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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 briefly survey the progress made in these missions during the academic year 2007-2008 and I indicate where more detailed information can be found on these aspects in this report. At the end of this introduction, I also discuss new perspectives for the near future.

As of September 2009, Professor Julio DAVILA has become a full time member of CORE. He has received a Ulysse grant from the Fonds National de la Recheche Scientifique (FNRS). He will reinforce the group of economic theorists. Sheila WEYERS, the administrative director of CORE, retires at the end of 2009. Her job is taken over by Francisco SANTANA FERRA.

Sheila has been very important in setting-up an efficient administration of CORE. In the name of all CORE members – past, present and future – I express my greatest gratitude for her dedication to her job, efficiency and ability to help CORE being a pleasant working place. Thanks to her, researchers can concentrate their time on their research.

RESEARCH ACTIVITIES

One hundred and thirty-three journal articles have been published, and eighty-two new discussion papers have appeared. 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 European Doctoral Program in Quantitative Economics (see Section 5) and 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. About fourty 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 can be found in Section 5. Eight students have defended their Ph.D. theses under the supervision of a CORE member this year. They have acquired positions in a variety of institutions.

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 2007-2008 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. All 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 PERSPECTIVES

Starting in January 2009, CORE will be one of the research centers of a new research institute created in the University, the "Institute of Multidisciplinary Research in Quantitative Anaysis and Modelling" (IMMAQ). The other partners will be IRES (the research center of the economics department) and the Institute of Statistics. The new institute will develop synergies in research logistics and administration, while each center will keep its identity.

ECORE is a newly created association between CORE and ECARES. It will integrate 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. The aims of the association is to exploit the existing complementarities between the research themes at CORE and ECARES, to foster teaching and research by developing a common doctoral program, to intensify collaborations and common projects with Belgian and European universities and increase interactions with partners from the private and from the public sector.

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

- THE FACULTY

- ADMINISTRATIVE STAFF

- DOCTORAL STUDENTS AND RESEARCH ASSISTANTS

- RESEARCH FELLOWS

- ASSOCIATE FELLOWS

- RESEARCH ASSOCIATES

- SHORT TERM VISITORS

- RESEARCH FELLOWS AND VISITING FACULTY MEMBERS FOR 2008-2009

- 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

▪ THE FACULTY

During the academic year 2007-2008, 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) and the Facultés Universitaires Notre-Dame de la Paix, Namur (FUNDP).
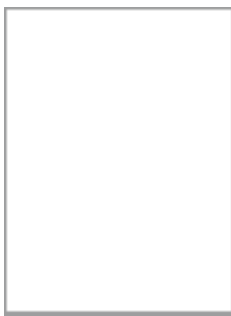
ANTON BARTEN

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.

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

Econometrics and statistics.

Leonard J. Savage Thesis Award, 1984; chairman, Département des sciences économiques, 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.*
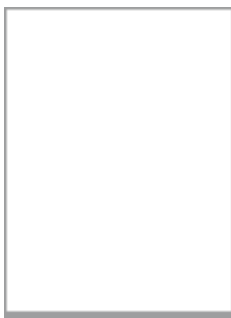
PAUL BELLEFLAMME

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.

Research fellow, 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.*

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.

Associate 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.

Associate editor of *Mathematical Population Studies, Mathematical Social Sciences*; *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.
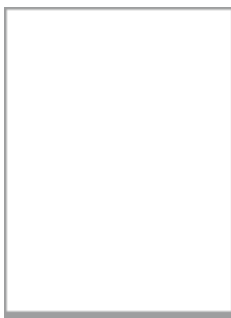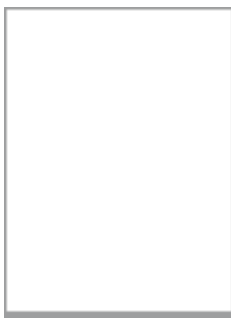
Environmental economics.

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 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, Département des sciences économiques, 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.

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

Associate editor of the *Journal of Economic Dynamics and Control.*
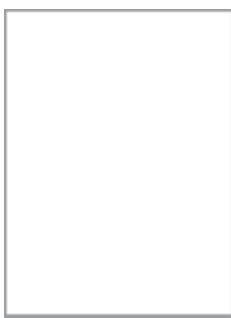
MATHIAS DEWATRIPONT

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.
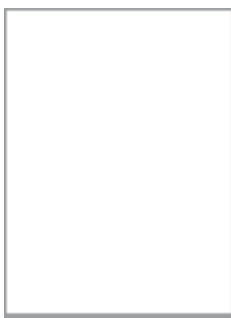
JACQUES DRÈZE

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, 1964 and president, 1970 of the Econometric Society; 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.
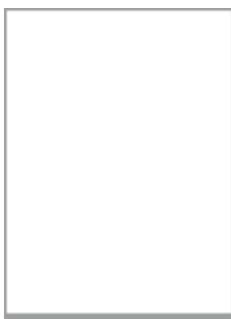
LOUIS EECKHOUDT

Professor emeritus, Facultés Universitaires Catholiques de Mons.

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

Decisions under risk and health economics.

Associate editor *Geneva Risk and Insurance Review – 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; European University Institute, 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; Doctor Honoris Causa, Université d'Aix-Marseille II, 2003; Fellow of the European Economic Association, 2004.

Associate editor *Journal of Economics* and *Ricerche Economiche;* 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.

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

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PIERRE GIOT

Professor, Louvain School of Management, Facultés Universitaires Notre-Dame de la Paix, Namur.

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-to date 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 (Ecole Polytechnique de Louvain, 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

Associate Professor, Université de Lille III, 1995-2005. Deputy Head of Unit, 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.

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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, Eramus Universiteit Rotterdam, 2002-2005.

Econometrics and statistics.

Associate editor, *Computational Statistics* and *Studies in Nonlinear Dynamics and Econometrics.*

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.

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 and visiting professor at the London School of Economics, 2007-to date.

Financial econometrics, modeling volatility and risk, computational econometrics.

ETIENNE LOUTE

Professor, Louvain School of Management, 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 of Social Science, Institute for Advanced Study, Princeton, 2001-2002.

Co-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 and 2001; 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.

YURII NESTEROV

Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, 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, complexity analysis of optimization schemes, polynomial-time algorithms, fast gradient methods, approximation of combinatorial problems, congested transportation networks.
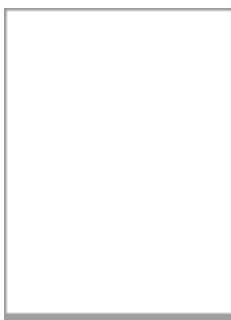
DOMINIQUE PEETERS
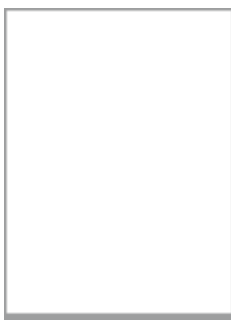
Professor, Université catholique de Louvain (Faculté des Sciences, Département de géographie).

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; Université Louis Pasteur, 2006.

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*.
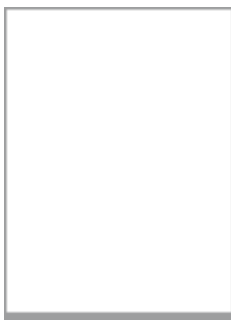
LÉOPOLD SIMAR

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

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, 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; Institut Français du Pétrole, Rueil, 1991-2006; Professore

di Chiara Fama, 2006 and 2007; Italian Ministry of Research, Scuola Superiore San'Anna, Pisa; Chaire d'Excellence Pierre de Permat, 2008-2009, Université des Sciences Sociales, Toulouse.

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 (Ecole Polytechnique de Louvain, Département d'ingénierie mathématique).

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

Computational economics and risk management in the electricity and gas 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.
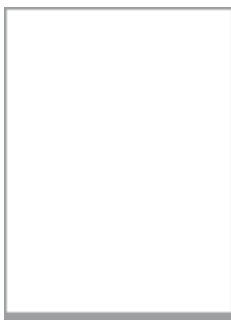
JACQUES THISSE

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

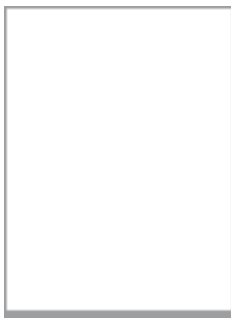Docteur en sciences économiques, Université de Liège, 1975.

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, European Prize in Regional Science, 2007.

Economic theory, industrial organization and economic geography.

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

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, sociales et politiques, Chaire Jacquemin, Département des sciences économiques).

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

Lecturer in Industrial Economics, Jugde Institute of Management of the University of Cambridge (United Kingdom), 1994-1996; Bevoegd verklaard navorser, 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; panelmember of economic policy, 2000-2002.

VINCENT VANNETELBOSCH

Chercheur qualifié, Fonds National de la Recherche Scientifique (FNRS) and associate professor, Université catholique de Louvain (Faculté des sciences économiques, sociales et politiques, 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.
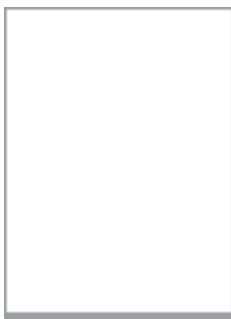
XAVIER WAUTHY

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

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

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

Industrial organization, microeconomic theory.
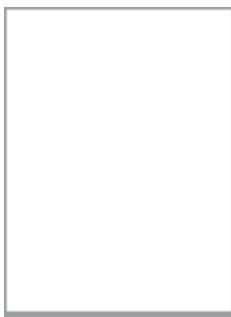
LAURENCE WOLSEY

Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, 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; Denders professor, Department of Computer Science, University of Utrecht, Spring 1998.

Discrete optimization, operations research and applied mathematics.

Associate editor, *Mathematical Programming A.*

▪ ADMINISTRATIVE STAFF

Laurent BUSET ▪ Mady DE DECKER ▪ Micheline DELIZE ▪ Emeline DUBOIS ▪ Catherine GERMAIN ▪ Alain GILLIS ▪ Fabienne HENRY ▪ Marie HERVO ▪ Guy LOUIS ▪ Sylvie MAUROY ▪ Anne-Marie PESSLEUX ▪ Francisco SANTANA FERRA ▪ Raphaël TURSIS ▪ Sheila WEYERS ▪ Danisa ZAPPARATA

▪ DOCTORAL STUDENTS AND RESEARCH ASSISTANTS

Fatiha ABBES ORABI ▪ Oscar AMERIGHI ▪ Efthymios ATHANASIOU ▪ Carlotta BALESTRA ▪ Quentin BOTTON ▪ Filippo CALCIANO ▪ Jean-François CAULIER ▪ Robert CHARES   Nicolas DEBARSY ▪ Giuseppe DE FEO ▪ Marieke DELANGHE ▪ Gauthier DE MAERE D'AERTRYCKE ▪ Federico DE STEFANO ▪ Olivier DURAND-LASSERVE ▪ Fernanda ESTEVAN ▪ Emanuele FORLANI ▪ Julie FRÈRE ▪ Joachim GAHUNGU ▪ Maia GEJADZE ▪ François GÉRARD ▪ Nicolas GILLIS ▪ Gilles GRANDJEAN ▪ Martin GUZI ▪ Paul HOLZWEBER ▪ Ksenia KLIMENTOVA ▪ Catharina Lee LI JING ▪ Georgios LOLAS ▪ Mathias LORENZ ▪ Sylvette LY ▪ Marco MARINUCCI ▪ Jean-François MAYSTADT ▪ Deniz NEBIOGLU ▪ Giorgia

OGGIONI ■ Filomena PETRONIO ■ Alain PHOLO BALA ■ Joël RAUCQ ■ Joana RESENDE ■ Dzianis ROZHYN ■ Besik SAMKHARADZE ■ Maria Eugenia SANIN ■ Zakaria SIDDIQUI ■ Andrea SILVESTRINI ■ Géraldine STRACK ■ Jean-Sébastien TANCREZ ■ Alfonso VALDESOGLO ROBLES ■ Giacomo VALLETTA ■ Jean-Christophe VAN DEN SCHRIECK ■ Violette VAN DYCK ■ Grégory VANDENBULCKE ■ Leopoldo VILCAPOMA ■ Skerdilajda ZANAJ ■ Gregor ZOETTL

■ RESEARCH FELLOWS

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

Santanu DEY, Ernst-Moritz-Arndt-Universität Greifswald, Germany
Claire DUJARDIN, Département de géographie, UCL, Belgium
Marie-Louise LEROUX, Université de Toulouse, France
Giordano MION, Universita di Bologna, Italy
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
Ying WEI, The Chinese University of Hong Kong, Shatin, Hong Kong

■ ASSOCIATE FELLOWS

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

Per AGRELL, Louvain School of Management, UCL
Geoffrey CARUSO, Université du Luxembourg, Luxembourg
Philippe CHEVALIER, Louvain School of Management, UCL
Julio DAVILA, Université de Paris I, France
Bernard FORTZ, Université Libre de Bruxelles, Belgium
Axel GAUTIER, Université de Liège, Belgium
Leonidas KOUTSOUGERAS, University of Manchester, United Kingdom
Stéphane LAMBRECHT, Université de Lille III, France
Roland LUTTENS, Universiteit Gent, Belgium
Ana MAULEON, Facultés Universitaires Saint-Louis, Bruxelles, Belgium
Roderick MCCRORIE, University of St Andrews, Scotland
Pierre PICARD, University of Manchester, United Kingdom
Erik SCHOKKAERT, Katholieke Universiteit Leuven, Belgium
Joe THARAKAN, Université de Liège, Belgium
Isabelle THOMAS, Département de géographie, UCL
Eric TOULEMONDE, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Dirk VAN DE GAER, Universiteit Gent, Belgium
Wouter VERGOTE, Facultés Universitaires Saint-Louis, Bruxelles, Belgium

▪ RESEARCH ASSOCIATES

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

Olivier BOCHET, Universiteit Maastricht, The Netherlands
Parkash CHANDER, University of Singapore, Singapore
Marc FLEURBAEY, Université Paris Descartes, France
Johanna GOERTZ, University of Guelph, Canada
Jean-Jacques HERINGS, Universiteit Maastricht, The Netherlands
Enrico MINELLI, Universita degli Studi di Brescia, Italy
Juan MORENO TERNERO, Universidad de Malaga, Spain
Susana PERALTA, Universidade Nova de Lisboa, Portugal
Jeroen ROMBOUTS, Université de Montréal, Canada
Huasheng SONG, Zhejiang University, China

▪ SHORT TERM VISITORS

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

Jorge AMAYA, Universidad de Chile, Santiago de Chile, Chile
Rabah AMIR, University of Arizona, Tucson, AZ, USA
Kent ANDERSEN, Kobenhavns Universitet, Denmark
Zeynep ASKIN, Koç University, Istanbul, Turkey
Matteo BASSI, Université de Toulouse, France
Youcef BENDID, Institut de la Planification et de la Statistique, Alger, Algérie
Jennifer CASTLE, Nuffield College, Oxford, United Kingdom
Michelangelo CONFORTI, Universita degli Studi di Padova, Italy
Giuseppe DE FEO, University of Strathclyde, Scotland
Marc FLEURBAEY, Université Paris V, France
Filomena GARCIA, Universidade Técnica de Lisboa, Portugal
Andreas HEINEN, Universidad Carlos III de Madrid, Spain
Edi KARNI, Johns Hopkins University, Baltimore (MD), USA
Didier LAUSSEL, Université de la Méditerranée, Aix-Marseille, France
Andrea LODI, Universita di Bologna, Italy
Dario MALDONADO, Universidad del Rosario, Bogota, Colombia
Philippe MONGIN, Centre National de la Recherche Scientifique, Paris, France
Fred MURPHY, Temple University, Philadelphia (PA), USA
Luca David OPROMOLLA, Banco de Portugal, Lisboa, Portugal
Henry OVERMAN, London School of Economics, United Kingdom
Jose PEDRO PONTES, Instituto Superior de Economia e Gestão, Lisboa, Portugal
Fabien PRIEUR, Université de Savoie, Annecy-le-Vieux, France
Danny RALPH, University of Cambridge, United Kingdom
Frédéric ROBERT-NICOUD, London School of Economics, United Kingdom
Guillaume ROELS, University of California at Los Angeles (CA), USA

Alexei SAVVATEEV, New Economic School, Moscow, Russia
Laura SCRIMALI, Universita di Catania, Italy
Evangelos SEKERIS, Federal Reserve Bank of Boston (MA), USA
Huasheng Song, Zhejiang University, China
Genaro SUCARRAT, Universidad Carlos III de Madrid, Spain
Ornella TAROLA, Universita della Sapienza, Roma, Italy
Vladimir VELIOV, Technische Universität Wien, Austria
Cecilia VERGARI, Universita di Bologna, Italy
Jean-Philippe VIAL, Operations Research Decisions and Systems, Chêne-Bougeries, Suisse
Shlomo WEBER, Southern Methodist University, Dallas (TX), USA
Yu XIA, University of Birmingham, United Kingdom
Giacomo ZAMBELLI, Universita di Padova, Italy
Andriy ZAPECHELNYUK, Kiev School of Economics, Ukraine

▪ RESEARCH FELLOWS AND VISITING FACULTY MEMBERS FOR 2008-2009

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

David ARDIA, University of Fribourg, Switzerland
Nicolas BOCCARD, Universitat de Girona, Spain
Elena DEL REY, Universitat de Girona, Spain
Santanu DEY, Ernst-Moritz-Arndt-Universität Greifswald, Germany
Marco DI SUMMA, Universita degli Studi di Padova, Italy
Claire DUJARDIN, Département de géographie, UCL, Belgium
Marie-Louise LEROUX, Université de Toulouse, France
Giordano MION, Universita di Bologna, Italy
Giorgia OGGIONI, Universita degli Studi di Bergamo, Italy
Maria RACIONERO, Australian National University, Canberra, Australia
Eve RAMAEKERS, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
Peter RICHTARIK, Cornell University, Ithaca (NY), USA
Carlo ROSA, Institute for the World Economy, Kiel, Germany
Shin-Huei WANG, University of Southern California, Los Angeles (CA), USA
Ying WEI, The Chinese University of Hong Kong, Shatin, Hong Kong
Yuri YATSENKO, Houston Baptist University, Houston (TX), USA
Stéphane ZUBER, Université de Toulouse, France

▪ OTHER ITEMS

PRIZES AND AWARDS

Santanu DEY was granted the first place at the INFORMS George Nicholson Paper Competition for his paper "Sequantial-Merge Facets for High Dimensional Infinite Group Problems" at the INFORMS Annual Meeting at Seattle in November 2007.

On March 3, 2008, Jacques DRÈZE has received a Doctorat Honoris Causa from the Universitat Autonoma de Barcelona.

Nicolas GILLIS obtained the 2008 ORBEL Award for the best Belgian thesis in Operations Research awarded by the Belgian Operations Research Society.

On August 29, 2007, Jacques THISSE has received the European Prize in Regional Science from the European Regional Science Association for his work on regional and urban economics.

2

RESEARCH ACTIVITIES

- SURVEY OF RESEARCH TOPICS

- CHAIRS AND 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 concise form, grouping them by fields of interest. The complete list of Discussion Papers is given in Section 3 of this report.

ECONOMETRICS

Nihat AKTAS, Eric DE BODT, Ilham RIACHI and Jan DE SMEDT (2007/67) provide an analysis of legal insider trading on the Euronext Amsterdam stock exchange by using data published in the register held by the AFM, the Dutch financial markets authority. The sample includes 822 transactions executed by corporate insiders between the beginning of January 1999 and the end of September 2005. Their analysis shows that the financial markets' response is not significant for purchases, and that the abnormal returns associated with the sales do not have the expected sign. However, over a longer time horizon, the average cumulative abnormal returns are positive for the stocks purchased, and negative for stocks sold by insiders. This result suggests either that insiders use long-term information for their trading activities or that they are able to time the market.

Recent empirical research has shown that, from deal to deal, serial acquirers' cumulative abnormal returns (CAR) are declining. This has been most often attributed to CEOs hubris. Nihat AKTAS, Eric DE BODT and Richard ROLL (2007/68) question this interpretation. Their theoretical analysis shows that (i) a declining CAR from deal to deal is not sufficient to reveal the presence of hubris, (ii) if CEOs are learning, economically motivated and rational, a declining CAR from deal to deal should be observed, (iii) predictions can be derived about the impact of learning and hubris on the time between successive deals and, finally, (iv) predictions about the CAR and about the time between successive deal trends lead to testable empirical hypotheses.

In order to capture observed asymmetric dependence in international financial returns, Loran CHOLETTE, Andreas HEINEN and Alfonso VALDESOGLO (2008/13) construct a multivariate regime-switching model of copulas. They model dependence with one Gaussian copula regime and one canonical vine copula regime. Canonical vines are constructed from bivariate conditional copulas and provide a very flexible way of characterizing dependence in multivariate settings. The authors apply the model to returns from the G5 and Latin American regions, and document two main findings. First, they discover that models with canonical vines generally dominate alternative dependence structures. Second, the choice of copula is important for risk management, because it modifies the Value at Risk (VaR) of international portfolio returns.

Fiscal sustainability is a central topic for most of the transition economies of Eastern Europe. Andrea SILVESTRINI (2007/80) focuses on a particular country: Poland. His main purpose is to investigate, empirically, whether the post-transition fiscal policy is consistent with the intertemporal budget constraint, used as a formal theoretical framework. To test debt

stabilization, the empirical analysis is made in two steps in which different inferential approaches are adopted. In the first step the author performs the preliminary unit roots analysis and the selection of the cointegration rank using parametric and bootstrap procedures. In the second step he applies Bayesian inference to the estimation of the cointegrating vector and of the adjustment parameters. In this way, he experiments the usefulness of Bayesian inference in precisely assessing the magnitude of the cointegrating vector. Moreover, he shows to what extent the likelihood of the data is important in revising the available prior information, relying on numerical integration techniques.

Using a data set of highly cited researchers in all fields of science, Luc BAUWENS, Giordano MION and Jacques-François THISSE (2007/92) show that the gap in scientific performance between Europe, especially continental Europe, and the USA is large. They model the number of highly cited researchers in a sample of countries as a function of physical and human capital and a country-specific, factor-augmenting Hicks-neutral productivity term. They find that differences in productivity between Anglo-Saxon countries and other countries are not solely due to differences in the levels of inputs. Not surprisingly, their results reveal the importance of English proficiency. However, they also show that the governance and design of research institutions that characterize Anglo-Saxon countries, as well as a few other countries that have similar institutions, is another critical factor for research output.

Jan JOHANNES, Sébastien VAN BELLEGEM and Anne VANHEMS (2007/83) consider the general issue of estimating a nonparametric function φ from the inverse problem $r = T\varphi$ given estimates of the function r and of the linear transform T. Two typical examples include the estimation of a probability density function from data contaminated by a noise whose distribution is unknown (blind deconvolution) and the nonparametric instrumental regression. They provide a unified framework based on Hilbert scales that synthesizes most of existing results in the econometric literature and also covers new relevant structural models. Results are given on the rate of convergence of the estimator of φ as well as of its derivatives.

The nonparametric estimation of a regression function φ from conditional moment restrictions involving instrumental variables is studied by Jean-Pierre FLORENS, Jan JOHANNES and Sébastien VAN BELLEGEM (2007/85). The rate of convergence of penalized estimators is studied in the case where φ is not identified from the conditional moment restriction. The authors also study the gain of modifying the penalty in the estimation, considering for instance a Sobolev-type of penalty. They analyze the effect of this modification on the rate of convergence of the estimator and on the identification of the regression function φ.

