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CORE CENTER FOR OPERATIONS RESEARCH & ECONOMETRICS

REPORT 2006-2007

ECON DÉPARTEMENT DES SCIENCES ÉCONOMIQUES IAG - LOUVAIN SCHOOL OF MANAGEMENT

INMA DÉPARTEMENT D'INGÉNIEURIE MATHÉMATIQUE

STAT INSTITUT DE STATISTIQUE

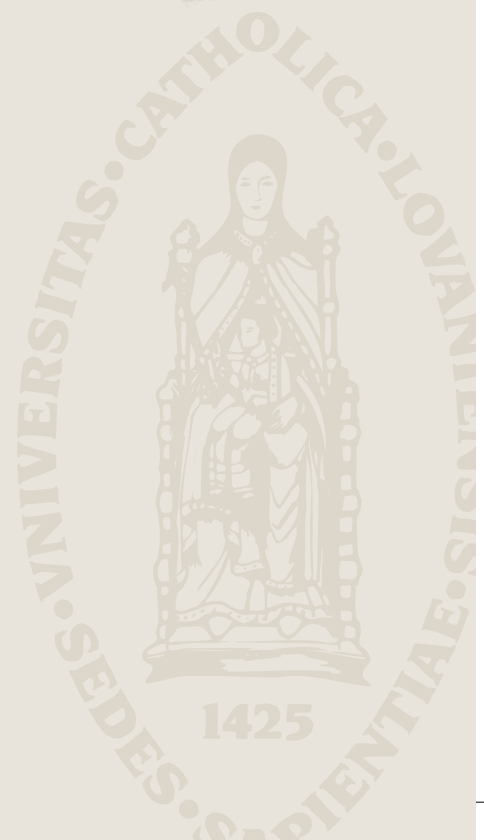
UCL

Université
catholique
de Louvain

CORE CENTER FOR OPERATIONS RESEARCH & ECONOMETRICS

2006-
2007

REPORT OF THE RESEARCH DIRECTOR



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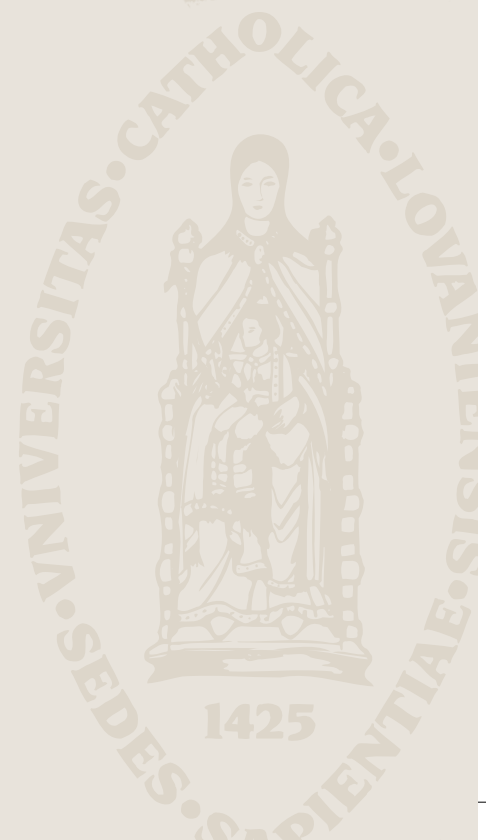


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PRESENTATION

Founded in 1966, the **CENTER FOR OPERATIONS RESEARCH AND ECONOMETRICS (CORE)** is an interdisciplinary and interfaculty research center of the Université catholique de Louvain. Its main objectives are the development of scientific research in the fields of expertise of its academic and research staff, the training of young researchers at the doctoral and postdoctoral stages of their career, and the promotion of inter-university and international scientific exchanges and collaborations. In this introduction, I survey briefly the progress made in these missions during the academic year 2006-2007 and I indicate where more detailed information can be found on these aspects in this report. A new feature of this report is a statistical appendix providing information on different output and input measures of CORE activities such as different types of publications, seminars, conferences, and staff. At the end of this introduction, I also discuss the new challenges to which CORE will be confronted in the near future.

To start with, let me pay CORE tribute to our former colleague Yves Pochet, who left our university in September 2007. Yves has been an active researcher at CORE, who contributed significantly to the development of knowledge in the field of integer programming, and in particular its application to lot-sizing and production planning, witness his list of publications. He supervised 5 doctoral students during his 18-year career at Louvain. His service as research director of CORE (2000-2003) was highly praised. Yves was also strongly involved in teaching and providing service to the University community, a remarkable example of CORE professors' involvement in much more than their research activities. We shall deeply miss such an estimated colleague, who also proved to be a charming individual who deeply respected his colleagues and the staff, but we also respect his choice and wish him all the success he deserves in his new career.

RESEARCH ACTIVITIES

One hundred and thirty-three journal articles have been added to the CORE reprint series, and one hundred and fifteen new discussion papers have appeared. We are clearly on an upward trend in publications (see the statistical appendix), which, I hope, will be further improved in the future. A summary of the main results contained in the discussion papers can be found in Section 3 by research discipline. These cover public economics, political economics, microeconomic theory, industrial organization, macroeconomics, econometrics, and optimization methods. Interactive research in these disciplines, unified by mathematical modeling and reasoning, has generated new theoretical results and offered applications in the fields of mathematical engineering, economics and management, the main targets of CORE activities.

RESEARCH TRAINING

An important facet of CORE activities is educational. It is CORE professors' fundamental responsibility to transfer their knowledge and research abilities to the younger generation, and to provide scientific training to young researchers in their areas of specialization by means of individual supervisions, seminars, workshops, conferences and participation to doctoral

programs and networks. CORE serves as a host institution for the Early Stage four-year Training Marie Curie project "Public Policy, Market Organization and Transition Economies" carried out in cooperation with the Central European University in Budapest and the Center for Economic Research and Graduate Studies at Charles University in Prague, and funded by the European Commission. The aim of the project is to prepare students for careers in teaching, research and government services. This dimension of CORE educational activities is naturally linked to its recently established ties with the Warsaw School of Economics, the New Economic School in Moscow, the Economics Education and Research Consortium in Kiev and the International School of Economics in Tbilisi. CORE devotes a large part of its resources and efforts to its educational mission. The Summer School in "Economic Analysis of Heterogeneity in Social Organizations" organized at CORE on 4–7 June 2007 and attended by 130 students coming from all over the world is a remarkable example of the activities listed in the report. About thirty students are completing their doctoral studies under the supervision of CORE members, and benefit from CORE facilities. The detailed list of these students and their projects is a new feature of this report (see Section 5). Twelve students have defended their Ph.D. theses under the supervision of a CORE member this year. They have acquired a good position on various job markets.

SCIENTIFIC EXCHANGES AND EXTERNAL LINKS

An essential part of CORE activities centers on developing inter-university and international scientific exchanges and collaborations. Since its foundation, CORE has always benefited from the CORE membership of academics and researchers of neighboring universities. This important collaboration policy is actively maintained. These exchanges are also promoted by the fellowship and visiting professorship programs offering support for periods of a few months to two years for foreign researchers. In this respect, a new policy has been implemented to enhance that attraction of CORE for candidate postdoctoral fellows. It consists in offering two year contracts and a research budget. As usual, CORE offers an office for short and regular visits to professors and researchers from UCL and other nearby universities, and to the short-term visitors coming either 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. The list of all visitors, either long or short term, and of all research seminars organized in 2006-2007 can be found in this report (sections 1 and 4). These activities are supported by CORE participation in many cooperative programs and research contracts that are financed either by the University, the Belgian Federal Government, the Belgian French-speaking Community, the European Commission or industry. In particular, CORE serves as the coordinator of a renewed inter-university attraction pole (PAI) involving five universities (Université catholique de Louvain, Katholieke Universiteit Leuven, Université Libre de Bruxelles, Facultés Universitaires Notre-Dame de la Paix, Namur and Gent Universiteit) which is funded by the Belgian Federal Government (this and all other contracts are listed in section 2). An important part of the CORE international activities has been driven by an increasing degree of collaboration with institutions and scholars in Central and Eastern Europe.

NEW CHALLENGES

At the initiative of the University, CORE became an "interdisciplinary research center" of UCL by signing in 2001 official collaboration agreements with the Department of Economics, the Department of Mathematical Engineering, the Department of Administration and Management, and the Institute of Statistics. These five-year agreements reinforced the role of CORE to develop and promote knowledge and research in its fields of expertise, at the service of the University community. These agreements have not been explicitly renewed. The University has recently decided the creation of Research Institutes, and CORE has decided to integrate itself in such an institute, with the desire to keep its cooperation with the cited departments, its interfaculty specificity, and its international visibility, while benefiting from and contributing to the increased efficiency of the new organization.

In the next three to four years, five UCL professors working at CORE will reach the age of retirement. Replacing them by excellent researchers will be a difficult task, because we are facing strong competition for talents in and outside the academic sphere, and we lack the flexibility that benefit to our main competitors. We have created a task force to prepare the process, as we need to start our search for candidates well ahead.

We are well aware that the support of the Université catholique de Louvain is indispensable in helping to maintain the stimulating and exceptional research environment of CORE and we are grateful for the university contribution. Finally, all the activities listed in this report would not be possible without the dedicated work of CORE permanent staff, both academic and administrative. They are all warmly thanked for their continuing efforts.

Luc Bauwens

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PERSONNEL

- MANAGEMENT
- FACULTY
- ADMINISTRATIVE STAFF
- DOCTORAL STUDENTS
- RESEARCH FELLOWS
- RESEARCH ASSOCIATES
- SHORT TERM VISITORS
- RESEARCH FELLOWS AND VISITING FACULTY MEMBERS FOR 2007-2008
- OTHER ITEMS

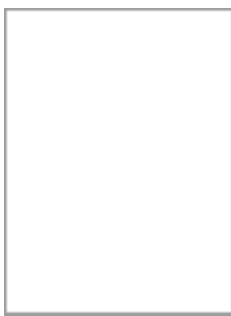
■ MANAGEMENT

Officers for the period covered by this report:

President	Claude d'ASPREMONT
Research Director	Luc BAUWENS
Co-directors	François MANIQUET Laurence WOLSEY
Administrative Director	Sheila WEYERS

■ FACULTY

During the academic year 2006-2007, the permanent staff of CORE consisted of **FACULTY MEMBERS** of the Université catholique de Louvain (UCL), Katholieke Universiteit Leuven (KUL), the Université Libre de Bruxelles (ULB), the Facultés Universitaires Saint-Louis, Bruxelles (FUSL), the Université de Liège (ULG), the Facultés Universitaires Notre-Dame de la Paix, Namur (FUNDP) and the Université de Lille III (France).



ANTON BARTEN

Professor emeritus, Katholieke Universiteit Leuven and Université catholique de Louvain.

Ph.D. (economische wetenschappen), Nederlandse Economische School, Rotterdam, 1996.

Visiting professor, University of California, Berkeley, 1962-1963; University of Wisconsin, Madison, 1963; University of Pennsylvania, Philadelphia, 1964; University of Chicago, 1969-1970.

Econometrics and macroeconomic models.

Fellow of the Econometric Society, 1980; member of the International Statistical Institute, 1977; 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 et politiques, Département des sciences économiques).

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

World Bank, 1983-1984; senior researcher, Facultés Catholiques de Mons, 1984-1987; senior lecturer, Ecole des Hautes Etudes en Sciences Sociales (EHESS), Marseille, 1987-1991.

Econometrics and statistics.

Leonard J. Savage Thesis Award, 1984; chairman, Department of Economics, Université catholique de Louvain, 2000-2003; Francqui Chair, Facultés Universitaires Notre-Dame de la Paix, Namur, 2005-2006; research director, CORE, 2006-to date.

Associate editor, *Computational Statistics, Empirical Economics, Journal of Applied Econometrics, Journal of Financial Econometrics* and *Risk Letters*.

PAUL BELLEFLAMME

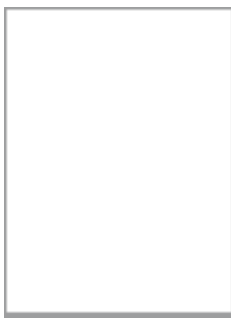
Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, IAG-Louvain School of Management); research affiliate, Center for Economic Studies and Ifo Institute for Economic Research (CESifo).

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

Associate professor, Facultés Universitaires Notre-Dame de la Paix, 1997-1999; Lecturer in economics, Queen Mary, University of London, 1999-2002.

Microeconomics (industrial organization, game theory).

Associate editor, *Information Economics and Policy* and *E-conomics*; Member of the editorial board, *Regards Economiques*.



RAOUF BOUCEKKINE

Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Département des sciences économiques); part-time chair in economics, University of Glasgow.

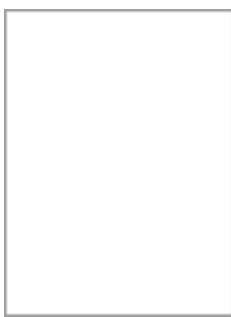
Docteur en sciences économiques, Université Paris I, 1993.

Assistant professor, Universidad Carlos III de Madrid, 1993-1998; visiting professor, Université Louis Pasteur de Strasbourg, 2000-2003;

Katholieke Universiteit Leuven, 2001-2005; HEC-Paris, 2003- 2007.

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

Member of the advisory board of *Mathematical Population Studies*; associate editor, *Journal of Public Economic Theory* and *Investigaciones Economicas*.

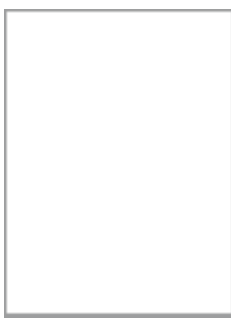


THIERRY BRÉCHET

Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, IAG-Louvain School of Management); holder of the Chair Lhoist Berghmans in Environmental Economics and Management.

Docteur en sciences économiques, Université Paris I, Panthéon-Sorbonne, 2000.

Environmental economics.



LAURENCE BROZE

Professor, Université de Lille III.

Docteur en sciences mathématiques, Université Libre de Bruxelles, 1986.

Research fellow, Université Libre de Bruxelles, 1985-1989; associate professor, Université de Lille III Charles-de-Gaulle, 1989-1995; director of GREMARS, Lille III, 1995-2001, Vice-president in

charge of research, Université de Lille III, 2000-2006.

Econometrics and statistics.

Member of the editorial board, *Annales d'économie et de statistique* and *Louvain Economic Review*.

CLAUDE D'ASPREMONT

Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Département des sciences économiques) and Facultés universitaires Saint-Louis, Bruxelles
Ph.D. (decision sciences), Graduate School of Business, Stanford University, 1973.

Visiting professor, Université d'Aix Marseille III, 1984-1996; Université Louis Pasteur, Strasbourg, 1988-1999; Ecole Polytechnique de Paris, 1995; visiting scholar, Graduate School of Business, Stanford, Summer 1987 and Spring 1995.

Mathematical economics, social choice theory, industrial organization.

Chairman, Department of Economics, Université catholique de Louvain, 1991-1994; research director, CORE, 1995-1998; fellow of the Econometric Society, 1984; Francqui Prize 1995; Doctor Honoris Causa, Université Louis Pasteur, Strasbourg, 2002; president, CORE, 2006-to date.

Associate editor, *Games and Economic Behavior*, *Journal of Mathematical Economics*, *Social Choice and Welfare*, *Journal of Public Economic Theory* and *Revue de philosophie économique*; past associate editor, *European Economic Review* and *Journal of Economics/Zeitschrift für Nationalökonomie*.

PIERRE DEHEZ

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

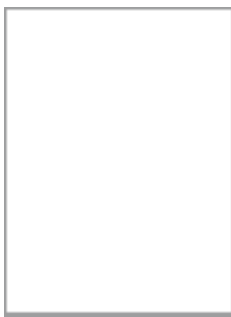
Docteur en sciences économiques, Université catholique de Louvain, 1980 (European Doctoral Program).

Professor, European University Institute, Florence, 1983-1990 and

Erasmus Universiteit Rotterdam 1991-1992; visiting professor, University of Illinois, 1981-1982; Facultés Universitaires Notre-Dame de la Paix, Namur; Université de Cergy-Pontoise and Université Louis Pasteur, Strasbourg.

Microeconomics, general equilibrium theory, game theory.

Chairman, Department of Economics, Université catholique de Louvain, 1994-2000; European University Institute, 1985-1987 and 1989; prorector in charge of the sector of human and social sciences, Université catholique de Louvain, 2001-2004.



DAVID DE LA CROIX

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

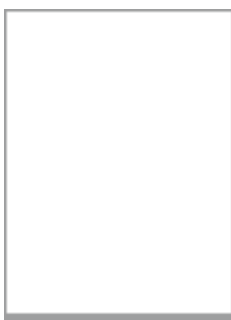
Docteur en sciences économiques, Université catholique de Louvain, 1992.

Research fellow, University of Maastricht, 1992; visiting professor, University of California at Los Angeles, 2000-2001.

Growth theory, human capital and demography, overlapping generations.

Franqui Chair, Gent Universiteit, 2004; chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS).

Associate editor of the *Journal of Economic Dynamics and Control*; member of the Editorial Board, *Clometrica*, *Fiscal Studies* and *Louvain Economic Review*.



MATHIAS DEWATRIPONT

Professor, Université Libre de Bruxelles; part-time visiting professor, Massachusetts Institute of Technology, 1998-to date; founding member of the Scientific Council of the European Research Council, 2005-to date.

Ph.D. (economics), Harvard University, 1986.

Economic theory and applications.

Fellow of the Econometric Society, 1993; Francqui Prize, 1998; Research director of the Centre for Economic Policy Research (CEPR), London, 1998-to date; co-director, European Center for Advanced Research in Economics and Statistics (ECARES), 1991-2002; Jahnsson Medal 2003; president of the European Economic Association, 2005.

JACQUES DRÈZE

Professor emeritus, Université catholique de Louvain.

Ph.D. (economics), Columbia University, 1958.

Visiting professor, Carnegie Institute of Technology, 1957-1958; Northwestern University, 1962; University of Chicago, 1963-1968.

Economic theory and econometrics.

Fellow of the Econometric Society, 1970; Francqui Chair, Université Libre de Bruxelles, 1970-1971 and Katholieke Universiteit Leuven, 1982-1983; Andrew D. White professor at large, Cornell University, 1971-1977; president of the European Economic Association, 1985-1986; president of the International Economic Association 1996-1999.

**LOUIS ECKHOUDT**

Professor emeritus, Facultés Universitaires Catholiques de Mons.

Ph.D. (economics), Michigan State University, 1970.

Decisions under risk and health economics.

Associate editor *Geneva Papers on Risk and Insurance – Theory and Revue Economique*.

**JEAN J. GABSZEWICZ**

Professor emeritus, Université catholique de Louvain.

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

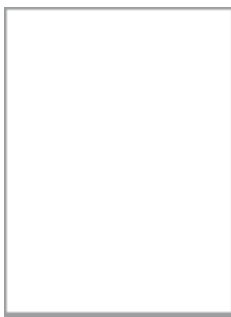
Visiting professor, Polish Academy of Sciences, 1973; University of Tel-Aviv, 1973; Université de Paris IX (Dauphine), 1973; Université d'Aix-Marseille, 1973; Université de Paris XII, 1979; Université d'Aix-en-Provence, 1981; Université de Lyon, 1981; Université de Strasbourg, 1982; Université de Dijon, 1983; Institut Universitaire Européen, Florence, 1984; Université de Paris I, 1999-2000; Université de Paris II, 1999-2001.

Economic theory.



Fellow of the Econometric Society; 1979; administrator of CEPREMAP (Paris); member of the Council of the European Economic Association, 1986-1989; Doctorat Honoris Causa, Université d'Aix Marseille II, 2003; Fellow of the European Economic Association, 2004.

Associate editor *Journal of Economics* and *Ricerche Economica*; past associate editor *Journal of Economic Theory* and *European Economic Review*.



VICTOR GINSBURGH

Professor emeritus, Université Libre de Bruxelles.

Docteur en sciences économiques, Université Libre de Bruxelles, 1972.

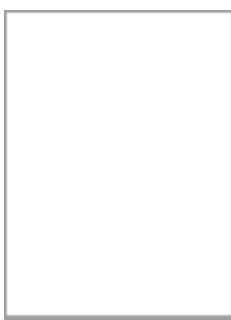
Researcher, Yale University, 1975; visiting professor, Université catholique de Louvain, 1973, 1978 and 1985; University of Virginia, 1979; Université Paris I (Panthéon-Sorbonne), 1986-1987 and

1991-1992; Université Paris II (Panthéon-Assas), 1986-2004; Université d'Aix-Marseille, 1986-1989; University of Chicago, 1996.

Economic theory and cultural economics.

Francois Chair, Université de Liège, 1992-1993; president of the International Association of Cultural Economics, 2002-2004; co-director, European Center for Advanced Research in Economics and Statistics (ECARES), 2002-to date.

Co-editor, *Journal of Wine Economics*; associate editor, *Louvain Economic Review* and *Journal of Cultural Economics*; past associate editor, *Annales d'économie et de statistique* and *European Economic Review*.



PIERRE GIOT

Professor, Facultés Universitaires Notre-Dame de la Paix, Namur.

Ingénieur civil en électronique, Université catholique de Louvain, 1993. Ph.D. in Economics (financial econometrics), Université catholique de Louvain, 1999.

Assistant professor, Department of Quantitative Economics, Universiteit Maastricht, 2000-2001; visiting professor, Université catholique de Louvain, 2000-present and Université Paris I (Panthéon-Sorbonne), 2002.

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

FRANÇOIS GLINEUR

Professor, Université catholique de Louvain (Faculté des sciences appliquées, Département d'ingénierie mathématique).

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

Optimization (algorithms and modeling, in particular convex optimization, conic optimization, duality and interior-point methods).



ISABEL GRILO

Professor, Université de Lille III, on leave. Principal Administrator, European Commission (Enterprise Directorate-General), 2000-to date.

Docteur en sciences économiques, Université catholique de Louvain, 1994 (European Doctoral Program).

Visiting professor, Université catholique de Louvain, 1994-2001 (Institut d'Administration et de Gestion).

Economic theory, industrial organization, entrepreneurship.



CHRISTIAN HAFNER

Professor, Université catholique de Louvain (Institut de statistique).

Docteur en sciences économiques, Humboldt-Universität zu Berlin, 1996.

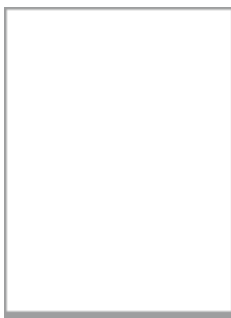
Ph.D. in Economics, Humboldt-Universität zu Berlin, 1996.

Postdoctoral fellow, CORE, 1996-1997; research associate, Humboldt-Universität zu Berlin, 1997-1998; chief analyst, Electrabel, Louvain-la-Neuve, 1999-2003; assistant professor, Erasmus Universiteit Rotterdam, 2002-2005.

Econometrics and statistics.

Associate editor, *Computational Statistics*.





JEAN HINDRIKS

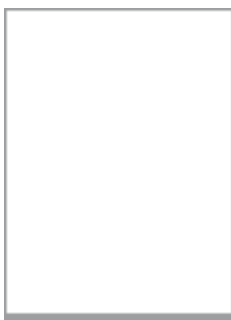
Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, Département des sciences économiques); Senior fellow, Itinera Institute, Bruxelles.

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

Fellow, University of Essex, 1997-1998; Lecturer in economics, University of Exeter, 1998-2000; Queen Mary College, University of London, 2000-2002.

Public economics and political economy.

Associate editor, *European Journal of Political Economy* and *Fiscal Studies*.



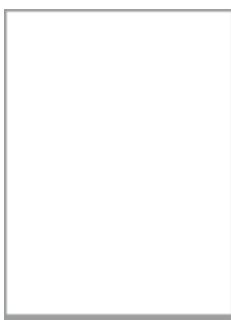
SÉBASTIEN LAURENT

Professor, Facultés Universitaires Notre-Dame de la Paix, Namur.

Ph.D. in Financial Econometrics, Universiteit Maastricht, 2002.

Visiting professor at Université catholique de Louvain, 2001-to date.

Financial econometrics, modeling volatility and risk, computational econometrics.



ETIENNE LOUTE

Professor, Facultés Universitaires Saint-Louis, Bruxelles.

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

Visiting professor, Brookhaven National Laboratory, 1977; IIASA, Vienne, 1979; Ecole des Hautes Etudes Commerciales Montréal, 1981; Université de Genève, 1992; Université de Savoie, 1992-2004; National University of Vietnam, Ho Chi Minh City, Vietnam,

1998-2002.

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

Dean, Faculté des sciences économiques et politiques, Facultés Universitaires Saint-Louis, Bruxelles, 1993-1996; member of SOGESCI (Société Belge pour l'Application des Méthodes Scientifiques de Gestion), INFORMS, SIAM and Mathematical Programming Society.

FRANÇOIS MANIQUET

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

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

Microeconomic theory (social choice theory, public economics and game theory).

Chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS); Member of the School for Social Science, Institute for Advanced Study, Princeton, 2001-2002.

Editor, *Social Choice and Welfare*.



JEAN-FRANÇOIS MERTENS

Professor, Université catholique de Louvain (Faculté des Sciences, Département de mathématique).

Docteur en sciences, Université catholique de Louvain, 1970.

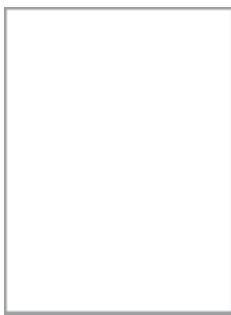
Visiting professor, Universität Heidelberg, 1970; Hebrew University of Jerusalem, 1970; University of California, Berkeley, 1971 and 1972-1975; Universität Bielefeld, 1972; Harvard Business School, 1981; leading professor of economics and of applied mathematics, S.U.N.Y. at Stony Brook, 1989-1992; The Hebrew University of Jerusalem, 2001.

Economic theory and game theory.

Fellow of the Econometric Society, 1981.

Past editor, *Journal of Mathematical Economics*; *International Journal of Game Theory and Economic Theory*.





MICHEL MOUCHART

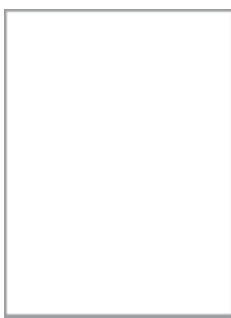
Professor emeritus, Université catholique de Louvain.

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

International professor CIENES, Santiago, Chili, 1966-1967; visiting professor, University of Chili, 1967-1968; University College, London, 1976; Université de Strasbourg, 1981; Indian Statistical Institute, 1982; Université d'Aix-Marseille, 1982; Università di Bologna, 1984; Carnegie-Mellon University, 1985, Université des Sciences Sociales de Toulouse, 1991-1993, Université de Paris I (Panthéon-Sorbonne), 1993-1994.

Statistics and econometrics.

Member of the International Statistical Institute, Bernouilli Society, Société Belge de Statistique.



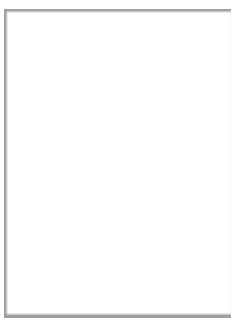
YURI NESTEROV

Professor, Université catholique de Louvain (Faculté des sciences appliquées, Département d'ingénierie mathématique).

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

Research associate, Central Economic and Mathematical Institute of the Russian Academy of Science, Moscow, 1977-1992; visiting professor, Université de Genève, 1992-1993.

Convex and nonlinear optimization, approximate solution of combinatorial problems, polynomial optimization, static and dynamic transportation networks, numerical analysis, equilibrium in economic models.



DOMINIQUE PEETERS

Professor, Université catholique de Louvain (Faculté des Sciences, Département de géographie).

Docteur en sciences appliquées, Université catholique de Louvain, 1980. Agrégé de l'enseignement supérieur, Université catholique de Louvain, 1995.

Post-doctoral fellow, McMaster University, Hamilton, Ontario, 1982; visiting professor, Université du Québec, Montréal, 1986; Université de Bourgogne, 1991; Université de Tsukuba, 1996-1997.

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

PIERRE PESTIEAU

Professor, Université de Liège (HEC – Ecole de Gestion).

Ph.D. (economics), Yale University, 1971.

Assistant professor, Cornell University, 1971-1976.

Population economics and public economics.

Francqui Prize 1989.

Co-editor, *Journal of Public Economics*; associate editor, *Journal of Public Economic Theory*, *Journal of Population Economics*, *Finanz-Archiv* and *Economica*.



YVES POCHE

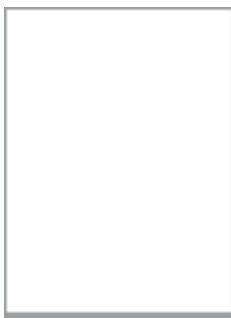
Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, IAG-Louvain School of Management).

Docteur en sciences appliquées (recherche opérationnelle), Université catholique de Louvain, 1987.

Operations research: mathematical programming, integer programming and polyhedral combinatorics; production planning and sequencing, supply chain planning.

Administrator of the SOGESCI (Société Belge pour l'Application des Méthodes Scientifiques de Gestion), 1989-present; co-director of CORE, 1992-1998; director of CORE, 2000-2003.



**LÉOPOLD SIMAR**

Professor, Université catholique de Louvain (Institut de Statistique) and Facultés Universitaires Saint-Louis.

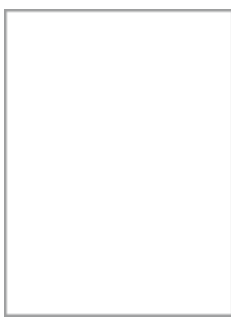
Docteur en sciences appliquées (mathématiques appliquées), Université catholique de Louvain, 1974.

Visiting professor, Cornell University, 1974; IDEI, Université des Sciences Sociales, Toulouse, 1991-2006; Institut für Statistik und Ökonometrie, Humbolt Universität, Berlin, 1993-2003; Department of Economics, Texas University at Austin, 1995-2005; Department of Economics, Rice University, Texas, 1996, 1998; ENSAI, Rennes, 1999-2001; Australian National University, Canberra, 1999; Department of Economics, Universität of Mainz, 2002-2004; University of Pisa, 2003-2006; University of Bologna, 2006; ENSAE, Paris, 2001-2006; IFP, Rueil, 1991-2006.

Mathematical statistics, nonparametric statistics, resampling methods, production frontier.

Elected member of the International Statistical Institute; dean, Faculté des sciences économiques, sociales et politiques, Facultés Universitaires Saint-Louis, Bruxelles, 1978-1990; Founder-Chairman, Institut de statistique, Université catholique de Louvain, 1992-2004; past president of the Belgian Statistical Society, 1991-2001.

Associate editor of the *Journal of Productivity Analysis*.

**YVES SMEERS**

Professor, Université catholique de Louvain (Faculté des sciences appliquées, Département d'ingénierie mathématique).

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

Computational economics in network based industries.

European editor, *Energy Journal*; associate editor, *Energy Economics*.

FRANS SPINNEWYN

Professor, Katholieke Universiteit Leuven (Centrum voor Economische Studiën).

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

Bevoegd verklaard navorser, Nationaal Fonds voor Wetenschappelijk Onderzoek, 1977-1979; assistant, Katholieke Universiteit Leuven, 1979-1983; visiting professor, Cornell University, 1985.

Microeconomics.

B.A.C. prize, 1976.



JACQUES THISSE

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

Docteur en sciences économiques, Université de Liège, 1975.

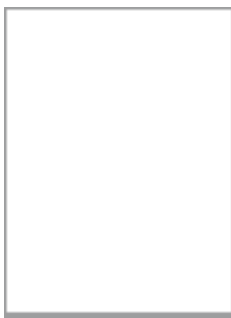
Visiting professor, McMaster University, 1981; University of Pennsylvania, 1985; INSEAD, 1987; Virginia Polytechnic Institute, 1990; Université de Paris I (Panthéon-Sorbonne), 1991-1996; Institut National de Recherche Agronomique, Dijon, 2003; Kyoto University, 2006.

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; Doctor Honoris Causa, Université de Montréal, 2005.

Economic theory, industrial organization and economic geography.

Associate editor, *Journal of the European Economic Association*, *Japanese Economic Review*, *Journal of Industrial Economics*, *Journal of Economics and Management Strategy*, *Regional Science and Urban Economics* and *Journal of Economic Geography*.





HENRY TULKENS

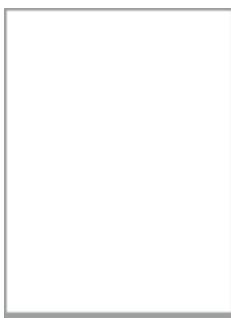
Professor emeritus, Université catholique de Louvain.

Dr. jur., Katholieke Universiteit Leuven, 1960; Docteur en sciences économiques, Université catholique de Louvain, 1968.

Visiting professor, Université d'Aix-Marseille II, 1971; Université libre de Bruxelles, 1971-1972 and 1973-1974; Princeton University, 1973 and 1983; Stanford University, 1973 and 1979; Hebrew University of Jerusalem, 1976 and 1981; Université Laval, 1977, Université Paris XII, 1978, Université de Montréal, 1985; Beijer Institute of Ecological Economics, Stockholm, 1992 and 1993; Fondazione ENI Enrico Mattei, Milan, 1993; Ecole Nationale de la Statistique et de l'Administration Economique, Paris, 1995; International Monetary Fund, Washington, 1997 and 2004; Université de Paris I (Panthéon-Sorbonne), 2003; University of the South Pacific, Suva, Fiji, 2004.

Economic theory and public finance.

Dean, Faculté des sciences économiques, sociales et politiques, Facultés Universitaires Saint-Louis, Bruxelles, 1970-1974; chairman, Département des sciences économiques, Université catholique de Louvain, 1978-1981; vice-president, International Institute of Public Finance, 1994-2000; general secretary of the European Economic Association, 1998-2004.

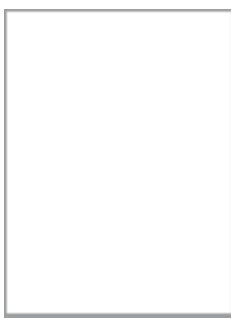


SÉBASTIEN VAN BELLEGEM

Professor, Université catholique de Louvain (Institut de statistique).

Docteur en sciences statistiques, Université catholique de Louvain, 2003.

Statistics and econometrics (semi- and nonparametric statistics, microeconometrics, time series).



HYLKE VANDENBUSSCHE

Professor, Université catholique de Louvain (Faculté des sciences économiques, Chaire Jacquemin, Département des sciences économiques).

Ph.D. in Economics, Universiteit Antwerpen.

Lecturer in Industrial Economics, Jugde Institute of Management of the University of Cambridge (United Kingdom), 1994-1996;

Bevoegd verklaard navorsers, Nationaal Fonds voor Wetenschappelijk Onderzoek, 1996-1999; professor in Applied Economics, Katholieke Universiteit Leuven, 1999-2005; visiting professor, Dartmouth College (USA), 2000-2001 and 2003-2004.

Trade and trade policy, tax policy.

Vereniging voor Economie Vlaanderen (VEV-Award), 1999; panel member of economic policy; scientific committee Midwest International Trade meetings, US and European Trade Study Group.

VINCENT VANNETELBOSCH

Chercheur qualifié, Fonds National de la Recherche Scientifique (FNRS) and associate professor, Université catholique de Louvain (Faculté des sciences économiques, Département des sciences économiques).

Docteur en sciences économiques, Université catholique de Louvain, 1996.

Extramural Fellow of METEOR, Universiteit Maastricht, 2003-to date; associate fellow of CEREC, Facultés Universitaires Saint-Louis, Bruxelles, 2005-to date; director of the European Doctoral Program in Quantitative Economics, 2004-to date.

