CENTER FOR OPERATIONS RESEARCH AND ECONOMETRICS

2011

REPORT OF THE RESEARCH DIRECTOR

2012

CORE

Contents

Before I comment on the contents of this report, it is my painful duty to remind you that Summer 2012 has been the time of the death of Jean-François Mertens. We have lost an outstanding researcher, a very helpful colleague and a friend. He has deeply impacted the history of CORE. We all miss him.

PREAMBLE

Founded in 1966, the Center for Operations Research and Econometrics (CORE) is an interdisciplinary research center of the Université catholique de Louvain. In 2010, CORE became one of the poles of IMMAQ, a research institute associating researchers from three different research entities: CORE, IRES (Institut de Recherches Economiques et Sociales) and ISBA (Institute of Statistics, Biostatistics and Actuarial Sciences).

CORE follows three objectives. The first objective is the development of scientific research in the fields of economics, game theory, operations research and econometrics. The second objective is the training of young researchers at the doctoral and postdoctoral stages of their career. The third objective is the promotion of inter-university and international scientific exchanges and collaborations. This report gives an overview of the activities developed in the Summer 2011 – Summer 2012 period to meet these objectives. A more dynamic follow-up of the current activities can be found in the CORE-Newsletter, which is published three times a year (http://www.uclouvain.be/en-330033.html), on the CORE-website (http://www.uclouvain.be/en-core.html), and on the CORE-Facebook page (https://www.facebook.com/CORE.UCL).

PEOPLE

In Section 1, we present the people working at CORE, Faculty members, administrative staff members, PhD students, and the many long term, short term and regular visitors. One of the main features of CORE since its very foundation has been its focus on developing inter-university and international scientific exchanges. CORE has continued activily this tradition of networking, both at the institutional and at the personal level. CORE offers an office for short visits (for a few days or a few weeks)

to researchers coming to present their work at one of the weekly research seminars, to participate in CORE workshops or conferences, or simply to work with a co-author. In addition, Research Associates and Associate Fellows are regularly present at CORE. Each year a new cohort of post-doctoral research fellows – selected on an international and competitive basis – arrives at CORE.

We also present in the section our administrative staff. CORE could never have become the lively, stimulating and hospitable research environment it is today without its efficient and friendly staff. They create a place where the academics can concentrate on research and teaching without having to bother too much about practical issues. This is a necessary condition for CORE to remain an attractive place for visitors. Many thanks, therefore, to the administrative staff.

The last paragraph of Section 1 gives you some details about prizes and awards. No less than 7 Faculty members and students have been awarded prizes in the 2011-2012 period.

Research

CORE's activities integrate fundamental and applied research. They are oriented towards providing frameworks for the analysis of a wide range of problems. Theoretical, statistical and computational dimensions of these frameworks are part of the research output. The problems that are analyzed arise from economic policy and the management of private and public firms. The emphasis of the research is on interactive work with a solid theoretical basis. Our works in many fields are unified by mathematical modeling and reasoning.

CORE's research covers a wide variety of topics. They are classified according to the following research domains: econometric theory, econometrics of financial markets, energy economics, environmental economics, game theory, general equilibrium, growth and development, industrial organization, macroeconomic policies, microeconomic theory, optimization methods and operations research, public and welfare economics, supply chain management, trade, transport and economic geography.

Section 2 describes the recent research output. In 2011-2012, 7 books have been written or edited by CORE members. Then, 117 papers have been published in scientific journals, of which 78 have been included in the CORE Reprints Series. Also, 76 discussion papers have been written, of which 63 have been included in the

CORE Discussion Papers. We also mention at the end of Section 2 a number of newspaper articles written by CORE members.

Training

Training of young researchers is an important facet of CORE's activities. In Section 3, we present activities linked to that training. In 2011-2012, 6 PhD students defended their dissertation at CORE. Overall, 30 students developed their research at CORE at that time. In 2011-2012, CORE has become a partner of a new PhD network in Economics, the European Doctorate in Economics – Erasmus Mundus (EDEEM). Like our well-established EDP program, this international program offers our students outstanding opportunities to spend long stays in partner departments abroad.

Seminars and Conferences

In Section 4, we give information on seminars. Weekly research seminars in the fields of econometrics, economic theory, mathematical programming, trade and economic geography, and welfare economics allowed CORE members and visitors to present their work and share ideas. In addition, there were regular reading seminars in operations research and workshops in game theory. In 2011-2012, students have launched an economics reading group, in which each meeting is sponsored by a Faculty member, and s/he chooses the topic of the readings. The joint CORE-ECARES seminar has continued, in which researchers from CORE present their work at ECARES and vice versa.

In Section 5, we present the conferences organized or co-organized by CORE members. CORE has been an official organizer of 7 of them. Let me point out the 4th Euro-African conference in finance and economics, which took place in Cairo. Many European and African researchers have had the opportunity to meet, present their work and exchange ideas. CORE finds it important to be a partner of the development of research in Africa.

We also list in Section 6 the presentations made by CORE members in seminars and conferences outside CORE.

Support

These activities are supported by CORE's participation in a long list of research projects and joint contracts, of which we present the details in Section 7. They are financed by different institutions (the Belgian Federal Government, the Belgian French Community (Fédération Wallonie-Bruxelles), the Walloon Region (Région Wallonne), the European Commission and private partners).

Finally, we are grateful for the continuing and indispensable support of the Université catholique de Louvain.

François Maniquet

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PERSONNEL

- Management
- The Faculty
- Administrative staff
- Doctoral students and research assistants
- Research fellows
- Associate fellows
- Research associates
- Short term visitors
- Research fellows and visiting faculty members for 2012-2013
- Prizes and awards

■ MANAGEMENT

Officers for the period covered by this report:

|	
President:	Luc BAUWENS
Research Director:	François MANIQUET
Co-directors:	Philippe CHEVALIER
	Vincent VANNETELBOSCH
Executive Director:	Francisco SANTANA FERRA

■ THE FACULTY

During the academic year 2011-2012, the permanent staff of CORE consisted of *Faculty Members* of Université catholique de Louvain (UCL), Université libre de Bruxelles (ULB), Facultés universitaires Saint-Louis, Bruxelles (FUSL), KU Leuven (KUL), Université de Liège (ULg), Facultés universitaires catholiques de Mons (FUCaM), Facultés universitaires Notre-Dame de la Paix, Namur (FUNDP), Universiteit Maastricht (UM) and Université du Luxembourg (uni.lu).

PER AGRELL

- Professor, Université catholique de Louvain (Doctoral School of Management, Louvain-la-Neuve campus), Belgium.

- ***Operations management (supply chain management, network regulation).***

- Ph.D. (production economics), Linköping University, Sweden, 1995.

- Researcher, International Institute for Applied Analysis (IIASA), Laxenburg, Austria, 1993–1994; post doctoral researcher, University of Georgia, Athens (GA), USA; visiting associate professor in operations research, Copenhagen University, Denmark; 1997–1999; associate professor in managerial economics, Copenhagen University, Denmark, 1998–2001; senior researcher, Universitat Autonoma de Barcelona, Spain, 2008; president of the Louvain School of Management Research Institute, UCL, Belgium, 2010–2011.

- *Current editorial activities:* Associate editor, *International Journal of Production Economics.*
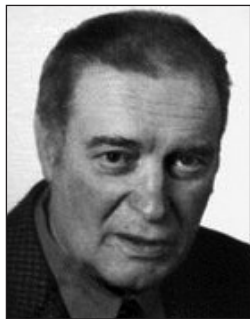
ANTON BARTEN

- Professor emeritus, KU Leuven and Université catholique de Louvain, Belgium.

- **Econometrics and macroeconomic models**.

- Ph.D. (economische wetenschappen), Nederlandse Economische School, Rotterdam, 1966.

- Visiting professor, University of California, Berkeley (CA), USA, 1962–1963; University of Wisconsin, Madison (WI), USA, 1963; University of Pennsylvania, Philadelphia (PA), 1964; University of Chicago (IL), USA, 1969–1970.

- *Prizes & Awards :* Fellow of the Econometric Society, 1977; member of the International Statistical Institute; corresponding member of the Royal Netherlands Academy of Sciences; foreign member of the Royal Belgian Academy of Sciences.

LUC BAUWENS

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.

- **Econometrics and statistics**.

- Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1983.

- Consultant at World Bank Washington (DC), USA, 1983–1984; senior researcher at Facultés universitaires catholiques de Mons, Belgium, 1984–1987; senior lecturer at Ecole des Hautes Etudes en Sciences Sociales (EHESS), Marseille, France, 1987–1991; chairman, Département des sciences économiques, Université catholique de Louvain, Belgium, 2000–2003; research director, CORE, Université catholique de Louvain, Belgium, 2006–2009; president, CORE, Université catholique de Louvain, Belgium, 2010–2013.

- *Prizes & Awards :* Leonard J. Savage Thesis Award, 1984; Francqui Chair, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 2005–2006.

- *Previous editorial activities:* Associate editor, *Computational Statistics* and *Empirical Economics*.

- *Current editorial activities:* Associate editor, *Computational Statistics and Data Analysis (Annals of Financial Econometrics), Journal of Applied Econometrics*, and *Risk Letters*.

PAUL BELLEFLAMME

- Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; research affiliate, Center for Economic Studies and Ifo Institute for Economic Research (CESifo), Münich, Germany; member of the board of AIDE (Association Internationale de Droit Economique).

- **Microeconomics (industrial organization, game theory).**

- Docteur en sciences économiques, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1997.

- Research fellow, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1997–1999; Lecturer in economics, Queen Mary, University of London, United Kingdom, 1999–2002.

- *Prizes & Awards*: Prix du Fonds International WERNAERS for scientific research and knowledge diffusion, 2012.

- *Previous editorial activities:* Associate editor, *Information Economics and Policy*.

- *Current editorial activities:* Associate editor, *E-economics*, member of the editorial board, *Review of Networks Economics*.

RAOUF BOUCEKKINE

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; professor and research director, Aix-Marseille School of Economics, France.

- **Mathematical and computational methods in economics, growth theory and development, economic and mathematical demography.**

• Docteur en sciences économiques, Université Paris 1 Panthéon-Sorbonne, France, 1993.

• Assistant and Associate professor, Universidad Carlos III de Madrid, Spain, 1993–1998; visiting professor, Université Louis Pasteur, Strasbourg, France, 2000–2003; KU Leuven, Belgium, 2001–2005; HEC-Paris, France, 2003–2007; part-time chair, University of Glasgow, United Kingdom, 2007-2010.

• *Previous editorial activities:* Associate editor, *Mathematical Population Studies* and *Investigaciones Economicas.*

• *Current editorial activities:* Associate editor, *Annales d'Economie et Statistique, Journal of Public Economic Theory, Macroeconomic Dynamics*, and *Mathematical Social Sciences.*

Thierry Bréchet

• Professor, Université catholique de Louvain (Louvain-School of Management, Louvain-la-Neuve campus); Belgium.

• *Environmental economics*.

• Docteur en sciences économiques, Université Paris 1 Panthéon-Sorbonne, France, 2000.

• Expert for the European Commission, Belgium, 1992–1994; expert for the Bureau Fédéral du Plan, Belgique, 1994–2000; holder of the Chair Lhoist Berghams in Environmental Economics and Management, 2002–2011; invited professor, Université Lille 1, France, 2010-2011; visiting professor, European University of St Petersburg, Russia, 2009–2012; associate research fellow, Grantham Institute for Climate Change, Imperial College London, 2011–2012.

• *Current editorial activities:* Member of the editorial board, *Regards Economiques.*

Philippe Chevalier

• Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium.

• *Operations research: stochastic models, supply chain and management*.

• Ph.D. (operations research), Massachusetts Institute of Technology, Cambridge (MA), USA, 1992.

• Associate Professor, Universidad de Chile, 1992–1994.

• *Previous editorial activities:* Member of editorial board, *Manufacturing and Service Operations Management.*

Claude d'Aspremont

• Professor emeritus, Université catholique de Louvain, Belgium.

• *Mathematical economics, social choice theory, industrial organization*.

• Ph.D. (decision sciences), Graduate School of Business, Stanford University (CA), USA, 1973.

• Visiting professor, Université d'Aix-Marseille III, France, 1984–1996; Université Louis Pasteur, Strasbourg, France, 1988–1999; Ecole Polytechnique de Paris, France, 1995; Facultés universitaires Saint-Louis, 1981-2001; visiting scholar, Graduate School of Business, Stanford (CA), USA, Summer, 1987 and Spring 1995; president, Département des sciences économiques, Université catholique de Louvain, Belgium, 1991–1994; research director, 1995–1998 and president, 2006–2010, CORE, Université catholique de Louvain, Belgium; president, IMMAQ, Université catholique de Louvain, Belgium, 2010–2011.

• *Prizes & Awards:* Fellow of the Econometric Society, 1984; Francqui Prize, 1995; Doctor Honoris Causa, Université Louis Pasteur, Strasbourg, France, 2002; founding fellow of the Society for the Advancement of Economic Theory (SAET), 2011.

• *Previous editorial activities:* Associate editor, *European Economic Review, Games and Economic Behavior, Journal of Economics/Zeitschrift für Nationalökonomie*, and *Journal of Mathematical Economics.*

- *Current editorial activities:* Associate editor, *Revue de philosophie économique, Journal of Public Economic Theory*, and *Social Choice and Welfare.*

JULIO DAVILA

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Directeur de Recherches CNRS, Paris, France.
- **Economic theory and game theory.**
- Docteur en sciences économiques, Ecole des Hautes Etudes en Sciences Sociales, Paris, France, 1994.
- Chargé de Recherches CNRS, Paris, France, 1998–2009; assistant professor, University of Pennsylvania (PA), USA, 1999–2004; profesor titular, Universidad Autónoma de Barcelona, Spain, 1994–1998; postdoctoral fellow, Harvard University, Cambridge (MA), USA, 1995; associate professor, Paris School of Economics, France, 2008–to date; visiting professor, Universiad Carlos III de Madrid, Spain, 2006; ECARES-Université libre de Bruxelles and Solvay Business School, Brussels, Belgium, 2005–2008.
- *Current editorial activities:* Associate editor, *Economics Bulletin.*

PIERRE DEHEZ

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- **Microeconomics, general equilibrium, game theory.**
- Doctor in Economics, Université catholique de Louvain, Belgium, 1980 (European Doctoral Program).
- Professor: European University Institute, Florence, Italy, 1983–1990 and Erasmus Universiteit Rotterdam, The Netherlands, 1991–1992; visiting professor University of Illinois, USA, University of Namur, Belgium, University of Mannheim, Germany, University of Cergy-Pontoise, France, University of Strasbourg, France, University of Nancy, France, University of Pisa, Italy; chairperson, Department of Economics, European University Institute,

Florence, Italy, 1985–1987 and 1989; president, Department of Economics, Université catholique de Louvain, Belgium, 1994–2000; prorector in charge of the sector of human and social sciences, Université catholique de Louvain, Belgium, 2001–2004.

DAVID DE LA CROIX

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- **Growth theory, human capital and demography, overlapping generations.**
- Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1992.
- Research fellow, Universiteit Maastricht, The Netherlands, 1992; visiting professor, University of California, Los Angeles (CA), USA, 2000-2001.
- *Prizes & Awards:* Francqui Chair, Ghent Universiteit, Belgium, 2004; chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS), Belgium; United Nations: Panel on New Challenges in Population and Development (IUSSP), 2010–2013.
- *Current editorial activities:* Associate editor, *Journal of Economic Dynamics and Control, Journal of Development Economics, Journal of Public Economic Theory*; member of the Editorial Board *Ciometrica, Fiscal Studies*, and *Recherches Economiques de Louvain.*

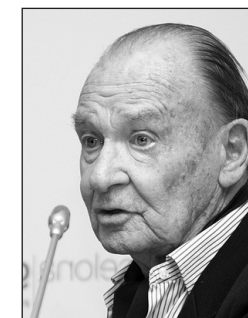### JACQUES DRÈZE

- Professor emeritus, Université catholique de Louvain, Belgium.
- **Economic theory and macroeconomics**
- Ph.D. (economics), Columbia University, New York (NY), USA, 1958.
- Visiting professor, Carnegie Institute of Technology, Pittsburgh (PA), USA, 1957–1958; Northwestern University, Evanston (IL), USA, 1962; University of Chicago (IL), USA, 1963–1968.

• *Prizes & Awards:* Fellow, 1964 and president, 1970 of the Econometric Society; Francqui Chair, Université libre de Bruxelles, Brussels, Belgium, 1970–1971 and KU Leuven, Belgium, 1982–1983; Andrew D. White professor at large, Cornell University, Ithaca (NY), USA, 1971–1977; president of the European Economic Association, 1985–1986; president of the International Economic Association, 1996–1999.

• *Previous editorial activities:* Co-editor, *Econometrica.*

LOUIS EECKHOUDT

• Professor emeritus, Facultés universitaires catholiques de Mons, Belgium.

• **Decision under risk and health economics.**

• Ph.D. (economics), Michigan State University, East Lansing (MI), USA, 1970.

Prizes & Awards: Robert Witt Research Award, 2002 and 2004; Kult Wright Book Award, 2007.

• *Previous editorial activities:* Associate Editor, *Revue Economique.*

• *Current editorial activities:* Associate Editor, *Geneva Risk and Insurance Review* and *Journal of Risk and Insurance*

JEAN J. GABSZEWICZ

• Professor emeritus, Université catholique de Louvain, Belgium.

• **Economic theory.**

• Docteur en droit, Université catholique de Louvain, Belgium, 1961; docteur en sciences économiques, Université catholique de Louvain, Belgium, 1968.

• Visiting professor, Polish Academy of Sciences, Warzaw, Poland, 1973; University of Tel-Aviv; Israël, 1973; Université de Paris Dauphine, France, 1973; Université d'Aix-Marseille, France, 1973; Université de Paris Val de Marne, France; 1979; Université d'Aix-en-Provence, France, 1981; Université de Lyon, France, 1981; Université de Strasbourg, France, 1982; Université de Dijon, France, 1983; European University Institute, Firenze, Italy, 1984; Université Paris 1 Panthéon-Sorbonne, France, 1999–2000; Université de Paris Panthéon-Assas, France, 1999–2001.

• *Prizes & Awards:* Fellow of the Econometric Society, 1979; administrator of CEPREMAP, Paris, France; member of the Council of the European Economic Association, 1986–1989; Doctor Honoris Causa, Université d'Aix-Marseille II, France, 2003; Fellow of the European Economic Association, 2004.

• *Previous editorial activities: Journal of Economics, Ricerche Economiche, Journal of Economic Theory,* and *European Economic Review.*

VICTOR GINSBURGH

• Professor emeritus, Université libre de Bruxelles, Brussels, Belgium.

• **Economic theory, cultural economics, economics of languages.**

• Docteur en sciences économiques, Université libre de Bruxelles, Brussels, Belgium, 1972.

• Researcher, Cowles Foundation, Yale University, New Haven (CT), USA, 1975; visiting professor, Université catholique de Louvain, Belgium, 1973, 1978 and 1985; University of Virginia, Charlottesville (VI), USA, 1979; Université Paris 1 Panthéon-Sorbonne, France, 1986–1987 and 1991–1992; Université Paris Panthéon-Assas, France, 1986–2004; Université d'Aix-Marseille II, France, 1986–1989; University of Chicago (IL), USA, 1996.

• *Prizes & Awards:* Francqui Chair, Université de Liège, Belgium, 1992–1993; president of the International Association of Cultural Economics, 2002–2004; co-director, European Center for Advanced Research in Economics and Statistics (ECARES), Université libre de Bruxelles, Brussels, Belgium, 2002–2009.

• *Previous editorial activities: Annales d'Economie et de Statistique, European Economic Review,* and *Journal of Cultural Economics.*

• *Current editorial activities:* Co-editor, *Journal of Wine Economics*; associate editor, *Recherches Economiques de Louvain-Louvain Economic Review.*

Pierre Giot

- Professor, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium.

- **Financial econometrics, modeling volatility and risk, market microstructure, venture capital economics.**

- Docteur en sciences économiques (financial econometrics), Université catholique de Louvain, Belgium, 1999.

- Assistant professor, Department of quantitative economics, Universiteit Maastricht, The Netherlands, 2000–2001; visiting professor, Université catholique de Louvain, Belgium, 2000–to date and Université Paris 1 Panthéon-Sorbonne, France, 2002.

- *Prizes & Awards:* Winner of the 2005 Joseph de la Vega price and Winner of the annual prize of the French Finance Association, 2010.

François Glineur

- Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, Pôle en ingénierie mathématique), Belgium.

- **Optimization, mathematical programming and operations research (algorithms, modeling and applications).**

- Docteur en sciences appliquées, Faculté polytechnique de Mons, Belgium, 2001.

- FNRS Postdoctoral Researcher 2001-2002 (Faculté Polytechnique de Mons, Belgium and McMaster University, Canada)

Christian Hafner

- Professor, Université catholique de Louvain (Louvain School of Statistics, Biostatistics and Actuarial Sciences), Belgium.

- **Econometrics and statistics.**

- Ph.D. in Economics, Humbold-Universität zu Berlin, Germany, 1996.

- Postdoctoral fellow, CORE, Université catholique de Louvain, Belgium, 1996–1997; research associate, Humboldt-Universität zu Berlin, Germany, 1997–1999; chief analyst, Electrabel, Louvain-la-Neuve, Belgium, 1999–2002; assistant professor, Erasmus Universiteit Rotterdam, The Netherlands, 2002–2005; president, Louvain School of Statistics, Biostatistics and Actuarial Science, UCL, Belgium, 2010–to date.

- *Current editorial activities:* Associate editor, *Banking and Finance Review, Computational Statistics, International Econometric Review*, and *Studies in Nonlinear Dynamics and Econometrics.*

Jean Hindriks

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Senior fellow, Itinera Institute, Brussels, Belgium.

- **Public economics, political economy and education economics.**

- Docteur en sciences économiques, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1996.

- Visiting fellow, University of Essex, United Kingdom, 1997–1998; lecturer in economics, University of Exeter, United Kingdom, 1998–2000; Queen Mary College, University of London, United Kingdom, 2000–2002.

- *Previous editorial activities:* Associate editor, *European Journal of Political Economy.*

- *Current editorial activities:* Associate editor, *Journal of Public Economic Theory* and *Fiscal Studies.*

Sébastien Laurent

- Associate professor in econometrics, Universiteit Maastricht, The Netherlands; visiting professor, Université catholique de Louvain, Belgium.

- *Financial econometrics, modeling volatility and risk.*

- Ph.D. in Financial Econometrics, Universiteit Maastricht, The Netherlands, 2002.

- Assistant professor in economics, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 2003–2009; visiting professor, London School of Economics, 2008–2009.

Etienne Loute

- Professor, Facultés universitaires Saint-Louis, Brussels (Doctoral School of Management, UCL, Belgium, Brussels campus), Belgium.

- *Mathematical programming: algorithmic and implementation issues, management and engineering applications of mathematical programming.*

- Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 1976.

- Visiting professor, Brookhaven National Laboratory, Upton (NY), USA, 1977; IIASA, Vienne, Austria, 1979; HEC Montréal, Canada, 1981; Université de Genève, Switzerland, 1992; Université de Savoie, France, 1992–2004; National University of Vietnam, Ho Chi Minh City, Vietnam, 1998–2002.

- *Prizes & Awards:* Dean, Faculté des sciences économiques et politiques, Facultés universitaires Saint-Louis, Brussels, Belgium, 1993–1996; President of SOGESCI (2004–2006), Director of Doctoral School of Management, UCL, Belgium, Brussels campus, Belgium, 2007–to date, member of INFORMS, SIAM, SOGESCI, and Mathematical Programming Society.

François Maniquet

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Ecole des sciences économiques), Belgium; part-time professor, University of Warwick, United Kingdom; research director, CORE, Université catholique de Louvain, Belgium, 2011–2014.

- *Microeconomic theory, welfare economics, public economics, political economics.*

- Docteur en sciences économiques, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1994.

- *Prizes & Awards:* SCW Prize, 2004, best paper in *Review of Economic Design*, 2004; Chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS), Belgium; Francqui Chair 2009–2010 at Facultés universitaires Saint-Louis, Brussels, Belgium; Francqui Prize, 2010; ERC grant laureate 2010.

- *Current editorial activities:* Editor, *Economics and Philosophy*; associate editor, *Annals of Economics and Statistics, Mathematical Social Sciences* and *Social Choice and Welfare*.

Ana Mauleon

- Chercheur qualifié, Fonds National de la Recherche Scientifique (FNRS), Belgium, and associate professor at the Facultés universitaires Saint-Louis (Faculté des sciences économiques, sociales et politiques), Brussels, Belgium; co-director of the Center for Research in Economics (CEREC), 2008–to date, Facultés universitaires Saint-Louis, Brussels, Belgium.

- *Game theory, industrial organization and matching theory.*

- Ph.D. in Economics, Universidad del Pais Vasco, Bilbao, Spain, 1997.

- Lecturer, Department of Economic Analysis, Universidad del Pais Vasco, Bilbao, Spain, 1989–1997; Assistant Professor, Department of Economic Analysis, Universidad del Pais Vasco, Bilbao, Spain, 1997–1999; Associate Professor, Department of

Economic Analysis, Universidad del Pàis Vasco, Bilbao, Spain, 1999–2006; LABORES (URA 362, CNRS), Université Catholique de Lille, France, 2001– 2004.

Jean-François Mertens
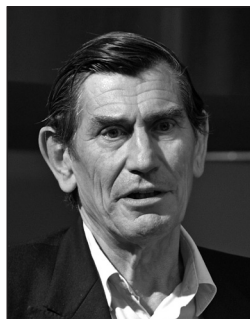
• Professor emeritus, Université catholique de Louvain, Belgium (deceased on July 17, 2012).

• **Economic theory and game theory.**

• Docteur en sciences, Université catholique de Louvain, Belgium, 1970.

• Visiting professor, Universität Heidelberg, Germany, 1970; Hebrew University of Jerusalem, Israël, 1970 and 2001; University of California, Berkeley (CA), USA, 1971 1972–1975, Universität Bielefeld, Germany, 1972; Harvard Business School, Boston (MA), USA, 1981; leading professor of economics of applied mathematics, S.U.N.Y. at Stony Brook (NY), USA, 1989–1992.

•*Prizes & awards* : Fellow of the Econometric Society, 1981.

• *Previous editorial activities:* Editor, *Journal of Mathematical Economics, International Journal of Game Theory*, and *Economic Theory*.

Michel Mouchart

• Professor emeritus, Université catholique de Louvain, Belgium.

• **Statistics and econometrics.**

• Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1973.

• International professor CIENES, Santiago, Chili, 1966–1967; visiting professor, University of Chili, Chili, 1967–1968; University College, London, United Kingdom, 1976; Université de Strasbourg, France, 1981; Indian Statistical Institute, New Delhi, India, 1982; Université d'Aix-Marseille II, France, 1982; Università di Bologna, Italy, 1984; Carnegie-Mellon University, Pittsburgh (PA), 1985; Université des Sciences Sociales de Toulouse, France 1991–1993; Université de Paris Panthéon-Sorbonne, France, 1993–1994.

• *Prizes & Awards:* Elected member of the International Statistical Institute, Bernoulli Society, Société Belge de Statistique.

• *Current editorial activities:* Associate Editor, *Statistica, International Econometric Review*

Yurii Nesterov

• Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, Pôle en ingénierie mathématique), Belgium.

• **Convex and nonlinear optimization, complexity analysis of optimization schemes, polynomial-time algorithms, fast gradient methods, approximation of combinatorial problems, equilibrium in congested transportation networks.**

• Doctor in applied mathematics, Institute of Control Sciences, Moscow, Russia, 1984.

• Research associate, Central Economic and Mathematical Institute of the Russian Academy of Science, Moscow, Russia, 1997–1992; visiting professor, Université de Genève, Switzerland, 1992–1993; invited professor, CORE, Université catholique de Louvain, Belgium, 1993–2000.

• *Prizes & Awards:* Dantzig Prize, 2000; John Von Neumann Theory Prize, 2009; Best Paper Award, Optimization Methods and Software, 2010; EUROPT fellow, 2010; Francqui Chair 2012, Université de Liège, Belgium.

• *Previous editorial activities:* Associate editor, *Mathematical Programming*.

• *Current editorial activities:* Associate editor, *Foundation of Computational Mathematics, Optimization and Engineering* and *Optimization Methods and Software*.

DOMINIQUE PEETERS

• Professor, Université catholique de Louvain (Faculté des Sciences, Ecole de géographie), Belgium.

• *Location theory, economic geography, regional science, mathematical programming, operations research.*

• Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 1980; agrégé de l'enseignement supérieur, Université catholique de Louvain, Belgium, 1995.

• Post-doctoral fellow, McMaster University, Hamilton, Ontario, Canada, 1986; Université de Bourgogne, France, 1991; University of Tsukuba, Japan, 1996–1997; Université Louis Pasteur, Strasbourg, France, 2006.

PIERRE PESTIEAU

• Professor emeritus, Université de Liège, Belgium; Associate member, Paris School of Economics, France; CEPR, CESIfo, IZA research fellow.

• *Population economics and public economics.*

• Ph.D. (economics), Yale University, New Haven (CT), USA, 1971.

