social risks", working paper

#### Ali Ramezan Marvi

- Predoctoral fellow, AMSE
- PhD student, Bocconi University
- International trade, Contract theory and Islamic economics
- △ Global Value Chains (GVCs) as network of queues and the recent trade collapse (with Carlo Altomonte, 2013)

#### **Gabriel Smagghue**

- Predoctoral fellow, AMSE
- PhD student, Sciences Po-Paris
- International Trade, macroeconomics, microeconomics
- A new Method for Quality Estimation using Trade Data: An Application to French firms (with P. Piveteau), working paper; Size-Dependent Regulation and Factor Income Distribution, working paper.



#### **Carole Treibich**

- Predoctoral fellow, AMSE
- PhD student, Paris School of Economics
- Development Economics, Behavioral Economics, Insurance, Health Economics, Econometrics
- "Determinants of Road Traffic Crash Fatalities across Indian States", with M. Grimm, Health Economics, Volume 22, Issue 8, pages 915-930, August 2013, also published as ISS Working Paper 531, January 2012; "Why do some bikers wear helmets and others don't? Evidence from Delhi", with M. Grimm, submitted to the *Journal of Health Economics*, Nov. 2013, also published as AMSE Working Paper 48, 2013.

AMSE Publications



#### **AMSE Research Output**

#### 1. Brief overview

AMSE research members have published more than 170 articles in 2013, which implies an average of approximately 2 publications per researcher. This figure is larger than in 2012. Perhaps the most reliable indicator of the increase in research activity is the evolution of the number of discussion papers (see below). It has increased from 43 in 2012 to 60 in 2013, so an increment of about 50%. This progress both in the number of publications and discussion papers is reflected in a much better position in the REPEC ranking of economics departments: AMSE was ranked 59<sup>th</sup> out of 952 departments in the world in September 2013, it's ranked 46<sup>th</sup> out of 1008 departments in September 2014.

Research output in 2013 is quite evenly distributed across the 5 research axes of the research project: about 20 articles per research axis, with the exception of the Localization and Globalization axis (which mainly reflects the fact that the research group specialized in this topic is smaller). Almost half of the output of the school is outside the lines of the founding project (see the section Miscellany in the publication list below), which has therefore stimulated research on the globalization agenda but has not frozen research in the traditional GREQAM topics (economic theory, mathematical economics and social choice to cite a few of them). Last but not least, a quite significant part of publications is in interdisciplinary or in other-than-economics disciplinary journals. For example, in the Miscellany section of the publication record, about 20 papers are listed as such.

Hereafter, a summary of some selected research lines within the AMSE project is given (needless to say, it's impossible to describe the outlines of 170 published papers) to give a clear idea of the avenues taken and some of the achievements. The complete list of publications is given just after, followed by the 2013 AMSE discussion papers with abstracts.

#### 2. Selected research lines and findings

Hereafter we provide with an overview of some of the main research lines followed by AMSE researchers per research axis in 2013.

#### 2.1. Localization

On the globalization and localization research axis, a particular attention has been paid to the technological, sectoral and locational implications of trade liberalization.

#### International specialization and trade flows

What determines international specialization and trade flows? This is the fundamental question in international trade theory. Answering this question correctly allows to understand the consequences of trade opening on the purchasing power of consumers, on firms profit, on income inequality and on regional inequality; just to mention a few implications. Recent research at AMSE attempts at verifying the validity of the factor proportions theory by going at the heart of its mechanism, starting with a Heckscher-Ohlin model in which firms differ in the relative marginal productivity of factors. As a result, firms have different factor intensities even within the same country-industry group. The main result emerging from this model is that countries' comparative advantage begets a comparative advantage at firm level. The three key firm-level variables in the model are relative capital/labor ratio ( $\kappa$ ), relative marginal costs, and relative sales; all three relative to the country-industry average. We say that a firm is capital- (labour)-intensive with respect to its country-industry average if  $\kappa > 1$  ( $\kappa < 1$ ). We also say that a firm has a comparative advantage over another if the first firm's relative marginal cost is lower than the second firm's. Our main theoretical result may be stated as follows:

Consider any two firms with same  $\kappa$  but belonging to different countries and industries. The firm that is intensive in the factor intensively used in its industry and of which its country is relatively well-endowed has a comparative advantage over the other firm. Because of the comparative advantage, the firm will also have higher relative sales.

The statement above is the natural generalization of the Heckscher-Ohlin theorem to an environment with heterogeneous firms. In the Heckscher-Ohlin theorem, the comparative advantage of a country is determined by the matching between the characteristics of countries and those of industries. In the statement above, the comparative advantage of a firm is determined by the matching between its characteristics ( $\kappa$ ) and those of the industry and country to which it belongs. In the Heckscher-Ohlin theorem, the comparative advantage of countries gives rise to differences in the relative size of industry output (international specialization). In the statement above, the comparative advantage of firms gives rise to differences in the relative size of firm output (relative sales). As an example, consider two firms in different industries and different countries but with an identical  $\kappa$ . Assume, for instance,  $\kappa > 1$ . Then, the firm in the capital-intensive industry and capital abundant country will have a comparative advantage (lower relative marginal cost) over the firm in another industry and country. The firm's comparative advantage will show up in larger relative sales. If, instead, one considers two firms whose capital intensity is lower than their respective country-industry average ( $\kappa < 1$ ) then the firm in the capital intensive industry and capital abundant country will have a comparative disadvantage and lower relative sales. Empirical investigation, conducted on a dataset that comprises about 300,000 firms in

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21 European countries and 95 industries, strongly supports the theoretical result. Both structural and non-structural estimates show that the relationship between relative sales and relative factor intensity is affected by comparative advantage in the way predicted by the model. For instance, the non-structural estimates show that firms with capital intensity ten percent above their respective country-industry average (that's  $\kappa = 1.1$ ) have different relative sales: the sales of firms in a capital intensive industry and a capital abundant country are 2.68 percent larger than the average firm in the same country-industry whereas the sales of firms in a labour intensive industry and a labour abundant country are only 1.66 percent larger than the average firm in the same country-industry. These results contribute to the literature in two ways: they provide the first firm-level verification of the Hecksher-Ohlin model and they show that country comparative advantage begets a comparative advantage at firm level. Undoubtedly, Heckscher-Ohlin mechanisms not only shape international specialization but also influence firm-level performance.

#### Trade liberalization and employment

How wages and employment adjust to trade liberalization? This is a fundamental but to date surprisingly under-researched question: how do changes in market access affect factor prices and factor quantities? To put it simply: if a certain region offers advantageous access to markets elsewhere, will this advantage translate into a large number of producers locating in that region, will it translate into higher factor rewards for producers located there, or will we observe some of both effects? As a natural corollary to this question, it's important to study such effects across different time horizons, as quantity and price adjustments may well materialize at different speeds. The focus of AMSE research is the case where changes in market access are due to the liberalization of international trade. Why should we care about the difference between factor price effects and factor quantity effects of changes in market access? First, this distinction helps us understand adjustment mechanisms of regional economies, by allowing us to trace regional factor supply schedules. For example, large price effects suggest the existence of important barriers to the reallocation of labour and capital across space and/or across sectors. Information on the relative magnitude of price and quantity effects can thereby help us gauge the realism of alternative theoretical models. Second, the policy implications of market-access effects vary considerably depending on whether these effects work through factor prices or through factor quantities. Price effects bring about spatial inequality of (pre-tax) factor rewards, which can potentially be evened out via redistributive policy. Quantity effects may imply problems from congestion in central locations and depopulation in peripheral ones, or from specialization patterns that make regions vulnerable to sector-specific shocks. Almost all research to date has focused on the two polar cases, by looking either at quantity effects or at price effects, thus implicitly assuming regional factor supply schedules to be either horizontal or vertical. Many empirical studies that are formally linked to the theory assume that intersectoral and/or interregional factor supplies are infinitely elastic, which leaves room for quantity effects only. When specifically studying intra-national adjustment to international trade liberalization, most researchers have looked at quantity effects, mainly in terms of city populations and of regional employment. A smaller number of researchers have alternatively considered price effects, in terms of regional wages. The combination of quantity and price effects has not yet been studied in this context. The approach taken in the related AMSE research project is to draw on a natural experiment and to use a differencein-difference identification strategy, here the fall of the Iron Curtain in 1990 viewed as an exogenous event that increased overall market access of Austrian regions, but more so for regions close to Austria's eastern border. Comparing post-1990 wage and employment growth in border regions to that in interior regions, one can control for common shocks and isolate the effects of increased market access with considerable confidence. This quasi-experimental strategy obviates the need to construct an artificial benchmark that would have to be tied to a specific variant of the underlying model and would inevitably be prone to measurement error. The central contribution of this AMSE study is to consider factor-price effects as well as factor-quantity effects. Specifically, the impact of improved market access is traced on both nominal wages and employment levels. The employment effect is found to exceed the wage effect by a factor of around three. Furthermore, the time profile of adjustment along those two margins is characterized, observing that wage rises precede the increases in employment. The findings are refined (in particular towards more realism) with the incorporation of a further dispersion force (for example a non-tradeable housing sector) due to heterogeneous locational preferences.

#### Trade and technological diffusion

The notion that international trade acts as a vehicle for productivity-enhancing technology diffusion has been a subject of intense scrutiny in recent years. Seminal contributions suggested a potential causal chain from trade to technology diffusion to productivity growth, but some papers showed, however, that the link (which was largely a black box) was heterogeneous across countries and sectors. Opening the black box requires a firm-level analysis, with several possible linkages between trade and productivity. First, better access to imported intermediates can raise productivity because foreign intermediates are better ("vertical" linkage). Second, foreign competition in the final-goods market can whip up the productivity of domestic producers, force markups down or raise the speed of technology adoption because there are fewer domestic firms. Conversely, foreign competition in the final-goods market can slow down the rate of technology adoption by reducing the domestic firms' market share and hence reducing the return to process innovation ("horizontal" linkage). In the empirical literature, two strands can be distinguished. The first looks at the overall impact of imports on TFP without disentangling vertical linkages from horizontal ones, find that firm imports and input-tariff reductions have widely varying effects on productivity. Thus, it is fair to say that some more empirical work may be in point to ascertain the magnitude and significance of the various channels discussed



earlier. AMSE researchers have recently used a very rich panel of Spanish manufacturing firms to explore the extent to which the strength of the "vertical" linkage (from foreign inputs to productivity) depends on firm characteristics. The basic conjecture is that the impact of imported inputs (intermediates and capital equipment) on TFP is mediated by the firm's "absorptive capacity". Specifically, it's conjectured that firms with insufficiently skilled labor may fail to take advantage of the technology embodied in imported inputs. Failing to take this interaction into account biases the estimated effect downward, potentially explaining the weakness of the measured vertical-linkage effect in the literature. One of the main findings of this research is that the effect of a firm's decision to source inputs abroad on its TFP depends critically on its capacity to absorb technology, measured by the proportion of skilled labor. These results suggest that average correlations between TFP and various measures of exposure to international trade should be interpreted cautiously, as the benefits that exposure can bring about depend in large part on absorptive capacity, which cannot be assessed without detailed data on the firm's activities and characteristics. In terms of economic policy, these results also suggest that trade-liberalization reforms could be made more effective in terms of raising an economy's productive efficiency if accompanied by training programs or specific aids for the hiring of skilled personnel, like engineers and technicians, aimed at potential importers, not just exporters (the usual target for assistance).

#### 2.2. Globalization and macroeconomic instability

The AMSE research output has been quite intense on this topic last year, with original contributions along several research lines ranging from the determinants of financial markets' fragility and instability to the impact of petrol prices on growth and inflation, and including such diverse issues like policy-induced macroeconomic instability and the role of trust. We have selected the following.