Game theory and industrial organization.

XAVIER WAUTHY

Professor, Facultés Universitaires Saint-Louis, Bruxelles; visiting professor, Université catholique de Louvain.

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

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

Industrial organization, microeconomic theory.

Member of the editorial board, *Louvain Economic Review*.

LAURENCE WOLSEY

Professor, Université catholique de Louvain (Faculté des sciences appliquées, Département d'ingénierie mathématique).

Ph.D. (mathematics), Massachusetts Institute of Technology, 1969.

Visiting researcher, Manchester Business School, 1969-1971; London School of Economics, 1978-1979; Cornell University, 1983; visiting professor, Ecole polytechnique de Lausanne, 1986-1987; Donders professor, Department of Computer Science, University of Utrecht, Spring 1998.



Operational research and applied mathematics.

■ ADMINISTRATIVE STAFF

Laurent Buset ■ Mady DE DECKER ■ Micheline DELIZE ■ Emeline DUBOIS ■ Catherine GERMAIN ■ Laurence GILET ■ Alain GILLIS ■ Fabienne HENRY ■ Geneviève LECLERCQ ■ Guy LOUIS ■ Sylvie MAUROY ■ Sheila WEYERS

■ DOCTORAL STUDENTS

Oscar AMERIGHI ■ Efthymios ATHANASIOU ■ Carlotta BALESTRA ■ Nada BELHADJ ■ Filippo CALCIANO ■ Jean-François CAULIER ■ Robert CHARES ■ Philipp CHRISTOPHEL ■ Giuseppe DE FEO ■ Federico DE STEFANO ■ Marco DI SUMMA ■ Elina EGUIAZAROVA ■ Fernanda ESTEVAN ■ Nelly EXBRAYAT ■ Emmanuele FORLANI ■ François GÉRARD ■ Gilles GRANDJEAN ■ Jakub GROWIEC ■ Frédéric LAURIN ■ Valeria LEGGIERI ■ Johan LEPERS ■ Georgios LOLAS ■ Peter MALKIN ■ Daniela MARCHETTINI ■ Marco MARINUCCI ■ Jean-François MAYSTADT ■ Antonio MINNITI ■ Giorgia OGGIONI ■ Agustin PEREZ ■ Alain PHOLO BALA ■ EVE RAMAEKERS ■ Joël RAUCQ ■ Joana RESENDE ■ Diego SALZMAN ■ Maria Eugenia SANIN ■ Ingmar SCHUMACHER ■ Zakaria SIDDIQUI ■ Andrea SILVESTRINI ■ Alfonso VALDESOGLO ROBLES ■ Giacomo VALLETTA ■ Cecilia VERGARI ■ Leopoldo VILCAPOMA ■ Francesco VIOLANTE ■ François WARICHET ■ Skerdilajda ZANAJ ■ Ming ZHAO ■ Gregor ZOETTL

■ RESEARCH FELLOWS

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

Ayse AKBALIK coming from Institut National Polytechnique de Grenoble, France

Kristian BEHRENS coming from Université de Bourgogne, Dijon, France. He obtained a Marie Curie Fellowship.

Johanna GOERTZ coming from Ohio State University, USA

Lennart HOOGERHEIDE coming from Erasmus Universiteit Rotterdam, The Netherlands
 Markus JOCHMANN coming from Universität Konstanz, Germany
 Quentin LOUVEAUX coming from Universität Magdeburg, Germany. He obtained financial support from the Fonds National de la Recherche Scientifique (FNRS) as a chargé de recherche.
 Yann MÉNIÈRE coming from Ecole des Mines, Paris, France
 Giordano MION coming Università di Bologna, Italy. He obtained financial support from the Fonds National de la Recherche Scientifique (FNRS) as a chargé de recherche.
 Juan de Dios MORENO TERNERO coming from Universidad de Malaga, Spain
 Yu XIA coming from Institute of Statistical Mathematics, Tokyo, Japan

■ VISITING FACULTY MEMBERS

Visiting Faculty Members are professors coming from other departments of the university or other universities and who are invited to spend some time at CORE

Nihat AKTAS, IAG-Louvain School of Management, UCL, Belgium
 Geoffroy CARUSO, Département de Géographie, UCL, Belgium
 Eric DE BODT, IAG-Louvain School of Management, UCL, Belgium
 Filomena GARCIA, Universidade Técnica de Lisboa, Portugal
 Marc GERMAIN, Université de Lille III, France
 Steve LAWFORD, Electrabel, Brussels, Belgium
 Roland LUTTENS, Universiteit Gent, Belgium
 Young-Soo MYUNG, Dankook University, Cheonan, Chungnam, Korea
 Socorro PUY, Universidad de Malaga, Spain
 Isabelle THOMAS, Département de Géographie, UCL, Belgium
 Wouter VERGOTE, Facultés Universitaires Saint-Louis, Bruxelles, Belgium
 Zaki WAHHAJ, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium

■ ASSOCIATE FELLOWS

Associate Fellows are scholars who visit CORE on a regular basis (usually, once a week) and are assigned an office at CORE.

Gani ALDASHEV, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
 Jean-Marie BALAND, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
 Vincent BLONDEL, Département de mathématiques appliquées, UCL, Belgium
 Olivier BOCHET, Universiteit Maastricht, The Netherlands
 Bernard FORTZ, Université Libre de Bruxelles, Belgium
 Axel GAUTIER, Facultés Universitaires Saint-Louis, Bruxelles, Belgium
 Leonidas KOUTSOUGERAS, University of Manchester, United Kingdom
 Stéphane LAMBRECHT, Université des Sciences et Technologies, Lille, France
 Hervé LELEU, Université catholique de Lille, France
 Ana MAULEON, Facultés Universitaires Saint-Louis, Bruxelles, Belgium

Pierre PICARD, University of Manchester, United Kingdom
Erik SCHOKKAERT, Katholieke Universiteit Leuven, Belgium
Joe THARAKAN, Université de Liège, Belgium
Eric TOULEMONDE, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Dirk VANDEGAER, Universiteit Gent, Belgium
David VEREDAS, Université Libre de Bruxelles, Belgium

■ RESEARCH ASSOCIATES

Research Associates are scholars who visit CORE irregularly.

El Houssaine AGHEZZAF, Universiteit Gent, Belgium
Per AGRELL, IAG-Louvain School of Management, UCL, Belgium
Luisito BERTINELLI, Université de Luxembourg, Luxembourg
Bernard DEMEYER, Université de Paris I, France
André DE PALMA, Université de Cergy-Pontoise, France
Francesco DE SINOPOLI, Universidad Carlos III de Madrid, Spain
Andreas HEINEN, Universidad Carlos III de Madrid, Spain
Jean-Jacques HERINGS, Universiteit Maastricht, The Netherlands
Giovanna IANNANTUONI, Universidad Carlos III de Madrid, Spain
Pierre-André JOUVET, Université du Maine, Le Mans, France
Bernard LEJEUNE, Université de Liège, Belgium
Susana PERALTA, Universidade Nova de Lisboa, Portugal
Frank PLASTRIA, Vrije Universiteit Brussel, Belgium
Stef PROOST, Katholieke Universiteit Leuven, Belgium
Jeroen ROMBOUTS, HEC Montréal, Canada
Isabelle THOMAS, Département de géographie, UCL, Belgium

■ SHORT TERM VISITORS

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

Dennis AIGNER, University of California at Santa Barbara, CA, USA
Rabah AMIR, University of Arizona, Tucson, AZ, USA
Kent ANDERSEN, Københavns Universitet, Denmark
Carmen BEVIA, Universitat Autònoma de Barcelona, Spain
Jan BRINKHUIS, Erasmus Universiteit, Rotterdam, The Netherlands
Christopher CHAMBERS, California Institute of Technology, Pasadena, CA, USA
Parkash CHANDER, National University of Singapore
Pierre-André CHIAPPORI, Columbia University, IL, USA
Pierre-Philippe COMBES, GREQAM, Marseille, France
Michele CONFORTI, Università degli Studi di Padova, Italy
Luis CORCHON, Universidad Carlos III de Madrid, Spain

Jose CORREA, Universidad Adolfo Ibanez, Santiago, Chile
Ismaël DE FARIAS, University of Buffalo, New York, NY, USA
Avinash DIXIT, Princeton University, NJ, USA
Vania DOS SANTOS ELEUTERIO, Eidgenössische Technische Hochschule Zürich, Switzerland
Marc FLEURBAEY, Université René Descartes - Paris V, France
Fausto GALLI, Università della Svizzera Italiana, Lugano, Switzerland
Odd GODAL, Universitetet i Bergen, Norway
Christian GROTH, Københavns Universitet, Denmark
Gul GURKAN, Universiteit Tilburg, The Netherlands
Jonathan HAMILTON, University of Florida, Gainesville (FL), USA
Biung-ghi JU, University of Kansas, Lawrence (KS), USA
Sato KIMITOSHI, Rikkyo University, Tokyo, Japan
Wilfried KOCH, Université de Bourgogne, Dijon, France
Jacel KRAWCZYK, Victoria University of Wellington, New Zealand
Jean-François LASLIER, Ecole Polytechnique de Paris, France
Didier LAUSSEL, Université de la Méditerranée, Aix-Marseille, France
Pierre-Thomas LÉGER, HEC Montréal, Canada
Robert LEON GONZALEZ, University of Leicester, United Kingdom
Dmitry LEVANDO, Higher School of Economics, Moscow
Lubomir LIZAL, CERGE-EI, Praha, Czech Republic
Andrew MILLER, University of Wisconsin-Madison (WI), USA
Enrico MINELLI, Università degli Studi di Brescia, Italy
Massimo MORELLI, Ohio State University, Columbus (OH), USA
Yasusada MURATA, Nihon, Tokyo, Japan
Gabriella MURATORE, Università degli Studi di Catania, Italy
Fred MURPHY, Temple University, Philadelphia (PA), USA
Toshihiro OKUBO, University of Manchester, United Kingdom
Daisuke OYAMA, Hitotsubashi University, Japan
Ozge OZDEMIR, Universiteit Tilburg, The Netherlands
Luca PANACCIONE, Università La Sapienza, Roma, Italy
Jose Pedro PONTES, Universidade Técnica de Lisboa, Portugal
Sergey PEKARSKY, California Institute of Technology, Pasadena (CA), USA
Arie PREMINGER, University of Haifa, Israël
Peter RICHTARIK, Cornell University, Ithaca (NY), USA
John ROEMER, Yale University, New Haven (CT), USA
Ruslan SADYKOV, Ecole Polytechnique, Palaiseau, France
Erick RENGIFO, Fordham University, New York (NY), USA
Yasuhiro SATO, Nagoya University, Japan
Kinitoshi SATO, Rikkyo University, Japan
Alexei SAVATEEV, Moscow State University, Russia
James SCHUMMER, Northwestern University, Evanston (IL), USA
Giuseppe STORTI, Università di Salerno, Italy
Jens SUNDKUM, Universität Konstanz, Germany
Joao TEIXEIRA, Instituto Superior Tecnico, Lisboa, Portugal
Antonio TESORIERE, Università di Palermo, Italy

Jean TIROLE, Université des Sciences Sociales de Toulouse, France
Matthew TURNER, University of Toronto, Canada
Rossen VALKANOV, Rady School of Management, La Jolla (CA), USA
Vladimir VELIOV, Technische Universität Wien, Austria
Jean-Philippe VIAL, Université de Genève, Switzerland
Shlomo WEBER, Southern Methodist University, Dallas (TX), USA
Robert WEISMANTEL, Universität Magdeburg, Germany
Cees WITHAGEN, Universiteit Tilburg, The Netherlands

■ RESEARCH FELLOWS AND VISITING FACULTY MEMBERS FOR 2007-2008

The following scholars will be in residence for all or part of the 2007-2008 academic year

Per AGRELL, IAG-Louvain School of Management, UCL, Belgium
Philippe CHEVALIER, IAG-Louvain School of Management, UCL, Belgium
Julio DAVILA, Université Paris I, France
Marie-Laurence DE KEERSMAEKER, Département de géographie, UCL, Belgium
Santanu DEY, Ernst-Moritz-Arndt-Universität Greifswald, Germany
Claire DUJARDIN, Département de géographie, UCL, Belgium
Marie-Louise LEROUX, Université de Toulouse, France
Roderick MCCRORIE, University of St Andrews, Scotland
Eve RAMAEKERS, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Peter RICHTARIK, Cornell University, Ithaca (NY), USA
Shin-Huei WANG, University of Southern California, Los Angeles (CA), USA

■ OTHER ITEMS

PRIZES AND AWARDS

Louis EECKHOUDT, Christian GOLLIER and Harris SCHLESINGER won the Kulp-Wright Book Award delivered by the American Risk and Insurance Association for an outstanding original contribution to the literature of risk management and insurance in recognition of "Economic and Financial Decisions under Risk.

Lennart HOOGERHEIDE won the 2006 *Journal of Applied Econometrics* Scholars Programme for his paper "An Instrumental variables regression model for return on education: Angrist-Krueger reconsidered".

Yann MÉNIÈRE was awarded the "Prix de thèse ParisTech" for his thesis "Inside the patent thicket: patent based strategies and R&D efficiency when innovations are cumulative and complementary".

2

RESEARCH ACTIVITIES

- SURVEY OF RESEARCH TOPICS
- RESEARCH PROJECTS UNDER CONTRACTS

The first part of this section gives an overview of all contributions realized during the period covered by this report and published as CORE Discussion Papers. The second subsection discusses ongoing research projects at CORE that are sponsored by outside agencies in the form of grants and contracts.

■ SURVEY OF RESEARCH TOPICS

In the following pages, a brief account of the results published during the last academic year in the Discussion Paper Series is presented in a more concise form, grouping them by fields of interest. The complete list of Discussion Papers is given in section 3 of this report.

ECONOMETRICS

A series of papers are related to the GARCH model. Christian M. HAFNER and Arie PREMINGER (2006/71) investigate the asymptotic theory for a factor GARCH model. Sufficient conditions for strict stationarity, existence of certain moments, geometric ergodicity and β -mixing with exponential decay rates are established. These conditions allow for volatility spill-over and integrated GARCH. The strong consistency and asymptotic normality of the quasi-maximum likelihood estimator (QMLE) of the model parameters is also shown. The results are obtained under the finiteness of the fourth order moment of the innovations. The stability of nonlinear autoregressive models with conditionally heteroskedastic errors is investigated by Mika MEITZ and Pentti SAIKKONEN (2006/78). Their paper provides the conditions under which a nonlinear first-order generalized autoregressive conditional heteroskedasticity (GARCH(1,1)) model is stable in the sense that its Markov-chain representation is geometrically ergodic. This implies the existence of an initial distribution such that the process is strictly stationary and β -mixing. Conditions under which the stationary distribution has finite moments are also given. Their results cover several nonlinear specifications recently proposed for both the conditional mean and conditional variance. Luc BAUWENS and Giuseppe STORTI (2007/19) present a novel GARCH model that accounts for time varying, state dependent, persistence in the volatility dynamics. The proposed model generalizes the component GARCH model of Ding and Granger (1996). The volatility is modeled as a convex combination of unobserved GARCH components where the combination weights are time varying as a function of appropriately chosen state variables. In order to make inference on the model parameters, a Gibbs sampling algorithm is developed. Adopting a fully Bayesian approach allows to easily obtain medium and long term predictions of relevant risk measures such as value at risk and expected shortfall. An application to a series of daily returns on the S&P500 is also discussed in the paper. Finally, Luc BAUWENS, Arie PREMINGER and Jeroen V.K. ROMBOUTS (2007/55) develop a Markov-switching GARCH model (MS-GARCH) wherein the conditional mean and variance switch in time from one GARCH process to another. The switching is governed by a hidden Markov chain. Sufficient conditions for geometric ergodicity and existence of moments of the process are provided. Because of path dependence, maximum likelihood estimation is not feasible. By enlarging the parameter space to include the state variables, Bayesian estimation using a Gibbs sampling algorithm is feasible. The three authors illustrate the model on SP500 daily returns.

Laura CORONEO and David VEREDAS (2006/77) investigate intradaily seasonal patterns in the distribution of high frequency financial returns. Using quantile regression they show the

expansions and shrinks of the probability law through the day for three years of 15 minutes sampled stock returns. Returns are more dispersed and less concentrated around the median at the hours near the opening and closing. The paper provides intradaily value at risk assessments and shows how it adapts to changes of dispersion over the day.

In the chapter written for a forthcoming *Handbook of Financial Time Series* to be published by Springer-Verlag, Luc BAUWENS and Nikolaus HAUTSCH (2006/80) review the econometric literature on dynamic duration and intensity processes applied to high frequency financial data, which was boosted by the work of Engle and Russell (1997) on autoregressive duration models.

In (2007/53), Luc BAUWENS and Fausto GALLI start from the observation that the evaluation of the likelihood function of the stochastic conditional duration model requires to compute an integral that has the dimension of the sample size. Therefore, they apply the efficient importance sampling method for computing this integral. Comparing EIS-based ML estimation with QML estimation based on the Kalman filter, they find that EIS-ML estimation is more precise statistically, at a cost of an acceptable loss of quickness of computations. This comparison is illustrated with simulated and real data. They show also that the EIS-ML method is easy to apply to extensions of the SCD model.

Pierre GIOT and Mikael PETITJEAN provide three successive papers. First, (2006/88) assesses the predictability of stock returns in ten countries, taking into account recently developed out-of-sample statistical tests and risk-adjusted metrics. Predictive variables include both valuation ratios and interest rate variables. Out-of-sample predictive power is found to be greatest for the short-term and long-term interest rate variables. Given the importance of trading profitability in assessing market efficiency, they show that such statistical predictive power is economically meaningless across countries and investment horizons. All in all, no common pattern of stock return predictability emerges across countries, be it on statistical or economic grounds. In (2006/89), the same authors start from the observation that since the 1990's run up in stock prices and subsequent crashes, the financial community has taken a dim view of the traditional valuation ratios and has instead turned its attention to a new valuation ratio: the Bond-Equity Yield Ratio (BEYR). This paper provides the first comprehensive, both in-sample and out-of-sample, statistical assessment of the fundamental short-term reversion dynamics of the BEYR towards its long-term mean. Using cointegrated VAR models, the BEYR can depart from its long-term relationship for an extended period of time before the reversion process finally brings it back to equilibrium. The out-of-sample forecasting analysis, based on both equally and superior predictive ability tests, shows that the cointegrated VAR model does not perform better than a naive random walk. As such, this casts doubt on the ability of the BEYR to predict monthly stock return. The Bond-Equity Yield Ratio (BEYR) is also the focus of (2006/90). Pierre GIOT and Mikael PETITJEAN compare the short-term profitability of a naive strategy based on the extreme values of the BEYR to the short-term profitability of a more sophisticated strategy relying on regime switches. Although the latter seems to perform better than the former, there is no overwhelming international evidence that these dynamic strategies deliver significantly higher risk-adjusted returns than the buy-and-hold portfolios. In addition, the profitability of these active strategies does not appear to be significantly different when the equity yield, instead of the BEYR, is used as criterion to time the market.

Renaud BEAUPAIN, Pierre GIOT and Mikael PETITJEAN (2006/102) study liquidity co-movements between three different market capitalization indices, each made up of 100 NYSE stocks. Long-run liquidity co-movements are quantified in each class and compared to short-run liquidity co-

movements. To condition the analysis of systematic liquidity upon index volatility, three regimes of volatility are defined using the Markov-switching methodology. The results show that the magnitude of liquidity co-movements is on average positively related to the market capitalization of the index. There are significant differences between short-run and long-run liquidity co-movements, and between spread-based measures and depth-based measures. Finally, the volatility regime bears on the liquidity co-movements relationships.

The paper (2006/110) of Roberto PASCUAL and David VEREDAS evaluates the informational content of an open limit order book by studying its role in explaining long run volatility. The authors separate liquidity-driven (transitory) volatility from information-driven (long run) volatility using a dynamic state-space co-integration model for ask and bid quotes. Changes in immediacy costs are reported to precede posterior fluctuations in long run volatility even after controlling for the incoming order flow. The book is less informative for large-caps than for small-caps. Consistently with previous studies, the book beyond the best quotes adds explanatory power to the best quotes. Finally, the explanatory power of the book decreases with the time resolution of the analysis.

Taoufik BOUEZMARNI and Jeroen V.K. ROMBOUTS write four papers together. The first paper (2006/85) proposes a solution to the substantial problems the Gaussian kernel density estimator has for bounded random variables with high density at the boundaries : the gamma kernel estimator as density estimator for positive data from a stationary α -mixing process. The authors derive the mean integrated squared error, almost sure convergence and asymptotic normality. In a Monte Carlo study, where data are generated from an autoregressive conditional duration model and a stochastic volatility model, the gamma kernel outperforms the local linear density estimator. An application to data from financial transaction durations, realized volatility and electricity price data is provided. In (2006/118), the same authors deal with the nonparametric estimation for a density and hazard rate function for right censored α -mixing survival time data using kernel smoothing techniques. Since survival times are positive with potentially a high concentration close to zero, one has to take into account the bias problems when the functions are estimated in the boundary region. In this paper, gamma kernel estimators of the density and the hazard rate function are proposed. The estimators use adaptive weights depending on the point in which the function is estimated, and they are robust to the boundary bias problem. For both estimators, the mean squared error properties, including the rate of convergence, the almost sure consistency and the asymptotic normality are investigated. The results of a simulation demonstrate the excellent performance of the proposed estimators. In the third paper (2007/54), the two authors propose a semiparametric approach to estimate density functions for positive multivariate data. The estimator combines gamma kernels or local linear kernels, also called boundary kernels, for the estimation of the marginal densities with semiparametric copulas to model the dependence. This semiparametric approach is robust both to the well known boundary bias problem and the curse of dimensionality problem. They derive the mean integrated squared error properties, including the rate of convergence, the uniform strong consistency and the asymptotic normality. A simulation study investigates the finite sample performance of the estimator. Univariate least squares cross validation, to choose the bandwidth for the estimation of the marginal densities, is found to work well and the proposed estimator performs very well also for data with unbounded support. Applications in the field of finance are provided. Finally, Taoufik BOUEZMARNI and Jeroen V.K. ROMBOUTS (2007/65) propose a new nonparametric estimator for the density function of multivariate bounded data. As frequently observed in practice, the variables may be partially bounded (e.g., nonnegative) or completely bounded

(e.g., in the unit interval). In addition, the variables may have a point mass. They reduce the conditions on the underlying density to a minimum by proposing a nonparametric approach. By using a gamma, a beta, or a local linear kernel (also called boundary kernels), in a product kernel, the suggested estimator becomes simple in implementation and robust to the well known boundary bias problem. The authors investigate the mean integrated squared error properties, including the rate of convergence, uniform strong consistency and asymptotic normality. Consistency of the least squares cross-validation method is established to select optimal bandwidth parameters. A detailed simulation study investigates the performance of the estimators. Applications using lottery and corporate finance data are provided.

According to Genaro SUCARRAT (2006/82), the reduction theory of David F. Hendry provides a comprehensive probabilistic framework for the analysis and classification of the reductions associated with empirical econometric models. However, it is unable to provide an analysis on the same underlying probability space of the first reduction – and hence the subsequent reductions – given a commonplace theory of social reality, namely the joint hypotheses that the course of history is indeterministic, that history does not repeat itself, and that the future depends on the past. As a solution, this essay proposes that the elements of the underlying outcome space in Hendry's theory are interpreted as indeterministic worlds made up of historically inherited particulars.

René GARCIA, Eric RENAULT and David VEREDAS (2006/112) deal with the estimation of the parameters of an α -stable distribution by the indirect inference method with the skewed- t distribution as an auxiliary model. The latter distribution appears as a good candidate for an auxiliary model since it has the same number of parameters as the α -stable distribution, with each parameter playing a similar role. To improve the properties of the estimator in finite sample, a variant of the method called Constrained Indirect Inference is used. In a Monte Carlo study, this method delivers estimators with good properties in finite sample. In particular they are much more efficient than two other prevalent methods based on the characteristic function and the empirical quantiles. An empirical application to hedge fund return is provided.

In (2007/18), Marco LOMBARDI and David VEREDAS present an indirect estimation approach for elliptical stable *distributions* which relies on the use of a multivariate t distribution as auxiliary model. This distribution is also elliptical and its parameters have a one-to-one relationship with those of the elliptical stable, therefore making the proposed indirect approach especially suitable. Standard asymptotic properties are also shown and the finite sample behavior of the estimators is analysed via a comprehensive Monte Carlo study. An application to 27 emerging markets stock indexes concludes the paper.

Nihat AKTAS, Eric DE BODT and Hervé VAN OPPENS (2007/14) wonder whether legal insider trading contributes to market efficiency. To that purpose, they analyze the information content of legal insider trading, based on a sample of 2,110 different companies subject to 59,244 aggregated daily insider trades over the period from January 1995 to the end of September 1999. The main findings are the followings. (i) Consistent with the previous literature, financial markets offer a mild response in terms of abnormal returns to insider trading activities. (ii) The univariate analysis of stock prices on insider net purchase and net sale days suggests insiders' market timing ability. (iii) Market liquidity seems to be weaker on insider net purchase days, indicating that net buyer insiders are on average market liquidity consumers. (iv) Market liquidity seems to be higher on insider net sale days, indicating that net seller insiders are on average market liquidity providers. (v) The analysis of the considered information proxy reveals

that insiders enhance market efficiency. Insider trading clearly permits faster price discovery on insider trading days.

Following a declining trend in the cumulative abnormal return (CAR) of acquirers during an M&A program, one could wonder whether acquiring CEOs are infected by hubris and are not learning from previous mistakes. Although they confirm the existence of this declining trend on average, Nihat AKTAS, Eric DE BODT and Richard ROLL (2007/23) find a positive CAR trend for CEOs likely to be infected by hubris, which is significantly different from the negative trend found for CEOs who are more likely to be rational. The three authors also explore the time between successive deals and find empirical evidence to suggest that many CEOs learn substantially during acquisition programs.

Finally, Lennart F. HOOGERHEIDE, Herman K. VAN DIJK and Rutger D. VAN OEST (2007/15) discuss several aspects of simulation based Bayesian econometric inference. The most popular and well-known simulation techniques for evaluating integrals are discussed, the Metropolis-Hastings algorithm and Gibbs sampling (being the most popular Markov chain Monte Carlo methods) and importance sampling. After that, they discuss two recently developed sampling methods: adaptive radial based direction sampling [ARDS], which makes use of a transformation to radial coordinates, and neural network sampling, which makes use of a neural network approximation to the posterior distribution of interest. Both methods are especially useful in cases where the posterior distribution is not well-behaved, in the sense of having highly non-elliptical shapes. The simulation techniques are illustrated in several example models, such as a model for the real US GNP and models for binary data of a US recession indicator.

ECONOMIC GEOGRAPHY AND INTERNATIONAL ECONOMICS

Using a matched employer-employee database for Italy, Giordano MION and Paolo NATICCHIONI (2006/99) look at the spatial distribution of wages across provinces. This rich database allows them to contribute at opening the black box of agglomeration economies exploiting the micro dimension of the interaction among economic agents, both individuals and firms. Evidence shows that firm size and particularly skills are sorted across space, and explain a large portion of the spatial wage variation that could otherwise be attributed to aggregate proxies of agglomeration externalities. The data further support the assortative matching hypothesis, that is "good" workers match on the labor market with "good" firms, and further show that assortative matching is not driven by a co-location of workers and firms of similar quality. This assortative matching is also negatively related to local market size.

Kristian BEHRENS and Alain PHOLO BALA (2006/114) shed a new light on the urban primacy in sub-saharan Africa. The paper develops an economic geography model in which mobile skilled workers choose between working in the production sector or becoming part of an unproductive political elite. The elite sets tax rates on skilled and unskilled workers to maximize its own welfare by extracting rents, thereby influencing the spatial allocation of production and changing the available range of consumption goods. Such behavior is shown to increase the likelihood of agglomeration and of urban primacy. In equilibrium, the elite may tax the unskilled workers but will never tax the skilled workers, and there are rural-urban transfers towards the agglomeration. The size of the elite and the magnitude of the tax burden that falls on the unskilled is shown to decrease with product differentiation and, via the tax rates, with the expenditure share for manufacturing goods.

The paper written by Kristian BEHRENS, Jonathan H. HAMILTON, Gianmarco I.P. OTTAVIANO and Jacques-François THISSE (2007/34) develop a model of commodity tax competition with monopolistically competitive internationally mobile firms, transport costs, and asymmetric country sizes. They investigate the impacts of non-cooperative tax setting, as well as of tax harmonization and changes in the tax principle, in both the short and the long run. The origin principle, when compared to the destination principle, is shown to exacerbate tax competition and to erode tax revenues, yet leads to a more equal spatial distribution of economic activity. This suggests that federations which care about spatial inequality, like the European Union, face a non-trivial choice for their tax principle that goes beyond the standard considerations of tax revenue redistribution.

A theoretical model is also presented by Eric TOULEMONDE (2007/46) with two asymmetric countries. Firms choose the number and the location of plants that they operate. The production of each firm increases when trade costs fall. The fall also induces multinationals to repatriate their production into a single country, which is likely to be the large country because of the home market effect. The net effect on total output is favorable in the large country and ambiguous in the small country. Eric TOULEMONDE extends the model to endogenize country sizes and shows that in an equilibrium with multinationals only, a rent can be taxed by governments.

Kristian BEHRENS and Yasusada MURATA (2007/63) analyze the equilibrium and the optimal resource allocations in a monocentric city under monopolistic competition. Unlike the constant elasticity of substitution (CES) case, where the equilibrium markups are independent of the city size, a variable elasticity of substitution (VES) case is presented where the equilibrium markups fall with the city size. Due to excess entry triggered by such pro-competitive effects, the 'golden rule' of local public finance, i.e., the Henry George theorem (HGT), does not hold in the second best. The HGT is also shown to hold in the second best if and only if: (i) the second-best allocation is first-best efficient, which turns out to be equivalent to the CES case; or (ii) a marginal change in the city size has no impact on equilibrium product diversity at the second best.

Two other papers provide a very insightful combination of theoretical and empirical analysis. On the one hand, Kristian BEHRENS, Gianmarco I.P. OTTAVIANO and Giordano MION (2007/12) distill the main insights from recent trade models on firms' responses to globalization by assessing the economic impact and the welfare implications of the resulting reallocation of resources across firms and countries. In so doing, the authors bring theory into life through the numerical implementation of a theoretical framework calibrated on European data, which encompasses aspects of economic geography, firm heterogeneity, and firms' organizational choices. Such a paper provides a comprehensive background for empirical investigations and to stimulate further theoretical research. On the other hand, Gregory CORCOS, Massimo DEL GATTO, Giordano MION and Gianmarco I.P. OTTAVIANO (2007/60) answer two questions related to recent theoretical models, which predict gains from international trade coming from intra-industry reallocations, due to a firm selection effect. First, what is the magnitude of this selection effect, and how does it compare to that of intra-national trade? Second, would the removal of 'behind-the-border' trade frictions between integrated EU countries lead to large productivity gains? To answer these questions, the Melitz and Ottaviano (2007) model is extended and calibrated on productivity and trade data for European economies in 2000. Counterfactual trade liberalization scenarios are also simulated on a sample of 11 EU countries and a total of 31 economies, including 21 French regions. The first result is that, in the French

case, international trade has a sizeable impact on aggregate productivity, but smaller than that of intra-national trade. Second, substantial productivity gains (around 20%) can be expected from 'behind-the-border' integration. In both experiments, they predict the corresponding variations in average prices, markups, quantities and profits. The model is also shown to fit sales and exports data reasonably well, and to perform a number of robustness checks.

Jozef KONINGS and Hylke VANDENBUSSCHE (2007/64) analyze the relationship between Antidumping (AD) Protection and the productivity of EU domestic firms in import-competing industries. To that purpose, a difference-in-difference approach is applied on a panel of domestic firms between 1993 and 2003 that at some point during this period are affected by AD initiations. AD measures result in improvements of measured productivity for domestic firms. Total Factor Productivity (TFP) of protected firms increases by 2% in the short-run and by 5% to 13% in the long-run. However, there is substantial heterogeneity across firms. The effect of protection depends on the initial "distance-to-the-frontier firm" in the industry. While protection raises TFP of "laggard" domestic firms, it lowers TFP for "efficient" firms that operate close to the efficiency frontier. These results are consistent with recent theoretical work supporting the view that trade policy, under certain conditions, can induce technological catching-up.

Kristian BEHRENS, Cem ERTUR and Wilfried KOCH (2007/59) propose a quantity-based 'dual' version of the gravity equation that yields an estimating equation with both cross-sectional interdependence and spatially lagged error terms. Such an equation can be concisely estimated using spatial econometric techniques. The proposed methodology is applied to the Canada-U.S. data set used previously, among others, by Anderson and van Wincoop (2003) and Feenstra (2002, 2004). The key result is to show that controlling directly for spatial interdependence across trade flows, as suggested by theory, significantly reduces border effects because it captures 'multilateral resistance'. Using a spatial autoregressive moving average specification, border effects between the U.S. and Canada are smaller than in previous studies: about 8 for Canadian provinces and about 1.3 for U.S. states. Yet, heterogeneous coefficient estimations reveal that there is much variation across provinces and states.

Finally, Pierre M. PICARD and Tim WORRALL (2007/52) consider a simple stochastic model of international trade with three countries. Two of the three countries are in an economic union. Comparisons are made between equilibrium welfare for these two countries under fixed and flexible exchange rate regimes. Within the model it is shown that flexible exchange rate regimes generate greater welfare. However, comparing welfare when the two countries also engage in some international assistance in order to share risk, such risk-sharing is limited by enforcement constraints of cross border assistance. It is shown that taking into account limited commitment risk-sharing fixed exchange rates or currency areas can dominate flexible exchange rate regimes reversing the previous result.

INDUSTRIAL ORGANIZATION

Advertising is the subject of a series of papers. Jean J. GABSZEWICZ, Didier LAUSSEL and Nathalie SONNAC (2006/86) study access pricing by platforms providing internet services or pay-TV to users while they allow advertisers to have access to these users against payment via ads or banners. Users are assumed to be ad-haters. It is shown that equilibrium access prices in the users' market are increasing in the dimension of the advertising market: the larger the number of advertisers, the higher the access prices for both platforms. In (2006/87), the same authors

analyze the competition between two newspapers in a vertical differentiation model where the qualities of the journals are determined endogenously in the first stage of the game. They show that when the advertising revenues per reader increase, there is a critical value above which the quality of the low quality newspaper discontinuously falls while it becomes simultaneously a free newspaper. This is beneficial to the high quality journal and detrimental to the readers. Advertising in newspapers is also the subject of (2007/28) authored by Joana RESENDE. She analyzes the static interaction in prices between two newspapers that compete with each other in the circulation and in the advertising markets. She exploits the two-sided nature of the newspaper industry to analyze a demand-side effect that generates an endogenous mechanism of concentration in the press industry: "the circulation spiral" effect.

Starting from the observation that in the modeling of competition on networks, it is usually assumed that users either behave following the Wardrop equilibrium or the Nash equilibrium concept, Laura SCRIMALI (2007/7) presents a time-dependent network model with a mixed behaviour and shared by two types of users: group users (Nash players) and individual users (Wardrop players). A group user has a significant impact on the load of the network, whereas an individual user has a negligible impact. Both classes of users choose the paths to ship their jobs so as to minimize their costs, but they apply different optimization criteria. The source of interaction of users is represented by the travel demand, which is assumed to be elastic with respect to the equilibrium solution. Thus, the equilibrium distribution is proved to be equivalent to the solution of an appropriate time-dependent quasi-variational inequality problem. A result on the existence of solutions is discussed as well as a numerical example.