• Assistant professor, Cornell University, Ithaca (NY), USA, 1971–1976; professor, Université de Liège, Belgium, 1976–2008.

• *Prizes & Awards:* Francqui Prize, 1989; AGF ASSUBEL Prize, 1995; Einaudi Chair in European Studies, Cornell University, Ithaca (NY), 1997; Prix Risque-Les Echos, 2006; Honorary Degree Uppsala University, 2011.

• *Previous editorial activities*: Co-editor, *Journal of Population Economics.*

• *Current editorial activities*: Co-editor, *Journal of Public Economics*; associate editor, *CESifo Economic Studies, Economica, Finanz-Archiv*, and *Journal of Public Economic Theory.*

PIERRE PICARD

• Professor, Faculty of Law, Economics and Finance, Université du Luxembourg.

• *Microeconomics, regional and urban economics, international economics and public economics.*

• Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1998.

• Research fellow, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1998–1999; Lecturer and Senior Lecturer in Economics, School of Economic Studies, University of Manchester, United Kingdom, 1999–2008.

• *Current editorial activities:* Co-editor, *Manchester School.*

ERIK SCHOKKAERT

• Professor, KU Leuven, Belgium.

• *Public economics, health economics, social choice.*

• Ph.D. (economics), KU Leuven, Belgium, 1982.

• Visiting professor, Universiteit Antwerpen, Belgium, 1985–1986, Université catholique de Louvain, Belgium, 1988-1989, London School of Economics, United Kingdom, 2006–2007; research director, CORE, Université catholique de Louvain, Belgium, 2009–2011.

• *Prizes & Awards:* Francqui chair 2005-2006, Universiteit Antwerpen, Belgium.

• *Current editorial activities:* Associate editor, *Economics & Philosophy, Health Policy*, and *Social Choice and Welfare.*

LÉOPOLD SIMAR

- Professor emeritus, Université catholique de Louvain and Facultés universitaires Saint-Louis, Brussels, Belgium.

- *Mathematical statistics, nonparametric statistics and econometrics, resampling methods, production and efficiency analysis.*

- Docteur en sciences appliquées (mathématiques appliquées), Université catholique de Louvain, Belgium, 1974.

- Visiting professor, Cornell University, Ithaca (NY), USA, 1974; IDEI, Université des Sciences Sociales, Toulouse, France, 1991–2012; Humboldt Universität, Berlin, Germany, 1993–2003; Texas University, Austin (TX), USA, 1995-2005; Rice University, Houston (TX), USA, 1996; 1998; 2009; ENSAI, Rennes, France, 1999–2001; Australian National University, Canberra, Australia, 1999; Universität of Mainz, Germany, 2002–2004; University of Pisa, Italy, 2003–2006; University of Bologna, Italy, 2010-2011; ENSAE, Paris, France, 2001–2009; Institut Français du Pétrole, Rueil, France, 1991–2012; Clemson University (SC), USA, 2007-2012; Professore di Chiara Fama, 2006 and 2007; Italian Ministry of Research, Scuola Superiore San'Anna, Pisa, Italy; Chaire d'Excellence Pierre de Fermat, 2008–2009, Region Midi-Pyrénées, Toulouse School of Economics, France; Universität Karlsruhe (TH), Germany, 2008–2009; Universität Bonn, Germany, 2011; University of Salento, Lecce, Italy, 2010–2012,; University of Queensland, Brisbane, Australia, 2011; University of Rome La Sapienza, Italy, 2011–2012.

- *Prizes & Awards:* Elected member of the International Statistical Institute; dean, Facultés des sciences économiques, sociales et politiques, Facultés universitaires Saint-Louis, Brussels, Belgium, 1978–1990; Founder-Chairman, Institut de statistique, Université catholique de Louvain, Belgium, 1992–2004; President of the Belgian Statistical Society, 1999–2002; Honorary member of the Belgian Statistical Society.

- *Current editorial activities*: Associate editor, *Journal of Productivity Analysis.*

YVES SMEERS

- Professor emeritus, Université catholique de Louvain, Belgium.

- *Computational economics and risk management in the electricity and gas industries.*

- Ph.D. (economics), Yale University, New Haven (CT), USA, 1971.

- Master of Science (industrial administration) and Ph.D. (operations research), Carnegie-Mellon University, Pittsburgh (PA), USA, 1972.

- *Current editorial activities*: European editor *Energy Journal*; associate editor, *Energy Economics.*

FRANS SPINNEWYN

- Professor emeritus, KU Leuven, Belgium.

- *Microeconomics.*

- Ph.D. (economics), London School of Economics, United Kingdom, 1975.

- Bevoegd verklaard navorser, Nationaal Fonds voor Wetenschappelijk Onderzoek, Belgium, 1977-1979; assistant, KU Leuven, Belgium, 1979–1983; visiting professor, Cornell University, Ithaca (NY), USA, 1985.

- *Prizes & Awards:* B.A.C. Prize, 1976.

JACQUES-FRANÇOIS THISSE

- Professor emeritus, Université catholique de Louvain, Belgium.

- *Economic theory, industrial organization, economic geography.*

- Docteur en sciences économiques, Université de Liège, Belgium, 1975.

- Visiting professor, McMaster University, Hamilton,
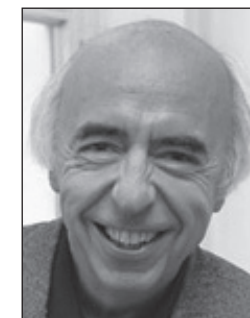
Ontario Canada, 1981; University of Pennsylvania, Philadelphia (PA), USA, 1985; INSEAD, Fontainebleau, France, 1987; Virginia Polytechnic Institute, Blacksburgh (VA), USA, 1990; Université Paris 1 (Panthéon-Sorbonne), France, 1991–1996; Institut National de Recherche Agronomique, Dijon, France, 2003; Kyoto University, Japan, 2006.

- *Prizes & Awards:* Fellow of the Econometric Society, 1992; Fellow of the Regional Science Association International, 2003; Fellow of the European Economic Association, 2004; William Alonso Memorial Prize, 2004; Prix scientifique quinquennal Ernest-John Solvay (FNRS), 2005; European Prize in Regional Science, 2007; Doctor Honoris Causa, Université de Montréal, Canada, 2005, Université Paris Panthéon-Assas, France, 2010, Ecole Normale Supérieure de Cachan, France, 2010 and Université Jean Monet, Saint-Etienne, France, 2011.

- *Previous editorial activities:* Associate editor, *Geographical Analysis, International Journal of Industrial Organization, Journal of the European Economic Association, Journal of Industrial Economics* and *Journal of Regional Science.*

- *Current editorial activities:* Associate editor, *International Journal of Economic Theory, International Journal of Industrial Organization, Japanese Economic Review, Journal of Economic Geography, Journal of Economics and Management Strategy* and *Regional Science and Urban Economics.*

Isabelle Thomas

- Directeur de Recherches, Fonds National de la Recherche Scientifique (FRS-FNRS), Belgium, and professor, Université catholique de Louvain (Faculté des sciences, Ecole de géographie), Belgium; member of the board of ERSA, AS-RDLF, BIVEC/GIBET, Comité National de Géographie.

- **Economic geography, transport geography, optimal locations, cartography, quantitative analysis in geography, economic theory and game theory.**

- Docteur en sciences (géographiques), Université catholique de Louvain, Belgium, 1984; agrégée de l'enseignement supérieur, Université catholique de Louvain, Belgium, 2000.

- *Prizes & Awards:* Prix Aydalot in Regional Science, 1989; BMW Scientific Award, 2001; Prix de la Compagnie du Bois Sauvage 2011-2012.

- *Current editorial activities:* Member of the editorial board of *Belgéo, Cybergéo, L'Espace Géographique, International Regional Science Review*, and *Revue d'Economie Régionale et Urbaine.*

Henry Tulkens

- Professor emeritus, Université catholique de Louvain, Belgium.

- **Economic theory and public finance.**

- Visiting positions (teaching and/or research) held at: University of Chicago 1963–1964; University of California; Berkeley (CA), USA, 1964–1965; Université d'Aix-Marseille II, France, 1971; Université Libre de Bruxelles, Brussels, Belgium, 1971–1972 and 1973–74; Princeton University (PA, USA, 1973 and 1983; Stanford University (CA), USA, 1973 and 1979; Hebrew University of Jerusalem, Israël, 1976 and 1981; Université Laval, Canada, 1977; Université Paris XII (Val de Marne), France, 1978; Université de Montréal, Canada, 1985; Beijer Institute of Ecological Economics, Stockholm, Sweden, 1992 and 1993; Fondazione ENI Enrico Mattei, Milan, Italy, 1993; Ecole Nationale de la Statistique et de l'Administration Economique, Paris, France, 1995; International Monetary Fund, Washington (DC), USA, 1997 and 2004; Université de Paris 1 Panthéon-Sorbonne, France, 2003; University of the South Pacific, Suva, Fiji, 2004; National University of Singapore, Singapore, 2002, 2007 and 2008; dean, Faculté des sciences économiques, sociales et politiques, Facultés universitaires Saint-Louis, Brussels, Belgium, 1970–1974; chairman, département des sciences économiques, Université catholique de Louvain, Belgium, 1978–1981; vice-president, International Institute of Public Finance, 1994–2000; general secretary of the European Economic Association, 1998–2004.
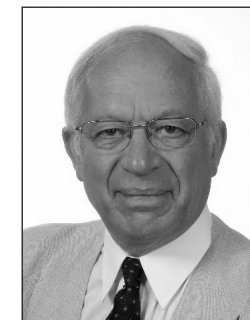
Sébastien Van Bellegem

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Ecole des sciences économiques), Belgium.

- *Econometric theory and mathematical statistics.*

- Docteur en sciences, Université catholique de Louvain, Belgium, 2003.

- Chargé de cours, Institut de statistique, Université catholique de Louvain, Belgium, 2004–2008; professeur des universités, Toulouse School of Economics, Université de Toulouse 1, 2008–2012; invited professor, Université catholique de Louvain, Belgium, 2010–2011; Pontificia Universidad de Chile, 2011.

- *Prizes & Awards:* Prix Marie-Jeanne Laurent-Duhamel, 2005.

- *Current editorial activities:* Associate editor, *Journal de la Société Française de Statistique, International Econometrics Review.*

Hylke Vandenbussche

- Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Chaire Jacquemin, Ecole des sciences économiques), Belgium.

- *International economics, empirical trade, trade policy, programme evaluation, tax policy.*

- Ph.D. in Economics, Universiteit Antwerpen, Belgium, 1995.

- Lecturer in Industrial Economics, Judge Institute of Management of the University of Cambridge, United Kingdom, 1994–1996; postdoctoral researcher, Nationaal Fonds voor Wetenschappelijk Onderzoek, Belgium, 1999; visiting professor, Dartmouth college, Hanover (SH), USA, 2001 and 2003.

- *Prizes & Awards:* Vereniging voor Economie Vlaanderen (VEW-Award), 1999.

- *Previous editorial activities:* Panel member, *Economic Policy*, 2000–2002.

Vincent Vannetelbosch
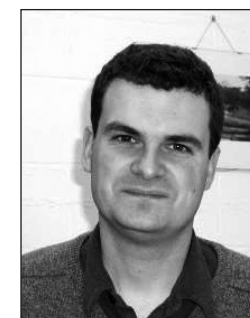
- Maître de Recherches, Fonds National de la Recherche Scientifique (FNRS), Belgium and professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Ecole des sciences économiques), Belgium.

- *Game theory and industrial organization.*

- Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1996 (European Doctoral Program);

- Extramural Fellow of METEOR, Universiteit Maastricht, The Netherlands, 2003–to date; associate fellow of CEREC, Facultés universitaires Saint-Louis, Brussels, Belgium, 2005–to date; director of the European Doctoral Program in Quantitative Economics, 2004–to date.

Mathieu Van Vyve

- Associate Professor, Université catholique de Louvain (Louvain School of Management, UCL, Belgium, Louvain-la-Neuve campus), Belgium.

- *Discrete optimization, computational economics, operations research.*

- Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 2003; Master in Philosophy, Université catholique de Louvain, Belgium, 1999.

- Assistant Professor, Université libre de Bruxelles, Belgium, 2004–2005; Senior Analyst, GdF-Suez s.a., 2005–2007; Senior Consultant, N-Side s.a., 2007–2009.

Xavier Wauthy

- Professor, Facultés universitaires Saint-Louis, Brussels, Belgium; visiting professor, Université catholique de Louvain, Belgium.

- *Industrial organization, microeconomic theory.*

- Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1995.

- Research fellow, Universiteit Maastricht, The Netherlands, 1996; chargé de recherches, Fonds National de la Recherche Scientifique (FNRS), Belgium, 1997–1998.

- *Current editorial activities:* Member of the Editorial Board, *Louvain Economic Review*.

Laurence Wolsey

- Professor emeritus, Université catholique de Louvain, Belgium.

- *Discrete optimization, operations research, applied mathematics.*

- Ph.D. (mathematics), Massachusetts Institute of Technology, Cambridge (MA), USA, 1969.

- Visiting researcher, Manchester Business School, United Kingdom, 1969-1971; London School of Economics, United Kingdom, 1978–1979; Cornell University, Ithaca (NY), USA, 1983; visiting professor, Ecole Polytechnique de Lausanne; Switzerland, 1986–1987; Denders professor, Department of Computer Science, University of Utrecht, The Netherlands, Spring, 1998.

- *Prizes & Awards:* Dantzig Prize of the Mathematical Optimization Society, 2012.

- *Current editorial activities:* Associate editor, *Mathematical Programming A.*
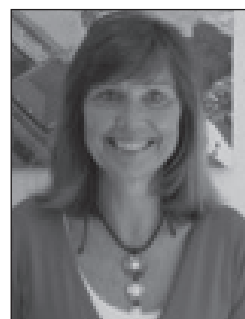
■ Administrative Staff

Maristella Angotzi
Congress Manager, ERSA

Isabelle Colyn
Administrative Assistant

Micheline Delize
Administrative Assistant

Catherine Germain
Administrative Assistant

Alain Gillis
Librarian

Fabienne Henry
Administrative Assistant

Richard Kelly
Executive Director, ERSA

Sylvie Mauroy
Administrative Assistant

Anne-Marie Pessleux
Accountant

Francisco SANTANA FERRA

Executive Director

■ DOCTORAL STUDENTS AND RESEARCH ASSISTANTS

Abdelrahaman ALY · Rytis BADGZIUNAS · Vardan BAGHDASARYAN · Franco BASSO · Mikel BEDAYO · Stéphane BOUCHÉ · Jean-François CARPANTIER · Camille COTTEELS · Nguyen DAO · Karen DECANCQ · Benoît DECERF · Olivier DEVOLDER · Arnaud DUFAYS · Olivier DURAND-LASSERVE · Adel HATAMI-MARBINI · Lancelot HENRY DE FRAHAN · Claudia HUPKAU · Jonathan JONES · Alejandro LAMAS · Arnaud LATIERS · Tanja MLINAR · Margherita NEGRI · Vadislav NORA · Paolo Giovanni PIACQUADIO · Fahimeh SHAMSAEI · Felix SOMMER · Géraldine STRACK · Ines VALENTE RUSSINO MOUGA SANTOS · Simon VERELST

■ RESEARCH FELLOWS

Research Fellows are scholars who work at CORE for a predefined time period (from one to three years).

Ignace ADANT, Ecole Polytechnique, Palaiseau, France
Volker BRITZ, Universiteit Maastricht, The Netherlands
Chiara CANTA, Toulouse School of Economics, France
Marion LETURCQ, Paris School of Economics, France
Liang LU, Hong Kong University of Science and Technology, Hong Kong
Eve RAMAEKERS, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Yukai Kevin YANG, Aahrus Universitet, Denmark

■ ASSOCIATE FELLOWS

Associate Fellows are scholars who work at CORE on a regular weekly basis and are assigned an office for a predefined time period.

Koen DECANCQ, KU Leuven, Belgium
Jean-Charles DELVENNE, Ecole Polytechnique de Louvain, UCL, Belgium
Axel GAUTIER, Université de Liège, Belgium
Stéphane LAMBRECHT, Université de Lille I, France
Florian MAYNERIS, IRES, UCL, Belgium
Pascal MOSSAY, University of Reading, United Kingdom
Joe THARAKAN, Université de Liège, Belgium
Dirk VAN DE GAER, Universiteit Gent, Belgium
Wouter VERGOTE, Facultés universitaires Saint-Louis, Brussels, Belgium

■ RESEARCH ASSOCIATES

Research Associates are scholars who visit CORE on a regular yearly basis.

Francis BLOCH, Ecole Polytechnique, Paris, France
Jan EECKHOUT, University College London, United Kingdom
Johanna GOERTZ, University of Guelph, Canada
Jean-Jacques HERINGS, Universiteit Maastricht, The Netherlands
Marie-Louise LEROUX, Université du Québec à Montréal, Canada
Dunia LOPEZ PINTADO, Universidad Pablo de Olavide, Seville, Spain
Roland LUTTENS, Fund for Scientific Research, Universiteit Gent, Belgium
Juan MORENO TERNERO, Universidad Pablo de Olavide, Seville, Spain
Dimitri PAOLONI, Università degli Studi di Sassari, Italy
Guillaume ROELS, University of California at Los Angeles (CA), USA
Jeroen ROMBOUTS, HEC, Montréal, Canada
Jose J. SEMPERE MONERRIS, Universidad de Valencia, Spain
Shin-Huei WANG, Beijing Normal University, People's Republic of China

■ SHORT TERM VISITORS

In addition to the longer stays of the visiting faculty and research fellows, CORE benefited from the visit of a number of scholars whose stays ranged from a few days to a few months. Among them

Peter ADDO, Université Paris 1 Panthéon-Sorbonne, France

Jorge AMAYA, Universidad de Chile, Santiago, Chile

Luna BELLANI, CEPS-INSTEAD, Esch-sur-Alzette, Luxembourg

Sudipto BATTACHARYA, London School of Economics, United Kingdom

Aitor CALO BLANCO, Universidad Pablo de Olavide, Seville, Spain

Geoffrey CARUSO, Université du Luxembourg, Luxembourg

Michele CONFORTI, Universita di Padova, Italy

Giovani DI BARTOLOMEO, Università di Teramo, Italy

Marco DI SUMMA, Università di Padova, Italy

Ibrahim DIARRASOUBA, Université Blaise Pascal, Clermont-Ferrand, France

Olivier DONNI, Université Cergy-Pontoise, France

Christian GOLLIER, Toulouse School of Economics, France

Mohamed HILAL, Université de Bourgogne Franche Comté, Dijon, France

Wen Tai HSU, National University of Singapore, Singapore

Jayanth JAYRAMAN, University of South Carolina, Columbia (SC), USA

Ridha MAHJOUD, Université Blaise Pascal, Clermont-Ferrand, France

Jenny MINIER, University of Kentucky, Lexington (KY), USA

Philippe MONGIN, HEC, Paris, France

Saptarshi MUKHERJEE, Universitat Autonoma de Barcelona, Spain

Dirk NEUMANN, Köln Universität, Germany

Abraham NEYMAN, Hebrew University of Jerusalem, Israël

Giorgio OGGIONI, Univeristà di Brescia, Italy

Mathieu PARENTI, Université Paris 1 Panthéon-Sorbonne, France

Alain PHOLO BALA, Université de Johannesburg, Afrique du Sud

Sebastian POKUTTA, Friedrich Alexander Universität Erlangen-Nürnberg, Germany

Dany RALPH, Judge Business School of Cambridge, United Kingdom

Sebastian Martin RIVAS, Universidad de Malaga, Spain

Inmaculada RODRIGUEZ MARTIN, Universidad de la Laguana, Tenerife, Spain

Anna RUBINCHIK, Haifa University, Israël

Aldo RUSTICHINI, University of Minnesota, Minneapolis (MN), USA

Ernesto SAN MARTIN, Universidad catolica de Chile, Santiago, Chile

Eliana SCHEIHING, Universidad Austral de Chile, Valdivia, Chile

Sergej SHPIRKO, Russian Academy of Sciences, Moscow, Russia

Takatoshi TABUCHI, University of Tokyo, Japan

Ornella TAROLA, Universita degli Studi di Roma La Sapienza, Italy

Maria Jose VERDECHO, Polytechnic University of Valencia, Spain

Jean-Philippe VIAL, ORECSYS, Chêne-Bougeries, Switzerland

Ying WEI, University of Junion, Gangzhou, China

■ RESEARCH FELLOWS AND VISITING FACULTY MEMBERS FOR 2012-2013

The following scholars will be in residence for all or part of the next academic year

Ignace ADANT, EdF and Ecole Polytechnique de Palaiseau, France

Constantin BLOME, European Business School , Wiesbaden Germany

Volker BRITZ, Universiteit Maastricht, The Netherlands

Chiara CANTA, Toulouse School of Economics, France

Koen DECANCQ, KU Leuven, Belgium

Marion LETURCQ, Paris School of Economics, France

Liang LU, Hong Kong University of Science and Technology, Kowloon, Hong Kong

Mathieu PARENTI, Université Paris 1 Panthéon-Sorbonne, France

Anthony PAPAVASILIOU, University of California, Berkeley (CA), USA

Hande Yaman PATERNOTTE, Bilkent University, Turkey

Eve RAMAEKERS, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

Vladimir SHIKHMAN, Rheinisch-Westfaelische Technische Hochschule, Aachen, Germany

Tom TRUYTS, KU Leuven, Belgium

Manachaya URUYOS, Chulalongkorn University, Bangkok

Yukai YANG, Aarhus Universitet, Denmark

■ PRIZES AND AWARDS

• Constantin BLOME was elected vice president at-large of the Decision Sciences Institute, an academic organization interested in the application of quantitative and behaviourial methods to the problems of society.

• The 2012 ICTEAM Thesis Award was awarded to Nicolas GILLIS, for this thesis entitled "Nonnegative matrix factorization : complexity, algorithms and applications", supervised by François GLINEUR. This award is granted yearly to the best doctoral thesis that was defended within the ICTEAM research institute (Information and Communication Technologies, Electronics and Applied Mathematics).

• Yurii NESTEROV was awarded the 2012's Francqui Chair by the University of Liège.

• Guillaume Roels was awarded the 2011 Management Science Distinguished Award.

• On December 1, 2011, Jacques Thisse received the title of Doctor honoris causa from Université Jean Monet in Saint-Etienne for his work in economic geography and urban economics.

• The 2011–2012 "Prix de la Compagnie du Bois Sauvage" was awarded to Isabelle Thomas for her participation in the SHAPE research project (Systematic analysis of Health risks and physical Activity associated with cycling PoliciES).

• At the 21st International Symposium on Mathematical Programming (ISMP 2012), Laurence Wolsey has been awarded the Dantzig Prize of the Mathematical Optimization society at ISMP2012. The George B. Dantzig prize is awarded every three years for original research, which by its originality, breadth, and scope, is having a major impact on the field of mathematical programming

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PUBLICATIONS

- ■ Books and edited books
- ■ CORE Reprints
- ■ Other published papers
- ■ CORE Discussion Papers
- ■ Other Discussion Papers and Manuscripts
- ■ Articles in Newspapers
- ■ Reports

■ Books and edited books

• Econometrics of Financial Markets

* Luc Bauwens, Christian Hafner and Sébastien Laurent (eds.). *Handbook of Volatility Models and Their Applications*. Wiley, 2012.

Volatility has become a hot topic in this era of instant communications, spawning a great deal of research in empirical finance and time series econometrics. Providing an overview of the most recent advances, Handbook of Volatility Models and Their Applications explores key concepts and topics essential for modeling the volatility of financial time series, both univariate and multivariate, parametric and non-parametric, high-frequency and low frequency. Featuring contributions from international experts in the field, the book features numerous examples and applications from real-world projects and cutting-edge research, showing step by step how to use various methods accurately and efficiently when assessing volatility rates. Following a comprehensive introduction to the topic, readers are provided with three distinct sections that unify the statistical and practical aspects of volatility:

– "Autoregressive Conditional keteroskedasticity and stochastic volatility" presents ARCH and stochastic volatility models, with a focus on recent research topics including mean, volatility, and skewness spillovers in equity markets.

– "Other models and methods" presents alternative approaches, such as multiplicative error models, nonparametric and semi-parametric models, and copula-based models of (co)volatilities.

– "Realized volatility" explores issues of the measurement of volatility by realized variances and covariances, guiding readers on how to successfully model and forecast these measures.

Handbook of Volatility Models and Their Applications is an essential reference for academics and practitioners in finance, business, and econometrics who work with volatility models in their everyday work. The book also serves as a supplement for courses on risk management and volatility at the upper-undergraduate and graduate levels.

• Industrial Organization

* Victor Ginsburgh and Shlomo Weber. *How Many Languages Do We Need? The Economics of Linguistic Diversity*. Princeton University Press, 2011.

In the global economy, linguistic diversity influences economic and political development as well as public policies in positive and negative ways. It leads to financial costs, communication barriers, divisions in national unity, and, in some extreme cases, conflicts and war – but it also produces benefits related to group and individual identity. What are the specific advantages and disadvantages of linguistic diversity and how does it influence social and

economic progress? This book examines linguistic diversity as a global social phenomenon and considers what degree of linguistic variety might result in the greatest economic good.

The authors look at linguistic proximity between groups and between languages. They describe and use simple economic, linguistic, and statistical tools to measure diversity's impact on growth, development, trade, the quality of institutions, translation issues, voting patterns in multinational competitions, and the likelihood and intensity of civil conflicts. They address the choosing of core languages in a multilingual community, such as the European Union, and argue that although too many official languages might harm cohesiveness, efficiency, and communication, reducing their number brings about alienation and disenfranchisement of groups.

Demonstrating that the value and drawbacks of linguistic diversity are universal, *How Many Languages Do We Need?* suggests ways for designing appropriate linguistic policies for today's multilingual world.

• Public and Welfare Economics

* Marc FLEURBAEY and François MANIQUET. *Equality of Opportunity: The Economics of Responsibility.* WorldScientific Series in Economic theory - Vol. 1, World Scientific Publishing Co, 2012.

This book is a collection of articles written by the two authors on the topic of equality of opportunity. All articles build on the idea that a just society should equalize the resources that determine the opportunities agents face in order to follow their goals. Resources are either external, like financial resources, or internal, like preferences or skills. The authors propose to define "equality of opportunity" as the combination of ethical principles of compensation and responsibility. The principle of compensation requires external resources to be used to compensate low-skilled agents (considering that inequalities due to skill differences are unjust). The principle of responsibility requires external resources to be allocated without regards to inequalities due to differences in preferences (considering that these inequalities are not unjust). The articles present different ways of combining the two principles in different economic contexts. The book offers many possible aspects of the analysis of equality of opportunity, ranging from axiomatic discussions in abstract compensation models, to the design of redistribution policies in concrete labor income taxation models.

* Wulf GAERTNER and Erik SCHOKKAERT. *Empirical Social Choice.* Cambridge University Press, 2012.

Since Aristotle, many different theories of distributive justice have been proposed, by philosophers as well as social scientists. The typical approach within social choice theory is to assess these theories in an axiomatic way – most of the time the reader is confronted with abstract reasoning and logical deductions. This book shows that empirical insights are necessary if one wants to apply any theory of justice in the real world. It does so by confronting the main theories of distributive justice with data from (mostly) questionnaire experiments. The book starts with an extensive discussion on why empirical social choice makes sense and how it should be done. It then presents various experimental results relating to theories of distributive justice, including the Rawlsian equity axiom, Harsanyi's version of utilitarianism, utilitarianism with a floor, responsibility-sensitive egalitarianism, the claims problem and fairness in health.

* Jean HINDRIKS and Gareth D. MYLES. *Intermediate Public Ecoomics.* Truth & Wisdom Press, 2011.

A comprehensive and accessible text that covers the core topics of public economics as well as recent developments in political economy, information, games, multiple jurisidcitons, and intertemporal issues. (In chinese).

• Trade, Transport and Economic Geography

* Jean-Claude PRAGER and Jacques-François THISSE. *Economic Geography and the Unequal Development of Regions.* Routledge, 2012.

Behind the mystery of economic growth stands another mystery: why do some places fare better than others? Casual evidence shows that sizable differences exist at very different spatial scales (countries, regions and cities). This book aims to discuss the main economic reasons for the existence of peaks and troughs in the spatial distribution of wealth and people, with a special emphasis on the role of large cities and regional agglomerations in the process of economic development.

* Isabelle Thomas, Dominique Vanneste et Xavier Querriau. *Atlas de Belgique - Tome 4 Habitat.* Academia Press, 2011 (available in Dutch, English, French and German).

The new Atlas of Belgium was financed by the Belgian Science Policy and is made out of 6 volumes. Volume 4 is now published and deals with the "habitat": housings and dwellings, their location, their state, and their occupants as well as corollary characteristics such as rent or the perception of the residential environment by the occupants. For each volume there are two versions: one in French, the other in Dutch. The objective of Volume 4 is to describe and understand the living conditions and the relationships between the dwelling, the inhabitant(s) and the environment. It is not only a picture of the 2001 situation (last census) but it also illustrates the 1991–2001 changes and the link with spatial theoretical mechanisms and processes. Many maps are drawn at the scale of Belgium (589 municipalities), but some are also drawn at the scale of the statistical sectors for a selection of large cities and some rural municipalities. All maps reveal strong spatial structures, and illustrate how difficult it is to make out housings conditions from the characteristics of the inhabitants, from the history of urbanisation, from social and economic history, or from priorities in terms of housing, land-use or employment policies. They all interact in producing the present built-up landscape made of urban concentrations, rural areas and industrial zones, including numerous municipalities where peri-urbanisation completely alters the traditional built-up landscape. The observed spatial structures within Belgium are much more complex than simple Flandres-Wallonia or urban-rural oppositions. Most maps illustrate well-known theoretical processes that only very slowly and very slightly change over time.