## Budget deficits and policy-induced macroeconomic instability

Balanced-budget rules recommendations to governments is a recurrent subject of controversies among economists and politicians. In the recent years, the financial crisis has generated a strong revival of interest of this debate through its consequences in terms of government debt sustainability. Some countries, characterized by too large debt and public deficits, are constrained to borrow on the financial markets against excessively high interest rates and this generates an increasing debt burden. In Europe, this has been experienced by several countries, starting with Greece, but US faces the same kind of difficulties. These concerns related to the solvability of public debt also enforce governments to reduce their deficits and implement public policies characterized by a balanced-budget. From a theoretical point of view, several arguments have been considered in favor or against balanced-budget fiscal policy rules. It has been shown that balanced-budget rules may induce belief-driven aggregate instability. Considering an economy with infinitely-lived households, the basic model introduces a proportional tax on labor income. Since public expenditures are assumed to be constant, the tax rate is counter-cyclical with respect to labor income, which is shown to be a source of endogenous fluctuations. The economic intuition relies on self-fulfilling expectations. If households expect a higher tax rate in the future, they will reduce their labor supply, which has a negative effect on capital returns. This mechanism affects at the same time the marginal utility of wealth in such a way that households also currently supply less labor. Since the labor tax rate is counter-cyclical, it becomes larger. Expectations are then self-fulfilling if the decrease of labor through time is in accordance with the intertemporal choice of households. However it has been proved that consumption taxation should be preferred to income taxation. Indeed when public spendings are entirely financed by consumption taxation, there is a unique equilibrium without any fluctuations. Therefore it has been suggested that a government running policies with a stabilization target should increase the share of public spendings financed by consumption taxation. But this conclusion appears to rely on very specific assumptions on preferences of the agents. AMSE researchers have re-examined the (de-)stabilizing role of consumption taxation considering a formulation of the utility function which is flexible enough to encompass varying degrees of income effect. In addition, a general one-sector technology is assumed to take into account any degree of input substitution. Finally, public spendings may be either be pro-cyclical, constant or counter-cyclical with respect to consumption.

The main findings of this research are the following. First, it is shown that a Laffer curve emerges, which induces multiple steady states if the tax rate is counter-cyclical with respect to consumption and provided the utility function is characterized by a low enough income effect. Second, as long as the elasticity of intertemoral substitution in consumption is sufficiently larger than one, a counter-cyclical tax rate with respect to consumption together with a sufficiently low income effect is proven to potentially generate expectation-driven fluctuations. Finally using a wide range of empirically plausible parameterizations of the fundamentals, one finds that there exists a non-empty interval of values of income effect for which aggregate instability and endogenous sunspot fluctuations are compatible with tax rates observed in most OECD countries. This, this research proves that for a wide range of income effect values, a balanced-budget rule financed by consumption taxation may be destabilizing as long as the elasticity of intertemporal substitution in consumption is sufficiently larger than one. As a result, if the government's interventions have a stabilization target, any policy recommendation leading to an increase of the share of public spending financed by consumption taxation may not be worthwhile. The precise impact of a larger tax rate on consumption has to be evaluated depending on the size of income effects.

### Financial markets and macroeconomic instability

AMSE research is quite voluminous in this respect. One highly interesting avenue taken considers that structural changes in an economy or in financial markets can arise as a result of agents adopting rules that appear to be the norm around them. Such rules are adopted by implicit consensus as they turn out to be profitable for individuals. Such rules have a tendency to be self sustaining. However, as such rules develop and spread they may have consequences at the aggregate level which are not anticipated by individuals.

To illustrate this, a simple model is developed, motivated by the 2007–2008 crisis in credit derivatives markets. This shows how coordination on simple and apparently profitable rules may weaken regulatory constraints, rendering the whole system more fragile. The rule, in the specific example, consists in deciding not to exercise due diligence in the evaluation of complex credit derivative products, free riding on information and operational costs. In other words, financial institutions, observing that the other institutions with whom they trade these instruments, do not check on the status of the underlying assets decide to do the same. We show that such 'rational negligence', in the face of deteriorating macro-economic conditions, can bring a market to a sudden collapse. If the probability that underlying assets are "toxic" gradually increases, some institutions will start to check on them. As they do so other institutions fearing that they will not be able to sell these asset will be induced to check also. This starts an avalanche of checking which then reveals the bad assets and the prices of all assets collapse. It is also worth noting that financial institutions checked on highly rated assets last and the prices of these were the last to collapse. Yet subsequent analysis has shown that there was little or no correlation between the rating of an asset and its probability of being "toxic".

### Credit markets and macroeconomic instability

A credit boom in the form of extensive loans unleashed from the banking sector to households and nonfinancial firms has large aggregate effects. In particular, unusually large credit expansions go hand in hand with investment and asset market booms, as exemplified by the 2007-08 US financial crisis and great recession. Credit booms are associated with a well-defined cyclical pattern in output and expenditures: (i) The economy cycles around a long-run balanced growth path and the average boombust cycle is at least 7 years long; (ii) during a boom-bust cycle, the volatility of consumption and output are similar but that of investment is excessive (more than 5 times larger than output). These features are in sharp contrast with regular business cycles analyzed by the traditional real business cycle literature, where fluctuations have a shorter average duration, and consumption is significantly smoother than output whereas investment is only 2–3 times more volatile than output.

The selected AMSE research on this topic provides a general-equilibrium model to explain the business-cycle features associated with a credit boom. In particular, it shows: (i) how it is possible for an economy (whether closed or open) to transform a one-time, serially uncorrelated shock to total factor productivity (TFP) or financial conditions (such as the loan-to-collateral ratio, the interest rate, and borrower's credit worthiness) into a large and prolonged investment boom with standard production technologies, preferences, and a unique rational expectations equilibrium; (ii) why does the upswing eventually go bust. This result challenges the existing literature claiming that collateral constraints lead to negligible amplification of fundamental shocks.

Using the most recent subprime housing crisis in the United States as an example, one notices several important features of credit-driven investment booms and busts in the housing market: (i) heavily leveraged borrowing, (ii) expectations of persistent growth in housing and consumption demand, (iii) relatively low real interest rates, and (iv) the absence of significant and persistent TFP growth (or technology innovations). These features are suggestive for the paper's modeling strategies. Leveraged borrowing implies a financial-accelerator effect. Highly persistent housing and consumption demand in the absence of significant income (or productivity) growth may indicate "catching up with the Joneses" behavior among households competing for living standards. Low real interest rates indicate substantial supply of loanable funds. Thus, the model's basic building blocks include (i) elastic credit supply based on collateralized borrowing and (ii) consumption reference point—that individuals derive utility not only from the level of their current consumption, but also from how their consumption compares to their own past consumption (internal habit) or the consumption of the people around them (external habit). These two assumptions are embedded into an infinite-horizon general-equilibrium model with heterogeneous agents.

The main result is that when borrowers have strong incentives to mimic each other's living standard and lenders are willing to supply credit based on borrowers' credit worthiness, endogenous boom—bust cycles emerge and such cycles resemble the pattern documented empirical studies. In particular, when debt endogenously builds up during the booming phase, the real interest rate remains low, and deviations of output and consumption from trend are hump-shaped but quantitatively similar to each other whereas investment swings are several times larger. In addition, the boom looks like a leveraged "bubble" because both credit and the prices of collateralized assets (e.g., housing and equity) go up significantly in the initial hump-shaped phase of the cycle and then collapse sharply below their long-run trend with a well defined endogenous turning point. A significant change in financial conditions—such as the loan-to-collateral ratio, the interest rate—or in borrower's productivity (or credit worthiness) can trigger an initial credit boom. However, both collateralized borrowing and consumption habit are needed to support the credit-driven investment described in this paper.



#### Trust and macroeconomic instability

The cost of real macroeconomic volatility in terms of well-being has been shown to be important. Thus, all its potential sources deserve attention. This selected AMSE research investigates the relationship between trust and macroeconomic instability.

Trust may favor macroeconomic stability through three channels. First, since trust implies extended civic behavior, it may be associated with better institutions that themselves lower macroeconomic volatility. Second, the cohesion of society can also translate into social stability. As a consequence, civil conflicts, violence, and political instability in general are less frequent in high-trust countries. This may results in lower economic volatility since internal conflicts are a major source of shocks for any economy. Third, trust, the most general dimension of social capital, is closely linked to trustworthiness. Hence, individual trust can be considered as empathy or as an individual commitment to behave well with other agents. This decreases costs of interactions and allows agents to build expectations and plans with greater certainty. The main contribution of this research is to present an illustrative model that rationalizes the relationship between trust and volatility. In this model, trust relaxes credit constraints and diminishes investment's pro-cyclicality. The main predictions are validated by simple correlations. In particular, higher trust is robustly associated with lower macroeconomic volatility in a cross section of countries. This relationship persists when various covariates—such as the quality of institutions or the cohesiveness of the society—are taken into account. This shows that channels running through the quality of institutions or social cohesion do not fully explain the negative relationship between trust and macroeconomic volatility. However, this does not mean that higher trust is associated with higher economic stability at the country level. To investigate this question, changes in inherited trust of Americans between 1910 and 1970 are used to proxy changes in origin countries' trust across tome. Empirical results suggest that there is little evidence that trust also reduces macroeconomic instability across time at the country level.

### Petrol prices and the inflation/growth relationship

It is a longstanding debate in the economic literature whether inflation and growth rates are evolving independently of each other over time, as the Fisher hypothesis asserts, or whether there may be ground for a structural interrelationship. This article nourishes the debate by giving empirical evidence that petrol may be playing a role in this. As the price of petrol is an important factor for the consumer price level and has in the same time an adverse effect on the economic growth, a price rise or fall may be qualified as an inflation shock as well as a structural shock. We give evidence that the petrol price seems indeed to be perceived that way on the international bond markets. We measure a negative correlation between the inflation and growth rates induced by petrol price movements that can be backed out from the market pricing of inflation-linked bonds in parallel to the conventional nominal bonds. The (real) yield of inflation-linked bonds as a proxy for economic growth prospects and the yield differential with nominals called the breakeven rate as a proxy for inflation expectation are adversely affected by the petrol price systematically over time. This market phenomenon is actually detectable on a worldwide scale rather than within local bond markets. This is due to certain market frictions that impact the pricing of the two bond types differently and by that obscure the interrelationship. Aggregating the bond yield variations to world level diversifies these effects away and in the same time reinforces the market observation, which is in essence a worldwide issue. This is a contribution of our article compared to the standing literature, to process bond market data such as to make the dynamics of the fundamentals that drive bond prices detectable.

# 2.3. Global phenomena

Research on global phenomena at AMSE is traditionally splitted over two main fields, the environment-related topics and health-related topics. A currently marginal topic that should be developed in the next year is the diffusion of knowledge and information conveyed by globalization and the inherent institutional problems (notably related to intellectual property rights). A very short sample of our research is selected here below.

### Health impact assessment: Air pollution in Europe

Health impact assessment (HIA) is a combination of methods used to evaluate the potential health effects of a policy, programme or project, in order help decision-makers taking the best decision. AMSE is participating in several HIA initiatives. Recently, AMSE researchers have participated in an HIA of air pollution in Europe within the network Aphekom (Improving Knowledge and Communication for Decision Making on Air Pollution and Health in Europe).

There are two different ways of formulating the quantification of health impacts by HIAs. The predictive approach assesses the future consequences for health of public policies implemented today or in a given time frame. The conterfactual approach compares the current health status of the population studied with what might have been if pollution levels had been reduced and the time required for the onset of health effects had elapsed. The later was used in Aphekom to show that a decrease to WHO's annual air quality guideline on PM2.5 particles (10 µg/m3) in 25 large European cities would imply some €31.5 billion health

benefits annually. Aphekom's analysis of the effects of European Union (EU) legislation to reduce the sulfur content of fuels has also showed that it had prevented some 2200 annual premature deaths in 20 cities since 2000, valued at €192 million. Finally, by applying innovative HIA methods, Aphekom has separately determined that the additional long-term impacts on the development of chronic diseases from living near busy roads substantially increase the burden of disease attributable to air pollution in Europe. Specifically, in 10 European cities, Aphekom has estimated that living near busy roads could be responsible for 15% of asthma in children and possibly for similar or higher percentages of other common chronic diseases in adults 65 years and over, such as coronary heart disease and chronic obstructive pulmonary disease. In the cities studied, for children and adults 65 years the economic burden likely totals some €300 million every year.

# HIV/AIDs, sexual activity and risk behaviors with antiretroviral treatment

The study of the impact of major epidemics, in particular HIV/AIDS, and assessment of targeted heath policies is the object of a significant part of AMSE research output every year. The following summarizes a recent study on HIV/AIDS which is representative of numerous AMSE contributions tackling the crucial issue of treatment efficiency.

There is strong evidence that early HIV diagnosis followed by immediate treatment, irrespective of clinical or immunological status, can dramatically reduce and even suppress HIV transmission when plasma viral load remains undetectable. However, as the probability of HIV sexual transmission depends on the level of viremia which may vary, especially according to levels of adherence, condom use remains a key tool in preventing HIV transmission in people living with HIV/AIDS (PLWHA) who access to treatment.

