

# CODE

Center for the study of Organizations and Decisions in Economics

---

## ACTIVITY REPORT 1996

---

- [Introduction](#)
- [Visitors](#)
  - Long visits
  - Short visits
- [Areas of Research](#)
  - [Financial Economics-Macroeconomics](#)
  - [Industrial Organization](#)
  - [Mathematical Economics](#)
  - [Social Choice Theory-Game Theory](#)
- [Research Projects](#)
- [Publications and Working Papers](#)
- [Editorial Activities](#)
- [Conferences and Meetings](#)
- [Seminars](#)
- [Organization of Conferences](#)
- [Stages of Research](#)

## Introduction

The Center for the Study of Organizations and Decisions in Economics (CODE) is a research center at the Universitat Autònoma de Barcelona, created to promote research in the theory of economic decisions and organizations.

CODE was created in 1995. Its founders are members of the Economics Department at the UAB, which has pioneered in Economics Research for the last twenty years. The Department is still the natural meeting point for the activities, like undergraduate and doctoral education, for which diversity of interests and abilities are most important. We hope that CODE will add a new dimension to our profile, by stressing our commitment to theoretical research.

We take a gradual approach to the building of CODE. Our general research topic for the coming years is the study of the economic role of the state, in its many different dimensions. But, to be realistic, we have started by developing much more specific lines of research, in the areas of social choice, contract theory, and game theory, with some additional attention to macroeconomics issues. We hope to build an increasingly consistent group through symmetric interaction, and we know that this takes time.

Likewise, from an external point of view, we hope that CODE may become a reference point, in Barcelona, for those researchers who are working on similar topics. We build on a long tradition of frequent visits, seminars and congresses, but we aim at a consistent set of activities that would enforce our contact with all senior and junior researchers in public economics. Again, we have begun with these activities, but only as first steps.

The present report is, thus, just a modest presentation, and reflects our initial activities, parallel to the very creation of CODE. We hope to do more along the same lines, and to open new fronts in the near future.

## **Visitors**

### **Long visits:**

BERGIN, James (Queen's University, Ontario, Canada)

September 96 to August 97

MASCHLER, Michael (Hebrew University of Jerusalem, Israel)

September 96 to November 96

OLIVERA, Estela (Universidad Nacional de San Luis, Argentina)

December 96 to March 97

SANDONÍS, Joel (Universidad del País Vasco, Spain)

July 95 to February 96

SERIZAWA, Shigehiro (University of Shiga, Japan)

September 95 to October 96

### **Short visits:**

ALCALDE, José (Universitat d'Alacant, Spain)

December 96

KRISHNAN, Murugappa (University of Minnesota, USA)

September 96

NEME, Alejandro (Universidad Nacional de San Luis, Argentina)

September 96

PEREA, Andrés (University of Maastricht, The Netherlands)

October 96

POMANSKY, Alexey (Institute for Financial Studies and Russian Academy of Sciences)

March 96

SCHAIBLE, Siegfried (Graduate School of Management, University of California, USA)

June 96

SHALEV, Jonathan (CORE, Université Catholique de Louvain, Belgium)

October 96

SOTOMAYOR, Marilda (Instituto de Matemática Pura e Aplicada, Brasil)

October 96

THERA, Michel (Université de Limoges)

December 96

ZHOU, Lin (Yale University, USA)

April 96

## **Areas of Research**

### **Financial Economics-Macroeconomics**

1. Security Design with Several Projects and Insider Trading (Jordi Caballé)
2. The Sources of Volatility in Financial Markets with Insider Trading (Jordi Caballé)

### **Industrial Organization**

1. Optimal Inspection Policies (Inés Macho-Stadler and David Pérez-Castrillo)
2. Iceberg Transport Costs (Xavier Martinez-Giralt)
3. The impact of the "Chunnel" on the Location of Production Activities (Xavier Martinez-Giralt)
4. On the Effects of Antidumping Legislation (Xavier Martinez-Giralt)
5. Country Size and International Trade (Xavier Martinez-Giralt)
6. Fiscal Amnesties (Pau Olivella)

### **Mathematical Economics**

1. Indivisibilities in Classical Economic Models (Isabel Fradera and Juan Enrique Martinez-Legaz)

### **Social Choice Theory-Game Theory**

1. Non-manipulable Voting Mechanisms and Feasibility Restrictions (Salvador Barberà and Jordi Massó)

2. Cooperative Game Theory and Compromise Values: The  $\chi$ -value (Jordi Massó)
3. Simple Mechanisms to Implement Stable Situations in Labor Markets (David Pérez-Castrillo)
4. Axiomatic Analysis of Iterative Negotiations (Clara Ponsatí)
5. Non-cooperative Negotiation Games with Outside Options (Clara Ponsatí)

## Research Projects

A brief description is given of the research projects in which the members of CODE are involved. These projects are financed by the Ministry of Education and Science through the Inter-Ministerial Commission of Science and Technology and by the European Community.

- **Title:** Strategic Behavior and Mechanism Design,

DGICYT PB92-0590 (4 years)

**Team coordinator:** Salvador Barberà

**Description:** This project analyzes various problems of design of economic institutions and decision making, taking into account in particular the strategic behavior of agents.