In (2007/4), Kaniska DAM, Axel GAUTIER and Minipushpak MITRA analyse a (differentiated good) industry where an incumbent firm owns a network good (essential input) and faces potential competition in the (downstream) retail market. Unlike the traditional approach, the paper considers a scenario where the decision to compete or not in the downstream segment is endogenous, and this decision depends on the particular mechanism designed by the utilitarian regulator. Assuming that the technology of the potential entrant is private information, the efficient (Ramsey) prices and access charge are derived taking the impact of a non-discriminatory mechanism on entry decision into account. It is asserted that the optimal pricing formula must include a Ramsey term that is inversely related to the "modified" superelasticity of the retail good under consideration. Under unknown cost, it is further shown that there might be "excess" or "too little" entry compared to the socially optimal level.

Paul BELLEFLAMME and Martin PEITZ (2006/94) analyze whether and how the fact that products are not sold on free, public platforms but on competing for-profit platforms affects sellers' investment incentives. Investments in cost reduction, quality, or marketing measures are here the joint and coordinated efforts by sellers. In general, for-profit intermediation is not neutral to such investment incentives. As for-profit intermediaries reduce the rents that are available in the market, one might suspect that sellers have weaker investment incentives with competing for-profit platforms. However, this is not necessarily the case. The reason is that investment incentives affect the size of the network effects and thus competition between intermediaries. In particular, it is shown that whether for-profit intermediation raises or lowers investment incentives depends on which side of the market singlehomes.

With Eric TOULEMONDE, Paul BELLEFLAMME (2007/39) also studies the interaction between two types of agents on a pre-existing free platform where agents value positively the presence of agents of the other type but may value negatively the presence of agents of their own type.

The two authors ask whether a new platform can find fees and subsidies so as to divert agents from the existing platform and make a profit. The paper shows that this might be impossible if intra-group negative externalities are sufficiently (but not too) strong with respect to positive inter-group externalities.

The interaction between pricing and capacity decisions on simple serial and parallel transport networks is the purpose of the paper written by Bruno DE BORGER, Fay DUNKERLEY and Stef PROOST (2006/113). When individual links of the network are operated by different regional or national authorities, toll and capacity competition is likely to result. Moreover, the problem is potentially complicated by the presence of both local and transit demand on each link of the network. The paper brings together and extends the recent literature on the topic and, using both theory and numerical simulation techniques, provides a careful comparison of toll and capacity interaction on serial and parallel network structures. First, there is more tax exporting in serial transport corridors than on competing parallel road networks. Second, the inability to toll transit has quite dramatic negative welfare effects on parallel networks. On the contrary, in serial transport corridors it may actually be undesirable to allow the tolling of transit at all. Third, if the links are exclusively used by transit transport, toll and capacity decisions are independent in serial networks. This does not generally hold in the presence of local transport. Moreover, it contrasts with a parallel setting where regional authorities compete for transit; in that case, regional investment in capacity leads to lower Nash equilibrium tolls.

Sarah PARLANE and Yann MÉNIÈRE (2006/116) explore how an inventor should license an innovation that opens new markets for the licensees. Using a model incorporating product differentiation and network externalities, fixed fee licenses are shown to be optimal either when there is little competition downstream or when it is desirable to restrict entry. By opposition, royalty based licenses allows for more downstream firms (thanks to higher prices) and lead to a revenue which is less sensitive to more product homogeneity. They are optimal when downstream entry is desirable, which occurs either because there are positive network externalities, or for some intermediate values of product differentiation.

In (2006/93), a free entry model with linear costs is considered by Antonio TÉSORIÈRE where firms first choose their entry time and then compete in the market according to the resulting timing decisions. Multiple equilibria arise allowing for infinitely many industry output configurations encompassing one limit-output dominant firm and the Cournot equilibrium with free entry as extreme cases. Sequential entry is never observed. Both Stackelberg and Cournot-like outcomes are sustainable as equilibria however. When the number of incumbents is given, entry is always prevented, and industry output is sometimes larger than the entry preventing level. In (2007/36), the same author examines a three-stage model of divisionalization where, first, two parent firms create independent units, second, the parent firms allocate cost reduction levels over these units, and third, the resulting units compete in a Cournot market given their current costs of production. The introduction of the cost reduction phase is shown to reduce the incentives toward divisionalization severely, relative to other existing models. Namely, the scope for divisionalization in equilibrium reduces as the marginal cost of the cost reducing investment decreases, and eventually vanishes. A second-best welfare analysis shows that, for any given market structure, the equilibrium investment decisions of the parent firms are socially optimal. In addition, no divisionalization outcome is sustainable in equilibrium only if it is socially optimal.

Jean J. GABSZEWICZ and Skerdilajda ZANAJ (2006/97) analyse successive markets where the intra-market linkage depends on the technology used to produce the final output. They

investigate entry of new firms, when entry obtains by expanding the economy, as well as collusive agreements between firms. The differentiated effects of entry corresponding to a constant or decreasing returns technology are highlighted. In particular, they show that, under decreasing returns, free entry in both markets does not entail the usual tendency for the input price to adjust to its marginal cost while it does under constant returns. Collusive agreements are also analysed by stressing the role of upstream linkage on the profitability of horizontal mergers à la Salant, Switzer and Reynolds.

The aim of the paper (2007/41) written by Caterina GIANNETTI is to test the predictions of Sutton's model of independent submarkets for the Italian retail banking industry. This industry, in fact, can be viewed as made of a large number of local markets corresponding to different geographical locations. In order to do that, a model of endogenous mergers determines the number of firms, depending on the initial number of firms, the intensity of competition, and the degree of product differentiation, and on how this in turn affects the one-firm concentration index. Then, the number of banks in each submarket is estimated using a truncated model and a Poisson model. The size of the submarkets turned out to be at most provincial. Finally, the one-firm concentration ratio of each province is regressed on the number of banks, also in interaction with market size variables. As argued by Sutton for industries with exogenous sunk costs, a stronger and negative relationship is found as the market becomes larger.

Luca PANACCIONE (2006/96) studies a pure exchange economy with idiosyncratic uncertainty, hidden action and multiple consumption goods. He considers two different market structures: contingent markets on the one hand, and financial and spot markets on the other hand, proposing a competitive equilibrium concept for each market structure. The equilibrium with contingent markets is shown to be efficient in an appropriate sense, while the equilibrium with financial and spot markets is inefficient, provided that assumptions on preferences more general than those usually considered in the literature hold.

In (2007/5), Kaniska DAM analyses a model of two-sided matching and incentive contracts where expert investors (venture capitalists) with different monitoring capacities are matched with firms with different levels of initial wealth. Firms do not have sufficient start-up capital to cover their project costs and hence, seek external financing. In equilibrium, the matching and the payoffs of the venture capitalists and the firms are determined simultaneously. More effective VCs and higher-wealth firms consume higher payoffs. The author also shows that, in equilibrium VCs with higher monitoring ability invest in firms with lower initial wealth following a negatively assortative matching pattern.

Comparing it with the traditional analysis of oligopolistic interaction in successive markets, Jean J. GABSZEWICZ, Didier LAUSSEL, Tanguy VAN YPERSELE and Skerdilajda ZANAJ (2007/10) introduce an approach relying on market games to examine how successive oligopolies do operate between downstream and upstream markets. The market outcomes resulting from the two approaches are analysed under different technological regimes, decreasing vs constant returns.

In (2006/115), Pierre DEHEZ shows that the cost sharing rule derived from the Shapley value is the unique sharing rule that allocates fixed costs uniformly.

As European countries move towards complete unbundling in electricity markets, Maria Eugenia SANIN (2006/100) discusses which market configuration would give the right incentives to promote efficiency and reduce final prices. To that purpose, she analyzes a

design in which prices are binding for more than one market period (like in the former British system or in the Australian system) and compares price equilibria and collusive incentives under proportional and efficient rationing. Based on the Le Coq (2002) and Crampes and Creti (2003) framework, the paper suggests that with stochastic demand, incentives for strategically withholding capacity are still present but incentives to agree on market share are mitigated by efficient rationing.

A market design is also presented by Thierry BRÉCHET and Pierre M. PICARD (2007/45) for the management of noise disturbance created by aircraft traffic around large airports. A market for tradable noise permits allows noise generators to compensate harmed residents. They show that the noise permit markets allow the achievement of the planner's optimal allocation of flights provided that she/he does not over-weight the benefit of economic activity compared to the disutility of noise disturbances. The fact that zones are likely to be strategic players does not fundamentally alter this finding. Because of the market auctioneer's information constraints, noise permits are likely to redistribute windfall gains to residents located in non-critical zones. This entices landlords to increase their land/house rents there and to design smaller houses in the long run.

In the presence of environmental externalities generated by productive activities, Thierry BRÉCHET and Henry TULKENS (2006/105) develop a comprehensive modeling tool to identify 'best' available techniques. Such a tool is based on methodologies appropriate to serve two purposes, namely linear programming and internalization of external costs. In this context, there is in general not a single best available technique (BAT), but well a best combination of available techniques to be used (BCAT). A fictitious but plausible numerical example in the lime industry is given. This numerical example allows the authors to stress that external cost internalization influences not only the choice of techniques, but also their appropriate use. Moreover, local environmental conditions play a major role in that choice and in determining that use.

Maria Eugenia SANIN and Skerdilajda ZANAJ (2007/50) address the incentives to invest in environmental innovation of enterprises that exercise market power in the output market and also buy and sell pollution permits. Differently from the existing literature, using a market approach they explicitly model the interaction between the output market, where firms play à la Cournot, and the permits market. In the new equilibrium, firms behave symmetrically, that is, they either both innovate to protect their market share in the output market or they both choose not to innovate. Whether the innovation equilibrium arises or not depends on the output demand and on the productivity enhancement and not on the distribution of permits among firms. Finally, under this market configuration, collusion is shown to be welfare enhancing.

Mathias DEWATRIPONT, Victor GINSBURGH, Patrick LEGROS and Alexis WALCKIERS (2007/22) analyze the empirical relationship between journal prices, their quality measured by their citation counts, their age, as well as conduct of publishers. The database covers 22 scientific fields and over 2600 among the most highly reputed and cited journals in 2003. They show that (a) for-profit journals charge roughly 3 times more than journals run by scientific societies; (b) the number of citations has a positive impact on prices; (c) there are large differences in prices across fields that vary from 1 and 6; these are highly (and positively) correlated with the degree of concentration in the industry.

MACROECONOMIC POLICIES

Raouf BOUCEKKINE, Carmen CAMACHO and Benteng ZOU (2006/72) study a Ramsey problem in infinite and continuous time and space. The problem is discounted both temporally and spatially. Capital flows to locations with higher marginal return. The problem amounts to optimal control of parabolic partial differential equations (PDEs). Relying on the existing related mathematical literature to derive the Pontryagin conditions and using explicit representations of the solutions to the PDEs, the authors first show that the resulting dynamic system gives rise to an ill-posed problem in the sense of Hadamard (1923). The spatial Ramsey problem is then treated with linear utility. The obtained properties are significantly different from those of the non-spatial linear Ramsey model due to the spatial dynamics induced by capital mobility.

By the means of an endogeneous-growth model, Kirill BORISSOV and Stéphane LAMBRECHT (2007/44) combine two strands of the literature on inequality and distribution issues: the classical approach, which insists on the division of society into classes characterized by different saving propensities, and the social conflict approach, which considers that inequality inflicts direct and indirect costs to economic development. Each consumer's subjective discount factor is assumed to be determined endogenously and to depend on economic inequality through the following two channels. On the one hand, it is positively related to the individual consumer's relative wealth. On the other hand, it is negatively affected by a simple aggregate measure of social conflict. The two authors show that, unlike models with exogenously given discount rates, steady state equilibria in our model is indeterminate and that the set of all equilibria is a continuum which can be parameterized by a simple index of income inequality. The growth rate is ambiguously related to the inequality index. However, under some reasonable assumptions, the growth rate dependence on this index has an inverted U-shaped form.

In two subsequent papers, Ingmar SCHUMACHER also proceeds to endogeneous discounting. In (2006/103), he endogenizes the discount rate via a broad measure of wealth and provides empirical evidence that wealth affects the discount rate negatively. Similar to Obstfeld (1990), the author demonstrates that the Pontryagin conditions require positive felicity for intuitive results, whereas the concavity of the Hamiltonian requires negative felicity for optimality. He also discusses the impact on technological change, savings and convergence which are more in line with empirics and the issue of time consistency of a planner who cannot predict his preferences. Ingmar SCHUMACHER (2006/104) seeks to give new answers to two questions related to the potential source of the twin-peaks of economic growth and the reason why some countries believed to belong to the group of low steady state countries, are able to reach a convergence path which led them to a high steady state. To that purpose, he endogenizes the time preference rate via a broad measure of wealth and provide empirical evidence that wealth affects the discount rate negatively. The paper also provides sufficient conditions for multiplicity of equilibria and demonstrates how endogenous discounting via wealth leads to the twin-peaks of economic growth. Improvements in technology are proved to be able to help avoid the Twin-Peaks.

Two papers are related to the well-known Lucas-Uzawa model. On the one hand, Jakub GROWIEC (2007/56) can revisit the assumptions of this growth model from an aggregation perspective, by showing how the cross-sectional Mincer equation does not hold at the macro level of countries. Aggregation of human capital has indeed to take into account its vintage structure: human capital is embodied in people of different generations whose lifespan is finite. Finiteness of people's lives imposes also a limit on the potential of human capital

accumulation to drive aggregate economic growth. Aggregate human capital accumulation may however become an engine of growth thanks to human capital externalities (knowledge spillovers). On the other hand, Raouf BOUCEKKINE, Blanca MARTINEZ and Jose R. RUIZ-TAMARIT (2007/25) use a new analytical approach to the Lucas-Uzawa model (Boucekkine and Ruiz Tamarit, 2007) to extend the existing results on the dynamics, and notably on the imbalance effects arising in the model. The approach does not only allow to extend the traditional analysis to any initial conditions and for all variables in level, but it also permits a more general investigation of imbalance effects.

Jakub GROWIEC and Ingmar SCHUMACHER (2007/57) derive an R&D-based semi-endogenous growth model where technological progress depends on the available amount of technological opportunity. Incremental innovations provide direct increases in the knowledge stock but they reduce technological opportunity and thus the potential for further improvements. Technological opportunity can be renewed only by radical innovations (which have no direct impact on factor productivity). Investigating the model for its implications on economic growth leads to two basic observations. One, in the long-run, a balanced growth path with a constant and semi-endogenous long-run economic growth rate exists only in a specific knife-edge case which implies that technological opportunity and knowledge grow at equal rates. Two, the transition need not be monotonic. Specifically, they show under which conditions our model generates endogenous business cycles via complex dynamics without uncertainty.

In a series of two papers, David DE LA CROIX and Axel GOSSERIES discuss a proposal of tradable procreation quotas. In the first paper (2006/81), the authors generalize the framework with both tradable procreation allowances and tradable procreation exemptions, in order to tackle both over- and under-population problems. The implications of procreation rights for income inequality and education are contrasted. They decompose the scheme's impact on redistribution into three effects, one of them, the tradability effect, entails the following: with procreation exemptions or expensive enough procreation allowances, redistribution benefits the poor. In contrast, cheap procreation allowances redistribute resources to the rich. As far as human capital is concerned, natalist policy worsens the average education level of the next generation, while population control enhances it. If procreation rights are granted to countries in proportion to existing fertility levels (grandfathering) instead of being allocated equally, population control can be made even more redistributive. In the second paper (2006/98), the authors generalize Boulding's 1964 idea and discuss a full scheme able to deal both with under and over procreation. Three effects of the scheme on income inequalities are more deeply analysed: differential productivity effect, differential fertility effect and tradability effect. Finally, they consider the migration dimension and discuss two possible schemes: (1) a domestic scheme of tradable emigration quotas among skilled people, serving as a possible alternative to a Baghwati tax (with different properties); (2) a regional or global scheme of tradable immigration quotas of unskilled workers in rich countries, serving as a "burden sharing" mechanism.

David DE LA CROIX and Clara DELAVALLADE (2006/101) start from the observation that corruption is thought to prevent poor countries from catching-up. The two authors analyze more specifically how public investment can be distorted in favor of specific types of spending for which rent-seeking is easier and better concealed. To that purpose, an optimal growth model is proposed where households vote for the composition of public spending subject to an incentive constraint reflecting individuals' choice between productive activity and rent-

seeking. At equilibrium, the intensity of corruption and the structure of public investment are determined by the predatory technology and the distribution of political power. Among different regimes, the model shows a possible scenario of distortion without corruption in which there is no effective corruption yet still the possibility of corruption distorts the allocation of public investment, thus hampering growth. The implications of the model is tested on a panel of countries estimating a system of equations with instrumental variables. They find that countries with a high predatory technology invest more in housing and physical capital in comparison with health and education. For equal initial conditions, such countries grow slower and have higher corruption, in particular when political power is concentrated.

In (2007/43), David DE LA CROIX, Frédéric DOCQUIER and Philippe LIÉGEOIS use a quantitative theoretical approach which consists in calibrating and simulating a general equilibrium model in order to forecast income growth over the period 2000-2050 in the US, Canada, and France. Compared to existing studies, they allow for life uncertainty and migrations, use generational accounting studies to link taxes and public expenditures to demographic changes, and take into account the interaction between education and work experience. Forecasts show that growth will be weaker over the period 2010-2040. The gap between the US and the two other countries is increasing over time. France will catch-up and overtake Canada in 2020. Alternative policy scenarios based on different effective retirement age and social security benefits are also investigated.

Raouf BOUCEKINE, David DE LA CROIX and Dominique PEETERS (2007/33) propose a model with some of the main demographic, economic and institutional factors usually considered to matter in the transition to modern growth. Applying their theory to England over the period 1530-1860, they measure the impact of mortality, population density and technological progress on school foundations, literacy and growth through a set of experiments. They find that one third of the rise in literacy over the period 1530-1860 can be directly related to the rise in population density, while one sixth is linked to higher longevity and one half to exogenous total factor productivity growth. Moreover, the timing of the effect of population density in the model is consistent with the available evidence for England, where it is shown that schools were established at a high rate over the period 1540-1620.

The economic and demographic impact of epidemics is the subject of (2007/37). Raouf BOUCEKINE and Jean-Pierre LAFFARGUE develop a tractable general theory to characterize the short and medium term consequences of epidemics for population size, age pyramid, economic performance and income distribution. The model describes a three-period overlapping generations where altruistic parents choose optimal health expenditures for their children and themselves. Allowing for unskilled and skilled agents, the model emphasizes the role of orphans. Three kinds of epidemics are identified depending on how the epidemic shock alters the marginal efficiency of health expenditures. Among their results, the authors prove that while the three epidemics have significantly different demographic implications in the medium run, they all imply a worsening in the short and medium run of economic performance and income distribution. In particular, the distributional implications of the model mainly rely on orphans: if orphans are more penalized in the access to a high level of education than in front of death, they will necessarily lead to the medium-term increase in the proportion of the unskilled, triggering the impoverishment of the economy at that time horizon.

Building a fair wage model in which effort varies over the business cycle, David DE LA CROIX, Gregory DE WALQUE and Rafael WOUTERS (2006/106) confront it empirically with a New

Keynesian model based on the standard assumption of monopolistic competition in the labor market. They show that, in terms of overall fit, the fair wage model outperforms the New Keynesian one. The extension of the fair wage model with lagged wage is judged insignificant by the data, but the extension based on a rent sharing argument including firm's productivity gains in the fair wage is not. Looking at the implications for monetary policy, the authors conclude that the additional trade-off problem created by the inefficient real wage behavior significantly affect nominal interest rates and inflation outcomes.

In two successive papers, Agustin PEREZ-BARAHONA analyses the relationship between the economic growth and the usage of non-renewable energy resources. In (2007/8), the author studies the possibilities of technical progress to deal with the growth limit problem imposed by the usage of non-renewable energy resources, when physical capital production is relatively more energy-intensive than consumption. In particular, this work presents the conditions under which energy-saving technologies can sustain long-run growth, although energy is produced by means of non-renewable energy resources. In (2007/9), the same author investigates the implications of assuming different technologies for physical capital accumulation and consumption. Assuming that physical capital accumulation is relatively more energy-intensive than consumption has important implications on economic growth, together with the possibility of technical progress (in particular, energy-saving technical progress). A full analytical characterization of both short and long-run dynamics using Gauss Hypergeometric functions is provided.

Finally, Raouf BOUCEKKINE and Marc GERMAIN (2007/11) deal with the issue of how to share the pollution abatement costs between entities (country, region or industry) and how the pollution permits should be distributed between the parties involved. This paper explores this issue in the framework of a dynamic endogenous growth 2 sectors – 2 regions – 2 inputs Heckscher-Ohlin model of a small open multi-regional economy with an international tradable permits market. Contrary to the case encountered with an "emission-based grand-fathering" sharing rule, capital accumulation is not necessarily more negatively affected by the environmental policy in the energy intensive sector under a "production-based grand-fathering" sharing rule. They also show that the impact on capital is likely to translate into the sectoral added value level after some time, specially if the economy is submitted to an increasingly constraining environmental policy driving up the ratio price of permits to price of energy. The impact of environmental policy at the regional level is also found to depend crucially on the specialization of the region along the baseline.

MICROECONOMIC THEORY

Biung-Ghi JU and Juan D. MORENO-TERNERO (2006/75) start from the observation that *Progressivity, inequality reduction and merging-proofness* are three well-known axioms in taxation. They investigate implications of each of the three axioms through characterizations of several families of taxation rules and their logical relations. They also study the preservation of these axioms under two operators on taxation rules, the so-called convexity operator and minimal-burden operator, which give intuitive procedures for determining tax schedules. In (2007/2), the same authors establish the precise connections between progressive taxation and inequality reduction, in a setting where the level of tax revenue to be raised is endogenously fixed and tax schemes are balanced. In contrast with the traditional literature on taxation, the equivalence between inequality reduction and the combination of *progressivity*

and *income order preservation* does not always hold in this setting. However, among rules satisfying *consistency* and, either *revenue continuity*, or *revenue monotonicity*, the equivalence is shown to remain intact.

Juan D. MORENO-TERNERO (2006/76) investigates how to extend bankruptcy rules to the general setting in which agents' claims may refer to different issues. He shows that the proportional rule is the only one whose extensions according to two natural procedures yield the same outcomes. With Carmen HERRERO, the same author proposes in (2007/29) an outcome measurement of newborn screening programs, aimed at early detecting congenital disease and based on the opportunity gains they offer. They show that, under plausible assumptions, the ranking of the available screening programs for a particular disease, according to this new outcome measurement, does not depend on the metric of opportunity. The model is also applied to the current debate about choosing between a selective or a universal newborn hearing screening program to detect congenital hearing impairment.

Juan D. MORENO-TERNERO and John E. ROEMER (2007/31) present a model of political competition, in a multi-dimensional policy space and with policy-oriented candidates, to analyze the problem of health care finance. In their model, health care is either financed publicly (by means of general taxation) or privately (by means of a copayment). The extent of these two components (as well as the overall tax schedule) is the outcome of the process of political competition. Their results highlight, from a political-economy perspective, the key role of technological change in explaining the widely observed phenomenon, in advanced democracies, of a rising share of total economic resources spent on health.

Starting from the observation that the Current Office of Management and Budget (OMB) guidelines use the interest rate as a basis for the discount rate, Jean-François MERTENS and Anna RUBINCHIK (2006/91) derive an intergenerationally fair discount rate by differentiating a social welfare function with respect to perturbations in individual endowments (which induce perturbations of equilibria) in an overlapping generations model with exogenous growth. A traditional utilitarian approach leads to too high values, while Relative Utilitarianism implies it equals the growth rate of real per-capita consumption, independent of the interest rate.

The adoption of gender quotas in party lists and in particular, the Parity Law passed in France in 2001 is the subject of (2006/83), written by Guillaume R. FRECHETTE, François MANIQUET and Massimo MORELLI. They rationalize parity on the basis of the self interest of male incumbent deputies: The existence of a voters' bias in favor of male candidates is sufficient to convince the incumbents to advocate for equal gender representation in party lists, because it *raises* the incumbents chances of being re-elected. The existence of male bias in the French electorate is confirmed empirically. They also show that parity law may have Assembly composition effects and policy effects that vary with the electoral system.

Johanna GOERTZ (2007/38) examines the behavior of subjects in common value auctions with both experienced and inexperienced bidders in the same market. Subjects know that they are competing against both experienced and inexperienced subjects and can observe bidding behavior of their opponents after an auction round. The existence and common knowledge of mixed experience levels in the same auction market affects the bidding behavior of inexperienced bidders, and gender plays an important role: Inexperienced males bid more aggressively in auction market with mixed bidders compared to markets with only inexperienced bidders, but inexperienced females bid less aggressively. The mixed markets only have an effect on inexperienced bidders. Experienced bidders (males and females) do not

react significantly different in mixed auction markets than in markets with only experienced bidders.

A social choice correspondence (SCC) is virtually implementable if it is ε -close (in the probability simplex) to some (exactly) implementable correspondence. Contrasting their results with the proof of Abreu and Sen (1991) in the case without restriction, Olivier BOCHET and François MANIQUET (2006/84) study virtual implementation when the supports of equilibrium lotteries are restricted. They provide a necessary and sufficient condition, imposing joint restrictions on SCCs and admissible supports. Then, they discuss how to construct supports. Finally, they study virtual implementation when the support is restricted to the efficient or individually rational alternatives.

The dynamic aspect of trade in multiple-type housing markets is the subject of the study undertaken by Olivier BOCHET, Bettina KLAUS and Markus WALZL (2007/61). Based on a dynamic recontracting process similar to the one introduced by Serrano and Volij (2005), they first analyze the set of recurrent classes of this process as a (non-empty) solution concept. Each core allocation is always showed to constitute a singleton recurrent class. For multiple-type housing markets stochastic stability *never* serves as a selection device among recurrent classes. Next, they propose a method to compute the limit invariant distribution of the dynamic recontracting process. The limit invariant distribution exploits the interplay of coalitional stability *and* accessibility that determines a probability distribution over final allocations. Various examples are provided to demonstrate how the limit invariant distribution discriminates among stochastically stable allocations: surprisingly, some core allocations are less likely to be final allocations of the dynamic process than cycles composed of non-core allocations.

Filippo CALCIANO (2007/16) introduces a class of games with complementarities that has the quasisupermodular games, hence the supermodular games, as a special case. His games retain the main property of quasisupermodular games: the Nash set is a nonempty complete lattice. The paper uses monotonicity properties on the best reply that are weaker than those in the literature, as well as pretty simple and linked with an intuitive idea of complementarity. The sufficient conditions on the payoffs are weaker than those in quasisupermodular games. Filippo CALCIANO also separates the conditions implying existence of a greatest and a least Nash equilibrium from those, stronger, implying that the Nash set is a complete lattice.

Using an updated version of the CWS model (introduced by Eyckmans and Tulkens in *Resource and Energy Economics* 2003), Thierry BRÉCHET, François GÉRARD and Henry TULKENS (2007/3) intend to evaluate with numbers the respective merits of two competing notions of coalition stability in the standard global public goods model as customarily applied to the climate change problem. After a reminder of the model structure and of the definition of the two game theoretical stability notions involved – namely, core stability and internal-external stability, the former property is shown to hold for the grand coalition in the CWS model only if resource transfers of a specific form between countries are introduced. It is further shown that while the latter property holds neither for the grand coalition nor for most large coalitions, it is nevertheless verified in a weak sense that involves transfers (dubbed "potential internal stability") for most small coalitions. The reason for this difference is brought to light, namely the differing rationale that inspires the transfers in either case. Finally, it is shown that the stable coalitions that perform best (in terms of carbon concentration and global welfare) always are composed of both industrialized and developing countries. Two sensitivity analyses confirm the robustness of all these results.

Jean-Jacques HERINGS, Ana MAULEON and Vincent VANNETELBOSCH (2006/92) propose a new concept, the pairwise farsightedly stable set, in order to predict which networks may be formed among farsighted players. A set of networks G is pairwise farsightedly stable (i) if all possible pairwise deviations from any network $g \in G$ to a network outside G are deterred by the threat of ending worse off or equally well off, (ii) if there exists a farsightedly improving path from any network outside the set leading to some network in the set, and (iii) if there is no proper subset of G satisfying (i) and (ii). The three authors show that a non-empty pairwise farsightedly stable set always exists and provide a full characterization of unique pairwise farsightedly stable sets of networks. Contrary to other pairwise concepts, pairwise farsighted stability yields a Pareto dominating network, if it exists, as the unique outcome. The relationship between pairwise farsighted stability and other concepts such as the largest consistent set is also investigated.

OPTIMIZATION METHODS

Yu. NESTEROV and Laura SCRIMALI (2006/107) develop a new and efficient method for solving variational inequalities with a Lipschitz continuous strongly monotone operator. Their analysis is based on a new strongly convex merit function. A variant of the developed scheme for solving quasivariational inequality is applied. As a result, the authors significantly improve the standard sufficient condition for existence and uniqueness of their solutions. Moreover, a new numerical scheme is obtained, whose rate of convergence is much higher than that of the straightforward gradient method.

Laura SCRIMALI (2006/108) also presents the time-dependent, multi-agent and multi-activity financial equilibrium problem when budget constraints are implicitly defined. Specifically, total wealth is assumed to be elastic with respect to the optimal investment. Such a problem is formulated as an infinite-dimensional quasi-variational inequality for which an existence result is given.

Michele CONFORTI, Marco DI SUMMA, Fritz EISENBRAND and Laurence A. WOLSEY (2006/117) consider mixed-integer sets of the type $MIX^{TU} = \{x : Ax \geq b; x_i \text{ integer}, i \in I\}$, where A is a totally unimodular matrix, b is an arbitrary vector and I is a nonempty subset of the column indices of A . The problem of checking nonemptiness of a set MIX^{TU} is NP-complete when A contains at most two nonzeros per column. This is in contrast to the case when A is TU and contains at most two nonzeros per row. In this case, the authors provide an extended formulation for the convex hull of MIX^{TU} whose constraint matrix is the dual of a network matrix, and with integer right hand side vector. The size of this formulation depends on the number $|F|$ of distinct fractional parts taken by the continuous variables in the extreme points of $\text{conv}(MIX^{TU})$. When this number is polynomial in the dimension of the matrix A , the formulation is of polynomial size and the optimization problem over MIX^{TU} lies in P . It is shown that there are instances for which $|F|$ is of exponential size, and conditions are found under which $|F|$ is of polynomial size. Finally these results for the set MIX^{TU} provide a unified framework leading to polynomial-size extended formulations for several generalizations of mixing sets and lot-sizing sets studied in the last few years.

Karen AARDAL and Laurence A. WOLSEY (2007/17) study different extended formulations for the set $X = \{x \in Z^n \mid Ax = Ax^0\}$ in order to tackle the feasibility problem for the set $X_+ = X \cap Z_+^n$. Here the goal is not to find an improved polyhedral relaxation of $\text{conv}(X_+)$, but rather to reformulate in such a way that the new variables introduced provide good branching

directions, and in certain circumstances permit one to deduce rapidly that the instance is infeasible. For the case that A has one row \mathbf{a} , they analyze the reformulations in more detail. In particular, they determine the integer width of the extended formulations in the direction of the last coordinate, and derive a lower bound on the Frobenius number of \mathbf{a} . The way a decomposition of the vector \mathbf{a} can be obtained is also suggested. The theoretical results are accompanied by a small computational study.

In (2007/6), Simge KÜÇÜKYAVUZ and Yves POCHET start from the observation that an explicit description of the convex hull of solutions to the uncapacitated lot-sizing problem with backloging, in its natural space of production, setup, inventory and backloging variables, has been an open question for many years. This paper identifies valid inequalities that subsume all previously known valid inequalities for this problem. These inequalities are enough to describe the convex hull of solutions. The authors give polynomial separation algorithms for some special cases and report a summary of computational experiments with such inequalities that illustrates their effectiveness.

Kent ANDERSEN and Yves POCHET (2007/24) suggest measuring the quality of a formulation when solving a mixed integer program by whether it is possible to strengthen the coefficients of the formulation. Sequentially strengthening coefficients can then be used as a tool for improving formulations. The authors propose using this method for analyzing and producing tight formulations of problems that arise in practice and illustrate the use of the approach on a problem in production scheduling. Coefficient strengthening is also proved to lead to formulations with a desirable property: if no coefficient can be strengthened, then no constraint can be replaced by an inequality that dominates it. The effect of coefficient strengthening is tested on a number of problems in a computational experiment. The strengthened formulations are compared to reformulations obtained by the preprocessor of a commercial software package. For several test problems, the formulations obtained by coefficient strengthening are substantially stronger than the formulations obtained by the preprocessor. In particular, coefficient strengthening is used to solve two difficult problems to optimality that have only recently been solved.

Based on the cyclic scheduling formulation of Schilling and Pantelides, Yves POCHET and François WARICHET (2007/26) propose a continuous time mixed integer linear programming (MILP) formulation for the cyclic scheduling of a mixed plant, i.e. a plant composed of batch and continuous tasks. The cycle duration is a variable of the model and the objective is to maximize productivity. By using strengthening techniques and the analysis of small polytopes related to the problem formulation, the authors strengthen the initial formulation by tightening some initial constraints and by adding valid inequalities. This strengthened formulation is able to solve moderate size problems quicker than the initial one. However, for real size cases, it remains difficult to obtain the optimal solution of the scheduling problem quickly. Therefore, the paper introduces MILP-based heuristic methods in order to solve these larger instances, and shows that they can provide quite good feasible solutions quickly.

Yves POCHET and Laurence WOLSEY (2007/48) consider the single item lot-sizing problem with capacities that are non-decreasing over time. When in addition the cost function is i) non-speculative or Wagner-Whitin (for instance, constant unit production costs and non-negative unit holding costs), and ii) the production set-up costs are non-increasing over time, it is known that the minimum cost lot-sizing problem is polynomially solvable using dynamic programming. When the capacities are non-decreasing and when the objective function satisfies i) and ii), the authors derive a compact mixed integer programming reformulation

whose linear programming relaxation solves the lot-sizing problem to optimality. The formulation is based on mixing set relaxations and reduces to the (known) convex hull of solutions when the capacities are constant over time. The use and effectiveness of this improved LP formulation is illustrated on a few test instances, including instances with and without Wagner-Whitin costs, and with both non-decreasing and arbitrary capacities over time.

In (2007/49), Ayse AKBALIK and Bernard PENZ study the integration of production, transportation and storage decisions in a multi plant-distribution center supply chain structure. Multiple plants produce one type of item, each of them with different production capacity and costs, and send finished goods to the distribution center (DC) using capacitated vehicles. Customer demand is known at DC level and has to be satisfied without backlogging. This problem contains classical capacitated lot sizing problem as a subpart, which, in the general case, is NP-hard. Ayse AKBALIK and Bernard PENZ propose an exact pseudo-polynomial dynamic programming algorithm and show that the problem is NP-hard in the ordinary sense. They then compare the computational time of this dynamic program to that of a mixed integer linear program (MILP) which is selected among 4 different MILP formulations based on its lower computational time.

Kent ANDERSEN, Quentin LOUVEAUX and Robert WEISMANTEL (2007/51) extend to systems that both have equations and inequalities $\{Ax = b, Cx \leq d\}$, a central result in the theory of integer optimization that states that a system of linear Diophantine equations $Ax = b$ has no integral solution if and only if there exists a vector in the dual lattice, $y^T A$ integral such that $y^T b$ is fractional. A certificate of integral infeasibility is shown to be a linear system with rank (C) variables containing no integral point.

PUBLIC AND POLITICAL ECONOMICS

Simone MORICONI and Yasuhiro SATO (2006/69) analyse the effect of consumption taxes on unemployment in presence of wage rigidity and compare non-cooperative tax setting under the destination and origin principle of commodity taxation. In a two-country economy, consumption taxes negatively affect domestic employment and cause an employment externality, which is negative under the destination and positive under the origin principle. Whereas the non-cooperative tax rate is inefficiently high under both principles, when the level of rigid wages is high, the origin principle is superior to the destination principle from the viewpoint of employment as well as social welfare.