In this study, AMSE researchers have explored time trend and correlates of sexual activity of PLWHA initiating ART in Cameroon and compared sexual risk behaviors between patients sexually active both before and after initiating ART and those resuming sexual activity after ART initiation. Analyses have been conducted using longitudinal data collected within a randomized trial conducted in nine rural district hospitals in Cameroon where 459 patients were followed-up during 24 months after ART initiation. Sexual activity was defined as reporting at least one sexual partner during the previous 3 months and assessed at baseline (i.e. date of ART initiation), and then after 6 months (M6), 12 months (M12) and 24 months of treatment (M24). Inconsistent condom use (ICU) was defined as reporting to have "never," "sometimes," or "nearly always" used condoms at least once with a partner(s) either HIV-negative or of unknown HIV status during the 3 previous months and assessed at the same time period. Mixed-effect logistic regressions were conducted to analyze the effect of time since ART initiation on sexual activity while accounting for other possible factors. Overall 277 patients (62% of the study population, n=447) reported being sexually active during follow-up. Our results showed a significant increase in the proportion of sexually active patients over time: from approximately one in three patients at treatment initiation to more than one in two patients after two years of ART. After adjustment for behavioral and psychosocial factors, time since ART initiation was independently associated with reporting sexual activity (AOR [95% CI]=1.30 [1.17-1.46] per 6-month increase, p<0.001). Resumption of sexual activity after ART initiation may be explained by poor health status at baseline aggravated by the negative psychological effects of HIV infection on sexuality, which is often reported among PLWHA. ART, by acting on the immune system restoration, has been showed to be associated with strong quality of life improvement which may in turn results in fewer difficulties related to sexuality, like loss of sexual interest or anxiety about HIV transmission. We then explored time trend in condom use among sexually active patients during follow-up according to their engagement in sexuality in the 3 months before ART initiation. The results highlighted that the proportion of ICU was consistently higher among patients who were sexually active both before and after ART initiation (group 1) than among those who resumed sexual activity after ART initiation (group 2). The comparison of individual characteristics between the two groups showed a higher proportion of patients reporting binge drinking or casual partnerships in group 1 suggesting that patients in group 2 could be more adverse to risk.

In conclusion, this study highlights not only how ART initiation fosters the resumption of sexual activity in PLWHA living in rural areas in Cameroon, but also shows that unsafe sexual behaviors remain less frequent in patients who were sexually inactive before ART initiation than in patients who were sexually active at this time. Further research is needed to evaluate long-term changes in sexual behaviors after ART initiation as well as to better measure risk-adverse degree among PLWHA and its effect on prevention behaviors.

# The economic consequences of pandemics: a further channel

While previous research (to which AMSE has been contributing significantly) has shown that large pandemics lead to higher mortality, lower human capital accumulation, depleted labor force, lower levels of real sector investment, our paper highlights an additional transmission mechanism which operates through the banking sector. Many developing countries are characterized by the absence of medical insurance systems. In these countries, the bulk of medical expenditure is out-of pocket. The apparition of large pandemics can therefore trigger massive withdrawals, in the fashion of a bank run, to which private banks respond by increasing their reserve ratio in order to avoid a liquidity crisis. This leads to lower private sector credit and insufficient investment levels. A recent AMSE research shows that even in the absence of a bank run, the optimal response of private banks to pandemics is to increase their reserve ratio. These results are validated by an econometric analysis applied to a panel



of 80 low and middle income economies, between 1995 and 2009.

Two conclusions can be inferred from this analysis. First, financial stability appears to be a positive externality of the development of public and medical insurance in developing countries. We therefore recommend increasing public investment in health, and deepening financial markets through the development of private health insurance schemes. Second, stricter prudential supervision, through a long-run increase of the mandatory rate of banking reserves, may improve the bank's liquidity and contribute to mitigating the economic cost of pandemics.

### Irreversible pollution and the ecological transition

There is now growing evidence that oceans (the most important carbon sink) display a buffering capacity that is approaching saturation. At the same time, the assimilation capacity of terrestrial ecosystems will likely peak by mid-century and then decline to become a net source of carbon by the end of this century. Finally, the potential collapse of the North Atlantic meridional overturning circulation is drawing much attention because it may happen for a 450 ppm CO<sub>2</sub> concentration, and we have already reached 390 ppm. There is therefore a compelling evidence that we are approaching a kind of irreversible pollution state where the auto-cleaning capacity of the ecosystem is seriously undermined. Accordingly, such an irreversibility should call for an acceleration of transition plans to cleaner technologies. This issue is studied within optimal transition frameworks where the planner has the choice of the timing of the transition under the threat of irreversible pollution. This novel setting allows to visualize different optimal transition plans depending among others on initial conditions (that's on the distance to the irreversibility threshold values) and on the technological trade-offs involved. It also allows to revisit the so-called Environmental Kuznets Curve (which is the claimed inverted U-shaped relationship between income and pollution) in a significant way. Indeed, the interaction between the ecological and technological mechanisms generates a large set of potential optimal solutions. These solutions lead to different relationships between capital and pollution. If a single technological switch is optimal, one recovers the Environmental Kuznets Curve provided initial pollution is high enough. If exceeding the ecological threshold is optimal, then the latter configuration is far from being the rule.

### Life valuation in the face of catastrophic events

Global environmental phenomena like climate change, major extinction events or flu-type pandemics can have catastrophic consequences. By properly assessing the outcomes involved – especially those concerning human life – economic theory of choice under uncertainty is expected to help people take the best decision. However, the widely used expected utility theory values life in terms of the low probability of death someone would be willing to accept in order to receive extra payment. Common sense and experimental evidence refute this way of valuing life, and here we provide experimental evidence of people's unwillingness to accept a low probability of death, contrary to expected utility predictions.

In February 1998, 64 subjects were invited to play a hypothetical game in which they could choose whether or not to swallow one pill among 1 billion (10^9) identical ones. Only one pill contained a lethal poison that was sure to kill, all the others being harmless. The survivors (i.e. those who swallowed one of the 999,999,999 harmless pills) received \$220,000. We easily infer the value these subjects attribute to their own life according to EU predictions. Each of the 33 subjects who answered 'No', implicitly valued his/her own life at more than \$ 220 trillion (220,000/10^-9). This VPF obviously contrasts with the \$1.7-\$7 million range usually obtained in the literature. The same game was played again by the same subjects as well as new subjects in January 2009, providing similar results as well as motivations for their (possible change in) answers. We use new axioms of choice, especially an axiom that allows extreme responses to extreme events, to propose a framework more consistent with empirical observations.

### Knowledge transfer and communication structures

This AMSE research reflects the results of agent-based simulations taking place on networks. The focus here is on the process of knowledge transfer within social networks composed of a pool of experts, and new comers whose aim is primarily to acquire knowledge. The main example we take as inspiration to assess the dynamics of knowledge circulation are communities of practice. One wishes to understand which communication system and which information about others' knowledge should be provided to get to a better diffusion of knowledge.

The use of agent-based models is justified by the description of heterogenous agents who have several motivations and hence different decision making mechanisms. Simulations are used to analyse the influence of the communication mode within the group, and the influence of public information about other's knowledge.

Results emphasize the part played by new comers in the process of direct knowledge transfer. They constitute additional sources of knowledge and act as intermediaries. Results also show that in a process of indirect transfer of knowledge, they have only little influence on the process of individual learning. These results enable the authors to formulate some recommendations to facilitate knowledge transfer within a knowledge intensive community. Non-hierarchical structures of communication should

be preferred and the participation of new comers in the activities of the community fully encouraged. This paper combines agent-bases modeling and social networks analysis to investigate the field of knowledge transfer and enables the identification of the key elements in the process of knowledge diffusion within a community of practice. It thus provides some solution to eventual congestion problems in the access to the knowledge held within the community.

### 2.4. Globalization and inequality

Published AMSE research on globalization and inequality has been mostly theoretical/methodological in 2013. Some international comparisons on the determinants and evolution of inequalities have been performed. A brief overview of this research is given below.

#### Inequality measurement with a reference distribution: a new approach

The class of Generalized Entropy inequality measures, from which the well-known Theil index is a special case, are divergence measures between the Empirical Distribution Function (EDF) and the most equal distribution, where everybody gets the same income. They tell us how far an empirical distribution is from the most equal distribution.

The idea of inequality evaluations with reference to "norm incomes" or a reference distribution - different from the most equal distribution - has received revived attention in the recent years. In particular some authors have focused on replacing a perfectly egalitarian reference distribution with one that takes explicit account of fairness.

In this research an a priori approach to the problem is used, it allows one to construct a distance concept that is appropriate for characterising the divergence between the empirical distribution function and a proposed reference distribution. The approach is related to results in information theory and is adaptable to other fields in economics that make use of models of distributions. It leads us to propose a new measure of inequality, from which the GE class is a special case - with the most equal distribution taken as reference distribution. Rather than selecting the most equal distribution as a reference distribution, it is proposed to reverse the standard approach by using the most unequal distribution as a reference distribution, where the top 100k % richest gets 100p % of the total income. The statistical properties of the proposed inequality index are studied and an application is presented.

### Shapley value-based inequality decomposition methods

The idea of marginal contribution is fundamental in much economic analysis. The Shapley value of transferable utility cooperative games illustrates the strength of this idea. Indeed, for every coalitional game the Shapley value of a player is intuitively the average of all marginal contributions that this individual can make to all coalitions. In view of both its intuitive appeal and mathematical tractability the Shapley value has been the focus of much research and applications. These applications concern as different fields as cost allocation, surplus sharing, models of taxation, market allocations and political power allocation. The goal of the paper is to propose to add inequality measurement to the list. A natural field of application of the Shapley value seems to be what it is called the decomposition of inequality indices, namely, to decompose the aggregate inequality value into some relevant component contributions. The issue to which this kind of analysis has been applied falls into two broad categories. The first category deals with the influence of population subgroups such as those defined by age, sex or race. The application of the Shapley value considered in this AMSE research falls into to the second category of decomposition covering situations within which different components of the total income are examined.

This main output is a general procedure for decomposing income inequality measures by income sources. The methods of decomposition proposed are based on the Shapley value and extensions of the Shapley value of transferable utility cooperative games. In particular, it is shown that Owen's value can find an interesting application in this context. Also the axiomatization by the potential of Hart and Mas-Colell remains valid in presence of the domain restriction of inequality indices. The properties of these decomposition rules are examined and a comparison with Shorrocks' decomposition rule properties is performed as well.

The Shapley inequality decomposition by sources offers some advantages. It is sensitive to the choice of the inequality index, for example the contribution of an equally distributed factor component to inequality is zero if the index is absolute and negative if the index is relative. But this property does not preclude the Shapley value inequality decomposition by sources to correspond to the natural decomposition of the variance if the chosen inequality index is the variance. Moreover, the Shapley decomposition by income sources has a meaningful interpretation, inspired by the idea of marginal contribution.



### A cross-country study of inequality factor components

A number of industrial countries have experienced an increase in household income inequality in the last decades of the 20<sup>th</sup> century. At the same time, they have also witnessed an increase in earnings dispersion, raising the question of whether increased earnings dispersion has been the only culprit for observed income inequality trends, or whether other factors, such as capital income of revenues from self-employment, have also contributed to the changing distribution of income. This AMSE research uses data from the Luxembourg Income Study to examine some of the forces that have driven changes in household income inequality over the period 1970 to 2005.

Inequality is decomposed for 6 countries (Canada, Germany, Norway, Sweden, the UK, and the US) into the three sources of market income -earnings, property income and income from self-employment- and taxes and transfers, and assess the contribution of these various factors. Our results indicate that the stability of the share of earnings in household income in the US is remarkable when compared to the experience of other countries. The share of earnings fell sharply in the other Anglo-Saxon economies, dropping by 5 percentage points in the UK and by 6 in Canada over the period 1974/75 to 2004, and fell by between 6 and 12 points in the continental economies. As a result, although all countries in the sample experienced an increase in earnings inequality, the contribution of this source of income to overall inequality sometimes remained unchanged due to a reduction in the earnings share. The share of different factors also fluctuates over time. Consider, for example, the UK over the period 1979-2004: the share of earnings fell steadily, that of self-employment income grew from 6 to 10 percent, while that of capital income first increased and then decreased. The decompositions indicate that these movements in factor shares have been a key determinant of the evolution of inequality amongst British households.