The precise issues and hypotheses addressed in this project are subdivided into the following eight sub-projects: 1) structure of organizations; 2) methods of voting; 3) methods of negotiation; 4) matching models; 5) problems of implementation in economic environments; 6) individual preferences and collective decisions; 7) licensing contracts; 8) dynamic analysis of fiscal amnesties.

- **Title:** Institutions and Markets as Games

Commission of the European Communities, ERBCHRXCT92055 (3years)

**Team coordinator:** Salvador Barberà

**Description:** The objective of this research is the application of recent theories in game theory to the analysis of various important issues pertaining to institutions. Such issues are the following: a) decentralization and the distribution of power and responsibilities; b) communication and asymmetric information; c) bounded rationality and information processing; d) the role of conventions and culture in institutions; e) decision rules in management of organizations.

- **Title:** Effects of Macroeconomic Policies on Economic Fluctuations and Growth

DGICYT PB92-0120-CO2-01 (3 years)

**Team coordinator:** Jordi Caballé

**Description:** Theoretical and empirical analysis of the role of monetary and fiscal policy on business

cycles and growth in the analysis of the relationship between business cycles and growth.

- **Title:** Analysis of Macroeconomic Fluctuations and Economic Growth

DGES - MEC, PB95-0130-C02-01 (1 year)

**Team coordinator:** Jordi Caballé

**Description:** The main goal of this project is to study, both theoretical and empirically, the determinants of aggregate fluctuations and long-run growth. The topics considered are: a) Financial Markets and Macroeconomic Stability, b) Growth and Financial Markets, c) Institutions for macroeconomic policy, d) Endogenous Economic Fluctuations and e) Growth and Regional Convergence.

- **Title:** Inter-Firm Relationships: Market Structure and Competition Policy

Commission of the European Communities, ERBCHRXCT930297 (3.5 years)

**Team coordinator:** Xavier Martinez-Giralt

**Description:** This project analyzes the coordination among firms in strategic decision making (especially R&D and production). In particular the analysis focuses on the relationship between market structure and the structure of such strategic decision making

- **Title:** The Impact of the 'Chunnel' on the Location of Production Activities.

DGICYT HP94-011

**Team coordinator:** Xavier Martínez-Giralt

**Description:** This project plans to analyze the impact of a structural change on the location of production activities. These changes relate to the building of infra-structures (Channel tunnel, High Speed train, motorways, etc.) that imply important savings at least in terms of time. The consequences are two-fold. On the one hand, the need to locate close to the demand is not as crucial as could have been before; on the other hand, making the demand closer, gives incentives to locate near it. The net effect may go either way.

An important interpretation of the model relates to barriers to economic integration among regions. Facilities that may become available in one region may give rise to positive externalities if they incentivate the location of new industries in the neighboring regions. They may also impose negative externalities if such facilities turn into a relocation of industries from the neighboring regions towards the one providing the new facilities. Whether the latter is always a reasonable expected effect, is the focus of the project.

- **Title:** Supermodular Functions in Economic Analysis: Indivisibilities and Non-Convexities.

DGICYT PB92-0615 (3 years)

**Team coordinator:** Juan E. Martinez Legaz

**Description:** Analysis of economic models with indivisibilities when the functions are super modular; special emphasis is paid to decentralization in production problems.

- **Title:** Convexity and Indivisibilities in Cooperative Games: Theory and Economic Applications.

DGICYT PB95-0679 (3 years)

**Team coordinator:** Juan E. Martinez Legaz

**Description:** Analysis of the role of convexity in cooperative game theory and its implications for economic models.

## Publications and Working Papers

### BARBERÀ, Salvador

- (Joint with J. MASSÓ and A. NEME), "Voting under Constraints", *Journal of Economic Theory*, forthcoming.
- (Joint with B. GRODAL), "Preference for Flexibility and the Opportunities of Choice", mimeo.
- (Joint with B. DUTTA), "Strategy-Proof Reward Schemes", mimeo.
- (Joint with A. BOGOMOLNAIA and H. VAN DER STEL), "Strategy-Proof Probabilistic Rules for Expected Utility Maximizers", W.P. 330-96, Dept. d'Economia-IAE.
- (Joint with J. MASSÓ and S. SERIZAWA), "Strategy-Proof Voting on Compact Ranges", W.P. 358-96, Dept. d'Economia-IAE.
- (Joint with J. MASSÓ and A. NEME), "Maximal Domains of Preferences Preserving Strategy-Proofness for Generalized Median Voter Schemes", mimeo.
- "State education and health could be improved without having to be privatized" (L'educació i la sanitat públiques podrien millorar la seva eficiència sense necessitat de ser privatitzades), *Made in Catalunya*, nº 40, September/October 1996.

- "¿Merece alguien un Nobel de Economía?", *Expansión*, October 25, 1996.

## **CABALLÉ, Jordi**

- (Joint with A. POMANSKY), "Mixed Risk Aversion." *Journal of Economic Theory* **71**, 485-513, 1996.