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■ CORE DISCUSSION PAPERS

● **Econometric theory**

2011/61   Luc BAUWENS and Dimitris KOROBILIS
        Bayesian methods

Chapter written for the Handbook of Research Methods and Applications on Empirical Macroeconomics, edited by Nigar Hashimzade and Michael Thornton, forthcoming in 2012

(Edward Elgar Publishing). This chapter presents an introductory review of Bayesian methods for research in empirical macroeconomics.

2012/11   Catherine KRIER, Michel MOUCHART and Abderrahim OULHAJ
Neural modelling of ranking data with an application to stated preference data

Although neural networks are commonly encountered to solve classification problems, ranking data present specificities which require adapting the model. Based on a latent utility function defined on the characteristics of the objects to be ranked, the approach suggested in this paper leads to a perceptron-based algorithm for a highly non linear model. Data on stated preferences obtained through a survey by face-to-face interviews, in the field of freight transport, are used to illustrate the method. Numerical difficulties are pinpointed and a Pocket type algorithm is shown to provide an efficient heuristic to minimize the discrete error criterion. A substantial merit of this approach is to provide a workable estimation of contextually interpretable parameters along with a statistical evaluation of the goodness of fit.

• **Econometrics of Financial Markets**

2011/52   Fabian Y.R.P. BOCART and Christian M. HAFNER
Econometric analysis of volatile art markets

A new heteroskedastic hedonic regression model is suggested. It takes into account time-varying volatility and is applied to a blue chips art market. Furthermore, a nonparametric local likelihood estimator is used. This estimator is more precise than the often used dummy variables method. The empirical analysis reveals that errors are considerably non-Gaussian, and that a student distribution with time-varying scale and degrees of freedom does well in explaining deviations of prices from their expectation. The art price index is a smooth function of time and has a variability that is comparable to the volatility of stock indices.

2011/55   Luc BAUWENS, Arnaud DUFAYS and Bruno DE BACKER
Estimating and forecasting structural breaks in financial time series

We present an algorithm, based on a differential evolution MCMC method, for Bayesian inference in AR-GARCH models subject to an unknown number of structural breaks at unknown dates. Break dates are directly treated as parameters and the number of breaks is determined by the marginal likelihood criterion. We prove the convergence of the algorithm and we show how to compute marginal likelihoods. We allow for both pure change-point and

recurrent regime specifications and we show how to forecast structural breaks. We illustrate the efficiency of the algorithm through simulations and we apply it to eight financial time series of daily returns over the period 1987-2011. We find at least three breaks in all series.

2011/58   Luc BAUWENS, Christian HAFNER and Sébastien LAURENT
Volatility models

Chapter written for the Handbook of Volatility Models and their Applications, edited by Luc Bauwens, Christian Hafner, and Sébastien Laurent, forthcoming in 2012 (John Wiley & sons). This chapter presents an introductory review of volatility models and some applications. The review is linked with the other chapters that contain more detailed presentations.

2012/3   Jeroen V.K. ROMBOUTS, Lars STENTOFT and Francesco VIOLANTE
The value of multivariate model sophistication: an application to pricing Dow Jones Industrial Average options

We assess the predictive accuracy of a large number of multivariate volatility models in terms of pricing options on the Dow Jones Industrial Average. We measure the value of model sophistication in terms of dollar losses by considering a set 248 multivariate models that differ in their specification of the conditional variance, conditional correlation, and innovation distribution. All models belong to the dynamic conditional correlation class which is particularly suited because it allows to consistently estimate the risk neutral dynamics with a manageable computational effort in relatively large scale problems. It turns out that the most important gain in pricing accuracy comes from increasing the sophistication in the marginal variance processes (i.e. nonlinearity, asymmetry and component structure). Enriching the model with more complex correlation models, and relaxing a Gaussian innovation for a Laplace innovation assumption improves the pricing in a smaller way. Apart from investigating directly the value of model sophistication in terms of dollar losses, we also use the model confidence set approach to statistically infer the set of models that delivers the best pricing performance.

2012/20   Jean-François CARPENTIER and Besik SAMKHARADZE
The asymmetric commodity inventory effect on the optimal hedge ratio

Hedging strategies for commodity prices largely rely on dynamic models to compute optimal hedge ratios. This paper illustrates the importance of considering the commodity inventory effect (effect by which the commodity price volatility increases more after a positive shock than after a negative shock of the same magnitude) in modelling the variance-covariance

dynamics. We show by in-sample and out-of-sample forecasts that a commodity price index portfolio optimized by an asymmetric BEKK-GARCH model outperforms the symmetric BEKK, static (OLS) or naïve models. Robustness checks on a set of commodities and by an alternative mean-variance optimization framework confirm the relevance of taking into account the inventory effect in commodity hedging strategies.

2012/28   Luc BAUWENS and Giuseppe STORTI

Computationally efficient inference procedures for vast dimensional realized covariance models

This paper illustrates some computationally efficient estimation procedures for the estimation of vast dimensional realized covariance models. In particular, we derive a Composite Maximum Likelihood (CML) estimator for the parameters of a Conditionally Autoregressive Wishart (CAW) model incorporating scalar system matrices and covariance targeting. The finite sample statistical properties of this estimator are investigated by means of a Monte Carlo simulation study in which the data generating process is assumed to be given by a scalar CAW model. The performance of the CML estimator is satisfactory in all the settings considered although a relevant finding of our study is that the efficiency of the CML estimator is critically dependent on the implementation settings chosen by modeller and, more specifically, on the dimension of the marginal log-likelihoods used to build the composite likelihood functions.

• **Energy Economics**

2011/50 Mathieu VAN VYVE

Linear prices for non-convex electricity markets: models and algorithms

Strict Linear Pricing in non-convex markets is a mathematical impossibility. In the context of electricity markets, two different classes of solutions have been proposed to this conundrum on both sides of the Atlantic. We formally describe these two approaches in a common framework, review and analyze their main properties, and discuss their shortcomings. In US, some orders are not settled at the market price, but at their bidding price, deviating from uniform pricing (all orders are financially settled at the same prices). This creates a disincentive to bid one's own true cost, and creates a missing money problem for the clearing house of the market. In Europe, all accepted orders are in-the-money are settled at the uniform market price. This implies that the welfare maximizing solution is considered infeasible and also that the optimization problem is much less convex and more difficult to solve. This also creates fairness issues for orders of small volume, and the solution obtained

does not implement a Walrasian equilibrium.

Based on this analysis we propose a new model that draws on both approaches and retains their best theoretical properties. We also show how the different approaches compare on classical toy problem.

2011/72 Per AGRELL and Peter BOGETOFT

Smart-grid investments, regulation and organization

Worldwide, but in particular in North America and Europe, the grid infrastructure managers are facing demands for reinvestments in new assets with higher on-grid and off-grid functionality in order to promote energy efficiency and low-carbon conversion of the energy sector. To meet societal policy objectives in terms of carbon dioxide emissions, both the composition of the generators in favor of distributed energy resources (DER) and the load, promoting integration with downstream energy usage, will change. In this paper, we characterize some of the effects of new asset investments policy on the network tasks, assets and costs and contrast this with the assumptions implicit or explicit in current economic network regulation. The resulting challenge is identified as the change in the direction of higher asymmetry of information and higher capital intensity, combined with ambiguities in terms of task separation. To provide guidance, we present a model of investment provision under regulation between a distribution system operator (DSO) and a potential investor-generation. The results from the model confirm the hypothesis that network regulation should find a focal point, should integrate externalities in the performance assessment and should avoid wide delegation of contracting-billing for smart-grid investments.

• **Environmental Economics**

2011/51 Parkash CHANDER and Henry TULKENS

The Kyoto Protocol, the Copenhagen Accord, the Cancun Agreements, and beyond: An economic and game theoretical exploration and interpretation

The paper is not intended for game theorists – unless they are interested in learning how their theories, and the theory of environmental games as developed in a forthcoming book, are being used for studying the current problem of climate change. Similarly for economists. In general, the presentation is addressed to those who have an interest in seeing how theory can shape policy in the area of climate change. After a summary presentation of the relevant features of the Protocol, followed by the sketching out of an economic model serving as support for the theoretical construct, we consider a series of aspects of it – such as reference emissions, efficiency and stability, competitive trading, desirability of free trade

in emissions and the clean development mechanism –, not to defend it and independently of the subsequent developments, but rather as a benchmark for understanding the various issues concerning the climate change problem in general. Then, we extend this exercise to an appraisal of the situation of the world climate regime that is currently prevailing, after the Protocol has entered into force. Finally, we discuss four aspects of the world climate regime that is likely to prevail after the expiry of the Kyoto commitment period 2008-2012. Our message is a non-conventional one, compared with the common wisdom of commentaries of the Kyoto Protocol and of its follow-ups. It is inspired by research on the foundations of international cooperation in general and on climate change in particular.

2012/6   Thierry Bréchet and Guy Meunier
Are clean technology and environmental quality conflicting policy goals?

In this paper we analyze the effects of an environmental policy on the diffusion of a clean technology in an economy where firms compete on the output market. We show that the share of adopting firms is non-monotonic with the stringency of the environmental policy, and that the adoption of the clean technology may well increase the pollution level. We also compare the effects of an emission tax and tradable pollution permits on welfare, technology adoption, and pollution level. We show that, depending on the stringency of the policy, either the tax or the permits can yield a higher degree of technology adoption and pollution. Actually, technology adoption and environmental quality may be conflicting in discriminating among the instruments.

2012/8   Kirill Borisov, Thierry Bréchet and Stéphane Lambrecht
Environmental maintenance in a dynamic model with heterogenous agents

We assume a population of infinitely-lived households of the economy split into two groups: one with a high discount factor (the patient) and one with a low one (the impatient). The environmental quality is deteriorated by firm's polluting emissions. The governmental policy consists in proposing households to vote for a tax aimed at environmental maintenance. We study the voting equilibrium at steady states. The resulting equilibrium maintenance is the one of the median voter. We show that (i) an increase in total factor productivity may produce effects described by the Environmental Kuznets Curve, (ii) an increase in the patience of impatient households may foster environmental quality if the median voter is impatient and maintenance positive, (iii) a decrease in inequality among the patient households leads to an increase in environmental quality if the median voter is patient and maintenance is positive. We also show that, if the median income is lower than the mean, our model predict

lower level of environmental quality than the representative agent model, and that increasing public debt decreases the level of environmental quality.

• **Game Theory**

2011/54   Filippo L. Calciano
Oligopolistic competition with general complementarities

In this paper we extend the basic model of Cournot competition to the case where both the demand function and the cost functions of each firm depend on the amounts produced by competitors. In this modified setting, proving existence of equilibria becomes harder. We develop a generalization of the theory of supermodular games in the context where individual decision variables take values in a totally ordered set to prove existence of equilibria in this generalized Cournot setting.

2012/22   Tom Truyts
Stochastic signaling: information substitutes and complements

I develop a model of stochastic costly signaling in the presence of exogenous imperfect information, and study whether equilibrium signaling decreases ('information substitutes') or increases ('information complements') if the accuracy of exogenous information increases. A stochastic pure costly signaling model is shown to have a unique sequential equilibrium in which at least one type (and possibly all) engages in costly signaling. In the presence of exogenous information, a unique threshold level of prior beliefs generically exists which separates the cases of information complements and substitutes. More accurate exogenous information can induce a less informative signaling equilibrium, and can result in a lower expected accuracy of the uninformed party's equilibrium beliefs. An application to signaling in networks, in which a social network is the source of exogenous information, qualifies the relation between network characteristics (size, density, centrality, component size) and equilibrium signaling.

2012/23   Pierre Dehez and Samuel Ferey
How to share joint liability: a cooperative game approach

Sharing a damage that has been caused jointly by several individuals – called tortfeasors – is a difficult problem that courts often face. Even if there are basic principles and rules to apportion damages among them, legal scholars are still looking for a systematic apportionment method. We analyze that question from a normative point of view, using the theory of cooperative games that offers an axiomatic approach to surplus or cost sharing. We show

how this kind of damage can be apportioned on two distinct basis, causation and degree of misconduct. Our analysis is based on the concept of *potential damage*. The potential damage associated to a subset of tortfeasors is the monetary value of the damage that they would have caused without the participation of the other tortfeasors. It is distinct from the *additional damage* associated to a subset of tortfeasors that is given by the difference between the total damage and the potential damage of the complementary subset. We distinguish two situations of joint liability, the *simultaneous* case where the damage would not have occurred in the absence of any one of the tortfeasors and the *sequential* case where the sequence of acts that has produced the damage is known. In the simultaneous case, the potential damage of an individual tortfeasor is by definition zero. In the sequential case, the only information needed is the *immediate damage* each tortfeasor has caused, depending on his or her position in the sequence. A judgment specifies for each tortfeasor an amount to be paid. That amount should not exceed his or her additional damage but should not fall below his or her potential damage. This defines two natural bounds, an upper bound and a lower bound, that we extend to subsets of tortfeasors. A judgment is *fair* if the contribution of any subset of tortfeasors is inferior to his potential damage and superior to his additional damage. Particular fair judgments are then obtained by assigning weights to tortfeasors to reflect difference in degrees of misconduct. In game theoretic terms, potential damages define a transferable utility game whose core defines fair judgments. We show that weighted Shapley values define fair judgments and, vice versa, fair judgments reveal weights. Our paper illustrates how the cooperative approach may bring useful insights into legal questions. The Shapley value appears of particular interest in a legal context because it is founded on axioms that are in line with the fundamental principles of tort law.

• General Equilibrium

2012/29   Pierre DEHEZ
> *Incomplete-markets economies: The seminal work of Diamond, Drèze and Radner*

The present note highlights the seminal contributions of Diamond, Drèze and Radner towards the integration of financial markets into general equilibrium modeling.

2012/32   Jean-François MERTENS and Anna RUBINCHIK
> *Equilibria in an overlapping generations model with transfer policies and exogenous growth*

For an overlapping generations economy with varying life-cycle productivity, nonstationary endowments, continuous time starting at $-\infty$ (hence allowing for full anticipation), constant-returns-to-scale production and CES utility we fully characterise equilibria where output is higher than investment, which is strictly positive. Net assets (aggregate savings minus the value of the capital stock) are constant in any equilibrium, and, for balanced growth equilibria (BGE, defined for an economy with stationary endowments), net assets are non-zero only in the golden rule equilibrium, in accord with Gale (1973). The number of BGE is finite. Their parity, however, depends on the life-cycle productivity, in particular, on the relation between the intertemporal elasticity of substitution, the minimal working age and the minimal tax age.

2012/33   Jean-François MERTENS and Anna RUBINCHIK
> *Pareto optimality of the golden rule equilibrium in an overlapping generations model with production and transfers*

The main result is that the golden rule equilibrium (GRE) is Pareto optimal (in the classical sense) in an overlapping generations (OG) model with constant-returns-to- scale production, transfers, arbitrary life-time productivity and CES instantaneous felicity. In addition, we extend Cass and Yaari's equivalence between efficiency (aggregate consumption dominance) and the present value dominance (with evaluation made using a candidate equilibrium price path).

• Industrial Organization

2011/48   Jean J. GABSZEWICZ and Joana RESENDE
> *Credence goods and product differentiation*

This paper analyses price competition between two firms producing horizontally and vertically differentiated goods. These are assumed to be credence goods, as consumers can hardly ascertain the quality of the commodities. We provide sufficient conditions for the existence of a unique price equilibrium and we characterize it. To illustrate the model, we adapt it to represent a newspapers' industry with two outlets, when the population of readers have preferences both on the political stance of the newspapers and on the accuracy of news they dispatch.

2012/9   Ken-Ichi Shimomura and Jacques-François Thisse
    Competition among the big and the small

Many industries are made of a few big firms, which are able to manipulate the market outcome, and of a host of small businesses, each of which has a negligible impact on the market. We provide a general equilibrium framework that encapsulates both market structures. Due to the higher toughness of competition, the entry of big firms leads them to sell more through a market expansion effect generated by the shrinking of the monopolistically competitive fringe. Furthermore, social welfare increases with the number of big firms because the pro-competitive effect associated with entry dominates the resulting decrease in product diversity.

2012/13   Claude d'Aspremont, Rodolphe Dos Santos Ferreira and Jacques Thépot
    Hawks and doves in segmented markets: a formal approach to competitive aggressiveness

Competitive aggressiveness is analyzed in a simple spatial competition model, where each one of two firms supplies two connected market segments, one captive the other contested. To begin with, firms are simply assumed to maximize profit subject to two constraints, one related to competitiveness, the other to market feasibility. The competitive aggressiveness of each firm, measured by the relative implicit price of the former constraint, is then endogenous and may be taken as a parameter to characterize the set of equilibria. A further step consists in supposing that competitive aggressiveness is controlled by each firm through its manager hiring decision, in a preliminary stage of a delegation game. When competition is exogenously intensified, through higher product substitutability or through larger relative size of the contested market segment, competitive aggressiveness is decreased at the subgame perfect equilibrium. This decrease partially compensates for the negative effect on profitability of more intense competition.

• **Macroeconomic Policies**

2012/18   David de la Croix and Fabio Mariani
    From polygyny to serial monogamy: a unified theory of marriage institutions

Consider an economy populated by males and females, both rich and poor. The society has to choose one of the following marriage institutions: polygyny, strict monogamy, and serial monogamy (divorce and remarriage). After having identified the conditions under which each of these equilibria exists, we show that a rise in the share of rich males can explain a change

of regime from polygyny to monogamy. The introduction of serial monogamy follows from a further rise in either the proportion of rich males, or an increase in the proportion of rich females. Strict monogamy is a prerequisite to serial monogamy, as it promotes the upward social mobility of females more than polygyny. We also show that polygyny is compatible with democracy.

• **Microeconomic Theory**

2011/49   Jean J. Gabszewicz, Tanguy Van Ypersele and Skerdilajda Zanaj
    Does the seller of a house facing a large number of buyers always decrease its price when its first offer is rejected?

This paper identifies the optimal two-period price sequence in the attempt for selling a good, with take-it-or-leave-it offers, when the seller faces ambiguity about the buyers' willingness to pay. If the first round fails, the seller updates its beliefs on the state of the market in accordance with Bayes rule and quotes a second and final price. We show that the optimal sequence of prices can be increasing. Furthermore, we describe the optimal sequence of prices with a myopic seller who does not update his beliefs in the second period. In this case, the optimal price sequence is always decreasing.

2011/56   Paul Olivella and Fred Schroyen
    Multidimensional screening in a monopolistic insurance market

In this paper, we consider a population of individuals who differ in two dimensions: their risk type (expected loss) and their risk aversion. We solve for the profit maximizing menu of contracts that a monopolistic insurer puts out on the market. First, we find that it is never optimal to fully separate all the types. Second, if heterogeneity in risk aversion is sufficiently high, then some high-risk individuals (the risk-tolerant ones) will obtain lower coverage than some low-risk individuals (the risk-averse ones). Third, we show that when the average man and woman differ only in risk aversion, gender discrimination may lead to a Pareto improvement.

2011/71   Jens L. Hougaard, Juan D. Moreno-Ternero and Lars P. Østerdal
    A unifying framework for the problem of adjudicating conflicting claims

In a recent paper, Thomson and Yeh [Operators for the adjudication of conflicting claims, Journal of Economic Theory 143 (2008) 177-198] introduced the concept of operators on the space of rules for the problem of adjudicating conflicting claims. They focussed on three operators in order to uncover the structure of such a space. In this paper, we generalize

their analysis upon presenting and studying a general family of operators inspired by three apparently unrelated approaches to the problem of adjudicating conflicting claims. We study the structural properties of this family and show, in particular, that most of Thomson and Yeh's results are specific cases of our study.

2012/12 Matthew O. JACKSON and Dunia LÓPEZ-PINTADO

> *Diffusion and contagion in networks with heterogeneous agents and homophily*

We study how a behavior (an idea, buying a product, having a disease, adopting a cultural fad or a technology) spreads among agents in an a social network that exhibits segregation or homophily (the tendency of agents to associate with others similar to themselves). Individuals are distinguished by their types (e.g., race, gender, age, wealth, religion, profession, etc.) which, together with biased interaction patterns, induce heterogeneous rates of adoption. We identify the conditions under which a behavior diffuses and becomes persistent in the population. These conditions relate to the level of homophily in a society, the underlying proclivities of various types for adoption or infection, as well as how each type interacts with its own type. In particular, we show that homophily can facilitate diffusion from a small initial seed of adopters.

2012/21 Concetta MENDOLICCHIO, Dimitri PAOLINI and Tito PIETRA

> *Asymmetric information and overeducation*

We consider an economy where production may use labor of two different skill levels. Workers are heterogeneous and, by investing in education, self-select into one of the two skills. Ex-ante, when firms choose their investments in physical capital, they do not know the level of human capital prevailing in the labor market they will be active in. We prove existence and constrained inefficiency of competitive equilibria, which are always characterized by overeducation. An increase in total expected surplus can be obtained by shrinking, at the margin, the set of workers investing in high skill. This can be implemented by imposing taxes on the cost of investing in high skill or by imposing a progressive labor earning tax.

- **Optimization Methods and Operations Research**

2011/70 Olivier DEVOLDER

> *Stochastic first order methods in smooth convex optimization*

In this paper, we are interested in the development of efficient first-order methods for convex optimization problems in the simultaneous presence of smoothness of the objective function and stochasticity in the first-order information. First, we consider the Stochastic Primal Gradient method, which is nothing else but the Mirror Descent SA method applied to a smooth function and we develop new practical and efficient stepsizes policies. Based on the machinery of estimates sequences functions, we develop also two new methods, a Stochastic Dual Gradient Method and an accelerated Stochastic Fast Gradient Method. Convergence rates on average, probabilities of large deviations and accuracy certificates are studied. All of these methods are designed in order to decrease the effect of the stochastic noise at an unimprovable rate and to be easily implementable in practice (the practical efficiency of our method is confirmed by numerical experiments). Furthermore, the biased case, when the oracle is not only stochastic but also affected by a bias is considered for the first time in the literature.

2012/2 Yurii NESTEROV

> *Subgradient methods for huge-scale optimization problems*

We consider a new class of huge-scale problems, the problems with sparse subgradients. The most important functions of this type are piece-wise linear. For problems with uniform sparsity of corresponding linear operators, we suggest a very efficient implementation of subgradient iterations, which total cost depends logarithmically in the dimension. This technique is based on a recursive update of the results of matrix/vector products and the values of symmetric functions. It works well, for example, for matrices with few nonzero diagonals and for max-type functions.

We show that the updating technique can be efficiently coupled with the simplest subgradient methods, the unconstrained minimization method by B. Polyak, and the constrained minimization scheme by N. Shor. Similar results can be obtained for a new non-smooth random variant of a coordinate descent scheme. We present also the promising results of preliminary computational experiments.

2012/31 Mathieu VAN VYVE, Laurence A. WOLSEY and Hande YAMAN
         PATERNOTTE

> *Relaxations for two-level multi-item lot-sizing problem*

We consider several variants of the two-level lot-sizing problem with one item at the upper level facing dependent demand, and multiple items or clients at the lower level, facing independent demands. We first show that under a natural cost assumption, it is sufficient to optimize over a stock-dominant relaxation. We further study the polyhedral structure of a strong relaxation of this problem involving only initial inventory variables and setup variables. We consider several variants: uncapacitated at both levels with or without start-up

costs, uncapacitated at the upper level and constant capacity at the lower level, constant capacity at both levels. We finally demonstrate how the strong formulations described improve our ability to solve instances with up to several dozens of periods and a few hundred products.

● **Public and Welfare Economics**

2011/45   Marie-Louise LEROUX and Pierre PESTIEAU
      Social security and family support

This paper shows how the role of the market, the state and the family in providing financial support at old age has evolved over time with changes in factors such as the reliability and the effectiveness of family support, the rate of interest, the cost of public funds and earning inequality. We model a society in which agents with different productivity are asked to vote over the existence of a Beveridgian pension system. We show that when children assistance is certain and large, agents may rely exclusively on family to finance old-age consumption and prefer to vote for a zero tax rate. Only if income inequalities are very large, a majority will be in favor of a pension system. However, when the size and the likelihood of family generosity decreases, a pension system is more likely to emerge. In that case, agents supplement children assistance with pension benefits. A pension system is also more likely to emerge when the cost of public fund is small and the return from private savings is high.

2011/46   Chiara CANTA
      Efficiency, access and the mixed delivery of health care services

The focus of this paper is on the trade-off between cost efficiency and access in the choice of the optimal mix of public and private provision in universal health systems. We model a simple health care market in which the regulator acts as a third payer. Patients need one unit of medical service and differ in the severity of illness. A private and a public hospital are available. The private manager internalizes profits, and has an incentive both to refuse to treat costly patients and to exert effort in cost reduction. The public manager does not internalize profits, and has no incentive to reduce costs or to dump costly patients. We show that, when a relatively efficient effort in cost reduction is available, it is optimal to buy part of the services from the private hospital. This may be the case for procedures that are easier to standardize, such as elective surgery. Since the regulator acts as an insurer for the whole population, a public hospital has to be used as a last resort facility. Imposing a no-dumping constraint on the private hospital is not always optimal since eliciting effort and truthful revelation of costs may become more difficult.

2011/47   Jean J. GABSZEWICZ, Salome GVETADZE and Skerdilajda ZANAJ
      Migrations, public goods and taxes

This paper examines how and why people migrate between two regions with asymmetric size. The agglomeration force comes from the scale economies in the provision of local public goods, whereas the dispersion force comes from congestion in consumption of public goods. Public goods considered resemble club goods (or public goods with congestion) and people are heterogeneous in their migration costs.

We find that the large countries can be destination of migrants for sufficiently high provision of public goods, even when the large country taxes too much. The high provision of public good offsets the congestion effect. While, the small country can be the destination of migrants for two reasons. Firstly, when public good supply is intermediate, people move to avoid congestion in the large country and to benefit from low taxation in the small one. Finally, when the provision of public goods is low, people move towards the small countries just to avoid congestion.

2011/53   Philippe DE DONDER and Pierre PESTIEAU
      Private, social and self insurance for long-term care: A political economy analysis

We analyze the determinants of the demand for social, private and self-insurance for long-term care in an environment where agents differ in income, probability of becoming dependent and of receiving family help. Uniform social benefits are financed with a proportional income tax and are thus redistributive, while private insurance is actuarially fair. We obtain a rich pattern of insights, depending on whether private insurance is available or not, on its loading factor, and on the correlation between, on the one hand, income and risk, and, on the other hand, income and family help. Although the availability of private insurance decreases the demand for social insurance, it only affects a minority of agents so that the majority-chosen social insurance level remains unaffected. Family support crowds out the demand for both private and social insurance, and may even suppress any demand for private insurance. Family help crowds out self-insurance only for agents whose demand for both social and private insurance is nil. A general increase in the probability of becoming dependent need not increase the demand for social insurance, since it decreases its return.

2011/57 Knud MUNK

> *Optimal taxation in the presence of a congested public good and an application to transport policy*

In this paper we demonstrate that even if policies prior to reform have been rational, it is possible, in fact in certain policy areas likely, that a *green tax reform*, contrary to the perceived wisdom among economists, will be associated with a *double-dividend*, i.e. with both environmental and fiscal benefits. We first establish this theoretically by avoiding imposing potentially unrealistic separability assumptions, and by recognising that taxation involves administrative costs. To illustrate our theoretical results, we use graphical tools well-known from fishery economics to assess the effects of the introduction of a tax on road transport.

2011/59 Pierre PESTIEAU and Grégory PONTHIÈRE

> *Childbearing age, family allowances and social security*

Although the optimal policy under endogenous fertility has been widely studied, the optimal public intervention under endogenous childbearing age has remained largely unexplored. This paper examines the optimal family policy in a context where the number and the timing of births are chosen by individuals who differ as to how early fertility can weaken future earnings growth. We analyze the design of a policy of family allowances and of public pensions in such a setting, under distinct informational environments. We show how endogenous childbearing ages affect the optimal policy, through the redistribution across the earnings dimension and the internalization of fertility externalities. It is also shown that, contrary to common practice, children benefits differentiated according to the age of parents can, under some conditions, be part of the optimal family policy.

2011/60 Julio DAVILA

> *Optimal population and education*

If raising and educating children is a private cost to households, while the availability of skilled labor supply resulting from the households' fertility and education choices is a public good, then competitive equilibria typically deliver a suboptimal mix of size and skills of the population. In particular, households would underinvest in their children education compared to the optimal level. This is the case even if households are aware of the increase in savings returns implied by a higher supply of skilled labor and manage to coordinate to try to exploit this effect. In a setup devoid of altruistic motives, this paper shows that a tax-financed compulsory education is unlikely to implement the optimal steady state,

even if the mandatory level of education is the optimal one (the system of equations is overdetermined). Nevertheless, a pensions scheme that makes payments contingent to the household fertility and investment in its children's education can implement the first-best steady state. The pension scheme is balanced period by period by financing pensions through a payroll tax on the increase in children's labor income resulting from their parents' human capital investment.