The contribution of different factors to overall inequality varies sharply across countries. In 2004/5, the contribution of earnings to inequality was most important in the US and least important in Germany and Norway, where both capital and self-employment income make large contributions. In the UK and Canada the contribution of self-employment income to overall inequality has been on the rise, while greater inequality in income from property is crucial in explaining the experience of the Scandinavian economies. These results indicate the difficulty in generalizing the causes of distributional changes even within a relatively homogeneous group of countries.

The results of this AMSE study raise a number of questions. One is to try to understand why in several countries the increase in earnings dispersion was associated with a reduction in the share of this factor in total household income. It is possible that there is a causal relation between the two that would be worth investigating. The second is a better understanding of the role of self-employment, which seems to have been a factor of growing importance in the last two decades of the 20<sup>th</sup> century. In particular, one would like to understand whether high inequality in this factor is due to dispersion across individuals or to fluctuations over time for a given individual.

### Inequality of opportunity in health across Europe

This AMSE research aims to quantify and compare inequalities of opportunity in health across European countries considering two alternative normative ways of treating the correlation between effort, as measured by lifestyles, and circumstances, as measured by parental and childhood characteristics, (championed by Brian Barry and John Roemer). According to Roemer, effort should be respected inasmuch as effort is disembodied from the impact of circumstances; in other words the correlation between effort and circumstances is considered as circumstances and is independent from individual responsibility. On the other hand, according to Barry, effort should be entirely rewarded and the correlation of effort and circumstances does not require to be acknowledged. To illustrate the debate, let us consider the case of smokers; would we hold sons of smokers less responsible to smoke than sons of non-smokers? From Roemer viewpoint, sons of smokers are less responsible than sons of non-smokers; from Barry viewpoint, parental circumstances are not relevant and sons of smokers are as responsible as sons of non-smokers for smoking.

This study relies on regression analysis and proposed several measures of inequality of opportunities. Data comes from the Retrospective Survey of SHARELIFE, which focuses on life histories of European people aged 50 and over in 2008/2009 (21 000 individuals).

Results show differences in inequalities of opportunities across European countries with larger inequalities in Austria, France, Spain and Germany and lower inequalities in Sweden, Poland, Belgium, the Netherlands and Switzerland. The share of inequalities of opportunities in health inequalities due to circumstances and effort varies from 30% in the less unequal countries to 70% in the most unequal countries, whereas it represents 50% at the aggregate level. The way the correlation between efforts and circumstances is changing the measure of inequalities of opportunities also varies from countries where the difference is not significant such as Switzerland and Sweden to countries where it matters more and reaches a maximum of about 20% increase of the measurement of inequalities of opportunities in Barry context, such as Belgium, the Netherlands, Italy, Germany, Poland and Denmark. At the aggregate level, the difference between the alternative scenarios represents 16.8% of

the health inequality. The distinction between the alternative normative viewpoints about the correlation between efforts and circumstances seems to matter more in some European countries than in others and this will suggest differences in the underlying public health policies that could be put in place to fight inequalities of opportunities in health.

### 2.5. Re-thinking public intervention

This research axis has inspired a large set of contributions to almost all the relevant fields of policy intervention and regulation in the globalized world. The following review of selected lines of research starts with the topic of fiscal union in the Eruozone and ends with the question of regulation of energy markets.

### Fiscal union in Europe?

The current debt crisis in the Eurozone has brought the idea of deeper fiscal integration to the top of the European policy agenda. Many observers argue that the currency union cannot survive unless it is complemented by a 'fiscal union'. The view is also widespread that moving in this direction would have a stabilizing effect in the event of macroeconomic shocks.

In this research, the economic effects of two important elements of fiscal integration are analyzed: first, the introduction of an EU-wide integrated tax and transfer system which partly or fully replaces the existing national systems, then the introduction of a European system of fiscal equalisation. These policies are simulated using the European tax-benefit calculator EUROMOD and representative household micro data from 11 Eurozone countries.

The introduction of a European tax and transfer system which replaces one third of the national systems would increase the disposable income of a small majority of households in Europe. At the same time it would lead to significant redistribution between and within countries. The winners include Greece, Portugal, Spain, Italy and, surprisingly, Germany. Austria, France, Ireland and the Netherlands lose on average. Intuitively, one would expect gains and losses to be driven by differences in income levels between countries, yet the structure of the existing tax and transfer systems plays a role as well. For instance, the difference between Germany and France can be explained as follows: In Germany, the tax-benefit system is characterized by higher progressivity and slightly higher taxes for high income earners, and slightly lower transfers for lower income levels, than the EU average system. As a result, all quintiles in Germany would gain from the introduction of a unified system. In contrast, the EU tax-benefit system would imply higher taxes and lower transfers than the French national system, rising the net tax burden on the French population and generating losses especially in the lower income quintiles. More generally, the gains would be concentrated among the low income quintiles in southern European countries (but at the cost of a decline in labor supply) and among high income quintiles in high income countries. An EU tax system would slightly reduce EU-wide income inequality and, in most cases, inequality within countries. These findings cast doubts on the political feasibility of this reform. While a small majority of EU citizens would gain, this is not true for a majority of countries. In fact, the reform would pass under the double majority rule of the Treaty of Lisbon but would be rejected with the Treaty of Nice rule.

The EU system would improve fiscal stabilization, especially in credit constrained countries. Unsurprisingly, it would increase automatic stabilizers in countries where existing systems have small stabilizing effects compared to the European average – this applies in particular to the southern European countries. If the EU system replaced one third of national systems, it would absorb between 10 per cent (Ireland) and 15 per cent (Germany) of a macroeconomic shock to gross income.

Introducing a fiscal equalization system based on taxing capacity would lead to a massive transfer of revenue from high to low income countries. These redistributive effects are much larger than those of introducing the common tax and transfer system. However, the achievements in terms of macroeconomic stabilization in the presence of asymmetric shocks are disappointing. For some countries, the fiscal equalization mechanism even has a destabilizing effect. An important policy implication of this analysis is that it is important to distinguish between the redistributive effects of steps towards fiscal integration and its stabilization effects in the presence of an asymmetric macroeconomic shock.

# Capital controls and welfare states

The recent turmoil in the eurozone, originating in the massive public debts of the country members, and the associated inexorable contagion phenomenon have led many researchers and practitioners to come back to the basics. In particular, the "trilemma" principle inherent to the traditional Mundell-Fleming model, i.e fixed exchange rate, perfect capital mobility and independent monetary policy cannot all coexist, has re-covered all its relevance in the more recent related literature. As a corollary, capital controls are re-emerging as a potential valuable tool in the face of financial and economic instability triggered by financial globalization. Several countries in the world have already taken this step: for example, Brazil has introduced atax on international capital inflows from october 2009; Taiwan, South Corea and Thailand, among others, have also managed to limit these inflows. This paper solves a second-best problem where a government has in particular to choose whether to tax financial



inflows (capital con- trols) or not, and when. A multi-stage optimal control technique is used to this end. First, it is shown that it is optimal to switch in finite time from capital controls to full financial liberalization (zero tax on capital inflows) whenever a measure of total wealth is above a certain threshold. In particular, a too large initial debt makes financial liberalization sub-optimal. Second, our analysis suggests that capital controls should be used countercyclically: booms should be responded by more financial liberalization while recessions should rather lead to more stringent capital controls. Third, when public expenditure is chosen in order to maximize social welfare, financial liberalization is not unaffordable only for poor countries, even wealthy countries might find it optimal to implement capital controls if they aim to keep a large amount of public expenditure. In short, the preservation of the welfare states might require a more frequent use of capital controls.

## Regulation in (upstream) industries and productivity growth

Competition –and policies affecting it– has been found to be an important determinant of productivity growth in recent empirical research. Evidence has generally supported the idea that competitive pressures are a driver of productivity-enhancing innovation and adoption, especially for incumbent firms that are close to the technological frontier. Most empirical studies of the competition-growth link focused on competitive conditions within each industry (or market) as drivers of firm or industry-level productivity enhancements. Yet, to the extent that expected rents from innovation or technology adoption are underlying efforts to improve efficiency relative to competitors, focusing on within-industry competition misses an important part of the story. Indeed, these rents may be reduced by lack of competition in industries that sell intermediate inputs. Moreover, lack of competition in upstream industries can also generate barriers to entry, further reducing pressures to improve efficiency in these industries. For example, tight licensing requirements in retail trade or transport can narrow access to distribution channels.

AMSE research focuses on the influence of upstream competition for productivity outcomes in downstream industries. It uses panel data on 15 OECD countries and 20 industries over the 24 years period 1984-2007 to estimate a stylized version of the dynamic "neo-Schumpeterian" model. This makes it possible to differentiate the potential downstream effects of lack of upstream competition depending on the distance to the technological frontier. Industry-level efficiency improvements and distance to frontier through a multifactor productivity (MFP) index, are measured using OECD industry statistics and competition upstream is proxied with detailed time series information on policies, rules and regulations that generate entry barriers in key non-manufacturing industries (henceforth called "upstream" industries). Finally an indicator of regulatory burden is built up by crossing the upstream regulatory indicators with the intensity of use of intermediate inputs calculated from input-output matrices.

The research finds clear evidence that anticompetitive regulations in upstream industries curb MFP growth downstream. Consistent with the neo-Schumpeterian framework, these effects are non linear and depend on distance to frontier. They are strongest for observations (i.e. country/industry/period triads) that are close to the global technological frontier measured as the highest MFP in each period, but remain generally negative for a large share of our data. Interestingly, the share of observations whose MFP growth suffers from anticompetitive regulations increased over time, with the negative indirect effects of regulations affecting virtually all observations over the past 15 years. This could be due to increased integration of the world economy in the context of the diffusion of new technologies.

### Equivalent Income and Fair Evaluation of Health Care

When social decision makers have to arbitrate between health policies (and possibly between other public policies as well), two approaches are available to evaluate health policies. The cost-effectiveness approach, very often used in the medico-economic evaluation of health care, selects policies that lead to the highest health benefits for given costS. The advantage of this approach is that it does not favour individuals with larger income, but it can have other detrimental effects. For instance, it may favour health policies that target relatively mild diseases that would benefit many and not interventions that would treat severe diseases that affect only a small number of individuals. The second approach, the cost-benefit approach, is based on the sum of the willingness to pay (WTP) of individuals. It respects individual preferences, allows to arbitrate between health interventions and other public policies, but it gives a priority to the preferences of the wealthier individuals, because they usually have a higher willingness to pay.

A variant of the cost-benefit analysis, the healthy equivalent income approach, avoids these problematic issues. It consists of weighting WTP values with coefficients which vary inversely with an index of individual well-being that combines income and health. The index is the so-called healthy equivalent income: it is the income of the individual reduced by the amount of money she would be willing to pay in order to be in perfect health. For a given income, it decreases when health deteriorates. Contrary to subjective utility indices, it only relies on ordinal preferences of the individuals. This approach is implemented by surveying more than 3000 respondents representative of the French population.

In the survey, information on health-income preferences of the respondents was gathered. Briefly, respondents were asked to reconstruct with the help of a dedicated questionnaire their health profile of the last 12 months. On the basis of this information, respondents were then asked to state the amount of money they would have accepted to forgo in order to have been in perfect health in the last 12 months instead. The difference between respondent's

income and her WTP is the healthy equivalent income. Using appropriate econometric techniques, weights that respect individual preference and that account for heath and income inequalities were estimated. Empirical results show that, given their monetary constraint, low-income respondents have a lower preference for health than richer respondents. However, estimated weights allow us to put a significant weight on individuals who cumulate low income, bad health and have a strong preference for health. These weights can be used to assess any health policy for which traditional cost-benefit is used.

Energy sectors: regulation and R&D investment

Following Anglo-Saxon countries, previously regulated energy sectors in European countries have been opened to competition. The negative impact on the incentive for investment, which seems to be a direct consequence of deregulation, was only studied in the economic literature from the tangible investments angle (mainly in generation capacity). Generally, it is argued that investment disincentives are related to uncertainty following the opening of markets to competition. But analysis of the consequences of liberalization on R&D investments in European countries and, particularly, on private budgets, are sparse.