In (2006/109), Jean HINDRIKS, Susana PERALTA and Shlomo WEBER consider a model of a federation with two heterogeneous regions that try to attract the capital by competing in capital income taxes and public investment that enhance the productivity of capital. With their framework, they can examine different approaches to fiscal equalization schemes. They show that tax competition distorts (downwards) public investments and that the equalization grants discourage public investments with a little effect on equilibrium taxes. However, the equalization schemes remain beneficial for the federation and for each region as well, provided that the degree of asymmetry is small.

Using a fiscal competition model à la Wildasin (1991), Jacques H. DRÈZE, Charles FIGUIÈRES and Jean HINDRIKS (2006/111) investigate the possibility to achieve by means of voluntary matching grants both the optimal allocation of factors and the optimal level of redistribution in the presence of factor mobility. First considering a simple process in which the regulatory authority progressively raises the matching grants to the district choosing the lowest transfer

and all districts respond optimally to the resulting change in transfers all around, the process increases total production and the level of redistribution. However it does not guarantee that all districts gain, nor that an efficient level of redistribution is attained. Assuming complete information among districts, they show that the aggregate willingness to pay for matching rates converges to zero when both the efficient level of redistribution and the efficient allocation of factors are achieved. The adjustment process is then described for the matching rates that will lead districts to the efficient outcome and guarantee that everyone will gain.

A series of three other papers also deal with taxation issues. In order to study the optimal non linear income tax of couples, Helmuth CRÉMER, Jean-Marie LOZACHMEUR and Pierre PESTIEAU (2007/13) build a general unitary model of labor supply, allowing multidimensional heterogeneity in a discrete type framework. Concentrating their analysis on the resulting intra-family labor allocation of labor supplies, this analysis is shown to be strongly related to the choice of the tax unit (individual versus joint taxation). Second, Pierre PESTIEAU and Maria RACIONERO (2007/35) examine the optimal non linear income and commodity tax when the same labor disutility can receive two alternative interpretations, taste for leisure and disability, but the disability is not readily observable. Comparing the optimal policy under welfarist and non-welfarist social objectives, they conclude that the non-welfarist objective, in which the planner gives a higher weight to the disutility of labour of the disabled individuals, is the only reasonable specification. Unlike the other specifications, it yields an optimal solution that may involve a lower labour supply requirement from disabled individuals. Finally, Pierre PESTIEAU and Emmanuel THIBAUT (2007/40) propose a simple OLG model which is consistent with the essential facts about consumer behavior, capital accumulation and wealth distribution, and yields some new and surprising conclusions about fiscal policy. Considering a society in which individuals are distinguished according to two characteristics, altruism and wealth preference, those who in the long run hold the bulk of private capital are not so much motivated by dynastic altruism as by preference for wealth. Two types of social segmentation can result with different wealth distribution. Their results seem to fit reality better than those obtained with standard optimal growth models in which dynastic altruism (or rate of impatience) is the only source of heterogeneity: overaccumulation can appear, public debt and unfunded pensions are not neutral, estate taxation can improve the welfare of the top wealthy.

The "Canada Dry" pensions system, which is an informal substitute for early retirement programs in some countries is the subject of (2006/70). Such system consists for firms in providing laid off aged workers with some extra compensation that is paid until formal retirement. In this paper, Helmuth CRÉMER, Jean-Marie LOZACHMEUR and Pierre PESTIEAU show that these practices may effectively be welfare improving. In other words, it may be desirable to tolerate (or even encourage) some "abusive" uses of unemployment. The ongoing process of rectangularization in the survival probability is the focus of (2007/32) authored by Louis ECKHOUDT and Pierre PESTIEAU. Such a process results from a higher concentration of the ages at death; but it can be reversed by a continuous increase in the limit of life time. Assuming these two factors to be endogenous, the two authors show that risk averse decision makers exhibit a bias towards rectangularization, depending upon the intensity of the "fear of ruin" which is another measure of the degree of absolute risk aversion. Finally, Kristof BOSMANS and Erik SCHOKKAERT (2007/30) exploit the results of a questionnaire among Belgian and German students to study the issue of so-called claims problems, in which an amount of money has to be divided among individuals with differing claims and the total amount available falls short of the sum of the claims. They conclude that the responses in the Pensions version were more egalitarian than in the Firm version. Contrary to other prominent rules, the proportional rule

performs very well in describing the choices of the respondents. A substantial part of the respondents tend to become more progressive as the amount to be distributed decreases other things equal, and tend to become more progressive as the inequality in the distribution of claims becomes more unequal other things equal.

Two papers relate social security and savings. On the one hand, the paper (2006/73) written by Pierre PESTIEAU and Uri POSSEN starts describing two rationales for social security. One of these is that people have to be forced to save. To explain undersaving, rational prodigality and hyperbolic preferences are often cited but treated separately. The two authors study those two particular behaviors that lead to forced saving within an optimal income tax second-best setting. On the other hand, Helmuth CREMER, Philippe DE DONDER, Dario MALDONADO and Pierre PESTIEAU study the determination through majority voting of a pension scheme when society consists of far-sighted and myopic individuals. In their setting, individuals will find themselves with low consumption after retirement and regret their insufficient savings decisions. Henceforth, when voting they tend to commit themselves into forced saving. Their main result is that a flat pension system is always chosen when all individuals are of one kind (all far-sighted or all myopic), while a less redistributive system may be chosen if society is composed of both myopic and far-sighted agents. Furthermore, while myopic individuals tend to prefer larger payroll taxes than their far-sighted counterparts, the generosity of the system does not always increase with the proportion of myopics.

Jacques DRÈZE, Michel LE BRETON, Alexei SAVVATEEV and Shlomo WEBER (2007/47) consider a population of citizens uniformly spread over the entire plane, that faces a problem of locating public facilities to be used by its members. The cost of every facility is financed by its users, who also face an idiosyncratic private access cost to the facility. They assume that the facilities' cost is independent of location and access costs are linear with respect to the Euclidean distance. They find that an external intervention that covers 0.19% of the facility cost is sufficient to guarantee secession-proofness or no cross-subsidization, where no group of individuals is charged more than its stand alone cost incurred if it had acted on its own. Moreover, they demonstrate that in this case the Rawlsian access pricing is the only secession-proof allocation.

Environmental issues have also attracted much attention in CORE Discussion Papers. Thierry BRÉCHET and Susana PERALTA (2007/27) start from the observation that international markets for tradable emission permits (TEP) co-exist and interact with national energy taxation. In the paper, they model that interaction in a framework of a perfectly competitive international TEP-market, where heterogeneous firms trade their TEP endowments. National governments set energy taxes non-cooperatively so as to maximize fiscal revenue from energy and profit taxes. They show how the driving forces behind Nash equilibrium taxes depend on the total amount of TEPs in the market, on firms' TEP-endowment and on the number of participating countries. Energy taxation also varies with the introduction of the market on a previously unregulated world while the TEP-market does not achieve abatement cost efficiency, despite its being perfectly competitive. In (2007/58), Parkash CHANDER and Subhashini MUTHUKRISHNAN analyze the effect of collective action vs green/environmentally aware consumers on ambient environmental quality and market equilibrium. Considering a model with two types of consumers who differ in their willingness-to-pay for a good available in two different environmental qualities, and two competing firms selling goods of different environmental quality, they show that collective action by green consumers reduces competition and leads to higher prices for the good of both qualities. Though it improves the ambient environmental

quality, it may reduce the welfare of both types of consumers. Finally, noticing that the Easter Island tragedy has become an allegory for ecological catastrophe and an illustration in the economics literature of irrational or myopic behaviors in the context of fragile ecosystem, David DE LA CROIX and Davide DOTTORI (2007/1) propose an alternative story involving non-cooperative bargaining between clans to share the crop. Each clan's bargaining power depends on its threat level when fighting a war. The biggest group has the highest probability of winning. A clan's fertility is determined *ex ante* by each group. In the quest for greater bargaining power, each clan's optimal size depends on that of the other clan, and a population race follows. This race may exhaust the natural resources and lead to the ultimate collapse of the society. In addition to well-known natural factors, the likelihood of a collapse turns out to be greater when the cost of war is low, the probability of succeeding in war is highly responsive to the number of fighters, and the marginal return to labor is not too low. They analyze whether these factors can account for the difference between Easter and Tikopia Islands. The paper also makes a methodological contribution in that it is the first fertility model to include strategic complementarities between groups' fertility decisions.

A series of papers deal with the issues encountered in the general context of diversity in multi-cultural societies. The paper (2006/95), written by Klaus DESMET, Michel LE BRETON, Ignacio ORTUNO-ORTIN and Shlomo WEBER presents a model of nation formation in which *culturally heterogeneous* agents vote on the optimal level of public spending. Larger nations benefit from increasing returns in the provision of public goods, but bear the costs of greater cultural heterogeneity. This tradeoff induces agents' preferences over different geographical configurations, thus determining the likelihood of secession and unification. The authors provide empirical support for choosing genetic distances as a proxy of cultural heterogeneity. By using data on genetic distances, they examine the stability of the current map of Europe and identify the regions prone to secession and the countries that are more likely to merge. The welfare gains from European Union membership are also examined. The policy of official multilingualism is the subject of (2007/20) authored by Jan FIDRMUC, Victor GINSBURGH and Shlomo WEBER, who address the merits of extensive multilingualism and formulate an analytical framework to determine the optimal number of official languages in the EU. Deriving first the sequence of optimal sets of languages minimizing aggregate linguistic disenfranchisement of the Union's citizens for any given number of languages, they discuss the political-economy framework and feasibility of a potential linguistic reform in the EU under various voting rules, including the Nice Treaty, the proposed European Constitution and the Penrose law. They argue that a six-language regime would be a reasonable intermediate choice: a lower number of official languages results in excessive linguistic disenfranchisement whereas adding further languages increases the costs but brings only modest benefits. They also show that even though a linguistic reform reducing the number of official languages to six is unlikely to gain sufficient support at the present, this may change in the future since young people tend to be more proficient at speaking foreign languages. Starting by the observation that most papers on returns to languages are concerned with immigrants, Victor GINSBURGH and Juan PRIETO-RODRIGUEZ (2007/12) assess the returns on non-native languages by non-immigrants in nine countries of the European Union. They differ from the few other studies that deal with the same problem in three respects. First, they correct for time-dependent measurement errors in self-reporting as suggested by Dustmann and Van Soest and find that the resulting IV estimates are much larger than those obtained by OLS. They also suggest that there is little room for time-persistent errors and heterogeneity, and that therefore their estimates should not suffer from the other usual biases. Secondly, instead of using a dummy

for each language, they use the ratio of the population that is not proficient in a language in each country considered. Instrumental variable quantile regressions are also estimated to illustrate how returns to languages vary at different points of the distribution of earnings. Finally, Victor GINSBURGH, Shlomo WEBER and Sheila WEYERS (2007/62) contrast their results with papers arguing that literary translation may lead to a form of cultural domination, in particular of English, on other languages. All these papers ignore that the population speaking English as a first language is, with the exception of Mandarin, the largest in the world. It is therefore not surprising that English produces more fiction (and much more scientific literature, as scientists from all countries write more and more in English) than any other language. They develop a theoretical model of translation, which is estimated on the basis of UNESCO translation data. They show that translations from English are dominated by translations from other languages, including Scandinavian ones and French.

Pierre PESTIEAU and Motohiro SATO (2006/74) consider a model where creating a charity implies a fixed cost and individual contributions depend on how close donors feel with respect to the charity. In that setting they show that there are an optimal number of charities and an optimal rate of subsidization that depend on the set-up cost and on the attachment of donors to charities that share the same values as theirs. The case of free-entry is also considered and compared with the second-best solution controlling for the number of charities.

Departing from the method used by *Times Higher Education Supplement* (THES), Henry TULKENS (2007/42) compares universities in terms of dominance and hence deduce various partial or complete rankings. From the resultant dominance ranking method, two listings are derived: (i) a front runners list consisting of 34 "non-dominated" universities, and (ii) a (new) ranking of the 200 universities surveyed by the THES, based on their respective 'active-passive dominance' scores.

▪ RESEARCH PROJECTS UNDER CONTRACTS

SUBGAME PERFECT IMPLEMENTATION USING BOUNDED MECHANISMS

A social choice rule is implementable if there exists a mechanism where the equilibrium alternatives always coincide with the recommendation of the rule at that particular profile of preferences. The topic of the project is the implementation using bounded mechanism. We aim at characterising the rules that can be implemented in subgame perfect equilibrium. François MANIQUET coordinates this project financed by the Fonds Spéciaux de Recherche (FSR) of the Université catholique de Louvain.

ECONOMETRIC MODELLING OF MULTIVARIATE FINANCIAL TIME SERIES

When developing multivariate time series models, a balance between sufficient flexibility and 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. We shall address these issues by a range of complementary approaches (non-linear models, latent factor models, finite mixture models, locally stationary models).

Rainer VON SACHS and Luc BAUWENS are coordinating this Fonds Spéciaux de Recherche (FSR) project. Leopoldo VALDESOGLO has been working in the scope of this project.

EUROPEAN LABORATORY IN QUANTITATIVE ECONOMICS AND THEORY OF CHOICE

The Laboratory in Quantitative Economics and Theory of Choice is an Associated European Laboratory of the French CNRS (Centre National de la Recherche Scientifique), the Belgian FNRS (Fonds National de la Recherche Scientifique) and the Spanish Consejo Superior de Investigaciones Científicas (CSIC), which proposes a research programme based on a collaboration between the GREQAM of EHESS and the Universités d'Aix-Marseille III and III, the GREC grouping economists from three centers in Barcelona (Institut d'Anàlisi Econòmica, Universitat Autònoma de Barcelona and CODE at Universitat Pompeu Fabra) and CORE. The present convention ends in December 2007. The principal fields of research are: strategic foundations of industrial organization, uncertainty, bounded rationality and learning, political economy; coalition formation and networks, the development of econometric methods for tests and estimation, growth and redistribution. Giuseppe DEFE0 has been working within the scope of this project.

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 issue of cooperation versus competition among firms. We focus the analysis on the industries producing "ideas" (i.e., R&D, information, networks, etc). The basic questions are 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, Paul BELLEFLAMME, Vincent VANNETELBOSCH and Xavier WAUTHY and financed by the Fonds National de la Recherche Scientifique (FNRS).

ECONOMIC ANALYSIS OF HETEROGENEITY IN SOCIAL ORGANIZATION

The co-existence under diversity has become one of the most important and challenging issues in multi-cultural societies. The diversity that could be rooted in cultural, religious, linguistic, economic, ideological or historical differences can provide an accelerator and spark to the enrichment and progress of our society. Recent research points out the strong linkage between the diversity of human capital and talents across major cities in the United States to the creativity and innovative technology-based industries located there. The positive impact of diversity of cultural and skill assets could be mitigated by the fact that diversity and polarization may pose a threat to the cohesiveness and preservation of existing political and economic structures. For example, the recent enlargement of the European Union created a powerful union of more than 450 million people and an economy of about nine trillion euros, which is close in size to that of the United States. On the other hand, the cultural, historical, religious, and geographical diversity within the bloc with twenty official languages is overwhelming. The economic disparities among the country members are striking. The gaps would widen even further when (or if) Bulgaria, Romania, Coratia, and possibly Turkey will join the Union. The crucial question is whether there exists a threshold on the degree of the intra-union heterogeneity that would preserve the sustainable cohesiveness of the Union and its ability to generate a consensus among its members.

Jean HINDRIKS, Pierre DEHEZ, Jacques THISSE, Vincent VANNETELBOSCH and Shlomo WEBER coordinate this Actions de Recherche Concertées (ARC) project financed by the Communauté Française. Frederico DE STEFANO and Juan MORENO TERNERO have been working within the scope of this project.

EQUILIBRIUM THEORY AND OPTIMIZATION FOR PUBLIC POLICY AND INDUSTRY REGULATION (CONTRACT IAP P5/21)

The Belgian Science Policy administration has renewed this important research contract for a new period of five years (2007-2011). CORE is the "Attraction Pole" and the promotor is Claude D'ASPREMONT.

The Belgian partners are ECON-IRES, Université catholique de Louvain (Promotor: David DE LA CROIX), Centrum voor Economische Studien, Katholieke Universiteit Leuven (Promotor: Erik SCHOKKAERT), Groupe d'Economie Quantitative et Optimisation, Facultés Universitaires Notre-Dame de la Paix, Namur (Promotor: Sébastien LAURENT), Fakulteit Economie en Bedrijfskunde, Universiteit Gent (Promotor: Dirk VAN DE GAER). The Foreign partners are Groupement de Recherche en Economie Quantitative d'Aix-Marseille, Université d'Aix-Marseille II and III (Promotor: Francis BLOCH), the London School of Economics (Promotor: Frank COWELL), Institut d'Economie Industrielle, Université des Sciences Sociales de Toulouse (Promotor: Jacques CRÉMER), and Universiteit Maastricht (Promotor: Franz PALM).

The objective of the project is to simultaneously develop analytical tools for economic equilibrium analysis and use these tools in the fields of public policy and regulation. The strategic and mechanism design approaches to equilibrium theory in economics, as well as the normative dimension of the analysis and the possible use of optimisation methods have to be developed. Various aspects of public decision, both at the micro and the macro level, and the regulation of both social and industrial organisations are examined. Econometric models should support the theoretical analysis.

In continuity with the previous *IAP* project, the general equilibrium perspective has been kept, but with further developments of game-theoretical features. This includes the integration of strategic behavior (incentive constraints and market power effects) in general equilibrium and in macro-dynamics, and its consequences from a policy point of view. The strategic role of R&D and innovation has been emphasized. The regulation of various markets from an incentive point of view (such as markets for labor, insurance, financial or cultural goods and services) has been considered.

In game theory, several developments have been obtained in repeated games with imperfect monitoring, as well as in cooperative games and coalition formation. A lot of effort has also been devoted to the construction of different dynamic general equilibrium models with various features (including technological progress and imperfect competition) and to related empirical studies. In optimization there has been considerable work on non-linear programming using interior-point or mixed interior/exterior-point methods, or other kinds of methods using some structural properties of the objective function, such as separability. Unconstrained convex minimization is also studied, and further work has been done to solve mixed integer programs.

From a policy perspective, optimal redistribution through taxation, and the redistributive effect of privatizing a free access resource has been examined and a political economy viewpoint

adopted. Various measures of welfare have been proposed and intergenerational equity considerations introduced in the study of social security and education. In economic geography and urban concentration, several empirical investigations in EU countries have been made and different welfare approaches to evaluate agglomeration vs. dispersion of economic activity have been explored.

On market and industry regulation, various models involving different sorts of networks (mainly transport and electricity transmission) have been constructed. On the labor market many issues have been examined, such as workers bargaining power, the impact of taxation on employment and income tax competition. Also, some work was done in economics of culture (including the ranking of economics departments in Europe and the study of language disenfranchisement) and on implementation of environmental policies. In econometrics, this year's contribution is mostly concentrated on financial econometrics, but there are some new developments in health insurance and health economics.

Timos ATHANASIOU, Gilles GRANDJEAN, Frédéric LAURIN and Cecilia VERGARI have been working in the scope of this project.

CLIMNEG PROJECT ON CLIMATE, COALITIONS AND TECHNOLOGY

The subject of this CLIMNEG project is the exploration of the potential for post-Kyoto climate regimes with respect to two key issues: (i) how stable coalitions of countries could emerge to significantly mitigate climate change; (ii) what could be the contribution of technological progress for a sustainable climate? How these two issues interplay are especially examined in the project.

This project is coordinated by CORE (promotor: Thierry BRÉCHET). The partners are CORE-UCL (coordinators: Thierry BRÉCHET and Raouf BOUCEKKINE), Economische Hogeschool Brussel (promotor: Johan EYCKMANS) and the Institut d'Astronomie et de Géophysique George Lemaître of Université catholique de Louvain (promotor: Jean-Pascal VAN YPERSELE). It is financed by The Belgian Science Policy.

PUBLIC GOODS, PUBLIC PROJECTS, EXTERNALITIES

Defining European policies in provision and financing public goods and services, environment defense is a core challenge for the building of a political Europe. Rather than a political answer, this program invites to advance the part of economic theory addressing these crucial questions. Topics include pure public goods and public projects, all kind of impure public goods, public goods as production inputs, externalities, environment. The outcome of the program will be the creation and development of an effective research network mixing theorists, specialists of political economy and of history of economic analysis and practitioners of public economics.

The participants to this program financed by the European Science Foundation are the University of Graz (promotor: Richard STURN), the Max Planck Institute for Research on Collective Goods, Bonn (promotor: Martin HELLWIG), the Bogazici University (promotor: Unal ZENGINOBUZ), CERMSEM, Université Paris I (promotor: Monique FLORENZANO) and CORE, Université catholique de Louvain (promotor: Jean HINDRIKS).

PUBLIC POLICY, MARKET ORGANIZATION AND TRANSITION ECONOMIES

This project is lead by a consortium which includes the Center for Operations Research and Econometrics (CORE), Université catholique de Louvain, project co-ordinator (coordinator: Jean HINDRIKS), the Central European University (CEU), Budapest (promotor: Istvan TEPLAN), the Center for Economic Research and Graduate Studies of Charles University (CERGE), Prague (promotor: Ivan WILHELM) and the Economics Institute, Academy of Sciences of the Czech Republic (EI), Prague (promotor: Lubomir LIZAL). The European Commission is financing this project for a period of four years (2006-2010).

The aim of this training project is to prepare students for careers in teaching, research or government services and to prepare researchers to participate actively in the analysis of the fundamental economic questions facing market regulation and transition economies.

Fernanda ESTEVAN and Zanaj SKERDILAJDA have been working within the scope of this project.

ALGORITHMIC DISCRETE OPTIMIZATION NETWORK

This project is a European Network devoted to doctoral and postdoctoral training and research in Algorithmic Discrete Optimization financed by the European Commission.

Participants are research groups from a variety of universities: Otto-van-Guericke Universität Magdeburg; CORE, Université Catholique de Louvain; Université Joseph Fourier Grenoble; Ecole Polytechnique Fédérale de Lausanne; Eotvos University Budapest, Faculdade de Ciencias da Universidade de Lisboa, Technische Universität Wien, Universität zu Köln, Universität Klagenfurt; and research centers: Stichting Centrum voor Wiskunde en Informatica Amsterdam; IASI (CNR) Rome; and Dash Associates, Leamington.

The main topics covered by the project include

- Linear and nonlinear integer programming, as well as links to semi-definite programming and convex optimization.
- New approaches to integer programming including primal approaches, and methods based on algebraic geometry, lattices and rational functions.
- Combinatorial optimization and polyhedral combinatorics
- Problems with uncertain data: robust solutions and treatment of uncertainty.

At CORE, Yurii NESTEROV and François GLINEUR have a particular interest in approaches based on convex optimization, and Yves POCHET and Laurence WOLSEY in both polyhedral and novel approaches to integer and mixed integer programming. Ayse AKBALIK worked on dynamic programming and mixed integer programming approaches to problems relating transportation and distribution, Philipp CHRISTOPHEL (Paderborn, Germany), Marco DI SUMMA (Padua, Italy) and Ming ZHAO (Buffalo, USA) have spent 3 or 4 months each at CORE as early stage researchers working on both theoretical and computational aspects of mixed integer programming. Valeria LEGGIERI (Lecce, Italy) spent a similar period working on network design.

ASYMMETRIES IN THE ECONOMIC GEOGRAPHY OF THE EUROPEAN UNION

This project financed by the European Commission focuses on topics that are of major interest to the European integration process. All issues deal with the potential impact of asymmetries on the geographical distribution of economic activities. Both the positive and normative aspects are investigated and models that allow for both a theoretical and applied analysis are developed.

Kristian BEHRENS has been working within the scope of this project.

OPTIMAL SCHEDULING AND ON LINE CONTROL OF HYBRID BATCH-CONTINUOUS PRODUCTION PROCESSES

The objective of this project is to develop methods for the scheduling and control of mixed production lines, composed of both batch production stages and continuous production stages. The aim is to study the specific coordination questions arising in scheduling (operations research part of the project) and controlling (automatic part of the project) such mixed lines. Then these methods are applied to real life chemical production lines in order to maximize the short term productivity, taking into account the limited availability of some shared resources, and to guarantee the stability of the proposed schedule through some feedback mechanism.

François WARICHET has been working within the framework of this project coordinated by Georges BASTIN, Denis DOCHAIN and Yves POCHE and financed by the Solvay Research Funds.

LINKING THEORY AND PRACTICE IN THE VEHICLE ROUTING OPTIMIZATION

By reexamining in depth the existing approaches to the Vehicle Routing Optimization, and recentering on their practicability, this research program can potentially, from an industrial viewpoint, lead to

- improvements in the quality of the results furnished to the industrial clients (both in computing time and solution quality)
- increase the number of cases in which software for vehicle routing optimization can provide adequate responses.

From a scientific viewpoint this program should lead to a better understanding of the problems fixed by companies dealing with delivery/collection of goods and extend its research to deal with real applications.

Joël RAUCQ has been working in the scope of this project coordinated by Yves POCHE and Laurence WOLSEY, and financed by Routing International.

ACI TECHNOLOGICAL PROGRESS AND SUSTAINABLE DEVELOPMENT

This project deals with the contribution of technological progress to sustainable development considered under its economic, environmental and social dimensions. The methodological approach is macrodynamics. The objective is to use and to develop the most recent

theoretical works in macrodynamics in the field of sustainable development and to foster international collaborations.

The network gathers French research centers: EUREQua (Université Paris I), CERMSEM, GREQAM (Université de la Méditerranée, Aix-Marseille), LAMETA (Université de Montpellier) and foreign research centers: CORE (UCL), ECON-IRES (UCL) and DEEP (University of Lausanne). This project is coordinated by Thierry BRÉCHET and financed by the Actions Concertées Incitatives (ACI) of the French Ministry of Education.

SPACE AND EXTENSION OF CITIES

The French Ministry delegated to research and new technologies initiated this Incitative Concerted Action (ACI) project. It deals with several aspects : migrations and mobility (in particular periurbanization of the households, spatial segregation), land use dynamics (in particular landscape amenities in the urban-rural fringe), globalization and location of firms (in particular polycentrism and migration of firms in relation to the interregional or international trade). The broad coverage of the ACI results from the integrating character of the project, which brings together theorists in economics (economic geography, urban economics, public economics) and geography (fractal geometry, self-organizing processes) and applied researchers in rural economics (periurban fringe, ruralization of firms, rural labor markets), in urban economics (segregation, spatial mismatch, local public economics), in regional economics (endogenous growth, transport) and urban geography (morphology of urban sprawl, morphogenesis, borders, mixed spaces, urban segregation). This regrouping takes place around the UMR CESAER of the INRA (Dijon) and CORE, with the participation of other researchers belonging to the Fédération Jourdan (INRA-LEA, CERAS, CEPREMAP) and to THEMA (CNRS, Besançon). The ACI offers a coherent framework and the related mean for developing more collaboration between research centers, disciplines and competences (as well as generations) to shed light on some of the major stakes of the contemporary urban space structure in France.

Kristian BEHRENS, Dominique PEETERS, Jacques-François THISSE and Isabelle THOMAS are involved in this project.

ANALYSIS OF STRATEGIC DECISIONS AND OF GROUP FORMATION IN DIFFERENT ECONOMIC SITUATIONS

The solution of many economic, social or political issues involves some cooperation among decision makers. A classical way to tackle these issues is to study the possibility for decision makers to form coalitions or networks. Which coalitions or networks are likely to be stable? Which coalitions or networks are efficient, i.e. maximizing the overall wealth? Using game theoretical tools, the project aims at deriving results that are general in the sense that they apply to a wide range of different environments: economics of innovation (joint ventures, R&D collaborations), economics of retailing and distribution (trade associations), and international economics (bilateral trade agreements, customs unions).

This project financed by the Spanish Ministerio de Educacion y Ciencia is coordinated by Ana MAULEON and Vincent VANNETELBOSCH.

3

PUBLICATIONS

- CORE REPRINTS
- OTHER PUBLISHED PAPERS
- ARTICLES IN NEWSPAPERS
- CORE DISCUSSION PAPERS
- OTHER DISCUSSION PAPERS AND MANUSCRIPTS
- BOOKS
- EDITORIAL ACTIVITIES

■ CORE REPRINTS

1869. Pierre PESTIEAU, Gwenaël PIASER and Motohiro SATO. PAGY pension systems with capital mobility. *International Tax and Public finance*, 13, 587-599, 2006.
1870. Kristian BEHRENS, Carl GAIGNE, Gianmarco I.P. OTTAVIANO and Jacques-François THISSE. How density economies in international transportation link the internal geography of trading partners. *Journal of Urban Economics*, 60, 248-263, 2006.
1871. Louis EECKHOUDT and Harris SCHLESINGER. Putting risk in its proper place. *American Economic Review*, 96(1), 280-289, 2006.
1872. Jean J. GABSZEWICZ, Didier LAUSSEL and Nathalie SONNAC. Competition in the media and advertising markets. *The Manchester School*, 74(1), 1-22, 2006.
1873. Jean J. GABSZEWICZ, Didier LAUSSEL and Nathalie SONNAC. Programming and advertising competition in the broadcasting industry. *Journal of Economics & Management Strategy*, 13(4), 657-669, 2004.
1874. Helmuth CREMER and Pierre PESTIEAU. Wealth transfer taxation: a survey of the theoretical literature. In S.-C. Kolm and J. Mercier Ythier (eds.), *Handbook of the Economics of Giving, Altruism and Reciprocity, volume 2*. Amsterdam, Elsevier, 1107-1134, 2006.
1875. Agustin PEREZ-BARAHONA and Benteng ZOU. Energy-saving technological progress in a vintage capital model. In C. de Miguel, X. Labandeira and B. Manzano (eds.), *Economic Modelling of Climate Change and Energy Policies*. Cheltenham, Edward Elgar, 166-179, 2006.
1876. Helmuth CREMER and Pierre PESTIEAU. Intergenerational transfer of human capital and optimal education policy. *Journal of Public Economic Theory*, 8(4), 529-545, 2006.
1877. Olivier TERCIEUX and Vincent VANNETELBOSCH. A characterization of stochastically stable networks. *International Journal of Game Theory*, 34, 35-369, 2006.
1878. Shin-Kin PENG, Jacques FRANÇOIS-THISSE and Ping WANG. Economic integration and agglomeration in a middle product economy. *Journal of Economic Theory*, 131, 1-25, 2006.
1879. André DE PALMA and Stef PROOST. Imperfect competition and congestion in the city. *Journal of Urban Economics*, 60, 185-209, 2006.
1880. André DE PALMA, Robin LINDSEY and Stef PROOST. Research challenges in modeling urban road pricing: an overview. *Transport Policy*, 13, 97-105, 2006.
1881. André DE PALMA, Robin LINDSEY and Esko NISKANEN. Policy insights from the urban road pricing case studies. *Transport Policy*, 13, 149-161, 2006.
1882. Stef PROOST and Ahksaya SEN. Urban transport pricing reform with two levels of government: a case of study of Brussels. *Transport Policy*, 13, 127-139, 2006.
1883. Stef PROOST, Saskia VAN DER LOO, André DE PALMA and Robin LINDSEY. A cost-benefit analysis of tunnel investment and tolling alternatives in Antwerp. *European Transport/Trasporti Europei*, 31, 83-100, 2005.

1884. André DE PALMA, Fay DUNKERLEY and Stef PROOST. Imperfect competition and congestion in a city with asymmetric subcentres. In A. Reggiani and P. Nijkamp (eds.), *Spatial Dynamics, Networks and Modelling*. Cheltenham, Edward Elgar, 421-444, 2006.
1885. Axel GAUTIER. Network financing with two-part and single tariffs. In R. Dewenter and J. Haucap (eds.), *Access Pricing: Theory and Practice*. Amsterdam, Elsevier, 65-89, 2007.
1886. Thierry BRÉCHET and Benoît LUSSIS. The contribution of the clean development mechanism to national climate policies. *Journal of Policy Modeling*, 28, 981-994, 2006.
1887. Carl GAIGNE et Jacques-François THISSE. Mondialisation, concurrence et métropoles. *Revue d'Economie Financière*, 86, 47-64, 2006.
1888. Simon P. ANDERSON and Jean J. GABSZEWICZ. The media and advertising: a tale of two-sided markets. In V. Ginsburgh and D. Thorsby (eds.), *Handbook of the Economics of Art and Culture*, 1. Amsterdam, North-Holland, 568-614, 2006.
1889. Jean J. GABSZEWICZ and Didier LAUSSEL. Increasing returns, entrepreneurship and imperfect competition. *Economic Theory*, 30, 1-19, 2007.
1890. David R. COLLIE and Hylke VANDENBUSSCHE. Tariffs and the Byrd amendment. *European Journal of Political Economy*, 22, 750-758, 2006.
1891. Hylke VANDENBUSSCHE, Karen CRABBE and Boudewijn JANSSEN. Is there regional tax competition? *De Economist*, 153, 257-276, 2005.
1892. Pierre M. PICARD and Eric TOULEMONDE. Firms agglomeration and unions. *European Economic Review*, 50, 669-694, 2006.
1893. Pierre M. PICARD and Dao-Zhi ZENG. Agricultural sector and industrial agglomeration. *Journal of Development Economics*, 77, 75-106, 2005.
1894. Mathieu LEFEBVRE and Pierre PESTIEAU. The generosity of the welfare state towards the elderly. *Empirica*, 33, 351-360, 2006.
1895. Juan D. MORENO-TERNERO. Composition, securement, and concede-and-divide. *Spanish Economic Review*, 8, 227-237, 2006.
1896. Juan D. MORENO-TERNERO and John E. ROEMER. Impartiality, priority, and solidarity in the theory of justice. *Econometrica*, 74(5), 1419-1427, 2006.
1897. Juan D. MORENO-TERNERO and Antonio VILLAR. The TAL-family or rules for bankruptcy problems. *Social Choice Welfare*, 27, 231-249, 2006.
1898. Juan D. MORENO-TERNERO. Proportionality and non-manipulability in bankruptcy problems. *International Game Theory Review*, 8(1), 127-139, 2006.
1899. Juan D. MORENO-TERNERO and Antonio VILLAR. On the relative equitability of a family of taxation rules. *Journal of Public Economic Theory*, 8(2), 283-291, 2006.
1900. Louis EECKHOUDT, Béatrice REY and Harris SCHLESINGER. A good sign for multivariate risk taking. *Management Science*, 53(1), 117-124, 2007.
1901. Axel GAUTIER and Xavier WAUTHY. Teaching versus research: a multi-tasking approach to multi-department universities. *European Economic Review*, 51, 273-295, 2007.