To match the stylized facts of high frequency financial time series precisely and parsimoniously, Mohammed BOUADDI and Jeroen V.K. ROMBOUTS (2007/97) present a finite mixture of conditional exponential power distributions, where each component exhibits asymmetric conditional heteroskedasticity. They provide stationarity conditions and unconditional moments to the fourth order. They apply this new class to Dow Jones index returns. They find that a two-component mixed exponential power distribution dominates mixed normal distributions with more components, and more parameters, both in-sample and out-of-sample. In contrast to mixed normal distributions, all the conditional variance processes become stationary. This happens because the mixed exponential power distribution allows for component specific shape parameters so that it can better capture the tail behavior. Therefore, the more general new class

has attractive features over mixed normal distributions in their application: less components are necessary and the conditional variances in the components are stationary processes.

Copulas are extensively used for dependence modeling. In many cases the data does not reveal how the dependence can be modeled using a particular parametric copula. Nonparametric copulas do not share this problem since they are entirely data based. Taoufik BOUEZMARNI, Jeroen V.K. ROMBOUTS and Abderrahim TAAMOUTI (2008/45) propose nonparametric estimation of the density copula for α-mixing data using Bernstein polynomials. They study the asymptotic properties of the Bernstein density copula, i.e., they provide the exact asymptotic bias and variance. Moreover they establish the uniform strong consistency and the asymptotic normality.

Shin-HUEI WANG and Cheng HSIAO (2008/47) propose an easy test for two stationary autoregressive fractionally integrated moving average (ARFIMA) processes being uncorrelated via AR approximations. They prove that an ARFIMA process can be approximated well by an autoregressive (AR) model and establish the theoretical foundation of Haugh's (1976) statistics to test two ARFIMA processes being uncorrelated. Using AIC or Mallow's C_p criterion as a guide, the authors demonstrate through Monte Carlo studies that a low order AR(k) model is sufficient to prewhiten an ARFIMA process and the Haugh test statistics perform very well in finite sample. They illustrate the methodology by investigating the independence between the volatility of two daily nominal dollar exchange rates, Euro and Japanese Yen, and find that there exists "strongly simultaneous correlation" between the volatilities of Euro and Yen within 25 days.

ECONOMIC GEOGRAPHY AND INTERNATIONAL ECONOMICS

A recent phenomenon is the rapid spread of Antidumping (AD) laws mainly amongst developing countries (i.e. China, India, Mexico). Between 1980 and 2003 the number of countries in the world with an AD law more than doubled going from 36 to 97 countries. As shown by VANDENBUSSCHE and ZANARDI (2007/66), this proliferation of trade protection laws amongst developing countries is likely to have substantial implications for trade. Hylke VANDENBUSSCHE and Mauricio ZANARDI (2007/66) use a duration analysis to investigate the determinants leading a country to adopt an AD law. They also analyze the related question of what explains the heterogeneity between countries that can be observed in terms of the time between adoption and their first use of the AD law. They find strong evidence that retaliatory motives are at the heart of the proliferation decision as countries that were targeted by AD actions of traditional users in the past (i.e., US, EU) are much more likely to adopt an AD law. This evidence also suggests that past trade liberalization substantially increases the probability of a country to adopt an AD law. In addition, the authors find that the size of the chemical sector and the extent of steel imports are positively correlated with the probability to adopt. The amount of inward FDI on the other hand has a clear negative effect on the probability to adopt. While short term macroeconomic factors like GDP growth and exchange rate volatility seem to matter less for adoption, asymmetric regional shocks and the development level of a country seem to raise the probability of starting to use an AD law.

Oscar AMERIGHI and Giuseppe DE FEO (2008/2) provide an explanation of why privatization may attract foreign investors interested in entering a regional market. Privatization turns the formerly-public firm into a less aggressive competitor since the profit-maximizing output is lower than the welfare-maximizing one. The drawback is that social welfare generally decreases. The authors also

investigate tax/subsidy competition for FDI before and after privatization. They show that policy competition is irrelevant in the presence of a public firm serving just its domestic market. By contrast, following privatization, it endows the big country with an instrument, which can be used either to reduce the negative impact on welfare of an FDI attracting privatization or to protect the domestic industry from foreign competitors.

Kristian BEHRENS and Pierre M. PICARD (2008/40) analyze the role of the transport sector in structuring the location of economic activity within two-region economic geography models of the footloose capital and core periphery types. In their setting, competitive carriers offer transport services for shipping manufactured goods across regions and freight rates are determined endogenously to clear transport markets. Each carrier commits to the maximum capacity for a round-trip and thus faces a simple logistic problem: there are costs associated with 'returning empty', and those costs increase the freight rates charged to manufacturing firms. Since demand for transport services depends on the spatial distribution of economic activity, agglomeration in one region raises freight rates to serve foreign markets, thus generating an additional dispersion force. The authors show that a more equal equilibrium distribution of firms prevails when freight rates are endogenously determined than when they are exogenous and that multiple equilibria (including partial agglomeration) usually coexist.

Joe THARAKAN and Jean-Philippe TROPEANO (2008/46) propose a model where imperfect matching between firms and workers on local labor markets leads to incentives for spatial agglomeration. They show that the occurrence of spatial agglomeration depends on initial size differences in terms of both number of workers and firms. Allowing for dynamics of workers' and firms' location choices, the authors show that the spatial outcome depends crucially on different dimensions of agents' mobility. The effect of a higher level of human capital on regional disparities depends on whether it makes workers more mobile or more specialized on the labor market.

Since Collier and Hoeffler (1998, 2004), it has been supported that inequality, measured at national level, does not affect the risk of conflict. Building on a renewed theoretical framework, Jean-François MAYSTADT (2007/81) explores the role of inequality in localized conflicts. He argues that previous findings might be biased by the myopic nature of cross-country analysis. Consistently with the model, probit estimations indicate that income inequality measured at municipal level was significant in motivating people to support the rebellion in South Mexico. At this geographical level, he also finds that an increase in income per capita could exacerbate the risk of conflict in a situation where the rebel leader would have greater incentives to loot the local production compared to the opportunity cost associated with fighting for the worker.

Alberto MARTIN and Wouter VERGOTE (2007/89) try to understand the role of retaliation in trade agreements. They show that, in presence of private information, retaliation can always be used to increase the welfare derived from such agreements by the participating governments. In particular, it is shown that retaliation is a necessary feature of any efficient equilibrium. The authors argue that retaliation would not be necessary if governments could resort to international transfers or export subsidies to compensate for terms-of-trade externalities. Within the current world trading system, though, in which transfers are seldom observed whereas export subsidies are prohibited, the use of the remaining trade instruments in a retaliatory fashion might be optimal. The model is used to interpret the retaliatory use of antidumping observed in the last decades, and the proliferation of these measures relative to other trade remedies.

Using a panel of 52 countries (developed and emerging countries) between 2000 and 2006, John-John D'ARGENSIO and Frédéric LAURIN (2008/4) identify the determinants of office capitalization rates. They assume that the capitalization rate should be at least proportional to the country's risk perception, as measured by the risk premium on the 10-year government bond yield. Because of the endogeneity of the latter variable, their empirical methodology requires that they estimate first a model explaining the 10-year bond yield. It will be the occasion to discuss the determinants of the risk premium on the bond market. Using a SURE random effect Hausman-Taylor estimator (Hausman & Taylor, 1981), they also take into account the possible correlation between the country risk characteristics on the bond markets and those that determine the real estate market. They show that government bond yield is the main determinant of the capitalization rate. They estimate that a 1-percentage point increase in the government bond yield will raise the capitalization rate by about 0.19 percentage point. Real estate variables play also a role, but to a lesser extent. Turning to determinants of the 10-year bond yield, macroeconomic fundamentals are significant determinants of the country risk premium, especially the capacity to honor short-term financial commitments. In addition, the country's risk history has also very important effects on the investors' current risk perception.

Geoffrey CARUSO, Dominique PEETERS, Jean CAVAILHES and Mark ROUNSEVELL (2008/44) present a theoretical model of residential growth that emphasizes the path-dependent nature of urban sprawl patterns. The model is founded on the monocentric urban economic model and uses a cellular automata (CA) approach to introduce endogenous neighbourhood effects. Households are assumed to both like and dislike the density of their neighbourhood, and trade-off this density with housing space consumption and commuting costs. Discontinuous spatial patterns emerge from that trade-off, with the size of suburban clusters varying with time and distance to the centre. The authors use space-time diagrams inspired from 1D elementary CA to visualize changes in spatial patterns through time and space, and undertake sensitivity analyses to show how the pattern and timing of sprawl are affected by neighbourhood preferences, income level, commuting costs or by imposing a green belt.

INDUSTRIAL ORGANIZATION

Two different papers provide an extension of the "television news sheduling game" due to Cancian, Bergström and Bills (1995). In the first one, Jean GABSZEWICZ, Didier LAUSSEL and Michel LE BRETON (2007/70) characterize the unique mixed-strategy equilibrium of a game where viewers want to watch the first newscast broadcast after they return home. A fraction of the viewers record randomly one of the newscast to watch them in case they are too late. At equilibrium, neither of the two stations broadcasts its evening news in the first part of the evening and the density function is strictly decreasing. In the second paper, Jean GABSZEWICZ, Didier LAUSSEL and Nathalie SONNAC (2008/32) propose an alternative formulation of the game which discards the non-existence difficulty and consequently allows to consider some extensions of the TV-newscast scheduling game. The extension they consider consists in assuming that viewers' preferences between the competing channels do not depend only on the timing of their broadcast, but also on some other characteristics, like the content of the show or the identity of the newscaster. The authors provide a sufficient condition on the dispersion of these preferences over the viewers'

population guaranteeing the existence of a unique Nash equilibrium. It turns out that, at this equilibrium, both networks broadcast their news simultaneously.

The issue of competitive aggressiveness is addressed by Claude d'ASPREMONT, Rodolphe DOS SANTOS FERREIRA and Jacques THEPOT (2007/78). They propose a simple spatial oligopolistic competition model, where each one of two firms supplies two connected market segments, one captive the other contested. To begin with, firms are simply assumed to maximize profit subject to two constraints, one related to competitiveness, the other to market feasibility. The competitive aggressiveness of each firm, measured by the relative implicit price of the former constraint, is then endogenous and may be taken as a parameter to characterize the set of equilibria. A further step consists in supposing that competitive aggressiveness is controlled by each firm through its manager hiring decision, in a preliminary stage of a delegation game. When competition is exogenously intensified, through higher product substitutability or through larger relative size of the contested market segment, competitive aggressiveness is decreased at the sub-game perfect equilibrium. This decrease partially compensates for the negative effect on profitability of more intense competition.

The issue of price competition is also the object of a study by Jean J. GABSZEWICZ and Joana RESENDE (2008/36). Their paper analyses price competition under product differentiation when goods are defined in a two dimensional characteristic space, and consumers do not know which firm sells which quality. Equilibrium prices consist of two additive terms, which balance consumers' relative valuation of goods' expected quality and consumers' preferences for variety. However the relative importance of these terms differ under vertical and horizontal dominance.

Several contributions deal with the issues of market entry, joint ventures and mergers. Jean J. GABSZEWICZ, Didier LAUSSEL and Ornella TAROLA (2008/27) try to understand whether it is more profitable, for an entrant in a differentiated market, to acquire an existing firm or to compete. In answering this question particular attention is given to the banking sector. In a note on successive oligopolies and vertical mergers Jean J. GABSZEWICZ and Skerdilajda ZANAJ (2007/74) analyze how the technology used by downstream firms can influence input and output market prices. They show via an example that both these prices increase under a decreasing returns technology while the contrary holds when the technology is constant. In a later contribution (2008/50) the same authors also propose an example of successive oligopolies where the downstream firms share the same decreasing returns technology of the Cobb-Douglas type. They stress the differences between the conclusions obtained under this assumption and those resulting from the traditional example considered in the literature, namely, a constant returns technology.

Marco MARINUCCI (2008/23) explores the issue of optimal ownership in joint ventures with contributions of asymmetric partners. The aim of the paper is twofold: first, understanding how the partners contribution affect the creation and the profit sharing of a JV when partners' effort is not observable. Second, understanding whether such agreements are easier to enforce when the decision on JV profit sharing among partners is either delegated to the independent JV management (Management Sharing) or jointly taken by partners (Coordinated Sharing). The main finding is that the firm whose effort has a higher impact on the JV's profits should have a larger profit shares. Moreover, a management sharing ensures, at least in some cases, a wider range of self-enforceable JV agreements.

In the theoretical literature, strong arguments have been provided in support of the efficiency defense in antitrust merger policy. One of the most quoted results is due to Williamson (1968). He shows how a relatively small reduction in cost could offset the deadweight loss of a large price increase. Furthermore, Salant et al. (1983) demonstrate that (except in the case of monopoly) mergers are unprofitable absent efficiency gains. The general result, drawn in a Cournot framework by Farrell and Shapiro (1990), is that (not too large) mergers that are profitable are always welfare improving. Such conclusions are challenged in two aspects by Giuseppe DE FEO (2008/5). First, he shows that Williamson's results underestimate the welfare loss due to a price increase and overestimate the effect of efficiency gains. Second, he proves that the conditions for welfare improving mergers defined by Farrell and Shapiro (1990) hold true only when consumers are adversely affected. This seems an argument to disregard their policy prescriptions when antitrust authorities are more "consumers-oriented". In this respect, this paper provides a necessary and sufficient condition for a consumer surplus improving merger: in a two firm merger, efficiency gains must be larger than the pre-merger average markup.

Carlo CAPUANO and Giuseppe DE FEO (2008/19) investigate the effect of privatization in a mixed duopoly, where a private firm competes in quantities with a welfare maximizing public firm. Two kind of inefficiencies of the public sector are considered: a possible cost inefficiency, and an allocative inefficiency due to the distortionary effect of taxation (shadow cost of public funds). Furthermore, they analyze the effect of privatization on the timing of competition by endogenizing the determination of simultaneous (Nash-Cournot) versus sequential (Stackelberg) games using the model developed by Hamilton and Slutsky (1990). The latter is especially relevant for the analysis of privatization, given that results and policy prescription emerged in the literature crucially rely on the type of competition assumed. The main finding is that privatization has generally the effect of shifting from Stackelberg to Cournot equilibrium and that, absent efficiency gains privatization never increases welfare. Moreover, even when large efficiency gains are realized, an inefficient public firm may be preferred.

Didier LAUSSEL and Joana RESENDE (2008/33) explore the issue of dynamic price competition when firms strategically interact in two distinct but interrelated markets: a primary market and an aftermarket, where indirect network effects arise. A differential game of two-dimensional price competition is set up. The main conclusion is that the absence of price competition in the aftermarket (competition in the market) fosters dynamic price competition in the primary market (competition for the market). The impact of network sizes on firms' prices in the primary market is also investigated: in equilibrium, larger firms have incentives to compete more fiercely for new "uncolonized" consumers.

Three papers explore some of the issues arising in presence of network externalities. Ana MAULEON, Vincent VANNETELBOSCH and Cecilia VERGARI (2008/25) try to understand what is the effect of product market integration on the market equilibrium in the presence of international network externalities in consumption. In order to deal with this matter they build a spatial two-country model. It turns out that the economic forces at work may have an ambiguous effect on prices. An analysis of firms' incentives to provide two-way compatibility between two network goods with different intrinsic qualities is proposed by Filomena GARCIA and Cecilia VERGARI (2008/14). They study how the relative importance of vertical differentiation with respect to the network effect influences the price competition as well as the compatibility choice. The final

degree of compatibility allows firms to manipulate the overall differentiation. Under weak network effects, full compatibility may arise: the low quality firm has higher incentives to offer its product in order to prevent the rival from dominating the market. Under strong network effects multiple equilibria for consumers' demands are observed. However, in any equilibrium of the full game, coordination takes place on the high quality good which, by assumption, always maintains its overall quality dominance. Jean GABSZEWICZ and Joana RESENDE (2007/73) raise the problem of the minorities' survival in the presence of positive network externalities. They rely on the example of thematic clubs to illustrate why and in which circumstances such survival problems might appear, first considering the case of simple network externalities and then the case of cross network externalities.

The electricity market is the object of two contributions (2008/37 and 2008/41) due to Gregor ZOETTL. In the first one he analyzes the impact of a uniform price cap at electricity spot markets on firms investment decisions and on welfare. Since investment decisions for those markets are taken in the long run, fluctuating demand at the spot market eventually gives rise to high price spikes in case of binding capacities. Those price spikes are considered to send accurate signals for investment in generation capacities, limiting those spikes by price caps is thought to reduce firms' investment incentives. The author shows that this is not true for the case of strategic investment behavior. More specifically he analyzes a market game where firms choose capacities prior to a spot market, which is subject to fluctuating or uncertain demand. He proves that appropriately chosen price caps do always increase firms investment incentives under imperfect competition. He furthermore characterizes the optimal price cap. Based on the theoretical framework, he empirically analyzes the impact of uniform price caps on the German electricity market. The second paper analyzes firms investment incentives in liberalized electricity markets. Since electricity is economically non storable, it is optimal for firms to invest in a differentiated portfolio of technologies in order to serve strongly fluctuating demand. Prior to the liberalization of electricity markets, for regulated monopolists, optimal investment and pricing strategies have been analyzed in the peak load pricing literature. In restructured electricity markets regulated monopolistic generators have often been replaced by competing and potentially strategic firms. This article aims to respond to the changed reality and model investment decisions of strategic firms in those markets. The author derives equilibrium investment for strategic firms and compares to the benchmark cases of perfect competition and monopoly outcomes. He finds that strategic firms have an incentive to overinvest in base-load technologies but choose total capacities too low from a welfare point of view. By fitting the framework to a specific electricity market (Germany) the author empirically analyzes Investment choices of strategic firms, and quantifies the potential for market power and its impact on generation portfolios in restructured electricity markets in the long run.

Even if from a different perspective, the electricity market is also the object of a contribution by Gabriella MURATORE (2008/6). Her objective is actually to find efficient partial equilibria in markets with non-convexities. Beside its theoretical importance this issue is fundamental in energy markets, which do not give the right price signals and incentives to maintain existing and invest in new generating capacity. By considering a competitive environment in which consumers maximize utility independently of other agents actions while suppliers are profit maximizers given other market agents actions, the author is able to find efficient prices in markets with non-

convexities. Building on this result she proposes a design for an energy-only market able to give investors the correct price signals.

The inception of the Emission Trading System in Europe (EU-ETS) has made power price more expensive. This affects the competitiveness of electricity intensive industrial consumers and may force them to leave Europe. Taking up of a proposal of the industrial sector, Giorgia OGGIONI and Yves SMEERS (2008/1) explore the possible application of special contracts, based on the average cost pricing system, which would mitigate the impact of CO_2 cost on their electricity price. In a model with fixed generation capacities. they first consider a reference model representing a perfectly competitive market where all consumers (households and industries) are price-takers and buy electricity at the short-run marginal cost. They then change the market design assuming that large industrial consumers pay power either at a single or at a nodal average cost price. The analysis of these problems is conducted with simulation models applied to the Northwestern European market. The equilibrium models developed are implemented in the GAMS environment.

Andreas EHRENMANN and Yves SMEERS (2008/7) formulate an equilibrium model of the electricity sector with both investments and operations. Electricity prices are set at the fuel cost of the last operating unit when there is no curtailment, and at some regulated price cap when there is curtailment. There is a CO_2 market and different policies for allocating allowances. The current situation is quite risky for investors. Fuel prices are more volatile than ever; the total amount of CO_2 allowances and the allocation method will only be known after investments has been decided. The equilibrium model is thus under uncertainty. Agents can be risk neutral or risk averse. We model risk aversion through a CVaR of the net margin of the industry. The CVaR induces a risk neutral probability according to which investors value their plants. The model is formulated as a complementarity problem (including the CVaR valuation of investment). An illustration is provided on a small problem that captures the essence of today electricity world: a choice restricted to coal and gas, a peaky load curve because of wind penetration, uncertain fuel prices and an evolving carbon market (EU-ETS). The authors show that there might be a problem of security of supply if a capacity market is not implemented.

Yves SMEERS (2008/9) explores the relation between competition and the security of energy supply in Europe. The Commission argues that making the European gas market more competitive (completing the internal gas market) will be instrumental in the pursuit of these objectives. The paper examines the question through the eyes of existing models of the European gas market. Can these models tell us anything about this problem? Do they confirm or infirm the analysis of the Commission appearing in fundamental documents such as the Green Paper, the Sector Inquiry or the new legislation package? The author argues that results of existing models contradict a fundamental finding (paragraph 77) of the Sector Inquiry. He further elaborates on the basis of the economic assumption underlying the models that changing the assumptions implicitly contained in paragraph 77 cast doubts on a large part of the reasoning justifying the completion of the internal gas market. He also explains that models could help arriving at a better definition of the relevant market, which is so important in the reasoning of the Commission. He also finds model results that question the effectiveness of ownership unbundling. As to security of supply, he explains that models can also contribute to assess the value of additional infrastructure in the context of security of supply, but this potential seems largely untapped. Last he notes that sustainability has not yet penetrated models of gas markets.

MACROECONOMIC POLICIES

Some possible effects of demographic transition on economic growth are explored in two different contributions. In the first one, David DE LA CROIX and Omar LICANDRO (2007/72) propose a new theory of the demographic transition based on the evidence that body development during childhood is an important predictor of adult life expectancy. Fertility, childhood development, longevity, education and income growth all result from individual decisions. Parents face a trade-off between the number of children they have and the spending they can afford on each of them in childhood. These childhood development spending will determine children longevity when adult. Parents face a second trade-off in allocating their time between increasing their own human capital and rearing children. The model displays different regimes. In a Malthusian regime with no education fertility increases with adult life expectancy. In the modern growth regime, life expectancy and fertility move in opposite directions. The dynamics display the key features of the demographic transition, including the hump in both population growth and fertility, and replicate the observed rise in educational attainment, adult life expectancy and economic growth. Consistent with the empirical evidence, a distinctive implication of the paper is that improvements in childhood development precede the increase in education. In the second paper, David DE LA CROIX and Marie VANDER DONCKT (2008/43) explore the pathways by which gender inequality affects fertility and hampers growth. Several dimensions of gender inequality are introduced into a 2-sex OLG model with a non-unitary representation of household decision-making. The authors characterize a Malthusian corner regime which is characterized by strong gender inequality in education and high fertility. Both in theory and in the data they show that reducing the social and institutional gender gap does not help to escape from this regime while reducing the wage gender gap lowers fertility only in countries which have already escaped from it. The key policies to ease out the countries in the Malthusian regime are to promote mother's longevity and to curb infant mortality. In the interior regime, parents consider the impact of their children education on the expected intra-household bargaining position in their future couple. Education could thus compensate for the institutional and social gender gap that still exists in developed countries.