This AMSE research examines the R&D intensity of the 14 major companies in energy generation or gas distribution in Europe. There are some reason to think that the panel is relevant to this analysis because no R&D seems to occur for smaller firms in the same industry. As the focus is on the impact of liberalization, only firms in the electricity industry or gas distribution are considered (and not oil). To the extent of our knowledge, only two papers have provided evidence of R&D budget decreases at the firm level so far. This work differs from these articles on at least five points. First, the considered panel is larger and the period of the study is longer. Second, it's made use of patent data to confirm the trend in R&D output by firms. Third, the analysis is completed by examining public R&D budgets to investigate the non-substitution of public funds for private funds. Fourth, an in-depth survey and discussion of the consequences of reduced R&D expenditures on the research potential of companies in the mid and longer term is provided. Fifth, some of the incentive policies that have been actually implemented in some European countries to modify the observed trend are reviewed. Despite some of these aspects having been considered separately and rarely for Europe, this is the first unified study integrating R&D budgets from both the private and public sectors as well as patents to examine energy R&D in Europe comprehensively.

Results clearly show that R&D budgets were decreased dramatically. For the private sector, budgets have been cut in response to liberalization. As far as governments are concerned, budgets have declined because of political choices and budgetary constraints. In this particular setting, public intervention is highly required to deal with underinvestment in R&D of new liberalized sectors.



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### wp01

### **Futures Trading and the Excess Comovement of Commodity Prices**

### Yannick Le Pen, Benoît Sévi

We empirically reinvestigate the issue of excess comovement of commodity prices initially raised in Pindyck and Rotemberg (1990) and show that excess comovement, when it exists, can be related to hedging and speculative pressure in commodity futures markets. Excess comovement appears when commodity prices remain correlated even after adjusting for the impact of common factors. While Pindyck and Rotemberg and following contributions examine this issue using a relevant but arbitrary set of control variables, we use recent developments in large approximate factor models so that a richer information set can be considered and "fundamentals" are likely to be adequately modeled. We consider a set of 8 unrelated commodities along with 187 real and nominal macroeconomic variables from which 9 factors are extracted over the period 1993-2010. Our estimates provide evidence of a time-varying excess comovement which is only occasionally significant, even after controlling for heteroscedasticity. Interestingly, excess comovement is mostly significant in recent years when a large increase in the trading of commodities is observed and also in crisis periods. However, we show that this increase in trading activity alone has no explanatory power for the excess comovement. Conversely, measures of hedging and speculative pressure explain around 60% of the estimated excess comovement thereby showing the strong impact not only of the financialization process, but also the impact of behaviour of some categories of traders on the price of commodities and the fact that supply and demand variables are not the sole factors in determining equilibrium prices.

### wp02

#### A Bayesian Subjective Poverty Line, One Dollar a Day Revisited

# Zhou Xun, Michel Lubrano

This paper provides a new estimation of an international poverty line based on a Bayesian approach. We found that the official poverty lines of the poorest countries are related to the countries' mean consumption level. This new philosophy is to be compared to the previous assumptions made by the World Bank in favour of an absolute poverty line. We propose a new international poverty line at \$1.48 per day (2005 PPP) based on a reference group consumption level. This figure is much higher than that proposed by the World Bank (\$1.25 in 2005 PPP), but still within a reasonable confidence interval. By this standard, there are more than 1.7 billion people living in poverty.

## wp03

### On the Optimal Control of the Vintage Capital Growth Model with Endogenous Labour Supply

## Raouf Boucekkine, Natali Hritonenko, Yuri Yatsenko

We prove that the introduction of endogenous indivisible labor supply into the vintage capital growth model does not rule out the turnpike and optimal permanent regime properties, notably the non- monotonicity properties of optimal paths, inherent in this model.

#### wp04

### Évaluation de l'Impact du Dispositif Scellier sur les Prix Fonciers

# Pierre-Henri Bono, Alain Trannoy

This study examines the effect of the device that allows so-called «Scellier» tax benefits when buying housing for rent. We use counterfactual analysis and the fact that the provision applies only in certain areas to assess the impact of the scheme on land prices. Our estimation method uses difference in difference mobilizing data from the database BNDP between 2004 and 2010. We develop two strategies for the control and treatment groups. The first uses data on both sides of the boundary between affected and unaffected area to the device. The second is based on the decomposition of the control group in percentile in which the temporal evolution before the implementation of the device is most similar to quartiles of treatment. Results show that the device impact the price of building land. This impact may vary from 5 euros to 30 euros per square meter. However, we show that this impact is heterogeneous both structurally and locally.



#### wp05

# Analyse Contrefactuelle de l'Article 55 de la Loi SRU sur la Production de Logements Sociaux

### Pierre-Henri Bono, Russell Davidson, Alain Trannoy

It may happen that there is no good control group when trying to assess the impact of some policy. In that case, the various methods such as the differences-in-differences and the changes in changes cannot be used to evaluate the program. We propose a new method called "Change in Trend" which only uses past information on the treated individuals to build a counterfactual distribution, and we show that this strategy is based on less restrictive assumptions and more likely to be checked than the alternative methods. In particular, the advantage of this method is not to assume a condition of support. We present an application of this method to estimate the impact of the article 55 of the SRU law in France which requires some municipalities to pay penalties if they do not build enough social housing. All estimates converge to a positive small impact. For a quadrennial production, the gain is estimated at 0.35 additional percentage point or equivalently for about 40 more social housing for a city of 20.000 inhabitants.

#### wp06

## Group Violence, Ethnic Diversity and Citizen Participation. Evidence from Indonesia

### Christophe Muller, Marc Vothknecht

We study the impact of violent conflict on social capital, as measured by citizen participation in community groups, defined by four activity types: governance, social service, infrastructure development and risk-sharing. Combining household panel data from Indonesia with conflict event information, we find an overall decrease in citizen contributions in districts affected by group violence in the early post-Suharto transition period.

However, participation in communities with a high degree of ethnic polarization is less affected, and is even stimulated for local governance and risk-sharing activities. Moreover, individual engagement appears to depend on the involvement of other members from the same ethnic group, which points toward building of intra-ethnic social networks in the presence of violence.

Finally, our results show the danger of generalization when dealing with citizen participation in community activities. We find a large variety of responses depending on the activity and its economic and social functions. We also find large observed and unobserved individual heterogeneities of the effect of violence on participation. Once an appropriate nomenclature of activities is used and controls for heterogeneity are applied, we find that the ethnic and social configuration of society is central in understanding citizen participation.

# wp07

#### **Urbanisation and Migration Externalities in China**

# Pierre-Philippe Combes, Sylvie Démurger, Shi Li

We evaluate the role that cities play on individual productivity in China. First, we show that location explains a large share of nominal wage disparities. Second, even after controlling for individual and firms characteristics and instrumenting city characteristics, the estimated elasticity of wage with respect to employment density is about three times larger than in Western countries. Land area and industrial specialisation also play a significant role whereas the access to external markets does not. Therefore, large agglomeration economies prevail in China and they are more localised than in Western countries. Third, we find evidence of a large positive impact of the local share of migrants on local workers' wages. Overall, these results strongly support the productivity gains that can be expected from further migration and urbanisation in China.

### wp08

### **Optimal Portfolio with Vector Expected Utility**

# Éric André

We study the optimal portfolio selected by an investor who conforms to Siniscalchi (2009)'s Vector Expected Utility's (VEU) axi-

oms and who is ambiguity averse. To this end, we derive a mean-variance preference generalised to ambiguity from the secondorder Taylor-Young expansion of the VEU certainty equivalent. We apply this Mean Variance Variability preference to the static two-assets portfolio problem and deduce asset allocation results which extend the mean-variance analysis to ambiguity in the VEU framework. Our criterion has attractive features: it is axiomatically well-founded and analytically tractable, it is therefore well suited for applications to asset pricing as proved by a novel analysis of the home-bias puzzle with two ambiguous assets.

### wp09

### **Network Design under Local Complementarities**

## Mohamed Belhaj, Sebastian Bervoets, Frédéric Deroïan

We consider agents playing a linear network game with strategic complementarities. We analyse the problem of a policy maker who can change the structure of the network in order to increase the aggregate efforts of the individuals and/or the sum of their utilities, given that the number of links of the network has to remain fixed. We identify some link reallocations that guarantee an improvement of aggregate efforts and/or aggregate utilities. With this comparative statics exercise, we then prove that the networks maximising both aggregate outcomes (efforts and utilities) belong to the class of *Nested-Split Graphs*.

#### wp10

## Tailoring Bank Capital Regulation for Tail Risk

### Nataliya Klimenko

The experience of the 2007-09 financial crisis has showed that the bank capital regulation in place was inadequate to deal with "manufacturing" tail risk in the financial sector. This paper proposes an incentive-based design of bank capital regulation aimed at efficiently dealing with tail risk engendered by bank top managers. It has two specific features: (i) first, it incorporates information on the optimal incentive contract between bank shareholders and bank managers, thereby dealing with the internal agency problem; (ii) second, it relies on the mechanism of mandatory recapitalization to ensure this contract is adopted by bank shareholders.

### wp11

### The Inefficient Markets Hypothesis: Why Financial Markets Do Not Work Well in the Real World

# Roger E.A. Farmer, Carine Nourry, Alain Venditti

Existing literature continues to be unable to offer a convincing explanation for the volatility of the stochastic discount factor in real world data. Our work provides such an explanation. We do not rely on frictions, market incompleteness or transactions costs of any kind. Instead, we modify a simple stochastic representative agent model by allowing for birth and death and by allowing for heterogeneity in agents' discount factors. We show that these two minor and realistic changes to the timeless Arrow-Debreu paradigm are sufficient to invalidate the implication that competitive financial markets efficiently allocate risk. Our work demonstrates that financial markets, by their very nature, cannot be Pareto efficient, except by chance. Although individuals in our model are rational; markets are not.

### wp12

### Destabilization Effect of International Trade in a Perfect Foresight Dynamic General Equilibrium Model

### Kazuo Nishimura, Carine Nourry, Thomas Seegmuller, Alain Venditti

We examine the impact of balanced-budget consumption taxes on the existence of expectations-driven business cycles in two-sector economies with infinitely-lived households. We prove that, whatever the relative capital intensity difference across sectors, aggregate instability can occur if the consumption tax rate is not too low. Moreover, we show through a numerical exercise based on empirically plausible tax rates that endogenous business-cycle fluctuations may be a source of instability for all OECD countries, including the US.



#### wp13

### Destabilization Effect of International Trade in a Perfect Foresight Dynamic General Equilibrium Model

### Kazuo Nishimura, Alain Venditti, Makoto Yano

In the present paper, we consider a two-country, two-good, two-factor general equilibrium model with CIES non-linear preferences, asymmetric technologies across countries and decreasing returns to scale. It is shown that aggregate instability and endogenous fluctuations may occur due to international trade. In particular, we prove that the integration into a common market on which countries trade the produced good and the capital input may lead to period-two cycles even when the closed-economy equilibrium is saddle-point stable in both countries.

#### wp14

#### Public Spending as a Source of Endogenous Business Cycles in a Ramsey Model with Many Agents

### Kazuo Nishimura, Carine Nourry, Thomas Seegmuller, Alain Venditti

We introduce public spending, financed through income taxation, in the Ramsey model with heterogeneous agents. Public spending as a source of welfare generates more complex dynamics. In contrast to previous contributions focusing on similar models but with wasteful public spending, limit cycles through Hopf bifurcation and expectation-driven fluctuations appear if the degree of capital-labor substitution is large enough to be compatible with capital income monotonicity. Moreover, unlike frameworks with a representative agent, our results do not require externalities in production and are compatible with a weakly elastic labor supply with respect to wage.

### wp15

# Indeterminacy and Sunspot Fluctuations in Two-Sector RBC models: Theory and Calibration

### Frédéric Dufourt, Kazuo Nishimura, Alain Venditti

We analyze sunspot-driven fluctuations in the standard 2-sector RBC model with moderate increasing returns to scale. We provide a detailed theoretical analysis enabling us to derive relevant bifurcation loci and to characterize the steady-state local stability properties as a function of various structural parameters. With GHH preferences, we show that local indeterminacy occurs through flip and Hopf bifurcations for a large set of values of the elasticity of intertemporal substitution in consumption if the labor supply is sufficiently inelastic. With additively-separable preferences, we prove that local indeterminacy occurs through flip and Hopf bifurcations for any value of the elasticity of the labor supply, and can even be compatible with an arbitrarily low elasticity of intertemporal substitution in consumption. Finally, we provide a detailed quantitative analysis of the model. Computing, on a quarterly basis, a new set of empirical moments related to two broadly defined consumption and investment sectors, we are able to identify, among the set of admissible calibrations consistent with sunspot equilibria, the ones that provide the best fit of the data. The model properly calibrated solves several empirical puzzles traditionally associated with 2-sector RBC models.