1902. Thierry BRÉCHET. L'environnement dans tous ses états. *Regards Economiques*, 50, 26-31, 2007.
1903. Kaniska DAM and David PEREZ-CASTRILLO. The principal-agent matching market. *Frontiers of Theoretical Economics*, 2(1), 1-32, 2006.
1904. Kaniska DAM and David PEREZ-CASTRILLO. The principal-agent matching market. *Frontiers of Theoretical Economics*, 2(1), 1-32, 2006.
1905. Kristian BEHRENS, Carl GAIGNE, Gianmarco I.P. OTTAVIANO and Jacques-François THISSE. Is remoteness a locational disadvantage? *Journal of Economic Geography*, 6, 347-368, 2006.
1906. Luc BAUWENS, Christian M. HAFNER and Jeroen V.K. ROMBOUTS. Multivariate mixed normal conditional heteroskedasticity. *Computational Statistics & Data*, 51, 3551-3566, 2007.
1907. David R. COLLIE and Hylke VANDENBUSSCHE. Can import tariffs deter outward FDI? *Open Economies Review*, 16, 341-362, 2005.
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1910. Kristian BEHRENS and Yasuhiro SATO. 'Brain drain' without migration: capital market integration and capital-skill complementarities. *Economics Bulletin*, 18(1), 1-9, 2006.
1911. Raouf BOUCEKKINE, Dominique PEETERS and David de la CROIX. Early literacy achievements, population density and the transition to modern growth. *Journal of the European Economic Association*, 5(1), 183-226, 2007.
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1914. Axel GAUTIER. Dynamics of downstream entry in postal markets. In M. A. Crew and P. R. Kleindorfer (eds.), *Liberalization of the Postal and Delivery Sector*. Cheltenham, UK, Edward Elgar, 73-90, 2006.
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1943. Paul BELLEFLAMME. Patents and incentives to innovate: some theoretical and empirical economic evidence. *Journal of the European Ethics Network*, 13(2), 267-288, 2006.
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- Byeong U. PARK, Robin C. SICKLES and Léopold SIMAR. Semiparametric efficient estimation in dynamic panel data models. *Journal of Econometrics*, 136(1), 281-301, 2007.
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- Léopold SIMAR and Valentin ZELENYUK. On testing equality of two distribution functions of efficiency score estimated via DEA. *Econometric Reviews*, 25(4), 497-522.
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Raouf BOUCEKKINE, David DE LA CROIX and Dominique PEETERS
- 2007/34 Commodity tax competition and industry location under the destination- and the origin-principle
Kristian BEHRENS, Jonathan H. HAMILTON, Gianmarco I.P. OTTAVIANO and Jacques-François THISSE
- 2007/35 Optimal redistribution with unobservable disability: welfarist versus non-welfarist social objectives
Pierre PESTIEAU and Maria RACIONERO
- 2007/36 Allocating cost reducing investments over competing divisions
Antonio TESORIERE
- 2007/37 A theory of dynamics and inequalities under epidemics
Raouf BOUCEKKINE and Jean-Pierre LAFFARGUE
- 2007/38 Learning differences in mixed common value auctions
Johanna M.M. GOERTZ
- 2007/39 Negative intra-group externalities in two-sided markets
Paul BELLEFLAMME and Eric TOULEMONDE
- 2007/40 The spenders-hoarders theory of capital accumulation, wealth distribution and fiscal policy
Pierre PESTIEAU and Emmanuel THIBAUT
- 2007/41 Intensity of competition and market structure in the Italian banking industry
Caterina GIANNETTI
- 2007/42 Ranking universities: how to take better account of diversity
Henry TULKENS
- 2007/43 Income growth in the 21st century: forecasts with an overlapping generations model
David DE LA CROIX, Frédéric DOCQUIER and Philippe LIÉGEOIS
- 2007/44 Growth and distribution in an AK-model with endogenous impatience
Kirill BORISSOV and Stéphane LAMBRECHT
- 2007/45 The price of silence: tradeable noise permits and airports
Thierry BRÉCHET and Pierre M. PICARD
- 2007/46 Home market effect versus multinationals
Eric TOULEMONDE
- 2007/47 "Almost" subsidy-free spatial pricing in a multi-dimensional setting
Jacques DRÈZE, Michel LE BRETON, Alexei SAVVATEEV and Shlomo WEBER
- 2007/48 Single item lot-sizing with non-decreasing capacities
Yves POCHE and Laurence WOLSEY
- 2007/49 Exact methods for the single-item multi-plant capacitated lot-sizing problem coupled with transportation
Ayse AKBALIK and Bernard PENZ
- 2007/50 Environmental innovation under Cournot competition
Maria Eugenia SANIN and Skerdilajda ZANAJ

- 2007/51 Integral Farkas type lemmas for systems with equalities and inequalities
Kent ANDERSEN, Quentin LOUVEAUX and Robert WEISMANTEL
- 2007/52 Currency areas and international assistance
Pierre M. PICARD and Tim WORRALL
- 2007/53 Efficient importance sampling for ML estimation of SCD models
Luc BAUWENS and Fausto GALLI
- 2007/54 Semiparametric multivariate density estimation for positive data using copulas
Taoufik BOUEZMARNI and Jeroen V.K. ROMBOUTS
- 2007/55 Theory and inference for a Markov switching GARCH model
Luc BAUWENS, Arie PREMINGER and Jeroen V.K. ROMBOUTS
- 2007/56 Human capital, aggregation, and growth
Jakub GROWIEC
- 2007/57 Technological opportunity, long-run growth, and convergence
Jakub GROWIEC and Ingmar SCHUMACHER
- 2007/58 Green consumerism and collective action
Parkash CHANDER and Subhashini MUTHUKRISHNAN
- 2007/59 'Dual' gravity: using spatial econometrics to control for multilateral resistance
Kristian BEHRENS, Cem ERTUR and Wilfried KOCH
- 2007/60 Productivity and firm selection: intra- vs international trade
Gregory CORCOS, Massimo DEL GATTO, Giordano MION and Gianmarco I.P. OTTAVIANO
- 2007/61 Dynamic recontracting processes with multiple indivisible goods
Olivier BOCHET, Bettina KLAUS and Markus WALZL
- 2007/62 Economics of literary translation. A simple theory and evidence
Victor GINSBURGH, Shlomo WEBER and Sheila WEYERS
- 2007/63 City size and the Henry George theorem under monopolistic competition
Kristian BEHRENS and Yasusada MURATA
- 2007/64 Antidumping protection and productivity of domestic firms: a firm-level analysis
Jozef KONINGS and Hylke VANDENBUSSCHE
- 2007/65 Nonparametric density estimation for multivariate bounded data
Taoufik BOUEZMARNI and Jeroen V.K. ROMBOUTS

■ OTHER DISCUSSION PAPERS AND MANUSCRIPTS

- Per AGRELL, Peter BOGETOFT, Rein HALBERSMA and Misja MIKKERS. Yardstick competition for multiproduct hospitals: an analysis of the proposed Dutch yardstick mechanism. Research Paper 2007/01. Dutch Healthcare Authority (NZa), Den Haag, The Netherlands.
- Ayse AKBALIK RAPINE and Yves POCHET. Valid inequalities for the single-item capacitated lot sizing problem with piece-wise linear costs. Mimeo, 2007.
- Nihat AKTAS, Eric DE BODT, Ilham RIACHI and J. de SMEDT. Legal insider trading and stock market reaction: Evidence from the Netherlands. Mimeo, 2007.

- Nihat AKTAS, Eric DE BODT and Richard ROLL. Learning, hubris and corporate serial acquisitions. UCLA Finance Working Paper 05-07, 2007.
- Gani ALDASHEV and Thierry VERDIER. NGO competition and markets for charitable giving. CEPR Discussion Paper No. 6350, 2007.
- Oscar AMERIGHI and Giuseppe DE FEO. Competition for FDI in the presence of a public firm and the effects of privatization. Mimeo, 2007.
- Oscar AMERIGHI and Susana PERALTA. Exports vs horizontal FDI with profit shifting. Mimeo, 2007.
- Emmanuelle AURIOL and Pierre PICARD. Infrastructure and public utilities privatization in developing countries and the government's budget constraint. World Bank Discussion Paper 3950, 2006.
- Carlotta BALESTRA. Environmental externalities and fiscal policy in an OLG model. Mimeo, 2007.
- Kristian BEHRENS, Carl GAGNÉ and Jacques-François THISSE. Is the regulation of the transport sector always detrimental to consumers? CIRJE Discussion Paper F-455, University of Tokyo, Japan, 2006.
- Kristian BEHRENS and Pierre PICARD. Tax competition, location, and horizontal foreign direct investment. Working Paper 2006-08, University of Kentucky, United Kingdom, 2006.
- Jérémie BIGOT and Sébastien VAN BELLEGEM. Log-density deconvolution by wavelet thresholding. Discussion Paper 0617, Institut de Statistique, Université catholique de Louvain, Belgium.
- Francis BLOCH and Axel GAUTIER. Efficient prices, delivery choice and productivity gains in a competitive postal market. Paper presented at the 15th Conference on Postal and Delivery Economics, Semmering, Austria, June 2007.
- Raouf BOUCEKKINE, Fernando DEL RIO and Blanca MARTINEZ. Technological progress, obsolescence and depreciation. Mimeo, 2007.
- Raouf BOUCEKKINE, Rodolphe DESBORDES and Hélène LATZER. How do epidemics induce behavior changes? Mimeo, 2007.
- Thierry BRÉCHET. Kyoto et ses labiles objectifs. ClimNeg Policy Brief #2, June 2006.
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- Jean CAVAILHES and Dominique PEETERS. Residential equilibria in a green urban area. Mimeo, 2007.

- Robert CHARES. Extension of a modeling language and development of a solving tool for conic convex optimization. Mimeo, 2007.
- Helmut CREMER, Jean-Marie LOZACHEMEUR and Pierre PESTIEAU. Collective annuities and redistribution. Mimeo, 2007.
- Gonzague D'ALCANTARA and Axel GAUTIER. National postal strategies after full postal market opening. Paper presented at the 15th Conference on Postal and Delivery Economics, Semmering, Austria, June 2007.
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- Jean HINDRIKS. Le palmarès de la gestion locale en Wallonie et en Flandre. Memo 4, Itinera Institute, Bruxelles, Belgium, 2006.
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- Ana MAULEON, Vincent VANNETELBOSCH and Wouter VERGOTE. Farsightedly stable matching. Mimeo, 2007.
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- Pierre PICARD and Takatoshi TABUCHI. Self-organized agglomerations and transport costs. Discussion Paper EDP-0712, University of Manchester, United Kingdom, 2007.
- Hylke VANDENBUSSCHE and Maurizio ZANARDI. Global chilling effects of antidumping proliferation. CEPR Discussion Paper n° 5597, London, United Kingdom and LICOS-Kuleuven Discussion Paper n° 167, Leuven, Belgium, 2006.
- Hylke VANDENBUSSCHE and Ziga ZARNIC. Did US safeguard protection on steel affect market power of EU steel producers? LICOS-KULeuven Working Paper n° 176, Leuven, Belgium, 2006.
- Leopoldo VILCAPOMA. Banzhaf index power with large and small voters. Mimeo, 2007.
- Leopoldo VILCAPOMA. The implementation of values. Mimeo, 2007.
- Yu XIA. Complexity of the primal-dual path-following. Algorithms for the weighted determinant maximization problems with linear matrix inequalities in the narrow neighborhood. Submitted to *Optimization Methods and Software*, 2006.
- Yu XIA. A global optimization method for semi-supervised clustering. Data mining and knowledge discovery. Mimeo, 2006.
- Yu XIA. Newton's method for the ellipsoidal l - p norm facility location problems. Mimeo, 2006.
- Skerdilajda ZANAJ. A note on the price effects of vertical integration. Mimeo, 2007.

▪ BOOKS

- Micael CASTANHEIRA et Jean HINDRIKS (eds). *Réalités et illusions: réformer sans tabou*. Louvain-la-Neuve, De Boeck, 2006.
- Cinzia DARAIO and Léopold SIMAR. *Advanced Robust and Nonparametrics Methods in Efficiency Analysis: Methodology and Applications*. New York, Springer Verlag, 2007.
- Pierre-Philippe COMBES, Thierry MAYER et Jacques-François THISSE. *Economie géographique. L'intégration des nations et des régions*. Paris, Economica, 2006.
- Victor GINSBURGH and David THROSBY (eds.). *Handbook of the Economics of Art and Culture*. Amsterdam, North-Holland, 2006.
- Wolfgang HÄRDLE and Léopold SIMAR. *Applied Multivariate Analysis. 2nd edition*. New York, Springer Verlag, 2006.
- Henry TULKENS. *Public Goods, Environmental Externalities and Fiscal Competition: Selected Papers on Competition, Efficiency and Cooperation in Public Economics*, edited by P. Chander, J. Drèze, C.K. Lovell and J. Mintz. New York, Springer Verlag, 2006.
- Pascal VAN HENTENRYCK and Laurence A. WOLSEY (eds.). *Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems*. Proceedings of CPAIOR 2007, Brussels, Springer Verlag, 2007.

▪ EDITORIAL ACTIVITIES

PER AGRELL

- member of the editorial board
International Journal of Production Economics

LUC BAUWENS

- associate editor
Computational Statistics
Journal of Financial Econometrics
Risk Letters
- member of the editorial board
Journal of Applied Econometrics
Empirical Economics

PAUL BELLEFLAMME

- associate editor
E-conomics, the Open-Acess, Open-Assessment E-Journal
Information Economics and Policy
- member of the editorial board
Regards Economiques

RAOUF BOUCEKKINE

- associate editor
Journal of Public Economic Theory
Investigaciones Economicas
Mathematical Social Sciences
- member of the advisory board
Mathematical Population Studies

THIERRY BRÉCHET

- member of the editorial board
Regards Economiques
- guest editor of *Reflets & Perspectives de la Vie Economique*, special issue on "Energy"

CLAUDE D'ASPREMONT

- associate editor
Journal of Mathematical Economics
Journal of Economics/Zeitschrift für Nationalökonomie
Journal of Public Economic Theory
Games and Economic Behavior
Revue de Philosophie Economique
Social Choice and Welfare

- invited editor
European Economic Review, special issues on Market Competition, Conflict and Collusion",
1982-1989

ERIC DE BODT

- member of the scientific committee
Banques et Marchés
European Financial Management Association
European Symposium on Artificial Neural Networks

DAVID DE LA CROIX

- associate editor
Journal of Economic Dynamics and Control
- member of the editorial board
Fiscal Studies
Recherches Economiques de Louvain
Clometrica

BERNARD FORTZ

- associate editor
INFORMS Journal of Computing

VICTOR GINSBURGH

- co-editor
Journal of Wine Economics
- associate editor
Journal of Cultural Economics
Recherches Economiques de Louvain

CHRISTIAN HAFNER

- associate editor
Computational Statistics
Eurasian Review of Econometrics

JEAN HINDRIKS

- associate editor
European Journal of Political Economy
Fiscal Studies
Reflets et Perspectives de la Vie Economique
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- Member of the editorial board
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- associate editor
Optimization and Engineering
Optimization Methods and Software

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- co-editor
Journal of Public Economics
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CESifo Economics Studies
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Finanz Archiv
Journal of Public Economic Theory
Public Finance

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- associate editor
Journal of Productivity Analysis
- member of the editorial board
International Journal of Statistics and Systems

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International Journal of Economic Theory
International Journal of Industrial Organization
Japanese Economic Review
Journal of Economics and Management Strategy
Journal of Economic Geography
Journal of Regional Science
Regional Science and Urban Economics

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Cybergeo (European Journal of Geography on the Internet)
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LAURENCE WOLSEY

- Associate editor
Mathematical Programming A

4

SEMINARS & WORKSHOPS

- ECONOMETRICS SEMINAR
- ECONOMIC THEORY SEMINAR
- MATHEMATICAL PROGRAMMING SEMINAR
- SEMINAIRE ECONOMIQUE DE LOUVAIN
- SPATIAL ECONOMICS SEMINAR
- ENVIRONMENTAL WORKSHOP
- IAP-UAP ECONOMIC THEORY SEMINAR
- ECORE, joint CORE-ECARES SEMINAR

The three regular weekly seminars in econometrics, economic theory and mathematical programming were held from September through June. CORE also continued its participation in the sponsorship of the Séminaire Economique de Louvain. Other seminars series were also organized within the framework of outside research contracts.

■ ECONOMETRICS SEMINAR

- September 22, 2006. Olivier SCAILLET, HEC, Université de Genève, Switzerland
Tikhonov regularization for functional minimum distance estimators
(Joint with Statistics Seminar)
- October 4, 2006. Eric DE BODT, CORE and IAG-Louvain School of Management, UCL
Hubris, learning and M&A decisions: empirical evidence
- October 11, 2006. Peter Reinhard HANSEN, Stanford University, Stanford (CA), USA
Model confidence sets for forecasting models
(This seminar, joint with ECARES, took place at ECARES)
- October 18, 2006. David VEREDAS, ECARES, Université Libre de Bruxelles, Belgium
Does the open limit order book matter in explaining long run volatility ?
- November 8, 2006. Hylke VANDENBUSSCHE, ECON-IRES and CORE, UCL
Global chilling effects of antidumping proliferation
- November 15, 2006. Fred Espen BENTH, Universitetet Oslo, Norway
Modelling electricity forward prices
(Joint CORE-Electrabel Seminar)
- November 16, 2006. Maarten GOOS, Katholieke Universiteit Leuven, Belgium
The impact of employment subsidies: non-experimental evidence using firm level data
(Joint with Séminaire Economique de Louvain)
- November 22, 2006. Markus JOCHMANN, CORE, UCL
Smoothly mixing regressions for quantile treatment effects
- November 29, 2006. Lennart HOOGERHEIDE, CORE, UCL
A closer look at the effect of education on income: Angrist-Krueger reconsidered
- December 4, 2006. Dennis AIGNER, University of California at Irvine (CA), USA and University of California at Santa Barbara (CA), USA.
The empirical relationship between corporate environment and financial performance
(Joint with Economic Theory Seminar and the Chair Lhoist Berghmans)
- December 8, 2006. Qiwei YAO, London School of Economics, United Kingdom
Modelling multiple time series via common factors
(Joint with Statistics Seminar)
- December 13, 2006. Jushan BAI, New York University (NY), USA
Instrumental variable estimation in a data rich environment
(Joint with Statistics Seminar)

- December 14, 2006. Allan TIMMERMANN, University of California at San Diego (CA), USA
How quickly is macroeconomic uncertainty resolved? Theory and empirical evidence from the term structure of forecast errors
(This seminar, joint with ECARES and KUL, took place at KUL)
- January 31, 2007. Theologos PANTELIDIS, National University of Ireland, Maynooth, Ireland
Forecasting volatility with a GARCH(1,1) model: some new analytical and Monte Carlo results
- January 31, 2007. Wilfried KOCH, Université de Bourgogne, France
The role of human capital and technological interdependence in growth and convergence processes: international evidence
(Joint with Econometrics Seminar)
- January 31, 2007. Mohamad KHALED, Université de Paris I, France
Forecasting volatility with a GARCH(1,1) model: some new analytical and Monte Carlo results
- February 14, 2007. Nihat AKTAS, CORE and IAG-Louvain School of Management, UCL
Evidence of the contribution of legal insider trading to market efficiency.
- February 21, 2007. Armin SCHWIENBACHER, Universiteit Amsterdam, The Netherlands and IAG-Louvain School of Management, UCL
Bank reputation in the private debt market
- February 28, 2007. Jeremy LARGE, University of Oxford, United Kingdom
Estimating quadratic variation when quoted prices change by a constant increment
- March 7, 2007. Giordano MION, CORE, UCL, Louvain-la-Neuve
Productivity and firm selection: intra-national vs. inter-national trade
- March 7, 2007. Angel LIAO, University of Wales, Bangor, United Kingdom
Do win-win outcomes exist ? A study of cross-border M&A transactions in emerging markets
- March 14, 2007. Michael RAUBER, Universität Konstanz, Germany
Life cycle and cohort productivity in economic research: the continental European experience as exemplified by the case of Germany
(Joint with Economic Theory Seminar)
- March 19, 2007. Frank VERBOVEN, Katholieke Universiteit Leuven, Belgium
Participation and schooling in a public system of higher education
(Joint with Economic Theory Seminar)
- March 28, 2007. Catherine GUIRKINGER, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Credit constraints and productivity in Peruvian agriculture

- April 18, 2007. Jan C. VAN OURS, Universiteit Tilburg, The Netherlands
How to help unemployed find jobs quickly: experimental evidence from a mandatory activation program.
(Joint with Séminaire Economique de Louvain)
- April 18, 2007. Hans DEGRYSE, CentER, Universiteit Tilburg, The Netherlands
The impact of organizational structure and lending technology on banking competition
- April 25, 2007. Marina BALBOA-RAMON, Universidad de Alicante, Spain
Does the value of recommendations depend on the level of optimism? A country-based analysis
- May 2, 2007. Rosanne VANPEE, Katholieke Universiteit Leuven, Belgium
Estimating the costs of international equity investments
- May 9, 2007. Geert RIDDER, University of Southern California, Los Angeles (CA), USA
Complementarity and aggregate implications of assortative matching: a nonparametric analysis
(This seminar, joint with ECARES and KUL, took place at ECARES)
- May 16, 2007. Roberto LEON-GONZALEZ, University of Leicester, United Kingdom
A robust Bayesian approach to learning from the past
- May 23, 2007. Slimane GRINE, Electrabel, Belgium
Multi-layer model for correlated energy prices
(Joint CORE-Electrabel Seminar)
- June 1, 2007. Jan DE LOECKER, New York University, New York (NY), USA
Product differentiation, multi-product firms and estimating the impact of trade liberalization on productivity
(Joint with Séminaire Economique de Louvain)

▪ ECONOMIC THEORY SEMINAR

- September 25, 2006. Regis RENAULT, Université de Cergy-Pontoise, Paris, France
Comparative advertising
- October 2, 2006. Simon GAECHTER, University of Nottingham, United Kingdom
Performance incentives and the dynamics of voluntary cooperation
- October 16, 2006. Johanna M.M. GOERTZ, CORE, UCL, Belgium
Sequential demands in multi-issue legislative bargaining
- October 23, 2006. Axel GAUTIER, CORE and Université de Liège, Belgium
Competition in the postal sector
- November 3, 2006. John LONDREGAN, Princeton University, Princeton (NJ), USA
Voting as a credible threat

- November 13, 2006. Giovanni FACCHINI, Università degli Studi di Milano, Italy and University of Illinois at Urbana-Champaign (IL), USA
Individual attitudes towards immigrants: welfare-state determinants across countries
- November 20, 2006. Jean-François LASLIER, Ecole Polytechnique, Paris, France
Strategic approval voting in a large electorate
- December 4, 2006. Dennis AIGNER, University of California at Irvine (CA) and University of California at Santa Barbara (CA), USA
The empirical relationship between corporate environment and financial performance
(Joint with Econometrics Seminar and the Chair Lhoist Berghmans)
- December 11, 2006. Skerdilajda ZANAJ, CORE, UCL, Belgium
Competition in successive markets: entry and mergers
- December 18, 2006. Philippe DE DONDER, GREMAQ and Institut d'Economie Industrielle, Toulouse, France
Voting over type and generosity of a pension system when some individuals are myopic
- January 22, 2007. Massimo MORELLI, The Ohio State University, Columbus (OH), USA
Guns, butter and arms races
(Rovesti Seminar)
- January 31, 2007. Wilfried KOCH, Université de Bourgogne, France
The role of human capital and technological interdependence in growth and convergence processes: international evidence
(Joint with Econometrics Seminar)
- January 31, 2007. Wilfried KOCH, Université de Bourgogne, France
The role of human capital and technological interdependence in growth and convergence processes: international evidence
(Joint with Economic Theory Seminar)
- February 1, 2007. Andrzej CIESLIK, Uniwersytet Warszawski, Warszawa, Poland
Bilateral trade volumes, the gravity equation and factor proportions
(Joint with Séminaire Economique de Louvain)
- February 2, 2007. Partha DASGUPTA, University of Cambridge, United Kingdom
Sustainable development: theory and evidence
- February 19, 2007. Yann MÉNIÈRE, CORE, UCL
Damage rules when firms innovate in the shadow of patents
- March 12, 2007. James SCHUMMER, Northwestern University, Evanston (IL), USA
Credible deviations from signaling equilibria
- March 14, 2007. Michael RAUBER, Universität Konstanz, Germany
Life cycle and cohort productivity in economic research: the continental European experience as exemplified by the case of Germany.
(Joint with Econometrics Seminar)

- March 19, 2007. Frank VERBOVEN, Katholieke Universiteit Leuven, Belgium
Participation and schooling in a public system of higher education
(Joint with Econometrics Seminar)
- April 16, 2007. Pierpaolo BATTIGALLI, Università Bocconi, Italy
Dynamic psychological games
- April 30, 2007. Jean GABSZEWICZ, CORE, UCL
Newspapers' market shares and the theory of the circulation spiral
- May 7, 2007. David WETTSTEIN. Ben Gurion University of the Negev, Be'er Sheva, Israël
Implementing cooperative solution concepts: a generalized bidding approach
- May 21, 2007. Martin PEITZ, International University in Germany, Bruchsal, Germany
Umbrella branding and external certification
- June 11, 2007. Parkash CHANDER. National University of Singapore
Independence conditions for the adjudication of conflicting claims
- June 18, 2007. Odd GODAL. Universitetet I Bergen, Norway
Exchange markets: a critique of standard models

▪ MATHEMATICAL PROGRAMMING SEMINAR

- September 18, 2006. Jean-Philippe VIAL, Université de Genève, Switzerland and Operations Research Decisions and Systems (ORDECSYS), Chêne-Bougeries, Switzerland
Traffic equilibria with elastic demands
- September 26, 2006. Valeria LEGGIERI, CORE and Università degli Studi di Lecce, Italy
The minimum power multicasting problem in wireless networks
- October 3, 2006. Ming ZHAO, CORE and State University of New York (NY), USA
Polar sets for simple MIP polyhedra
- October 17, 2006. Pierre-Antoine ABSIL, INMA, UCL
Optimization on manifolds
- October 24, 2006. Ayse AKBALIK, CORE, UCL
Logistic optimization for supply chain management: extensions of the lot sizing problem
- October 31, 2006. Quentin LOUVEAUX, CORE, UCL
Cutting planes from two rows of a simplex tableau
- November 7, 2006. José GORDILLO, Universidad de Sevilla, Spain
A multi-instance classification method based on Euclidean distance
- November 21, 2006. Ismael Regis DE FARIAS JR., State University of New York at Buffalo (NY), USA
Branch-and-cut for cardinality constrained optimization

- December 5, 2006. Frank PLASTRIA, Vrije Universiteit Brussel, Belgium
Robust classification by hyperplane for unseparable groups in a normed space
- December 19, 2006. Andrew MILLER, University of Wisconsin-Madison (WI), USA
Polynomial time algorithms for stochastic lot-sizing models
- January 30, 2007. Christoph BUCCHEIM, Universität zu Köln, Germany
Extended models for nonlinear binary optimization problems
- February 6, 2007. Franz RENDL, Universität zu Klagenfurt, Germany
Semidefinite and copositive matrices in combinatorial optimization
- February 13, 2007. Marco DI SUMMA, Università di Padova, Italy
The mixing set with divisible capacities
- March 13, 2007. Christophe RAPINE, Institut National Polytechnique de Grenoble, France
Scheduling with operator non-availability periods
- March 20, 2007. Peter RICHTARIK, Cornell University, Ithaca (NY), USA
Ellipsoid algorithms for computing the intersection of a centrally symmetric body with a line
- March 29, 2007. Tjark VREDEVELD, Universiteit Maastricht, The Netherlands
A combined model for scheduling under uncertainty
- April 17, 2007. Moritz DIEHL, Katholieke Universiteit Leuven, Belgium
Fast parametric optimization for nonlinear model predictive control
- April 24, 2007. Michel BIERLAIRE, Ecole Polytechnique Fédérale de Lausanne, Switzerland
Discrete choice models and heuristics for global optimization
- April 26, 2007. Vania DOS SANTOS ELEUTERIO, Eidgenössische Technische Hochschule Zürich, Switzerland
How do subgradient and smoothing methods perform in practice?
- May 8, 2007. Edoardo AMALDI, Politecnico di Milano, Italy
On the nonlinear set covering problems arising in WLAN design
- May 22, 2007. Jose CORREA, Universidad Adolfo Ibanez de Santiago, Chile
Optimal targeting for a promotional sale
- May 29, 2007. Thorsten KOCH, Konrad-Zuse-Zentrum für Informationstechnik Berlin, Germany
Current developments of MIP tools at ZIB: SCIP, Zimpl, Soplex
- May 29, 2007. Jan BRINKHUIS, Erasmus Universiteit, Rotterdam, The Netherlands
Duality of convex objects
- June 5, 2007. Eric GOURDIN, France Telecom
Design and optimization of internet networks
- June 12, 2007. Young-Soo MYUNG, Dankook University, Korea
Multicommodity flow problems on ring networks

- June 26, 2007. Saif BENJAAFAR, University of Minnesota, Minneapolis (MN), USA
Service capacity pooling and cost allocation among independent firms
- August 30, 2007. Ignacio E. GROSSMANN, Carnegie Mellon University, Pittsburgh (PA), USA
Reformulations, relaxations and cutting planes for linear generalized disjunctive programming

▪ SEMINAIRE ECONOMIQUE DE LOUVAIN

- September 28, 2006. Maurizio ZANARDI, CentER, Universiteit Tilburg, The Netherlands
Does antidumping use contribute to trade liberalization? An empirical analysis
- October 5, 2006. Henry TULKENS, CORE, UCL, Belgium
The White House and the Kyoto Protocol: double standards on uncertainties and their consequences
- October 12, 2006. Keith E. MASKUS, University of Colorado at Boulder (CO), USA
Vertical distribution, parallel trade, and price divergence in integrated markets
- October 19, 2006. Daniel M. BERNHOFEN, University of Nottingham, United Kingdom
Predicting the factor content of trade: theory and evidence
- November 16, 2006. Maarten GOOS, Katholieke Universiteit Leuven, Belgium
The impact of employment subsidies: non-experimental evidence using firm level data
(Joint with Econometrics Seminar)
- November 27, 2006. Robert F. OWEN, Université de Nantes, France
Irreversibility, sunk costs, "news" and evolutionary economic methodology
- November 30, 2006. Elena del REY, Universitat de Girona, Italy
Financing schemes for higher education
- December 7, 2006. Wouter VERGOTE, Facultés Universitaires Saint-Louis, Bruxelles, Belgium
On the role of retaliation in trade agreements
- December 14, 2006. Marc GURGAND, Paris-Jourdan School of Economics, Paris, France
A large scale experiment: wages and educational expansion in France
- February 1, 2007. Andrzej CIESLIK, Uniwersytet Warszawski, Warszawa, Poland
Bilateral trade volumes, the gravity equation and factor proportions
(Joint with Economic Theory Seminar)
- February 8, 2007. Viktors STEBUNOV, Boston College, Chestnut Hill (MA), USA
Finance as a barrier to entry: U.S. bank deregulation and volatility
- February 12, 2007. Laura HOSPIDO, University College London, United Kingdom
Modelling heterogeneity and dynamics in the volatility of individual wages
- February 13, 2007. Guillaume HORNY, Université Louis Pasteur, Strasbourg, France
Job mobility in Portugal: a Bayesian study with matched worker-firm data

- February 15, 2007. Andrey LAUNOV, Universität Würzburg, Germany
Search equilibrium, production parameters and returns to education: theory and estimation
- February 22, 2007. Tony LAWSON, University of Cambridge, United Kingdom
Why bother with methodology in economics ?
- March 1, 2007. Anne YVRANDE, Université Paris I, France
Does competition for the field improve cost efficiency ? Evidence from the London bus tendering model
- March 15, 2007. Toshihiro OKUBO, University of Manchester, United Kingdom
Trade liberalization and agglomeration with firm heterogeneity
- March 22, 2007. Marcel GÉRARD, Facultés Universitaires Catholiques de Mons and UCL, Belgium
Reforming the taxation of multi-jurisdictional enterprises in Europe
- March 29, 2007. Mathias DOEPKE, University of California at Los Angeles (CA), USA
Women's liberation: what's in it for men ?
- April 28, 2007. Jan van OURS, Universiteit Tilburg, The Netherlands
How to help unemployed find jobs quickly; experimental evidence from a mandatory activation program
(Joint with Econometrics Seminar)
- May 10, 2007. Gianmarco OTTAVIANO, Università di Bocconi, Italy
Openness to trade and industry cost dispersion: evidence from a panel of Italian firms
- May 15, 2007. Fabien POSTEL-VINAY, University of Bristol, United Kingdom and Université Paris I, France
Can the timing of aggregate labor market expansions be explained by (the transitional dynamics of) the Burdett-Mortensen model ?
- May 15, 2007. Etienne LEHMANN, Institute of the Study of Labor, Bonn, Germany and UCL, Belgium
Optimal income taxation in a model with endogenous involuntary unemployment: an adverse selection model with random participation
- June 1, 2007. Jan DE LOECKER, New York University (NY), USA
Product differentiation, multi-product firms and estimating the impact of trade liberalization on productivity
(Joint with Econometrics Seminar)
- June 14, 2007. Guillaume VANDENBROUCKE, University of Southern California, Los Angeles (CA), USA
The U.S. westward expansion

▪ SPATIAL ECONOMICS SEMINAR

- October 12, 2006. Keith E. MASKUS, University of Colorado at Boulder (CO), USA
Vertical distribution, parallel trade, and price divergence in integrated markets
(Joint with Séminaire Economique de Louvain)
- February 6, 2007. Benjamin NEFUSSI, INSEE, Paris, France
Export versus FDI with market potential
- February 13, 2007. Frédéric LAURIN, CORE, UCL, Belgium
Trade, growth and structural change in Spain's autonomous communities
- February 20, 2007. Yasusada MURATA, Nihon University, Japan
Intergenerational linkages and economic geography
- February 27, 2007. Kristian BEHRENS, CORE, UCL, Belgium
Dual gravity: using spatial econometrics to control for multilateral resistance
- March 15, 2007. Toshihiro OKUBO, University of Manchester, United Kingdom
Trade liberalization and agglomeration with firm heterogeneity
(Joint with Séminaire Economique de Louvain)
- March 20, 2007. Nelly EXBRAYAT, Université de Saint-Etienne, France
Trade integration, tax policies and labour market regimes
- May 10, 2007. Gianmarco OTTAVIANO, Università degli Studi di Bologna, Italy
Openness to trade and industry cost dispersion: evidence from a panel of Italian firms
(Joint with Séminaire Economique de Louvain)
- May 15, 2007. Pierre PICARD, University of Manchester, United Kingdom and CORE, UCL, Belgium
Currency areas and international assistance
- May 24, 2007. Peter EGGER, Universität München, Germany
Saving taxes through foreign plant ownership
(Joint with Séminaire Economique de Louvain)
- June 19, 2007. Hubert JAYET, Université des Sciences et Technologie de Lille, France
The location of immigrants in France
- June 26, 2007. Jean-Philippe COMBES, GREQAM, Université d'Aix-Marseille, France
The productivity advantages of large markets: distinguishing agglomeration from firm selection
(Joint with Séminaire Economique de Louvain)
- July 10, 2007. Matthew TURNER, Université de Toronto, Canada
Urban growth and transportation

■ ENVIRONMENTAL WORKSHOP

- October 19, 2006. Valentina BOSSETTI, Fondazione ENI Enrico Mattei, Italy
The brand new integrated assessment climate model developed by FEEM, the so-called WITCH model
- March 7, 2007. Ujjayant CHAKRAVORTY, University of Central Florida, Orlando (FL), USA
Ordering the extraction of polluting on nonrenewable resources
- March 7, 2007. Cees WITHAEGEN, Universiteit Tilburg, The Netherlands
Oligopoly on the market for a non-renewable resource: open-loop and feedback Nash equilibrium

■ THE IAP-UAP ECONOMIC THEORY SEMINAR

- November 27, 2006. Bertil TUNGODDEN, Norwegian School of Economics and Business Administration, Bergen, Norway
Fairness and the proportionality principle
(This seminar took place at Universiteit Gent)
- November 27, 2006. Miguel BALLESTER, Universitat Autònoma de Barcelona, Spain
On the axiomatic distribution of opportunities
(This seminar took place at Universiteit Gent)
- February 26, 2007. Mathias HUNGERBUHLER, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
On the optimality of a minimum wage: new insights from optimal tax theory
(This seminar took place at CORE)
- February 26, 2007. Guy LAROQUE, CREST, Paris, France
Should labour force participation be subsidized ?
(This seminar took place at CORE)
- March 26, 2007. Amedeo SPADARO, Paris-Jourdan Sciences Economiques, France and Universita de les Illes Balears, Palma de Mallorca, Spain
Tax-benefit revealed social preferences
(This seminar took place at Katholieke Universiteit Leuven)
- March 26, 2007. Claus Thustrup KREINER, Kobenhavns Universitet, Denmark
The optimal income taxation of couples
(This seminar took place at Katholieke Universiteit Leuven)
- May 14, 2007. Patrick FRANÇOIS, University of British Columbia, Vancouver, Canada
Making a difference
(This seminar took place at Facultés Universitaires Notre-Dame de la Paix, Namur)
- May 14, 2007. Josse DELFGAAUW, Erasmus Universiteit, Rotterdam, The Netherlands
Dedicated doctors: public and private provision of health care with altruistic physicians
(This seminar took place at Facultés Universitaires Notre-Dame de la Paix, Namur)

▪ ECORE, JOINT CORE-ECARES SEMINAR

ECORE federates two research centers: CORE, Université catholique de Louvain and ECARES, Université Libre de Bruxelles. The creation of such a scientific association integrates the research activities and the doctoral programs of both institutions. It promotes their position on the international scene in the fields of economics, finance, operations research, econometrics and statistics.