David DE LA CROIX and Clara DELAVALLADE (2008/35) try to bridge the gap between the standard theory of growth and the mostly static theory of corruption. Some public investment can be diverted from its purpose by corrupt individuals. Voters determine the level of public investment subject to an incentive constraint equalizing the returns from productive and corrupt activities. The authors concentrate on two exogenous institutional parameters: the "technology of corruption" is the ease with which rent-seekers can capture a proportion of public spending. The "concentration of political power" is the extent to which rent-seekers have more political influence than other people. One theoretical prediction is that the effects of the two institutional parameters on income growth and equilibrium corruption are different according to the constraints that are binding at equilibrium. In particular, the effect of judicial quality on growth should be stronger when political power is concentrated. The authors also estimate a system of equations where both corruption and income growth are determined simultaneously and show that income growth is more affected by our proxies for legal and political institutions in countries where political rights and judicial institutions respectively are limited.

David DE LA CROIX (2008/48) proposes four arguments favoring the idea that medical effectiveness, adult longevity and height started to increase in Europe before the industrial

revolution. This may have prompted households to increase their investment in human skills as a response to longer lives and initiated the transition from stagnation to growth.

David DE LA CROIX and Gregory PONTHIÈRE (2008/49) derive the Golden Rule of capital accumulation in a Chakraborty-type economy (a two-period OLG economy where longevity is endogenous). It is shown that the capital per worker maximizing steady-state consumption per head is inferior to the Golden Rule capital level prevailing under exogenous longevity. They characterize also the Lifetime Golden Rule, that is, the capital per worker maximizing steady-state expected lifetime consumption per head, and show that this tends to exceed the standard Golden Rule capital level.

The next paper develops a theory of optimal fertility behavior under mortality shocks. Raouf BOUCEKKINE, Rodolphe DESBORDES and Hélène LATZER (2008/42) propose a 3-periods OLG model where young adults determine their optimal fertility, labor supply and lifecycle consumption with both exogenous child and adult mortality risks. They show that, for fixed prices (real wages and interest rate), both child and adult one-period mortality shocks raise fertility due to insurance and life-cycle mechanisms respectively. In general equilibrium, adult mortality shocks give rise to price effects (notably through rising wages) lowering fertility, in contrast to child mortality shocks. Their theory is complemented with an empirical analysis on a sample of 39 Sub-Saharan African countries over the 1980-2004 period, checking for the overall effects of the adult and child mortality channels on optimal fertility behavior. The data show that child mortality exerts a robust, positive impact on fertility, whereas the reverse is true for adult mortality. Moreover, this negative effect on fertility of a rise in adult mortality dominates in the long-term the positive effect on demand for children resulting from an increase in child mortality.

Raouf BOUCEKKINE, Natali HRITONENKO and Yuri YATSENKO (2008/24) propose a paper that examines the Porter and induced-innovation hypotheses in a firm model where: (i) the firm has a vintage capital technology with two complementary factors, energy and capital; (ii) scrapping is endogenous; (iii) technological progress is energy-saving and endogenous through purposive R&D investment; (iv) the innovation rate increases with R&D investment and decreases with complexity; (v) the firm is subject to emission quotas which put an upper bound on its energy consumption at any date; (vi) energy and capital prices are exogenous. The authors characterize the balanced growth paths, and perform a comparative static analysis to study a kind of long-term Porter and induced-innovation hypotheses. In particular, they show that tighter emission quotas do not prevent firms to grow in the long-run, thanks to endogenous innovation, but they have an inverse effect on the growth rate of profits. Some short-term dynamics are also produced, particularly, to analyze the role of initial conditions and energy prices in optimal firm behavior subject to environmental regulation. Among numerous results, it is shown that (i) firms which are historically "small" polluters find it optimal to massively pollute in the short run: during the transition, new and clean machines will co-exist with old and dirty machines in the productive sectors, implying an unambiguously dirty transition; (ii) higher energy prices induce a shorter lifetime for capital goods but they depress investment in both new capital and R&D, featuring a kind of reverse Hicksian mechanism.

The study of the trade cycle during the thirties made imperfectly competitive output markets a major theme in macroeconomics, principally under the lead of Harrod. Both him and Keynes were referring at the same time to a supposed feature of business cycles, namely the counter-cyclicality

of real wages, which was however going to be very soon contested. Empirical evidence, as well as other more speculative considerations, induced an important flow of theoretical arguments developed by several authors during a very short period, at the eve of the second World War. Claude d'ASPREMONT, Rodolphe DOS SANTOS FERREIRA and Louis-André GÉRARD-VARET (2007/79) propose to examine these aborted guidelines already exhibiting the main ingredients of the New Keynesian research programme only developed one half century later: imperfectly competitive goods markets (with costly price adjustment, economies of scale and cyclical behaviour of markups), imperfectly competitive labour markets (with wage negotiations, implicit contracts and efficiency wages), and finally coordination failures.

MICROECONOMIC THEORY

Juan D. MORENO-TERNERO (2008/15) studies mechanisms defining equal-opportunity policies for resource allocation. He proposes a model where agents enjoy welfare as a function of the effort they expend, and the amount of a socially provided resource they consume. Nevertheless, agents have interdependent preferences, i.e., they not only care about their own allocation, but also about their peers' allocations. Consistently with the standard approach to equality of opportunity, the aim is to allocate the social resource so that welfare across individuals at the same relative effort level is as equal as possible. Interestingly, pursuing this same aim while assuming that agents have interdependent preferences might crucially alter the results. The objective of looking for allocation rules aiming at the equalization of opportunities is also central in a subsequent contribution by Juan D. MORENO-TERNERO and John E. ROEMER (2008/18). They analyze a model of resource allocation in which agents' abilities (to transform the resource into an interpersonally comparable outcome) and initial endowments may differ. They propose ethical and operational axioms that single out two focal (and polar) egalitarian rules: the rule that allocates the resource equally across agents and the rule that allocates the resource so that the distribution of final outcomes is lexicographically maximized.

Giacomo VALLETTA (2007/77) studies equity in economies where agents are endowed with different, non transferable, personal talents. To compensate them for such differences a given amount of money needs to be shared among them. He proposes a family of social orderings over allocations based on efficiency, fairness and robustness properties. He then derives the optimal policy: taking into account incentive constraints individuals with the same talent need to be equally compensated and only people whose level of talent is below a certain threshold should receive a positive compensation.

Jacques H. DRÈZE and P. Jean-Jacques HERINGS (2007/75) consider a monetary economy with imperfectly competitive product and labour markets where business firms and labour unions hold demand perceptions with kinks. To the equilibria of such an economy they attach the definition of "Keynes-Negishi equilibria", as posited in Negishi's 1979 book *Microeconomic Foundations of Keynesian Macroeconomics*. They define such equilibria in a general equilibrium model, and prove their existence.

Jacques H. DRÈZE, Oussama LACHIRI and Enrico MINELLI (2007/82) propose an objective for the firm in a general model of production economies extending over time under uncertainty and with incomplete markets. Trading in commodities and shares of stock occurs sequentially on spot

markets at all date-events. The authors derive the objective of the firm from the assumption of initial-shareholders efficiency. Each shareholder is assumed to communicate to the firm her marginal valuation of profits at all date-events (expressed in terms of initial resources). In defining her own marginal valuation of the firm's profits, a shareholder takes two elements into consideration. To evaluate the direct impact of a change in dividends the shareholder uses her own vector of marginal rates of substitution for revenue across date-events. In addition, the shareholder will take into account the impact of future dividends on the firm's stock price when she trades shares. To predict the effect on the stock price, she uses a (possibly different) state price process, her price theory. The only restriction imposed on consumers' price theories is that they should be compatible with the observed equilibrium: given the equilibrium prices and production plans, a price theory must satisfy a no-arbitrage condition. The firm computes its own shadow prices for profits at all date-events by simply adding up the marginal valuations of all its initial shareholders. An equilibrium is shown to exist.

A characterization of interim inefficiency in stochastic economies of overlapping generations under possibly sequentially incomplete markets is provided by Gaetano BLOISE and Filippo L. CALCIANO (2007/93). They move away from the established body of results in the literature by removing the hypothesis of two-period horizons (this is done by considering longer, though uniformly bounded, horizons for generations). The characterization exploits a suitably Modified Cass Criterion, grounded on the long-run behaviour of compounded safe interest rates and independent of the length of horizons of generations. Thus, the hypothesis of two-period horizons is purely heuristic in establishing a criterion for inefficiency. In addition, for sequentially incomplete markets, they adopt a suitable notion of unambiguous inefficiency, separating the inefficient intertemporal allocation of resources from incomplete risk-sharing. Unambiguous inefficiency reduces to inefficiency when markets are sequentially complete.

In (2008/10), Pierre DEHEZ and Daniela TELLONE consider the cost allocation problem faced by a group of firms whose common project requires putting together elements held by some of them. These elements are nonrival but excludable goods i.e. public goods with exclusion, for instance knowledge, data or information, patents or copyrights. How should firms be compensated for the "data" they hold is the question. The problem gives rise to a class of cost game – called data game – to which standard solution concepts like the core, the Shapley value and the nucleolus are applied and compared. Special attention is given to the case where the individual "datasets" form a partition. The particular case where datasets are nested is the object of a previous paper of Pierre DEHEZ (2007/94).

Ana MAULEON, Vincent VANNETELBOSCH and Wouter VERGOTE (2008/16) adopt the notion of von Neumann-Morgenstern farsightedly stable sets to predict which matchings are possibly stable when agents are farsighted in one-to-one matching problems. They provide the characterization of von Neumann-Morgenstern farsightedly stable sets: a set of matchings is a von Neumann-Morgenstern farsightedly stable set if and only if it is a singleton set and its element is a corewise stable matching. Thus, contrary to the von Neumann-Morgenstern (myopically) stable sets, von Neumann-Morgenstern farsightedly stable sets cannot include matchings that are not corewise stable ones. Moreover, they show that their main result is robust to many-to-one matching problems with responsive preferences.

A study on information revelation in markets with pairwise meetings is proposed by Tanguy ISAAC (2008/17). He focuses on the one sided case and performs a dynamic analysis of a constant entry flow model. The same question has been studied in an identical framework in Serrano and Yosha (1993) but they limit their analysis to the stationary steady states. Blouin and Serrano (2001) study information revelation in a one-time entry model and obtain results different from Serrano and Yosha (1993). The main difference is not due to the steady state analysis but to the entry assumption.

Leonidas C. KOUTSOUGERAS and Nicholas ZIROS (2008/26) show that in large finite economies, core allocations can be approximately decentralized as Nash (rather than Walras) equilibria. They argue that this exercise is an essential complement to asymptotic core equivalence results. It implies that in some approximate sense individual attempts to manipulate the decentralizing prices cannot be beneficial, which fits precisely the interpretation of asymptotic core convergence, namely the emergence of price taking.

Louis EECKHOUDT, Johanna ETNER and Fred SCHROYEN (2007/86) propose benchmark values for the coefficients of relative risk aversion and relative prudence on the basis of a binary choice model where the decision maker chooses between aggregating or disaggregating multiplicative risks. The results they obtain are related to the decision maker's willingness to trade-off the second with the first and the third (central) moment of his wealth distribution. David CRAINICH and Louis EECKHOUDT (2007/88) propose an alternative measure of the degree of downside risk aversion (or equivalently prudence). The new measure (U′′′/U′) has interesting properties, different from those related to the traditional one (-U′′′/U′′). It also appears that the two measures are not mutually exclusive. Instead, they appear to be rather complementary as shown through an economic application.

OPTIMIZATION METHODS

Yurii NESTEROV (2007/76) explores several new methods for solving optimization problems with the objective function formed as a sum of two convex terms: one is smooth and given by a black-box oracle, and another is general but simple and its structure is known. Despite the bad properties of the sum, such problems, both in convex and nonconvex cases, can be solved with efficiency typical for the good part of the objective. For convex problems of the above structure, the author considers primal and dual variants of the gradient method (converge as $O(1/k)$), and an accelerated multistep version with convergence rate $O(1/k^2)$, where k is the iteration counter. For all methods, the author suggests some efficient "line search" procedures and show that the additional computational work necessary for estimating the unknown problem class parameters can only multiply the complexity of each iteration by a small constant factor. Finally, the results of preliminary computational experiments are also presented; these confirm the superiority of the accelerated scheme.

Two simple upper bounds for the joint spectral radius of sets of nonnegative matrices are proposed by Vincent D. BLONDEL and Yurii NESTEROV (2008/34). These bounds, the joint column radius and the joint row radius, can be computed in polynomial time as solutions of convex optimization problems. The authors show that for general matrices these bounds are within the factor $1/n$ of the exact value, where n is the size of the matrices. Moreover, for sets of matrices

with independent column uncertainties or with independent row uncertainties, the corresponding bounds coincide with the joint spectral radius. In these cases, the joint spectral radius is also given by the largest spectral radius of the matrices in the set. As a byproduct of these results, the authors propose a polynomial-time technique for solving Boolean optimization problems related to the spectral radius. They also propose economic and engineering applications of their results, which were never considered in practice due to their intrinsic computational complexity.

Robert CHARES and François GLINEUR (2007/71) deal with the single-facility location problem with mixed norms, i.e. the problem of minimizing the sum of the distances from a point to a set of fixed points in Rn, where each distance can be measured according to a different p-norm. The paper shows how this problem can be expressed in a structured conic format by decomposing the nonlinear components of the objective into a series of constraints involving three-dimensional cones. Using the availability of a self-concordant barrier for these cones, the authors present a polynomial-time algorithm (a long-step path-following interior-point scheme) to solve the problem up to a given accuracy. Computational results for this algorithm and a comparison with standard nonlinear optimization solvers applied to this problem are also provided.

Wlodzimierz SZWARC (2008/3) proves that the cycling of the simplex method for the $m \times n$ Transportation Problem where k-1 zero basic variables are leaving and reentering the basis does not occur once it does not occur in the k×k Assignment Problem. A method to disprove cycling for a particular k is applied for k=2,3,4,5 and 6.

Frédéric BABONNEAU and Jean-Philippe VIAL (2007/91) propose a Benders-like partitioning algorithm to solve the network loading problem. The effort of computing integer solutions is entirely left to a pure integer programming solver while valid inequalities are generated by solving standard nonlinear multicommodity flow problems. The method is compared to alternative approaches proposed in the literature and appears to be efficient.

A new class of valid inequalities for the single-item capacitated lot sizing problem with step-wise production costs (LS-SW) is proposed by Ayse AKBALIK and Yves POCHET (2007/87). They describe flow cover and flow cover inequalities derived from the single node flow set in order to generate the new class of valid inequalities. The single node flow set can be seen as a generalization of some valid relaxations of LS-SW. They also derive a new class of valid inequalities, the mixed flow cover, from the integer flow cover inequalities by a lifting procedure. The lifting coefficients are sequence independent when the batch sizes (V) and the production capacities (P) are constant and if V divides P. When the restriction of the divisibility is removed, the lifting coefficients are shown to be sequence independent. The authors identify some cases where the mixed flow cover inequalities are facet-defining. A cutting plane algorithm is proposed for these three classes of valid inequalities. The exact separation algorithm proposed for the constant capacitated case runs in polynomial time. Finally, some computational results are given to compare the performance of the different optimization methods including the new class of valid inequalities.

Géraldine STRACK and Yves POCHET (2008/8) study a tactical model which integrates the replenishment decision in inventory management, the allocation of products to warehousing systems and the assignment of products to storage locations in warehousing management. The purpose of their contribution is to analyze the value of integrating warehouse and inventory decisions. This is achieved by proposing two methods for solving this tactical integrated model,

which differ in the level of integration of the inventory and warehousing decisions. A computational analysis is performed on a real world database and using multiple scenarios differing by the warehouse capacity limits. They observe that the total cost of the inventory and warehousing systems can be reduced drastically by taking into account the warehouse capacity restrictions in the inventory planning decisions, in an aggregate way. Moreover, additional inventory and warehouse savings can be achieved by using more sophisticated integration methods for inventory and warehousing decisions.

Santanu S. DEY and Laurence A. WOLSEY (2008/30) build on several recent characterizations of extreme inequalities of a system of two rows with two free integer variables and nonnegative continuous variables. These inequalities are either split cuts or intersection cuts derived using maximal lattice-free convex sets. In order to use these inequalities to obtain cuts from two rows of a general simplex tableau, one approach is to extend the system to include all possible nonnegative integer variables (giving the two row mixed integer infinite-group problem), and to develop lifting functions giving the coefficients of the integer variables in the corresponding inequalities. The authors study the characteristics of these lifting functions. They observe that functions giving valid coefficients for the nonnegative integer variables can be constructed by lifting a subset of the integer variables and then applying the fill-in procedure presented by Johnson. Then they present conditions for these "general fill-in functions" to be extreme for the two-row mixed integer infinite-group problem. They show that there exists a unique "trivial' lifting function that yields extreme inequalities when starting from a maximal lattice-free triangle with multiple integer points in the relative interior of one of its sides, or a maximal lattice-free triangle with integral vertices and one integer point in the relative interior of each side. In all other cases (maximal lattice-free triangle with one integer point in the relative interior of each side and non-integral vertices, and maximal lattice-free quadrilaterals), non-unique lifting functions may yield distinct extreme inequalities. For the case of a triangle with one integer point in the relative interior of each side and non-integral vertices, the authors present sufficient conditions to yield an extreme inequality for the two-row mixed integer infinite-group problem.

Multiple class queuing models arise in situations where some flexibility is sought through pooling of demands for different services. Earlier research has shown that most of the benefits of flexibility can be obtained with only a small proportion of cross-trained operators. Predicting the performance of a system with different types of demands and operator pools with different skills is very difficult. Philippe CHEVALIER and Jean-Christophe VAN DEN SCHRIECK (2008/21) present an approximation method that is based on equivalent loss systems. They successively develop approximations for the waiting probability, the average waiting time and the service level. Their approximations are validated using a series of simulations. Along the way they also present interesting insights into some similarities between queuing systems and equivalent loss systems that have never been reported in the literature.

Jean-Sébastien TANCREZ, Philippe CHEVALIER and Pierre SEMAL (2008/28) propose a new alternative approach in the analysis of manufacturing systems with finite buffers. The main objective is to build tractable phase-type distributions, which are required by state-of-the-art analytical models. Called "probability masses fitting" (PMF), the approach is quite simple: the probability masses on regular intervals are computed and aggregated on a single value in the corresponding interval, leading to a discrete distribution. PMF shows some interesting properties:

it is bounding, monotonic and it conserves the shape of the distribution. After PMF, from the discrete phase-type distributions, state-of-the-art analytical models can be applied. The authors choose to model the evolution of the system by a Markov chain, and they focus on flow lines. The properties of the global modelling method can be discovered by extending the PMF properties, mainly leading to bounds on the throughput. Finally, the method is shown, by numerical experiments, to compute accurate estimations of the throughput and of various performance measures, reaching accuracy levels of a few tenths of percent.

PUBLIC ECONOMICS

Pablo AMOROS and M. Socorro PUY (2007/84) incorporate the media priming effects to explain how politicians can affect voters preferences on issues during the political campaign. They adapt well-known terms of international trade, such as absolute advantage and comparative advantage, to the context of parties' competition in political issues. They show that when either each party has an absolute advantage on a different issue or when parties have "high" comparative advantage on a different issue, the political campaign will consist of issue-emphasis divergence. However, when a party has an absolute advantage on both issues but the parties' comparative advantage is not "high enough", the political campaign will consist of issue engagement or dialogue. The results of the paper conciliate two separated theories concerning whether there must be dialogue or issue-emphasis divergence in the political campaign.

Inequalities in health and health care are caused by different factors. Measuring "unfair" inequalities implies that a distinction is introduced between causal variables leading to ethically legitimate inequalities and causal variables leading to ethically illegitimate inequalities. An example of the former could be life-style choices, an example of the latter is social background. Marc FLEURBAEY and Erik SCHOKKAERT (2007/90) show how to derive measures of unfair inequalities in health and in health care delivery from a structural model of health care and health production: "direct unfairness", linked to the variations in medical expenditures and health in the hypothetical distribution in which all legitimate sources of variation are kept constant; "fairness gap", linked to the differences between the actual distribution and the hypothetical distribution in which all illegitimate sources of variation have been removed. These two approaches are related to the theory of fair allocation. In general they lead to different results. The authors propose to analyze the resulting distributions with the traditional apparatus of Lorenz curves and inequality measures. They compare their proposal to the more common approach using concentration curves and analyze the relationship with the methods of direct and indirect standardization.

Related to the question of life-style choices is the question of the consumption of sin goods. A sin good (like cigarettes or junk food) is a good that creates immediate pleasure but has detrimental long term effects. Helmuth CREMER, Philippe DE DONDER, Dario MALDONADO and Pierre PESTIEAU (2008/31) study what should be the optimal intervention of a social planner when such goods are consumed by individuals. They consider a two-period model. In the first period, individuals consume two goods: one is sinful and the other is not. The sin good brings pleasure but has a detrimental effect on second period health and individuals tend to underestimate this effect. In the second period, individuals can devote part of their saving to improve their health status and thus compensate for the damage caused by their sinful consumption. The authors consider two

alternative specifications concerning this second period health care decision: either individuals acknowledge that they have made a mistake in the first period out of myopia or ignorance, or they persist in ignoring the detrimental effect of their sinful consumption. A study of the optimal linear taxes on sin good consumption, saving and health care expenditures for a paternalistic social planner is proposed. Those taxes are compared in two different specifications. First, it is shown under which circumstances the first best outcome can be decentralized. Second, a study of the second best taxes when saving is unobservable is provided.

Whereas existing OLG models with endogenous longevity neglect the impact of environmental quality on mortality, Pierre-André JOUVET, Pierre PESTIEAU and Gregory PONTHIÈRE (2007/69) study the design of the optimal public intervention in a two-period OLG model where longevity is influenced positively by health expenditures, but negatively by pollution due to production. It is shown that if individuals, when choosing how much to spend on health, do not internalize the impact of their decision on environmental quality (i.e. the space available for each person), the decentralization of the social optimum requires a tax not only on capital income, but also, on health expenditures. The sensitivity of the optimal second-best public intervention is also explored numerically.

Marie-Louise LEROUX (2008/29) studies the normative problem of redistribution among individuals who can influence their longevity through a non-monetary effort but have different taste for effort. As benchmarks, she first presents the laissez-faire and the first best. In the first best, the level of effort is always lower than in the laissez-faire as the social planner takes into account the consequences of higher survival on the budget constraint. However, since it is supposed that effort is private and non-monetary (like exercising), it is reasonable to think that the social planner has no control over it. Thus, the author modifies this framework and assumes for the rest of the paper that effort is determined by the individual while the social planner only allocates consumptions. Under full information with non-monitored effort, early consumption is preferred to future consumption and the high-survival individual obtains higher future consumption. Under asymmetric information, the distortion is identical for the low-survival individual while the direction of the distortion for the high-survival individual is ambiguous. It is finally shown how to decentralize these allocations through a perfect annuity market and (positive or negative) taxes on annuities.

Extending the previous model, Marie-Louise LEROUX and Grégory PONTHIÈRE (2008/39) study the normative problem of redistribution between agents who can influence their survival probability through private health spending, but who differ in their attitude towards the risks involved in the lotteries of life to be chosen. For that purpose, they develop a two-period model where agents' preferences on lotteries of life can be represented by a mean and variance utility function allowing, unlike the expected utility form, some – agent-specific – sensitivity to what Allais (1953) calls the 'dispersion of psychological values'. It is shown that if agents ignore the impact of their health expenditures on the return of their savings, the decentralization of the first-best optimum requires not only inter-group lump-sum transfers, but, also, group-specific taxes on health spending. It is also shown that, under asymmetric information, a subsidy on savings is optimal, whereas group-specific taxes on health spending are of ambiguous signs.