2011/65 Jean GABSZEWICZ and Ornella TAROLA

> *Migration, wage differentials and fiscal competition*

We analyze the effects, on nonredistributive taxation and on migrations, of wage differentials existing between two countries (regions) differing by the size of their population. Residents, otherwise identical, are heterogeneous because they incur different migration costs. Each resident compares the post-tax amount of money at home with the one obtained abroad, including the cost of migration. The government in each country maximizes the tax product in order to provide the largest possible amount of public good. We first assume that the income of citizens are identical across countries. Then, we assume that wages differ from one country to the other. We prove the existence of an equilibrium for any configuration of wage and any different relative size of the countries (regions). Then, we compute and characterize the equilibrium for any set of parameters, size and wage differential.

2011/66 Robin BOADWAY and Pierre PESTIEAU

> *Indirect taxes for redistribution: Should necessity goods be favored?*

The Atkinson-Stiglitz Theorem shows that with weakly separable preferences, differential commodity taxes are not needed if an optimal nonlinear income tax is imposed. Redistributive objectives can be achieved with the income tax alone even if goods differ considerably in their income elasticities of demand. Deaton showed that if the government is restricted to a linear progressive income tax along with commodity taxes, the latter are superfluous if preferences are not only weakly separable but also yield linear Engel curves whose slopes are common to all households. These have potentially strong policy implications since they suggest that the common practice of giving preferential commodity tax treatment to necessities is not warranted. Using the linear progressive income tax as an example and assuming the Deaton conditions are satisfied, we derive two contradictory results. First, if the income tax is less progressive than optimal, necessities should be taxed preferentially relative to luxuries. Second, if low-income households are income-constrained so are unable to afford any luxury goods, it may be optimal to tax necessity goods at higher rates than luxuries, depending

on whether labor supply varies along the intensive or extensive margin. The analysis is extended to allow for nonlinear taxes and endogenous demand for a public good.

2011/68 Mathieu Lefebvre, Pierre Pestieau and Grégory Ponthière
Measuring poverty without the mortality paradox

Under income-differentiated mortality, poverty measures reflect not only the "true" poverty, but, also, the interferences or noise caused by the survival process at work. Such interferences lead to the Mortality Paradox: the worse the survival conditions of the poor are, the lower the measured poverty is. We examine several solutions to avoid that paradox. We identify conditions under which the extension, by means of a fictitious income, of lifetime income profiles of the prematurely dead neutralizes the noise due to differential mortality. Then, to account not only for the "missing" poor, but, also, for the "hidden" poverty (premature death), we use, as a fictitious income, the welfare-neutral income, making indifferent between life continuation and death. The robustness of poverty measures to the extension technique is illustrated with regional Belgian data.

2012/1 Per Agrell and Axel Gautier
Rethinking regulatory capture

Conventional capture models rely on the idea that regulator is induced to lenient behavior by the regulated firm through offers of monetary transfers, the bribery model, or future employment, the revolving doors model. To avoid socially costly capture, the political principal should then either implement collusion-proof mechanisms through the delegation of welfare gains, or severely restrict the career paths of regulatory staff. The paradox of capture is that neither the two modes of capture, nor the remedy are commonly found in practice. This paper proposes to rethink capture based on the widespread use of industry-commissioned consultants, experts and lobbyists that produce information for regulatory and policy use. A small model (Agrell and Gautier, 2010) introduces a 'soft capture' concept based on a self-enforced collusion between the firm and regulator, linked to the role of the regulator as information-processing intermediate for the political principal. The firm puts processed but biased information at the free disposal of the regulator, 'no strings attached', who can then either use the submitted information or produce a more accurate information by a costly process. Under a set of mild conditions, the equilibrium involves soft capture and the regulator uses the submitted information, leading to some distortions in welfare. A case study of the Occupational Safety and Health Administration (OSHA) in USA serves to motivate and illustrate the model. As shown by the case, the soft capture model may have a stronger

positive potential than the conventional models, also implying that policy advice based on it may be valuable.

2012/4 Aitor Calo-Blanco
Responsibilitiy, freedom, and forgiveness in health care

This paper focuses on the optimal allocation between health and lifestyle choices when a society is concerned about both fairness and forgiveness. Based on the idea of fresh starts, we construct a social ordering that permits us to make welfare assessments when it is acceptable to compensate individuals who have mismanaged their initial endowment. Our social rule also allows for the inclusion of the fairness approach in the model, to deal with the well-known clash between the principle of compensation and the principle of reward. Based on ethical principles, we propose the application of a minimax criterion to the distance between the individual's final bundle and an ideal allocation.

2012/5 Pierre Pestieau and Grégory Ponthière
The public economics of increasing longevity

One of the greatest success stories in our societies is that people are living longer, life expectancy at birth being now above 80 years. Whereas the lengthening of life opens huge opportunities for individuals if extra years are spent in prosperity and good health, it is however often regarded as a source of problems for policy-makers. The goal of this paper is to examine the key policy challenges raised by increasing longevity. For that purpose, we first pay attention to the representation of individual preferences, and to the normative foundations of the economy, and, then, we consider the challenges raised for the design of the social security system, pension policies, preventive health policies, the provision of long term care, as well as for long-run economic growth.

2012/7 Jens L. Hougaard, Juan D. Moreno-Ternero and Lars P. Østerdal
A new axiomatic approach to the evaluation of population health

We explore in this paper the implications of ethical and operational principles for the evaluation of population health. We formalize those principles as axioms for social preferences over distributions of health for a given population. We single out several focal population health evaluation functions, which represent social preferences, as a result of combinations of those axioms. Our results provide rationale for popular theories in health economics (such as the unweighted aggregation of QALYs or HYEs, and generalizations of the two, aimed

to capture concerns for distributive justice) without resorting to controversial assumptions over individual preferences.

2012/10   Pierre PESTIEAU and Grégory PONTHIÈRE
   Optimal lifecycle fertility in a Barro-Becker economy

Parenthood postponement is a key demographic trend of the last three decades. In order to rationalize that stylized fact, we extend the canonical model by Barro and Becker (1989) to include two – instead of one – reproduction periods. We examine how the cost structure of early and late children in terms of time and goods affects the optimal fertility timing. Then, focusing a stationary equilibrium with stationary population, we provide two alternative explanations for the observed postponement of births: (1) a fall of the direct cost of late children (thanks to medical advances); (2) a rise in hourly productivity, which increases the (relative) opportunity costs of early children in comparison to late children.

2012/14   Claude D'ASPREMONT and Rodolphe DOS SANTOS FERREIRA
   Household behavior and individual autonomy: an extended Lindahl
   mechanism

We present a comprehensive model of household economic decision covering both fully co-operative and non-cooperative cases as well as semi-cooperative cases, varying with income distribution and a parameter vector θ representing degrees of individual autonomy with respect to the public goods. In this model, the concept of "household θ-equilibrium" is introduced through the reformulation of the Lindahl equilibrium for Nash-implementation and its extension to semi-cooperation. Existence is proved and some generic properties derived. An example is given to illustrate. Finally, a particular decomposition of the pseudo-Slutsky matrix is derived and the testability of the various models discussed.

2012/15   Dirk VAN DE GAER, Joost VANDENBOSSCHE and José Luis FIGUEROA
   Children's health opportunities and project evaluation: Mexico's
   Oportunidades-program

We propose a methodology to evaluate social projects from an (equality of) opportunity perspective by looking at their effect on (parts of) the distribution of outcomes conditional on morally irrelevant characteristics, taken here to be parental education level and indigenous background. The methodology is applied to evaluate the effects on children's health outcomes of Mexico's Oportunidades program, one of the world's largest conditional cash transfer programs for poor households. The evidence shows that the gains in health opportunities

for children from indigenous background are substantial and situated in crucial parts of the distribution, while the gains for children from non-indigenous backgrounds are more limited.

2012/16   Giacomo VALLETTA
   Health, fairness and taxation

We consider a model where agents differ in their preferences about consumption labor and health, in their (health-dependent) earning ability, and in their health disposition. We study the joint taxation of income and health expenditure, under incentive-compatibility constraints, on the basis of efficiency and fairness principles. The fairness principles we consider propose, on one side, to reduce inequalities deriving from factors that do not depend on individuals' responsibility. On the other side, redistribution should be precluded at least when all agents in the economy have equal physical characteristics. We construct, on the basis of such principles, a particular social welfare function. Then we give the explicit formula for the comparison of tax policies: we prove that a tax reform should always benefit agents with the worst earning ability and the worst health disposition first. Finally, at the bottom of the income distribution the optimal tax scheme should exhibit non-uniform tax rates over health expenditure and non-positive average marginal tax rates over income.

2012/17   Chiara CANTA and Pierre PESTIEAU
   Long term care insurance and family norms

Long term care (LTC) is mainly provided by the family and subsidiarily by the market and the government. To understand the role of these three institutions it is important to understand the motives and the working of family solidarity. In this paper we focus on the case when LTC is provided by children to their dependent parents out of some norm that has been inculcated to them during their childhood by some exemplary behavior of their parents towards their own parents. In the first part, we look at the interaction between the family and the market in providing for LTC. The key parameters are the probability of dependence, the probability of having a norm-abiding child and the loading factor. In the second part, we introduce the government which has a double mission: correct for a prevailing externality and redistribute resources across heterogeneous households.

2012/24   Pilar GARCIA-GOMEZ, Erik SCHOKKAERT, Tom VAN OURTI and Teresa
   BAGO D'UVA
   Inequity in the face of death

We apply the theory of inequality in opportunity to measure inequity in mortality. Our empirical work is based on a rich dataset for the Netherlands (1998-2007), linking information

about mortality, health events and lifestyles. We show that distinguishing between different channels via which mortality is affected is necessary to test the sensitivity of the results with respect to different normative positions. Moreover, our model allows for a comparison of the inequity in simulated counterfactual situations, including an evaluation of policy measures. We explicitly make a distinction between inequity in m – "luck" – has a crucial influence on the results.

2012/27   Jacques DRÈZE and Erik SCHOKKAERT
Arrow's theorem of the deductible: moral hazard and stop-loss in health insurance

We show that the logic of Arrow's theorem of the deductible, i.e. that it is optimal to focus insurance coverage on the states with largest expenditures, remains at work in a model with ex post moral hazard. The optimal insurance contract takes the form of a system of "implicit deductibles", i.e. it results in the same indemnities as a contract with full insurance above a variable deductible positively related to the elasticity of medical expenditures with respect to the insurance rate. In a model with an explicit stop-loss arrangement, i.e. with a predefined ceiling on the annual expenses of the insured, this stop-loss takes the form of a deductible, i.e. there is no reimbursement for expenses below the stop-loss amount. One motivation to have some insurance below the deductible arises if regular health care expenditures in a situation of standard health have a negative effect on the probability of getting into a state with large medical expenses.

2012/30   Helmuth CREMER, Pierre PESTIEAU and Grégory PONTHIÈRE
The economics of long-term care: a survey

This paper surveys recent theoretical economic research on long term care (LTC). LTC differs from health care: it is about nursing; it is mostly provided by unpaid caregivers (mainly spouses and children), whereas both the market and the State play a modest role. The future of LTC appears to be gloomy: sustained population ageing and recent societal trends (e.g., children's mobility, changes in family values) generate a mounting demand on the State and on the market to provide alternatives to the family. In this paper, we review these causes, and the extent to which we can expect them to fade away in the future. We then turn to the design of a sustainable public LTC scheme integrating both the market and the family.

• **Supply Chain Management**

2011/69   Per AGRELL and Abdel HATAMI-MARBINI
Frontier-based performance analysis models for supply chain management; state of the art and research directions

Effective supply chain management relies on information integration and implementation of best practice techniques across the chain. Supply chains are examples of complex multi-stage systems with temporal and causal interrelations, operating multi-input and multi-output production and services under utilization of fixed and variable resources as well as potentially environmental exposure. Acknowledging the lack of system's view, the need to identify system-wide as well as individual effects, as well as the incorporation of a coherent set of performance metrics, the recent literature reports on an increasing, but yet limited, number of applications of frontier analysis models (e.g. DEA) for the performance assessment of supply chains or networks. The relevant models in this respect are multi-stage models with various assumptions on the intermediate outputs and inputs, enabling the derivation of metrics for technical and cost efficiencies for the system as well as the autonomous links. This paper reviews the state of the art in multi-stage or network DEA modeling, along with a critical review of the advanced applications that are reported in terms of the consistency of the underlying assumptions and the results derived. Consolidating the current work in this range using a unified notation and by comparing the properties of the models presented, the paper is closed with recommendations for future research in terms of both theory and application.

• **Trade, Transport and Economic Geography**

2011/62   Florian MAYNERIS
A new perspective on the firm size-growth relationship: shape of profits, and investment heterogeneous credit constraints

This paper shows that the diverging results obtained in the literature on the firm size-growth relationship can be reconciled in a very general theoretical framework featuring firm-level heterogeneity and investment decision. Three main elements determine the nature and the intensity of the relationship between firm-level size and investment: the shape of operating profits with respect to size, the shape of marginal returns to investment (in terms of size) with respect to initial size and the shape of marginal cost of investment with respect to size. Any difference across countries, industries or periods in one of these three dimensions can modify the sign and the intensity of the firm size-investment and the firm size-growth relationship at equilibrium. As an example, I show that in France, heterogeneous credit constraints, which

affect the shape of the marginal cost of investment, can explain cross-sectoral variations in the firm size-investment and firm size-growth relationship over the 1996-2002 period. As a consequence, from a macroeconomic viewpoint, firm size distribution is, all else equal, more right-skewed in sectors where small firms are disproportionately credit constrained and small firms participate less to sectorial growth in these sectors. The analytical framework proposed in this paper is general enough to apply to the analysis of any heterogeneous response of economic agents.

2011/63   Florian MAYNERIS and Sandra PONCET
Entry on difficult export markets by Chinese domestic firms: The role of foreign export spillovers

In this study, we explore how the intensity of foreign export spillovers in China varies depending on the difficulty of entry on export markets. We rely on different proxies to define what a "difficult" country is and we find that the presence of surrounding foreign exporting firms helps domestic ones to start exporting, especially when destination countries are difficult. While on average exposure to foreign exporters is associated with a 10% increase of the probability that domestic firms from the same province start exporting the year after, the figure is around 50% higher when the targeted destination country is identified as difficult. Our results are consistent with the idea that exposure to foreign exporters helps to reduce the fixed cost of creating new trade linkages. Our finding hence suggests that the increasing presence of foreign exporting firms in China might contribute to the diversification of Chinese domestic firms' exports towards more difficult and previously inaccessible destinations.

2011/64   Florian MAYNERIS and Sandra PONCET
French firms at the conquest of Asian markets: The role of export spillovers

In this study, we explore the role of export spillovers on the capacity of French firms to conquer Asian markets. We confirm, in the context of France, previous results emphasizing the positive impact of surrounding exporters on the probability that a firm starts exporting a given product to a given country. We find that export spillovers are more important for export starts to Asia than for export starts to other countries. Moreover, for the specific Asian destinations, we find evidence of a heterogeneous effect of export spillovers. The presence of surrounding exporting firms appears especially beneficial to small and less productive firms, and more intense for export starts to Asian countries characterized by low GDP per capita and tough administrative procedures on imports. Hence, export spillovers may help small firms to enter on the most difficult Asian markets.

2011/67   Hylke VANDENBUSSCHE, Francesco DI COMITE, Laura ROVEGNO and Christian VIEGELAHN
Moving up the quality ladder? EU-China trade dynamics in clothing

We apply a simple method to study the relative quality of Chinese versus European products exported in the clothing sector after the end of the Multi-Fiber Arrangement. Based on the model of Foster et al (2008), we interpret the relative change of export prices and quantities sold in narrowly defined product categories as an indicator of quality shifts. Using UN Comtrade data we find that European varieties exported to the US typically sell for a higher price than identical Chinese varieties exported to the US, but this price gap is narrowing. Despite rising prices, Chinese varieties are gaining market share. This opposite movement of relative prices and quantities sold in the same destination market are a strong indication of China moving up the quality ladder in its clothing exports relative to the EU. While European "core" products in clothing are stable over time, Chinese exports show strong product dynamics with exit and entry of new "core" products every year and "core" products changing rapidly. Both China and the EU export in every product category, resulting in an almost perfect product overlap with almost no products being exported by only one of the two.

2012/19   Carl GAIGNÉ, Stéphane RIOU and Jacques-François THISSE
Are compact cities environmentally friendly?

There is a wide consensus among international institutions and national governments in favor of compact (i.e. densely populated) cities as a way to improve the ecological performance of the transport system. Indeed, when both the intercity and intra-urban distributions of activities are given, a higher population density makes cities more environmentally friendly because the average commuting length is reduced. However, when we account for the possible relocation of activities within and between cities in response to a higher population density, the latter may cease to hold. Indeed, an increasing-density policy affects prices, wages and land rents, which in turn incentivizes firms and households to change place. This reshapes the urban system in a way that may generate a higher level of pollution. Thus, although an increase in compactness is environmentally desirable when locations are given, compactness may not environmentally- friendly when one accounts for the general equilibrium effects generated by such a policy.

2012/25   Christian HAEDO and Michel MOUCHART
A stochastic independence approach for different measures of concentration and specialization

From data in the form of a two-way contingency table "Regions ? Sectors", the concepts of specialization and concentration, built from the analysis of conditional distributions or profiles, is based on discrepancies among distributions: between profiles and a uniform distribution for absolute concepts; between profiles and the corresponding marginal distribution for the relative concepts; or between the joint distribution and the product of the marginal distributions for the global concept. This paper provides an extensive numerical analysis of measures derived from this approach and from other approaches used in the literature and shows that while the different measures under consideration display rather similar numerical behaviours, differences of ranking call for a particular care when interpreting the numerical results.

2012/26   Xavier RAMOS and Dirk VAN DE GAER
Empirical approaches to inequality of opportunity: principles, measures and evidence

We put together the different conceptual issues involved in measuring inequality of opportunity, discuss how these concepts have been translated into computable measures, and point out the problems and choices researchers face when implementing these measures. Our analysis identifies and suggests several new possibilities to measure inequality of opportunity. The approaches are illustrated with a selective survey of the empirical literature on income inequality of opportunity.

2012/34   Hélène LATZER and Florian MAYNERIS
Income distribution and vertical comparative advantage. Theory and evidence

In this paper, we provide a general model discussing the impact of non-homothetic preferences on the vertical comparative advantage of countries, i.e. the existence of demand-based determinants of the quality content of production and exports. We show that while average income positively impacts the quality mix of a country's exports, the impact of inequality depends on the shape of the income expansion path of consumption of high quality varieties. Along levels of income where the Engel curve for high-quality varieties is increasing and convex, inequality increases aggregate demand for high quality varieties, more and more rapidly along income. Our empirical results on the quality content of bilateral export flows

within the enlarged EU confirm our theoretical predictions. We show that a country's income distribution has a significant impact on the quality of its exports. Moreover, the impact of inequality on the quality of exports is all the more positive that the exporter is rich. Our estimations are robust to instrumentation and inclusion of controls for supply-side determinants. In a quantification exercise, we show that the positive effect of inequality can be substantial and is magnified when coupled with an increase in average income. This suggests that a growing middle class is decisive for internal demand to drive quality upgrading of production and exports of a country.

2012/35   Pascal MOSSAY and Takatoshi TABUCHI
Preferential trade agreements harm third countries

In this paper, we study market liberalization in an imperfectly competitive environment in the presence of price effects. For this purpose, we build a three country model of international trade under monopolistic competition with endogenous prices and wages. The neighboring effect translates how the size effect propagates across countries. When some country increases in size, its relative wage increases, as well as that in a small and near country, while that in a large and distant country falls. We also show that a preferential trade agreement increases the relative wage, the welfare, and the terms-of-trade in the partner countries, where the integration effect dominates, while it lowers those in the third country.

■ OTHER DISCUSSION PAPERS AND MANUSCRIPTS

● **Econometrics of Financial Markets**

·   Fabian BOCART and Christian HAFNER. Volatility of price indices for heterogenous goods. SFB 649 Discussion Paper 2012-039, Humboldt-Universität zu Berlin 2012.

·   Christian HAFNER and Oliver LINTON. An almost closed form estimator for the EGARCH model. SSRN Working Paper, 2012.

·   Vincent BODART, Bertrand CANDELON and Jean-FRANÇOIS CARPANTIER. Real exchange rates, commodity prices and structural factors in developing countries. IRES Discussion Paper 2011-45, Université catholique de Louvain, 2011.

·   Guillaume WUNSCH, Michel MOUCHART and Federica RUSSO. Functions and mechanisms in structural-modelling explanation. Mimeo, 2012.

- **Energy Economics**

  · Per AGRELL and Axel GAUTIER. Regulatory discretion vs. mechanics: information costs and capture risks. Proceedings EEM2012: 9th International Conference on the European Energy Market, Florence, March 15–16, 2012.

- **Microeconomic Theory**

  · Kristof BOSMANS, Koen DECANCQ and André DECOSTER. The evolution of global inequality: absolute, relative and intermediate views. Center for Economic Studies Discussion Paper 11.03, KU Leuven, 2011.

  · Koen DECANCQ, André DECOSTER, Kevin SPIRITUS and Gerlinde VERBIST. Mefisto: a new micro-simulation model for Flanders. Flemosi (FLEmish MOdels of SImulation) Discussion Paper 14, 2012.

- **Optimization Methods and Operations Research**

  · Michele CONFORTI, Laurence A. WOLSEY and Giacomo ZAMBELLI. Split, MIR and Gomory inequalities. 2012.

  · Feng QIU, Shabbir AHMED, Santanu S. DEY and Laurence A. WOLSEY. Covering linear programming with violations. 2012.

- **Public and Welfare Economics**

  · Koen DECANCQ, Luc VAN OOTEGEM and Elsy VERHOFSTADT. What if we voted on the weights of a multidimensional well-being index? An illustration with Flemish data. Working Paper No. 11/10, Herman Deleeck Centre for Social Policy, Universiteit Antwerpen, 2011.

- **Supply Chain Management**

  · Per AGRELL and Adel HATAMI-MARBINI. Frontier-based performance analysis models for supply chain management: state of the art and research directions. Proceedings of 41st International Conference on Computers and Industrial Engineering (CIE), Los Angeles, USA, October 23–25, 372–379, 2011.

  · Michael HENKE, Rainer LASCH, Dominik ECKSTEIN, Claudia NEUMÜLLER and Constantin BLOME. Supply chain agility: strategische Anpassungsfähigkeit im Supply Chain Management, BVL and BME. Technische Universität Dresden, 2012.

- **Trade, Transport & Economic Geography**

  · Hélène LATZER and Florian MAYNERIS. Trade in quality and income distribution: an analysis of the enlarged EU market. BETA Working Papers 2011-21, 2011.

■ ARTICLES IN NEWSPAPERS

  · Constantin BLOME. Innovationsbeschaffung: die zehn Gebote: Von Anfang an dabei. *Beschaffung aktuell*, 9, 26–28, 2011.

  · Raouf BOUCEKKINE et Rafik HASSANE-BOUKLIA. Rente, corruption et violence: l'émergence d'un ordre nouveau dans les pays arabes? *Regards Economiques*, 92, 2011.

  · David DE LA CROIX. De l'essor de l'humanité à l'hiver démographique. Une politique nataliste pour demain? *Regards Economiques*, 95, 2012.

  · Axel GAUTIER. Vers un service universel 2.0? *La Libre Belgique*, 19 mai 2012.

  · Florian MAYNERIS. Impact des politiques de clusters sur les performances des entreprises. Enseignements de l'expérience française. *Regards Economiques*, 91, 2011.

  · Pierre PESTIEAU. La performance de l'Etat-providence européen. Quel enseignement pour la Belgique? *Regards Economiques*, 93, 2011.

  · Pierre PICARD. World class university: made in Luxembourg. *Land*, 6 avril 2012.

■ REPORTS

  · Matthieu CROZET, Thierry MAYER, FlorianMAYNERIS et Daniel MIRZA. Evaluation des dispositifs d'aides à l'exportation. Ministère de l'Economie, de l'Industrie et de l'Emploi, France, 2012.

  · Clément MALGOUYRES, Thierry MAYER, Florian MAYNERIS et Loriane PY. Evaluation des effets des politiques ciblées sur les territoires: le cas des zones franches urbaines. Ministère du Travail, de l'Emploi, de la Formation Professionnelle et du Dialogue Social, 2012.

DOCTORAL TRAINING

- Completed Ph.D. Dissertations
- Ph.D. Dissertations in Progress
- EDEEM
- European Doctoral Program in Quantitative Economics
- Doctoral Workshops

■ Completed Ph.D. Dissertations

Six doctoral students successfully defended their Doctoral Dissertation at CORE:

* Tanguy Isaac. *Essays in Economics. I. Information revelation in market with pairwise meetings. II. Intergenerational fairness.* Doctoral School of Economics, UCL, 2011, under the supervision of Raouf Boucekkine.

Many people think that market economy is characterized by decentralized process of prices formation. Moreover, numerous people are convinced that prices convey some information. Few economic frameworks deal those two intuitions. Moreover, this literature uses a game theoretic approach. Therefore and regrettably, the results established vary dramatically according to the assumptions while the modeling differences may appear to be details. This thesis, in its first part, looks for reasons which explain some strong differences among the results of this literature. The credo is that a modeling difference appears to be a detail as long as the underlying mechanism is not understood. Obviously, intergenerational justice is a highly debated topic nowadays. It is the subject of the second part. Two contributions are brought to the literature. The first one proposes to study the issue without comparability of utilities. Economists are reluctant to use utilities comparability. Indeed, it implies value judgments which cannot be founded on scientific arguments. Surprisingly, there is few works in economics which analyzes intergenerational fairness without utilities comparability. This dissertation contributes to fill part of this gap in the theory. The second contribution starts from the concept of sustainable development defined by the Brundtland commission. Several transcriptions of this concept have been proposed in economic models. The goal is to apply one of those transcriptions in a policy making perspective. Indeed, existing works are rather empiric and say little about the optimal trajectory under a sustainability constraint.

Current position: Stratec, Belgium

* Joachim Gahungu. *Real options models in electricity capacity generation.* Ecole Polytechnique de Louvain, UCL, 2011, under the supervision of Yves Smeers.

This dissertation exposes new real options models inspired by power plant investment problems. The starting point of the work is a real options capacity expansion model for a power industry under perfect competition (Chapter 3). We use the equivalence between perfect competition's equilibrium and the supremum of the social welfare to formulate a stochastic control problem. The industry we set up has a convex cost function and a welfare which is not additively separable in its several production technologies. We investigate whether the optimality of the myopic behavior (i.e., the stochastic control/optimal stopping equivalence)

which usually prevails for such type of real options models holds in our case. The subsequent chapters (4, 5 and 6) consider myopic real options models, i.e., optimal stopping problems. Chapters 4 and 5 are devoted to multi-asset optimal stopping problems with linear reward, i.e., optimal exercise of perpetual multi-asset exchange options. We successively consider the cases where (1) all assets are geometric Brownian motions (Chapter 4) and where (2) several types of Ito-diffusions are involved in the exchange (Chapter 5). Chapter 6 presents possible applications of these results to power plant investment. We close this dissertation by a discussion on real options' ability to dampen boom and bust cycles in power investment.

Current position: Square Management, Brussels, Belgium

* Gauthier DE MAERE D'AERTRYCKE. *Financial engineering models for electricity market : futures pricing, liquidity risks and investment.* Ecole Polytechnique de Louvain, UCL, 2011, under the supervision of Yves SMEERS.

The dissertation addresses some important topics arising in restructured electricity markets. A first part is dedicated to the pricing of power contingent claims. Electricity is a derivative product, structurally related to other energy assets: it is mainly produced by fuel fired thermal power stations. For pricing power derivatives, we propose a hybrid model that accounts for these structural relationships and which can be understood as a combination of both the fundamentals of power generation and the classical stochastic framework. It is recognized that financial markets deviate to varying degrees from the perfect paradigm and in particular that electricity markets significantly remain less liquid than other commodity markets. We assess the effect of limited liquidity in power exchanges by using an equilibrium model where illiquid contracts prevent agents from hedging up to their desired level and study the implications of the introduction of such market frictions in the theory of derivatives pricing. In the second part of the thesis we elaborate on investment valuations in stochastic generation capacity expansion models. Designed originally as optimization problems for the regulated monopoly industry, those models can be interpreted as equilibrium models in a competitive environment. We specifically develop a procedure to accurately estimate the distribution of the margin profit in a standard stochastic program. We eventually focus on the risk averse problem using the good-deal risk measure, which can be seen as an extension of the stochastic discount factor constructed from standard corporate finance theories such as the CAPM and the APT.

Current position: Fondazione Eni Enrico Mattei

* Rafael Augusto DE MELO. *Mixed integer programming formulations and heuristics for joint production and transportation problems.* Ecole Polytechnique de Louvain, UCL, 2011, under the supervision of Laurence WOLSEY.