- October 9, 2006. Catherine DEHON, ECARES, Université Libre de Bruxelles, Belgium
Outliers in regression: detection and treatment
- November 6, 2006. Xavier WAUTHY, CORE, UCL, and Facultés Universitaires Saint-Louis, Bruxelles, Belgium
Entry under capacity limitation and vertical differentiation
- December 4, 2006. Estelle CANTILLON, ECARES, Université Libre de Bruxelles, Belgium
Strategic behavior in assignment problems: theory and evidence
- February 12, 2007. Kristian BEHRENS, CORE, UCL, Belgium
Testing the 'home market effect' in a multi-country world
- March 5, 2007. Abdul NOURY, ECARES, Université Libre de Bruxelles, Belgium
Enlargement and coalition formation in the European Parliament
- April 23, 2007. Giordano MION, CORE, UCL, Belgium
Productivity and firm selection: intra-national vs inter-national trade

5

DOCTORAL TRAINING

- COMPLETED PH.D. DISSERTATIONS
- PH.D. PROJECTS IN PROGRESS
- EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS
- DOCTORAL WORKSHOPS

■ COMPLETED PH.D. DISSERTATIONS

Twelve doctoral students at CORE successfully defended their Doctoral Dissertation:

- On September 5, 2006. Luca PANACCIONE, *Essays on moral hazard in general equilibrium theory*. Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Enrico MINELLI.
Current job: Università "La Sapienza", Roma, Italy
- On September 6, 2006, Eloisa CAMPIONI, *Financial markets and competition on contracts*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Enrico MINELLI.
Current job: Libera Università Internazionale degli Studi Sociali Guido Carli, Roma, Italy
- On September 18, 2006, Catarina GOULAO, *Social insurance reappraisal*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Jean HINDRIKS.
Current job: Institut d'Economie Industrielle, Université de Toulouse I, France
- On September 22, 2006, Michel BAES, *Spectral functions and smoothing techniques on Jordan algebras*. Docteur en Sciences Appliquées, Université catholique de Louvain, under the supervision of Yurii NESTEREOV and Paul VAN DOOREN.
Current job: Katholieke Universiteit Leuven, Belgium
- On September 28, 2006, Genaro SUCARRAT, *Essays in the study and modeling of exchange rate volatility*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Luc BAUWENS.
Current job: Universidad Carlos III de Madrid, Spain
- On January 1, 2007, Antonio TESORIERE, *Endogenous firm asymmetry vs symmetry in oligopoly models*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Rabah AMIR and Vincent VANNETELBOSCH.
Current job: Università di Palermo, Italy
- On March 29, 2007, Agustin PEREZ BARAHONA, *Economic growth and the use of non-renewable energy resources*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Raouf BOUCEKKINE and Thierry BRÉCHET.
Current job: Université de Paris I, France
- On June 18, 2007, Ingmar SCHUMACHER, *Endogenous preferences, technical change and sustainability*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Thierry BRÉCHET and Claude D'ASPREMONT.
Current job: Universität Trier, Germany
- On June 25, 2007, Peter MALKIN, *Computing Markov bases, Gröbner bases, and extreme rays*. Docteur en Sciences Appliquées, Université catholique de Louvain, under the supervision of Laurence WOLSEY.
Current job: University of California at Davis, USA

- On June 27, 2007, Frédéric LAURIN, *Trade, specialization and economic growth in Spain's autonomous communities*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Jacques-François THISSE.
Current job: International School of Economics, Tbilisi State University, Georgia
- On June 28, 2007, Diego SALZMAN, *Emotions, beliefs and illusionary finance*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Luc BAUWENS.
Current job: South Bank, University of London, United Kingdom
- On August 30, 2007, Antonio MINNITI, *Essays on market structure, location and growth*. Docteur en Sciences Economiques, Université catholique de Louvain, under the supervision of Raouf BOUCEKKINE.
Current job: Università degli Studi di Bologna, Italy

▪ PH.D. PROJECTS IN PROGRESS

OSCAR AMERIGHI

Title: Fiscal competition between national governments and the behaviour of multinational enterprises

Supervisor: Jean HINDRIKS

Started: 2004

Doctoral School: Department of Economics, UCL

EFTHYMIOS ATHANASIOU

Title: Essays on welfare economics

Supervisor: François MANIQUET

Started: 2005

Doctoral School: Department of Economics, UCL (European Doctoral Program)

CARLOTTA BALESTRA

Title: Essays on environmental economics in an OLG model

Supervisor: Thierry BRÉCHET

Started: 2006

Doctoral School: Department of Economics, UCL

FILIPPO CALCIANO

Title: Rationality, correlation and communication in games

Supervisors: Pierre DEHEZ and Jean-François MERTENS

Started: 2004

Doctoral School: Department of Economics, UCL

ROBERT CHARES

Title: Extension of an algebraic modelling language and development of a solver for structured conic convex optimization

Supervisor: François GLINEUR

Started: 2005

Doctoral School: Mathematical Engineering Department, UCL

GIUSEPPE DE FEO

Title: Essays on market imperfections and public intervention

Supervisors: Jean HINDRIKS and Rabah AMIR

Started: 2004

Doctoral School: Department of Economics, UCL

FEDERICO DE STEFANO

Title: On the Nash equilibrium refinements

Supervisor: Jean-François MERTENS

Started: 2004

Doctoral School: Department of Economics, UCL

FERNANDA ESTEVAN

Title: Development economics, public economics

Supervisors: Jean HINDRIKS and Jean-Marie BALAND

Started: 2004

Doctoral School: Department of Economics, UCL (European Doctoral Program)

EMMANUELE FORLANI

Title: Service sector market conduct: effects and interactions with manufacturing firms

Supervisor: Hylke VANDENBUSSCHE

Started: 2006

Doctoral School: Department of Economics, UCL

GILLES GRANDJEAN

Title: Coalitional rationality

Supervisor: Vincent VANNETELBOSCH

Started: 2004

Doctoral School: Department of Economics, UCL

JAKUB GROWIEC

Title: Essays on technological progress and economic growth

Supervisor: Raouf BOUCEKKINE

Started: 2005

Doctoral School: Department of Economics, UCL

GEORGIOS LOLAS

Title: Average rule, implementation and lotteries

Supervisor: François MANIQUET

Started: 2006

Doctoral School: Department of Economics, UCL (European Doctoral Program)

MARCO MARINUCCI

Title: Cooperation among firms

Supervisors: Paul BELLEFLAMME and Vincent VANNETELBOSCH

Started: 2005

Doctoral School: Department of Economics, UCL

JEAN-FRANÇOIS MAYSTADT

Title: Conflict and forced migration in the light of geographical economics

Supervisor: Jacques THISSE

Started: 2005

Doctoral School: Department of Economics, UCL

ALAIN PHOLO BALA

Title: On the determinants of the formation of agglomerations in developing countries

Supervisor: Jacques THISSE

Started: 2003

Doctoral School: Department of Economics, UCL

JOANA RESENDE

Title: Dynamic competition in the presence of consumption network externalities

Supervisors: Jean J. GABSZEWICZ and Jacques-François THISSE

Started: 2004

Doctoral School: Université catholique de Louvain and Universidade do Porto, Portugal

MARIA EUGENIA SANIN

Title: Market design in pollution markets
Supervisor: Thierry BRÉCHET
Started: 2005
Doctoral School: Department of Economics, UCL

ZAKARIA SIDDIQUI

Title: Power sector reforms: perspectives from new institutional economics
Supervisor: Yves SMEERS
Started: 2005
Doctoral School: Jawaharlal Nehru University, New Deli, India

ANDREA SILVESTRINI

Title: Essays on temporal aggregation of econometric models
Supervisor: Luc BAUWENS
Started: 2005
Doctoral School: Department of Economics, UCL

ALFONSO VALDESOGLIO ROBLES

Title: Application of copulas to Markov models and realized volatility
Supervisor: Luc BAUWENS
Started: 2004
Doctoral School: Department of Economics, UCL

GIACOMO VALLETTA

Title: Three essays on responsibility-minded egalitarianism
Supervisor: François MANIQUET
Started: 2005
Doctoral School: Department of Economics, UCL (European Doctoral Program)

CECILIA VERGARI

Title: Adoption and provision of new technologies
Supervisor: Vincent VANNETELBOSCH
Started: 2003
Doctoral School: Department of Economics, UCL

LEOPOLDO VILCAPOMA

Title: Essays in cooperative and non-cooperative game theory with applications

Supervisor: François MANIQUET

Started: 2002

Doctoral School: Department of Economics, UCL

FRANÇOIS WARICHET

Title: Scheduling of mixed batch-continuous production lines

Supervisors: Yves POCHE and George BASTIN

Started: 2003

Doctoral School: Department of Engineering Mathematics, UCL

SKERDILAJDA ZANAJ

Title: Upstream foreclosure: firm-level interactions and macroperspectives

Supervisors: Claude D'ASPREMONT and Jean GABSZEWICZ

Started: 2003

Doctoral School: Department of Economics, UCL

GREGOR ZOETTL

Title: Investment incentives in oligopoly under uncertainty

Supervisor: Claude D'ASPREMONT

Started: 2003

Doctoral School: Department of Economics, UCL

■ EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS

The EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS is a joint project of CORE, Université catholique de Louvain, Belgium, with the Universitat Pompeu Fabra, Barcelona, Spain, the Rheinische Friedrich-Wilhelms-Universität Bonn, Germany, the London School of Economics, United Kingdom, the Ecole des Hautes Etudes en Sciences Sociales, France, the European University Institute in Florence, Italy, and as an associate member, the 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. Eleven students obtained their certificate during the academic year 2006-2007. Seventy-two students are currently enrolled.

The annual jamboree was held at CORE on November 15-18, 2006 and attended by forty doctoral students and several academics from the partner universities.

PROGRAMME

NOVEMBER 16, 2006

▪ **LECTURE 1**

Hylke VANDENBUSSCHE, CORE and Département des sciences économiques, UCL, Belgium
Does antidumping protection raise the productivity of domestic firms?

▪ **SESSION 1 – CHAIR: VINCENT VANNETELBOSCH, CORE, UCL, BELGIUM**

Lars KOCH, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Evolution and correlated equilibrium

DISCUSSANT : Nicolas SCHUTZ, Ecole des Hautes Etudes en Sciences Sociales, Paris, France

Giacomo VALLETTA, CORE, UCL, Belgium

Fair solutions to the compensation problem

DISCUSSANT : Stefan PENCZYNSKI, London School of Economics, United Kingdom

▪ **SESSION 2 – CHAIR: RAOUF BOUCEKKINE, CORE AND DÉPARTEMENT DES SCIENCES ÉCONOMIQUES, UCL, BELGIUM**

Laurent BACH, Ecole des Hautes Etudes en Sciences Sociales, Paris, France
Do French small and medium firms want to borrow more ?

DISCUSSANT : Hélène LATZER, UCL, Belgium

Giulio NICOLETTI, UCL, Belgium

Capital market frictions and the business cycle

DISCUSSANT : Marcus SONNTAG, Universitat Pompeu Fabra, Barcelona, Spain

▪ **SESSION 3 – CHAIR: DAVID DE LA CROIX, CORE AND DÉPARTEMENT DES SCIENCES ÉCONOMIQUES, UCL, BELGIUM**

Margherita COMOLA, Universitat Pompeu Fabra, Barcelona, Spain
Ethnic diversity and network formation

DISCUSSANT : Paolo VANIN, Universitat Pompeu Fabra, Barcelona, Spain

Gilad SOREK, Tel-Aviv University, Israël

Advancing medical technology, aging, population and economic growth

DISCUSSANT : Davide DOTTORI, UCL, Belgium

▪ **SESSION 4 – CHAIR: MICHEL MOUCHART, UCL, BELGIUM**

Michal PALUCH, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Macroelasticity vs. individual elasticities: the case of consumption and income

DISCUSSANT : Juan Manuel PUERTA, Universitat Pompeu Fabra, Barcelona, Spain

Marc SHIFFBAUER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Inflation, investment composition and total factor productivity

DISCUSSANT : David SCHRÖDER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

NOVEMBER 17, 2006

- **LECTURE 2**

François MANIQUET, CORE, UCL, Belgium

Social ordering functions

- **SESSION 5 – CHAIR: LUC BAUWENS, CORE, UCL, BELGIUM**

Almut BALLEER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

New evidence, old puzzles: technology shocks and labor market dynamics

DISCUSSANT : Anna BATYRA, UCL, Belgium

Amine OUAZAD, Ecole des Hautes Etudes en Sciences Sociales, Paris, France

What makes a difference? The respective contributions of pupils and schools in achievement in English primary and secondary schools

DISCUSSANT : Eva BENZ, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

Markus POSCHKE, European University Institute, Firenze, Italy

Employment protection, firm selection, and growth

DISCUSSANT : Gabriele CARDULLO, UCL, Belgium

- **SESSION 6 – CHAIR: PIERRE DEHEZ, CORE, UCL, BELGIUM**

Alberto GALASSO, London School of Economics, United Kingdom

Broad cross-license agreements in the semiconductor industry: waiting to persuade

DISCUSSANT : Fernanda ESTEVAN, CORE, UCL, Belgium

Gregor LANGUS, European University Institute, Firenze, Italy

The effect of antitrust investigations on the firm valuation

DISCUSSANT : Maria GUECHEVA, Universitat Pompeu Fabra, Barcelona, Spain

Michael WYCHERLEY, European University Institute, Firenze, Italy

Trade, growth and intellectual property rights

DISCUSSANT : Guilhem CASSAN, Ecole des Hautes Etudes en Sciences Sociales, Paris, France

- **LECTURE 3**

Paul BELLEFLAMME, CORE, UCL, Belgium

Two-sided markets with intra-group competition

- **SESSION 7 – CHAIR: PAUL BELLEFLAMME, CORE, UCL, BELGIUM**

Nicolas SCHUTZ, Ecole des Hautes Etudes en Sciences Sociales, Paris, France

Wholesale markets in telecoms

Stefan Penczynski, London School of Economics, United Kingdom

Career concerns: towards a model of multiple principals

Paolo VANIN, Universitat Pompeu Fabra, Barcelona, Spain

Competition and reputation

Sotiris GEORGANAS, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Auctions with toeholds: an experimental study

▪ **SESSION 8 – CHAIR: BART COCKX, UCL, BELGIUM**

Zeno ENDERS, European University Institute, Firenze, Italy
S-Curve Redux: on the international transmission of technology shocks

Michael ZÄHRINGER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
How to sell a company? Information revelation through partial IPO

Hélène LATZER, UCL, Belgium
Foreign direct investment and the nature of the imination process

Davide DOTTORI, UCL, Belgium
Easter Island collapse: a tale of population race

David SCHRÖDER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Investment under ambiguity with the best and worst in mind

▪ **DOCTORAL WORKSHOPS**

The doctoral Workshops provide a research forum where the members of the Doctoral Program in Economics at UCL and KUL have the opportunity to present a part of their completed or ongoing research.

PROGRAMME

JANUARY 25

▪ **PUBLIC ECONOMICS I**

CHAIR: MARTHE NYSENS, ECON-IRES, UCL

Youyou BAENDE BOFOTA, ECON-IRES, UCL
Social capital

Bruno MEESEN, ECON-IRES, UCL
Can public rural hospitals be pro-poor? The health equity fund experience in Cambodia

Fernanda ESTEVAN, CORE, UCL
The quality of public education and conditional cash transfers

▪ **PUBLIC ECONOMICS II**

CHAIR: JEAN HINDRIKS, CORE, UCL

Tom TRUYTS, Katholieke Universiteit Leuven, Belgium
Taxation and communication: indirect taxation and costly signaling

Kristof DE WITTE, Katholieke Universiteit Leuven, Belgium
Measuring efficiency in local public utilities, an international comparison in the drinking water sector

- **EMPIRICAL WORKS**

CHAIR: SÉBASTIEN VAN BELLEGEM, STAT, UCL

Bert VAN LANDEGHEM, Katholieke Universiteit Leuven, Belgium
Subjective well-being and land: an empirical assessment for rural Moldovan households

Frédéric LAURIN, CORE, UCL
Mapping specialization into exports in Spain's regions

Jean-François MAYSTADT, CORE, UCL
Does inequality make us rebel? Theoretical and empirical applications to South Mexico

- **LABOUR ECONOMICS**

CHAIR: BART COCKX, ECON-IRES, UCL

Pavlina KARASIOTOU, ECON-IRES, UCL
Secondary education and parental background. A story, money don't tell

- **MACROECONOMICS I**

CHAIR: FRÉDÉRIC DOCQUIER, ECON-IRES, UCL

Davide DOTTORI, IRES, UCL
Immigration and education policy with endogenous fertility

Skerdilajda ZANAJ, CORE, UCL
The macroeconomics of labor and capital market imperfections

Concetta MENDOLICCHIO, ECON-IRES, UCL
Financing of higher education: long-run sustainability in a model with asymmetric information

- **MACROECONOMICS II**

CHAIR: RAOUF BOUCEKKINE, ECON-IRES, UCL

Carlotta BALESTRA, CORE, UCL
Aging society and the environment

Ingmar SCHUMACHER, CORE, UCL
Endogenous discounting via wealth, twin-peaks of economic growth and the role of technology

Agustin PEREZ-BARAHONA, CORE, UCL
Capital accumulation and non-renewable energy resources: a special function case

▪ **MACROECONOMICS III**

CHAIR: RAOUF BOUCEKKINE, ECON-IRES, UCL

David DE ANTONIO LIEDO, Université libre de Bruxelles, Belgium
RBC models at forecasting: exploring the reasons behind their success

Luca PENSIEROSO, ECON-IRES, UCL
The great depression in Belgium from a neoclassical perspective

▪ **INDUSTRIAL ORGANIZATION I**

CHAIR: HYLKE VANDENBUSSCHE, CORE AND DÉPARTEMENT DES SCIENCES ECONOMIQUES, UCL, BELGIUM

Maria Eugenia SANIN VAZQUEZ, CORE, UCL
Investment on environmental innovation in non-competitive markets

Oscar AMERIGHI, CORE, UCL
Mixed oligopoly, privatization, and FDI

▪ **MACROECONOMICS IV**

CHAIR: HENRI SNEESSENS, ECON-IRES, UCL

Anna BATYRA, ECON-IRES, UCL
Are turbulences of Sargent & Ljungqvist consistent with lower aggregate volatility of Stock and Watson

Luca MARCHIORI, ECON-IRES, UCL
Pension reform scenarios

Elisabetta LODIGIANI, ECON-IRES, UCL
Diaspora externalities and technology diffusion

JANUARY 26

▪ **INDUSTRIAL ORGANIZATION II**

CHAIR: XAVIER WAUTHY, FACULTÉS UNIVERSITAIRES SAINT-LOUIS, BRUXELLES AND CORE

Giorgia OGGIONI, CORE, UCL
Application of the EU-ETS policy: impacts on the industrial sector

Joana RESENDE, CORE, UCL
Pricing decisions in the context of vertical and horizontal differentiation

Joris MORBEE, Katholieke Universiteit Leuven, Belgium
Russian market power in the European gas market

▪ **INDUSTRIAL ORGANIZATION III**

CHAIR: GIORDANO MION, CORE, UCL

Janne TUKIAINEN, Université Libre de Bruxelles, Belgium
Participation screen for collusion in simultaneous multi-unit procurement auctions

Emanuele FORLANI, CORE, UCL

Service firms market power and performances of manufacturing sector

Arastou KHATIBI, ECON-IRES, UCL

Antidumping policy as a signaling device

▪ **MACROECONOMICS & FINANCE**

CHAIR: LUC BAUWENS, CORE, UCL

Alberto COCO, ECON-IRES, UCL

Heterogeneous expectations in a monetary policy model with inflation targeting and linear inflation contract

Cédric DE VILLE DE GOYET, Katholieke Universiteit Leuven, Belgium

Testing futures returns predictability: implications for hedgers

▪ **MICROECONOMICS**

CHAIR: CLAUDE D'ASPREMONT, CORE, UCL

Efthymios ATHANASIOU, CORE, UCL

Educational outcomes and equality of opportunity

Filippo CALCIANO, CORE, UCL

Games on complete lattices

MAY 24

▪ **MICROECONOMICS I**

CHAIR: CLAUDE D'ASPREMONT, CORE, UCL

Gilles GRANDJEAN, CORE, UCL

The timing of conflict

Tanguy ISAAC, ECON-IRES, UCL

Chaos in overlapping generation models

▪ **MICROECONOMICS II**

CHAIR: PIERRE DEHEZ, CORE, UCL

Giacomo VALLETTA, CORE, UCL

Taxation, health and fairness

Georgios LOLAS, CORE, UCL

Subgame perfect implementation and the average rule

▪ **EMPIRICAL WORKS**

CHAIR: BART COCKX, ECON-IRES, UCL

Walter STEINGRESS, Katholieke Universiteit Leuven, Belgium

Foreign direct investment, financial constraints and growth in China

Joana RESENDE, CORE, UCL

Profit efficiency perspective on the future strategic positioning of the Portuguese banks

▪ **MACROECONOMICS I**

CHAIR : HENRI SNEESSENS, ECON-IRES, UCL

Ingmar SCHUMACHER, CORE, UCL

Catastrophic economic growth

Hélène LATZER, ECON-IRES, UCL

Income inequality, product differentiation and Schumpeterian growth in a two-country setting

José Mourelle, ECON-IRES, UCL

Public debt dynamics and monetary policy

▪ **MACROECONOMICS II**

CHAIR : THIERRY BRÉCHET, CORE, UCL

Shen I-LING, ECON-IRES, UCL

Low-skilled migration and education policy with endogenous fertility

Gül ERTAN, ECON-IRES, UCL

Will Turkey's accession boost or slowdown Turkish migration to the EU?

▪ **MACROECONOMICS III**

CHAIR : RAOUF BOUCEKINE, ECON-IRES AND CORE, UCL

Jakub GROWIEC, CORE, UCL

Human capital, aggregation and growth

Alessandro SOMMACAL, ECON-IRES, UCL

The growth impact of alternative child care policies

▪ **PUBLIC DEVELOPMENT**

CHAIR : FRÉDÉRIC DOCQUIER, ECON-IRES, UCL

Cécily DEFOORT, Université de Lille II, France

Does migration trigger human capital investment?

Ethan ILZETZKI, Université Libre de Bruxelles, Belgium

Rent seeking distortions and fiscal procyclicality

▪ **MACROECONOMICS IV**

CHAIR : MICHEL DE VROEY, ECON-IRES, UCL

Marie VANDERDONCKT, ECON-IRES, UCL

On the increase in college attainment of women: when bargaining between spouses and assortative mating are at play

Bruno MEESSEN, ECON-IRES, UCL

User fees and public health care providers in low-income countries: a positive assessment of some policy instruments

MAY 25

- **INDUSTRIAL ORGANIZATION I**

CHAIR : BRUNO VAN DER LINDEN, ECON-IRES, UCL

Cecilia VERGARI, CORE, UCL

Integration and delay in network industries

- **INDUSTRIAL ORGANIZATION II**

CHAIR : PAUL BELLEFLAMME, CORE, UCL

Marco MARINUCCI, CORE, UCL

R&D networks and coalitions

Stijn FERRARI, Katholieke Universiteit Leuven, Belgium

Coordinated investment in a shared ATM network

Federico DE STEFANO, CORE, UCL

Learning in networks

- **PUBLIC ECONOMICS**

CHAIR : JEAN HINDRIKS, CORE, UCL

Fernanda ESTEVAN, CORE, UCL

Political economy of school quality when some children are out of school

Kristof DE WITTE, Katholieke Universiteit Leuven, Belgium

Environmental factors in frontier models, a metafrontier approach to the drinking water sector

- **LABOUR ECONOMICS**

CHAIR : MURIEL DEJEMEPPE, ECON-IRES, UCL

Marco PECORARO, ECON-IRES, UCL

Overeducation and assimilation of foreigners: a preliminary analysis of data from the Swiss household panel

Nicoletti GIULIO, ECON-IRES, UCL

DSGE modelling and persistent noise

Matteo PICCHIO, ECON-IRES, UCL

The lagged duration dependence for young long-term unemployed workers in Belgium

▪ **ECONOMETRICS**

CHAIR: LUC BAUWENS, CORE, UCL

Alfonso VALDESOGO, CORE, UCL

Frequent turbulence ? A dynamic copula approach

Koen JOCHMANS, Katholieke Universiteit Leuven, Belgium

An adjusted profile likelihood for non-stationary panel data models with incidental parameters

Vincent SCOURNEAU, ECON-IRES, UCL

Hedonic price regression and extreme value distribution

6

CONFERENCES HELD AT CORE OR CO-ORGANIZED BY CORE MEMBERS

- MACRODYNAMIMCS, TECHNOLOGICAL CHANGE AND THE ENVIRONMENT
- XII COALITION THEORY NETWORK WORKSHOP: NETWORK AND COALITION AMONG HETEROGENEOUS AGENTS - THEORY, APPLICATIONS AND EXPERIMENTS
- WORKSHOP ON "THE MARKET FOR CORPORATE CONTROL REGULATION AND CORPORATE GOVERNANCE ISSUES"
- II WORKSHOP ON ADVANCES IN COLLECTIVE CHOICE
- WORKSHOP ON MULTIVARIATE TIME SERIES MODELLING
- CPAIOR'2007: THE FOURTH INTERNATIONAL CONFERENCE ON INTEGRATION OF AI AND OR TECHNIQUES IN CONSTRAINT PROGRAMMING FOR COMBINATORIAL OPTIMIZATION PROBLEMS
- THIRD SUMMER SCHOOL ON ECONOMIC ANALYSIS OF HETEROGENEITY IN SOCIAL ORGANIZATIONS
- TARK11: THEORETICAL ASPECTS OF RATIONALITY AND KNOWLEDGE

▪ MACRODYNAMICS, TECHNOLOGICAL CHANGE AND THE ENVIRONMENT

organized by Thierry BRÉCHET, CORE, UCL, Belgium, Raouf BOUCEKKINE, CORE and Département des Sciences économiques, UCL, Belgium and Katheline SCHUBERT, Université Paris I and sponsored by the Belgian Science Policy (ClimNeg), the French Ministry of Research (ACI-Economic), the Modeling of Sustainable Development, CORE and the Chair Lhoist Berghmans in Environmental Economics and Management.

PROGRAMME

NOVEMBER 23

▪ SESSION I – CHAIR : THIERRY BRÉCHET, CORE, UCL

Natali HRITONENKO, Prairie View A&M University (TX), USA and Yuri YATSENKO, Houston Baptist University (TX), USA

Optimal asset replacement and vintage capital models

DISCUSSANT : Raouf BOUCEKKINE, ECON-IRES and CORE, UCL

Phu NGUYEN VAN, Université de Cergy Pontoise, France, Théophile AZOMAHOU, Université Louis Pasteur, Strasbourg, France and Raouf BOUCEKKINE, UCL, Belgium

Energy consumption and vintage effect: a sectoral analysis

DISCUSSANT : Augustin PEREZ-BARAHONA, CORE, UCL

Emmanuele MASSETI, Fondazione Eni Enrico Mattei, Italy

International technology spillovers and global climate strategies

DISCUSSANT : Johan EYCKMANS, Europese Hogeschool, Brussel, Belgium

NOVEMBER 24

▪ SESSION II – CHAIR : KATHELINE SCHUBERT, UNIVERSITÉ PARIS I, FRANCE

Jose Ramon RUIZ TAMARIT, Universitat de Valencia, Spain

Renewable natural resources regulation and growth

DISCUSSANT : Ingmar SCHUMACHER, CORE, UCL

Renan GOETZ, Università di Girona, Italy

Carbon abatement policies and forest management

DISCUSSANT : Cees WITHAGEN, Universiteit Tilburg, The Netherlands

▪ SESSION III – CHAIR : RAOUF BOUCEKKINE, ECON-IRES AND CORE, UCL

Aude POMMERET, Université de Lausanne, Switzerland and Katheline SCHUBERT, Université Paris I, France

Abatement technology adoption under uncertainty

DISCUSSANT : Pierre-André JOUVET, Université de Nanterre, France

Fabien PRIEUR, Charles FIGUIÈRES and Mabel TIDBALL, Institut National de la Recherche Agronomique (INRA), Jouy-en-Josas, France

Public infrastructures, strategic interactions and economic growth

DISCUSSANT : Stéphane LAMBRECHT, Université Lille 1, France and CORE, UCL

■ XII COALITION THEORY NETWORK WORKSHOP: NETWORK AND COALITION AMONG HETEROGENEOUS AGENTS - THEORY, APPLICATIONS AND EXPERIMENTS

organized by Paul BELLEFLAMME, CORE, UCL, Belgium, Anna MAULEON, Facultés Universitaires Saint-Louis, Bruxelles, Belgium and CORE, UCL, Belgium and Vincent VANNETELBOSCH, CORE, UCL, Belgium and sponsored by the Belgian Science Policy, the Communauté Française de Belgique, the CORE Foundation, the European Commission and the Fonds National de la Recherche Scientifique (FNRS).

PROGRAMME

JANUARY 18

■ SESSION I – CHAIR : VINCENT BLONDEL, INMA AND CORE, UCL, BELGIUM

Jean-Loup GUILLAUME, INMA, UCL, Belgium

Complex networks metrology: the internet case

DISCUSSANTS : Raphaël JUNGERS and Julien HENDRICKX, UCL, Belgium

Gonul DOGAN, Universiteit Tilburg, The Netherlands

The stability of exchange networks

DISCUSSANT : Jean-François CAULIER, Facultés Universitaires Saint-Louis, Bruxelles, Belgium

Marco SAERENS, Information Systems Research Unit, UCL, Belgium

Some recently defined kernels on a graph

Dunia LOPEZ-PINTADO, Columbia University, New York (NY), USA

Social influence, binary decisions and collective dynamics

DISCUSSANT : Vincent BUSKENS, Universiteit Utrecht, The Netherlands

■ SESSION II – CHAIR : VINCENT VANNETELBOSCH, CORE, UCL

Ramon COBO-REYES, Universidad de Granada, Spain

Altruism in the (social) network

DISCUSSANT : Marcel VAN ASSEN, Universiteit Tilburg, The Netherlands

Svetlana IKONNIKOVA, Katholieke Universiteit Leuven, Belgium

Strategic investments and coalitional bargaining with externalities in networks: analysis of the Eurasian gas supply network

DISCUSSANT : Dotan PERSITZ, Tel-Aviv University, Israël

Vincent BUSKENS, Universiteit Utrecht, The Netherlands
Social context and network formation: experimental studies
 DISCUSSANT : Ramon COBO-REYES, Universidad de Granada, Spain

Ana BABUS, Erasmus Universiteit, Rotterdam, The Netherlands
The formation of financial networks
 DISCUSSANT : Jeanne HAGENBACH, Université Paris 1, France

Markus WALZL, Universiteit Maastricht, The Netherlands
Stochastically stable recontracting with multiple indivisible goods
 DISCUSSANT : Juan D. MORENO-TERNERO, Universidad de Malaga, Spain and CORE, UCL

JANUARY 19

- **SESSION III – CHAIR : GUILLAUME HAERINGER, UNIVERSITAT AUTONOMA DE BARCELONA, SPAIN**

Sanjeev GOYAL, University of Cambridge, United Kingdom
Strategic diffusion in networks
 DISCUSSANT : Paul BELLEFLAMME , CORE, UCL

Alexei SAWATEEV, New Economic School, Moscow, Russia
Equilibrium spatial pricing in a multi-dimensional setting
 DISCUSSANT : Andrei KARAVAEV, Pennsylvania State University (PA), USA

Willemien KETS, Universiteit Tilburg, The Netherlands
Strategic convergence of beliefs in network games
 DISCUSSANT : Vincent VANNETELBOSCH, CORE, UCL

Andrei KARAVAEV, Pennsylvania State University (PA), USA
Information trading in social networks
 DISCUSSANT : Willemien KETS, Universiteit Tilburg, The Netherlands

- **SESSION IV – CHAIR : HUBERT KEMPF, UNIVERSITÉ PARIS I, FRANCE**

Arno RIEDL, Universiteit Maastricht, The Netherlands
Heterogeneity in network experiments
 DISCUSSANT : Stéphanie ROSENKRANZ , Universiteit Utrecht, The Netherlands

Massimo MORELLI, Ohio State University, Columbus (OH), USA
Pork versus public goods provision: an experiment within a legislative bargaining setting
 DISCUSSANT : Sergio CURRARINI, Fondazione ENI Enrico Mattei and Università Ca' Foscari Venezia, Italy

Ana MAULEON, Facultés Universitaires Saint-Louis, Bruxelles and CORE, UCL, Belgium
Contractually stable networks
 DISCUSSANT : Wouter VERGOTE, Facultés Universitaires Saint-Louis, Bruxelles, Belgium

Vincent IEHLÉ, Universitat Autònoma de Barcelona, Spain
The core partition of a hedonic game
 DISCUSSANT : Lazlo KOCZY, Universiteit Maastricht, The Netherlands

Olivier BOCHET, Universiteit Maastricht, The Netherlands
Priorities and hierarchies in the location of multiple public facilities
 DISCUSSANT : Stefan AMBEC, Université de Grenoble, France

JANUARY 20

▪ **SESSION V – CHAIR : SERGIO CURRARINI, FONDAZIONE ENI ENRICO MATTEI AND UNIVERSITA CA' FOSCARI VENEZIA, ITALY**

Frédéric DEROIAN, GREQAM, Université d'Aix-Marseille, France
Endogenous link strength in directed communication networks
 DISCUSSANT : Jacqueline MORGAN , Università di Napoli "Federico II", Italy

Matthew JACKSON, University of Stanford (CA), USA
Equilibrium spatial pricing in a multi-dimensional setting
 DISCUSSANT : Andrei KARAVAEV, Pennsylvania State University (PA), USA

Stefan AMBEC, Université de Grenoble, France
Sharing a river among satiable countries
 DISCUSSANT : Harold HOUBA, Vrije Universiteit Amsterdam, The Netherlands

Guillaume HAERINGER, Universitat Autònoma de Barcelona, Spain
Constrained school choice
 DISCUSSANT : Bettina KLAUS, Universiteit Maastricht, The Netherlands

▪ **SESSION VI – CHAIR : BETTINA KLAUS, UNIVERSITEIT MAASTRICHT, THE NETHERLANDS**

Jeanne HAGENBACH, Université Paris I, France
Communication dilemmas in social networks
 DISCUSSANT : Frédéric DEROIAN , GREQAM, Université d'Aix-Marseille, France

Stéphanie ROSENKRANZ, Universiteit Utrecht, The Netherlands
Network structure, risk and strategic investments: an experimental analysis
 DISCUSSANT : Natalia JIMENEZ, Universidad de Granada, Spain

Jacques DURIEU, Université de Saint-Etienne, France
Foresighted coalitional stability in TU-games
 DISCUSSANT : Vincent LELHÉ, Universitat Autònoma de Barcelona, Spain

Bhaskar DUTTA, University of Warwick, United Kingdom
Correlated equilibria, incomplete information and coalitional deviations
 DISCUSSANT : Guillaume HAERINGER, Universitat Autònoma de Barcelona, Spain

Ben ZISSIMOS, Vanderbilt University, Nashville (TN), USA
Why are trade agreements regional ?
 DISCUSSANT : Hubert KEMPF, Université Paris 1, France

■ WORKSHOP ON "THE MARKET FOR CORPORATE CONTROL REGULATION AND CORPORATE GOVERNANCE ISSUES"

organized by Nihat AKTAS, IAG-Louvain School of Management and CORE, UCL, Belgium, Luc BAUWENS, CORE, UCL, Belgium and Eric DE BODT, UNIVERSITÉ DE LILLE 2, FRANCE AND CORE, UCL, BELGIUM. The workshop was held at the Ecole Supérieur des Affaires at the Université de Lille 2.