When educational policy is supplemented by a redistributive income tax, and when individuals differ in their ability to benefit from education, the optimal policy is typically rather regressive.

Resources are concentrated on the most able individuals in order to get a "cake" as big as possible to share among individuals through income taxation. Helmuth CREMER, Pierre PESTIEAU and Maria RACIONERO (2007/95) put forward another reason to push for regressive education. It is not linked to heterogeneity in innate ability to benefit from education but to pervasive non-convexities that arise in the optimal income tax problem when individual productivities are endogenous. For simplicity the authors assume a linear education technology and a given total education budget. To give the equal wage outcome the best chance to emerge, they also assume that individuals have identical learning abilities. Nevertheless, it turns out that in the first best wage inequality is always preferable to wage equality. Even more surprisingly, this conclusion remains valid in the second best (unless ad hoc restriction on the feasible degree of a wage differentiation are imposed). This is in spite of the fact that wage equalization would eliminate any need for distortionary income taxation.

Social security is the object of several papers. Among the rationales for social security, there is the fact that some people have to be forced to save. To explain undersaving, rational prodigality and hyperbolic preferences are often cited but treated separately. Pierre PESTIEAU and Uri POSSEN (2008/11) study those two particular behaviours that lead to forced saving within an optimal income tax second-best setting. Helmuth CREMER, Philippe DE DONDER, Dario MALDONADO and Pierre PESTIEAU (2008/20) study the design of a nonlinear social security scheme in a society where individuals differ in two respects: productivity and degree of myopia. Myopic individuals may not save "enough" for their retirement because their "myopic self" emerges when labour supply and savings decisions are made. The social welfare function is paternalistic: the rate of time preference of the far-sighted (which corresponds to the "true" preferences of the myopics) is used for both types. The authors show that the paternalistic solution does not necessarily imply forced savings for the myopics. This happens because paternalistic considerations are mitigated or even outweighed by incentive effects. Numerical results suggest that as the number of myopic individuals increases, there is less redistribution and more forced saving. Furthermore, as the number of myopic agents increases, the desirability of social security (measured by the difference between social welfare with and without social security) increases.

Helmuth CREMER, Philippe DE DONDER, Dario MALDONADO and Pierre PESTIEAU (2008/38) show that the combination of habit formation – present consumption creating additional consumption needs in the future – and myopia may explain why some retirees are forced to "unretire", i.e., unexpectedly return to work. It also shows that when myopia about habit formation leads to unretirement there is a case for government's intervention. In a first-best setting the optimal solution can be decentralized by a simple "Pigouvian" (paternalistic) consumption tax (along with suitable lump-sum taxes). In a second-best setting, when personalized lump-sum transfers are not available, consumption taxes may have conflicting paternalistic and redistributive effects. The authors study the design of consumption taxes in such a setting when myopic individuals differ in productivity.

Pierre PESTIEAU and Uri M. POSSEN (2008/22) explore the shift from defined benefit to defined contribution pension plans when the payout rate from social security is set optimally. They show that when employees are receiving more of their private pensions from defined contribution plans one should be raising the payout rate from traditional social security rather than trying to privatize part of it. Helmuth CREMER, Jean-Marie LOZACHMEUR and Pierre PESTIEAU (2007/96) build on the

fact that in a number of countries one observes a steady decline in defined benefits pensions schemes, public or private, funded or unfunded, and a simultaneous expansion of defined contributions plans. One of the consequences of this trend is to deprive individuals at the time of their retirement from the benefit of collective annuitization. Collective annuities can be distinguished from individual ones in two ways. First, they tend to be cheaper because of their scale and because of inefficiencies in private annuity markets. Second they redistribute resources from short-lived to long-lived individuals. The authors study the role of collective annuities. Both their redistributive incidence and efficiency aspects are accounted for. They assume that lifetime is uncertain and that there is a positive correlation between longevity and earnings. Collective annuitization (in part or in total) can be imposed on private savings or it can be "bundled" with a redistributive pension scheme. They show that the case for applying collective annuitization to private savings is weak. The case is stronger when collective annuities are associated with redistributive pensions. However, even in that case, collective annuitization may mitigate the redistributive benefits associated with the pension system.

Tim COELLI, Mathieu LEFEBVRE and Pierre PESTIEAU (2008/12) use data on five social inclusion indicators (poverty, inequality, unemployment, education and health) to assess the performance of 15 European welfare states (EU15) over a ten-year period from 1995 to 2004. Aggregate measures of performance are obtained using index number methods similar to those employed in the construction of the widely used Human Development Index (HDI). These are compared with alternative measures derived from data envelopment analysis (DEA) methods. The influence of methodology choice and the assumptions made in scaling indicators upon the results obtained is illustrated and discussed. The authors also analyze the evolution of performance over time, finding evidence of some convergence in performance and no sign of social dumping.

CHAIRS AND RESEARCH PROJECTS UNDER CONTRACTS

Research contracts are listed by sponsor: chairs, the University, the Belgian Federal Government, the Belgian French-speaking Community, the European Commission or industry.

LHOIST BERGHMANS CHAIR

It is now a recognized fact that environmental issues are pervasive in business today. This concern is quite rightly interpreted as the expression of collective aspirations for a better quality of life. The Chair Lhoist Berghmans in Environmental Economics and Management takes part in this process. A teaching and research chair, the Chair Lhoist Berghmans aims at fostering research likely to improve our knowledge from three points of view: (i) evaluating the costs for industry of applying clean technologies, (ii) evaluating the benefits for our society of applying these technologies, (iii) evaluating the global impact of industrial activities on the environment and on the improvement of living conditions through the use of their products. An interdisciplinary approach to these problems is needed in order to integrate environmental, economic, technological and institutional factors into a coherent process and to quantify the effects of new environmental policy instruments on the competitiveness of industries and countries and on their overall wealth. Improving decision-making tools, both on individual firms and on society as a whole, is the main

theme of this research. The Chair hold by Thierry BRÉCHET involves about ten researchers at CORE every year. It is also responsible for four courses in environmental economics and management, which are offered in many departments in the university.

TRACTEBEL CHAIR

The aim of the Tractebel Chair in energy economics hold by Yves SMEERS is to incentivise research on questions arising from the restructuring of the gas and electricity sectors. The activity concentrates on market simulation, investment and risk management problems. The methodological approach is to cast fundamental ideas of economic theory in a computable framework using methods derived from optimization. Current work concentrates on the analysis of electricity spot prices using variations of unit commitment type models, long-term gas and oil resource development by equilibrium models, investments in generation capacity in an uncertain context through real option type methods and development of special contracts for large industrial consumers in the EU-ETS context (again equilibrium models).

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 characterizing 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.

EXTENSION OF AN ALGEBRAIC MODELLING LANGUAGE AND DEVELOPMENT OF A SOLVER FOR STRUCTURED CONIC CONVEX OPTIMIZATION

The result of this project will be useful for anybody who needs to solve convex optimization problems which appear naturally in numerous domains of industrial applications. One could mention here mechanical engineering with optimal shape design (shape of an aircraft wing, or the paddle of a turbo-engine), the conception of truss designs (for example for antennae, bridges etc. where the goal is to optimize the stiffness with a given weight). One could also mention applications in the domain of telecommunication (signal processing, network design of antennae), for estimation in statistics (maximum likelihood estimators) or in finance. The resulting program will include a modelling interface which takes as input the model to be solved. The practitioner simply formulates the problem in its natural way and hands it to that interface. The various transformations techniques are applied with the aim to establish a conic form that is treatable by the underlying solver. It hands the transformed problem to the solver and returns the optimal solution to the user.

Robert CHARES, under the supervision of François GLINEUR is working within the scope of this FRIA (Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture) project.

HEALTH GEOGRAPHY. DO THE CHARACTERISTICS OF RESIDENTIAL LOCATIONS INFLUENCE HEALTH STATUS AMONG THE BELGIAN POPULATION? A SPATIAL AND ECONOMETRIC APPROACH

The general goal of this project is to describe and explain spatial variations in Belgians' health status in function of the characteristics of residential locations. Two health indicators are studied (subjective health and mortality) and various aspects of residential locations are tackled (notably, physical characteristics, housing conditions, access to local resources, sociocultural composition, and perception of the neighbourhood). Different methodological problems put forward by the literature are dealt with, notably, the influence of the chosen spatial unit, the difficult distinction between contextual effects and compositional effects, and the problems of statistical biases arising from the endogeneity of residential locations.

Claire DUJARDIN is working under the scope of this project financed by the Belgian Fonds National de la Recherche Scientifique (FNRS).

NONNEGATIVE MATRIX FACTORIZATION AND RELATED PROBLEMS: ALGORITHMS, COMPLEXITY AND APPLICATIONS

Nonnegative Matrix Factorization (NMF) is the problem of expressing a nonnegative matrix as the product of two low-rank nonnegative matrices. It is a new way of interpreting nonnegative data with applications in text mining, image processing, computational biology... We would like to study the complexity of NMF and related problems, design efficient algorithms and finally use the results for some applications.

Nicolas GILLIS, under the supervision of François GLINEUR, is working under the scope of this project financed by the Belgian Fonds National de la Recherche Scientifique (FNRS).

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 Cientificas (CSIC), which proposes a research programme based on a collaboration between the GREQAM of EHESS and the Universités d'Aix-Marseille II and III, the GREC grouping economists from three centers in Barcelona (Institut d'Analisi Economica, Universitat Autonoma de Barcelona and CODE at Universitat Pompeu Fabra) and CORE. 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.

Efthymios ATHANASIOU, under the supervision of François MANIQUET, is working within the scope of this project coordinated by Claude d'ASPREMONT.

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). Marco MARINUCCI is working under the scope of this project.

DEVELOPMENT OF MODELS AND EXACT APPROXIMATE SOLUTIONS METHODS FOR LINEAR AND NON-LINEAR, CONTINUOUS, MIXED AND INTEGER OPTIMIZATION PROBLEMS

This project studies the structure of difficult problems of optimization, of the identification of polynomial particular cases and the development of heuristic and exact methods of resolution.

This project financed by the Belgian Fonds National de la Recherche Scientifique (FNRS) gathers the Department of Computer Science of the Université Libre de Bruxelles (coordinator: Bernard FORTZ), the Management School of the Université de Liège (coordinator: Yves CRAMA), the Numerical Analysis Research Unit of the Facultés Universitaires Notre-Dame de la Paix, Namur (coordinator: Philippe TOINT) and CORE, Université catholique de Louvain (coordinator: Laurence WOLSEY).

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. These issues are addressed by a range of complementary approaches (non-linear models, latent factor models, finite mixture models, locally stationary models).

Rainer VON SACHS, Luc BAUWENS, Christian HAFNER and Sébastien VAN BELLEGEM are coordinating this Actions de Recherche Concertées (ARC) project financed by the Communauté Française de Belgique. Alfonso VALDESOGLO is working under the scope of this project.

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 thrillion 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, Croatia, 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 de Belgique. Marie-Louise LEROUX and Giacomo VALLETTA are working within the scope of this project.

MANAGING SHARED RESOURCES IN SUPPLY CHAINS

The research is articulated in four interconnected topics:

- performance models;

- impact of variability on shared resources;

- coordination mechanisms for shared resources;

- planning of shared resources.

The Centre de Recherches et d'Etudes en Gestion Industrielle (CREGI) from the Facultés Universitaires Catholiques de Mons is taking part in this Actions de Recherche Concertées (ARC) project coordinated by Per AGRELL, Philippe CHEVALIER, Fouad RIANE and Laurence WOLSEY and financed by the Communauté Française de Belgique.

ECONOMIC POLICY AND FINANCE IN THE GLOBAL ECONOMY, EQUILIBRIUM ANALYSIS AND SOCIAL EVALUATION

The Belgian Science Policy administration has renewed this important research contract for a 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 Ekonomische 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 Bedrijskunde, Universiteit Gent (Promotor: Dirk VAN DE GAER) and European Center for Advanced Research in

Economics and Statistics (ECARES), Université Libre de Bruxelles (Promotor: Philippe WEIL). The European partners are Groupement de Recherche en Economie Quantitative d'Aix-Marseille, Universités d'Aix-Marseille II and III (Promotor: Jean-Benoît ZIMMERMANN), the London School of Economics (Promotor: Frank COWELL), Institut d'Economie Industrielle, Université des Sciences Sociales de Toulouse (Promotor: Helmuth CREMER), 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 optimization 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 organizations 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 behaviour (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 labour, 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 labour 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.

Rafael DE MELO, Emanuele FORLANI and Georgios LOLAS are working within the scope of this project.

ASSESSING AND DEVELOPING INITIATIVES OF COMPANIES TO CONTROL AND REDUCE COMMUTER TRAFFIC

The objective of this project is to improve public and private decision-making and guide investments in employer-based commuter transport schemes (also called mobility management plans) using a case study analysis and a large scale business questionnaire that will aim at determining what characteristics (company and/or worksite related) make commuter choice programs successful in reducing (and/or controlling) commuter car traffic. This degree of "successfulness" is expressed in terms of savings in travel time and travel distance, potential in inducing modal shift, contribution to a fair division of costs, and employer and employee acceptance, and will be assessed using a spatial and economic model. Hence, the project's results contribute to a policy aimed at inducing sustainable mobility.

The partners of this projects are the Universiteit Gent (coordinator : Frank WITLOX), the Facultés Universitaires Catholiques de Mons (promotor : Bart JOURQUIN), CORE (promotor : Isabelle THOMAS) and the Universiteit Antwerp (promotor : Ann VERHETSEL).

Fatiha Abbes ORABI is working within the scope of this project coordinated by Isabelle THOMAS and financed by the Belgian Science Policy.

CLIMNEG PROJECT ON CLIMATE, COALITIONS AND TECHNOLOGY

The subject of this project is the exploration of the 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 will be particularly examined in the project.

This project is coordinated by CORE (promotor: Thierry BRÉCHET). The partners are CORE-UCL (coordinator: 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. Alexis GÉRARD and Violette VAN DYCK are working within the scope of this project.

SYSTEMATIC ANALYSIS OF HEALTH RISKS AND PHYSICAL ACTIVITY ASSOCIATED WITH CYCLING POLICIES (SHAPES)

The project is at the crossroads of transport and health research and integrates the results of basic studies and experiments in each expertise to support future transport and public health policies. The main objective is to analyze the risks and benefits (voluntary and involuntary) of a modal shift

from passenger cars to cycling in an objective way. The specific objective is here to understand and model the spatial aspect of commuting by bicycle in Belgium as well as the associated risks.

This project is coordinated by Isabelle THOMAS and financed by the Belgian Science Policy. The partners are the Laamse Instelling voor Technologisch Onderzoek Integrale Milieu Studies (coordinator : Luc INTPANIS), the Faculty of Physical Education of the Vrije Universiteit Brussel (promotor : Romain MEEUSEN) and CORE (promotor: Isabelle THOMAS). Gregory VANDENBULCKE is working within the scope of this research.

PUBLIC GOODS, PUBLIC PROJECTS, EXTERNALITIES

Defining European policies in provision and financing public goods and services or environment defense is a core challenge for the building of a political Europe. Rather than a political answer, this programme 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 programme will be the creation and development of an effective research network gathering 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

The project is lead by a consortium which includes 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 the 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.

Maia GEJADZE, Martin GUZI, Deniz NEBIOGLU, Dzianis ROZHYN and Bezik SAMKHARADZE are working within the scope of this project.

EUROPEAN DISTRIBUTED ENERGY PARTNERSHIP

The EU-DEEP project aims at developing business models for the deployment of Distributed Energy Resources (DER) in the European market. The project involving 39 partners, among energy

operators, industrial manufacturers, research centers, academics, professionals and national agencies and provides an interdisciplinary approach mixing engineering and economics both in theoretical and applied contexts. UCL (CORE and the Louvain School of Management) is involved in the subproject on sustainable and dynamic regulation models for DER, including analyses of technical and economic organization of the activity, related to coordination, information and market efficiency concerns. The work contributed to the development of a sustainable European regulation model for the integration of DER in unbundled energy markets, aiming at both theoretical and institutional models. The partners in the subproject financed by the European Commission cooperate closely with the research institute fondazione Eni Enrico Mattei in Milano.

The coordinator at CORE is Per AGRELL.

LOGISTICS IN WALLONIA. EXECUTIVE MASTER IN INTERNATIONAL SUPPLY CHAIN MANAGEMENT

This program for managers who want to have a broader view on supply chain management is coordinated by Philippe CHEVALIER and financed by the Forem (service public wallon de la formation et de l'emploi). It is based on unique teaching methods in order to ensure that the participants gain the full benefit of their investment, integrating very tightly theory and practice.

Each of the seven modules includes a real life, full-day on site case study including the visit of a logistic or industrial site. The participants work the case in small groups, this gives them an immediate opportunity to confront the course material, their experience and the group exchange dynamics to a current real-life situation. This reality-based approach offers an opportunity of opinion confrontation between the participants, the trainers and the hosting professionals.

Each module is also taught by an international team of faculty in order to give participants an international view on each subject. In addition, two modules will be organized outside Belgium.

MODELING AND OPTIMIZATION OF LOGISTIC FLOWS AND THEIR VARIABILITY

In order to be competitive, companies are more and more interested in the management of their entire supply chain from the raw materials to the final product. The first objective of this research is to develop better models for the variability of the flows of goods and orders in a supply chain. This variability can induce large buffering costs and it is strongly affected by the decisions taken for the management of the supply chain. The aim is to be able to optimize the decisions in order to improve the performance of the supply chain, taking the variability into account.

Ying WEI is working within the scope of this project coordinated by Philippe CHEVALIER and financed by the Région Wallonne.

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 is working in the scope of this project coordinated by Laurence WOLSEY and financed by Routing International.

L'ORÉAL SUPPLY CHAIN PARTNERSHIP

The partnership has the objective to jointly develop the logistics and supply chain management skills and practices of L'Oréal, through training, analysis, project work at multiple levels and increased awareness of the functional scope within the supply chain.

Géraldine STRACK is working in the scope of this project coordinated by Per AGRELL, Philippe CHEVALIER and Pierre SEMAL, and financed by L'Oréal.

LONG TERM ENERGY PRICES

The objective of this project is to construct long term equilibrium models of interacting energy forms under uncertainty with the view of constructing consistent long term energy prices.

Olivier DURAND-LASSERVE is working in the scope of this project coordinated by Yves SMEERS and financed by GdF Suez Belgium.

REAL OPTIONS, SYSTEMS DYNAMICS AND BOOM AND BUST IN INVESTMENTS

The objective of this project is to construct stylized (real options, system dynamics) equilibrium models of investment in competitive electricity markets with the view of analyzing the possible emergence of investment cycles.

Joachim GAHUNGU is working in the scope of this project coordinated by Yves SMEERS and financed by GdF Suez Belgium.

SHORT TERM ENERGY PRICES

The objective of this project is to construct multifactor risk models of short term electricity markets with the view of understanding forward electricity markets.

Gauthier DE MAERE D'AETRYCKE is working in the scope of this project coordinated by Yves SMEERS and financed by GdF Suez Belgium.

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 Education y Ciencia is coordinated by Ana MAULEON and Vincent VANNETELBOSCH.

EVALUATION, CHOICE AND DECISION IN URBAN AND PERIURBAN LAND USE. AN INTERDISCIPLINARY APPROACH OF RESIDENTIAL AND DAILY MOBILITIES

The project funded by the Agence Nationale de Recherche (ANR, France) is led by ThéMA at the University of Besançon (coordinator: Pierre Frankhauser). It involves researchers from The Université Louis Pasteur of Strasbourg (promotor: Dominique ANSEL), from the Centre d'Economie et Sociologie Appliquées à l'Agriculture et aux Espaces Ruraux (CESAER) in Dijon (promotor: Mohamed HILA) and CORE (promotor: Dominique PEETERS). It addresses questions related to residential choice and the daily mobility of households, which represent key issues for the sustainable management of urban territories particularly in growing urban fringes or in deprived neighbourhoods.

Geoffrey CARUSO, Dominique PEETERS and Isabelle THOMAS are working under this scope of this project.

3

PUBLICATIONS

- CORE REPRINTS

- OTHER PUBLISHED PAPERS

- ARTICLES IN NEWSPAPERS

- CORE DISCUSSION PAPERS

- OTHER DISCUSSION PAPERS AND MANUSCRIPTS

- BOOKS AND REPORTS

- EDITORIAL ACTIVITIES

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- Laurence WOLSEY. Mixed integer programming. In B. Wah (ed.), *Wiley Encyclopedia of Computer Science and Engineering.* Hoboken, John Wiley & Sons Inc., 2008.

■ ARTICLES IN NEWSPAPERS

- Luc BAUWENS, Giordano MION et Jacques-François THISSE. Résister au déclin de la science en Europe. *L'Echo,* Chronique d'ECORE, 1er mars 2008.

- Luc BAUWENS, Giordano MION and Jacques-François THISSE. Helping academic research in Europe: institutions matter more than money. *Vox,* 20 décembre 2007.

- Paul BELLEFLAMME. On n'a rien pour rien. *L'Echo*, Chronique d'ECORE, 15 septembre 2007.

- Thierry BRÉCHET et PIERRE PICARD. Beaucoup de bruit pour (presque rien). *L'Echo,* Chronique d'ECORE, 13 octobre 2007.

- Thierry BRÉCHET. Faut-il brûler les biocarburants. *Le Soir,* Carte Blanche, 13 septembre 2007.

- Mathias DEWATRIPONT et André SAPIR. Aider les universités européennes? Avec plus d'argent et d'autonomie! *L'Echo,* Chronique d'ECORE, 29 octobre 2007.

- Axel GAUTIER. Libéralisation: où est passé l'Etat ? *L'Echo,* Chronique d'ECORE, 28 septembre 2007.

- Victor GINSBURGH. Du parking à Louvain-la-Neuve (et de son coût marginal). *La Libre Belgique,* 13 juillet 2007.

- Victor GINSBURGH. Le débat du samedi: Je ne comprends pas l'attitude des francophones. *Le Soir,* 15-16 mars 2008.

- Victor GINSBURGH. Le régionalisme peut aider le bonheur. L'Echo, Chronique d'ECORE, 8 décembre 2007.

- Victor GINSBURGH. Pourquoi pas de chanteurs belges en finale au concours Reine Elisabeth? *La Libre Belgique,* 28 mai 2008.

- Victor GINSBURGH. Pour une poignée de quelques euros? *L'Echo,* Chronique d'ECORE, 15 mars 2008.

- Victor GINSBURGH. Scarlet contre Sabam. *La Libre Belgique,* 11-12 août 2007.

- Victor GINSBURGH et Xavier WAUTHY. Les petits ruisseaux et les grandes rivières. *L'Echo,* Chronique d'ECORE, 10 novembre 2007.

- Jean HINDRIKS. Repensons nos pensions. *L'Echo,* Chronique d'ECORE, 24 mai 2008.

- Ana MAULEON et Vincent VANNETELBOSCH. Gagner les concours de beauté par la profondeur de son raisonnement. *L'Echo,* Chronique d'ECORE, 26 avril 2008.

- Sergio PERELMAN et Pierre PESTIEAU. Relever l'âge de la retraite? Une question de santé publique. *L'Echo,* Chronique d'ECORE, 21 juin 2008.

- Pierre PICARD. Environnement. Une étude de "Brussels Studies": le survol en profondeur. *Le Soir,* 4 décembre 2007.