In this thesis we consider different joint production and transportation problems. We first study the simplest two-level problem, the uncapacitated two-level production-in-series lot-sizing problem (2L-S/LS-U). We give a new polynomial dynamic programming algorithm and a new compact extended formulation for the problem and for an extension with sales. Some computational tests are performed comparing several reformulations on a NP-Hard problem containing the 2L-S/LS-U as a relaxation. We also investigate the one-warehouse multi-retailer problem (OWMR), another NP-Hard extension of the 2L-S/LS-U. We study possible ways to tackle the problem effectively using mixed integer programming (MIP) techniques. We analyze the projection of a multi-commodity reformulation onto the space of the original variables for two special cases and characterize valid inequalities for the 2L-S/LS-U. Limited computational experiments are performed to compare several approaches. We then analyze a more general two-level production and transportation problem with multiple production sites. Relaxations for the problem for which reformulations are known are identified in order to improve the linear relaxation bounds. We show that some uncapacitated instances of the basic problem of reasonable size can often be solved to optimality. We also show that a hybrid MIP heuristic based on two different MIP formulations permits us to find solutions guaranteed to be within 10% of optimality for harder instances with limited transportation capacity and/or with additional sales. For instances with big bucket production or aggregate storage capacity constraints the gaps can be larger. In addition, we study a different type of production and transportation problem in which clients place orders with different sizes and delivery dates and the transportation is performed by a third company. We develop a MIP formulation and an algorithm with a local search procedure that allows us to solve large instances effectively.

Current position: OM Partners, Belgium

* Grégory VANDENBULCKE-PLASSCHAERT. *Spatial analysis of bicycle use and accident risks for cyclists.* Ecole de Géographie, UCL, 2011, under the supervision of Isabelle THOMAS.

Most developed countries nowadays face environmental, health and mobility problems as a consequence of widespread car use. Policies are now being reappraised in favour of more sustainable modes of transport. In particular, bicycle use holds the potential to provide a 'green' and healthy alternative to car commuting. There are however still important barriers

that discourage people cycling. . . This thesis aims at identifying some of the main factors that influence cycle commuting and cycling accidents. Identifying such factors would in turn provide greater support to enable policy makers developing supportive environmental conditions for cycling. In the first part of this thesis, we examine which factors influence the spatial variation of bicycle use for commuting to work at the level of the municipalities in Belgium. Special attention is paid to bicycle-specific factors and spatial econometric methods are used to account for the presence of spatial effects in the data. The second part of this thesis examines which factors are associated with cycling accidents in Brussels. Spatial point pattern methods extended to networks are used to compare the 'locational tendencies' of cycling accidents officially registered by the police with those that are unregistered. An innovative case-control approach, based on a rigorous sampling design of controls and an exhaustive data collection of spatial factors, is also proposed to allow modelling the risk of cycling accident along the Brussels' road network. This thesis not only provides sound recommendations helping planners and policy makers to encourage bicycle use, but it also offers new research directions for pinpointing locations where accidents are more likely to occur.

Current position: Federal Police, Brussels, Belgium

* Efthymios ATHANASIOU. *Essays on welfare economics.* Doctoral School of Economics, UCL, 2011, under the supervision of François MANIQUET.

This thesis consists of three distinct chapters. In the first chapter I consider a production economy a la Mirrlees in which the earning capability of individuals is endogenous. Individuals are heterogeneous with respect to their preferences and their propensity to benefit from a given investment in human capital. I look for allocation rules satisfying properties that capture the objective of equalizing opportunities. I characterize four allocation rules that both encompass different perspectives of equality of opportunity and justify different levels of public intervention. In the second chapter, along with coauthors, we put forward a model of private goods with externalities. Agents derive benefit from communicating with each other. In order to communicate they need to have a language in common. Learning languages is costly. In this setting no individually rational and feasible Groves mechanism exists. We characterize the best-in-class feasible Groves mechanism and the best-in-class individually rational Groves mechanism. In the third chapter a benevolent Planner wishes to assign an indivisible private good to a number claimants, each valuing the object differently. Individuals have quasi-linear preferences. Therefore, the possibility of transfers is allowed. A Second-Best Efficient mechanism is a strategy-proof and anonymous mechanism that is

not Pareto dominated by another strategy-proof and anonymous mechanism. In this context, we characterize the set of mechanisms that are Second-Best Efficient. This set includes mechanisms that destroy the good at certain profiles.

Current position: Carnegie Mellon University, USA

■ PH.D. DISSERTATIONS IN PROGRESS

* Abdelrahaman ALY

· Topic: Implementation of optimization methods libraries working over encryption methods for decentralized computation

· Supervisor: Mathieu VAN VYVE

· Started: 2011

· Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

* Rytis BAGDZIUNAS

· Topic: High dimensional econometrics

· Supervisor: Sébastien VAN BELLEGEM

· Started: 2011

· Doctoral School: Graduate School of Economics, UCL, Belgium

* Mikel BEDAYO

· Topic: Spatial and economic networks

· Supervisor: Vincent VANNETELBOSCH

· Started: 2010

· Doctoral School: Graduate School of Economics, UCL, Belgium (EDP Student)

* Stéphane BOUCHÉ

· Topic: Growth and sustainable development

· Supervisor: Julio DAVILA

· Started: 2009

· Doctoral School: Graduate School of Economics, UCL, Belgium (EDP Student)

* Jean-François CARPENTIER

  · Topic: Empirical essays on commodity prices

  · Supervisors: Luc BAUWENS and Vincent BODART

  · Started: 2008

  · Doctoral School: Graduate School of Economics, UCL, Belgium (EDP Student)

* Nguyen Thang DAO

  · Topic: On the environmental externalities in the overlapping generation framework

  · Supervisor: Julio DAVILA

  · Started: 2009

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Karen DECANCQ

  · Topic: Equality of opportunity in an intergenerational mobility context

  · Supervisor: Erik Schokkaert

  · Started: 2008

  · Doctoral School: KU Leuven, Belgium

* Benoît DECERF

  · Topic: Social choice and welfare economics

  · Supervisor: François MANIQUET

  · Started: 2011

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Olivier DEVOLDER

  · Topic: Infinite-dimensional structured convex optimization

  · Supervisor: François GLINEUR and Yurii NESTEROV

  · Started: 2009

  · Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

* Arnaud DUFAYS

  · Topic: Dealing with structural changes for forecasting volatility purposes

  · Supervisor: Luc BAUWENS

  · Started: 2009

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Olivier DURAND-LASSERVE

  · Topic: Stochastic long-term scenarios for energy markets

  · Supervisor: Yves SMEERS

  · Started: 2007

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Adel HATAMI-MARBINI

  · Topic: Fuzzy efficiency frontier in data envelopment analysis

  · Supervisor: Per AGRELL

  · Started: 2010

  · Doctoral School: Doctoral School of Management, UCL, Belgium

* Lancelot HENRY DE FRAHAN

  · Topic: Economic theory and social choice

  · Supervisor: François MANIQUET

  · Started: 2011

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Claudia HUPKAU

  · Topic: Essays on the economics of poverty

  · Supervisor: François MANIQUET

  · Started: 2010

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Jonathan JONES

  · Topic: Scale problems in urban modeling

  · Supervisor: Dominique PEETERS and Isabelle THOMAS

  · Started: 2010

  · Doctoral School: School of Geography, UCL, Belgium

* Alejandro LAMAS

  · Topic: Horizontal collaboration for production activities without transfer payments

  · Supervisor: Philippe CHEVALIER

  · Started: 2012

  · Doctoral School: Doctoral School of Management, UCL, Belgium

* Arnaud LATIERS

  · Topic: Dynamic management of demand in electricity network

  · Supervisor: François GLINEUR

  · Started: 2012

  · Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

* Tanja MLINAR

  · Topic: Stochastic models to the shared resources in supply chains

  · Supervisor: Philippe CHEVALIER

  · Started: 2008

  · Doctoral School: Doctoral School of Management, UCL, Belgium

* Margherita NEGRI

  · Topic: Essays in political economics

  · Supervisor: François MANIQUET

  · Started: 2009

  · Doctoral School: Graduate School of Economics, UCL, Belgium (EDP Student)

* Vladislav NORA

  · Topic: Refinements of correlated equilibria

  · Supervisor: Julio DAVILA

  · Started: 2010

  · Doctoral School: Graduate School of Economics, UCL, Belgium

* Paolo Giovani PIACQUADIO

  · Topic: Welfare economics in a dynamic context

  · Supervisor: Raouf BOUCEKKINE and François MANIQUET

  · Started: 2008

  · Doctoral School: Graduate School of Economics, UCL, Belgium (EDP Student)

* Fahimeh SHAMSAEI

  · Topic: An improved formulation for dynamic productivity lot sizing problems

  · Supervisor: Mathieu VAN VYVE

  · Started: 2010

  · Doctoral School: Doctoral School of Management, UCL, Belgium

* Felix SOMMER

  · Topic: Supply Chain Management

  · Supervisor: Per AGRELL and Constantin BLOME

  · Started: 2011

  · Doctoral School: Doctoral School of Management, UCL, Belgium

* Ines VALENTE RUSSINHO MOUGA SANTOS

  · Topic: Information integrity, inovation and coordination in supply network

  · Supervisor: Per AGRELL

  · Started: 2011

  · Doctoral School: Doctoral School of Management, UCL, Belgium

■ EDEEM

EDEEM is a doctoral program in economics. It is composed of 7 European institutions and is coordinated by the University of Paris 1 Panthéon-Sorbonne, France. The partners universities are Universiteit van Amsterdam (The Netherlands), the Universität Bielefeld (Germany), Universidade Nova de Lisboa (Portugal), Université catholique de Louvain (Belgium), Université Paris 1 Panthéon-Sorbonne (France), Ecole des Hautes Etudes en Sciences Sociales (France) and Università Ca'Foscari Venezia (Italy).

The EDEEM Programme welcomes around 25 students each year. The programme is organized in three years. Focus is made on research work, publication and presentation, with dedicated Jamborees and Summer Schools being an essential part of the training.

All PhD students are jointly supervised by two advisers through a co-tutelle agreement between two universities in the consortium. The student must spend at least two semesters in each of the two degree-granting universities. After having successfully completed the program, the student is awarded a double degree from the two hosting institutions.

Three students will be at CORE in the scope of this program during academic year 2012–2013: Aditi DIMRI, Manuel FÖRSTER and Andrew PUA.

■ EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS

The European Doctoram Program in Quantitative Economics is a joint project of CORE, Université catholique de Louvain (Belgium), with Universitat Pompeu Fabra, Barcelona (Spain), Rheinische Friedrich-Wilhelms-Universität Bonn (Germany), London School of Economics (United Kingdom), Ecole des Hautes Etudes en Sciences Sociales (France), the European University Institute in Florence (Italy), and as an associate member, University of Tel Aviv (Israël). Students in the program complete all the requirements for a doctorate in one of the participating universities. In addition, they spend at least one full academic year, typically their second year in the program, in one of the other universities.

The program started in 1977. Six students obtained their certificate during the academic year 2011-2012. Fifty-eight students are currently enrolled. Five are cur-

rently staying at CORE: Mikel BEDAYO, Stéphane BOUCHÉ, Jean-François CARPENTIER, Margherita NEGRI and Paolo Giovani PIACQUADIO.

■ DOCTORAL WORKSHOPS

The doctoral workshops provide a research forum where the members of the Doctoral Program in Economics at UCL have the opportunity to present part of their completed or ongoing research. Even though presentations are reserved to doctoral students, access to the workshop is open to a larger public. Professors and researchers of the Department and from partner institutions are invited to attend all sessions. The Doctoral students from Facultés universitaires catholiques de Mons, Facultés universitaires Notre-Dame de la Paix, Namur, Facultés universitaires Saint-Louis, Brussels, ECARES, Université libre de Bruxelles, Université de Liège, Universiteit Gent and KU Leuven are kindly invited to attend the sessions and present their research.

● DW'12 – Doctoral Workshop in Economics

January 27, 2012

Applied Econometrics - Labor
Chair: Muriel Dejemeppe, IRES, UCL, Belgium

· Olivier BROLIS, IRES, UCL, Belgium
  The specificities of the employment relationship in social organizations: an analytical framework applied to low-skilled workers

· Stijn BAERT, Universiteit Gent, Belgium
  Overeducation at the start of the career - stepping stone or trap?

· Arnaud DUFAYS, CORE, UCL, Belgium
  Inference and marginal likelihood for Markov-switching and change-point multivariate GARCH models

Trade and Economic Geography
Chair: Florian Mayneris, IRES, UCL, Belgium

· Paola L. MONTERO, IRES, UCL, Belgium
  Matching equilibrium with commuting and skill heterogeneity

· Laura ROVEGNO, IRES, UCL, Belgium
  Endogenous trade restrictions and firs' pricing behaviour

· Jean-François CARPENTIER, CORE, UCL, Belgium
  Real exchange rate and human capital: revisiting the Balassa-Samuelson effect

Microeconomics & Public Economics
Chair: Gani Aldashev, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

· Simone RIGHI, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
  Herd those Sheep! Campaign spending and rents in a probabilistic voting model

· Mikel BEDAYO, CORE, UCL, Belgium
  Bargaining in criminal networks

· Nguyen Thang DAO, CORE, UCL, Belgium
  A revisit to Galor and Weil (2000) with considering environmental quality

Keynote Lecture: Odel GALOR, Brown University, USA
Cultural diversity, geographical isolation and the origins of the wealth of nations and
The out of Africa hypothesis, genetic diversity and comparative economic development

Development
Chair: Jean-Marie Baland, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

· Plamen NIKOLOV, Harvard University, USA
  Does AIDS treatment stimulate negative behavioral response?

· Chrysovalantis VASILAKIS, IRES, UCL, Belgium
  International migration and the propagation of HIV in Sub-Saharan Africa

· Olivier STRECK, IRES, UCL, Belgium
  Strategic investment in geoengineering: a two-country framework

May 24, 2012

Microeconomics
Chair: Eric Toulemonde, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

· Benoît DECERF, CORE, UCL, Belgium
  Fair allocation of resources among other regarding agents

· Vladyslav NORA, CORE, UCL, Belgium
  Conjugate potential and robust equilibria

· Margherita NEGRI, CORE, UCL, Belgium
  Measuring ethnic politics: an axiomatic approach

Development 1
Chair: Jean-Philippe Platteau, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

· Wouter GELADE, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
  The demand for micro-insurance: a literature review

· Roberta ZIPARO, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
  Household decision making with incomplete information on the income of the spouses

· Hélène LAURENT, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
  Greasing the wheels of entrepreneurship: reappraisal

Labor 1
Chair: Bart Cockx, IRES, UCL, Belgium

· Corinna GHIRELLI, Universiteit Gent, Belgium
  Hyperbolic discounting and job search: on the efficiency of monitoring scheme

· Stijn BAERT, Universiteit Gent, Belgium
  The effectiveness of occupational doctors in the reduction of sickness absenteeism among self-employed

· Catherine SMITH, IRES, UCL, Belgium
  A macro-economic analysis of employment policies targeted at older workers in Belgium

Development 2

Chair: Catherine Guirkinger, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

· Timothée DEMONT, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Access to credit and absorption of income shocks: evidence from self-help groups in India

· Isabelle BONJEAN, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Two-sided liquidity constraints and innovation adoption: evidence from a grass-roots extension programme in Peru

· Ombeline DE BOCK, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Trust and ris-aversion experiments in Rwanda

Labor 2

Chair: Muriel Dejemeppe, IRES, UCL, Belgium

· Joost BOLLENS, KU Leuven, Belgium
Effectiveness of a job vacancy referral scheme

· Matteo DUIELLA, IRES, UCL, Belgium
Increasing social security contributions for atypical workers: who bears the burden?

Game Theory

· Dominique CHARIOT, Facultés universitaires Saint-Louis, Brussels, Belgium
Learning to play the Colonel Blotto game

· Salome GVETADZE, IRES, UCL, Belgium
The optimal migration duration and updated preferences

Keynote Lecture: Ludger WOESMANN, Universität Münich, Germany
Does school autonomy make sense everywhere? Panel estimates from PISA

May 25, 2012

Macroeconomics

Chair: David de la Croix, IRES and CORE, UCL, Belgium

· Robert STELTER, Universität Rostock, Germany
The effects of risk aversion on age structure

· Bastien CHABÉ-FERRET, IRES, UCL, Belgium
Fertility norms: does education matter?

· Paula GOBBI, IRES, UCL, Belgium
Who supports the time cost of raising children?

Industrial Organization

Chair: Paul Belleflamme, CORE, UCL, Belgium

· Elias CARRONI, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Behavior based price discrimination with cross-group externalities

· Marco MARINUCCI, CORE, UCL, Belgium
Cooperative R & D networks among firms and public research institutions

· Cristina MANEA, ESL, UCL, Belgium
The PMG estimator - description and research questions

Econometrics

Chair: Sébastien Van Bellegem, CORE, UCL, Belgium

· Paolo BUSSI, Facultés universitaires Saint-Louis, Brussels, Belgium
An overview over 40 years of scientific collaborations

· Lucia GRANELLI, Facultés universitaires catholiques de Mons, Belgium
Assessing the effects of the payroll tax exemption. A research agenda

· Rytis BAGDZIUNAS, CORE, UCL, Belgium
Hausman test for functional data

Migration

Chair: Frédéric Docquier, IRES, UCL, Belgium

· Joël MACHADO, IRES, UCL, Belgium
  Efficiency gains from liberalizing labor mobility

· Aysegul KAYAOGLU, IRES, UCL, Belgium
  Economic impact of the state of emergency the case of Turkey

· Vanessa LUTGEN, IRES, UCL, Belgium
  Equilibrium region unemployment, labour market frictions, housing and amenities

Growth

Chair: Luca Pensieroso, IRES, UCL, Belgium

· Anton BELYAKOV, Technische Universität Wien, Austria
  General equilibrium model with horizontal innovations and heterogeneous products

· Daria ONORI, GREQAM, Aix-Marseille, France
  Growth, public spending and international borrowing with markets imperfections

· Pierre PECHER, IRES, UCL, Belgium
  Social conflict, power dynamics and growth

Trade

Chair: Hylke Vandenbussche, CORE and IRES, UCL, Belgium

· Amandine AUBRY, IRES, UCL, Belgium
  The effect of product diversity on the pattern of consumption

· Aminata SISSOKO, IRES, UCL, Belgium
  R & D subsidies and firm-level exports: evidence from France

· Christian VIEGELAHN, IRES, UCL, Belgium
  Antidumping policy and importing firms: evidence from India

Macroeconomic Policy

Chair: Vincent Bodart, IRES, UCL, Belgium

· Jolan MOHIMONT, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
  Macroeconomic stabilization policies to aid flows

· Deniz NEBIOGLU, IRES, UCL, Belgium
  Do expectations matter? Evidence based on an estimated DSGE model

· Erica PEREGO, IRES, UCL, Belgium
  Macroeconomic determinants of European stock and bond correlations: a tale of two regions

CORE SEMINARS
WORKSHOPS and
READING GROUPS

Weekly CORE Seminars

- Econometrics Seminar
- Economic Theory Seminar
- Mathematical Programming Seminar
- ECORE, joint CORE-ECARES Seminar
- Trade & Economic Geography Seminar
- Welfare Economics Seminar

Reading Groups
Seminars and Workshops

- PAI-UAP seminars
- Economics Reading Group
- Reading Seminar in Operations Research
- Workshop on Game Theory and Economic Behavior

■ WEEKLY CORE SEMINARS

• **Econometrics Seminar**

· September 26, 2011. Nicolas DEBARSY, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
The Mundlak approach in the spatial Durbin panel model
(Joint with Trade & Economic Geography Seminar)

· October 3, 2011. Patrick GAGLIARDINI, Università della Svizzera Italiana, Lugano, Switzerland
Time-varying risk premium in large cross-sectional equity datasets

· October 10, 2011. Amaresh TIWARI, Université de Liège, Belgium
Linear and nonlinear models with expected a posteriori values of correlated random effects for unbalanced panel

· October 17, 2011. Erwann SBAÏ, University of Auckland, New Zealand
Regularized non parametric estimation of game theoretic models

· October 24, 2011. Arnaud DUFAYS, CORE, UCL, Belgium
Estimating and forecasting structural breaks in financial time series

· November 7, 2011. Juan Pablo ORTEGA, Université de Franche-Comté, Besançon, France
Multivariate GARCH estimation via a Bregman-proximal trust-region method
(Joint with Mathematical Programming Seminar)

· November 14, 2011. Frans DE ROON, Universiteit Tilburg, The Netherlands
The stock market price of commodity risk
(Joint with LSM Finance Seminar)

· November 21, 2011. Melanie SCHIENLE, Humboldt-Universität zu Berlin, Germany
Semiparametric estimation with generated covariates
(Joint CORE-ISBA Seminar in the frame of the ARC project on time series)

· November 28, 2011. Eddy VERBIEST, Belgium
Stock return predication and anomaly detection by regression trees
(Joint with LSM Finance Seminar)

· December 5, 2011. Anna SIMONI, Università Bocconi, Milano, Italy
Bayesian identification and partial identification

· December 12, 2011. Sophie BEREAU, LSM, UCL, Belgium
Heterogeneous agents in the FX market: a matter of time horizon?
(Joint with LSM Finance Seminar)

· December 19, 2011. Paul A. GREGG, University of Bath, United Kingdom
Intergenerational mobility in UK, life chances and the role of inequality and education
(Joint with Economic Theory Seminar)

· January 10, 2012. Michel MOUCHART, ISBA, UCL, Belgium
A stochastic independence approach for different measures of concentration and specialization
(Joint with Trade & Economic Geography Seminar)

· February 20, 2012. Geert DHAENE, KU Leuven, Belgium
Profile-score adjustments for nonlinear fixed-effect models

· February 27, 2012. Abdelaati DAOUIA, ISBA, UCL, Belgium
On projection-type estimators of multivariate isotonic functions
(Joint CORE-ISBA Seminar)

· March 5, 2012. Margaret SLADE, The University of British Columbia, Vancouver, Canada
Spillovers in space: does geography matter?
(Joint with Economic Theory Seminar and Trade & Economic Geography Seminar)

· March 12, 2012. Bertrand CANDELON, Universiteit Maastricht, The Netherlands
Currency crises early warning systems: why they should be dynamic?
(Joint with LSM Finance Seminar)

· March 26, 2012. Dennis KRISTENSEN, University College of London, United Kingdom
Optimal sampling and bandwith selection for kernel estimators of diffusion processes
(Joint CORE-ISBA Seminar in the frame of the ARC project on time series)

· April 16, 2012. Martin WAGNER, Institue for Advanced Studies, Vienna, Austria
On the econometric analysis of the environmental Kuznets curve
(Joint CORE-ISBA Seminar in the frame of the ARC project on time series)

· April 23, 2012. Jean-Marie DUFOUR, McGill University, Montréal, Canada
Exogeneity tests, weak identification and IV estimation: Is the cure worse than the illness?
(Joint CORE-ISBA Seminar in the frame of the ARC project on time series)

· April 30, 2012. Gautam TRIPATHI, Université du Luxembourg, Luxembourg
Nonparametric estimation of returns to scale

· May 7, 2012. Marie DUTORDOIR, Manchester Business School, United Kingdom
Self-selection and stock returns around corporate security offering announcements

· May 14, 2012. Virginie COUDERT, Bank of France & EconomiX-CNRS, Université Paris Ouest, France
The "forward premium puzzle" and the sovereign default risk

· June 4, 2012. William PARIENTE, IRES, UCL, Belgium
Impact of microcredit in rural areas of Morocco: Evidence from a randomized evaluation

· June 11, 2012. Olivier DONNI, Université de Cergy-Pontoise, France
Intrahousehold distribution and child poverty: theory and evidence from Côte d'Ivoire
(Joint with Economic Theory Seminar)

- **Economic Theory Seminar**

  · September 26, 2011. Peter HAMMOND, University of Warwick, United Kingdom
  Rationally bounded models and enlivened decision trees

  · October 10, 2011. Joe THARAKAN, Université de Liège, Belgium
  Endogenous mode of competition in general equilibrium

  · October 17, 2011. Bettina KLAUS, Université de Lausanne, Switzerland
  Paths to stability in the assignment problem

  · October 24, 2011. Luc LAUWERS, KU Leuven, Belgium
  Value without absolute convergence
  (Joint with Welfare Economics Seminar)

  · November 7, 2011. Carsten ECKEL, Universität Münich, Germany
  Multi-product firms at home and away: cost-versus quality-based competence
  (Joint with Trade & Economic Geography seminar)

  · November 28, 2011. Henry TULKENS, CORE, UCL, Belgium
  Cooperation vs. non cooperation in a dynamic international environmental game

  · December 5, 2011. David M. FRANKEL, Iowa State University, Ames (IO), USA
  Optimal bailouts

  · December 12, 2011. Jonathan EATON, Pennsylvania State University (PA), USA
  A search and learning model of export dynamics
  (Joint with Trade & Economic Geography Seminar)

  · December 19, 2011. Paul A. GREGG, University of Bath, United Kingdom
  Intergenerational mobility in UK, life chances and the role of inequality and education
  (Joint with Econometrics Seminar

  · January 30, 2012. Philippe MONGIN, HEC, Paris, France
  Positive solutions to the judgment aggregation problem
  (Joint with Welfare Economics Seminar)

  · February 6, 2012. Martin PEITZ, Universität Mannheim, Germany
  Markets for ideas, asymmetric information and the allocation of managerial skills

  · February 13, 2012. Swati DHINGRA, London School of Economics, United Kingdom
  The impact of integration on productivity and welfare distortions under monopolistic competition
  (Joint with Trade & Economic Geography seminar)

  · February 27, 2012. Mathieu VAN VYVE, CORE & LSM, UCL, Belgium
  Linear prices for non-convex electricity markets: models and algorithms
  (Joint with Mathematical Programming seminar)

  · March 5, 2012. Pierre DEHEZ, CORE, UCL, Belgium
  How to share sequential liability: a cooperative game approach

  · March 12, 2012. Guillaume HAERINGER, Universitat Autonoma de Barcelona, Spain
  Two-sided matching with one-sided data

  · March 19, 2012. Volker BRITZ, CORE, UCL, Belgium
  A bargaining theory of the firm

  · March 26, 2012. Rakesh VOHRA, Northwestern University, Evanston (IL), USA
  Auction design with fairness concerns: subsidies vs. set-asides
  (Joint with Mathematical Programming seminar)

  · April 23, 2012. Patrick WAELBROEK, Telecom ParisTech, France
  Fighting free with free: streaming vs. piracy

  · April 30, 2012. John MCLAREN, University of Virginia, Charlottesville (VA), USA
  When is it optimal to delegate: the theory of fast-track authority
  (Joint with Trade & Economic Geography seminar)

  · May 7, 2012. Christian LIST, London School of Economics, United Kingdom
  Where do preferences come from?
  (Joint with Welfare Economics seminar)

· May 14, 2012. Roland BENABOU, Princeton University (PA), USA
Groupthink: collective delusions in organizations and markets

· June 4, 2012. Sudipto BHATTACHARYA, London School of Economics and CEPR, United Kingdom
Securitized banking, asymmetric information, and financial crisis: regulating systemic risk away

· June 11, 2012. Olivier DONNI, Université de Cergy-Pontoise, France
Intrahousehold distribution and child poverty: theory and evidence from Côte d'Ivoire
(Joint with Econometrics Seminar)

· June 25, 2012. Abraham NEYMAN, Hebrew University of Jerusalem, Israël
Stochastic games with short stage duration

● **Mathematical Programming Seminar**

· September 8, 2011. Claudio TELHA, Massachusetts Institute of Technology, Cambridge (MA), USA
The jump number of two-directional orthogonal ray graphs

· September 20, 2011. Domenico SALVAGNIN, Universita di Padova, Italy
Approximating the first split closure

· October 18, 2011. Jean-Charles DELVENNE, CORE and INMA, UCL, Belgium
Optimal partiitions and community structures in large graphs

· November 7, 2011. Juan Pablo ORTEGA, Université de Franche-Comté, Besançon, France
Multivariate GARCH estimation via a Bregman-proximal trust-region method
(Joint with Econometrics Seminar)

· November 22, 2011. Julien HENDRICKX, INMA, UCL, Belgium
Three complementary approaches to averaging in decentralized systems

· December 13, 2011. Gongyun ZHAO, National University of Singapore, Singapore
Basis partition of the space of linear programs

· December 20, 2011. Joao GOUVEIA, Universidade Coimbra, Portugal
Lifts of convex sets and cone factorizations

· January 24, 2012. Thomas STUETZLE, Université Libre de Bruxelles, Belgium
Automatic configuration of optimization algorithms

· January 31, 2012. Daniel RALPH, University of Cambridge, United Kingdom
Risk trading and capacity expansion

· February 7, 2012. Sebastian POKUTTA, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
On linear programming formulations of the TSP polytope

· February 14, 2012. Aadhaar CHATURVEDI, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Split award auctions for supplier retention
(Joint with CESCM & GSK chair)

· February 27, 2012. Mathieu VAN VYVE, CORE & LSM, UCL, Belgium
Linear prices for non-convex electricity markets: models and algorithms
(Joint with Economic Theory Seminar)

· February 28, 2012. Paschalis TSIAFLAKIS, KU Leuven, Belgium
Spectrum optimization for green DSL internet access: algorithms and practical impact