PROGRAMME

MARCH 22

Espen ECKBO, Tuck School of Business, Dartmouth College, Hanover (NH), USA
Using stock market information to infer the anticompetitive significance of mergers

Marco BECHT, Université Libre de Bruxelles, Belgium
Shareholder activism

DISCUSSANT : Armin SCHWIENBACHER, UCL, Belgium

Luc RENNEBOOG, Universiteit Tilburg, The Netherlands
Sources of transaction financing in corporate takeovers

DISCUSSANT : Edith GINGLINGER, Université Paris-Dauphine, France

Myron SLOVIN, Louisiana State University, Baton Rouge (LA), USA and Marie SUSHKA, Arizona State University, Tempe (AZ), USA

Recontracting shareholder rights at closely held firms

DISCUSSANT : Tanguy DELAUNOIS, UCL, Belgium

Burcin YURTOGLU, Universität Vienna, Austria

Corporate governance and the returns to acquiring firms shareholders: an international comparison

DISCUSSANT : Sébastien DEREPPER, Université de Lille II, France

Carles Esteva MOSSO, European Commission, Bruxelles, Belgium

Obstacles to cross border mergers

■ II WORKSHOP ON ADVANCES IN COLLECTIVE CHOICE

organized by François MANIQUET, CORE, UCL, Belgium and Juan MORENO-TERNERO, Universidad de Malaga, Spain and CORE, UCL, Belgium and sponsored by IAP-UAP.

PROGRAMME

APRIL 27

■ SESSION I – CHAIR : FRANÇOIS MANIQUET, CORE, UCL

Pablo AMOROS, Universidad de Malaga, Spain and CORE, UCL

Eliciting socially optimal rankings from unfair jurors

Efthymios ATHANASIOU, CORE, UCL
Educational outcomes and equality of opportunity

▪ **SESSION II – CHAIR: CLAUDE D'ASPREMONT, CORE, UCL**

Kristof BOSMANS, Universiteit Maastricht, The Netherlands
Lorenz comparisons of nine rules for the adjudication of conflicting claims

Roland LUTTENS, CORE, UCL and Universiteit Gent, Belgium
Minimal rights based solidarity

▪ **SESSION III – CHAIR: JUAN D. MORENO-TERNERO, UNIVERSIDAD DE MALAGA, SPAIN AND CORE, UCL**

Bettina KLAUS, Universiteit Maastricht, The Netherlands
Competition and resource sensitivity in marriage and roommates markets

Christopher CHAMBERS, California Institute of Technology, Pasadena (CA), USA
Menu aggregation

▪ **WORKSHOP ON MULTIVARIATE TIME SERIES MODELLING**

organized by Luc Bauwens and Christian Hafner within the Fonds Spéciaux de Recherche (FSR) grant "Econometric Modelling of Multivariate Financial Time Series"

PROGRAMME

MAY 10

Arie PREMINGER, University of Haifa, Israël
Asymptotic theory of multivariate GARCH models

Oliver LINTON, London School of Economics, United Kingdom
Estimation of a semiparametric Fama French model

Jürgen FRANKE, Universität Kaiserslautern, Germany
Sieve estimates for conditional quantiles of time series and some applications to VaR

Jiazhu PAN, London School of Economics, United Kingdom
Modelling multiple time series via common factors

POSTER SESSION

Hilmar BOEHM, UCL, Belgium
Shrinkage estimation in the frequency domain of multivariate time series

Kris DOUDT, Katholieke Universiteit Leuven, Belgium
Robust M-estimation of multivariate conditionally heteroscedastic time series models with elliptical innovations

Carlos CASTRO IRAGORRI, Université Libre de Bruxelles, Belgium
Confidence sets for asset correlation

Laura CORONEO, Université Libre de Bruxelles, Belgium
Intradaily seasonality of returns distribution. A quantile regression approach and intradaily VaR

Alexandra DASKOVOSKA, UCL, Belgium
Dynamical analysis of Malmquist productivity index

Giovanni MOTTA, UCL, Belgium
Locally stationary factor models

Olga REZNIKOVA, Humboldt-Universität zu Berlin
Adaptive copula estimation

Alfonso VALDESOGLO, UCL, Belgium
Frequent extreme events ? A dynamic copula approach

Francesco VIOLANTE, Facultés Universitaires Notre-Dame de la Paix, Namur and UCL, Belgium
Ranking covariance structures of M-Garch volatility models.

▪ CPAIOR'2007: THE FOURTH INTERNATIONAL CONFERENCE ON INTEGRATION OF AI AND OR TECHNIQUES IN CONSTRAINT PROGRAMMING FOR COMBINATORIAL OPTIMIZATION PROBLEMS

organized by Amadeo CESTA, National Research Council of Italy, Roma, Italy, Pascal VAN HENTENRYCK, Brown University, Providence (RI), USA and Laurence WOLSEY, CORE, UCL . This conference was held at the Facultés Universitaires Saint-Louis, Bruxelles, Belgium and sponsored by the Association of Constraint Programming, the European Commission Marie-Curie Research Training Network (ADONET), the Belgian Science Policy, CORE, The Cork Constraint Computation Center, University College Cork, Ireland, the Facultés Universitaires Saint-Louis, Bruxelles, the Fonds National de la Recherche Scientifique (FNRS), IBM Haifa Research Lab, Israël, ILOG, Gentilly, France, the Intelligent Information Systems Institute, Cornell University, USA, the Jeppesen Systems AB, Göteborg, Sweden and ORBEL, Belgian Operations Research Society.

PROGRAMME OF THE MASTER CLASS

MAY 23

Philippe BAPTISTE, Ecole Polytechnique, CNRS-LIX, Palaiseau, France
Scheduling: at the crossroad of multi-disciplinary research

Philippe LABORIE, ILOG, Gentilly, France
ILOG CP for scheduling: a developer and user's perspective

Erik DEMEULEMEESTER, Katholieke Universiteit Leuven, Belgium
Robust project scheduling

Christopher BECK, University of Toronto, Canada
Knowledge-based scheduling

Thomas STUETZLE, Université Libre de Bruxelles, Belgium
Ant colony optimization applications to scheduling problems

Stephen F. SMITH, Carnegie Mellon University, Pittsburgh (PA), USA
Distributed planning and scheduling

PROGRAMME OF THE CONFERENCE

MAY 24

- **TUTORIAL TALK**

Thierry BENOIST, Bouygues S.A., Paris, France
Hybrid algorithms for constructions, TV advertising and civil contracts

- **TECHNICAL SESSION: CP AND IP**

Sebastian BRAND, University of Melbourne, Australia
Minimum cardinality matrix decomposition into consecutive-ones property matrixes: CP and IP approaches

- **TECHNICAL SESSION: SCHEDULING**

Tamas KIS, Hungarian Academy of Sciences, Budapest, Hungary
Computing tight time windows for RCPSPWET with the primal-dual method

Nicolas BELDICEANU, Laboratoire d'Informatique de Nantes Atlantique, France
A continuous multi-resources cumulative constraint with positive-negative resource consumption-production

Marjan van den AKKER, Universiteit Utrecht, The Netherlands
A column generation based destructive lower bound for resource constrained project scheduling problems

Alexandra RUFINI, Université Nice Sophia-Antipolis, France
Social norms, coordination and collaboration in heterogeneous teams

- **INVITED TALK**

George NEMHAUSER, Georgia Institute of Technology, Atlanta (GA), USA
Scheduling on demand air transportation

- **TECHNICAL SESSION: CLUSTERING**

Yu XIA, CORE, UCL, Belgium and Institute of Mathematical Statistics, Tokyo, Japan
Constrained clustering via concavity cuts

▪ **TECHNICAL SESSION: HYBRID LOCAL SEARCH**

Hakan YILDIZ, Carnegie Mellon University, Pittsburgh (PA), USA

Bender's cuts guided large neighborhood search for the traveling umpire problem

Hakan YILDIZ, Carnegie Mellon University, Pittsburgh (PA), USA

A large neighborhood search heuristic for graph coloring

Yehuda NAVEH, IBM Haifa Research Lab, Israël

Preprocessing expression-based constraint satisfaction problems for stochastic local search

Andrea ROLI, Università degli Studi di Bologna, Italy

Hybrid local search for constrained financial portfolio selection problems

MAY 25

▪ **TUTORIAL TALK**

John CHINNECK, Carleton University, Ottawa, Canada

Feasibility and infeasibility in optimization

▪ **TECHNICAL SESSION: FEASIBILITY AND OPTIMALITY**

Ashish SABHARWAL, Cornell University, Ithaca (NY), USA

Connections in networks: hardness of feasibility versus optimality

▪ **TECHNICAL SESSION: UNCERTAINTY AND PREFERENCES**

Daria TEREKHOV, University of Toronto, Canada

Solving a stochastic queueing control problem with constraint programming

Roberto ROSSI, University College, Cork, Ireland

Replenishment planning for stochastic inventory systems with shortage cost

Pierre SCHAUS, UCL, Belgium

The deviation constraint

▪ **INVITED TALK**

Bart SELMAN, Cornell University, Ithaca (NY), USA

The challenge and promise of automated reasoning

▪ **TECHNICAL SESSION: SAT**

Olivier FOURDRINOY, Université d'Artois, Lens, France

Eliminating redundant clauses in SAT instances

▪ **TECHNICAL SESSION: IP**

Meinolf SELLMANN, Brown University, Providence (RI), USA

The linear programming polytope of binary constraint problems with bounded tree-width

Radu MARINESCU, University of California, Irvine (CA), USA

Best-first and/or search for 0/1 integer programming

Marie-Claude CÔTÉ, Ecole Polytechnique de Montréal, Canada

Modeling the regular constraint with integer programming

Tarik HADZIC, IT-University of Copenhagen, Denmark

Cost-bounded binary decision diagrams for 0-1 programming

MAY 26

- **TECHNICAL SESSION: GLOBAL CONSTRAINTS**

Jean-Noël MONETTE, UCL, Belgium

A position-based propagator for the open-shop problem

Grégoire DOOMS, Brown University, Providence (RI), USA

The 'not-too-heavy spanning tree' constraint

Andras KOVACS, Hungarian Academy of Sciences, Budapest, Hungary

A global constraint for total weighted completion time

Alessandro ZANARINI, Ecole Polytechnique de Montréal, Canada

Generalizations of the global cardinality constraint for hierarchical resources

- **INVITED TALK**

Claude LE PAPE, ILOG S.A., Gentilly, France

Integrated manufacturing planning, batching, and scheduling: issues, problem-solving methods, benchmarks

- **TECHNICAL SESSION: APPLICATION**

Chris UNSWORTH, University of Glasgow, United Kingdom

A constraint programming approach to the hospitals/residents problem

- **TECHNICAL SESSION: IP**

Nicolas BELDICEANU, Laboratoire d'Informatique de Nantes Atlantique, France

Necessary condition for path partitioning constraints

Wafa KAROUI, Laboratoire d'Analyse et d'Architecture des Systèmes, Toulouse, France

A learning minimum discrepancy search for CSPs

Jean-Georg SMAUS, Albert-Ludwigs-Universität Freiburg, Germany

On Boolean functions encodable as a single linear pseudo-boolean constraint

▪ **THIRD SUMMER SCHOOL ON ECONOMIC ANALYSIS OF HETEROGENEITY IN SOCIAL ORGANIZATIONS**

organized by Claude D'ASPREMONT, Jean HINDRIKS, François MANIQUET, Jacques THISSE CORE, UCL and Shlomo WEBER, Southern Methodist University, Dallas (TX), USA and sponsored by the Belgian Science Policy, the Communauté française de Belgique, CORE, the CORE Foundation, the European Science Foundation and the Fonds National de la Recherche Scientifique and the Fonds Spéciaux de Recherche (FSR).

PROGRAMME

JUNE 4

- **PLENARY SESSION I – CHAIRS : JACQUES THISSE AND FRANÇOIS MANIQUET, CORE, UCL**
Jean TIROLE, Institut d'Economie Industrielle, Toulouse, France
Motivated cognition

Avinash DIXIT, Princeton University (NJ), USA
Economic governance 1: General concepts and empirical studies.

- **PARALLEL SESSION A1: NON-SELFISH BEHAVIOUR I**
CHAIR: JEAN TIROLE, INSTITUT D'ECONOMIE INDUSTRIELLE, TOULOUSE, FRANCE
Carmine GUERRIERO, Cambridge University, United Kingdom
The evolution of legal systems: on heterogeneity, vengeance and the moral sentiments

Denis HERBAUX, ECARES, Université Libre de Bruxelles, Belgium
The tyranny of social norms on individual behavior

Daniel HUNGERMAN, University of Notre-Dame (IN), USA
Diversity and crowd-out: a theory of cold-glow giving

- **PARALLEL SESSION B1: MARKET DESIGN**
CHAIR: CLAUDE D'ASPREMONT, CORE, UCL
Olivier BOS, Paris-Jourdan Sciences Economiques, France
Charity auctions for the happy few

Luca GELSOMINI, University of Warwick
Non-anonymous markets

- **PARALLEL SESSION A2: NON-SELFISH BEHAVIOUR II**
CHAIR: JEAN TIROLE, INSTITUT D'ECONOMIE INDUSTRIELLE, TOULOUSE, FRANCE
Peter KATUSCAK, CERGE-EI, Praha, Czech Republic
Trust and trustworthiness in an economy with heterogeneous individuals

Marco PIOVESAN, Università di Padova, Italy
A mechanism design problem with moral-hazard and heterogeneous social preferences

Sabrina TEYSSIER, Université Lumière Lyon 2, France
Optimal group incentives with social preferences and self-selection

▪ **PARALLEL SESSION B2: ECONOMICS OF ORGANIZATIONS I**

CHAIR : PIERRE-ANDRÉ CHIAPPORI, COLUMBIA UNIVERSITY, NEW YORK (NY), USA

Benoît CRUTZEN, Erasmus Universiteit Rotterdam, The Netherlands
Confidence management: on interpersonal comparisons in teams

Robert DEHM, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
A principal-agent approach to a self-administered organization with an elected principal

Alexandra RUFINI, Université Nice Sophia Antipolis, France
Firm tenure heterogeneity and the social learning process choice: mentorship or teamwork?

▪ **PARALLEL SESSION A3: EDUCATION**

CHAIR : XAVIER WAUTHY, FACULTÉS UNIVERSITAIRES SAINT-LOUIS, BRUXELLES AND CORE, UCL, BELGIUM

Efthymios ATHANASIOU, CORE, UCL
Educational outcomes and equality of opportunity

Limor HATSOR, Tel Aviv University, Israël
The allocation of public education resources

▪ **PARALLEL SESSION B3: INDIVIDUAL PERFORMANCES**

CHAIR : PIERRE-ANDRÉ CHIAPPORI, COLUMBIA UNIVERSITY, NEW YORK (NY), USA

Decio COVIELLO, European University Institute, Firenze, Italy
Duration of trials and the individual productivity of judges

Stefano SACCHETO, London Business School, United Kingdom
Stock-based compensation and managerial myopia

JUNE 5

▪ **PLENARY SESSION II – CHAIRS : JEAN HINDRIKS, CORE, UCL AND SHLOMO WEBER, SOUTHERN METHODIST UNIVERSITY, DALLAS (TX), USA**

Pierre-André CHIAPPORI, Columbia University, New York (NY), USA
Modeling heterogeneity: formal models of efficient group behavior

Jean TIROLE, Institut d'Economie Industrielle, Toulouse, France
Self-perception and self signaling

▪ **PLENARY SESSION III – CHAIR: SHLOMO WEBER, SOUTHERN METHODIST UNIVERSITY, DALLAS (TX), USA**

Jean TIROLE, Institut d'Economie Industrielle, Toulouse, France
Economic incentives, self-motivation and social pressure

▪ **PARALLEL SESSION A4: NON-SELFISH BEHAVIOUR III**

CHAIR: JEAN TIROLE, INSTITUT D'ECONOMIE INDUSTRIELLE, TOULOUSE, FRANCE

Steffen ALTMANN, Forschungsinstitut zur Zukunft der Arbeit, Bonn, Germany

Do the reciprocal trust less ?

Meriem BOUAMOUD, Université Lyon 2, France

Helping behavior in heterogeneous teams: an experimental evidence

Holger STICHNOTH, Paris-Jourdan Sciences Economiques, France

Does immigration affect natives' support for unemployment insurance? Evidence from Germany

▪ **PARALLEL SESSION B4: COOPERATION**

CHAIR: PAUL BELLEFLAMME, CORE, UCL

Olivier DAGNELIE, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium

Inequality and a repeated joint project

Philippe DELACOTE, European University Institute, Firenze, Italy

Commons as insurance: poverty traps or safety nets ?

Catarina GOULAO, Universidade de Alicante, Spain

Pooling and redistribution with moral hazard

▪ **PARALLEL SESSION A5: MECHANISM DESIGN (PUBLIC GOOD)**

CHAIR: JACQUES DRÈZE, CORE, UCL

Stefan BEHRINGER, Universität Frankfurt, Germany

The provision of a public good with a direct provision technology and a large number of agents

Olivier BOCHET, Universiteit Maastricht, The Netherlands

Priorities and hierarchies in the location of multiple public facilities

▪ **PARALLEL SESSION B5: MATCHING**

CHAIR: FRANÇOIS MANIQUET, CORE, UCL

Joana PAIS, Instituto Superior de Economia e Gestão, Lisboa, Portugal

On random matching markets: properties and equilibria

Eugenio PROTO, University of Warwick, United Kingdom

Moral hazard and entrepreneurial failure in a two-sector model of productive matching – with an application to the natural resource curse

JUNE 6

- **PLENARY SESSION IV – CHAIR: FRANÇOIS MANIQUET, CORE, UCL**
 Avinash DIXIT, Princeton University (PA), USA
Economic governance 2: Some theoretical models
Economic governance 3: Open questions and research opportunities
- **PARALLEL SESSION A6: POLITICAL ECONOMICS**
CHAIR: AVINASH DIXIT, PRINCETON UNIVERSITY (PA), USA
 Vincent ANESI, University of Nottingham, United Kingdom
Party formation and racism

 Selim Jurgen ERGUN, Universitat Autònoma de Barcelona, Spain
From plurality rule to proportional representation

 Galina ZUDENKOVA, Universidad Carlos III de Madrid, Spain
Income redistribution under sincere lobbying formation
- **PARALLEL SESSION B6: POWER**
CHAIR: GANI ALDASHEV, FACULTÉS UNIVERSITAIRES NÔRE-DAME DE LA PAIX, NAMUR AND CORE, UCL
 Etienne GOGNARD, Université Lumière Lyon 2, France
Employer political fragmentation and institutional processes: some building blocks for analyzing employers' power

 Petros SEKERIS, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Preference falsification, rent seeking, and patronage in an autocratic regime

 Biung-Ghi JU, Korea University, Korea
Individual powers and social consents: an axiomatic approach
- **PARALLEL SESSION A7: JURISDICTIONS AND COLLECTIVE DECISIONS**
CHAIR: SHLOMO WEBER, SOUTHERN METHODIST UNIVERSITY, DALLAS (TX), USA
 Antoine LOEPER, Northwestern University, Evanston (IL), USA
Federal legislative directives and local discretion power

 Jaime LUQUE, Universidade Nova de Lisboa, Portugal
On the formation of jurisdictions with heterogeneous agents' characteristics power

 Tahir OZTURK, Universitat Autònoma de Barcelona, Spain
Local public good provision in a segregated society
- **PARALLEL SESSION B7: TRADE**
CHAIR: AVINASH DIXIT, PRINCETON UNIVERSITY (PA), USA
 Kristian BEHRENS, CORE, UCL
"Dual" gravity: using spatial econometrics to control for multilateral resistance

Karen CRABBE, Katholieke Universiteit Leuven, Belgium
Trade, institutions and export specialization

Giordano MION, CORE, UCL
Productivity and firm selection: intra-national vs international trade

▪ **PARALLEL SESSION A8: TAXATION AND REDISTRIBUTION**

CHAIR : AXEL GAUTIER, UNIVERSITÉ DE LIÈGE AND CORE, UCL, BELGIUM

Juan MORENO-TERNERO, CORE, UCL and Universidad de Malaga, Spain
Progressivity, inequality reduction and merging-proofness in taxation

Giacomo VALLETTA, CORE, UCL
A fair solution to the compensation problem

▪ **PARALLEL SESSION B8: MACROECONOMIC QUESTIONS**

CHAIR : RAOUF BOUCEKINE, ECON-IRES AND CORE, UCL

Wei PANG, University of Newcastle, United Kingdom
How productive is optimism? The impacts of ambiguity on big push and multiplier

Dmitry LEVANDO, Higher School of Economics-State University, Moscow, Russia
A possible game behind an invisible hand: convergence from a short to the long run equilibrium for a large market with decentralized trade

JUNE 7

▪ **PLENARY SESSION V – CHAIR : JEAN HINDRIKS, CORE, UCL**

Pierre-André CHIAPPORI, Columbia University, New York (NY), USA
Recovering heterogeneity: identification issues in models of efficient group behavior

Pierre-André CHIAPPORI, Columbia University, New York (NY), USA
Heterogeneity and interactions

▪ **PARALLEL SESSION A9: DISCRIMINATION**

CHAIR : MICAEL CASTANHEIRA, UNIVERSITÉ LIBRE DE BRUXELLES, BELGIUM

Fusako TSUCHIMOTO, CERGE-EI, Praha, Czech Republic
The theory of ethnic diversity and income distribution

Jörg FRANKE, Universitat Autònoma de Barcelona, Spain
Affirmation action in contest games

Emmanuelle WALKOWIAK, Université d'Orléans, France
Low wage and high unemployment: the role of social interactions in hiring discrimination

▪ **PARALLEL SESSION B9: IO-MARKET REGULATION**

CHAIR : VINCENT VANNETELBOSCH, CORE, UCL

Nada BEN EL HADJ, Ecole Polytechnique de Tunisie, La Marsa, Tunisie

Vertical differentiation and relative preferences for quality

Evrin DENER, Southern Methodist University, Dallas (TX), USA

Product improvement and quality uncertainty in a durable good monopoly

Feirouz KSONTINI, Ecole Polytechnique de Tunisie, La Marsa, Tunisie

Vertical differentiation in the presence of an insensitive population to quality

▪ **PARALLEL SESSION A10: TAX COMPETITION**

CHAIR : JEAN HINDRIKS, CORE, UCL

Oscar AMERIGHI, CORE, UCL

Competition for FDI in the presence of a public firm and the effect of privatization

Susana PERALTA, Universidade Nova de Lisboa, Portugal

The race for polluting permits

Filippo GREGORINI, Universita Cattolica, Milano, Italy

Political geography and income inequalities

▪ **PARALLEL SESSION B10: GAME THEORY**

CHAIR : PIERRE DEHEZ, CORE, UCL

Cristiana BENEDETTI, European University Institute, Firenze, Italy

Bounded rationality: does it matter in industrial dynamics

Sebastian GRYGLEWICZ, Universiteit Tilburg, The Netherlands

A stochastic version of the signaling game

Trom TRUYTS, Katholieke Universiteit Leuven, Belgium

Social status in a social structure: noisy signaling in networks

▪ **PARALLEL SESSION A11: MULTI-LINGUAL SOCIETIES**

CHAIR : SHLOMO WEBER, SOUTHERN METHODIST UNIVERSITY, DALLAS (TX), USA

Maksym IVANYNA, Universität Regensburg, Germany

Multilingual societies, benevolent governments and dying languages

Alexei SAWATEEV, New Economic School, Moscow, Russia

Linguistic equilibria in the multi-nation world

■ TARK 11: THEORETICAL ASPECTS OF RATIONALITY AND KNOWLEDGE

organized by Ana MAULEON, Facultés Universitaires Saint-Louis, Bruxelles and CORE, UCL, Belgium, Pierre-Yves SCHOBGENS, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium and Vincent VANNETELBOSCH, Facultés Universitaires Saint-Louis, Bruxelles and CORE, UCL, Belgium . This conference was held at the Facultés Universitaires Saint-Louis, Bruxelles, Belgium and sponsored by the Belgian Science Policy, the Communauté française de Belgique, CORE, the Facultés Universitaires Saint-Louis, Bruxelles, the Facultés Universitaires Notre-Dame de la Paix, Namur and the Fonds National de la Recherche Scientifique (FNRS).

PROGRAMME

JUNE 25

■ INVITED TALK

Frank ARNTZENIUS, Rutgers University (NJ), USA
No regrets

■ SESSION 1: PROBABILITY AND UNCERTAINTY

Riccardo PUCELLA, Northwestern University, Evanston (IL), USA
Dealing with logical omniscience

Mikael COZIC, Ecole Normale Supérieure d'Ulm, Paris, France
Imaging and sleeping beauty: a case for double-halfers

Jayant GANGULI, Cornell University, Ithaca (NY), USA
Common p -belief and uncertainty

Nicolas TROQUARD, Université Paul Sabatier, Toulouse, France
A normal simulation of coalition logic and an epistemic extension

■ SESSION 2: EQUILIBRIUM AND SOCIAL CHOICE

Olivier TERCIEUX, CNRS, Paris, France
Robust equilibria under non-common priors

Krzysztof APT, Universiteit Amsterdam, The Netherlands
Epistemic analysis of strategic games with arbitrary strategy sets

Ulle ENDRISS, Universiteit Amsterdam, The Netherlands
Vote manipulation in the presence of multiple sincere ballots

Paul HARRNSTEIN, Ludwig-Maximilians-Universität München, Germany
The computational complexity of choice sets

JUNE 26

- **INVITED TALK**

Yishay MANSOUR, Tel Aviv University, Israël
Learning, regret minimization and option pricing

- **SESSION 3: UNAWARENESS 1**

Erkut OZBAY, New York University (NY), USA
Unawareness and strategic announcements in games with uncertainty

Burkhard SCHIPPER, University of California, Davis (CA), USA
Unawareness, beliefs and games

Joseph HALPERN, Cornell University, Ithaca (NY), USA
Generalized solution concepts in games with possibly unaware players

- **ADVERTISEMENT OF POSTERS**

Spyros GALANIS, University of Rochester (NY), USA
Theorems and unawareness

Tikity DE JAGER and Robert VAN ROOIJ, Universiteit van Amsterdam, The Netherlands
Deriving quantity implicatures

Thomas AGOTNES, Bergen University College, Norway, Valentin GORANKO, University of the Witwatersrand, Johannesburg, South Africa and Wojtek JAMROGA, Clausthal University of Technology, Clausthal-Zellerfeld, Germany
Alternating-time temporal logics with irrevocable strategies

Ron VAN DER MEYDEN, University of New South Wales, Sydney, Australia and Thomas WILKE, Christian-Albrechts-Universität zu Kiel, Germany
Preservation of epistemic properties in security protocol implementations

Lirong XIA, Tsinghua University, China, Jerome LANG, Université Paul Sabatier, Toulouse, France and Mingsheng YING, Tsinghua University, China
Sequential voting rules and multiple elections paradoxes

Gabriella PIGOZZI, University of Luxembourg, Luxembourg and Stephan HARTMANN, Tilburg University, The Netherlands
Aggregation in multi-agent systems and the problem of truth-tracking

A. BASKAR, R. RAMANUJAM and S.P. SURESH, Chennai Mathematical Institute, Chennai, India
Knowledge-based modeling of voting protocols

Vincent CONITZER, Duke University, Durham (NC), USA
Limited verification of identities to induce false-name-proofness

Dirk WALTHER, Wiebe VAN DER HOEK AND Michael WOOLDRIDGE, University of Liverpool, United Kingdom,
Alternating-time temporal logic with explicit strategies

Julien DUTANT, Université de Genève, Switzerland
Inexact knowledge, margin for error and positive introspection

▪ **SESSION 4: DYNAMICS**

Jelle GERBRANDY, Università di Torino, Italy
Merging frameworks for interaction: DEL and ETL

Hans VAN DITMARSCH, University of Otago, New Zealand
What can we achieve by arbitrary announcements? A dynamic take on Fitch's knowability

Eilon SOLAN, Tel Aviv University, Israël
Convergence of behavior in social networks

Lucie MÉNAGER, Université Paris I, France
Communication, consensus and order. Who wants to speak first?

JUNE 27

▪ **INVITED TALK**

Bernhard VON STENGEL, London School of Economics, United Kingdom
Games, geometry and the computational complexity of finding equilibria

▪ **SESSION 5**

Sonja SMETS, Vrije Universiteit Brussel, Belgium
From conditional probability to the logic of doxastic actions

Jelle GERBRANDY, Università di Torino, Italy
A flexible mechanism for dialogue design

Ofer ARIELI, Israël
Commonsense reasoning by distance semantics

Riccardo PUCCELLA, Northwestern University, Evanston (IL), USA
Perfect cryptography, S5 knowledge, and algorithmic knowledge

▪ **SESSION 6: UNAWARENESS 2**

Natasha ALECHINA, University of Nottingham, United Kingdom
Full and relative awareness: a decidable logic for reasoning about knowledge of unawareness

Emel FILIZ, Columbia University, New York (NY), USA
Incorporating unawareness into contract theory

Martin MEIER, Spanish Council for Scientific Research, Spain
A canonical model for interactive unawareness

7

INVITED SEMINARS BY CORE MEMBERS

The following seminars were presented by CORE members during the academic year 2006-2007.

PER AGRELL

- *New directions in DER regulation research*
BI Norwegian School of Management, Oslo, Norway (October 2006)

AYSE AKBALIK RAPINE

- *Logistic optimization*
Facultés Universitaires Catholiques de Mons, Belgium (March 2007)
- *Lot sizing problem*
Université de Liège, Belgium (March 2007)
- *Valid inequalities for the lot sizing problem*
Institut Universitaire de Technologie d'Annecy, France (May 2007)

NIHAT AKTAS

- *Hubris, learning, and M&A decisions: empirical evidence*
Université Paris-Dauphine, France (October 2006)
Ecole de Management, Lyon, France (January 2007)

GANI ALDASHEV

- *Internationalization of NGOs and markets for development donations*
Erasmus Universiteit Rotterdam, The Netherlands (December 2006)
Universita degli Studi di Urbino, Italy (June 2007)
Universita degli Studi Roma Tre, Italy (June 2007)

OSCAR AMERIGHI

- *Competition for FDI in the presence of a public firm and the effects of privatization*
Universita di Bologna, Italy (May 2007)

LUC BAUWENS

- *Regime switching GARCH models*
ECARES, Université Libre de Bruxelles, Belgium (December 2006)
- *A component GARCH model with time varying weights*
Aarhus Universitet, Denmark (April 2007)
Humboldt-Universität zu Berlin, Germany (May 2007)

KRISTIAN BEHRENS

- *Bidding for horizontal multinationals*
Erasmus Universiteit Rotterdam, The Netherlands (February 2007)
- *Testing the home market effect in a multi-country world*
Université Libre de Bruxelles, Belgium (February 2007)
University of Toronto, Canada (February 2007)
Université du Québec, Montréal, Canada (February 2007)
Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium (March 2007)
Université du Luxembourg, Luxembourg (March 2007)

RAOUF BOUCEKKINE

- *A theory of dynamics and inequalities under epidemics*
GREQAM, Université d'Aix-Marseille, France (January 2007)
- *Vintage capital models in economic research*
University of Glasgow, United Kingdom (May 2007)

THIERRY BRÉCHET

- *Ranking in eco-efficiency under equilibrium*
Université Cergy-Pontoise, France (November 2006)
- *Transport aérien et permis négociables de bruit*
Ministère de l'Équipement (MEDAD), Paris, France (June 2007)

GEOFFREY CARUSO

- *Espaces périurbains: définition, morphogenèse, modélisation*
Groupe de Prospectives "Futurs Périurbains", Délégation à l'Aménagement et à la Compétitivité des Territoires (DIACT), Paris, France (March 2007)

ERIC DE BODT

- *Hubris, learning, and M&A decisions: empirical evidence*
Université Paris-Dauphine, France (October 2006)
Ecole de Management, Lyon, France (January 2007)

GIUSEPPE DE FEO

- *Efficiency of competition in insurance markets with adverse selection*
Center for Studies in Economics and Finance, Università degli Studi di Salerno, Italy (February 2007)
Università degli Studi di Napoli, Italy (March 2007)

PIERRE DEHEZ

- *How to share fixed costs in cost games*
Universita degli Studi di Padova, Italy (January 2007)
Universita di Pisa, Italy (January 2007)
Institute for Advanced Studies, Lucca, Italy (January 2007)

FERNANDA ESTEVAN

- *Research and higher education: can we deliver the Lisbon perspectives?*
European University Institute, Firenze, Italy (October 2006)
- *Mortality risks, education and child labor*
Center for Economic Research and Graduate Education - Economics Institute (CERGE-EI),
Praha, Czech Republic (March 2007)

EMMANUELE FORLANI

- *Service sector market competition and manufacturing firms productivity: does liberalization matters?*
Universita di Urbino, Italy (June 2007)

JEAN GABSZEWICZ

- *Two-sided markets and multihoming*
Groupement de Recherche en Economie Quantitative d'Aix-Marseille (GREQAM), France
(October 2006)
Universita Bocconi, Italy (March 2007)
- *Newspapers market shares and the theory of the circulation spiral*
Université du Luxembourg, Luxembourg (April 2007)
Universidade do Porto, Portugal (May 2007)
Ecole Polytechnique de Tunis, Tunisie (July 2007)

FRANÇOIS GLINEUR

- *Solving a large class of structured convex optimization problems with a unified conic formulation*
K.U.Leuven Optimization in Engineering Center (OPTEC), Leuven, Belgium (June 2007)

CHRISTIAN HAFNER

- *Asymptotic theory for a factor GARCH model*
Tinbergen Institute, Amsterdam, The Netherlands (December 2006)
Katholieke Universiteit Leuven, Belgium (March 2007)
City University London, United Kingdom (March 2007)
Universität zu Kiel, Germany (April 2007)
University of Haifa, Israël (June 2007)

JEAN HINDRIKS

- *Decentralization and electoral accountability*
University of Clemson (SC), USA (April 2007)
Central European University, Budapest, Hungary (May 2007)
Economics Education and Research Consortium, Kiev, Ukraine (June 2007)

FRÉDÉRIC LAURIN

- *The mapping specialization into exports in Spain's regions*
CentER, Universiteit Tilburg, The Netherlands

ROLAND IWAN LUTTENS

- *Voting for redistribution under responsibility-sensitive altruism*
Norwegian School of Economics and Business Administration, Bergen, Norway (May 2007)

PETER MALKIN

- *4ti2 v1.3: A software package for algebraic, geometric and combinatorial problems on linear spaces*
Institute for Mathematics and its Applications, University of Minnesota, Minneapolis (MN), USA (October 2006)

FRANÇOIS MANIQUET

- *De l'utilité de l'économie du bien-être*
Université Paris V (Descartes), France (May 2007)