- Wouter VERGOTE. Procès Lernhout & Hauspie: faut-il siffler la fin du bal des dupes? *L'Echo de la Bourse,* 27 octobre 2007.

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          Pierre DEHEZ

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          Wlodzimier SZWARC

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Joe THARAKAN and Jean-Philippe TROPEANO

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Shin-Huei WANG and Cheng HSIAO

2008/48   Adult longevity and economic take-off: from Malthus to Ben-Porath
David DE LA CROIX

2008/49   On the golden rule of capital accumulation under endogenous longevity
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2008/50   Successive oligopolies and decreasing returns
Jean J. GABSZEWICZ and Skerdilajda ZANAJ

▪ OTHER DISCUSSION PAPERS AND MANUSCRIPTS

▪ Oscar AMERIGHI and Giuseppe DE FEO. Competition for FDI in the presence of a public firm and the effects of privatization. Working Paper 605, Dipartimento Scienze Economiche, Universita di Bologna, 2007.

▪ Oscar AMERIGHI and Susana PERALTA. Exports versus horizontal foreign direct investment with profit shifting. Working Paper 605, Dipartimento Scienze Economiche, Universita di Bologna, 2007.

▪ Théophile AZOMAHOU, Raouf BOUCEKKINE and Bity DIENE. The economic impact of AIDS in sub-Saharan Africa. UNU-MERIT Working Paper 2008-038.

▪ Théophile AZOMAHOU, Raouf BOUCEKKINE and Phu NGUYEN VAN. Promoting clean technologies. The energy market structure crucially matters. UNU-MERIT Working Paper 2008-032.

▪ Carlotta BALESTRA and Davide DOTTORI. Aging society, health and the environment. Mimeo, 2008.

- Carlotta BALESTRA, Thierry BRÉCHET and Stéphane LAMBRECHT. Enclosures: biomass spillovers and forest management. Mimeo, 2008.

- Paul BELLEFLAMME and Martin PEITZ. Asymmetric information and overinvestment in quality. International University in Germany Working Paper 49/2007.

- Paul BELLEFLAMME and Martin PEITZ. Intermediation and investment incentives. Center for Economic Policy Research (CEPR) Discussion Paper 6214, 2007.

- Raouf BOUCEKKINE, Patricia CRIFO and Claudio MATTALIA. Technological progress, organizational change, and the size of the human resources department. ECON-UCL Discussion Paper 2007-47.

- Raouf BOUCEKKINE, Antonia DIAZ and Luis PUCH. Plants, vintage capital and energy use. Mimeo, 2008.

- Raouf BOUCEKKINE, Bity DIENE and Théophile AZOMAHOU. A closer look at the relationship between life expectancy and economic growth. Discussion Paper 2007-24, Department of Economics, University of Glasgow, 2007.

- Raouf BOUCEKKINE, Blanca MARTINEZ and Cagri SAGLAM. Why capital maintenance should be a key development tool? ECON-UCL Discussion Paper 2007-44.

- Thierry BRÉCHET, Kirill BORISSOV and Stéphane LAMBRECHT. Median voter environmental maintenance. Mimeo, 2008.

- Jean-François CAULIER, Ana MAULEON and Vincent VANNETELBOSCH. Contractually stable networks. Mimeo, 2008.

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- David CRAINICH, Hervé LELEU and Ana MAULEON. Impact du passage à la T2A: une modélisation pour l'hôpital public. Cahier du CEREC 2008/1, Facultés Universitaires Saint-Louis, Bruxelles, Belgium, 2008.

- Simon DABLEMONT, Sébastien VAN BELLEGEM and Michel VERLEYSEN. Forecasting high and low of financial time series by particle filters and Kalman filters. Proceedings of the Fourteenth International Conference on "Forecasting Financial Markets: Advances for Exchange Rates, Interest Rates and Asset Management", Aix-en-Provence May 31-June 1, 2007.

- Simon DABLEMONT, Sébastien VAN BELLEGEM and Michel VERLEYSEN. Modelling and forecasting financial time series of "tick data" by functional analysis and neural networks. Proceedings of the Fourteenth International Conference on "Forecasting Financial Markets: Advances for Exchange Rates, Interest Rates and Asset Management", Aix-en-Provence May 31-June 1, 2007.

- Alexandra DASKOVSKA, Léopold SIMAR and Sébastien VAN BELLEGEM. Forecasting the Malmquist productivity index. Discussion Paper 0821, Institut de Statistique, UCL.

- Bernard FORTZ and Hakan ÜMIT. Efficient techniques and tools for intra-domain traffic engineering. Technical Report 583, Computer Science Department, Université Libre de Bruxelles, 2008

- Bernard FORTZ and Michael POSS. Improved benders decomposition applied to a multi-layer network design problem. Technical Report 584, Computer Science Department, Université Libre de Bruxelles, 2008.

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- Huasheng SONG and Hylke VANDENBUSSCHE. Trade policy and innovation. Discussion Paper 200/2008, LICOS Center for Institutions and Economic Performance, Katholieke Universiteit Leuven, 2008.

▪ BOOKS AND REPORTS

- Robert FENGE, Georges DE MÉNIL and Pierre PESTIEAU (eds.). *Pensions Strategies in Europe and the United States.* Cambridge (MA), MIT Press, 2008.

- Dominique VANNESTE, Isabelle THOMAS and Luc GOOSSENS.   Le logement en Belgique. Bruxelles, SPF-Economie, P.M.E. Classes Moyennes et Energie, Direction générale statistique et information économique (Enquête socio-économique 2001: monographies, 2007:2), 2007.

- Dominique VANNESTE, Isabelle THOMAS and Luc GOOSSENS. Woning en Woonomgeving in België. Brussel: FOD Economie, KMO, Middenstand en Energie, Algemene Directie Statistiek en Economische Informatie (Sociaal-economische enquête 2001: monografieën; 2007:2), 2007.

- Ann VERHETSEL, Isabelle THOMAS, Etienne VAN HECKE and Marjan BEELEN. Pendel in België: deel 1: de woon-*werkverplaatsingen*. Brussel: Algemene Directie Statistiek en Economische Informatie (Statistics Belgium working paper; 15), 2007.

▪ EDITORIAL ACTIVITIES

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- 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-Access, Open-Assessment E-Journal
  Information Economics & Policy
- member of the editorial board
  Regards Economiques

RAOUF BOUCEKKINE

- associate editor
  Investigaciones Economicas
  Journal of Public Economic Theory
  Mathematical Population Studies
  Mathematical Social Sciences

THIERRY BRÉCHET

- guest editor
  International Journal of Environmental Policy and Decision Making
- member of the editorial board
  Regards Economiques

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

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

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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

- October 3, 2007. Uwe WALZ, Johann Wolfgang Goethe-Universität, Frankfurt, Germany
  Why do contracts differ between VC types?
  (Joint with Louvain School of Management Finance Seminar)

- October 10, 2007. Jean-François RICHARD, University of Pittsburgh (PA), USA
  Efficient Monte Carlo integration

- October 17, 2007. Antoine RENUCCI, Université Paris Dauphine, France
  Liquidity and the cost of funds in the European treasury bills market

- October 24, 2007. Shin Huei WANG, CORE and University of Southern California, Los Angeles (CA), USA
  An easy test for independence between two stationary long memory processes via AR approximations, with an application to the volatility of foreign exchange

- November 7, 2007. George SKIADOPOULOS, University of Piraeus, Greece
  Can the evolution of implied volatility be forecasted? Evidence from European and US implied volatility indices

- November 14, 2007. Alexander KEMPF, Universität zu Köln, Germany
  Employment risk, compensation incentives and managerial risk taking: evidence from the mutual fund industry
  (Joint with Louvain School of Management Finance Seminar)

- November 16, 2007. Peter H. BOSWIJK, Universiteit Amsterdam, The Netherlands
  Testing for cointegration with nonsationary volatility
  (Joint with ECORE-KUL and Satistics Seminar)

- November 16, 2007. Hashem PESARAN, University of Cambridge, United Kingdom
  Infinite dimensional VARs
  (Joint with ECORE-KUL and Statistics Seminar)

- November 21, 2007. Ilias TSIAKAS, University of Warwick, United Kingdom
  Volatility versus correlation risk in dynamic asset allocation: A Bayesian perspective

- November 28, 2007. Evangelos SEKERIS, Federal Reserve Bank of Boston
  Information diffusion based explanations of asset anomalies
  (Joint with Louvain School of Management Finance Seminar)

- December 5, 2007. Guillaume HORNY, IRES, UCL
  Bayesian estimation of semiparametric duration models with spatial dependence

- December 12, 2007. Erasmo GIAMBIONA, Universiteit Amsterdam, The Netherlands
  Debt capacity of tangible assets: what is collateralizable in the debt market?
  (Joint with Louvain School of Management Finance Seminar)

- January 30, 2008. Carole GRESSE, Université Paris Dauphine, France
The impact of the introduction of an ETF on the cost of trading the underlying index: the case of the Lyxor-ETF-CAC40
(Joint with Louvain School of Management Finance Seminar)

- February 6, 2008. Viktor WINSCHEL, Universität Mannheim, Germany
Solving, estimating and selecting nonlinear dynamic models without the curse of dimensionality

- February 13, 2008. Mark SEASHOLES, University of California at Berkeley (CA), USA
Uncertainty about future payoffs and the cross-section of stock returns
(Joint with Louvain School of Management Finance Seminar)

- February 20, 2008. Sébastien VAN BELLEGEM, Institut de Statistique, UCL
Some inverse problems in econometrics

- February 27, 2008. Franck MORAUX, Université de Rennes, France
The immunization performance of traditional and stochastic durations: A mean-variance analysis
(Joint with Louvain School of Management Finance Seminar)

- March 6, 2008. Timo TERASVIRTA, Aarhus Universitet, Denmark
Modelling conditional and unconditional heteroskedasticity with smoothly time-varying structure
(Joint with ECORE-KUL Seminar)

- March 12, 2008. Christophe VILLA, Université de Rennes, France
Representative yield curve shocks and stress-testing
(Joint with Louvain School of Management Finance Seminar)

- March 19, 2008. Roderick MCCRORIE, CORE and University of St Andrews, Scotland
Representations of the moments and cumulants of Dickey-Fuller and related distributions

- March 19, 2008. Yasuhiro OMORI, University of Tokyo, Japan
Block sampler for univariate and multivariate asymmetric stochastic volatility models

- April 9, 2008. Jean-Gabriel COUSIN, Université de Lille 2, France
Assessing the power and size of the event study method through the decades
(Joint with Louvain School of Management Finance Seminar)

- April 16, 2008. Hans MANNER, Universiteit Maastricht, The Netherlands
Testing for asset market linkages: a new approach based on time-varying copulas
(Joint CORE-STAT Seminar)

- April 16, 2008. Johanna NESLEHOVA, Eidgenössische Technische Hochschule Zürich, Switzerland
Archimedean copulas in high dimensions
(Joint CORE-STAT Seminar)

- April 23, 2008. Christophe PERIGNON, HEC Paris, France
Default risk on derivatives exchanges: evidence from clearing house data
(Joint with Louvain School of Management Finance Seminar)

- April 30, 2008. Jennifer CASTLE, Nuffield College, Oxford
Extending the boundaries of automatic selection: non-linear models

- May 7, 2008. Carole BERNARD, Université de Waterloo, Canada
  Insurance market effects of risk management metrics
  (Joint with Louvain School of Management Finance Seminar)

- May 14, 2008. Gaël MARTIN, Monash University, Victoria, Australia
  Non-parametric forecasting of low count time series

▪ ECONOMIC THEORY SEMINAR

- September 24, 2007. Philippe MONGIN, Centre National de la Recherche Scientifique (CNRS) and HEC Paris, France
  Factoring out the impossibility of logical aggregation

- October 1, 2007. Sayantan GHOSAL, University of Warwick, United Kingdom
  Decision with endogenous frames

- October 15, 2007. Fred SCHROYEN, Norwegian School of Economics and Business Administration, Bergen, Norway
  Multi-dimensional screening in insurance – with an application to gender discrimination

- October 22, 2007. Jean-Marc BONNISSEAU, Université Paris I Panthéon-Sorbonne, France
  Externalities, consumption constraints and regular economies

- October 29, 2007. Antonio CABRALES, Universidad Carlos III de Madrid, Spain
  Implementation in adaptive better-response dynamics

- November 12, 2007. Enrico MINELLI, Universita di Brescia, Italy
  Shareholder-efficient production plans in a multi-period economy

- November 19, 2007. Juan-Pablo MONTERO, Catholic University of Chile and Massachusetts Institute of Technology, Cambridge (MA), USA
  Forward trading in exhaustible-resource oligopoly
  (Joint with Chair Loist Berghmans Seminar)

- December 10, 2007. Arnaud COSTINOT, University of California at San Diego, La Jolla (CA), USA
  Heterogeneity and trade

- December 17, 2007. Fabio PRIVILEGGI, Università del Piemonte Orientale, Alessandra, Italy
  The fractal nature of inequalities in societies with equal opportunities

- January 14, 2008. Jean-Pierre PONSSARD, Centre National de la Recherche Scientifique (CNRS) and Ecole Polytechnique de Paris, France
  Short term entry barriers may be good for long term competition

- February 4, 2008. Leonidas KOUTSOUGERAS, CORE and University of Manchester, United Kingdom
  Intermediation across markets

- February 25, 2008. Tommaso VALLETTI, Imperial College London, United Kingdom
  Testing the "waterbed" effect in mobile telephony

- March 10, 2008. Jacques OLIVIER, HEC Paris, France
  Globalization and the dynamics of cultural identity

- March 14, 2008. Parag PATHAK, Harvard University and Massachusetts Institute of Technology, Cambridge (MA), USA
  Measuring manipulability
  (Joint with Séminaire Economique de Louvain)

- April 14, 2008. Eric DE BODT, CORE and Louvain School of Management, UCL and Université de Lille 2, France
  Negotiation under the threat of an auction: friendly deals, ex-ante competition and bidder returns

- April 28, 2008. Bernard SINCLAIR-DESAGNE, HEC, Montréal, Canada
  The environmental goods and services industry

- May 5, 2008. Ran SPIEGLER, University College London, United Kingdom
  Consideration sets and competitive marketing

- May 19, 2008. Dilip ABREU, Princeton University (NJ), USA
  Values for two-players stochastic games

- May 26, 2008. Marco BATTAGLINI, Princeton University (NJ), USA
  Fiscal policy over the real business cycle: a positive theory

- June 2, 2008. Steeve MONGRAIN, Simon Fraser University, Burnaby, Canada
  Rehabilated or not? : To release (?) is the question

- June 9, 2008. Joergen WEIBULL, Stockholm School of Economics, Sweden
  Committee decisions, optimality and equilibrium

MATHEMATICAL PROGRAMMING SEMINAR

- September 18, 2007. Yurii NESTEROV, CORE and INMA, UCL
  Gradient methods for minimizing composite objective function

- October 2, 2007. Santanu DEY, CORE and Ernst-Moritz-Arndt Universität Greifswald, Germany
  A family of facets for multiple-constraint infinite-group relaxation of MIPs

- October 16, 2007. Renata SOTIROV, Universiteit van Tilburg, The Netherlands
  Exploiting group symmetry in semidefinite programming relaxations of the quadratic assignment problem

- October 23, 2007. Quentin LOUVEAUX, Université de Liège, Belgium
  Integral Farkas type lemmas for systems with equalities and inequalities

- October 30, 2007. Jorge AMAYA, Universidad de Chile, Santiago, Chile
  Strategic optimization models for mine planning

- November 20, 2007. Per AGRELL, CORE and Louvain School of Management, UCL
  Economic efficiency, environmental policy and design of incentive regulation: the case of Danish district heating

- November 27, 2007. Laura SCRIMALI, Universita di Catania, Italy
  Solving strongly monotone variational and quasi-variational inequalities

- December 4, 2007. Peter BOGETOFT, Copenhagen Business School, Denmark
  Gains from mergers with examples from Norwegian electricity distribution companies.

- January 22, 2008. Paschalis TSIAFLAKIS, Katholieke Universiteit Leuven, Belgium
  Dynamic spectrum management for DSL networks

- January 29, 2008. Yasemin ARDA, Université de Liège, Belgium
  Inventory control in a decentralized two-stage make-to-stock queueing system

- March 4, 2008. Raf JANS, Erasmus Universiteit, Rotterdam, The Netherlands
  Breaking symmetry in mixed integer programming models

- March 11, 2008. Jérôme MALICK, Institut National de Recherche en Informatique et en Automatique (INRIA) Rhône-Alpes, Grenoble, France
  Applications of SDP least-squares in finance and combinatorics

- March 18, 2008. Andreas BLEY, Konrad-Zuse-Zentrum für Informationstechnik Berlin, Germany
  Optimizing internet networks

- April 8, 2008. Frank VALLENTIN, Centrum voor Wiskunde en Informatica, Amsterdam, The Netherlands
  Lower bounds for measurable chromatic numbers

- April 22, 2008. Johan LOFBERG, Linköpings Universitet, Sweden
  Advanced optimization modeling in YALMIP

- April 29, 2008. Annalisa CESARO, Universita degli Studi Roma Tre, Italy
  State dependent flows in pooling networks

- May 6, 2008. Vladimir PROTASOV, Moscow State University, Russia
  Derivative-free minimization algorithms for convex functions

- May 13, 2008. Yurii NESTEROV, CORE and INMA, UCL
  Computing the joint spectral radius for some sets of nonnegative matrices

- May 20, 2008. Zeynep AKSIN, Koç Üniversitesi, Istanbul, Turkey
  Flexibility structure design with human resource considerations

▪ SEMINAIRE ECONOMIQUE DE LOUVAIN

- September 20, 2007. Jan FIDRMUC, Brunel University, Uxbridge, United Kingdom
  Languages in the European Union

- September 26, 2007. Knud MUNK, Aarhus Universitet, Denmark
  On the rationale for the use of border taxes in developing countries

- October 4, 2007. Lex BORGHANS, Universiteit Maastricht, The Netherlands
  Future benefits as an incentive to learn

- October 18, 2007. Louis EECKHOUDT, Université Catholique de Lille, France and CORE, UCL
  Risk apportionment and stochastic dominance

- October 23, 2007. Jean-Pascal BÉNASSY, Paris-Jourdan School of Economics, France
  Interest rate rules and global determinacy: an alternative to the Taylor principle

- November 8, 2007. Joseph CLOUGHERTY, Wissenschaftszentrum Berlin für Sozialforschung, Germany
  Remedy for now but prohibit for tomorrow: the deterrence effects of merger policy tools

- November 22, 2007. Thibault FALLY, Paris-Jourdan School of Economics, France
  Credit constraints as a barrier to the entry and post-entry growth of firms

- November 29, 2007. Christian SCHULTZ, Kobenhavns Universitet, Denmark
  Arms length provision of public services

- December 6, 2007. Joseph ZWEIMÜLLER, Universität Zürich, Zwitzerland
  Mass consumption, exclusion and unemployment

- December 13, 2007. Farid TOUBAL, Université Paris I Panthéon Sorbonne, France
  Productivity and the sourcing modes of multinational firms: evidence from French firm-level data
  (Joint with the Spatial Economic Seminar)

- December 20, 2007. Morten RAVN, European University Institute, Firenze, Italy
  Explaining the effects of government spending shocks on consumption and the real exchange rate

- January 24, 2008. Julien VAUDAY, Université Paris I Panthéon Sorbonne, France
  Geo-politics in international organizations. An empirical study on IMF facilities

- February 14, 2008. Omar LICANDRO, European University Institute, Firenze, Italy
  Endogenous growth through firm entry, exit and imitation

- February 14, 2008. Thomas SEEGMULER, Université Paris I Panthéon Sorbonne, France
  On the Ramsey equilibrium with heterogeneous consumers and endogenous labor supply

- February 21, 2008. Henry OVERMAN, London School of Economics, United Kingdom
  The effect of information communication technologies on cities
  (Joint with the Spatial Economic Seminar)

- March 6, 2008. Thierry MAGNAC, Université de Toulouse I, France
  The effect of location on finding a job in the greater Paris area

- March 7, 2008. Michel AGLIETTA, Université Paris X Nanterre, France
  Désordres dans le capitalisme mondial
  (Joint with the Séminaire Interdisciplinaire)

- March 14, 2008. Parag PATHAK, Harvard University and Massachusetts Institute of Technology, Cambridge (MA), USA
  Measuring manipulability
  (Joint with the Economic Theory Seminar)

- March 20, 2008. Sebastian KRAUTHEIM, European University Institute, Firenze, Italy
  Gravity and information: heterogeneous firms, exporter networks and the 'distance puzzle'

- March 27, 2008. José DE SOUSA, Université Paris I Panthéon Sorbonne, France
  How are wages set in Bejing?

- April 1, 2008. Chad P. BOWN, Brandseis University, Waltham (MA), USA
  China's WTO entry: antidumping, safeguards and dispute settlement
  (Joint with the Spatial Economic Seminar)

- May 8, 2008. Mauro BOIANAOVSKY, Universidade de Brasilia, Brazil
  A view from the tropics: Celso Furtado and the theory of economic development in the 1950's

- May 15, 2008. Aude POMMERET, Université de Lausanne, Switzerland
  Technology adoption under uncertainty in general equilibrium

SPATIAL ECONOMICS SEMINAR

- November 27, 2007. Huasheng SONG, Zhejiang University, China
  Industrialization, labor mobility and urban-rural structure

- November 27, 2007. Xiwei ZHU, Zhejiang University, China
  Tourism and industrial agglomeration

- December 13, 2007. Farid TOUBAL, Université Paris I Panthéon Sorbonne, France
  Productivity and the sourcing modes of multinational firms: evidence from French firm-level data
  (Joint with the Séminaire Economique de Louvain)

- February 21, 2008. Henry OVERMAN, London School of Economics, United Kingdom
  The effect of information communication technologies on cities
  (Joint with the Séminaire Economique de Louvain)

- March 5, 2008. Frédéric ROBERT-NICOUD, London School of Economics, United Kingdom
  Offshoring: general equilibrium effects on wages, production and trade

- March 12, 2008. Eric DELMELLE, University of Idaho, Moscow (ID), USA
  A GIS-based space-time analysis of health service diffusion

- March 19, 2008. Isabelle THOMAS, CORE and GEO, UCL
  On the use of fractals for measuring built-up morphologies

- April 1, 2008. Chad BOWN, Brandseis University, Waltham (MA), USA
  China's WTO entry: antidumping, safeguards and dispute settlement
  (Joint with the Séminaire Economique de Louvain)

- April 9, 2008. Fabrice DEFEVER, London School of Economics, United Kingdom
  Incomplete contracts and the welfare impact of globalization

- April 23, 2008. Luca David OPROMOLLA, Banco de Portugal, Lisboa, Portugal
  Product and destination mix in export markets

- May 7, 2008. Dominique PEETERS, CORE and GEO, UCL
  How do demographic, economic, and educational factors explain the transition to modern growth in England from the 16th to the 19th century?

- May 21, 2008. Thibault FALLY, Paris-Jourdan School of Economics, France
  Financial constraints, technology transfer and organizational form

■ ENVIRONMENTAL WORKSHOP

- October 25, 2007. Richard BARDON, Agence Internationale de l'Energie (OCDE), Bruxelles, Belgium
  Politique de lutte contre le changement climatique: quelles opportunités pour les approches sectorielles?