· March 20, 2012. Alexandre d'ASPREMONT, Ecole Polytechnique, Paris, France
A stochastic smoothing algorithm for semidefinite programming

· March 26, 2012. Rakesh VOHRA, Northwestern University, Evanston (IL), USA
Auction design with fairness concerns: subsidies vs. set-asides
(Joint with Economic Theory seminar)

· March 27, 2012. Yurii NESTEROV, CORE & INMA, UCL, Belgium
Subgradient methods for huge-scale optimization problems

· April 17, 2012. Kenneth SÖRENSEN, Universiteit Antwerp, Belgium
Metaheuristics and metaphors

· April 19, 2012. Marco DI SUMMA, Università di Padova, Italy
A notion of inverse Chvatal rank

· June 5, 2012. Hande Yaman, Bilkent University, Turkey and CORE, Belgium
Survival hub network design problems

● **ECORE, joint CORE-ECARES Seminar**

· October 3, 2011. Bram DE ROCK, ECARES, Université Libre de Bruxelles, Brussels, Belgium
The revealed preference approach for collective consumption behavior

· November 14, 2011. Axel GAUTIER, Université de Liège and CORE, UCL, Belgium
Rethinking regulatory capture

· December 12, 2011. David VEREDAS, ECARES, Université Libre de Bruxelles, Brussels, Belgium
A new measure of tail correlation for vast dimensional panels of asset returns

· February 13, 2012 Sébastien VAN BELLEGEM, CORE, UCL, Belgium
Functional linear instrumental regression

· April 16, 2012. Antonio ESTACHES, ECARES, Université Libre de Bruxelles, Brussels, Belgium
Infrastructure economics for developing countries: An humbling survey of 25 years of research

● **Trade & Economic Geography Seminar**

· September 26, 2011. Nicolas DEBARSY, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
The Mundlak approach in the spatial Durbin panel model
(Joint with Econometrics Seminar)

· November 7, 2011. Carsten ECKEL, Universität Münich, Germany
Multi-product firms at home and away: cost-versus quality-based competence
(Joint with Economic Theory seminar)

· November 10, 2011. Italo COLANTONE, Erasmus Universiteit Rotterdam, The Netherlands
New imported inputs, new domestic products
(Joint with IRES Research Seminar)

· December 12, 2011. Jonathan EATON, Pennsylvania State University (PA), USA
A search and learning model of export dynamics
(Joint with Economic Theory Seminar)

· December 15, 2011. Luca David OPROMOLLA, Banco de Portugal, Lisboa, Portugal
The tip of the iceberg: a quantitative framework for estimating trade costs
(Joint with IRES Research Seminar)

· January 10, 2012. Michel MOUCHART, ISBA, UCL, Belgium
A stochastic independence approach for different measures of concentration and specialization
(Joint with Econometrics Seminar)

· February 13, 2012. Swati DHINGRA, London School of Economics, United Kingdom
The impact of integration on productivity and welfare distortions under monopolistic competition
(Joint with Economic Theory Seminar)

· March 5, 2012. Margaret SLADE, The University of British Columbia, Vancouver, Canada
Spillovers in space: does geography matter?
(Joint with Economic Theory Seminar and Econometrics Seminar)

· March 13, 2012. Jenny MINIER, University of Kentucky, Lexington (KY), USA
Where the girls are: trade and labor market segregation in Columbia

· April 19, 2012. Monika SCHNITZER, Universität Münich, Germany
How trade credits foster international trade
(Joint with IRES Research Seminar)

· April 24, 2012. John ROBERTS, Stanford Graduate School of Business (CA), USA
Does working from home work? Evidence from China
(Joint with Macroeconomics Lunch Seminar)

· April 30, 2012. John MCLAREN, University of Virginia, Charlottesville (VA), USA
When is it optimal to delegate: the theory of fast-track authority
(Joint with Economic Theory Seminar)

· May 8, 2012. Josh EDERINGTON, Univeristy of Kentucky, Lexington (KY), USA
Domestic policies, hidden protection and the GATT/WTO

· May 29, 2012. Thomas J. PRUSA, Rutgers University, New Brunswick (NJ), USA
Protection reduction and diversion: PTAs and the incidence of antidumping disputes
(Joint with IRES Research Seminar)

• **Welfare Economic Seminar**

· September 26, 2011. Grégory PONTHIÈRE, Paris School of Economics, France
Measuring poverty without the mortality paradox

· October 3, 2011. François MANIQUET, CORE, UCL, Belgium
Dichotomous preferences, dichotomous judgments and approval voting

· October 10, 2011. Claudia HUPKAU, CORE, UCL, Belgium
Poverty, reflected appraisals and non-take-up

· October 17, 2011. Dirk van de GAER, CORE, UCL and Universiteit Gent, Belgium
Empirical approaches to inequality of opportunity: principles, measures and evidence

· October 24, 2011. Luc LAUWERS, KU Leuven, Belgium
Value without absolute convergence
(Joint with Economic Theory Seminar)

· October 31, 2011. Margherita NEGRI, CORE, UCL, Belgium
Measuring ethnic voting : do proportional electoral laws politicize ethnicity?

· November 7, 2011. Eve RAMAEKERS, CORE, UCL, Belgium
Implementation in undominated strategies

· November 14, 2011. Christelle SAPATA, Facultés universitaires Saint-Louis, Brussels, Belgium
Unfair inequalities in France: a regional comparison

· November 21, 2011. Vladyslav NORA, CORE, UCL, Belgium
Admissibility and perfection of correlated equilibria

· November 28, 2011. Giacomo VALLETTA, Universiteit Maastricht, The Netherlands
May's theorem as a simple rationale for scoring rules

· December 5, 2011. Aitor VALA-BLANCO, Universidad de Alicante, Spain
On the transmission of smoking habits in viscous populations

· December 12, 2011. Lancelot HENRY DE FRAHAN, CORE, UCL, Belgium
Introducing the objective of poverty reduction in social ordering functions

· January 30, 2012. Philippe MONGIN, HEC, Paris, France
Positive solutions to the judgment aggregation problem
(Joint with Economic Theory Seminar)

· February 6, 2012. Benoît DECERF, CORE, UCL, Belgium
Constructing social ordering functions with other-regarding agents

· February 20, 2012. Tom TRUYTS, KU Leuven, Belgium
Auctions with prestige motives

· February 27, 2012 Volker BRITZ, CORE, UCL, Belgium
Bargaining over the gains from cooperation

· March 19, 2012. Chiara CANTA, CORE, UCL, Belgium
Public and private hospitals, waiting times, and redistribution

· March 26, 2012. Paolo PIACQUADIO, CORE, UCL, Belgium
Resource-based sustainability: technological change and uncertainty

· April 16, 2012. Koen DECANCQ, KU Leuven, Belgium
Assortativeness and household earnings inequality: a copula based decomposition

· April 28, 2012. Vardan BAGHDASARYAN, Armenian University, Russia
Electoral fraud and voter turnout

· April 30, 2012. Christian GOLLIER, Toulouse School of Economics, France
Discounting, inequality and economic convergence

· May 7, 2012. Christian LIST, London School of Economics, United Kingdom
Where do preferences come from?

· May 14, 2012. Erwin OOGHE, KU Leuven, Belgium
Who's afraid of aggregating money metrics?

· May 21, 2012. Vladislav NORA, CORE, UCL, Belgium
Conjugate potential games and robust equilibria

· June 11, 2012. Claude D'ASPREMONT, CORE, UCL, Belgium
Efficient BIC mechanisms and voluntary participation

· June 25, 2012 Juan MORENO TERNERO, CORE, UCL, Belgium and Universidad Pablo de Olavide, Seville, Spain
A new axiomatic approach for the evaluation of population health

■ READING GROUPS, SEMINARS AND WORKSHOPS

● **PAI-UAP Workshops (BELSPO, IAP Programme P6/07)**

* DECEMBER 13, 2011: IAP DAY, FACULTÉS UNIVERSITAIRES NOTRE-DAME DE LA PAIX, BELGIUM

· Zaki WAHHAJ, University of Oxford, United Kingdom and Facultés universitaires Notre-Dame de la Paix, Namur, Belgium
Social norms, higher-order beliefs and the Emperor's new clothes

· Tom TRUYTS, CES, KU Leuven, Belgium
Stochastic signalling: information complements and cubstitutes

· Ines VAN ROBALYS, Universiteit Gent, Belgium
Do financial investors destabilize the oil price?

· Lorenzo RICCI, ECARES, Université Libre de Bruxelles, Brussels, Belgium
TailCor: a new method for the tail correlation measurements in vast dimensional asset returns panels

· Laura ROVEGNO, IRES, UCL, Belgium
Export restrictions and firms's pricing behavior: an empirical assessment

· Claudia HUPKAU, CORE, UCL, Belgium
Poverty, reflected appraisals and non-take-up

· Georg KIRCHSTEIGER, ECARES, Université Libre de Bruxelles, Brussels, Belgium
The welfare effect of MBA rankings

· Katja KAUFMANN, Università Bocconi, Italy
Learning about the enforcement of conditional welfare programs and behavioral responses: evidence from Bolsa Familia in Brazil

* FEBRUARY 10, 2012: HALF-DAY PAI WORKSHOP ON "EDUCATION AND SOCIAL MOBILITY", CORE, UCL, BELGIUM

· Simon BURGESS, Bristol University, United Kingdom
Student effort and educational attainment: using the England football team to identify the education production function

· Arnaud LEFRANC, Université de Cergy-Pontoise, France
Educational expansion, earnings compression and changes in intergenerational economic mobility: evidence from French cohorts, 1931–1976

* MARCH 9, 2012: HALF-DAY PAI WORKSHOP ON "ECONOMICS OF CRIME AND CORRUPTION", FACULTÉS UNIVERSITAIRES NOTRE-DAME DE LA PAIX, NAMUR, BELGIUM

  · Ruben DURANTE, Sciences-Po, Paris, France
    Academic dynasties: decentralization and familism in the Italian academia

  · Gaia NARCISO, Trinity College Dublin, Ireland
    The effect of mafia on public transfers

  · Giovanni MASTROBUONI, Collegio Carlo Alberto, Turin, Italy
    Police and clearance rates: evidence from quasi-random redeployment within a city

* MAY 4, 2012: IAP DAY ON "HEALTH AND LONG TERM CARE", KU LEUVEN, BELGIUM

  · Matthew SUTTON, University of Manchester, United Kingdom
    Can payers use prices to improve quality? Evidence from English hospitals

  · Jan BOONE, Universiteit Tilburg, The Netherlands
    Why the government should do cost-effectiveness analysis in a health insurance market

  · Chiara CANTA, CORE, UCL, Belgium
    Long term care and family norms

  · Michelle SOVINSKY GOEREE, University of Zürich, Austria
    Will you still want me tomorrow? The dynamics of families long-term care arrangements

  · Helmuth CREMER, Toulouse School of Economics, France
    Long-term care policy, myopia and redistribution

● **Economics Reading Group**

Starting in January 2012, a reading group for economics Ph.D. students at the Universite catholique de Louvain was launched. The idea of the economics reading group is that there will be one faculty member present at each session to lead the group. This faculty member is asked to choose a recent paper in his research field. During the session, he or she gives a brief introduction to the background of the paper, and starts an informal discussion. Students read the paper in advance, and are expected to contribute to the discussion.

  · January 11, 2012. Fabio MARIANI, IRES, UCL, Belgium
    Discussion of the paper *Does female empowerment promote economic development?* by Mathias Doepke and Michèle Tertilt

  · January 19, 2012. William PARIENTE, IRES, UCL, Belgium
    Discussion of the paper *Violent conflict and behavior: a field experiment in Burundi* by Maarten J. Voors, Eleonora E.M. Nillesen, Philip Verwimp, Erwin H. Bulte, Robert Lensink and Daan P. Van Soest

  · February 1, 2012. Paul BELLEFLAMME, CORE, UCL, Belgium
    Discussion of the paper *Platform siphoning: ad-avoidance and media content* by Simon P. Anderson and Joshua S. Gans

  · February 15, 2012. Koen DECANCQ, CORE, UCL and KU Leuven, Belgium
    Discussion of the paper *Robust multidimensional poverty comparisons* by Jean-Yves Duclos, David E. Sahn and Stephen D. Younger

  · February 29, 2012. David de la CROIX, CORE and IRES, UCL, Belgium
    Discussion of the paper *Longevity and lifetime labor supply: evidence and implications* by Moshe Hazan

  · March 6, 2012. Michel de VROEY, IRES, UCL, Belgium
    Discussion of the paper *Methods and problems in business cycle theory* by Robert E. Lucas

  · March 28, 2012. Marion LETURCQ, CORE, UCL, Belgium
    Discussion of the paper *Consumption inequality and intra-household allocations* by Jeremy Lise and Shannon Seitz

· April 25, 2012 . François Maniquet, CORE, UCL, Belgium

Discussion of the paper *Strategic information transmission* by Vincent P. Crawford and Joel Sobel.

· May 2, 2012. Christian Gollier, Toulouse School of Economics, France

Discussion of the paper *Horizon length and portfolio risk* by Christian Gollier and Richard J. Zeckhauser

· May 16, 2012. Jacques Drèze, CORE, UCL, Belgium

Discussion of the paper *On the macroeconomics of uncertainty and incomplete markets* by Jacques Drèze

- **OR Reading Group**

· October 26, 2011. Jérémy Piotte, LSM, UCL, Belgium

Discussion of the paper *The single vehicle routing problem with deliveries and selective pickups* by I. Gribkovskaia, G. Laporte and A. Shyshou

· November 9, 2011. Abdelrahaman Aly, CORE, UCL, Belgium

Discussion of the paper *Secure multi-party sortign and applications* by K.V. Jónsson, G. Kreitz, and M. Uddin

· November 23, 2011. Adel Hatami-Marbini, CORE, UCL, Belgium

Discussion of the paper *Efficiency Decomposition in Network Data Envelopment Analysis: A Relational Model* by C.Kao

· December 21, 2011. Laurent Van Malderen, CORE, UCL, Belgium

Discussion of the paper *A stochastic dynamic traveling salesman problem with hard time windows*, by T.-S. Chang, Y.-w. Wan and W.T. Ooi

· February 20, 2012. Wenli Peng, CORE, UCL, Belgium

Discussion of the paper *An integrated production and inventory model to dampen upstream demand variability in the supply chain* by Robert N. Boute, Stephen M. Disney, Marc R. Lambrecht and Benny Van Houdt

· March 5, 2012. Mehdi Madani, LSM, UCL, Belgium

Discussion of the paper *Partitioning procedures for solving mixed-variables programming problems* by J. F. Benders

· March 26, 2012. Felix Sommer, CORE, UCL, Belgium

Discussion of the paper *Games with incomplete information: A simplified exposition with inventory management applications* by H. Wu and M. Parlar

· May 14, 2012. Arnaud Latiers, CORE, UCL, Belgium

Discussion of the paper *Modeling the Impacts of Electricity Tariffs on Plug-In Hybrid Electric Vehicle Charging, Costs, and Emissions* by R. Sioshansi

MEETINGS

CORE Meetings

- Very Large Scale Optimization. A Conference in Honor of Etienne Loute
- European Seminar on Bayesian Econometrics (ESOBE)
- Efficiency Measurement of Educational System
- 12th Workshop on Logistics and Supply Chain Management
- 18th Belgian Mathematical Programming Workshop
- 4th Euro-African Conference in Finance and Economics
- Multidimensional Poverty and Inequality Measurement

Participation of CORE members to meetings' organization

■ CORE Meetings

• Very Large Scale Optimization. A Conference in Honor of Etienne Loute

This conference was held at Facultés universitaires Saint-Louis, Brussels and organized by Ana MAULEON (CORE and Facultés universitaires Saint-Louis, Brussels), Vincent VANNETELBOSCH (CORE), Xavier WAUTHY (CORE and Facultés universitaires Saint-Louis, Brussels) and Laurence WOLSEY (CORE)

* *September 6, 2011*

- · Markuu KALLIO, Aalto University School of Economics, Finland
  Reference point method for multi-criteria optimization with integer variables

- · Robert FOURER, Northwestern University, Evanston (IL), USA
  Convexity detection in large-scale optimization

- · Erling D. ANDERSEN, MOSEK, Copenhagen, Denmark
  Convex optimization: conic versus functional form

- · Yurii NESTEROV, CORE, UCL, Belgium
  Efficiency of coordinate descent methods on huge-scale optimization

• European Seminar on Bayesian Econometrics (ESOBE)

This conference was held at the Auditorium of the National Bank of Belgium. Luc BAUWENS (CORE, UCL), David VEREDAS (ECARES, Université libre de Bruxelles, Brussels, Belgium) and Raf WOUTERS, (Banque Nationale de Belgique) were the organizers of this conference.

* *November 5, 2011*

- · **Session 1**
  Chair: Luc BAUWENS, CORE, UCL, Belgium

  - – Siddharta CHIB, Washington University, Saint-Louis (MO), USA
    Monetary regime changes and the term structure: evidence from a DSGE model

  - – Claudia CZADO, Technische Universität München, Germany
    Bayesian analysis of vine copulas with applications to financial data

- · **Poster Session 1**

· **Session 2**

Chair: Simon POTTER, Federal Reserve Bank of New York (NY), USA

– Marco DEL NEGRO, Federal Reserve Bank of New York (NY), USA
Rare Shocks, great recessions

– Hans DEWACHTER, National Bank of Belgium, Brussels, Belgium
Bayesian estimation of the extended macro-finance model

· **Session 3**

Chair: Herman VAN DIJK, Erasmus Universiteit Rotterdam, The Netherlands

– Christophe ANDRIEU, University of Bristol, United Kingdom
Particle Markov chain Monte Carlo Methods

– Paolo GIORDANI, Sveriges Riksbank, Stockholm, Sweden
On some properties of Markov chain Monte Carlo simulation methods based on the particle filter

· **Session 4**

Chair: Michel LUBRANO, GREQAM, Marseille, France

– Gary KOOP, University of Strathclyde, Glasgow, United Kingdom
Hierarchical shrinkage in time-varying parameter models

– Sylvia FRÜHWIRTH-SCHNATTER, Vienna University of Economics and Business, Austria
Bayesian treatment effects models for panel outcomes

* *November 6, 2011*

· **Session 5**

Chair: Raf WOUTERS, Banque Nationale de Belgique, Brussels, Belgium

– Domenico GIANNONE, ECARES, Université Libre de Bruxelles, Brussels, Belgium
Prior selection for vector autoregressions

– Massimiliano MARCELLINO, European University Institute, Firenze, Italy
Structural analysis with classical and Bayesian large reduced rank VARs

· **Poster Session 2**

· **Session 6**

Chair: Mark JENSEN, Federal Reserve Bank of Atlanta (GA), USA

– John MAHEU, University of Toronto, Canada
Bayesian semiparametric multivariate GARCH modelling

– Luc BAUWENS and Arnaud DUFAYS, CORE, UCL, Belgium
Marginal likelihood for Markov-switching and change-point GARCH models

● **Efficiency Measurement of Educational System**

One-day workshop organized by Xavier DUMAY (GIRSEF, UCL, Belgium) and Sébastien VAN BELLEGEM (CORE, UCL, Belgium).

The efficiency of the educational system is a central aspect of significant debates between teachers, school managers, parents and policy makers. Lots of databases on school attainment are available for many countries over the world, sometimes with extremely rich information at the student, school or teacher level. Nevertheless, to exploit this plethora of information new modeling strategies are also needed. The goal of this workshop is to join the expertise from econometricians and psychometricians in that matter. Although the two communities traditionally have separate goals (economists being rather focused on the conditions for estimating causal effects in observational designs, and psychologists rather focused on the quality of theoretical constructs' measurement), they both relate to common statistical concepts (multilevel data, mixed models, value-added, effectiveness, ...) on which this workshop will focus.

* *January 9, 2012*

· **Session 1**

Chair: Michel MOUCHART, ISBA, UCL, Belgium

– Sébastien VAN BELLEGEM, CORE, UCL, Belgium
Introduction

– Xavier DUMAY, GIRSEF, UCL, Belgium
Stability over time of different methods of estimating school performance

– Ernesto SAN MARTIN, Pontifica Univerdiad Catolica de Chile, Santiago, Chile
School system evaluation by value-added analysis under endogeneity

– Jean-Pierre VERHAEGHE, Universiteit Gent and KU Leuven, Belgium

  Group composition effects: school effects or selection effects? Some methodological issues

· **Session 2**

  Chair: Henry TULKENS, CORE, UCL, Belgium

  – Marijn VERSCHELDE, Universiteit Gent, Belgium

    Estimating and explaining efficiency in a multilevel setting: A robust two-stage approach

  – Amine OUAZAD, INSEAD, Fontainebleau, France

    Using compulsory mobility to identify heterogeneous school quality and peer effects

  – Erwin OOGHE, KU Leuven, Belgium

    School accountability: (how) can we reward schools and avoid cream-skimming?

● **12**th **Workshop on Logistics and Supply Chain Management**

Workshop organized by Per AGRELL (CORE and LSM, UCL, Belgium) at Facultés universitaires Saint-Louis, Brussels, Belgium.

* *April 27, 2012*

· Mieke DEFRAYE, KU Leuven, Belgium

  A shift scheduling approach to control excessive waiting times under time-varying demand

· Brecht LANDRIEUX, KU Leuven, Belgium

  A sparse parts network design model for a digital cinema projector manufacturer

· Jelmer VAN DE GAAST, Rotterdam School of Management, The Netherlands

  Modeling sequential zone picking systems

· Wenli PENG, CORE, UCL, Belgium

  Simulating the impact of order smoothing on the performance of a supply chain with volatile demand and restrictive capacity

· Abdelrahaman ALY, CORE, UCL, Belgium

  Shortest path with secure-multiparty computation

● **18**th **Belgian Mathematical Programming Workshop**

The annual Belgian Mathematical Programming Workshop aims at gathering the whole Belgian community active in mathematical programming, optimization and related areas. Each two-day workshop consists in a series of presentations by PhD students and two longer tutorial sessions by invited speakers. The workshop is organized by the Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, in collaboration with Université catholique de Louvain, Université libre de Bruxelles and Université de Liège, Belgium. François GLINEUR (CORE, UCL, Belgium) was active in the organization of the 18th Workshop held in La-Roche-en-Ardenne.

* *March 1, 2012*

· Daniele CATANZARO, Université Libre de Bruxelles, Belgium

  An exact approach for the minimum evolution problem

· Olivier DEVOLDER, CORE, UCL, Belgium

  Between gradient and fast gradient methods: a family of intermediate first-order methods

· Arnaud VANDAELE, Facultés Polytechniques de Mons, Belgium

  Comparison of different methods for solving linear least squares with various types of constraints

· Coralia CARTIS, University of Edinburgh, United Kingdom

  Newton-type methods for nonconvex smooth optimization problems

· Laurent POIRRIER, Université de Liège, Belgium

  The strength of multi-row models

* *March 2, 2012*

· Abdelrahaman ALY, CORE, UCL, Belgium

  Shortest path and secure multiparty computation

· Fahimeh SHAMSAEI, CORE, UCL, Belgium

  An improved formulation for dynamic productivity lot sizing problem (DPLSP)

· Patrick LALOYAUX, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

  Derivative-free optimization for large-scale nonlinear data assimilation problems

· Benedetta Morini, Universita di Firenze, Italy
Bound-constrained nonlinear equations and nonlinear least-squares: affine scaling methods and related software

● **4th Euro-African Conference in Finance and Economics**

The workshop was organized in Cairo and sponsored by The American University in Cairo School of Business & Management Center, Angola School of Business, CORE, Université catholique de Louvain, Ecole Polytechnique de Tunisie, Economic Research Forum, GREQAM, Université Aix-Marseille, Institut Français d'Egypte, Journal of Applied Econometrics NOVA School of Business and Economics and Université Paris 1 Panthéon-Sorbonne, Paris School of Economics

* *May 7, 2012*

· **Keynote Lecture**: François Bourguignon, Paris School of Economics, France
Did Africa turn around

· **Equilibrium theory**
Chair: Karim Seghir, The American University in Cairo, Egypt

– Jean Gabszewicz, CORE, UCL, Belgium
Migrations, wage differentials and fiscal competition

– Claude d'Aspremont, CORE, UCL, Belgium
Household behavior and individual memory: an Extended Lindahl mechanism

– Rim Lahmandi-Ayed, Ecole Polytechnique de Tunisie, Tunisia
Profit sharing in unionized firms

– Jean-Marc Bonnisseau, Paris School of Economics, France
On the rank of payoff matrices with long-term assets

· **Financial 1**
Chair: Mahmoud El Gamal, Rice University (TX), USA

– André Carvajal, University of Warwick, United Kingdom
Arbitrage pricing in non-competitive markets

– Didier Laussel, GREQAM, Université d'Aix-Marseille, France
Large shareholders, monitoring and ownership dynamics: toward purely managerial firms?

– Alaa El Shazly, The American University in Cairo, Egypt
Auctions, asset sale privatization, and real options valuation

– Mohamed El-Hodiri, University of Kansas (KS), USA
Towards a behavioral model for a capitalist business enterprise

· **Econometrics**
Chair: Ali Hadi, The American University in Cairo, Egypt

– Diaa Noureldin, University of Oxford, United Kingdom
Multivariate rotated ARCH models

– Franz Ruch, South African Reserve Bank, South Africa
Towards a measure of core inflation using singular spectrum analysis

– Abdoul Aziz Junion Ndoye, GREQAM, Université d'Aix-Marseille, France
Bayesian unconditional quantile regression: analysis of recent expansions in wage structure and earnings inequality in the U.S.

– Adnen Ben Nasr, Institut Supérieur de Gestion de Tunis, Tunisia
Time varying fractionally integrated model

· **International Economics**
Chair: Adel Beshai, The American University in Cairo, Egypt

– Chahir Zaki, Cairo University, Egypt
On the determinants of trade in services: evidence from the MENA region

– Sami Bensassi, University of Portsmouth, United Kingdom
Reevaluating the effects of preferential trade agreements

– Yong He, Centre d'Etudes et des Recherches sur le Développement International, Clermont-Ferrand, France
The EU-Africa textile trade in the face of Chinese competition

– Dina Abdelfattah, The American University in Cairo, Egypt
Satisfactions at the workplace and potential migration among Egyptian youth

* *May 8, 2012*

· **Keynote Lecture**: Mahmoud El Gamal, Rice University (TX), USA
Polarization and reemerging middles

· **Environment**

Chair: Tarek SELIM, The American University in Cairo, Egypt

– Yasmina HAMOUDA, German University in Cairo

Wind energy in Egypt: economic feasibility for Cairo

– Maamar SEBRI and Mehdi ABID, Institute of Management of Sousse, Tunisia

Energy consumption-economic growth nexus of Tunisian agriculture sector

– Hoda HASSABALLA, The American University in Cairo, Egypt

Environment and foreign direct investment: policy implications for developing countries

– Nguyen Thang DAO, CORE, UCL, Belgium

A revisit to Galor-Weil model with considering environmental quality

· **International Finance**

Chair: Ahmed KAMALY, The American University in Cairo, Egypt

– Amr HOSNY, University of Wisconsin-Milwaukee (WI), USA

Long-run price elasticities and the Marshall-Lerner condition: evidence from Egypt-Eu commodity trade

– Ulrich VOLZ, German Development Institute, Bonn, Germany

Regional financial integration in Sub-Saharan Africa – An empirical examination of its effects on financial market development

– Loujaina M. EL SAYED and Nourhan HEGAZI, The American University in Cairo, Egypt

Contagion in MENA countries during the 2008 financial Meltdown

– Aya YOUSEF and Sara Y. ELEZABY, The American University in Cairo, Egypt

Growth effects of inflation stabilization programs

· **Risk**

Chair: Andrés CARVAJAL, University of Warwick, United Kingdom

– Arra BEJAUOUI, High Institute of Management, Sousse, Tunisia

An integrated model of antecedents and consequences of perceived risk

– Elisa CAVATORTA, School of Oriental and African Studies, London, United Kingdom

Uninsurable background risk and insurance: evidence from the West bank

– Emna TOUETBI, Institut Supérieur de Gestion de Tunis, Tunisia

Measuring liquidity risk in an emergent market: a value at risk approach for high frequency data

– Alaa EL SHAZLY, The American University in Cairo, Egypt

Modeling credit risk for heterogeneous loan portfolios with correlated exposure

· **Labor and Gender**

Chair: Mona SAID, The American University in Cairo, Egypt

– Rihab BELLAKHAL, Ecole Polytechnique de Tunisie, Tunisia

Estimating the impact of Tunisian training programs on wage

– Anna YURKO, National Research University, Moscow, Russia

Costly divorce and marriage rates

– Ali FAKIH, Lebanese American University, Beirut, Lebanon

Determinants of vacation leave and relations to work hours and wages: evidence from linked employer-employee data

– Imane CHAARA, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium

Pro-women legal reform in Morocco: is religion an obstacle?

· **Development**

Nadia BELHAJ, Economic Research Forum, Cairo, Egypt

– Rana HENDY, Economic Research Forum, Cairo, Egypt

On informality and productivity of MSEs: evidence from MENA countries

– Elisa CAVATORTA, School for Oriental and African Studies, London, United Kingdom

Quality, accessibility and the demand for health care in Nigeria

– Leila BAGHDADI, Tunis Business School, Tunisia

Is the road to integration paved with pollution convergence?