# wp16

### The Dynamics of Lobbying under Uncertainty: On Political Liberalization in Arab Countries

# Raouf Boucekkine, Fabien Prieur, Klarizze Puzon

We consider a framework à la Wirl (1994) where political liberalization is the outcome of a lobbying differential game between a conservative elite and a reformist group, the former player pushing against political liberalization in opposition to the latter. In contrast to the benchmark model, we introduce uncertainty. We consider the typical case of an Arab oil exporter country where oil rents are fiercely controlled by the conservative elite. We assume that the higher the oil rents, the more reluctant to political liberalization the elite is. Two states of nature are considered (high vs low resource rents). We then compute the Market-perfect equilibria of the corresponding piecewise deterministic differential game. It is shown that introducing uncertainty in this man-

ner increases the set of strategies compared to Wirl's original setting. In particular, it is shown that the cost of lobbying might be significantly increased under uncertainty with respect to the benchmark. This ultimately highlights some specificities of the political liberalization at stake in Arab countries and the associated risks.

### wp17

## **Social Program Substitution and Optimal Policy**

#### **Nicholas Lawson**

A growing literature on substitution between social programs provides consistent evidence that changes in the generosity of one program can lead to changes in enrollment on other programs. However, this evidence has been ignored in welfare analyses of social insurance programs. I demonstrate that substitutions between programs can dramatically alter conclusions about optimal policy, with a particular focus on optimal unemployment insurance (UI) when there is substitution between UI and disability insurance (DI). If more generous UI reduces enrollment on DI, the result is a reduction in government spending on DI, and I show that this effect can significant increase the optimal UI replacement rate from 3% to 85%.

#### wp18

### Trading Volume and Market Efficiency: An Agent Based Model with Heterogenous Knowledge about Fundamentals

## Vivien Lespagnol, Juliette Rouchier

This paper studies the effect of investor's bounded rationality on market dynamics. In an order driven market, we consider a few-types model where two risky assets are exchanged. Agents differ by their behavior, knowledge, risk aversion and investment horizon. The investor's demand is defined by a utility maximization under constant absolute risk aversion. Relaxing the assumption of perfect knowledge of the fundamentals enables to identify two components in a bubble. The first one comes from the unperceived fundamental changes due to trader's belief perseverance. The second one is generated by chartist behavior. In all simulations, speculators make the market less efficient and more volatile. They also increase the maximum amount of assets exchanged in the most liquid time step. However, our model is not showing raising average volatility on long term. Concerning the fundamentalists, the unknown fundamental has a stabilization impact on the trading price. The closer the anchor is to the true fundamental value, the more efficient the market is, because the prices change smoothly.

### wp19

## Why Are Women Less Democratic Than Men? Evidence from Sub-Saharan African Countries

# Cecilia Garcia-Peñalosa, Maty Konte

A substantial literature has examined the determinants of support for democracy and although existing work has found a gender gap in democratic attitudes, there have been no attempts to explain it. In this paper we try to understand why females are less supportive of democracy than males in a number of countries. Using data for 20 Sub-Saharan African countries, we test whether the gap is due to individual differences in policy priorities or to country-wide characteristics. We find that controlling for individual policy priorities does not offset the gender gap, but those women who are interested in politics are more democratic than men. Furthermore, our results indicate that the gap disappears in countries with high levels of human development and political rights.

#### wp20

# Health, Work Intensity, and Technological Innovations

#### Raouf Boucekkine, Natali Hritonenko, Yuri Yatsenko

Work significantly affects human life and health. Overworking may decrease the quality of life and cause direct economic losses. Technological innovations encourage modernization of firms' capital and improve labor productivity in the workplace. The paper investigates the optimal individual choice of work intensity under improving technology embodied in new equipment leading to shorter lifetime of capital goods (obsolescence). The balanced growth trajectories are analyzed in this context to find



out, in particular, how the optimal choice of work intensity is tied to the rate of embodied technological change. The impact of embodied technological advances on the work/life balance problem is discussed and their macroeconomic consequences are highlighted.

#### wp21

### Comparing Labor Supply Elasticities in Europe and the US: New Results

#### Olivier Bargain, Kristian Orsini, Andreas Peichl

We suggest the first large-scale international comparison of labor supply elasticities for 17 European countries and the US, separately by gender and marital status, with measurement differences netted out by using a harmonized empirical approach and comparable data sources. We find that own-wage elasticities are relatively small and much more uniform across countries than previously considered. Nonetheless, such differences do exist, and are found not to arise from different tax-benefit systems, wage/hour level or demographic compositions across countries, suggesting genuine differences in work preferences across countries. Furthermore, three other important results for welfare analysis are consistent across countries: the extensive (participation) margin dominates the intensive (hours) margin; for singles, this leads to larger labor supply responses in low-income groups; and income elasticities are extremely small everywhere. Finally, the results for cross-wage elasticities in couples are opposed between regions, consistent with complementarity in spouses' leisure in the US versus substitution in their household production in Europe.

#### wp22

### Steady-State Labor Supply Elasticities: An International Comparison

#### Olivier Bargain, Andreas Peichl

This note provides an extensive survey of studies estimating steady-state labor supply elasticities for Western Europe and the US. Differences are driven by the heterogeneity in work preferences across countries and by methodological difference across studies (data, selection or model estimation and specification). While the former exists but is shown to be relatively small (Bargain et al., 2013), we focus here on modeling choices: Large elasticities are mainly found in studies estimated in the 1980s and relying on the Hausman approach. More recent estimates based on discrete-choice models with tax-benefit simulations show smaller and more similar estimates across countries. While we confirm that elasticities decline over time in the US, there is some evidence that both time effect and modeling choices affect estimates for Europe.

### wp23

### Comparing Inequality Aversion across Countries When Labor Supply Responses Differ

# Olivier Bargain, Mathias Dolls, Dirk Neumann, Andreas Peichl, Sebastian Siegloch

We analyze to which extent social inequality aversion differs across nations when control ling for actual country differences in labor supply responses. Towards this aim, we estimate labor supply elasticities at both extensive and intensive margins for 17 EU countries and the US. Using the same data, inequality aversion is measured as the degree of redistribution implicit in current tax-benefit systems, when these systems are deemed optimal. We find relatively small differences in labor supply elasticities across countries. However, this changes the cross-country ranking in inequality aversion compared to scenarios following the standard approach of using uniform elasticities. Differences in redistributive views are significant between three groups of nations. Labor supply responses are systematically larger at the extensive margin and often larger for the lowest earnings groups, exacerbating the implicit Rawlsian views for countries with traditional social assistance programs. Given the possibility that labor supply responsiveness was underestimated at the time these programs were implemented, we show that such wrong perceptions would lead to less pronounced and much more similar levels of inequality aversion.

#### wp24

### Competition and Growth: Reinterpreting their Relationship

#### Daria Onor

In this paper we modify a standard quality ladder model by assuming that R&D is driven by outsider firms and the winners of the race sell licenses over their patents, instead of entering directly the intermediate good sector. As a reward they get the aggregate profit of the industry. Moreover, in the intermediate good sector firms compete à la Cournot and it is assumed that there are spillovers represented by strategic complementarities on costs. We prove that there exists an interval of values of the spillover parameter such that the relationship between competition and growth is an inverted-U-shape.

## wp25

D'une charte l'autre. Le processus de révision de la charte des AMAP comme indicateur d'une institution qui se renforce ?

### Claire Lamine, Juliette Rouchier

Les AMAP ont connu une croissance assez linéaire et même assez forte, puisqu'après leur apparition en 2001, elles étaient déjà de l'ordre de 500 en 2006, et environ 1600 en 2013. Très tôt, dès 2001, le réseau s'est structuré sous la forme d'associations régionales dans certaines régions. Si la question de la structuration nationale des AMAP s'est posée très tôt, ce n'est qu'en 2009 qu'une partie de ces réseaux régionaux se fédèrent dans une structure nationale, MIRAMAP. En 2003, Alliance Provence a déposé à l'Inpi le nom AMAP dont l'utilisation était dés lors subordonnée au respect de la « charte des AMAP» (datant elle aussi de 2003)1. Cette charte était, comme l'indique son texte, « un document de référence définissant les valeurs, les principes et les engagements auxquels doivent souscrire les associations désirant être reconnues comme AMAP auprès d'Alliance Provence », elle n'est en rien un règlement intérieur aux AMAP, chaque AMAP devant « définir de façon autonome son mode de fonctionnement dans le respect de la présente charte ».

Cette charte a été révisée en 2013, suite à une grande consultation nationale orchestrée par MIRAMAP. Nous montrons dans cet article l'évolution de la charte, les règles qui ont disparu ou au contraire sont apparues pour fixer de nouveaux objectifs, tout en répondant à la réalité des pratiques que les acteurs ont développé dans les dix dernières années. En outre, le cadre d'analyse IAD d'Elinor Ostrom, permet de montrer en quoi l'institution s'est renforcée grâce à la mise en place de cette révision participative.

# wp26

# Do Large Departments Make Academics More Productive? Agglomeration and Peer Effects in Research

# Clément Bosquet, Pierre-Philippe Combes

We study the effect of a large set of department characteristics on individual publication records. We control for many individual time-varying characteristics, individual fixed-effects and reverse causality. Department characteristics have an explanatory power that can be as high as that of individual characteristics. The departments that generate most externalities are those where academics are homogeneous in terms of publication performance and have diverse research fields, and, to a lesser extent, large departments, with more women, older academics, star academics and foreign co-authors. Department specialisation in a field also favours publication in that field. More students per academic does not penalise publication. At the individual level, women and older academics publish less, while the average publication quality increases with average number of authors per paper, individual field diversity, number of published papers and foreign co-authors.

#### wp27

#### **Allocation of Ordered Exclusive Choices**

### **Marc Sangnier**

This note describes the Stata command alloch which helps to allocate exclusive choices among individuals who have ordered preferences over available alternatives.



#### wp28

### Protests and Beliefs in Social Coordination in Africa

### Marc Sangnier, Yanos Zylberberg

Leaders' misbehaviors may durably undermine the credibility of the state. Using individual level survey in the aftermath of geo-localized social protests in Africa, we find that trust in monitoring institutions and beliefs in social coordination strongly evolve after riots, together with trust in leaders. As no signs of social unrest can be recorded before, the social conflict can be interpreted as a sudden signal sent on a leader's action from which citizens extract information on the country's institutions. Our interpretation is the following. Agents lend their taxes to a leader with imperfect information on the leader's type and the underlying capacity of institutions to monitor her. A misbehavior is then interpreted as a failure of institutions to secure taxes given by citizens and makes agents (i) reluctant to contribute to the state effort, (ii) skeptical about the contributions of others.

#### wp29

External Constraints and Endogenous Growth: Why Didn't Some Countries Benefit from Capital Flows?

# Karine Gente, Miguel A. Léon-Ledesma, Carine Nourry

Empirical evidence on the growth benefits of capital inflows is mixed. The growth benefits accruing from capital inflows also appear to be larger for high savings countries. We explain this phenomenon using an OLG model of endogenous growth in open economies with borrowing constraints that can generate both positive and negative growth effects of capital inflows. The amount an economy can borrow is restricted by an endogenous enforcement constraint. In our setting, with physical capital and a pay-as-you-go pensions system, the steady state is unique. However, it can either be constrained or unconstrained. In a constrained economy, opening up to equity and FDI inflows can be bad for growth because it makes the domestic interest rate too low, which endogenously tightens borrowing constraints. Agents decrease savings and investment in productivity-enhancing activities resulting in lower growth. Results are reversed in an unconstrained economy. We also provide a quantitative analysis of these constraints and some policy implications.