MARCO MARINUCCI

- *Optimal ownership in joint ventures with asymmetric investments*
Università degli Studi G. d'Annunzio, Pescara, Italy (April 2007)

ANA MAULEON

- *Farsightedly stable networks*
Facultés Universitaires Saint-Louis, Bruxelles, Belgium (November 2006)
- *Contractually stable networks*
Tinbergen Institute, Amsterdam, The Netherlands (April 2007)

YANN MÉNIÈRE

- *Patents and innovation*
Université Lyon 2, France (March 2007)

- *Impact économique du brevet logiciel: un état des savoirs*
Ministère français de l'Education Nationale, Paris, France (March 2007)

ANTONIO MINNITI

- *Growth and welfare: a quality-ladder model with random quality improvements*
Universita degli Studi di Milano, Italy (January 2007)

GIORDANO MION

- *Productivity and firm selection: intra-national vs. inter-national trade*
Université de Lille, France (February 2007)
Universität Innsbruck, Austria (March 2007)
- *Trade integration, firm selection and the costs of non-Europe*
University of Toronto, Canada (September 2006)
University of Bologna at Buenos Aires, Argentina (April 2007)
- *The spatial sorting and matching of skills and firms*
Institut National de la Recherche Scientifique, Montréal, Canada (October 2006)

JUAN D. MORENO TERNERO

- *The political economy of health care finance*
Universitat Autònoma de Barcelona, Spain (May 2007)
Universidade de Vigo, Spain (May 2007)
København Universitet, Denmark (May 2007)
Katholieke Universiteit Leuven, Belgium (June 2007)
- *Objectivity, priority and the veil of ignorance*
Nijmegen Center for Economics, Nijmegen, The Netherlands (May 2007)

YURII NESTEROV

- *Second-order methods with provable global complexity*
Georgia Tech, Atlanta, Georgia (February 2007)

DOMINIQUE PEETERS

- *Early literacy achievements, population density and the transition to modern growth*
Université Louis-Pasteur, Strasbourg, France (November 2006)

PIERRE PESTIEAU

- *The welfare state in the EU*
International Monetary Fund, Washington (DC), USA (September 2006)
World Bank, Washington (DC), USA (January 2007)

- *LTC: the state, the market and the family*
University of Queensland, Brisbane, Australia (November 2006)
Australian National University, Canberra, Australia (November 2006)
The University of New South Wales, Sydney, Australia (November 2006)
- *The welfare state in the EU. Lessons for transition economies*
World Bank, Washington (DC), USA (January 2007)
- *Collective annuitization and redistribution taxation*
Paris-Jourdan Sciences Economiques, France (April 2007)
Universität zu Köln, Germany (June 2007)
- *L'Etat-Providence: performances et défis*
Université de Neufchatel, Switzerland (May 2007)

JOANA RESENDE

- *The economic advantage of being the "voice of the majority"*
Universidade do Porto, Portugal (May 2007)

LÉOPOLD SIMAR

- *An invitation to the bootstrap: panacea for statistical inference*
Universita di Pisa, Italy (November 2006)
- *Recent advances in multivariate data analysis*
Universita di Pisa, Italy (November 2006)
- *Recent advances in nonparametric estimation of efficient production frontiers*
Union College, Schenectady (NY), USA (April 2007)
- *Stochastic versions of FDH/DEA envelopment estimators*
GREMAQ, Université de Toulouse I, France (May 2007)
- *Introduction to the bootstrap with applications in econometrics*
Universita di Bologna, Italy (May 2007)

JACQUES THISSE

- *Globalization, sustainable development and regional science*
University of Shanghai (December 2006)

ISABELLE THOMAS

- *Le dessous des cartes : nouvelle donne pour la Wallonie*
Banque Nationale de Belgique, Nivelles, Belgium (May 2007)
- *Se loger en Belgique: où et à quel prix? Quelques réalités géographiques*
Union des Villes et des Communes de Wallonie, Namur (June 2007)

SÉBASTIEN VAN BELLEGEM

- *Regularization techniques in onon and semi-parametric instrumental regression*
Tinbergen Institute, Amsterdam, The Netherlands (January 2007)
- *Inference in semi- and nonparametric regression with instrumental variables*
Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany (January 2007)
- *Local adaptive estimation for nonstationary time series*
Ecole Nationale de la Statistique et de l'Analyse de l'Information (ENSAI), Rennes, France (June 2007)

VINCENT VANNETELBOSCH

- *Contractually stable networks*
Facultés Universitaires Saint-Louis, Brussels, Belgium (December 2006)
Tinbergen Institute, Amsterdam, The Netherlands (April 2007)
- *Farsightedly stable networks*
Department of Economic Analysis II, Universidad del Pais Vasco, Bilbao, Spain (February 2007)
Centre Emile Borel, Institut Henri Poincaré, Paris, France (April 2007)

CECILIA VERGARI

- *Compatibility choice in vertically differentiated markets*
Facultés Universitaires Saint-Louis, Bruxelles, Belgium (May 2007)

LAURENCE WOLSEY

- *Lattice based extended formulations for integer linear equality systems*
Ecole Polytechnique Fédérale de Lausanne, Switzerland (November 2006)

SKERDILAJDA ZANAJ

- *Upstream market foreclosure*
Universita di Lecce, Italy (November 2006)

8

ACADEMIC VISITS OF CORE MEMBERS

Academic visits by CORE members to other institutions

AYSE AKBALIK RAPINE

Ecole Mohammadia d'Ingénieurs, Rabat, Morocco (October 2006)

NIHAT AKTAS

Anderson School of Management, University of California at Los Angeles (CA), USA
(December 2006)

OSCAR AMERIGHI

Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (June
2007)

KRISTIAN BEHRENS

Nihon University, Tokyo, Japan (February, March and July 2007)
University of Tokyo, Japan (June and July 2007)

RAOUF BOUCEKKINE

HEC, Paris, France (February and May 2007)
University of Glasgow, United Kingdom (June 2007)

CLAUDE D'ASPREMONT

Institut d'Economie Industrielle (IDEI), Université des Sciences Sociales, Toulouse, France
(May 2007)
Groupement de Recherche en Economie Quantitative d'Aix-Marseille (GREQAM), Aix-
Marseille, France (May 2007)

ERIC DE BODT

Anderson School of Management, University of California at Los Angeles (CA), USA
(December 2006 and May 2007)

DAVID DE LA CROIX

University of California at Los Angeles (CA), USA (June 2007)

FERNANDA ESTEBAN

Center for Economic Research and Graduate Education - Economics Institute (CERGE-EI),
Praha, Czech Republic (February to August 2007)

CHRISTIAN HAFNER

University of Haifa, Israël (June 2007)

JEAN HINDRIKS

Université de Montpellier, France (March 2007)

QUENTIN LOUVEAUX

Otto-von-Guericke Universität Magdeburg, Germany (November 2006, February and June 2007)

ROLAND IWAN LUTTENS

Laboratoire de Macroéconomie, CREST Malakoff, France (November 2006)
Norwegian School of Economics and Business Administration, Bergen, Norway (May and June 2007)

FRANÇOIS MANIQUET

Indian Statistical Institute, New Delhi (February 2007)

ANA MAULEON

University of the Basque Country, Bilbao, Spain (February 2007)

YANN MÉNIÈRE

Arizona State University, Temple (AZ), USA (April 2007)

ANTONIO MINNITI

Università di Bologna, Italy (October 2006 to February 2007)

GIORDANO MION

University of Toronto, Canada (September to December 2006)

JUAN D. MORENO TERNERO

Universitat Autònoma de Barcelona, Spain (February 2007)

DOMINIQUE PEETERS

Université Louis-Pasteur, Strasbourg, France (September to December 2006)

PIERRE PESTIEAU

International Monetary Fund, Washington (DC), USA (September 2006)
Université du Québec à Montréal, Canada (October 2006)
Institut d'Economie Industrielle (IDEI), Toulouse, France (October 2006, February, April, June and July 2007)
Australian National University, Canberra, Australia (October and November 2006)
World Bank, Washington (DC) (January 2007)

PIERRE PICARD

ECARES, Université Libre de Bruxelles, Belgium (June to August 2007)

ERIK SCHOKKAERT

London School of Economics, London, United Kingdom (February 2007)

EVE RAMAEKERS

Laboratoire d'Économétrie, Ecole Polytechnique, Paris, France (May to July 2007)

LÉOPOLD SIMAR

Institute for Economics and Social Sciences, Universität Bonn, Germany (September 2006)
Universität Bonn, Germany (October 2006)
Santa-Anna School of Advanced Studies, Pisa, Italy (November 2006)
Università di Pisa, Italy (November 2006)
Humboldt-Universität zu Berlin, Germany (November 2006)
Union College, Schenectady (NY), USA (April 2007)
Clemson University, Clemson (SC), USA (April 2007)
Institut d'Economie Industrielle (IDEI), Université des Sciences Sociales, Toulouse, France (May 2007)
Università di Bilogna, Italy (May and June 2007)

YVES SMEERS

Università degli Studi di Bergamo, Italy (October 2006)

JACQUES THISSE

University of Kyoto, Japan (September to December 2006)
University of Tokyo, Japan (December 2006)

HENRY TULKENS

National University of Singapore (October and November 2006)

SÉBASTIEN VAN BELLEGEM

Institut d'Economie Industrielle (IDEI), Université des Sciences Sociales, Toulouse, France
(September 2006)

Universidad Católica de Chile, Santiago, Chile (November 2006)

Institut für Angewandte Mathematik, Universität Heidelberg, Germany (June and July 2007)

VINCENT VANNETELBOSCH

University of the Basque Country, Bilbao, Spain (February 2007)

9

CONFERENCES ATTENDED BY CORE MEMBERS

CORE members attended the following conferences and most presented a paper.

PER AGRELL

- LIS Workshop on Logistics and Supply Chain Management, Universiteit Rotterdam, The Netherlands (September 2006)
- NEF Annual Conference, Skien, Norway (October 2006)
- Workshop on "Improving and Extending Incentive-based Regulation in the Energy Sector", Florence School of Regulation, Firenze, Italy (November 2006)
- Nettkonferansen 2006, Oslo, Norway (December 2006)
- EBL-KS-FSN Workshop on Norm Models in Electricity Network Regulation, Oslo, Norway (February 2007)
- LIS Workshop on Logistics and Supply Chain Management, IAG-Louvain School of Management, UCL, Belgium (co-organizer, March 2007)
- Tenth European Workshop on Productivity and Efficiency Analysis (EWEPA X), Lille 2, France (co-organizer, June 2007)
- UCL-UPC Workshop on "Norm Models in Distribution System Regulation", Universita Pontificia Comillas, Madrid, Spain (co-organizer, June 2007)
- Second International Conference on Competition and Regulation, Corfu, Greece (July 2007)

AYSE AKBALIK RAPINE

- 21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)
- Conférence conjointe FRANCORO V/ROADEF 2007, Ecole Normale Supérieure d'Ingénieurs Electriciens de Grenoble, Grenoble, France (February 2007)
- Journées de 3^{ème} cycle FNRS en Programmation Mathématique, Han-sur-Lesse, Belgium (March 2007)

NIHAT AKTAS

- 4th Corporate Finance Day, Universiteit Hasselt, Diepenbeek, Belgium (September 2006)
- IFRI Conference on "Europe in Global, Innovation-based Competition: Meeting New Challenges or Searching for New Protection?", Institut Français des Relations Internationales, Paris, France (January 2007)
- Recent Advances in Behavioral Finance, Conference series of the Chaire IAG Internationale, UCL, Belgium (co-organizer, March 2007)
- 5th International Financial Research Forum, Europlace Institute of Finance, Paris, France (June 2007)
- 34th Annual Meeting of the European Finance Association (EFA 2007), Ljubljana, Slovenia (August 2007)

GANI ALDASHEV

CEPR Final Conference of the Research Training Network "Trade, Industrialisation and Development", Paris-Jourdan Sciences Economiques, France (October 2006)
 World Meeting of Public Choice Societies, Amsterdam, The Netherlands (March 2007)

OSCAR AMERIGHI

European Trade Study Group (ETSG) 8th Annual Conference, Vienna, Austria (September 2006)
 ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006, Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)
 6^{èmes} Journées d'Economie Publique "Louis-André Gérard-Varet", Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (June 2007)
 22nd Annual Congress of the European Economic Association, Budapest, Hungary (August 2007)

CARLOTTA BALESTRA

Rencontres de l'Environnement, Université de Lille, France (November 2006)
 11th Conference "Théorie et Méthodes de la Macroéconomie", Paris-Jourdan Sciences Economiques, France (January 2007)
 15th Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Thessaloniki, Greece (June 2007)

LUC BAUWENS

Sveriges Riksbank Workshop "Bayesian Econometric Methodology", Stockholm, Sweden (September 2006)
 13th International Conference on Computing in Economics and Finance, Montréal, Canada (June 2007)
 22nd Annual Congress of the European Economic Association, Budapest, Hungary (August 2007)

KRISTIAN BEHRENS

Jahrestag des Ausschuss für Regionaltheorie und Regionalpolitik des Vereins für Socialpolitik, Kiel, Germany (October 2006)
 53rd North American Meeting of the Regional Science Association International, Toronto, Canada (November 2006)
 Conference on Subsidiarity and Economic Policy in Europe, Brussels, Belgium (November 2006)
 PAI-ARC Workshop on Globalization, UCL, Belgium (co-organizer, April 2007)
 Tokyo Workshop on Spatial Economics, Tokyo, Japan (co-organizer)

PAUL BELLEFLAMME

CESifo Area Conference on Applied Microeconomics, München, Germany (March 2007)

2nd LEAR Conference on the Economics of Competition Law, Roma, Italy (June 2007)

LUISITO BERTINELLI

53rd North American Meeting of the Regional Science Association International, Toronto, Canada (November 2006)

20th Conference for the Pacific Regional Science Conference Organization (PRSCO), Vancouver BC, Canada (May 2007)

9th International Association for Energy Economics (IAEE) Conference, Firenze, Italy (June 2007)

RAOUF BOUCEKKINE

IZA/EUI Workshop on Demographic Change and Secular Transitions in Labor Markets: What Can we Learn from a Dynamic Perspective, Bonn, Germany (September 2006)

The 7th Louvain Symposium on Economic Dynamics, UCL, Belgium (organizer, October 2006)

PAI-ARC Workshop on Globalization, UCL, Belgium (co-organizer, April 2007)

THIERRY BRÉCHET

European TranSust.Scan Project Workshop, European Commission FP6, Vienna, Austria (October 2006)

51^{èmes} Journées d'Etudes de l'Association Régionale des Directeurs et Ingénieurs Communaux (ARDIC) on "Produits Plastiques Recyclés", Ciney, Belgium (October 2006)

MIT Forum on Climate Change, Vienna, Austria (October 2006)

Doctoral Workshop, Université de Nanterre, France (January 2007)

Journée d'Etude Spéciale Elections, Institut belge des Finances Publiques, Bruxelles, Belgium (May 2007)

15th Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Thessaloniki, Greece (June 2007)

Colloque en l'honneur de Philippe Michel "Macrodynamics and Environmental Economics", Université Paris X (Nanterre), France (co-organizer, June 2007)

GEOFFREY CARUSO

8^{èmes} Rencontre de Théo Quant, Besançon, France (January 2007)

JEAN-FRANÇOIS CAULIER

First Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (September 2006)

PET 07 Public Economic Theory Conference, Vanderbilt University, Nashville (TE), USA (July 2007)

The Stony Brook Game Theory Festival of the Game Theory Society, New York (NY), USA (July 2007)

ROBERT CHARES

21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)

Journées de 3^{ème} cycle FNRS en Programmation Mathématique, Han-sur-Lesse, Belgium (March 2007)

Kickoff Meeting of the IAP Network VI/4: DYSCO (Dynamical Systems, Control and Optimization), UCL, Belgium (April 2007)

CLAUDE D'ASPREMONT

11th ESHET Conference on "Justice in Economic Thought", Université Louis Pasteur, Strasbourg, France (July 2007)

6^{èmes} Journées d'Economie Publique "Louis-André Gérard-Varet", Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (August 2007)

ERIC DE BODT

4th Corporate Finance Day, Universiteit Hasselt, Diepenbeek, Belgium (September 2006)

Recent Advances in Behavioral Finance, Conference series of the Chaire IAG Internationale, UCL, Belgium (co-organizer, March 2007)

34th Annual Meeting of the European Finance Association (EFA 2007), Ljubljana, Slovenia (August 2007)

GIUSEPPE DE FEO

18th Annual Meeting of the Italian Society of Public Economics, Università di Pavia, Italy (September 2006)

47th Annual Meeting of the Italian Economic Society, Università di Verona, Italy (October 2006)

ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006, Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)

RES (Royal Economic Society) Second Ph.D. Presentation Meeting, London School of Economics, United Kingdom (January 2007)

PIERRE DEHEZ

First Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2006)

CODE 2007: Conférence de la SMAI (Société de Mathématiques Appliquées et Industrielles) sur l'Optimisation et la Décision, Institut Henri Poincaré, Paris, France (April 2007)

6^{èmes} Journées d'Economie Publique "Louis-André Gérard-Varet", Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (June 2007)

JACQUES DRÈZE

Helping the Invisible Hand, Conference in honour of Claude Henry, Ecole Polytechnique, Paris, France (December 2006)

Conference on Health Economics, Norwegian School of Economics, Bergen, Norway (November 2006)

FERNANDA ESTEVAN

Workshop on Inequality and Development, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium (May 2007)

EMMANUELE FORLANI

PAI Workshop on "Linking Science to Markets: The Contribution of Science Policy to Growth and Jobs", International Press Centre, Brussels, Belgium (December 2006)

Bruegel-CEPR Joint Workshop: The Internationalisation of European Firms (TIEF), Brussels, Belgium (June 2007)

Third Danish International Economics Workshop, Aarhus Universitet, Denmark (June 2007)

Summer School in Applied Economics (SEEC2007) – Programming in MATLAB, Università Lecce, Italy (July 2007)

BERNARD FORTZ

21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)

International Network Optimization Conference 2007 (INOC 2007), Spa, Belgium (co-organizer, April 2007)

JEAN GABSZEWICZ

Workshop in Media Economics, Washington DC, USA (November 2006)

2nd LEAR Conference on the Economics of Competition Law, Roma, Italy (June 2007)

AXEL GAUTIER

24th Annual EARIE (European Association for Research in Industrial Economics) Meeting, Amsterdam, The Netherlands (September 2006)

15th Conference on Postal and Delivery Economics, Semmering, Austria (June 2007)

Conference on "Industrial Organization of the Postal Sector in Belgium", Antwerpen, Belgium (June 2007)

VICTOR GINSBURGH

Colloque Schubert: Au Coeur du Mystère, Bruxelles, Belgium (president, February 2007)

Scientific Publishing in the European Research Area – Access, Dissemination and Preservation in the Digital Age, European Commission, Brussels (February 2007)

Art Markets Symposium, Universiteit Maastricht, The Netherlands (March 2007)
 Conference "Culture, Politics and Policies", Université Charles-de-Gaulle-Lille3, France (March 2007)
 3rd Annual Ename International Colloquium "The Future of Heritage – Changing Visions, Attitudes, and Contexts in the 21st Century", Gent, Belgium (March 2007)
 VIII International Scientific Conference "Modernization of Economy and the Public Development", State University-Higher School of Economics, Moscow, Russia (April 2007)
 ENCORE Conference on Creativity and Competition, Den Haag, The Netherlands (April 2007)
 Economic Policy Panel Meeting, Deutsche Bundesbank, Frankfurt, Germany (April 2007)
 German Rectors' Conference, Baden-Baden Germany (May 2007)
 Meeting of the American Association of Wine Economists, Trier, Germany (May 2007)
 Third European Workshop on Applied Cultural Economics, Aviles, Spain (co-organizer, June 2007)

PIERRE GIOT

The Quest for Efficiency: The Case of Euronext, Louvain-la-Neuve, Belgium (November 2006)
 17th (EC)² Conference, Rotterdam, The Netherlands (December 2006)

FRANÇOIS GLINEUR

21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)
 Journées de 3^{ème} cycle FNRS en Programmation Mathématique, Han-sur-Lesse, Belgium (March 2007)
 Second Mathematical Programming Society International Conference on Continuous Optimization and Modelling and Optimization: Theory and Applications (ICCOPT II and MOPTA 07), MacMaster University, Hamilton, Canada (August 2007)

GILLES GRANDJEAN

Jan Tinbergen Peace Science Conference, Tinbergen Institute, Amsterdam, The Netherlands (June 2007)

CHRISTIAN HAFNER

Journées Modélisation Aléatoire et Statistique de la Société de Mathématiques Appliquées et Industrielles, Lille, France (September 2006)
 14th Meeting of the Belgian Statistical Society, Houffalize, Belgium (October 2006)

JEAN HINDRIKS

Institute for Federalism & Intergovernmental Relations (IFIR)-CESifo Conference on "New Directions in Fiscal Federalism", University Kentucky, Lexington, United Kingdom (September 2006)

First PGPPE (Public Goods, Public Projects and Externalities) Workshop on "Modelling Public Goods and Public Policy: Past, Present and Future Prospects", Marseille-Luminy, France (April 2007)

LENNART HOOGERHEIDE

Computational and Financial Econometrics, Geneva, Switzerland (April 2007)

Euro Working Group on Financial Modelling, Rotterdam, The Netherlands (May 2007)

STÉPHANE LAMBRECHT

15th Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Thessaloniki, Greece (June 2007)

Colloque en l'honneur de Philippe Michel "Macrodynamics and Environmental Economics", Université Paris X (Nanterre), France (June 2007)

SÉBASTIEN LAURENT

4th OxMetrics User Conference, Cass Business School, United Kingdom (September 2006)

FRÉDÉRIC LAURIN

20th Conference for the Pacific Regional Science Conference Organization (PRSCO), Vancouver BC, Canada (May 2007)

14th International Conference on Panel Data, Wang Yanan Institute for Studies in Economics (WISE), Xiamen University, China (July 2007)

BERNARD LEJEUNE

XXIV^{èmes} Journées de Microéconomie Appliquée, Fribourg, Suisse (May 2007)

ETIENNE LOUTE

21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)

QUENTIN LOUVEAUX

11th Combinatorial Optimization Workshop, Aussois, France (January 2007)

4th Workshop on Mixed-Integer-Programming, Montréal, Canada (August 2007)

ROLAND IWAN LUTTENS

- 8th International Meeting of the Society for Social Choice and Welfare, Istanbul Bigli University, Turkey (July 2006)
 5th International Conference on "Logic, Game Theory and Social Choice", Universidad del Pais Vasco, Bilbao, Spain (June 2007)
 62nd European Meeting of the Econometric Society, (ESEM), Budapest, Hungary (August 2007)

PETER MALKIN

- 21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université du Luxembourg, Luxembourg (January 2007)
 Workshop on Polyhedral Computation, Université de Montréal, Canada (October 2007)

MARCO MARINUCCI

- Doctoral Workshop in Economics, Università Politecnica delle Marche, Ancona, Italy (October 2006)
 First Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2006)

ANA MAULEON

- First Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (co-organizer, December 2006)
 5th International Conference on "Logic, Game Theory and Social Choice", Universidad del Pais Vasco, Bilbao, Spain (June 2007)
 International Conference on the Formation of Social Networks, Carré des Sciences, Université Paris XI, France (June 2007)

JEAN-FRANÇOIS MAYSTADT

- Winter School on Polarization and Conflict, Cordoba, Spain (November 2006)

YANN MÉNIÈRE

- PRIME (Policies for Research and Innovation in the Move towards the European Research Area) Annual Conference 2007, Pisa, Italy (January 2007)
 The 5th Annual International Industrial Organization Conference, Savannah (GA), USA (April 2007)
 XXIVèmes Journées de Microéconomie Appliquée, Fribourg, Suisse (May 2007)
 15th Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Thessaloniki, Greece (June 2007)
 Telecom Paris Conference on "The Economics of ICT", Paris, France (June 2007)

Conference of the European Association for Research in Industrial Economics (EARIE),
Valencia, Spain (June 2007)
Workshop of the CERN Technology Transfer Task Force, Geneva, Switzerland (July 2007)

ANTONIO MINNITI

Conference on Innovation and Competition in the New Economy, Università di Milano, Bicocca,
Italy (May 2007)

GIORDANO MION

53rd Annual North American Meeting of the Regional Science Association International,
Toronto, Canada (November 2006)
Workshop in Economic Geography, Università di Bologna, Rimini, Italy (May 2007)
Conference on "Agglomeration and Growth in Knowledge-based Societies", Kiel, Germany
(June 2007)

JUAN D. MORENO TERNERO

UNI-WIDER Conference on Advancing Health Equity, Helsinki, Finland (September 2006)
ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006,
Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)
II Workshop on Social Decisions, Universidad de Malaga, Spain (co-organizer, December
2006)
Strategic Interaction Group – Spring Workshop 2007, Max-Planck Institut für Okonomik, Jena,
Germany (March 2007)
Summer School on Political Economy and Social Choice, Malaga, Spain (June 2007)

YURII NESTEROV

3^{ème} Cycle Romand de Recherche Opérationnelle, Zinal, Zwitterland (March 2007)
International Conference "Optimization and Combinatorics", University of Waterloo, Canada
(June 2007)

GIORGIA OGGIONI

XXXVII Annual Conference of the Italian Operations Research Society (AIRO) "Urban and
Regional Logistics and Transportation: New Challenges for Modelling and Optimization",
Università di Bologna, Italy (September 2006)
5th Conference of Applied Infrastructure Research (INFRATRAN) "Sustainable Infrastructure
Financing in Europe under the Conditions of Competition, Reuglation, Environmental
Concern and Institutional Change", Technische Universität Berlin, Germany (October
2006)
Spring School 2007 "Stochastic Programming: Theory and Applications", Università di
Bologna, Italy (April 2007)
International Conference on Clean Electric Power, Università degli Studi di Napoli Federico II,
Capri, Italy (May 2007)

22nd European Conference on Operational Research (EURO 2007), Praha, Czech Republic (July 2007)

6th International Congress on Industrial and Applied Mathematics (ICIAM), Zürich, Zwitterland (July 2007)

DOMINIQUE PEETERS

53rd North American Meeting of the Regional Science Association International, Toronto, Canada (November 2006)

1^{ères} Journées "Economie et Espace", GDR ASPE et INRA SAE2, Université des Sciences et Technologies de Lille, Villeneuve d'Ascq, France (June 2007)

PIERRE PESTIEAU

The Mirrlees Report, The Institute for Fiscal Studies, London, United Kingdom (September 2006)

African Economic Research Consortium (AERC) Biannual Research Workshop, Nairobi, Kenya (December 2006)

The Mirrlees Report, The Institute for Fiscal Studies, London, United Kingdom (April 2007)

CESifo Public Sector Economics Workshop, München, Germany (April 2007)

6^{èmes} Journées d'Economie Publique "Louis-André Gérard-Varet", Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (June 2007)

African Economic Research Consortium (AERC) Biannual Research Workshop, Nairobi, Kenya (June 2007)

Workshop on Longevity and Annuitization, Venice, Italy (July 2007)

International Institute of Public Finance (IIFP) Annual Congress, Warwick, United Kingdom (August 2007)

PIERRE PICARD

Institute for Federalism & Intergovernmental Relations (IFIR)-CESifo Conference on New Directions in Fiscal Federalism, University Kentucky, Lexington, United Kingdom (September 2006)

Workshop on Economic Geography and Fiscal Federalism: From Theory to Empirics, Institut National de la Recherche Agronomique (INRA), Dijon (September 2006)

53rd North American Meeting of the Regional Science Association International, Toronto, Canada (November 2006)

Productivity, Productivity Growth and the Regional Dimension, Institute for Political and Economic Governance (IPEG), The University of Manchester, United Kingdom (February 2007)

CESifo Area Conference on Applied Microeconomics, München, Germany (March 2007)

6^{èmes} Journées d'Economie Publique "Louis-André Gérard-Varet", Institut d'Economie Publique, Université de la Méditerranée, Aix-Marseille, France (June 2007)

YVES POCHE

11th Combinatorial Optimization Workshop, Aussois, France (January 2007)

MARIA EUGENIA SANIN

ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006, Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)

LÉOPOLD SIMAR

Fourth Workshop on Indicators in the Knowledge of Economy, Center of Economic Studies, Katholieke Universiteit Leuven, Belgium (September and October 2006)

AQUAMETH Meeting, Università della Svizzera Italiana, Lugano, Italy (November 2006)

PRIME (Policies for Research and Innovation in the Move towards the European Research Area) Annual Conference 2007, Pisa, Italy (January 2007)

Mathematisches Forschungsinstitut Oberwolfach, Germany (March 2007)

Workshop "Productivity and Efficiency of European Banks", Dipartimento di Scienze Economiche, Università di Verona, Italy (June 2007)

39^{èmes} Journées de Statistique, Société Française de Statistique, Angers, France (member of the scientific committee, June 2007)

ASMDA2007 – Applied Stochastic Models and Data Analysis, La Chania, Crete (member of the scientific committee, June 2007)

10th European Workshop on Efficiency and Productivity Analysis, Lille, France (member of the scientific committee, June 2007)

Advances in Semiparametric Methods and Applications, Satellite Meeting of ISI (International Statistical Institute) 2007, Cemapre, Lisbon, Portugal (member of the scientific committee, June 2007)

YVES SMEERS

INFORMS Annual Meeting, Pittsburgh (PA), USA (November 2006)

Workshop inaugural du GIS Larsen "Analyse Economique des Politiques de la Concurrence dans le Secteur Energétique", Université de Paris Sud, France (December 2006)

First Fondazione Eni Enrico Mattei Conference on the Economics of Sustainable Development, Fondazione Eni Enrico Mattei, Milan, Italy (January 2007)

ISABELLE THOMAS

Midis de la Recherche en Population et Développement 2006-2007 (October 2006)

The ICTCT (International Cooperation on Theories and Concepts in Traffics Safety) Workshop, Minsk, Belarus (October 2006)

27^{ste} Wlaams Wetenschappelijk Economisch Congres, Mobiliteit en (Groot)Stedenbeleid, Bruxelles (October 2006)

Studiedag Cartographie en GIS Ruimtelijke Clustering van Verkeersongevallen met Behulp van Netwerfafstanden, Gent, Belgium (November 2006)

14th Conference on Public Health: "Politics, Policies and/or the Public's Health", Montreux, Switzerland (November 2006)

Vivre et habiter en Belgique en ce début de 21^{ème} siècle. Société Démographique Francophone de Belgique et Vereniging voor Demographie, Bruxelles, Belgium (December 2006)

Séminaire de Recherche "Regards croisés sur la Péri/urbanisation en Wallonie et en Europe: Facteurs Actifs et Impacts", Gembloux, Belgium (December 2006)
 Studiedagen "Wonen in Vlaanderen", Vlaams Parlement, Brussels, Belgium (March 2007)
 NECTAR (Network on European Communication and Transportation Activities Research) Conference, Porto, Portugal (May 2007)

ERIC TOULEMONDE

Research in International Economics and Finance (RIEF) Conference, Roma, Italy (May 2007)
 Telecom Paris Conference on the Economics of ICT, Paris, France (June 2007)

HENRY TULKENS

XXVth MIT Global Change Forum "Opening up Climate Policy: Perspectives Beyond the Kyoto Protocol", Vienna, Austria (October 2006)
 Helping the Invisible Hand, Conference in honour of Claude Henry, Ecole Polytechnique, Paris, France (December 2006)
 EAERE 2007, 15th Annual Conference, University of Macedonia, Thessaloniki, Greece (June 2007)
 Conference on International Relations and Global Climate Change, Graduate Institute of International Studies, Geneva, Switzerland (January 2007)
 XXVIth MIT Global Change Forum "Coping with Climate Change", Cambridge (MA), USA (June 2007)
 Conference on Long-Term Fiscal Sustainability: Recent Advances and Future Challenges, International Monetary Fund Offices in Europe, Paris, France (July 2007)

SÉBASTIEN VAN BELLEGEM

62nd European Meeting of the Econometric Society, (ESEM), Budapest, Hungary (August 2007)
 Advances in Semiparametric Methods and Applications, Satellite Meeting of ISI 2007, Cemapre, Lisbon, Portugal (August 2007)
 2007 Joint Statistical Meetings, Salt Lake City (UT), USA (August 2007)

DIRK VAN DE GAER

Workshop on Distributive Issues and Questionnaire Studies, Universidad Autonoma de Barcelona, Spain (December 2006)
 UK Social Network Conference, Queen Mary College, University of London, United Kingdom (July 2007)
 62nd European Meeting of the Econometric Society, (ESEM), Budapest, Hungary (August 2007)

HYLKE VANDENBUSSCHE

Antidumping and Developing Countries Conference, The World Bank and Institut d'Etudes Politiques de Paris, Paris, France (December 2006)

2007 American Economic Association Conference, Chicago (IL), USA (January 2007)
Meeting of the American Law Institute, World Trade Organization, Geneva, Switzerland
(March 2007)
CEPR-Industrial Organization Annual Meeting, London, United Kingdom (May 2007)

VINCENT VANNETELBOSCH

First Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis,
Bruxelles, Belgium (co-organizer, December 2006)
5th International Conference on Logic, Game Theory and Social Choice, Universidad del Pais
Vasco, Bilbao, Spain (June 2007)
International Conference on the Formation of Social Networks, Carré des Sciences, Université
Paris XI, France (June 2007)
PET 07 Public Economic Theory Conference, Vanderbilt University, Nashville (TE), USA (July
2007)

FRANÇOIS WARICHET

2006 AIChE (American Institute for Chemical Engineers) Annual Meeting, San Francisco (CA),
USA (November 2006)
21st Annual Conference of the Belgian Operational Research Society (ORBEL 21), Université
du Luxembourg, Luxembourg (January 2007)
Journées de 3^{ème} cycle FNRS en Programmation Mathématique, Han-sur-Lesse, Belgium
(March 2007)
3rd Multidisciplinary International Scheduling Conference: Theory and Applications (MISTA
2007), Paris, France (August 2007)

XAVIER WAUTHY

24th annual EARIE (European Association for Research in Industrial Economics) meeting,
Amsterdam, The Netherlands (September 2006)
ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006,
Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)

LAURENCE WOLSEY

11th Combinatorial Optimization Workshop, Aussois, France (January 2007)
Euro Winter Institute on Location and Logistics, Istoril, Portugal (January 2007)
MIP 2007 Workshop on Mixed Integer Programming, Centre de Recherches Mathématiques,
Université de Montréal, Canada (July 2007)
International Symposium on Mathematical Programming, Rio de Janeiro, Brazil (July 2007)

SKERDILAJDA ZANAJ

ASSET (Association of Southern European Economic Theorists) Annual Meeting 2006,
Universidade Catolica Portuguesa, Lisboa, Portugal (November 2006)

STATISTICAL APPENDIX

PEOPLE

▪ YEARLY AVERAGES 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
1996-2005	32	43	84	10

▪ YEARLY NUMBERS FOR 2005-2006 AND 2006-2007

2005-2006	40	53	91	9
2006-2007	38	47	119	9

SCIENTIFIC ACTIVITIES

▪ YEARLY AVERAGES PER 10 YEAR PERIOD

Period	Discussion Papers	Books	Published papers	Editorial activities	Theses	Seminars			Conferences	Contracts
						Economics	Econometrics	Operations Research		
1966-1975	32	1	24	0	2	26	15	17	0	4
1976-1985	47	1	53	11	2	48	22	24	2	6
1986-1995	62	5	69	30	5	79	25	26	4	13
1996-2005	78	4	105	46	7	94	22	21	5	15

▪ YEARLY NUMBERS FOR 2005-2006 AND 2006-2007

2005-2006	118	8	129	45	9	81	30	20	10	12
2006-2007	115	6	133	64	12	79	32	27	7	16

▪ TOTAL OF THE 41 YEARS

1966-2007	2345	118	3658	985	179	2605	920	910	128	392
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All details can be found on the CORE webpage.