– Karray ZOUHOUR, Facultés des Sciences Economiques et de Gestion, Nabeul, Tunisia

Inequality and spatial disparities in Tunisia

May 9, 2012

- **Keynote Lecture**: John MUELLBAUER, University of Oxford, United Kingdom

  Tobin lives: Integrating finance and the real economy

- **Game theory**

  Chair: Rim LAHMANDI-AYED, Ecole Polytechnique de Tunisie, Tunisia

  – Antje-Mareike DIETRICH, Technische Universität Braunschweig, Germany

  Welfare effects of subsidizing a dead-end network of less polluting vehicles

  – Amal HILI, GREQAM, Université d'Aix-Marseille, France

  Employee ownership: does firms' size matter?

  – Sherif SALEM, The American University in Cairo, Egypt

  On the possibility of manipulation in two-sided matching

- **Growth and Institutions**

  Chair: Rim LAHMANDI-AYED, The American University in Cairo, Egypt

  – Imane HELMY, The American University in Cairo, Egypt

  Does corruption hinder economic growth

  – Hoda SELIM, Economic Research Forum, Cairo, Egypt

  Food international price pass-through in Egypt's inflation

  – Maty KONTE, GREQAM, Université d'Aix-Marseille, France

  Political versus economic institutions in growth processes

- **Financial II**

  Chair: Jean-Maric BONNISSEAU, Paris School of Economics, Université Paris 1 Panthéon-Sorbonne, France

  – Wassim DAHER, Gulf University of Science and Technology, Kuwait

  Insider trading with product differentiation

  – Rachida EL MEHDI, ISBA, UCL, Belgium

  Analyzing the efficiency of the Moroccan municipalities finance using the data envelopment analysis

  – Zied SAADAOUI, University of Sfax, Tunisia

  Procyclicality of regulatory capital buffers: What about emerging countries' banks?

  – Dalia EL-SHIATY, German University in Cairo, Egypt

  Herding behavior in the Egyptian stock market

- **Monetary & Fiscal**

  Chair: Hala HALA EL-RAMLY, The American University in Cairo, Egypt

  – Amet Saloum NDIAYE, University of Dakar, Senegal

  Effect of capital flight on financial development in the West African Economic and Monetary Union

  – Hélène EHRHART, Banque de France, France

  The impact of high and volatile commodity prices on public finance: evidence from developing countries

  – Hoda SELIM, Economic Research Forum, Cairo, Egypt

  Exploring the role of the exchange rate in monetary policy in Egypt

  – Brahim GUIZANI, Tunis Business School, Tunisia

  Regulation policy and credit crunch: evidence from Japan

• **Multidimensional Poverty and Inequality Measurement**

Workshop organized by Koen DECANCQ, CORE, UCL and KU Leuven, Belgium, François MANIQUET, CORE, UCL, Belgium and Erwin OOGHE, KU Leuven, Belgium.

* *May 29, 2012*

- **Session 1: Poverty with ordinal variables**

  Chair: Marc FLEURBAEY, Université Paris Descartes, France and Princeton University (NJ), USA

  – Luc LAUWERS, KU Leuven, Belgium

  Prioritarian poverty comparisons with cardinal and ordinal attributes

  – Lars Peter OSTERDAL, University of Southern Denmark, Odense, Denmark

  Ordinal welfare comparisons with multiple discrete indicators: a first-order dominance approach and application to child poverty

  – Martyna KOBUS, University of Warsaw, Poland

  Multidimensional inequality for ordinal data

- **Session 2: Multidimensional inequality and similarity**

  Chair: Antonio VILLAR, Universidad Pablo de Olavide, Spain

  – Kristof BOSMANS, Universiteit Maastricht, The Netherlands

  What do normative indices of multidimensional inequality really measure?

– Claudio Zoli, Università di Verona, Italy
  The measurement of multi-group dissimilarity and related orders

· **Session 3: Inequality of opportunity**
  Chair: Dirk Van de Gaer, CORE and Universiteit Gent, Belgium

  – Vito Peragine, University of Bari, Italy
    Economic growth and equality of opportunity

  – Francisco Ferreira, The World Bank, Washington, USA
    Inequality of opportunity and economic growth

* *May 30, 2012*

· **Session 4: Poverty with ordinal variables**
  Chair: John Weymark, Vanderbilt University, USA

  – Sabina Alkire, University of Oxford, United Kingdom
    Inequality among the MPI poor

  – Philippe Van Kerm, CEPS/INSTEAD, Esch sur Alzette, Luxembourg
    Measuring and accounting the 'deprivation gap' of Portuguese immigrants in Luxembourg

  – Patrick Moyes, Université Montesquieu Bordeaux 4, France
    Rearrangements and sequential rank order dominance: a result with economic applications

· **Session 5: Risk and intertemporal issues**
  Chair: Conchita d'Ambrosio, Univerità di Milano-Bicocca, Italy

  – Nicolas Gravel, Université d'Aix-Marseille, France
    Robust rankings of socially risk situations

  – Satya Chakravarty, Indian Statistical Institute, Kolkata, India
    Multidimensional inter-temporal poverty: some possibilities

· **Session 6: Functioning and preferences**
  Chair: Buhong Zheng, University of Colorado, USA

  – Alain Trannoy, Ecole des Hautes Etudes en Sciences Sociales, Marseille, France
    Multidimensional welfare dominance based on functioning properties

– François Maniquet, CORE, UCL, Belgium
  Multidimensional poverty measurement: why don't we take preferences into account?

■ **Participation of CORE members in the organization of conferences**

· **XXVI Jornadas de Economia Industrial**
  Universitat de Valencia, Spain, September 2011
  CORE member of the organizing committee: José J. Sempere-Monerris

· **6th Workshop on Social Decisions**
  Malaga, Spain, November 2011
  CORE member of the organizing committee: Juan Moreno-Ternero

· **6th Workshop on Economic Design and Institutions**
  Facultés universitaires Saint-Louis, Brussels, December 2011
  CORE member of the organizing committee: Ana Mauleon

· **Aussois Workshop on Combinatorial Optimization**
  Aussois, France, January 2012
  CORE member of the organizing committee: Laurence Wolsey

· **Journée d'Etude sur la Dépendance**
  HEC, Université de Liège, Belgium, February 2012
  CORE members of the scientific committee: Axel Gautier and Pierre Pestieau

· **Sustainability of Population Changes**
  IRES, UCL, Belgium, May 2012
  CORE member of the organizing committee: David de la Croix

· **9th International Conference on the European Energy Market (EEM12)**
  Firenze, Italy, May 2012
  CORE member of the organizing committee: Per Agrell

· **13th Conference of the Association of Public Economic Theory**
  Taipei, Taiwan, June 2012
  CORE member of the organizing committee: Vincent Vannetelbosch

- **Conference on "Welfare State and Economic Performance"**
  Liège, Belgium, June 2012
  CORE member of the organizing committee: Pierre PESTIEAU

- **15th Urrutia Elejalde Summer School on Economics and Philosophy**
  San Sebastian, Spain, July 2012
  CORE member of the organizing committee: Juan MORENO-TERNERO

- **CESIfo Venice Summer Institute**
  Venice, Italy, July 2012
  CORE member of the organizing committee: Pierre PESTIEAU

- **10th International Conference on Data Envelopment Analysis (DEA 2012)**
  Brazil, August 2012
  CORE member of the organizing committee: Per AGRELL

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CORE MEMBERS INVITED AT CONFERENCES, SCIENTIFIC STAYS and SEMINARS

Per AGRELL

· *Coordination, delegation and organization of shared supply chain investment under asymmetric information*
  * HEC, Université de Liège, Belgium, December 2011

· *Network regulation 2.0: efficiency and effectiveness towards a low-carbon society*
  * EnergiNorge Workshop on Network Regulation in Norway and Europe, Oslo, Norway, September 2011

· *Cheap talk, bluffing and hold-up: the dark side of repeated supplier interactions*
  * CEMS Research seminar on supply chain management, Riezlern, Austria, January 2012

· *Supply chain trends, opportunities and uncertainty from an Europe-India perspective*
  * Symbiosis International University, Nashik, India, February 2012

· *Benchmarking for regulatory compliance*
  * Conference on Transmission Finance: Requirements, Challenges, Solutions & Strategies, London, March 2012

· *Regulatory discretion vs. mechanics: information costs and capture risks*
  * 9th International Conference on the European Energy Market (EEM12), Firenze, Italy, March 2012

· *Regulatory financing of TSO research and development: method and analysis*
  * 5th Conference on Smart Grids, European University Institute, Firenze, May 2012

· *An analysis of frontier-based regulation under judicial recourse*
  * ULg/ECARES Conference on Performance Evaluation, Université de Liège, Belgium, June 2012

· *Robust analysis of network efficiency with imprecise data*
  * North American Productivity Workshop (NAPW2010), Rice University, Houston, USA, June 2012

Luc BAUWENS

· *Dynamic conditional correlation models for realized covariance matrices*
  * CREATES Seminar, Aarhus Universitet, Denmark, October 2011
  * Conference on Measuring Risks, Bendheim Center for Finance, Princeton (PA), USA, October 2011
  * UFR de Mathématiques, Université de France-Comté, Besançon, France, April 2012
  * Society for Financial Econometrics, 5th Annual Conference, Oxford, United Kingdom, June 2012

· *Bayesian inference for GARCH models incorporating structural breaks*
  * European Seminar on Bayesian Econometrics, Brussels, Belgium, November 2011

· *An econometrician's thoughts about the recent financial crisis*
  * Faculty of Economic and Financial Sciences, University of Johannesburg, South Africa, February 2012

· *Financial time series analysis: high-dimensionality, non-stationarity and the financial crisis*
  * Institute for Mathematical Sciences, National University of Singapore, Singapore, June 2012

· *Marginal likelihood for Markov-switching and change-point GARCH models*
  * SMU-ESSEC Symposium on Empirical Finance and Financial Econometrics, Singapore Management University, Singapore, June 2012
  * Workshop on Recent Advances in Time Series, Università degli Studi di Sassari, Italy, April 2012

Paul BELLEFLAMME

· *Strategic patent-secret mix for complex innovations*
  * XXVI Jornadas de Economia Industrial, Valencia, Spain, September 2011

· *Piracy in two-sided markets*
  * Technical Workshop on the Economics of Regulation, OCDE, Paris, December 2011

· *La réputation comme solution aux problèmes d'asymétrie d'information*
  * Colloque "Réputation", Louvain-la-Neuve, December 2011

· *Crowdfunding: tapping the right crowd*
  * CESifo Applied Economics Area Conference, Münich, Germany, March 2012
  * 13th Conference of the Association of Public Economic Theory, Taipei, Taiwan, June 2012

· *TIC, transparence et concurrence. Les consommateurs sont-ils gagnants?*
  * Cours interfacultaire "Regards croisés sur la société de l'information", Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, March 2012

· *ICTs, transparency and competition. Are consumers better off?*
  * Università degli Studi di Sassari, Italy, May 2012

Constantin BLOME

· *Recent development in sustainable logistics: the German excellence initiative*
  * University of Michigan, Ann Arbor, USA, November 2011
  * McCormick School of Engineering & Transportation Center, Evanston, USA, November 2011
  * Ohio State University, Fisher College of Business, Columbus, USA, November 2011
  * Bowling Green State University Administration, Columbus, USA, November 2011

· *Ethical climate and purchasing social responsibility: a benevolence focus*
  * Annual Meeting, Decision Sciences Institute, Boston, USA, November 2011

· *The impact of ISO 14001 certification on corporate performance: an empirical analysis with the United States*
  * Southwestern Finance Association, Jacksonville State University, USA, March 2012

· *Optimal decisions in the innovation adoption and diffusion of supply chain finance*
  * 23rd Annual Conference of the Production and Operations Management Society, Chicago, USA, April 2012
  * P & OM World Conference, Amsterdam, The Netherlands July 2012

· *Configuration of supply chain integration and sustainable production: a profile deviation analysis*
  * 23rd Annual Conference of the Production and Operations Management Society, Chicago, USA, April 2012

· *Do transactional and relational supply chain environmental governance mechanisms act as complements?*
  * 21st International Purchasing and Supply, Education and Research Association (IPSERA), Naples, Italy, April 2012

· *Managing the innovation adoption of supply chain finance - Empirical evidence from six European case studies*
  * 8th European Research Seminar of the Council of Supply Chain Management Professionals (CSCMP), Frankfurt, Germany, April 2012

· *Antecedents of supplier innovation: the impact of desorptive capacity*
  * 3rd Annual Conference of the European Decision Sciences Institute, Istanbul, Turkey, June 2012

· *The effect of ISO 14001 certification on financial performance within the United States*
  * Academy of Management 2012, Annual Meeting, Boston, USA, August 2012

Chiara CANTA

· *Dépendance et norme familiale*
  * Journée d'Etude sur la Dépendance, Université de Liège, Belgium, February 2012

· *Efficiency, access and the mixed delivery of health care services*
  * 13th European Health Economics Workshop, Universidad Pablo de Olavide, Sevilla, Spain, May 2012

· *Long term care and family norms*
  * Public Economics Day, KU Leuven, Belgium, May 2012

· *Public and private hospitals, waiting times, and redistribution*
  * 11th Journées Louis-André Gérard-Varet, Aix-Marseille, France, June 2012
  * 68th Annual Congress o f the International Institute of Public Finance, Dresden, The Netherlands, August 2012

Jean-François CARPANTIER

· *Impact of the asymmetric commodity inventory effect on the optimal hedge ratio*
  * 10th OXMetrics User Conference, School of Business and Economics, Universiteit Maastricht, The Netherlands, September 2011

· *Real exchanges, commodity prices and structural factors in developing countries*
  * 5th Methods in International Finance Network Annual Workshop, Orléans, France, October 2011

· *Real exchange rates and skills: revisiting the Balassa-Samuelson effect*
  * 6th Methods in International Finance Network Annual Workshop, Sydney, Australia, August 2012

Philippe CHEVALIER

· *United we stand: risk pooling and capacity ownership in joint ventures*
  * POMS (Production and Operation Management Society) Annual Conference, Chicago (IL), USA, April 2012
  * MSOM (Manufacturing and Service Operations Management Society) Annual Conference, New York (NY), USA, June 2012

· *Mixed loss and queueing systems: a new kind of multi-skill model*
  * European Workshop on Stochastic Models, Paris, France, May-June 2012

Nguyen Thang DAO

· *A revisit to Galor and Weil (2000) model with considering environmental quality*
  * 4th Vietnam Economist Annual Meeting (VEAM 2011), Vietnam National University, Ho Chi Minh City, Vietnam, September 2011

Claude d'ASPREMONT

· *Household behaviour and individual autonomy: a Lindahl approach*
  * Conference on the Economics of the Family in honor of Gary Becker, Paris, France, October 2011
  * ASSET (Association of Southern European Economic Theorists) Annual Meeting, Universidade de Evora, Spain, October 2011

· *Intergenerational equity and sustainability*
  * LSE-SU Economics Conference "Reshaping the World Economy: Finance, Growth and Inequality", London School of Economics, United Kingdom, February 2012

· *The Lindahl approach to household behaviour*
  * 13th April international Academic Conference on Economic and Social Development, Moscow, Russia, April 2012

Julio DAVILA

· *Optimal population and education*
  * Exeter Workshop in honor of Cuong Le Van, University of Exeter, United Kingdom, September 2011

· *Optimal productivity*
  * Kyoto Institute of Economic Research, University of Kyoto, Japan, April 2012
  * 13th Annual Conference of the Association or Public Economic Theory (APET 12), Academia Sinica, Taipei, Taiwan, June 2012
  * EEA-ESEM 2012, European Economic Association & Econometric Society 2012 Conference, Universidad de Malaga, Spain, August 2012

Koen DECANCQ

· *Multidimensional poverty measurement: should we take preferences into account?*
  * Workshop "Sources of Well-being and Welfare", Forschungsinstitut zur Zukunft der Arbeit, Bonn, Germany, October 2011
  * Lunch Seminar, Centrum voor Sociaal Beleid Herman Deleeck, Antwerp, Belgium, November 2011
  * 11th Journées Louis-André Gérard-Varet, Marseille, France, June 2012

· *The evolution of poverty in the European Union: concepts, measurement and data*
  * GINI (Growing Inequalities' Impacts) Workshop, Universiteit Antwerp, Belgium, November 2011

· *The evolution of global inequality: absolute, relative and intermediate views*
  * Fondation Maison des Sciences de l'Homme, Paris, France, January 2012
  * Department of Economics, Universiteit Antwerp, Belgium, June 2012

· *Assortativeness and household earnings inequality: a copula-based decomposition*
  * Inequality and Collective Welfare Theory (IT7), Canazei, Italy, January 2012
  * Brownbag Seminar, Forschungsinstitut zur Zukunft der Arbeit, Bonn, Germany, March 2012
  * PE/ETE Seminar, Center for Economic Studies, KU Leuven, Belgium, April 2012
  * Lunch Seminar, Centrum voor Sociaal Beleid Herman Deleeck, Antwerp, Belgium, April 2012
  * Faculty of Economics, Università degli Studi di Verona, Italy, May 2012

· *What if we voted on the weights of a multidimensional well-being index? An illustration with Flemish data*
  * ODI (Overseas Development Institute) Workshop, London, United Kingdom, March 2012

Pierre DEHEZ

· *How to share joint liability. A cooperative game approach*
  * Università degli Studi di Pisa, Italy, December 2011
  * Université de Besançon, France, February 2012
  * Delhi School of Economics, India, February 2012

· *Data games: sharing public goods with exclusion*
  * Delhi School of Economics, India, February 2012

David DE LA CROIX

· *Marriage, fertility and childlessness in the US*
  * 2nd Workshop on "Towards Sustained Economic Growth", Institut d'Anàlisi Econòmica, Barcelona, October 2011
  * Christmas Meeting of Belgian Economists, IRES, UCL, Louvain-la-Neuve, Belgium, December 2011
  * Universität Mannheim, Germany, December 2011
  * ADRES Doctoral Conference, Marseille, France, January 2012
  * Université de Paris 1 Panthéon Sorbonne, France, February 2012
  * Institut National d'Etudes Démographiques, Paris, France, February 2012

· *Does fertility respond to economic incentives? and does it matter?*

  * Symposium on Economic Growth and Development, Barcelona, November 2011

· *The mean life of famous people from Hammurabi to Einstein*

  * 6th Low Countries Conference, Universiteit Antwerpen, December 2011

· *Fertility, education, growth, and sustainability*

  * University of Cape Town, Rondebosch, South Africa, March 2012

· *From polygamy to serial monogamy: a unified theory of marriage institutions*

  * 13th Conference of the Association of Public Economic Theory, Taipei, Taiwan, June 2012

  * Society for Economic Dynamics Annual Meeting (SED 2012), Limassol, Cyprus, June 2012

Jean-Charles DELVENNE

· *Consensus, communities and centralities for large networks*

  * Control Theory Seminar, Oxford University, United Kingdom, November 2011

· *Partitions optimales et détection de communautés dans les grands graphes*

  * Séminaire "Algorithmique distribuée et graphes", Laboratoire d'Informatique Algorithmique: Fondements et Applications, Paris, February 2012

· *Dynamics on networks for communities, centralities and consensus*

  * Complex Networks Seminar, Université Pierre et Marie Currie, Paris, France, February 2012

· *Introducing open ergodic theory*

  * 20th Symposium on the Mathematical Theory of Networks and Systems (MTNS 2012), Melbourne University, Australia, July 2012

· *On the complexity of optimizing PageRank*

  * 20th Symposium on the Mathematical Theory of Networks and Systems (MTNS 2012), Melbourne University, Australia, July 2012

Olivier DEVOLDER

· *Between gradient and fast gradient methods: a family of intermediate first-order methods*

  * OR 2011 International Conference on Operations Research, Zürich, Switzerland, September 2011

· *First-order methods for smooth convex optimization with inexact oracle: classical, fast and intermediate gradient methods*

  * ISyE Seminar, Georgia Institute of Technology, Atlanta, November 2011

· *Inexact informations in gradient methods*

  * ICTEAM Young Researchers Day, UCL, Belgium, May 2012

· *Intermediate gradient methods for smooth convex optimization problems with inexact oracle*

  * 21st International Symposium on Mathematical Programmin (ISMP2012), Berlin, Germany, August 2012

Jacques DRÈZE

· Participation in roundtable on *Labor reform and crisis recovery*

  * 25th Anniversary of Institute of Economic Analysis, Barcelona, Spain, March 2012

Arnaud DUFAYS

· *Bayesian inference for GARCH models incorporating structural breaks*

  * European Seminar on Bayesian Econometrics (ESOBE), Brussels, Belgium, November 2011

· *Inference and marginal likelihood for Markov-switching and change-point multivariate GARCH models*

  * 5th International conference on Computational and Financial Econometrics (CFE'11), University of London, United Kingdom, December 2011

  * 4th International Conference of the ERCIM WG on Computing and Statistics (ERCIM'11), University of London, United Kingdom, December 2011

· *Marginal likelihood for Markov-switching and change-point GARCH models*
 * Rimini Conference in Economics and Finance (RCEF 2012), University of Toronto, Canada, August 2012

Jean GABSZEWICZ

· *Nesting horizontal and vertical differentiation*
 * Department of Economics, Università degli Studi di Milano, Italy, May 2012

Axel GAUTIER

· *Strategic bypass deterrence*
 * 5th Intertic Conference on Innovation, Competition and the New Economy, Università Ca' Foscari Venezia, Italy, October 2011
 * 10th Annual International Industrial Organization Conference, Georges Mason University, Washington, USA, March 2012

· *Reforming the postal universal service*
 * 7th Postal Conference on the Economics of the Postal Sector in a Digital World, Toulouse School of Economics, France, March 2012

François GLINEUR

· *Towards an optimal method for convex optimization using an inexact first-order oracle*
 * 12th International Workshop on High Performance Optimization: Algorithmic Convexity and Applications (HPOPT 2012), Technische Universiteit Delft, The Netherlands, June 2012

· *Compact polyhedral approximations for convex sets defined by polynomials*
 * 21st International Symposium on Mathematical Programming (ISMP 2012), Berlin, Germany, August 2012

Christian HAFNER

· *Risk management in the art market*
 * Statistische Woche, Deutsche Statistische Gesellschaft, Leipzig Universität, Germany, September 2011

· *Volatility of price indices for heterogeneous goods*
 * 1st Workshop on Financial Time Series Analysis: High-dimensionality, Non-stationarity and the Financial Crisis, National University of Singapore, Singapore, June 2012
 * 5th Annual SoFiE Conference, University of Oxford, United Kingdom, June 2012

· *Alternative investments and financial markets*
 * SMU-ESSEC Symposium on Empirical Finance & Financial Econometrics, Singapore Management University, Singapore, June 2012

Adel HATAMI-MARBINI

· *Frontier-based performance analysis models for supply chain management: state of the art and research directions*
 * 41st International Conference on Computers and Industrial Engineering (CIE), Los Angeles, USA, October 2011.

· *Allocating fixed resources and setting targets using a common-weights DEA approach*
 * Oklahoma State University, Oklahoma (OK), USA, November 2011

· *Robust analysis of network efficiency with imprecise data*
 * North American Productivity Workshop (NAPW VII), Rice University, Houston (TX), USA, June 2012

Jonathan JONES

· *Does functional delineation of cities influence land price determinants? A case study*
 * 17th European Colloquium of Quantitative and Theoretical Geography, Harokopio University, Athens, Greece, September 2011

Marie-Louise LEROUX

· *Social security and family support*
 * 11ème Conférence Annuelle – Les Journées du CIRPEE 2011, Bécancour, Canada, October 2011

· *A political economy approach to long-term care with sophisticated or (in)consistently myopic voters*
  * Canadian Public Economist Group 2012 (CPEG 2012), University of Waterloo, Canada, November 2011

· *Public and private hospitals, waiting times, and redistribution*
  * Canadian Economics Association Conference, University of Calgary, Canada, June 2012

Marion LETURCQ

· *Will you civil union me? Taxation and civil unions in France*
  * Séminaire THEMA, Université Cergy-Pontoise, France, December 2011
  * ADRES Doctoral Conference, Marseille, France, January 2012
  * PAA Side event: Economic Demographic Workshop, San Francisco (CA), USA, May 2012

· *Competing marital contracts? The marriage after civil union in France*
  * Population Association of American Annual Meeting, San Francisco, USA (CA), May 2012

· *Do bankers prefer married couples? Marital status and credit constraints in France*
  * Journée de Microéconomie Appliquée, Brest, France, June 2012
  * EEA-ESEM 2012, European Economic Association & Econometric Society 2012 Conference, Universidad de Malaga, Spain, August 2012

Dunia LÓPEZ-PINTADO

· *Diffusion and contagion in networks with heterogeneous agents and homophily*
  * 10th Conference on Logic and the Foundations of Game and DecisionTheory, Universidad de Sevilla, Spain, June 2012
  * Society for Advancement of Behavioral Economics 2012, Universidad de Granada, July 2012

Liang LU

· *Simultaneous and sequential price quotations for uncertain order inquiries with production costs*,
  * INFORMS (Institute for Operations Research and the Management Sciences) Annual Conference, Charlotte (NC), USA, November 2011

· *Order acceptance problem for two classes of demands with heterogeneous lead-times,*
  * INFORMS International 2012, Beijing, China, June 2012

François MANIQUET

· *Multidimensional poverty measurement: shouldn't we take preferences into account?*
  * Delhi School of Economics, Delhi, India, August 2012
  * Center for Development Studies, Trivandrum, India, August 2012

· *Fair division when preferences are other-regarding,*
  * 11th Meeting of the Society for Social Choice and Welfare, Indian Statistical Institute, New Delhi, India, August 2012

Ana MAULEON

· *Bargaining and delay in trading networks,*
  * 17th Coalition Theory Network Workshop, Université de Paris 1 Panthéon-Sorbonne, France, February 2012

· *Dominance invariant roommate problems*
  * Frontiers of Market Design, Centro Stefano Franscini, Monte Verita, Ascona, Switzerland, May 2012
  * 13th Conference of the Association of Public Economic Theory, Taipei, Taiwan, June 2012

Florian MAYNERIS

· *A new perspective on the firm size-growth relationship: shape of profits, investments and heterogeneous credit constraints*
  * Université de Liège, Belgium, October 2011
  * SIUTE Seminar, Lille, France, October 2011
  * Universität Duisburg-Essen, Germany, January 2012
  * Royal Economic Society Annual Conference, University of Cambridge, United Kingdom, March 2012
  * 61eme Congrès de l'Association Française de Science Economique, Université Panthéon-Assas, Paris, France, July 2012

· *The impact of urban enterprise zones on establishment location decisions: evidence from French ZFU*
  * 6th Meeting of the Urban Economics Association, Miami, USA, November 2011
  * Lunch Seminar, Paris School of Economics, France, November 2011
  * CERDI-METAFORT Seminar, Université de Clermont-Ferrand, France, December 2011
  * Discrimination Workshop, Paris, France, December 2011
  * 2nd Workshop on Urban Economics, Institut d'Economia de Barcelona, Spain, July 2012

· *Trade in quality and income distribution*
  Münich International Economics Seminar, Universität Münich, Germany, July 2012

Jenny MINIER

· *Regions of poverty in the European Union*
  * Jacquemin Chair Lecture Series on European Policies, UCL, Belgium, March 2012

· *Where the girls are: trade and labor market segregation in Colombia,*
  * Universität Trier, Germany, May 2012

Tanja MLINAR

· *Order acceptance algorithm for a make-to-order production system with two demand streams,*
  * 3rd Rapid Modeling Conference "Rapid Modeling for Sustainability", KU Leuven, Belgium, September 2011

· *Modeling production systems with heterogeneous and lead time sensitive demand*
  * INFORMS (Institute for Operations Research and the Management Sciences) Annual Conference, Charlotte (NC), USA, November 2011

· *Value of flexibility in MTO production systems under the pricing and lead time decisions*
  * 9th CEMS Seminar on Supply Chain Management, Riezlern, Austria, January 2012
  * 26th ORBEL Conference, Brussels, Belgium, February 2012

· *Order acceptance for two classes of demand with heterogeneous lead time,*
  * StocMod12, Ecole Centrale Paris, Chatenay-Malabry, France, June 2012
  * INFORMS International 2012, Beijing, China, June 2012

· *Exploring economies of scale for MTO production systems under lead time sensitive demand*
  * StocMod12, Ecole Centrale Paris, Chatenay-Malabry, France, June 2012

Juan D. MORENO-TERNERO

· *A common ground for resource and welfare egalitarianism,*
  * Seoul National University, Korea, August 2011

· *A new axiomatic approach for the evaluation of population health,*
  * Universidad Pablo de Olavide, Spain, October 2011
  * KU Leuven, Belgium, January 2012
  * 31st Arne Ryde Symposium, Malaga, Spain, January 2012
  * 19th Encuentro de Economia Publica, Santiago, Spain, January 2012
  * Workshop on Equity and Poverty, Sevilla, Spain, April 2012
  * 13Ith European Health Economics Workshop, Sevilla, Spain, May 2012
  * SABE (Society for the Advancement of Behavioral Economics) 2012, Granada, Spain, July 2012
  * 15th Urrutia Elejalde Summer School on Economics and Philosophy, San Sebastian, Spain, July 2012