# wp30

# Should a Country Invest more in Human or Physical Capital? A Two-Sector Endogenous Growth Approach

### Marion Davin, Karine Gente, Carine Nourry

Should a country invest more in human or physical capital? The present paper addresses this issue, considering the impact of different factor intensities between sectors on both optimal human and physical capital accumulation. Using a two-sector overlapping generations setting with endogenous growth driven by human capital accumulation, we prove that relative factor intensity between sectors drastically shapes the welfare analysis: two laissez-faire economies with the same global capital share may generate physical capital excess or scarcity, with respect to the optimum. The model for the Japanese economy, that experienced a factor intensity reversal after the oil shock, is then calibrated. It is shown that Japan invested relatively too much in human capital before 1975, but has not invested enough since 1990.

### wp31

# **Optimal Growth under Flow-Based Collaterals**

### **Daria Onori**

Some recent evidence on government finance statistics of European countries suggests that countries with public debt issues also show a low tax revenue-GDP ratio. In this paper we develop a small open economy model of endogenous growth in which the engine of growth is public spending. We assume that government can finance public expenditures by borrowing on imperfect international financial markets where her borrowing capacity is limited. In contrast to the existing literature, where debt is constrained by the stock of capital, the collaterals are based on GDP. The balanced growth path and the transitional dynamics are studied. First, we show that the economy may converge in a finite time to the regime with binding collateral constraint. Second, in such regime the steady state public expenditures-GDP ratio is greater than that of the models without collateral con-

straints and of the stock-based collaterals literature. Third, the model predictions are consistent with recent empirical literature: there exists a certain threshold of financial and institutional development and economic features that an economy needs to attain in order to benefit from financial liberalization. Finally, if the degree of financial markets imperfections is weak, technologically developed countries experience a higher long-run growth rate than that of the stock-based collaterals literature, otherwise the world interest rate need to be high enough.

#### wp32

## The Taylor Decomposition: A Unified Generalization of the Oaxaca Method to Nonlinear Models

# Stephen Bazen, Xavier Joutard

The widely used Oaxaca decomposition applies to linear models. Extending it to commonly used nonlinear models such as binary choice and duration models is not straightforward. This paper shows that the original decomposition using a linear model can be obtained as a first order Taylor expansion. This basis provides a means of obtaining a coherent and unified approach which applies to nonlinear models, which we refer to as a Taylor decomposition. Explicit formulae are provided for the Taylor decomposition for the main nonlinear models used in applied econometrics including the Probit binary choice and Weibull duration models. The detailed decomposition of the explained component is expressed in terms of what are usually referred to as marginal effects and a remainder. Given Jensen's inequality, the latter will always be present in nonlinear models unless an ad hoc or tautological basis for decomposition is used.

#### wp33

### Learning Financial Shocks and the Great Recession

### Patrick Pintus, Jacek Suda

This paper develops a simple business-cycle model in which financial shocks have large macroeconomic effects when private agents are gradually learning their uncertain environment. When agents update their beliefs about the parameters that govern the unobserved process driving financial shocks to the leverage ratio, the responses of output and other aggregates under adaptive learning are significantly larger than under rational expectations. In our benchmark case calibrated using US data on leverage, debt-to-GDP and land value-to-GDP ratios for 1996Q1-2008Q4, learning amplifies leverage shocks by a factor of about three, relative to rational expectations. When fed with actual leverage innovations observed over that period, the learning model predicts a sizeable recession in 2008-10, while its rational expectations counterpart predicts a counter-factual expansion. In addition, we show that procyclical leverage reinforces the amplification due to learning and, accordingly, that macro-prudential policies enforcing countercyclical leverage dampen the effects of leverage shocks.

### wp34

## On the Optimal Control of Some Parabolic Partial Differential Equations Arising in Economics

## Raouf Boucekkine, Carmen Camacho, Giorgio Fabbri

We review an emerging application field to parabolic partial differential equations (PDEs), that's economic growth theory. After a short presentation of concrete applications, we highlight the peculiarities of optimal control problems of parabolic PDEs with infinite time horizons. In particular, the heuristic application of the maximum principle to the latter leads to single out a serious ill-posedness problem, which is, in our view, a barrier to the use of parabolic PDEs in economic growth studies as the latter are interested in long-run asymptotic solutions, thus requiring the solution to infinite time horizon optimal control problems. Adapted dynamic programming methods are used to dig deeper into the identified ill-posedness issue.



### wp35

### Reinforcement Learning with Restrictions on the Action Set

#### Mario Bravo, Matthieu Faure

Consider a 2-player normal-form game repeated over time. We introduce an adaptive learning procedure, where the players only observe their own realized payoff at each stage. We assume that agents do not know their own payoff function, and have no information on the other player. Furthermore, we assume that they have restrictions on their own action set such that, at each stage, their choice is limited to a subset of their action set. We prove that the empirical distributions of play converge to the set of Nash equilibria for zero-sum and potential games, and games where one player has two actions.

#### wp36

### Large Scale Asset Purchases with Segmented Mortgage and Corporate Loan Markets

### Meixing Dei, Frédéric Dufourt, Qiao Zhang

We introduce Large Scale Asset Purchases (LSAPs) in a New-Keynesian DSGE model that features distinct mortgage and corporate loan markets. We show that following a significant disruption of financial intermediation, central-bank purchases of mortgage-backed securities (MBS) are uniformly less effective at easing credit market conditions and stabilizing economic activity than outright purchases of corporate bonds. Moreover, the size of the effects crucially depends on the extent to which credit markets are segmented, i.e. to which a «portfolio balance channel» is at work in the economy. More segmented credit markets imply larger, but more local effects of particular asset purchases. With strongly segmented credit markets, large scale purchases of MBS are useful to stabilize the housing market but do little to mitigate the contractionary effect of the crisis on employment and output.

### wp37

# On Stabilization Policy in Sunspot-Driven Oligopolistic Economies

#### Rodolphe Dos Santos Ferreira, Frédéric Dufourt

Economies with oligopolistic markets are prone to inefficient sunspot fluctuations triggered by autonomous changes in firms equilibrium conjectures. We show that a well designed taxation-subsidization scheme can eliminate these fluctuations by coordinating firms in each sector on a single efficient equilibrium. At the macroeconomic level, implementing this stabilization policy leads to significant welfare gains, attributable to a quantitatively dominant «efficient stabilization effect». This effect, while important, is typically ignored in the traditional computations of the welfare costs of aggregate fluctuations (e.g., Lucas, 2003).

#### wp38

### The Social Effects of Ethnic Diversity at the Local Level: A Natural Experiment with Exogenous Residential Allocation

# Yann Algan, Camille Hémet, David Laitin

This paper demonstrates the effects of ethnic diversity on social relationships and the quality of public spaces at a very finite neighborhood level. We use detailed block level data on diversity and housing quality from a representative survey on housing in France. We show how and to what extent diversity within a neighborhood can directly affect household well-being and the quality of the common spaces, whereas the previous literature looks at more aggregate outcomes through voting channels. Our identification strategy relies on the exogeneity of public housing allocations with respect to ethnic characteristics in France, to address the bias due to endogenous residential sorting. Diversity is shown to have a negative effect on the quality of local public goods, either due to vandalism, not deterred by other-regarding preferences and social policing, or due to collective action failure to ensure effective property management. However, we find that diversity has no robust effect on public safety at a local level and, if anything, is more related to social anomie.

#### wp 39

## Selection Criteria in Regime Switching Conditional Volatility Models

#### **Thomas Chuffart**

A large number of non linear conditional heteroskedastic models have been proposed in the literature and practitioners do not have always the tools to choose the correct specification. In this article, our main interest is to know if usual choice criteria lead them to choose the good specification in regime switching framework. We focus on two types of models: the Logistic Smooth Transition GARCH model and the Markov-Switching GARCH models. Thanks to simulation experiments, we highlight that information criteria and loss functions can lead practitioners to do a misspecification. Indeed, depending on the Data Generating Process used in the experiment, the choice of a criteria to select a model is a difficult issue. We argue that if selection criteria lead to choose the wrong model, it's rather due to the difficulty to estimate such models with Quasi Maximum Likelihood Estimation method (QMLE).

#### wp40

## It is Not Just Confusion! Strategic Uncertainty in an Experimental Asset Market

### Eizo Akiyama, Nobuyuki Hanaki, Ryuichiro Ishikawa

To what extent is the observed mis-pricing in experimental asset markets caused by strategic uncertainty (SU) and by individual bounded rationality (IBR)? We address this question by comparing subjects initial price forecasts in two market environments – one with six human traders, and the other with one human and five computer traders. We find that both SU and IBR account equally for the median initial forecasts deviation from the fundamental values. The effect of SU is greater for subjects with a perfect score in the Cognitive Reflection Test, and it is not significant for those with low scores.

### wp41

# Task Organization, Human Capital and Wages in Moroccan Exporting Firms

# Christophe Muller, Christophe J. Nordman

We conduct a case study of the linkages of task organization, human capital accumulation and wages in Morocco, using matched worker-firm data for Electrical-mechanical and Textile-clothing industries. In order to integrate task organization into the interacting processes of workers' training and remunerations, we assume a recursive model, which is not rejected by our estimates: task organization influences on-the-job training that affects wages. Beyond sector and gender determinants, assignment of workers to tasks and on-the-job training is found to depend on former education and work experience in a broad sense. Meanwhile, participation in on-the-job training is stimulated by being assigned to a team, especially of textile sector and for well-educated workers. Finally, task organization and on-the-job training are found to affect wages.

# wp42

### A Test for Endogeneity in Conditional Quantiles

### Tae-Hwan Kim, Christophe Muller

In this paper, we develop a test to detect the presence of endogeneity in conditional quantiles. Our test is a Hausman-type test based on the distance between two estimators, of which one is consistent only under no endogeneity while the other is consistent regardless of the presence of endogeneity in conditional quantile models. We derive the asymptotic distribution of the test statistic under the null hypothesis of no endogeneity. The finite sample properties of the test are investigated through Monte Carlo simulations, and it is found that the test shows good size and power properties in finite samples. As opposed to the test based on the IVQR estimator of Chernozhukov and Hansen (2006) in the case of more than a couple of variables, our approach does not imply an infeasible computation time. Finally, we apply our approach to test for endogeneity in conditional quantile models for estimating Engel curves using UK consumption and expenditure data. The pattern of endogeneity in the Engel curve is found to vary substantially across quantiles.



### wp43

### The Stabilizing Virtues of Fiscal vs. Monetary Policy on Endogenous Bubble Fluctuations

### Lise Clain-Chamosset-Yvrard, Thomas Seegmuller

We explore the existence of endogenous fluctuations with a rational bubble and the stabilizing role of fiscal and monetary policies. Consumers' credit constraints, the role of collateral and a portfolio choice are the key ingredients of our analysis. We consider an overlapping generations model where households realize a portfolio choice between three assets with different returns (capital, money and bonds). Expectation-driven fluctuations and the multiplicity of steady states occur under a positive bubble on bonds, gross substitutability and large input substitution because of credit market imperfections. Focusing on the stabilizing role of policies, we show that a progressive taxation on capital income may rule out expectation-driven fluctuations and the multiplicity of steady states. In contrast, a monetary policy under a Taylor rule has a mitigated stabilizing role, depending on the reactiveness of the policy rule and the concavity of the utility function. When the monetary authority decides instead to fix the nominal interest rate regardless the inflation, decreasing the level of the nominal interest rate can rule out expectation-driven fluctuations, restore the uniqueness of steady states, but can damage the welfare at the steady state.

### wp44

### Business Cycles Synchronization in East Asia: A Markov-Switching Approach

## Gilles Dufrénot, Benjamin Keddad

This paper attempts to analyze the relationships between the ASEAN-5 countries' business cycles. We examine the nature of business cycles correlation trying to disentangle between regional spillover effects (expansion and recession phases among the ASEAN-5 are correlated) and global spillovers where the business cycles of other countries (China, Japan and the US) play an important role in synchronizing the activity within the ASEAN-5. We employ a time-varying transition probability Markov switching framework in order to allow the degree of synchronization to fluctuate over time and across the phases of the business cycles. We provide evidence that the signals contained in some leading business cycles can impact the ASEAN-5 countries' individual business cycles.

### wp45

# Assessing Asian Exchange Rates Coordination under Regional Currency Basket System

### Benjamin Keddad

In this paper, I examine the extent to which the Asian exchange rates are coordinated around a synthetic Asian Currency Unit (ACU) defined as a basket of the Asian currencies. Using a VAR model, the results provide some evidence of stabilization among the Asian exchange rates around the ACU. Although the US dollar remains the dominant anchor within the region, these countries have allowed for more exchange rate flexibility against the US dollar since 2006, with the aim to adopt a basket peg where the Asian currencies have gained an increasing role. The empirical results also suggest that the official adoption of an undisclosed currency basket by Chinese authorities in July 2005 has been an important factor in the decision of Asian countries to shift toward a de facto currency basket system.