- February 14, 2008. Marie-Eugenia SANIN, CORE, UCL
  Strategic emission trading and the role of the fringe

- February 15, 2008. Henry TULKENS, CORE, UCL
  Kyoto et après: quels apports de l'analyse économique à la diplomatie climatique?

- February 28, 2008. Fabien PRIEUR, Université de Savoie, Annecy, France
  Emission permits and market power with strategic intertemporal trade-offs

- March 3, 2008. Philippe MARBAIX, ASTR, UCL
  Climate change and sea level

- March 3, 2008. Henry TULKENS, CORE, UCL
  Optimal adaptation and the specification of damage cost functions

- March 13, 2008. Julien CHEVALIER, Economix, Université Paris X-Nanterre, France
  Disentagling the effects of industrial production and CO_2 emission on European carbon prices

- March 20, 2008. Ingmar SCHUMACHER, Universität Trier, Germany
  The economics of endogeneous, climate-driven extreme events and insurance

- March 3, 2008. Tom VAN IERLAND, European Commission, Bruxelles, Belgium
  The modeling behind and in support of the energy and climate package 2012-2020 of the European Union

- April 14, 2008. Raouf BOUCEKKINE, CORE, UCL
  Optimal firm behavior under environment constraints

- April 24, 2008. Carlotta BALESTRA, CORE, UCL
  The tragedy of the commons and forest management

- May 22, 2008. Mélanie HEUGUES, Université de Montpellier, France
  Climate coalition formation

■ IAP-UAP ECONOMIC THEORY SEMINAR

- November 26, 2007. Marie-Louise LEROUX, CORE and Toulouse School of Economics, France
  Uncertain lifetime, redistribution and nonlinear pricing of annuities
  (This seminar took place at CORE)

- November 26, 2007. Vincent FROGNEUX, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
  Retirement decision and quasi-hyperbolic discounting
  (This seminar took place at CORE)

- November 26, 2007. Richard DISNEY, University of Nottingham, United Kingdom
  Public policy and retirement saving incentives in the UK
   (This seminar took place at CORE)

- February 18, 2008. Costas MEGHIR, University College London, United Kingdom
  Labour supply and taxation
  (This seminar took place at Katholieke Universiteit Leuven)

- February 18, 2008. Peter Birch SORENSEN, Kobenhavns Universitet, Denmark
  International capital taxation
  (This seminar took place at Katholieke Universiteit Leuven)

- February 18, 2008. John KAY, London School of Economics, United Kingdom
  Reviewing taxation
  (This seminar took place at Katholieke Universiteit Leuven)

- June 16, 2008. Efthymios ATHANASIOU, CORE, UCL
  Educational outcomes and equality of opportunity
  (This seminar took place at Universiteit Gent)

- June 16, 2008. Pierre-Yves GEOFFAROD, Paris School of Economics, France
  Cross-border health externalities and welfare improving cross-country transfers
  (This seminar took place at Facultés Universitaires Notre-Dame de la Paix, Namur)

- June 16, 2008. Jean-Marie BALAND, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
  Awareness and AIDS: a political economy model
  (This seminar took place at Facultés Universitaires Notre-Dame de la Paix, Namur)

- June 16, 2008. Rohini SOMANATHAN, Delhi School of Economics, India
  Gender-bias, gendered outcomes: consequences of public spending in India
  (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 8, 2007. Yves SMEERS, CORE , UCL
  Gas market simulation models and European policy objectives

- November 5, 2007. Micael CASTANHEIRA DE MOURA, ECARES, Université Libre de Bruxelles, Belgium
  Information failures and political economics

- December 3, 2007. Thierry BRÉCHET, CORE , UCL
  The race for polluting permits

- February 11, 2008. Davy PAINDAVEINE, ECARES, Université Libre de Bruxelles, Belgium
  Independent component models: new extension of the multivariate normal model

- March 3, 2008. Luc BAUWENS, CORE , UCL
  The resistible decline of European science

- April 7, 2008. Patrick LEGROS, ECARES, Université Libre de Bruxelles, Belgium
  Investment, nontransferabilities, and matching policies

5

DOCTORAL TRAINING

- COMPLETED Ph.D. DISSERTATIONS

- Ph.D. PROJECTS IN PROGRESS

- EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS

- DOCTORAL WORKSHOPS

▪ COMPLETED Ph.D. DISSERTATIONS

Eight doctoral students at CORE successfully defended their Doctoral Dissertation:

- On October 18, 2007. François WARICHET, *Scheduling of mixed batch-continuous production lines.* Docteur en Sciences Appliquées, Université catholique de Louvain under the supervision of Laurence WOLSEY.
  Current job: Arcelor-Mittal, Gent, Belgium

- On October 24, 2007. Jakub GROWIEC, *Essays on technological progress and economic growth.* Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Raouf BOUCEKKINE.
  Current job: Warsaw School of Economics, Poland

- On January 14, 2008. Cecilia VERGARI, *Adoption and provision of new technologies.* Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Vincent VANNETELBOSCH.
  Current job: Universita di Bologna, Italy

- On January 14, 2008. Guiseppe DE FEO, *Market regulation and public policy.* Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Jean HINDRIKS and Rabah AMIR.
  Current job: University of Strathclyde, United Kingdom

- On April 18, 2008. Skerdilajda ZANAJ, *Competition in successive oligopolies.* Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Claude d'ASPREMONT and Jean GABSZEWICZ.
  Current job: Université du Luxembourg, Luxembourg

- On June 26, 2008. Karl Gregor ZOETTL, *Investment incentives in oligopoly under uncertainty.* Docteur en Sciences Economiques, Université catholique de Louvain under the supervision of Claude d'ASPREMONT and Yves SMEERS.
  Current job: Universität zu Köln, Germany

- On May 9, 2008. Olivier DAXHELET, *Models of restructured electricity systems.* Docteur en Sciences Appliquées, Université catholique de Louvain under the supervision of Yves SMEERS.
  Current job: GdF Suez, Louvain-la-Neuve, Belgium

- On June 19, 2008. Giorgia OGGIONI, *Average cost power contracts and CO_2 burdens for energy intensive industry.* Docteur en Sciences Appliquées, Université catholique de Louvain. And *Computational methods for economic and financial decisions and forecasting.* Department of Mathematics, Statistics, Applied Sciences and Applications, Universita di Bergamo, under the supervision of Yves SMEERS.
  Current job: Universita di Bergamo, Italy and CORE, UCL

■ Ph.D. PROJECTS IN PROGRESS

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

Quentin BOTTON

Title: Survival network design problem with hop-constraints
Supervisor: Bernard Fortz
Started: 2004
Doctoral School : Louvain School of Management, UCL

Filippo CALCIANO

Title: Rationality, correlation and communication in games
Supervisor: Pierre DEHEZ and Jean-François MERTENS
Started: 2005
Doctoral School : Department of Economics, UCL (European Doctoral Program)

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 : Louvain School of Engineering, UCL

Nicolas DEBARSY

Title: Analyse de l'importance des interactions spatiales dans le développement économique de la Région Wallonne
Supervisor: Sébastien LAURENT
Started: 2007
Doctoral School : Facultés Universitaires Notre-Dame de la Paix, Namur

Marieke DELANGHE

Title: Essays in corporate finance
Supervisor: Eric DE BODT
Started: 2007
Doctoral School : Ecole des Affaires Supérieures, Université de Lille I, France

Gauthier DE MAERE D'AERTRYCKE

Title: The formation of prices in restructured electricity market
Supervisor: Yves SMEERS
Started: 2007
Doctoral School : Louvain School of Engineering, UCL

Rafaël DE MELO

Title: Algorithms for production planning problems
Supervisor: Laurence WOLSEY
Started: 2007
Doctoral School : Louvain School of Engineering, UCL

Federico DE STEFANO

Title: On the Nash equilibrium refinements
Supervisor: Jean-François MERTENS
Started: 2004
Doctoral School : Department of Economics, UCL

Olivier DURAND-LASSERVE

Title: Stochastic long-term scenarios for energy markets
Supervisor: Yves SMEERS
Started: 2007
Doctoral School : Department of Economics, UCL

Fernanda ESTEVAN

Title: Development economics, public economics
Supervisor: Jean HINDRIKS and Jean-Marie BALAND
Started: 2004
Doctoral School : Department of Economics, UCL

Emmanuele FORLANI

Title: Service sector market conduct: effects and interactions with manufacturing firms
Supervisor: Hylke VANDENBUSSCHE
Started: 2006
Doctoral School : Department of Economics, UCL

Joachim GAHUNGU

Title: Reals options and system dynamics: two approaches to explain boom and bust cycles
Supervisor: Yves SMEERS
Started: 2007
Doctoral School : Louvain School of Engineering, UCL

Maia GEJADZE

Title: The exist decision from venture capital investment
Supervisor: Pierre GIOT
Started: 2008
Doctoral School : Department of Economis, UCL

Nicolas GILLIS

Title: Nonnegative matrix factorization
Supervisor: François GLINEUR
Started: 2007
Doctoral School : Louvain School of Engineering, UCL

Gilles GRANDJEAN

Title: Essays on coalitional rationality
Supervisors: Vincent VANNETELBOSCH and Ana MAULEON
Started: 2004
Doctoral School : Department of Economics, UCL

Martin GUZI

Title: Essays on topics from labor economics
Supervisor: Daniel MUNICH
Started: 2003
Doctoral School : The Center for Economic Research and Graduate Education of Charles University (CERGE)

Mathias LORENZ

Title: Regulatory competition and harmonization
Supervisor: Per AGRELL
Started: 2004
Doctoral School : Louvain School of Management, UCL

Sylvette LY

Title: Environmental innovations and firms
Supervisor: Thierry BRÉCHET
Started: 2007
Doctoral School : Louvain School of Management, UCL

Marco MARINUCCI

Title: Topics on R&D cooperation among firms
Supervisor: 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: 2006
Doctoral School : Department of Economics, UCL

Deniz NEBIOGLU

Title: Do expectations matter?
Supervisor: Raf WOUTERS and Jean HINDRIKS
Started: 2007
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
Supervisor: Jean J. GABSZEWICZ and Jacques THISSE
Started: 2004
Doctoral School : Université catholique de Louvain and Universidade do Porto, Portugal

Dzianis ROZHYN

Title: Energy-capital substitution in Ukraine (evidence from stochastic frontier)
Supervisor: Jean HINDRIKS
Started: 2007
Doctoral School : Department of Economics, UCL

Besik SAMKHARADZE

Title: Volatility spillovers in European stock markets: A multivariate GARCH analysis
Supervisor: Luc BAUWENS
Started: 2008
Doctoral School : Department of Economics, UCL

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 Delhi, India

Jean-Sébastien TANCREZ

Title: Probability masses fitting in the analysis of queuing networks with blocking
Supervisor: Philippe CHEVALIER and Pierre SEMAL
Started: 2005
Doctoral School : Louvain School of Management, UCL

Alfonso VALDESOGLO 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)

Grégory VANDENBULCKE

Title: Spatial analysis of computer cycling and accident risks for cyclists
Supervisor: Isabelle THOMAS
Started: 2008
Doctoral School : Department of Geography, UCL

Jean-Christophe VAN DEN SCHRIECK

Title: Multi-skill call centers: optimization of the staffing and routing based on the Hayward approximation
Supervisor: Philippe CHEVALIER
Started: 2005
Doctoral School : Louvain School of Management, 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

▪ 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 2007-2008. Eighty-four students are currently enrolled.

The annual jamboree was held at Paris School of Economics on November 26-27, 2007 and attended by forty doctoral students and several academics from the partner universities.

PROGRAMME

NOVEMBER 26, 2007

- **LECTURE 1**
  Yann ALGAN, Paris School of Economics, France
  Culture and Economics

- **SESSION 1 – CHAIR : ANDREA PRAT, LONDON SCHOOL OF ECONOMICS, UNITED KINGDOM**
  Francesco AVVISATI, Paris School of Economics, France
  To be and to appear. Wage returns to misperceived schooling

Margherita COMOLA, Universitat Pompeu Fabra, Barcelona, Spain
Educational programs in rural Nepal: peer communication and information spillover

Athanasiou EFTHYMIOS, CORE, UCL, Belgium
Educational outcomes and equality of opportunity

- **SESSION 2 – CHAIR : YANN ALGAN, PARIS SCHOOL OF ECONOMICS, FRANCE**

  Marcus SONNTAG, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  Employment protection and training on the job

  Nicolas SCHUTZ, Paris School of Economics, France
  An international trade model with search and matching frictions and ex post bargaining
  DISCUSSANT : Marcus SONNTAG, Universitat Pompeu Fabra, Barcelona, Spain

  Antoine GOUJARD, London School of Economics, United Kingdom
  International migration and unemployment duration: evidence from France

- **SESSION 3 – CHAIR : VINCENT VANNETELBOSCH, CORE, UCL, BELGIUM**

  Laurent BACH, Paris School of Economics, France
  Optimal investment subsidies in the presence of credit constraints: theory and evidence

  Nathan FOLEY-FISHER, London School of Economics, United Kingdom
  Optimal debt and default in an economy with a natural resource

  David SCHRÖDER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  Predicting equity returns with the implied cost of capital

- **SESSION 4 – CHAIR : FABRIZIO GERMANO, UNIVERSITAT POMPEU FABRA, BARCELONA, SPAIN**

  Sebastian KRANZ, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  Legal unbundling can be a golden mean between vertical integration and separation

  Stefan PENCZYNSKI, London School of Economics, United Kingdom
  Additional heterogeneity in a model of career concerns

  Gilad SOREK, University of Tel Aviv, Isräel
  Medical R&D and the demand for medical technologies

NOVEMBER 27, 2008

- **LECTURE 2**

  Fernando VEGA-REDONDO, European University Institute, Firenze, Italy
  Networks emerging in a volatile world

- **SESSION 5 – CHAIR : PAUL HEIDHUES, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN, GERMANY**

  Ashley TAYLOR, London School of Economics, United Kingdom
  Trade, finance and productivity

Walter STEINGRESS, ECON-IRES, UCL, Belgium
Foreign direct investment, financial constraints and growth in China

- **SESSION 6 – CHAIR : URS SCHWEIZER, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN, GERMANY**

  Michal LEWANDOWSKI, European University Institute, Firenze, Italy
  Willingness-to-pay/willingness-to-accept-decision rule for choice among lotteries

  Konrad MIERENDORFF, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  An efficient intertemporal auction

- **SESSION 7 – CHAIR : CLAUDE d'ASPREMONT, CORE, UCL, BELGIUM**

  Michael BREI, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  Distributive aspects of exchange rate devaluations in Latin America: financial transfers and borrowers heterogeneity

  Bernhard SILLI, Universitat Pompeu Fabra, Barcelona, Spain
  Gains to specialization in the money management industry

  Fernanda ESTEVAN, CORE, UCL, Belgium
  A model on conditional cash transfer

- **SESSION 8 – CHAIR : FERNANDO VEGA-REDONDO, EUROPEAN UNIVERSITY INSTITUTE, FIRENZE, ITALY**

  Maria GUECHEVA, Universitat Pompeu Fabra, Barcelona, Spain, and Paris School of Economics, France
  Experience and growth

  Lars KOCH, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
  A note on persistent ideologies

■ 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 part of their completed or ongoing research.

PROGRAMME

JANUARY 24, 2008

- **PLENARY SESSION I**

  Bart COCKX, ECON-IRES, UCL , Belgium
  Microeconometric evaluation of labour market policies: prospects and limitations

- **MICROECONOMICS**
  CHAIR : FRANÇOIS MANIQUET, CORE, UCL, BELGIUM

  Tanguy ISAAC, ECON-IRES, UCL, Belgium
  Information revelation in markets with pairwise meetings: complete revelation in dynamic analysis

  Jeroen SABBE, Katholieke Universiteit Leuven, Belgium
  Nonparametric tests of collectively rational consumption behavior: an integer programming procedure

- **INDUSTRIAL ORGANIZATION I**
  CHAIR: XAVIER WAUTHY, FACULTÉS UNIVERSITAIRES SAINT-LOUIS, BRUXELLES AND CORE, UCL, BELGIUM

  Joana RESENDE, CORE, UCL, Belgium
  Dynamic price competition: the case of cell phone networks analysis

  Jo REYNAERTS, Katholieke Universiteit Leuven, Belgium
  Complementary platforms

- **INDUSTRIAL ORGANIZATION II**
  CHAIR: GIORDANO MION, CORE, UCL, BELGIUM

  Walter STEINGRESS, ECON-IRES, UCL, Belgium
  Foreign direct investment, financial constraints and growth in China

  Jean-François MAYSTADT, CORE, UCL, Belgium
  Climate change and migration in Sub-Saharan Africa

- **MACRO ECONOMICS I**
  CHAIR: FRÉDÉRIC DOCQUIER, ECON-IRES, UCL, BELGIUM

  Hélène LATZER, ECON-IRES, UCL, Belgium
  Optimal FDI regulation in the technology upgrading process: full liberalization or ownership constraints

  Ziga ZARNIC, Katholieke Universiteit Leuven, Belgium
  International competitiveness: looking at direct competitors

JANUARY 24, 2008

- **MACROECONOMICS II**
  CHAIR: RAOUF BOUCEKKINE, CORE AND ECON-IRES, UCL, BELGIUM

  Luca MARCHIORI, ECON-IRES, UCL, Belgium
  The impact of brain drain and remittances on fertility and education in developing countries

  Davide DOTTORI, ECON-IRES, UCL, Belgium
  Ageing society, health and the environment

- **APPLIED MICROECONOMETRICS**
  CHAIR: MURIEL DEJEMEPPE, ECON-IRES, UCL, BELGIUM

  Emanuele FORLANI, CORE, UCL, Belgium
  Firms constraints in input market, production function estimation and learning by exporting effects

  Giacomo DE LUCA, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium
  Strategic registration of voters: the Chilean case

  Marjan MAES, ECON-IRES, UCL, Belgium
  Poverty among Belgian elderly in the transition from work to retirement

- **LABOUR ECONOMICS**
  CHAIR: BRUNO VAN DER LINDEN, ECON-IRES, UCL, BELGIUM

  Martin GUZI, CERGE-EI, Praha, Czech Republic and CORE
  Unequal access to higher education in transition economies

  Paolo NATICCHIONI, ECON-IRES, UCL, Belgium
  A reassessment of wage inequality in Italy

- **INDUSTRIAL ORGANISATION II**
  CHAIR: HYLKE VANDENBUSSCHE, CORE, UCL, BELGIUM

  Ilke VAN BEVEREN, Katholieke Universiteit Leuven, Belgium
  Internationalisation and innovative performance: firm-level incidence for Belgium

  Maria EUGENIA SANIN VAZQUEZ, CORE, UCL, Belgium
  Banking tradable emission permits under upstream/downstream strategic interaction

MAY 22, 2008

- **INDUSTRIAL ORGANIZATION I**
  CHAIR: G. WILLMAN

  Laura ROVEGNO, ECON-IRES, UCL, Belgium
  Trade protection and market power: evidence from USA antidumping

  Aminata SISSOKO, ECON-IRES, UCL, Belgium
  Evaluating the effectiveness of R&D subsidies at the firm level

  Arastou KHATIBI, ECON-IRES, UCL, Belgium
  Strategic behavior under ambiguous antidumping policy

- **TRANSFERS**
  CHAIR: FRANÇOIS MANIQUET, CORE, UCL, BELGIUM

  Gül Ertan ÖZGÜZER, ECON-IRES, UCL, Belgium
  Worthy transfers? A dynamic analysis of Turkey's accession to the European Union

Fernanda ESTEVAN, CORE, UCL, Belgium
The political economy of conditional cash transfers

- **MICROECONOMIC I**
  CHAIR: CLAUDE D'ASPREMONT, CORE, UCL, BELGIUM
  Gilles GRANDJEAN, CORE, UCL, Belgium
  Strongly rational sets for normal form games

  Efthymios ATHANASIOU, CORE, UCL, Belgium
  On sharing the benefits of communication

- **LABOUR ECONOMICS I**
  CHAIR: BRUNO VAN DER LINDEN, ECON-IRES, UCL, BELGIUM
  Anna BATYRA, ECON-IRES, UCL, Belgium
  Labour market outcomes in an OLG model with labour market frictions

  Ana-Maria DIAZ, ECON-IRES, UCL, Belgium
  The role of informal referrals on Colombian labor market

- **REGULATION**
  CHAIR: PAUL BELLEFLAMME, CORE, UCL, BELGIUM
  Zakaria SIDDIQUI, CORE, UCL, Belgium
  Co-existence of regulated retail sector with competitive wholesale sector for electricity in India

  Matias LORENZ, Louvain School of Management, UCL, Belgium
  Harmonizing effects of regulatory competition

  Kristof DE WITTE, Katholieke Universiteit Leuven, Belgium
  The regulators fault? On the effects of regulatory changes on profits, productivity and prices in the Dutch drinking water sector

- **MACROECONOMICS I**
  CHAIR: RAOUF BOUCEKKINE, CORE, UCL, BELGIUM
  I-ling SHEN, CORE, UCL, Belgium
  Remittances and parental absence: the double-sided effect of migration on human capital and economic growth

  Marie VANDER DONCKT, ECON-IRES, UCL, Belgium
  Would empowering women initiate the demographic transition in least-developed countries?

- **INDUSTRIAL ORGANIZATION II**

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

  Marco MARINUCCI, CORE, UCL, Belgium
  Remittances and parental absence: the double-sided effect of migration on human capital and economic growth

  Jean-François CAULIER, Facultés Universitaires Saint-Louis, Bruxelles and CORE, UCL, Belgium
  Contractually stable networks

  Olivier DURAND-LASSERVE, CORE, UCL, Belgium
  Dynamic applied stable networks

- **MACROECONOMICS II**

  CHAIR: DAVID DE LA CROIX, CORE AND ECON-IRES, UCL, BELGIUM

  Jean MUTUMBI AMISI, ECON-IRES, UCL, Belgium
  Institutions informality and growth

  Fabien NGENDAKURIYO, ECON-IRES, UCL, Belgium
  Institutions quality and growth

  Alberto COCO, ECON-IRES, UCL, Belgium
  Lumpy investments and complementarities in a general equilibrium model

MAY 23, 2008

- **ECONOMETRICS**

  CHAIR: LUC BAUWENS, CORE, UCL, BELGIUM

  Alfonso VALDESOGLO ROBLES, ECON-IRES, UCL, Belgium
  Modeling international financial returns with a multivariate regime switching copula

  Vincent SCOURNEAU, ECON-IRES, UCL, Belgium
  Maximum likelihood estimations of models with extreme value distribution

- **MACROECONOMETRICS III**

  CHAIR: CARMEN CAMACHO, ECON-IRES, UCL, BELGIUM

  Bastien CHABÉ-FERRET, ECON-IRES, UCL, Belgium
  Education and the dynamics of inequality

  Paolo MELINDI GHIDI, ECON-IRES, UCL, Belgium
  Majority and minority: cultural assimilation and ideological transmission

- **HEALTH ECONOMICS**

  CHAIR: MARTHE NYSSENS, ECON-IRES, UCL, BELGIUM

  Ksenia PANIDI, Université Libre de Bruxelles, Belgium
  Why do we avoid doctors: the view from behavioural economics standpoint

Bruno MEESSEN, ECON-IRES, UCL, Belgium
The study of health care organizations. The concept of institution: an exploration

Pierre Germain UMUHIRE, ECON-IRES, UCL, Belgium
Analysis of Roscas and their relationship with institutional microfinance in Sub-Saharan Africa: an integrated socio-institutional approach

- **MIGRATION**
  CHAIR: MURIEL DEJEMEPPE, ECON-IRES, UCL, BELGIUM
  Sara SALOMONE, ECON-IRES, UCL, Belgium
  Gender gap in skilled migration

  Elisabetta LODIGIANI, ECON-IRES, UCL, Belgium
  The effect of emigration on home-country institutions and governance

  Marco PECORARO, ECON-IRES, UCL, Belgium
  Over education and skill mismatch of foreigners: evidence from the Swiss household panel survey

- **PLENARY SESSION**
  Michel DEVROEY, ECON-IRES, UCL, Belgium
  Is economic theory less exciting today than in the past?