· *On the optimal management of teams under bugdet constraints*
  Centro de Estudios Monetarios y Financieros, Barcelona, Spain, June 2012

· *Rationing under the presence of baselines*
  * 10th Conference on Logic and the Foundations of Game and Decision Theory, Sevilla, Spain, June 2012

Margherita NEGRI

· *Why do good politicians take bad actions?*
  * Lisbon Meeting on Institutions and Political Economics, Portugal, September 2011
  * Political Economics Lunch Seminar, University of Warwick, United Kingdom, March 2012

Pierre PESTIEAU

- *The political economy of LTC*
  * Université du Québec à Montréal, Canada, October 2011
  * University of Ottawa, Canada, November 2011

- *The performance of welfare state in the EU*
  * University of Illinois at Urbana Champaign, USA, November 2011

- *The performance of EU welfare states*
  * Universidad de la Laguna, Teneriffe, Spain, December 2011

- *The public economics of changing longevity*
  * Università Ca' Foscari Venezia, Italy, February 2012
  * CESIfo Public Economics Workshop, Münich, Germany, April 2012
  * Séminaire de Démographie Economique, Paris School of Economics, France, May 2012
  * 2012 IIPF (International Institute of Public Finance) Congress, Dresden, Germany, August 2012

- *The economics of long term care: issues and perspectives*
  * 13th Conferenza 2011 "Crisi Economica, Welfare e Crescita", Italian Public Economics Association, Pavia, Italy, September 2011

- *The economics of long term care. A survey*
  * Nordic Economic Policy Review Conference, Reykjavik, Iceland, May 2012

- *The case of a minimum pension for Lebanon*
  * Meeting of the Lebanese Economic Association, Beirut, Lebanon, June 2012

- *The economics of long term care. Uncertain altruism and long-term care*
  * CESIfo Venice Summer Institute, Italy, July 2012

Paolo PIACQUADIO

- *Egalitarianism in dynamic resource allocation models*
  * GDRI Workshop, GREQAM, Marseille, France, September 2011
  * Université de Montréal, Canada, June 2012

- *Resource-based sustainability: technological change and uncertainty*
  * Università degli Studi Roma Tre, Italy, April 2012

- *Optimal population: the perspective of intergenerational resource distribution*
  * Workshop in Intergenerational Equity and Climate Change, Paris, France, June 2012

Eve RAMAEKERS

- *Implementation in undominated strategies by bounded and covered mechanisms*
  * GDRI (Workshop, GREQAM, Marseille, France, September 2011
  * Social Choice and Game Theory Seminar, Universitat Autònoma de Barcelona, Spain, November 2011

Guillaume ROELS

- *Risk premiums in the newsvendor model*
  * INFORMS (Institute for Operations Research and the Management Sciences) Annual Conference, Charlotte (NC), USA, November 2011

- *United we stand? Risk pooling and capacity ownership in joint ventures*
  * INFORMS (Institute for Operations Research and the Management Sciences) Annual Conference, Charlotte (NC), USA, November 2011

- *Project contracting and the dynamics of collaboration*
  * Stern, New York University, USA, February 2012
  * Wharton, University of Pennsylvania (PA), USA, March 2012

- *Social comparisons in service cohorts*
  * Smeal School of Business, Pennsylvania State University (PA), USA, April 2012

- *The economics of joint-production in services*
  * Production and Operations Management Conference, Chicago (IL), USA, April 2012
  * INFORMS Marketing Science Conference, Boston (MA), USA, May 2012
  * 2012 INFORMS Manufacturing & Service Operations Management Conference, Columbia University, New York (NY), USA, May 2012
  * Art & Science of Service Conference, Maastricht, The Netherlands, June 2012

Erik SCHOKKAERT

· *Solidarity and innovation in health care*
  * PPRI (Pharmaceutical Pricing and Reimbursement Policies) Conference, Vienna, Austria, September 2011

· *Fairness and happiness: how to respect individual preferences?*
  * IZA-Workshop "Sources of welfare and well-being", Bonn, Germany, October 2011

· *Inequity in the face of death*
  * Workshop "Mobility and Equality of Opportunity" Ghent, Belgium December 2011
  * Conference in honour of Sergio Perelman, Liège, Belgium, June 2012

· *Belgium: competition and solidarity in health care*
  * Tilec - Tranzo Conference 2012: "Does competition in healthcare harm solidarity?", Universiteit Tilburg, The Netherlands, January 2012

· *Empirical social choice*
  * Salon belge, Belgian Embassy, London, United Kingdom, May 2012

· *Moral hazard and stop loss in health insurance*
  * Risk and Choice: A Conference in honour of Louis Eeckhoudt, Toulouse School of Economics, France, July 2012

· *Preconditions for regulated competition: are they fulfilled in Belgium*
  * European Conference on Health Economics (ECHE2012), Zürich, Switzerland, July 2012

Joe THARAKAN

· *Intermediaries, transport costs and interlinked transactions*
  * Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, November 2011

Isabelle THOMAS

· *S-Ghost*
  * ECDESUP (Evaluation, Choice and Decision in the Use of Urban and Peri-urban) Conference, Paris, October 2011

· *MST-LISA*
  * ECDESUP (Evaluation, Choice and Decision in the Use of Urban and Peri-urban) Conference, Paris, October 2011

· *Modèles de localisation: méthodes et solutions*
  * Université du Luxembourg, Luxembourg, April 2012

· *De l'usage du vélo dans les navettes de travail en Belgique: aspects géographiques multi-échelles*
  * Colloque de l'ACFAS (Association Francophone pour le Savoir), Montréal, Canada, May 2012

· *SHAPES: analyse coûts-bénéfices de la navette en vélo*
  * Déjeuner-débat mensuel "Ville et Société", Cercle Gaulois Artistique et Littéraire, Bruxelles, Belgium, May 2012

· *Wallonie-Bruxelles: l'occasion à ne pas manquer*
  * Cercle de Lorraine, Brussels, Belgium, June 2012

· *Les indices fractals mesurés sur la surface bâtie covarient-ils avec ceux mesurés sur le réseau viaire?*
  * ASRDLF 49$^{\text{eme}}$ Colloque "Industrie, villes et régions dans une économie mondialisée", Université de Franche-Comté, France, July 2012

Tom TRUYTS

· *Stochastic signaling: information substitutes and complements*
  * First Caribbean Game Theory Conference, Curacao, Netherlands Antilles, January 2012
  * Paris School of Economics, Paris, France, February 2012
  * Doctoral Workshop, KU Leuven, Belgium, March 2012
  * Public Economics & ETE seminar, Leuven, Belgium, April 2012

Henry TULKENS

· *On the Kyoto protocol*
  * Forum de politique économique de l'IRES, UCL, Belgium, October 2011

Sébastien Van Bellegem

· *High dimensional portfolio optimization by wavelet thresholding",*
  * Lancaster University, United Kingdom, October 2011
  * Institut de Science Financière et d'Assurances (ISFA), Université de Lyon,
    France, June 2012

· *Estimation adaptative dans les processus localement stationnaires multi-échelles*
  * University of Sherbrooke, Canada, May 2012

· *Functional linear instrumental regression*
  * CIREQ Conference on High Dimensional Problems in Econometrics, Montréal,
    Canada, May 2012

· *Optimal instruments in high dimensional models*,
  * Institute for Advanced Studies, Vienna, Austria, July 2012

· *Prediction in energy markets by a functional instrumental variable model*
  * Joint Statistical Meetings, San Diego, USA, July 2012

· *School system evaluation by value-added analysis under endogeneity*
  * 5th European Congress of Methodology, Santiago de Compostela, Spain,
    July 2012

Dirk Van de Gaer

· *Empirical approaches to inequality of opportunity: principles, measures and empirical evidence*
  * Universidad Alicante, Spain, May 2012

· *Children's opportunities and project evaluation: Mexico's oportunidades program*
  * Universidad Autonoma de Barcelona, Spain, May 2012

· *Equality of opportunity and project evaluation*
  * Second World Bank Conference on Equity: Inequality of What? Outcomes,
    Opportunities, and Fairness, World Bank, Washington, USA, June 2012.

Vincent Vannetelbosch

· *Bargaining and delay in trading networks*
  * 6th Workshop on Economic Design and Institutions, Facultés universitaires
    Saint-Louis, Brussels, Belgium, December 2011
  * 17th Coalition Theory Network Workshop, Université Paris 1 Panthéon-Sorbonne,
    France, February 2012
  * MINT3 Workshop, Université Paris 1 Panthéon-Sorbonne, France, May 2012
  * GREThA, Université Montesquieu-Bordeaux IV, France, May 2012
  * Universidad del Pais Vasco, Bilbao, Spain, May 2012

Mathieu Van Vyve

· *Fixed-charge transportation: complexity and approximation*
  * INFORMS (Institute for Operations Research and the Management Sciences)
    Annual Conference, Charlotte (NC), USA, November 2011

· *Using extended formulations to solve hard MIPs*
  * 8eme Séminaire POC (Groupe de Travail Polyhèdres et Optimisation Combinatoire), Université Paris-Dauphine, France, March 2012
  * 21st International Symposium on Mathematical Programming (ISMP 2012),
    Berlin, Germany, August 2012

· *Relaxations for the two-level lot-sizing problem*
  * International Workshop on Lot-Sizing (IWLS 2012), Rotterdam, The
    Netherlands, August 2012

Xavier Wauthy

· *Platform competition in markets where cross network externalities induce vertical differentiation*
  * Séminaire GAEL-INRA, Université de Grenoble, France, May 2012

Laurence Wolsey

· *Valid inequalities and extended formulations for some simple MIPs*
  * Texas A&M University, College Station (TX), USA, November 2011

· *MIP models for multi-level production and production/distribution problems*
  * Texas A&M University, College Station (TX), USA, November 2011

· *A polyhedral approach to lot-sizing problems: 30 years on*
  * Universidad de Chile, Santiago, Chile, March 2012

· *The two-level lot sizing and the one warehouse multiple retailer problem*
  * Integer Programming Workshop, Valparaiso, Chile, March 2012

Yukai YANG

· *Testing constancy of the error covariance matrix using a spectral decomposition and a parametric alternative in vector models*
  * CREATES Annual Conference, Sandbjerg Manor, Denmark, August 2012
  * EEA-ESEM 2012, European Economic Association & Econometric Society 2012 Conference, Universidad de Malaga, Spain, August 2012

7

RESEARCH PROJECTS UNDER CONTRACTS

GDF-Suez Chair: Energy Economics and Risk Management

In order to develop formal and quantitative analysis in energy economics and in the management of risks associated to energy markets, GdF-Suez funds a Chair. Research is done at CORE and in ISBA (as partners within IMMAQ). Claude D'ASPREMONT (CORE, UCL), Francis DELANNAY (EPL, UCL) and Pierre DEVOLDER (ISBA, UCL) are in charge of the implementation. Planned research topics include: computational models of the natural gas and electricity markets, quantitative analysis of investment in the energy sector, energy risk management with physical and financial assets, pricing models for natural gas and electricity.

George BABAJAN is working under the scope of this project.

GSK BIOLOGICAL CHAIR IN STRATEGIC SOURCING AND PROCUREMENT

The chair covers research, applied research, teaching and outreach in the field dedicated to sourcing and procurement. Furthermore, the chair aims to establish an internationally visible center for researchers in the field.

Per AGRELL (CORE, UCL), Constantin BLOME (CORE, UCL) and Philippe CHEVALIER (CORE, UCL) coordinate this project sponsored by GSK Vaccine, Belgium.

GAPEM, GROUP FOR ANALYSIS OF PERFORMANCE IN ECONOMICS AND MANAGEMENT

The group is devoted to the modeling and analysis of performance related to organizations and decision-making units, evaluated with explicit consideration of economic context and their managerial goals. In particular, the project seeks to extend and refine the utilization of parametric and non-parametric methods in the control and regulation of activities. Applications of such systems are found, but not limited to, decentralized industries, regulated network industries, health care production and public services.

This institutional project is coordinated by Per AGRELL (CORE, UCL). He works in coordination with Philippe VANDENEECKAUT (Université Lille 3, France), Hervé LELU (Université Catholique de Lille, France) and Kirstian KERSTENS (Université Catholique de Lille, France).

EXPECTATIONS AND VOLATILITY, EFFICIENT CAPITAL ACCUMULATION IMPLEMENTATION, BARGAINING, AND AUCTIONS (MIS ULYSSE)

The research program aims at developing the following research lines:

· How to reduce the impact of expectations in the generation of excess volatility, and what are the consequences of imposing rationality conditions on the agents' expectations formation process.

· The inefficiencies created, in an overlapping generation setup, in the absence of financial instruments in which to save other than capital, or when only unbacked risky assets are available for savings. Next the identification of the policies able to implement the first-best steady state under such conditions is addressed.

· The identification of policies able to make the agents internalize the impact through consumption and production of pollution so that the social planner's steady state is decentralized.

· The impact of the individuals' health choices on life-expectancy and the return on savings, the inability of private annuities to price completely the moral hazard created by the incentives to extend one's life expectancy once insured, and the tax policy required to implement the first-best as a competitive equilibrium.

Stéphane BOUCHE, Nguyen Thang DAO and Vladislav NORA are working at CORE under the scope of this project financed by the Fonds National de la Recherche Scientifique and coordinated by Julio DAVILA (CORE, UCL).

COOPERATION AND COMPETITION IN THE KNOWLEDGE ECONOMY

The goal of this project is to combine the general methods of industrial organization with the theories pertaining to coalition formation and to network structures in order to shed a new light on the issues of cooperation versus competition among firms. One focused the analysis on the industries producing "ideas" (i.e., R & D, information, networks, etc). The basic questions were the following: How does the formation of networks affect the process and the intensity of innovation? How does the formation of networks modify the institutional framework in these industries?

This Fonds de la Recherche Fondamentale Collective (FRFC) project is coordinated by Ana MAULEON (CORE, UCL and Facultés universitaires Saint-Louis, Brussels, Belgium), Paul BELLEFLAMME (CORE, UCL), Vincent VANNETELBOSCH (CORE, UCL)and Xavier WAUTHY (CORE, UCL and Facultés universitaires Saint-Louis,

Brussels, Belgium) and financed by the Fonds National de la Recherche Scientifique (FNRS).

DEVELOPMENT OF MODELS AND EXACT APPROXIMATE SOLUTIONS METHODS FOR LINEAR AND ON-LINEAR, CONTINUOUS, MIXED AND INTEGER OPTIMIZATION PROBLEMS

This project studies the structure of difficult problems of optimization, of the identification of polynomial particular cases and the development of heuristic and exact methods of resolution.

This project financed by the Fonds National de la Recherche Scientifique (FNRS) gathers the Department of Computer Science of the Université Libre de Bruxelles, Brussels (coordinator: Bernard FORTZ), the Management School of the Université de Liège (coordinator: Yves CRAMA), the Numerical Analysis Research Unit of the Facultés Universtaires Notre-Dame de la Paix, Namur (coordinator: Philippe TOINT) and CORE, Université catholique de Louvain (coordinator: Laurence WOLSEY).

VIRTUAL MARKETPLACE FOR PATENT LICENSES (PATLICINFO)

Coordinated by Paul BELLEFLAMME (CORE, UCL)together with Bernard REMICHE (DRT, UCL), this multidisciplinary project aims at providing the scientific community and public authorities with a better understanding of the actual functioning of the markets for patents, the way they (self) organize, their growth potential and how public policies could help to coordinate their development. Articulating primary data collection on patent licensing with case studies, law with econometrics and formal treatments, this project has received the financial support of the Federal Public Service, Economy, SME's, Self-Employed and Energy. Beyond a thorough examination of factors that impede technology transfers through arm's length market transactions on the Belgian territory, this research will help to appraise the role to impart to virtual platforms, either as informational intermediaries ('infomediaries') or as two-sided markets for technologies.

Ignace ADANT is working under the scope of this project at CORE.

GAME THEORETIC APPROACHES IN SUPPLY CHAIN MANAGEMENT

The project aims at developing modelling and experimental approaches for strategic behaviour in supply chains using cooperative game theory. Relatively little positive work has been published in the area of game theory in supply chain coordination,

in spite of clearly identified opportunities for applications (limited number of well-defined strategic decision makers, observable decisions of durable character, repeated interaction, etc).

Felix SOMMER is working under the scope of this project at CORE coordinated by Per AGRELL (CORE, UCL) and Constantin BLOME (CORE, UCL) and financed by the Fonds National de la Recherche Scientifique (FNRS).

ECONOMETRIC MODELLING OF MULTIVARIATE FINANCIAL TIME SERIES

When developing time series models, a balance between sufficient flexibility versus rapidly growing dimensionality (number of relations, of parameters) is necessary in order to incorporate the potentially time-varying dynamics of financial data in large dimensions. These issues are addressed by a range of complementary approaches (non-linear models, latent factor models, finite mixture models, locally stationary models).

Rainer VON SACHS (ISBA, UCL), Luc BAUWENS (CORE, UCL), Christian HAFNER (ISBA, UCL), and Johan SEGERS (ISBA, UCL) were coordinating this Actions de Recherche Concertées (ARC) project financed by the Communauté française de Belgique. Arnaud DUFAYS (CORE, UCL) was working under the scope of this project.

MANAGEMENT OF SHARED RESOURCES IN SUPPLY CHAINS

Supply Chain Management (SCM) is widely recognized as the largest source of potential gains in efficiency for the operations of organizations. It has also been the subject of many articles in the scientific literature, in the field of Operations Management, Operations Research, and Economy. The main lesson from SCM is that it is no longer enough for organizations to think about their own operations, they should take into account all other organizations that participate in the same value creation chain.

The emphasis until now has been on sharing information and co-ordinating flows of goods between organizations. This has led to new ways of organizing operations and new contracts between organizations since companies have recognized that there is a direct link between the performance of supply chains and the availability and quality of timely information.

Thus shared resources in a supply chain are of very different natures. They range from the most mundane such as pallets or boxes to transport goods between different

participants in the supply chain, to shared factories that entail large investments or shared intellectual property.

The Centre de Recherches d'Etudes en Gestion Industrielle (CREGI) from the Facultés universitaires catholiques de Mons (FUCAM) is taking part in this Actions de Recherches Concertées (ARC) project financed by the Communauté française de Belgique. The research is coordinated by Per AGRELL (CORE, UCL), Philippe CHEVALIER (CORE, UCL), Jean-Sébastien TANCREZ (LSM, UCL) and Mathieu VAN VYVE (CORE, UCL). Adel HATAMI-MARBINI, Fahimeh SHAMSAEI and Ines VALENTE RUSSINHO are working under the scope of this project at CORE.

POVERTY, RESOURCE EQUALITY, AND SOCIAL POLICIES

This project aims at revisiting the economics of poverty by using recent advances in welfare economics. First, poverty measurement theory is enriched by taking account of individual preferences over the several dimensions of poverty. New poverty indices are defined. They are applied using panel data of material standard of living and subjective satisfaction to study the recent evolution of poverty in developed societies. Second, the ethical value of poverty reduction is added to theories of social welfare based on equality of opportunities. New evaluation criteria of taxation policies are derived. Third, extreme poverty is redefined by introducing views of social identity and feelings of self-esteem or shame. That requires modeling poverty by taking account of the interactions between poor agents and the providers of social services aimed at benefiting the poor. These models are used to better understand why anti-poverty policies often fail to reach the poor, and, consequently, why poverty is so persistent in developed societies.

This project is financed by the European Research Council and coordinated by François MANIQUET(CORE, UCL). Benoît DECERF, Claudia HUPKAU, Marion LETURCQ, and Eve RAMAEKERS are working under the scope of this project at CORE.

MICRO-SIMULATION FOR THE PROSPECTIVE OF SUSTAINABLE CITIES IN EUROPE (SUSTAINCITY)

The main goal of this project is to address the modelling and computational issues of integrating modern mobility simulations with the latest micro-simulation land use models. The project intends to advance the state-of-the-art in the field of the micro-simulation of prospective integrated models of Land-Use and Transport. On the modelling side, the main challenges are to integrate a demographic evolution module,

to add an environmental module, to improve the overall consistency and, last, but not least, to deal with the multi-scale aspects of the problem: several time horizons and spatial resolutions are involved.

This project is financed by the European Commission and coordinated at CORE by Isabelle Thomas (CORE, UCL). Camille Cotteels is working under the scope of this project at CORE.

Incentive, Coordination and Motivation Systems in Frontier Analysis

The project addresses strategic behavior under ex post control by frontier analysis tools, such as DEA. Anticipating action profiles by decision making units using principal-agent theory and applied game theory, the project investigates important issues for the theoretical validity and practical viability of e.g. DEA yardstick regimes in the presence of technological innovation, uncertainty and structural change. Part of the work is conducted in close collaboration with regulatory institutions in Europe, using real data to foresee and analyse strategic risks in yardstick regulation.

This project is coordinated by Per Agrell (CORE, UCL) and involved under 2011 Mathias Lorenz (CORE, UCL) and Pooria Niknazar (CESCM, UCL).

Dynamic response as provider of ancillary services

Electricity demand response has the potential of providing flexibility for enhanced reliability of power systems operations and improved efficiency of electricity markets. This project aims at studying the impact and integration of demand response into the Belgian electricity market and system, especially for the provision of ancillary services.

This project sponsored by the "Région bruxelloise" is coordinated by François Glineur (CORE, UCL) and Emmanuel Dejaeger (EPL, UCL). Arnaud Latiers is working under the scope of this project at CORE.

Clipper: Eurostar project on the development of a pricing software to optimize customer lifetime value in sectors such as telecoms and banks

The project's goal is to develop a Clipper price optimization software with innovate targeted applications in telecom, banking, insurance and energy (gas, electricity, ...). In response to recent economic changes, the role of information and communication technologies (ICT) as an economic driver has become very important. ICT's provide

the key to improve competitiveness. A critical aspect is the efficiency of decision making and, in particular, pricing.

The main objective of the project is the creation, analysis, deployment of an innovative software package to maximize the "Customer Lifetime Value" on each transaction, focusing on telecommunications and the mobile network operators (MNO) with retail banking applications for B2C and B2B segments. Clipper will be the first software on the market that consider the Customer Lifetime Value in pricing strategies, including a significant economic impact on the focused sectors.

This project sponsored by the European Commission and the Région wallonne is coordinated by Sébastien Van Bellegem (CORE, UCL) and Mathieu Van Vyve (CORE, UCL). Yukai Yang is working under the scope of this project.

Secure Multiparty Computation

Camus intends to facilitate the collaboration between people/companies with diverging interests aiming to reach a common objective. In many contexts, competitors, or partners negotiating a commercial transaction, need to settle together a set of values: a selling price, a production volume, the use time of a common resource, ... Determining optimal values for these parameters often implies sharing a lot of information (actual production costs, preferred periods, ...), and the negotiating partners tend to be reluctant to reveal this information. In practice, this behaviour results in a suboptimal parametrization which may be harmful in particular for small or emerging actors.

It is the ambition of Camus to solve this problem through techniques emulating a "virtual trusted third party": the project will define communication protocols allowing a group of actors to behave as if a trusted third party were present: everybody would act as if he was providing this virtual trusted third party with all his confidential information. The third party would use it only to compute the desired result and then reveal the expected optimization result, and nothing more.

This project is sponsored by the Région wallonne and coordinated by Sébastien Brunet (IWEPS, Namur, Belgium), Olivier Pereira (EPL, UCL)and Mathieu Van Vyve (CORE, UCL). Aly Abdelraham is working under the scope of this project at CORE.

Strategic tool of the management of the mining activity in Wallonia

This project will develop a methodology to evaluate the socio-economic impact of mining operations in Wallonia The goal is to help better understand the impact on employment, added value and CO_2 emissions through the upstream and downstream supply chain linked to mining.

This project sponsored by the "Région Wallonne" is coordinated by Philippe Chevalier (CORE, UCL). Ignace Adant is working under the scope of this project at CORE.

Territorial Planning and Energy Transition 2050

The purpose o this project is to explore the interplay between territorial planning and energy transition in a long term perspective (2050) in the Region. The project is interdisciplinary as it combines methodological tools and concepts coming from geography, urban planning, economics, scenario analysis, and linear programming.

The project sponsored by the Région Wallonne is coordinated by Thierry Bréchet (CORE, UCL), Yves Hanin (LOCI, UCL)and Dominique Peeters (CORE, UCL) . Fiorella Quadu (LOCI, UCL), Simon Verelst (CORE, UCL) and Véronique Rousseaux (LOCI, UCL) are working under the scope of this project.

European Doctorate in Economics Erasmus Mundus (EDEEM)

EDEEM is a research-oriented programme and aims to produce top-quality researchers, who will gain international experience working within the research units with some of Europe's leading researchers in economics. Students are trained for positions in academia at the international level as well as for responsible positions in government, research organizations, and business enterprises. High focus is made on research work, publication and presentation, with dedicated Jamborees and Summer Schools being an integral part of the training. This programme gathers the following universities: Universiteit Amsterdam, Universität Bielefeld, Universidade Nova de Lisboa, Université Paris 1, Ecole des Hautes Etudies en Sciences Sociales (Paris), Universita Ca'Foscari Venezia.

Claude d'Aspremont (CORE, UCL) coordinates this project.

Measuring Productive Efficiency in Electricity Distribution: An Application to Incentive Regulation of Swiss Utilities

This research project investigates and develops firm-level cost-efficiency measures for use in incentive regulation schemes, aiming at methods for latent heterogeneity among operators. The project looks both at parametric and non-parametric methods and uses both data from Norwegian electricity distribution and Swiss distribution operators.

The project financed by the Swiss Federal Energy Office is done in collaboration with the Eidgnössiche Technische Hochschule Zürich, Switzerland (Prof. Filippini and the Institute for Microeconomics and Public Economics, MecoP, Swiss Italian University of Lugano (USI), Italy. The coordinator at CORE is Per Agrell (CORE, UCL).

The Analysis of Economic Performance

The project aims at developing consolidated non-parametric efficient and productivity measures for the analysis of economic performance, both under regulation and competition.

The project is financed by the Spanish Ministry of Science and Education. Per Agrell (CORE, UCL) and professor Grifell-Tatje (Universitat Autonoma Barcelona) coordinate this project.

The Evaluation, choice and decision in urban and periurban land use. An interdisciplinary approach of residential and daily mobilities

The project ECDRSUP is funded by the Agence Nationale de Recherche (ANR, France). It is led by ThéMA at the University of Besançon (coordinator: Pierre Frankhauser). It involves researchers from the Université of Strasbourg (promotor: Dominique Ansel), from the Centre d'Economie et Sociologie Appliquées à l'Agriculture et aux Espaces Ruraux (CESAER) in Dijon (promotor: Mohamed HILAL) and CORE, Université catholique de Louvain (promotor: Dominique Peeters). It addresses questions related to residential choice and the daily mobility of households, which represent key issues for the sustainable management of urban territories particularly in growing urban fringes or in deprived neighbourhoods.

Geoffrey Caruso (Université de Luxembourg, Luxembourg), Dominique Peeters (CORE, UCL), and Isabelle Thomas (CORE, UCL) coordinate this project.

STATISTICAL APPENDIX

■ PEOPLE

• **Yearly average per 10 year period**

Period	Professors	Assistants Ph.D. students Researchers	Long-and short- term visitors	Administration
1966–1975	14	15	26	4
1976–1985	20	29	45	6
1986–1995	26	40	56	8
1966–2005	32	43	84	10

• **Recent yearly numbers**

Period	Professors	Assistants Ph.D. students Researchers	Long-and short- term visitors	Administration
2005–2006	40	53	91	9
2006–2007	38	47	119	12
2007–2008	36	54	73	15
2008–2009	38	57	96	14
2009–2010	42	55	75	14
2010–2011	42	38	108	11
2011-2012	42	30	67	10

■ PUBLICATIONS

• **Yearly average per 10 year period**

Period	Discussion Papers	Books	Published papers	Theses
1966–1975	32	1	24	2
1976–1985	47	1	53	2
1986–1995	62	5	69	5
1996–2005	78	4	105	7

• **Recent yearly numbers**

Period	Discussion Papers	Books	Published papers	Theses
2005–2006	118	8	129	9
2006–2007	115	6	133	12
2007–2008	82	1	133	8
2008–2009	84	5	128	7
2009–2010	86	6	172	6
2010–2011	81	11	166	8
2011–2012	63	7	117	6
total of the 46 years	2741	148	4374	214

■ SEMINARS, CONFERENCES AND CONTRACTS

• **Yearly average per 10 year period**

	Seminars				
Period	Economics	Econometrics	Operations Research	Conferences	Yearly contracts
1996–1975	26	15	17	0	4
1976–1985	48	22	24	2	6
1986–1995	79	25	26	4	13
1996–2005	94	22	21	5	15

• **Recent yearly numbers**

	Seminars				
Period	Economics	Econometrics	Operations Research	Conferences	Yearly contracts
2005–2006	81	30	20	10	12
2006–2007	79	32	27	7	16
2007–2008	83	28	19	4	27
2008–2009	80	35	24	6	38
2009–2010	78	28	19	11	41
2010–2011	69	26	41	13	35
2011–2012	79	25	27	7	22
total of the 46 years	2994	1062	1040	169	555

All details can be found on the CORE webpage (http://www.uclouvain.be/en-266299.html).

CORE