# wp46

## Analyzing Financial Integration in East Asia through Fractional Cointegration in Volatilities

# Gilles de Truchis, Benjamin Keddad

Two integrated financial markets are generally subjected to common shocks revealing that commonalities in fundamentals drive the underlying return processes. In such a case, volatilities should share a long-run component although their transitory components might temporary diverge. Accordingly, we investigate financial integration in East Asian by analyzing the co-persistent nature of their integrated volatilities. Using recent fractional cointegration techniques, we find that volatilities of several markets converge in long-run to a common stochastic equilibrium. Our results reveal that a global integration process drives the most developed markets of the region, while no evidence of co-persistence appears between emerging markets.

#### wp47

Growth and Financial Liberalization under Capital Collateral Constraints: The Striking Case of the Stochastic AK model with CARA Preferences

## Raouf Boucekkine, Giorgio Fabbri, Patrick Pintus

We consider a small-open, collateral-constrained AK economy. We show that the combination of CARA preferences and uncertainty on capital inflows in such an economy generates long-term (expected) growth while the deterministic counterpart does not. In this framework, long-term growth is entirely driven by precautionary savings. In particular, we show that the asymptotic growth rate of the expected capital stock is an increasing function of both the risk parameter and the Arrow-Prat absolute risk aversion parameter. The model also predicts that economies that are more financially integrated through international borrowing experience lower consumption growth volatility relative to output growth volatility.

#### wp48

Why Do Some Bikers Wear a Helmet and Others Don't? Evidence from Delhi, India

### Michael Grimm, Carole Treibich

In many domains risky health behavior is still only poorly understood. Analysis is often plagued by incomplete data and a general lack of information. In this study; we try to understand the determinants of helmet use among motorcyclists in Delhi; a context in which road safety is very low. We use a very detailed data set collected especially for the purpose of the study. To guide our empirical analysis; we rely on a simple model in which drivers decide on their speed and helmet use. The empirical findings suggest that risk averse individuals are more likely to wear a helmet. We do not find any systematic effect of risk aversion on speed. Both findings are coherent with our theoretical model. Helmet use also increases with education. Drivers who show a higher awareness of road risks; because for instance; they are better informed about Delhi's actual road traffc accident fatality and injury rates; are both more likely to wear a helmet and to speed less. In turn; those drivers who show a high level of unawareness take the highest risks. Controlling for risk awareness; we observe that drivers tend to compensate between speed and helmet use. The most obvious solution to India's road safety problem and the related high social costs that result from it is to enforce the helmet law and speed limits. An alternative strategy; and probably more feasible in the current context; is to design interventions which raise awareness of road risks. Improvements to the road infrastructure are also a possible solution but these measures bear the risk that drivers will react to the improved road safety by either increasing speed or lowering helmet use.

#### wp49

### The Local Determinants of Victimization

#### Camille Hémet

This paper explores the determinants of victimization at the neighborhood level, using data from the French victimization survey. Its contribution to the economics of crime literature is threefold. First, I provide evidence that neighborhood characteristics explain victimization better than individual characteristics. Second, I find that local unemployment rate is one of the most important factor explaining victimization, with a particularly large effect on small crimes such as motorbike theft or vandalism. I then tackle the endogenous location selection issue, by adopting the strategy developed by Bayer et al. (2008), based on the fact that the study is conducted at a very low geographic level. Third, I take advantage of the precise localization of the data to adopt a spatial approach, comparing the effect of unemployment rate in the reference neighborhood and in adjacent neighborhoods. The results support the idea that criminals are mobile across neighborhoods for more serious economic crimes, in line with the Beckerian theory of crime, but that petty crimes and vandalism do not involve any mobility, relating to the social disorganization theory.



#### wp50

Female Access to Credit in France: How Microfinance Institutions Import Disparate Treatment from Banks

### Anastasia Cozarenco, Ariane Szafarz

This paper compares the loans granted to male and female entrepreneurs by a French microfinance institution (MFI). The sample period is split in two: before and after the MFI implemented France's regulatory EUR 10,000 loan ceiling. In the first period, the MFI does not co-finance projects with mainstream banks and loan size is gender-insensitive. In the second period, the MFI does co-finance above-ceiling projects with mainstream banks, and we observe a gender gap in loan size. The results suggest that co-financing leads the originally gender-neutral MFI to import disparate treatment from mainstream banks.

#### wp51

Gender and Competition: Evidence from Academic Promotions in France

### Clément Bosquet, Pierre-Philippe Combes, Cecilia Garcia-Peñalosa

Differences in promotion across genders are still prevalent in many occupations. Recent work based on experimental evidence indicates that women participate less in or exert lower effort during contests. We exploit the unique features of the promotion system for French academics to look at women's attitudes towards competition in an actual labour market. Using data for academic economists over the period 1991-2008 we find that, conditional on entering the competition, there is no difference in promotions across the genders, which is diffcult to reconcile with either discrimination or a poorer performance of women in contests. In contrast, women have a substantially lower probability than men to enter the promotion contest. Our data does not support that this gap is due to differences in costs or in preferences concerning department prestige, indicating that women are less willing than men to take part in contests.

### wp52

Justice Sociale: Hayek et Sen Face à Rawls. Une Proximité Méthodologique Inattendue

### **Claude Gamel**

Par leur méthode d'approche de la justice sociale, Rawls, Hayek et Sen occupent chacun le sommet d'un triangle, où le « comparatisme » du dernier tient désormais à équidistance le « contractualisme » du premier et « l'évolutionnisme » du second (1). Lorsque la position du philosophe sert de point de repère, les deux économistes semblent toutefois développer des analyses curieusement assez proches : en dépit de conclusions fort éloignées (2), surgit une première convergence sur leur opposition de principe au contractualisme rawlsien (3). Plus fondamentalement, les démarches de Hayek et de Sen s'avèrent surtout comparables par leur pragmatisme (4). Que des résultats tout à fait opposés puissent être issus de méthodes aussi proches esquisse un paradoxe que de futures recherches devront encore étayer (5).

#### wp53

# Optimal Estimation Strategies for Bivariate Fractional Cointegration Systems

### Marcel Aloy, Gilles de Truchis

Estimation methods of bivariate fractional cointegration models are numerous. In most cases they have non-equivalent asymptotic and finite sample properties, implying difficulties in determining an optimal estimation strategy. In this paper, we address this issue by means of simulations and provide useful guidance to practitioners. Our Monte Carlo study reveals the superiority of techniques that estimate jointly all parameters of interest, over those operating in two steps. In some cases, it also shows that estimators originally designed for the stationary cointegration, have good finite sample properties in non-stationary regions of the parameter space.

#### wp54

### Optimal Sustainable Policies under Pollution Ceiling: The Demographic Side

### Raouf Boucekkine, Blanca Martinez, Ramon Ruiz-Tamant

We study optimal sustainable policies in a benchmark logistic world (where both population and technological progress follow logistic laws of motion) subject to a pollution ceiling. The main policy in the hands of the benevolent planner is pollution abatement, ultimately leading to the control of a dirtiness index as in the early literature of the limits to growth literature. Besides inclusion of demographic dynamics, we also hypothesize that population size affects negatively the natural regeneration or assimilation rate, as a side product of human activities (like increasing pollution, deforestation,...). We first characterize optimal sustainable policies. Under certain conditions, the planner goes to the pollution ceiling value and stays on, involving a more stringent environmental policy and a sacrifice in terms of consumption per capita. Second, we study how the sustainable problem is altered when we depart from the logistic world by considering exponential technical progress (keeping population growth logistic). It's shown that, as expected, introducing such an asymmetry widens the margins of optimal policies as sustainable environmental policies are clearly less stringent under exponential technical progress. Third we connect our model to the data, using in particular UN population projections.

#### wp55

### Public Education Spending, Sectoral Taxation and Growth

#### **Marion Davin**

This paper examines the interplay between public education expenditure and economic growth in a two-sector model. We reveal that agents' preferences for services, education and savings play a major role in the relationship between growth and public education expenditures, as long as production is taxed at a different rate in each sector.

#### wp56

### Altruism in Networks

### Renaud Bourlès, Yann Bramoullé

We provide the first theoretical analysis of altruism in networks. Agents are embedded in a fixed, weighted network and care about their direct friends. Given some initial distribution of incomes, they may decide to support their poorer friends. We study the resulting non-cooperative transfer game. Our analysis highlights the importance of indirect gifts, where an agent gives to a friend because his friend himself has a friend in need. We uncover four main features of this interdependence. First, we show that there is a unique profile of incomes after transfers, for any network and any utility functions. Uniqueness in transfers holds on trees, but not on arbitrary networks. Second, there is no waste in transfers in equilibrium. In particular, transfers flow through indirect paths of highest altruistic strength. Third, a negative shock on one agent cannot benefit others and tends to affect socially closer agents first. In addition, an income redistribution that decreases inequality ex-ante can increase inequality ex-post. Fourth, altruistic networks decrease income inequality. In contrast, more altruistic or more homophilous networks can increase inequality.

# wp57

### Fiscal Externalities and Optimal Unemployment Insurance

#### **Nicholas Lawson**

A common finding of the optimal unemployment insurance literature is that the optimal UI replacement rate is around 50%, implying that current levels in the US are close to optimal. However, a key assumption in the existing literature is that unemployment benefits are the only government spending activity. In this paper I show that recommendations for optimal UI levels are dramatically reduced when one incorporates the fact that UI spending is a small part of overall government spending. This occurs because the negative impact of UI on income tax revenues implies added welfare costs, a mechanism that I refer to as a fiscal externality. Using both a calibrated structural job search model and a "sufficient statistics" method that relies on reduced-



form elasticities, I find that the optimal replacement rate drops to zero once fiscal externalities are incorporated. However, I also consider the possibility that more generous UI could increase reservation wages and thus potentially increase the tax base, and I show that this second fiscal externality could have important effects on the results, with an optimal replacement rate which could rise above 70%.

#### **wp58**

Child Labor, Idiosyncratic Shocks, and Social Policy

### Alice Fabre, Stéphane Pallage

In this paper, we provide a dynamic model with heterogeneous agents to study child labor in an economy with idiosyncratic shocks to employment. Households facing adverse shocks may use child labor as a buffer to smooth consumption. We show that the introduction of an unemployment insurance program and/or a universal basic income system help eliminate child labor endogenously in this context. A calibration to South Africa in the 1990s is provided.

#### wp59

How Do Experienced Traders Respond to Inflows of Inexperienced Traders? An Experimental Analysis

# Eizo Akiyama, Nobuyuki Hanaki, Ryuichiro Ishikawa

We conducted asset market experiments where one experienced subject (EH) interacts with five inexperienced subjects (1EH5H) to investigate how EHs change their price forecasts and trading strategies when faced with strategic uncertainty caused by inflows of inexperienced subjects. Only half the EHs initially forecasted prices deviating more from the fundamental values in 1EH5H than in the final round of the experiment in which they had previously participated. Furthermore, the majority of our EHs did not change their trading behaviour. Many EHs act as price stabilisers when the inflow of inexperienced subjects is not associated with other changes in market conditions.

### wp60

The Informal Sector Wage Gap: New Evidence using Quantile Estimations on Panel Data

# Olivier Bargain, Prudence Kwanda

We estimate the informal-formal sector pay gap throughout the conditional wage distribution using panel data from Brazil, Mexico and South Africa. We control for time-invariant unobservables and identification is stemming from inter-sector movers. We control for observables in a non-linear way using propensity score reweighting and carefully check for potential measurement errors. Using similar definitions of informality, we obtain consistent results for all three countries: Informally employed workers earn much less than formal workers primarily because of lower observable and unobservable skills. Estimates of the conditional wage gap show that they are also underpaid compared to their formal sector counterparts. In all three countries, the informal wage penalty is larger in the lower part of the conditional distribution and tends to disappear at the top, i.e., the informal sector increases wage dispersion. The magnitudes of these effects vary across countries, with the largest penalties in lower conditional quantiles of South Africa and more modest wage gaps in Latin America. We suggest explanations in line with different legal and labor market conditions.



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