- **LABOUR ECONOMICS II**
  CHAIR: BART COCKX, ECON-IRES, UCL, BELGIUM
  Sofia PESSOA E COSTA, ECON-IRES, UCL, Belgium
  An illustration of the returns to training programmes: the evaluation of the "qualifying contract"

  Anne DEFOURNY, ECON-IRES, UCL, Belgium
  Does the threat of monitoring improve the employment quality? A regression discontinuity approach

  Matteo PICCHIO, ECON-IRES, UCL, Belgium
  The cost of early unemployment for Belgian school-leavers

- **MACROECONOMICS IV**
  CHAIR: THIERRY BRÉCHET, CORE, UCL, BELGIUM
  Rossana MEROLA, ECON-IRES, UCL, Belgium
  Optimal monetary policy in a small open economy with financial accelerator

  Carlotta BALESTRA, CORE, UCL, Belgium
  Enclosures: biomass effect spillovers and maintenance costs

  José MOURELLE, ECON-IRES, UCL, Belgium
  The Argentine and Uruguayan crisis of 2001-2002

6

MEETINGS HELD AT CORE OR CO-ORGANIZED BY CORE MEMBERS

- TOPICS IN INTEGER PROGRAMMING

- MODUS, WORKSHOP ON THE EMERGENCE OF COMPLEX URBAN FORMS

- WORKSHOP ON THE REGULATION OF AIRPORT NOISE

- MARKETS AND CONTRACTS

▪ TOPICS IN INTEGER PROGRAMMING

organized by Laurence WOLSEY, CORE, UCL, Belgium on the occasion of the departure of Yves POCHET.

PROGRAMME

SEPTEMBER 8, 2007

- Martine LABBÉ, Université Libre de Bruxelles, Belgium
  Solving the haplotyping inference parsimony problem with polynomial formulations

- Andrew MILLER, University of Wisconsin-Madison (WI), USA
  Extended formulations for stochastic lot-sizing problems

- François WARICHET, CORE, UCL, Belgium
  A strengthened continuous time formulation for the cyclic scheduling of a plant

- Oktay GÜNLÜK, IBM T.J. Watson Research Center, Yorktown Heights (NY), USA,
  On a generalization of the master cyclic group polyhedron

- Miguel CONSTANTINO, Universidade de Lisboa, Portugal
  Spatial optimization in forest management

- Karen AARDAL, Centrum voor Wiskunde and Informatica, Amsterdam, The Netherlands
  MIP versus MYPL

▪ MODUS, WORKSHOP ON THE EMERGENCE OF COMPLEX URBAN FORMS

MODUS (Modelling Urban Space) is an urban research platform operated under the European Research Group S4: Spatial Simulation for Social Sciences. MODUS is aimed at revealing the processes that generate urban structures and strengthening the theories underlying urban simulation modelling.

PROGRAMME

NOVEMBER 9, 2007

- Jean-Louis DENEUBOURG, Université Libre de Bruxelles, Belgium
  Self-organisation in biological systems: collective choice, heterogeneity of space and stochasticity

- Stephen MARSHALL, University College, London, United Kingdom
  From emergence to evolution: application to urban form, formation and function

- Pierre FRANKHAUSER, Université de Franche-Comté, France
  Liaising the outputs of a self-generating urban model (S-GHOST) with fractal patterns

- Philippe WOLOSZYN, Université de Rennes, France
  Is multiscale computing of urban phenomenon worth for ambient characterization? From urban physics to environmental perception information treatment

- Nuno N. PINTO, Polytechnic Institute of Leiria, Portugal
  A multi-scale CA approach for modelling regional-local urban change

- Roger WHITE, University of Newfoundland, St John's, Canada
  What have we learned from CA based models about the emergence of urban form? What problems are revealed?

- Dominique PEETERS, CORE, UCL, Belgium
  Wrap-up and conclusions

■ WORKSHOP ON THE REGULATION OF AIRPORT NOISE

organized by Thierry BRÉCHET, CORE, UCL, Belgium, Estelle CANTILLON, Université Libre de Bruxelles, Belgium and Pierre PICARD, University of Manchester, United Kingdom and CORE, UCL, Belgium. This workshop was held at the European Centre for Advanced Research in Economics and Statistics (ECARES), Université Libre de Bruxelles and sponsored by the Lhoist Berghmans Chair in Environmental Economics and Management, CORE, ECARES, and the Center for Growthand Business Cycle Research (CGBCR), University of Manchester, United Kingdom.

PROGRAMME

NOVEMBER 23, 2007

- SESSION I – HEDONIC PRICE STUDIES

  Guillaume FABUREL, Université Paris XII, France
  Social cost of aircraft noise and public debates on noise regulation
  DISCUSSANT : Thierry BRÉCHET, CORE, UCL, Belgium

  Jon NELSON, Pennsylvania State University (PA), USA
  Hedonic property value studies of transportation noise: aircraft and road traffic
  DISCUSSANT : Johan EYCKMANS, European University College, Bruxelles, Belgium

- SESSION II – MARKET DESIGN

  Pierre PICARD, University of Manchester, United Kingdom, ECARES, Université Libre de Bruxelles, Belgium and CORE, UCL, Belgium
  The price of silence: markets for noise licenses and airports
  DISCUSSANT : Jon NELSON, Pennsylvania State University (PA), USA

  Jan BRUECKNER, University of California, Irvine (CA), USA
  Airport noise regulation, airline service quality and social welfare
  DISCUSSANT : Stef PROOST, Katholieke Universiteit Leuven, Belgium

- **DISCUSSION PANEL WITH REGULATION AUTHORITIES – CHAIR: ESTELLE CANTILLON, ECARES, UNIVERSITÉ LIBRE DE BRUXELLES, BELGIUM**
  Philippe AYOUN, Direction Générale de l'Aviation Civile, Paris, France
  Peter HULLAH, Eurocontrol Experimental Centre, Brétigny sur Orge, France
  Jules KNEEPKENS, Direction Générale du Transport Aérien, Bruxelles, Belgium
  Marc Martens, Bird & Bird, Bruxelles, Belgium

■ MARKETS AND CONTRACTS

organized by Claude d'ASPREMONT, CORE, UCL, Belgium, Andrea ATTAR, Toulouse School of Economics, France and Enrico MINELLI, Universita degli Studi di Brescia, Italy and sponsored by the Belgian Science Policy, the Communauté Française de Belgique, CORE, the European Commission and the European Science Foundation.

PROGRAMME

MAY 23, 2008

- **SESSION I – CHAIR: JEAN HINDRIKS, CORE, UCL, BELGIUM**
  Emanuele GERRATANA, Koç University, Istanbul, Turkey
  Games with externalities and delegation to a common agent

  Gwenaël PIASER, Université du Luxembourg, Luxembourg
  Incentive compatible mechanisms in multiprincipal-multiagent games

MAY 24, 2008

- **SESSION II – CHAIR: DIRK VAN DE GAER, UNIVERSITEIT GENT, BELGIUM**
  Levent KOCKESEN, Koç University, Istanbul, Turkey
  Delegation with incomplete and renegotiable contracts

  Enrico MINELLI, Universida degli Studi di Brescia, Italy
  Nash-Walras equilibria with private information on both sides

  Julio DAVILA, Paris School of Economics, France
  The rationality of expectations formation and excess volatility

- **SESSION III – CHAIR: FRANÇOIS MANIQUET, CORE, UCL, BELGIUM**
  François SALANIÉ, Toulouse School of Economics, France
  Non-exclusive competition in the market for lemons

  Claude d'ASPREMONT, CORE, UCL, Belgium
  Oligopolistic competition as a common agency game

7

INVITED SEMINARS

The following seminars were presented by CORE members during the academic year 2007-2008.

OSCAR AMERIGHI

- *Exports versus horizontal foreign direct investment with profit shifting*
  University of Strathclyde, Glasgow, United Kingdom (December 2007)

- *Is competition for FDI bad for regional welfare?*
  Universita degli Studi di Bologna, Italy (June 2008)

LUC BAUWENS

- *Theory and inference for a Markov switching GARCH model*
  HEC Montréal, Canada (September 2007)
  University of Strathclyde, Glasgow, United Kingdom (November 2007)

- *A component GARCH model with time-varying weights*
  University of St Andrews, Scotland (November 2007)

- *The resistible decline of European science*
  Paris School of Economics, France (January 2008)
  Groupement de Recherche en Economie Quantitative d'Aix Marseille (GREQAM), France (January 2008)
  Universita Tor Vergata, Roma, Italy (February 2008)
  Katholieke Universiteit Leuven (February 2008)
  Universiteit Gent, Belgium (March 2008)
  Erasmus Universiteit Rotterdam, the Netherlands (April 2008)
  Universidad de Navarra, Pamplona, Spain (May 2008)
  Universität Konstanz, Germany (July 2008)

PAUL BELLEFLAMME

- *Incentives to innovate in oligopolies*
  Université Pierre-Mendès France, Grenoble, France (January 2008)

- *Negative intra-group externalities in two-sided markets*
  IAG Louvain School of Management, UCL, Belgium (February 2008)

- *Intermediation and investment incentives*
  Rijksuniversiteit Groningen, The Netherlands (February 2008)
  Universiteit Antwerpen, Belgium (March 2008)

RAOUF BOUCEKKINE

- *Optimal firm behavior under environmental constraints*
  Swiss Federal Institute of Technology, Zürich, Switzerland (May 2008)

THIERRY BRÉCHET

- *Environmental innovation and the cost of pollution abatement*
  Université de Savoie, Annecy, France (October 2007

JULIO DAVILA

- *The rationality of expectations formation and excess volatility*
  University of Kyoto, Japan (November 2007)
  Kobe University, Japan (November 2007)
  Université Paris X, France (June 2008)

- *Bargaining over public goods*
  Institut Henri Poincaré, Paris, France (January 2008)

- *Constrained efficient taxation of capital*
  Universita di Brescia, Italy (May 2008)

PIERRE DEHEZ

- *Data games: sharing public goods with exclusion*
  Universita di Pisa, Italy (January 2008)
  Université de Strasbourg, France (April 2008)
  Université de Caen, France (June 2008)

DAVID DE LA CROIX

- *To segregate or to integrate: education politics and democracy*
  Royal Holloway College, London, United Kingdom (October 2007)
  University of Tel Aviv, Israël (January 2008)

- *The child is father of the man: implications for the demographic transition*
  Hebrew University, Jerusalem, Israël (January 2008)
  Kobenhavns Universitet, Denmark (May 2008)

SANTANU DEY

- *Using multiple sources of information simultaneously for solving mixed integer programs*
  Indian School of Business, Hyderabad, India (January 2008)

JACQUES DRÈZE

- *Europe's persistent unemployment: is there a way out?*
  Universitat Autonoma de Barcelona, Spain (March 2008)

EMANUELE FORLANI

- *Competition in services' sector and efficiency of manufacturing firms: does liberalization matter?*
  Facultés Universitaires Saint-Louis, Bruxelles, Belgium (April 2008)

JEAN GABSZEWICZ

- *Thematic clubs and the supremacy of network externalities*
  European University Institute, Firenze, Italy (September 2007)
  Instituto Superior de economia e Gestaõ, Lisboa, Portugal (May 2008)

- *The mixed strategy Nash equilibrium of the program scheduling game*
  Universidade do Porto, Portugal (May 2008)

FRANÇOIS GLINEUR

- *Conic optimization: a unified framework for structured convex optimization*
  Oxford University, United Kingdom (June 2008)

CHRISTIAN HAFNER

- *On asymptotic theory for multivariate GARCH models*
  Cambridge University, United Kingdom (October 2007)
  London School of Economics, United Kingdom (November 2007)

- *Efficient estimation of a multivariate multiplicative volatility model*
  Humboldt-Universität zu Berlin, Germany (December 2007)
  Université Libre de Bruxelles, Belgium (March 2008)

LEONIDAS KOUTSOUGERAS

- *Intermediation across markets*
  Athens School of Economics, Greece (February 2008)

MARIE-LOUISE LEROUX

- *Uncertain lifetime, redistribution and nonlinear pricing of annuities*
  Université de Liège, Belgium (November 2007)

ROLAND IWAN LUTTENS

- *Voting for redistribution under desert-sensitive altruism*
  Katholieke Universiteit Leuven, Belgium (October 2007)

FRANÇOIS MANIQUET

- *Social ordering functions*
  University of Birmingham, United Kingdom (October 2007)
  Universidad del Pais Vasco, Bilbao, Spain (November 2007)

- *Sharing the cost of a public good: an incentive-constrained axiomatic approach*
  University of Warwick, United Kingdom (October 2007)
  University of Columbia, New York (NY), USA (November 2007)

- *On the informational efficiency of simple scoring rules*
  Northwestern University, Evanston (IL), USA (November 2007)
  Université de Lille, France (February 2008)

ANA MAULEON

- *Networks of free trade agreements among heterogeneous countries*
  Universidad del Pais Vasco, Bilbao, Spain (October 2007)

- *The growth economics of epidemics*
  Austrian Academy of Science, Vienna, Austria (November 2005)

JEAN-FRANÇOIS MAYSTADT

- *Does inequality make us rebel? A renewed theoretical model applied to South Mexico*
  Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium (October 2007)
  London School of Economics, United Kingdom (October 2007)

- *Impact of refugee inflows on local population in Kagera.*
  University of Dar es Salaam, Tanzania (May 2008)

RODERICK MCCRORIE

- *Moments of the Dickey-Fuller and related distributions*
  London School of Economics, United Kingdom (December 2007)
  Boston University (MA), USA (March 2008)

JUAN D. MORENO-TERNERO

- *Axiomatic resource allocation for heterogeneous agents*
  Universitat Rovira I Virgili, Tarragona, Spain (January 2008)

- *The political economy of health care finance*
  Universidad Complutense de Madrid, Spain (January 2008)
  Boston University (MA), USA (March 2008)

PIERRE PESTIEAU

- *A spender-hoarders theory of capital accumulation, wealth distribution and fiscal policy*
  Foundation G. Vargas, Rio de Janeiro, Brazil (September 2007)

- *Sin goods taxation and health care subsidies*
  Cornell University, Ithaca (NY), USA (October 2007)

- *Rentes alimentaires: une analyse économique*
  Services Public Fédéral de Justice, Bruxelles, Belgium (December 2007)

- *Taxing sin goods and subsidizing health*
  Kobenhavns Universitet, Denmark (May 2008)

PIERRE PICARD

- *Industrial re-dispersion: a synthesis of Chamberlin and Ricardo*
  London School of Economics, United Kingdom (October 2007)

- *Currency areas and international assistance*
  Université Libre de Bruxelles, Belgium (October 2007)
  Zentrum für Europaïsche Wirtschaftsforschung, Berlin (November 2007)
  University of Manchester, United Kingdom (April 2008)

JOANA RESENDE

- *Banking tradable permits under strategic interaction*
  Universidade do Porto, Portugal (May 2008)

- *Thematic clubs and the supremacy of network externalities*
  Instituto Superior de Economia e Gestao, Lisboa, Portugal (May 2008)

- *The economic advantage of being the voice of the majority*
  LICOS Centre for Institutions and Economic Performance, Leuven, Belgium (June 2008)

YVES SMEERS

- *Competition and regulatory mix in the restructuring of the European electricity system*
  Research Institute of Economy, Trade & Industry, Tokyo, Japan (October 2007)

- *Generation capacity expansion in risky restructured electricity markets*
  Federazione Italiana di Matematica Applicata, Ayas-Champoluc, Italy (January 2008)

- *Equilibrium formulations*
  Ecole des Mines de Paris, France (February 2008)

- *Investments, contracts and risk premium*
  Harvard Electricity Policy Group, Harvard University, Harvard (MA), USA (February 2008)

- *Average cost based power contracts can mitigate carbon leakage*
  Fondazione Eni Enrico Mattei (FEEM), Milano, Italy (April 2008)

- *On the European mix of regulation and competition law in the reform of the electricity sector*
  Direction Générale de l'Energie et des Transports (DG TREN), Commission Européenne, Bruxelles, Belgium (June 2008)

JACQUES THISSE

- *La géographie économique de la Belgique: le dessous des cartes*
  ECON-IRES, UCL, Belgium (October 2007)

ISABELLE THOMAS

- *Prix et choix résidentiels. Réflexions géographiques*
  Conseil Economique, Bruxelles (October 2007)

- *La géographie économique de la Belgique: le dessous des cartes*
  ECON-IRES, UCL, Belgium (October 2007)

- *Indicateurs d'accessibilité et de mobilité: mesures, variations spatiales et interprétations*
  Centre Interuniversitaire d'Etude de la Mobilité, Bruxelles, Belgium (November 2007)

- *Modèles de localisation: méthodes et solutions*
  Université du Luxembourg, Luxembourg (December 2007)

- *Qualité du logement: une géographie?*
  Région Wallonne, Charleroi, Belgium (December 2007)

- *Le logement: réalités géographiques*
  Batibouw, Bruxelles, Belgium (February 2008)

- *Géographie du logement: un jeu de cartes*
  Confédération de la Construction, Bruxelles, Belgium (June 2008)

HENRY TULKENS

- *Kyoto et après: quels apports de l'analyse économique à la diplomatie climatique?*
  ECON-IRES, UCL, Belgium (February 2008)

SÉBASTIEN VAN BELLEGEM

- *Some inverse problems in econometrics*
  Pontificia Universidad Catolica de Chile, Santiago, Chile (May 2008)

XAVIER WAUTHY

- *Entry under capacity limitation and vertical differentiation: the return of judo economics*
  Université du Luxembourg, Luxembourg (March 2008)
  Université de Liège, Belgium (April 2008)

SKERDILAJDA ZANAJ

- *Demand-led growth in Albania: a note on the role of autonomous consumption of Albanian households*
  University of Tirana, Albania (January 2008)

8

ACADEMIC VISITS OF CORE MEMBERS

Academic visits by CORE members to other institutions

OSCAR AMERIGHI

University of Strathclyde, Glasgow, United Kingdom (June 2008)

LUC BAUWENS

HEC Montréal, Canada (June 2008)

PAUL BELLEFLAMME

Universität Mannheim, Germany (July 2008)

QUENTIN BOTTON

Universidade de Lisboa, Portugal (February – March 2008)

RAOUF BOUCEKKINE

University of Glasgow, United Kingdom (November 2007 and March– April 2008)

THIERRY BRÉCHET

Technische Universität Wien, Austria (September 2007)
Université de Savoie, Annecy, France (October 2007)
Université Paris X, Nanterre, France (March 2008)

JULIO DAVILA

University of Kyoto, Japan (November 2007)

PIERRE DEHEZ

Universita di Pisa, Italy (November 2007)
European University Institute, Firenze, Italy (April 2008)

DAVID DE LA CROIX

Université Paris X, Nanterre, France (November 2007)
World Bank, Washington (DC), USA (December 2007)
Kobenhavns Universitet, Denmark (March 2008)

SANTANU DEY

Universität Paderborn, Germany (December 2007)

CLAIRE DUJARDIN

Université de Lyon II, Ecully, France (June 2008)

JEAN J. GABSZEWICZ

Université de la Méditerrannée, Aix-en-Provence, France (October 2007)
Université du Luxembourg, Luxembourg (October 2007)
International School of Economics, Tbilisi, Georgia (April 2008)

FRANÇOIS GLINEUR

Technische Universteit Delft, The Netherlands (November 2007)

ROLAND IWAN LUTTENS

Laboratoire de Microéconométrie, CREST, Malakoff, France (April 2008)

FRANÇOIS MANIQUET

Columbia University, New York (NY) (November 2007)
Northwestern University, Evanston (IL) (November 2007)

ANA MAULEON

Universidad del Pais Vasco, Bilbao, Spain (October 2007)

JEAN-FRANÇOIS MAYSTADT

University of Dar es Salaam, Tanzania (May – June 2008)

RODERICK MCCRORIE

Boston University (MA), USA (March 2008)

GIORDANO MION

Banco de Portugal, Lisboa, Portugal (July 2008)
Nihon University, Tokyo, Japan (August 2008)

JUAN D. MORENO-TERNERO

Universidad Autonoma de Barcelona, Spain (January 2008)
Université du Luxembourg, Luxembourg (October 2007)
International School of Economics, Tbilisi, Georgia (April 2008)

GIORGIA OGGIONI

University of California, Riverside (CA), USA (January 2008)

PIERRE PESTIEAU

World Bank, Washington (DC), USA (October 2007 – January 2008)
Institut d'Economie Industrielle, Toulouse, France (November 2007, March – April 2008)
Université du Québec, Montréal, Canada (November 2007)

PIERRE PICARD

Université Libre de Bruxelles, Belgium (May – August 2008)

EVE RAMAEKERS

Universiteit Maastricht, The Netherlands (June and August 2008)

YVES SMEERS

Institut Français des Relations Internationales (IFRI), Paris, France (September 2007)
Kansai Electric Power Company, Osaka, Japan (October 2007)

JOSEPH THARAKAN

Universita degli Studi di Sassari, Italy (September, November and December 2007)
University of Oxford, United Kingdom (March and May 2008)

HENRY TULKENS

National University of Singapore, Singapore (October – November 2007)

VINCENT VANNETELBOSCH

Universidad del Pais Vasco, Bilbao, Spain (October 2007)

LAURENCE WOLSEY

IBM T.J. Watson Research Center, Yorktown Heights, New York (NY), USA (July 2008)

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CONFERENCES ATTENDED
BY CORE MEMBERS

CORE members attended the following conferences and most presented a paper

Oscar Amerighi

ASSET Annual Meeting, Padova, Italy (November 2007)

CESifo Venice Summer Institute Workshop on "Taxation of Multinational Firms", Venice International University, San Servolo, Italy (July 2008)

Carlotta Balestra

Journées de l'Association Française de Science Economique, Toulouse (June 2008)

16th Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Gothenburg, Sweden (June 2008)

Luc Bauwens

"Inference and Tests in Econometrics. A Tribute to Russell Davidson". Groupement de Recherche en Economie Quantitative (GREQAM), Aix-Marseille, France (April 2008)

Society for Financial Econometrics, Inaugural Conference, New York University (June 2008)

63rd European Meeting of the Econometric Society, Budapest, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

Paul Belleflamme

Journées de l'oligopole, Ecole Polytechnique de Paris, France (September 2007)

"Google et les Nouveaux Services en Ligne: Impact sur l'Economie du Contenu et Questions de Propriété Intellectuelle", Facultés Universitaires Saint-Louis, Bruxelles, Belgium (September 2007)

IDEI/Bruegel Conference "Regulation, Competition and Investment", Bruxelles, Belgium (October 2007)

"Les transferts de technologie: entre le brevet et le secret". Facultés Universitaires Saint-Louis, Bruxelles, Belgium (January 2008)

2ème Conférence Euro-Africaine en Finance et Economie (CEAFE), La Marsa, Tunisie (June 2008)

Quentin Botton

Twenty-second Conference on Quantitative Methods for Decision Making (ORBEL 22), Belgian National Operations Research Conference, Bruxelles, Belgium (January 2008)

5th CEMS (Community of European Management Schools and International Companies) Research Seminar on Supply Chain Management, Riezlern, Austria (January 2008)

The 9th INFORMS Telecommunications Conference "Telecommunications Modeling, Policy and Technology", University of Maryland, Baltimore (MD), USA (March 2008)

5èmes Journées Polyhèdres et Optimisation Combinatoire, Rouen, France (June 2008)

International Federation of Operational Research Societies Conference (IFORS), Sandtown, South Africa (July 2008)

RAOUF BOUCEKKINE

International Conference: New Challenges in Economic Research, Economics School of Louvain, UCL, Belgium (September 2007)

Conference in honor of Rodolphe Dos Santos, BETA, Université Louis Pasteur, Strasbourg, France (October 2007)

International Workshop on Structured Models in Population and Economics Dynamics, Vienna Institute of Demography and Austrian Academy of Sciences, Austria (November 2007)

12ème Conférence "Théorie et Méthodes de la Macroéconomie" (TM2), Université de Cergy-Pontoise and ESSEC (Business School Paris-Singapore), Paris, France (January 2008)

International Conference in Economic Theory, Kyoto University, Japan (March 2008)

Conference on Market Imperfections and Macroeconomic Instability, Université de Lille I, France (March 2008)

Clemson-UCL Workshop in Macroeconomics, UCL, Belgium (May 2008)

The Pontryagin Centennial Conference, Moscow, Russia (June 2008)

THIERRY BRÉCHET

International Workshop on Structured Models in Population and Economics Dynamics, Vienna Institute of Demography and Austrian Academy of Sciences, Austria (November 2007)

"Which Governance for which Environment"? The Cargèse Institute of Scientific Studies, Corsica (February 2008)

XXVII MIT Global Change Forum "Challenges to Low-CO_2 Energy Supply at Proposed Scale and Pace", Arlington (VA), USA (March 2008)

Conference on "Climate Change, Green Logistics and Sustainable Mobility", Valencia, Spain (March 2008)

Monte Verita Conference on Sustainable Resource Use and Economic Dynamics (SURED 2008), Ascana, Switzerland (June 2008)

16th Annual Conference of the European Association of Environmental and Resource Economists (EAERE 2008), Gothenburg, Sweden (June 2008)

"PGPPE (Public Goods, Public Projects, Externalities) Workshop on "Environmental Economics", Montpellier, France (June 2008)

AFSE (Association Française de Science Economique) Annual Thematic Meeting "Frontiers in Environmental Economics and Natural Resources Management", Toulouse, France (June 2008)

23rd Annual Congress of the European Economic Association, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

63rd European Meeting of the Econometric Society, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

GEOFFREY CARUSO

Annual Conference of the Association of American Geographers, Boston (MA), USA (April 2008)

ROBERT CHARES

PAI Study Day on Dynamical Systems, Control and Optimization (DYSCO), Bruxelles, Belgium (November 2007)

22nd Conference on Quantitative Methods for Decision Making (ORBEL 22), Belgian National Operations Research Conference, Bruxelles, Belgium (January 2008)

SIAM (Society for Industrial and Applied Mathematics) Conference on Optimization (SIOPT 2008), Boston (MA), USA, May 2008.

CLAUDE d'ASPREMONT

Journées de l'oligopole, Ecole Polytechnique de Paris, France (September 2007)

"Google et les Nouveaux Services en Ligne: Impact sur l'Economie du Contenu et Questions de Propriété Intellectuelle", Facultés Universitaires Saint-Louis, Bruxelles, Belgium (September 2007)

IDEI/Bruegel Conference "Regulation, Competition and Investment", Bruxelles, Belgium (October 2007)

Conference in honor of Rodolphe Dos Santos, BETA, Université Louis Pasteur, Strasbourg, France (October 2007)

2ème Conférence Euro-Africaine en Finance et Economie (CEAFE), La Marsa, Tunisie (June 2008)

JULIO DAVILA

XVII European Workshop on General Equilibrium Theory, Paestum, Italy (June 2008)

Workshop on "Growth with Heterogeneous Agents: Causes and Effects of Inequality", GREQAM, Université d'Aix-Marseille, France (June 2008)

Public Economic Theory 08 (PET08), Seoul, Korea (June 2008)

PIERRE DEHEZ

Conference in honor of Rodolphe Dos Santos, BETA, Université Louis Pasteur, Strasbourg, France (October 2007)

Journées du BETA 2008, Nancy, France (May 2008)

DAVID DE LA CROIX

Conference on "Adult Longevity and Economic Take-off from Malthus to Ben-Porath", Pisa, Italy (December 2007)

Conference on "Breaking the Immigration Deadlock Through International Subsidies", Lille, France (April 2008)

Clemson-UCL Workshop in Macroeconomics, UCL, Belgium (May 2008)

Public Economic Theory 2008 (PET 08), Seoul, Korea (June 2008)

Matagne II Workshop in Macroeconomics, Rochehaut, Belgium (June 2008)

NBER Summer Meeting, Boston (MA), USA (July 2008)

SANTANU DEY

INFORMS Annual Meeting, Seattle (WA), USA (November 2007)
12th Combinatorial Optimization Workshop, Aussois, France (January 2008)

JACQUES DRÈZE

Conference in honor of Rodolphe Dos Santos, BETA, Université Louis Pasteur, Strasbourg, France (October 2007)
Worskhop on "Incomplete Market Economies with Production", Institute for Advanced Studies, Vienna, Austria (July 2008)

CLAIRE DUJARDIN

48th Congress of the European Regional Science Association, Liverpool, United Kingdom (August 2008)

FERNANDA ESTEVAN

Third Annual Conference "Development Economics and Policy", Brunes University, London, United Kingdom (March 2008)
Migration and Development Conference, EQUIPPE, Universités de Lille, France (June 2008)
Summer School on Development Economics, Alba di Canazei, Italy (June – July 2008)

EMANUELE FORLANI

European Association Research in Industrial Economics, Valencia, Spain (September 2007)
5th "Empirical Investigation in International Economics" Conference, Izola, Slovenia (June 2008)

BERNARD FORTZ

6th International Workshop on Design of Reliable Communications Networks (DRCN 2007), La Rochelle, France (October 2007)
18th Triennal Conference of the International Federation of Operational Research Societies (IFORS 2008), Sandton, South Africa (July 2008)
GOM 2008 – Graph and Optimization Meeting, Saint-Maximin La Sainte Baume, France (August 2008)

JEAN J. GABSZEWICZ

5th Workshop on Media Economics, Universita di Bologna, Italy (October 2007)
1st Doctoral Meeting of Montpellier, Université de Montpellier, France (February 2008)
2ème Conférence Euro-Africaine en Finance et Economie (CEAFE), La Marsa, Tunisie (June 2008)

AXEL GAUTIER

5th Conference on Regulation, Competition and Universal Service in the Postal Sector, Institut d'Economie Industrielle, Université des Sciences Sociales de Toulouse, France (March 2008)

Interic Conference on Endogenous Market Structure and Industrial Policy, Milano, Italy (June 2008)

3rd International Conference on Funding Transport Infrastructure, Paris, France (June 2008)

NICOLAS GILLIS

PAI Study Day on Dynamical Systems, Control and Optimization (DYSCO), Brussels, Belgium (November 2007)

22nd Conference on Quantitative Methods for Decision Making (ORBEL 22), Belgian National Operations Research Conference, Bruxelles, Belgium (January 2008)

9th International Symposium on Iterative Methods in Scientific Computing (IMACS), Lille, France (March 2008)

SIAM (Society for Industrial and Applied Mathematics) Conference on Optimization (SIOPT 2008), Boston (MA), USA (May 2008)

10th International Workshop on High Performance Optimization Techniques (HPOPT 2008), Tilburg, The Netherlands (June 2008)

FRANÇOIS GLINEUR

Czech-French-German Conference on Optimization (CFGO7), Heidelberg, Germany (September 2007)

PAI Study Day on Dynamical Systems, Control and Optimization (DYSCO), Bruxelles, Belgium (November 2007)

22nd Conference on Quantitative Methods for Decision Making (ORBEL 22), Belgian National Operations Research Conference, Bruxelles, Belgium (January 2008)

Journées du 3ème Cycle F.N.R.S. en Programmation Mathématique '08, Han-sur-Lesse, Belgium (March 2008)

PAI Study Day on Dynamical Systems, Control and Optimization (DYSCO), Bruxelles, Belgium (April 2008)

SIAM (Society for Industrial and Applied Mathematics) Conference on Optimization (SIOPT 2008), Boston (MA), USA (May 2008)

10th International Workshop on High Performance Optimization Techniques (HPOPT 2008), Tilburg, The Netherlands (June 2008)

GILLES GRANDJEAN

The World Congress of the Game Theory Society, Chicago (IL), USA (August 2008)

CHRISTIAN HAFNER

15th Meeting of the Belgian Statistical Society, Antwerpen, Belgium (October 2007)
8th German Open Conference on Probability and Statistics, Aachen, Germany (March 2008)

LEONIDAS KOUTSOUGERAS

Society of the Advancement of Economic Theory Conference (SAET VIII), Kos, Greece (July 2007)

STÉPHANE LAMBRECHT

Workshop "Banking and Finance: Impact of Global Threats", Lille, France (March 2008)
International Workshop "Market Imperfection and Macroeconomic Instability" (MIMI), Lille, France (March 2008)
Journées de l'AFSE (Association Française de Science Economique) 2008, Toulouse, France (June 2008)
Monte Verita Conference on Sustainable Resource Use and Economic Dynamics (SURED 2008), Ascona, Switzerland (June 2008)

MARIE-LOUISE LEROUX

6th International Workshop on Pension and Saving, Université Paris-Dauphine, France (April 2008)
CESifo Area Conference on the Public Sector Economics, Münich, Germany (April 2008)
LAGV#7, 7th Journées Louis-André Gérard-Varet d'Economie Publique, Marseille, France (June 2008)
Public Economic Theory 2008 (PET 08), Seoul, Korea (June 2008)

ETIENNE LOUTE

6th Logistics and Supply Chain Management Workshop, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (October 2007)
7th Logistics and Supply Chain Management Workshop, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (April 2008)

ROLAND IWAN LUTTENS

6th Annual International and Industrial Organization Conference (IIOC), Washington (DC), USA (May 2008)
9th International Meeting of the Society of Social Choice and Welfare, Concordia University, Montréal, Canada (June 2008)

FRANÇOIS MANIQUET

Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)
9th International Meeting of the Society of Social Choice and Welfare, Concordia University, Montréal, Canada (June 2008)

MARCO MARINUCCI

2nd Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)

1st Doctoral Meeting of Montpellier, Université de Montpellier, France (February 2008)

ANA MAULEON

2nd Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)

XIII Coalition Theory Network Workshop, Fondazione Eni Enrico Mattei, Venice, Italy (January 2008)

9th International Meeting of the Society for Social Choice and Welfare, Concordia University, Montréal, Canada (June 2008)

3rd World Congress of the Game Theory Society, Northwestern University, Chicago (IL), USA (July 2008)

JEAN-FRANÇOIS MAYSTADT

3rd Annual Workshop of the Household in Conflict Network, Sussex University, Brighton, United Kingdom (December 2007)

Journées Doctorales de l'ADRES, Université de Toulouse I, France (January 2008)

RODERICK MCCRORIE

Conference on Economic and Financial Linkages, Scottish Institute of Research in Economics, University of Glasgow, United Kingdom (February 2008)

"Inference and Tests in Econometrics. A Tribute to Russell Davidson". Groupement de Recherche en Economie Quantitative (GREQAM), Aix-Marseille, France (April 2008)

Far Eastern Meeting of the Econometric Society, Singapore Management University, Singapore (July 2008)

World Congress in Probability and Statistics, Institute of Mathematical Statistics, National University of Singapore, Singapore (July 2008)

GIORDANO MION

CARIS 2008 – 12th International User Group Conference, University of Sussex, United Kingdom (May 2008)

FIRB Project Conference, Universita di Milano, Italy (February 2008)

International Workshop in Economic Geography, Universidad Autonoma de Barcelona, Spain (June 2008)

ERWIT-CEPR Conference, University of St Gallen, Appenzell, Switzerland (June 2008)

JUAN D. MORENO TERNERO

III Workshop on Social Decisions, Universidad de Malaga, Spain (November 2007)

II International Workshop on Poverty and Social Exclusion: Dynamics & Multidimensional Issues, Barcelona, Spain (November 2007)

XXXII Simposio de Analisis Economico, Granada, Spain (December 2007)

IV Workshop on Public Policy Design: Topics on Social Choice, Girona, Spain (January 2008)

9th International Meeting of the Society of Social Choice and Welfare, Concordia University, Montréal, Canada (June 2008)

GIORGIA OGGIONI

Belgian Environmental Economics Day (BEED), Hogeschool Universiteit Brussels, Belgium (February 2008)

AFSE (Association Française de Science Economique) Annual Thematic Meeting "Frontiers in Environmental Economics and Natural Resources Management", Toulouse, France (June 2008)

2nd Summer School on Generalized Convexity and Generalized Monotonicity, National Sun Yat-set University, Kaohsiung, Taiwan (July 2008)

9th International Symposium on Generalized Convexity and Generalized Monotonicity, National Sun Yat-set University, Kaohsiung, Taiwan (July 2008)

AMASES (The Italian Association of Mathematics Applied to Economic and Social Sciences) Annual Conference, Universita di Trento, Italy (September 2008)

YURII NESTEROV

10th International Workshop on High Performance Optimization Techniques (HPOPT), Tilburg, The Netherlands (June 2008)

DOMINIQUE PEETERS

Joint Congress of the European Regional Science Association (47th Congress) and ASRDLF (Association de Science Régionale de Langue Française (44th Congress), Paris, France (August – September 2007)

15th European Colloquium on Theoretical and Quantitative Geography, Montreux, France (September 2007)

Workshop "Residential Sprawl and Segregation" Dijon, France (October 2007)

PIERRE PESTIEAU

Workshop on Public Economics and Growth, Santiago de Chile (September 2007)

Queen's Public Economics Workshop, Kingston, Canada (November 2007)

One-day Conference on Europe and Fiscal Federalism, Facultés Universitaires Catholiques de Mons, Belgium (February 2008)

Conférence Robert Deschamps, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium (February 2008)

2008 CESifo Area Conference on Public Sectors Economics, Münich, Germany (April 2008)

The 2008 APJAE (Asia-Pacific Journal of Accounting & Economics) Symposium on Public Policies and Social Welfare, City University of Hong Kong, Hong Kong (May 2008)

Public Economics Workshop, University of Warwick, United Kingdom (May 2008)

NBER International Social Security, Lisboa, Portugal (May 2008)

AERC Biannual Workshop – Linking Infrastructure with Economic Development in Africa, Entebbe, Uganda (June 2008)

Trans-Atlantic Public Economics (TAPES) Conference on Income Taxation, Paris School of Economics, France (June 2008)

Workshop on "Longevity and Annuitization", Paris School of Economics, France (June 2008)

2008 IIPF (International Institute of Public Finance) Annual Congress, Maastricht, The Netherlands (August 2008)

PIERRE PICARD

European Trade Group Study, Athens, Greece (September 2007)

55th Annual North American Meetings of the Regional Science Association International, Savannah (GA), USA (November 2007)

EVE RAMAEKERS

Maastricht University Jubilee Workshop on Economic Design and Collective Choices, Universiteit Maastricht, The Netherlands (April 2008)

The Second Annual Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (July 2008)

JOANA RESENDE

5th Workshop on Media Economics, Universita di Bologna, Italy (October 2007)

1st Doctoral Meeting of Montpellier, Université de Montpellier, France (February 2008)

Monte Verita Conference on Sustainable Resource Use and Economic Dynamics (SURED 2008), Ascona, Switzerland (June 2008)

6th ZEW (Zentrum für Europäische Wirtschaftsforschung) Conference: The Economics of Information and Communication Technologies, Mannheim, Germany (July 2008)

3rd Lindau Meeting of the Winners of the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, Germany (August 2008)

23rd Annual Meeting of the European Economic Association, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

63rd European Meeting of the Econometric Society, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

JEAN-SÉBASTIEN TANCREZ

5th CEMS (Community of European Management Schools and International Companies) Research Seminar on Supply Chain Management, Riezlern, Austria (January 2008)

MOSIM'08: Conférence Internationale de Modélisation et de Simulation, Paris, France (March – April 2008)

Meeting of the Euro Working Group on Stochastic Modeling 2008, Koç University, Istanbul, Turkey (June 2008)

MARIE EUGENIA SANIN

Monte Verita Conference on Sustainable Resource Use and Economic Dynamics (SURED 2008), Ascona, Switzerland (June 2008)

YVES SMEERS

Joint Cambridge-MIT Conference, London, United Kingdom (September 2007)

Sparks and Flames Conference "Flexibility in Supply Security and Optimizing the Fuel Mix", Amsterdam, The Netherlands (November 2007)

CESSA Working Group "Security of Supply in Europe: Policy for Gas and Nuclear Power", University of Cambridge, United Kingdom (December 2007)

Second FIMA International Conference "Energy and Environent – New Challenges to Mathematical Modelling and Applications, Ayas-Champoluc, Italy (January 2008)

The Environment, Technology and Uncertainty, Ragnar Frisch Centre for Economic Research, Oslo, Norway (May 2008)

International Conference on Applied Mathematical Programming and Modelling (APMOD 2008), Bratislava, Slovenia (May 2008)

EurOPT-2008 – Euro Mini Conference "Continuous Optimization and Knowledge-Based Technologies", Neringa, Lithuania (May 2008)

2008 CCP Fourth Annual Conference: Balancing Regulation and Competition, Centre for Competition Policy, University of East Anglia, United Kingdom (July 2008)

MOPTA 08 – Modeling and Optimization: Theory and Applications 2008, University of Guelph, Canada (August 2008)

ISABELLE THOMAS

ASRDLF (Association de Science Régionale de Langue Française) 44th Congress and ERSA (European Regional Science Association) 47th Congress, Paris, France (August-September 2007)

ecTGQ'07, 15th European Colloquium on Theoretical and Quantitative Geography, Montreux, Switzerland (September 2007)

Colloquium Vervoersplanologisch Speurwerk (CVS), Antwerpen, Belgium (November 2007)

ERIC TOULEMONDE

ASRDLF (Association de Science Régionale de Langue Française) 44th Congress and ERSA (European Regional Science Association) 47th Congress, Paris, France (August-September 2007)

HENRY TULKENS

Meeting of the AFAST/DFGWT (Deutsch-Französische Gesselschaft für Wissenschaft und Technologie), Bonn, Germany (October 2007)
13th Coalition Theory Network Workshop, Venice, Italy (January 2008)

SÉBASTIEN VAN BELLEGEM

"Inference and Tests in Econometrics. A Tribute to Russell Davidson". Groupement de Recherche en Economie Quantitative (GREQAM), Aix-Marseille, France (April 2008)
Cowles Summer Conference on Operator Methods and Inverse Problems in Econometrics, Yale University, New Haven (CT), USA (June 2008)
63rd European Meeting of the Econometric Society, Universita Commerciale Luigi Bocconi, Milano, Italy (August 2008)

DIRK VAN DE GAER

Dag van de Vereniging voor Economie, Universiteit Gent, Belgium (May 2008)
Conference of the European Association of the Environmental and Resource Economists, Gothenburg, Sweden (June 2008)

HYLKE VANDENBUSSCHE

ECIPE (European Centre for International Political Economy) Conference on "The Future of Trade Remedies in Europe", Bruxelles, Belgium (October 2007)
June China Summer Institute, Dalian, China (June 2008)

GRÉGORY VANDENBULCKE

Colloquium Vervoersplanologisch Speurwerk (CVS), Antwerpen, Belgium (November 2007)
BELSPO (Belgian Science Policy) Workshop, Gasthuisberg Campus Leuven, Belgium (June 2008)
48th Congress of the European Regional Science Association (ERSA 2008), University of Liverpool, United Kingdom (August 2008)

JEAN-CHRISTOPHE VAN DEN SCHRIECK

Meeting of the Euro Working Group on Stochastic Modeling 2008, Koç University, Istanbul, Turkey (June 2008)

VINCENT VANNETELBOSCH

34th Conference of the European Association for Research in Industrial Economics (EARIE), Valencia, Spain (September 2007)
2nd Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)
3rd World Congress of the Game Theory Society, Northwestern University, Chicago (IL), USA (July 2008)

WOUTER VERGOTE

European Trade Group Study, Athens, Greece (September 2007)

Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)

PAI Workshop, ECARES, Brussels, Belgium (December 2007)

XAVIER WAUTHY

Journées de l'oligopole, Ecole Polytechnique de Paris, France (September 2007)

"Google et les Nouveaux Services en Ligne: Impact sur l'Economie du Contenu et Questions de Propriété Intellectuelle", Facultés Universitaires Saint-Louis, Bruxelles, Belgium (September 2007)

34th Conference of the European Association for Research in Industrial Economics (EARIE), Valencia, Spain (September 2007)

Interdisciplinary conference "Les nouveaux services en ligne: impact sur l'économie du contenu et questions de propriété intellectuelle", Facultés Universitaires Saint-Louis, Bruxelles, Belgium (September 2007)

2nd Workshop on Economic Design and Institutions, Facultés Universitaires Saint-Louis, Bruxelles, Belgium (December 2007)

LAURENCE WOLSEY

OPTIMA 2007, VIIth Chilean Conference on Operational Research, University of Lakes, Puerto Montt, Chile (November 2007)

LAGOS'07, IV Latin-American Algorithms, Graphs and Optimization Symposium, Puerto Varas, Chile (November 2007)

12th Combinatorial Optimization Workshop, Aussois, France (January 2008)

FOCAPO 2008 – Foundations of Computer-Aided Process Operations, Cambridge (MA), USA (June – July 2008)

SKERDILAJDA ZANAJ

34th Conference of the European Association for Research in Industrial Economics (EARIE), Valencia, Spain (September 2007)

1st Doctoral Meeting of Montpellier, Université de Montpellier, France (February 2008)

Workshop of the Italian National Committee of Research, Universita di Lecce, Italy (May 2008)

3rd Lindau Meeting of the Winners of the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, Germany (August 2008)

STATISTICAL APPENDIX

PEOPLE

▪ YEARLY AVERAGES PER 10 YEAR PERIOD

Period	Professors	Assistants Ph.D. students Researchers	Lontg- 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, 2006-2007 AND 2007-2008

2005-2006	40	53	91	9
2006-2007	38	47	119	12
2007-2008	36	54	73	15

SCIENTIFIC ACTIVITIES

▪ YEARLY AVERAGES PER 10 YEAR PERIOD

Period	Discussion Papers	Books	Published papers	Editorial activities	Theses	Seminars Economics	Econometrics	Operations Research	Conferences	Yearly contracts
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, 2006-2007 AND 2007-2008

2005-2006	118	8	129	45	9	81	30	20	10	12
2006-2007	115	6	133	64	12	79	32	27	7	16
2007-2008	82	1	133	60	8	83	28	19	4	27

▪ TOTAL OF THE 42 YEARS

1966-2008	2427	119	3791	1045	187	2688	948	929	132	419

All details can be found on the CORE webpage.