- "Alternative Models of Control: Efficiency, Accessibility and Market Failures. Comment", In: *Property Rights, Incentives and Welfare*, (edited by John Roemer). McMillan, London, 1996.

- (Joint with A. POMANSKY), "Complete Monotonicity, Background Risk, and Risk Aversion.", W.P. 357.96, Dept. d'Economia-IAE.

- (Joint with J. SÁKOVICS), "Overconfident Speculation with Imperfect Competition", W.P. 336.96, Dept. d'Economia-IAE.

- (Joint with M. KRISHNAN), "The Sources of Volatility Risk in a Dynamic Financial Market with Insider Trading", mimeo.

## **MACHO-STADLER, Inés**

- (Joint with X. MARTINEZ-GIRALT and J.D. PÉREZ-CASTRILLO), "The Role of Information in Licensing Contract Design", *Research Policy* **25** (1), 25-41, 1996.

- (Joint with J.D. PÉREZ-CASTRILLO), "Optimal Auditing When Some Individuals Are Tax-return-exempt", *Economic Design* **2**(1), 99-115, 1996.

- (Joint with J.D. PÉREZ-CASTRILLO), "Optimal Auditing Policy With Heterogeneous Income Sources", *International Economic Review*, forthcoming

- (Joint with J.D. PÉREZ-CASTRILLO), *An Introduction to the Economics of Information: Incentives and Contracts*, Oxford University Press, 1996.

- (Joint with F. BARROS), "Competition for Managers and Product Market Efficiency", mimeo.

## **MARTÍNEZ-GIRALT, Xavier**

- (Joint with I. MACHO-STADLER and J.D. PÉREZ-CASTRILLO), "The Role of Information in

Licensing Contract Design", *Research Policy* **25**(1), 25-41, 1996.

- (Joint with P. BARROS), "The Impact of the 'Chunnel' on the Location of Production Activities", W. P., 326.96.

- (Joint with J.M. CHAMORRO), "Telecommunication Technologies and Urban Spatial Structure", mimeo.

- (Joint with J.M. USATEGUI), "Iceberg Transport Costs: The Monopoly Case", mimeo.

## **MARTÍNEZ-LEGAZ, Juan Enrique**

- (Joint with M.S. SANTOS) "On Expenditure Functions", *Journal of Mathematical Economics* **25**, 143-163, 1996.

- (Joint with P. COUTAT and M. VOLLE), "Convex Functions with Continuous Epigraph or Continuous Level Sets", *Journal of Optimization Theory and Applications* **88**, 365-379, 1996.

- "Dual Representation of Cooperative Games Based on Fenchel-Moreau Conjugation", *Optimization* **36**, 291-319, 1996.

- (Joint with F. FLORES), "Simplified Optimality Conditions in Generalized Conjugation Theory", Technical Report 96-05, Departamento de Ingeniería Matemática, Facultad de Ciencias Físicas y Matemáticas, Universidad de Concepción, Concepción, Chile, 1996.

- "On the Uniqueness of Perfect Matchings in Bipartite Graphs", *Expositiones Mathematicae* **14**, 473-480, 1996.

- (Joint with M. THÉRA), " $\varepsilon$ -subdifferentials in Terms of Subdifferentials", *Set Valued Analysis* **4**, 327-332, 1996.

## **MASSÓ, Jordi**

- "La teoría de la elección social: métodos de votación no manipulables", *Boletín de la Sociedad Española de Matemática Aplicada* **8**, 35-41, 1996.

- (Joint with G. BERGANTIÑOS), "Notes on a New Compromise Value: The  $\chi$ -value", *Optimization* **38**, 277-286, 1996.

- "A Note on Reputation: More on the Chain-Store Paradox", *Games and Economic Behavior* **15**, 55-

81, 1996.

- (Joint with A. NEME), "Equilibrium Payoffs of Dynamic Games", *International Journal of Game Theory* **25**, 437-453, 1996.
- (Joint with B. DUTTA), "Stability of Matchings when Individuals have Preferences over Colleagues", *Journal of Economic Theory*, forthcoming.
- (Joint with S. BARBERÀ and A. NEME), "Voting under Constraints", *Journal of Economic Theory*, forthcoming.
- (Joint with S. BARBERÀ and S. SERIZAWA), "Strategy-Proof Voting on Compact Ranges", W.P. 358.96, Dept. d'Economia-IAE.
- (Joint with S. BARBERA and A. NEME), "Maximal Domains of Preferences Preserving Strategy-Proofness for Generalized Median Voter Schemes", mimeo.

## **OLIVELLA, Pau**

- "Tax Amnesties and Tax Evasion Inertia," W.P. 363.96, Dept. d'Economia-IAE.
- "The Incentives to Monitor when Unemployment is an Incentive Device", mimeo

## **PÉREZ-CASTRILLO, David**

- (Joint with I. MACHO-STADLER and X. MARTÍNEZ-GIRALT ), "The Role of Information in Licensing Contract Design", *Research Policy* **25** (1), 25-41, 1996.
- (Joint with I. MACHO-STADLER) "Optimal Tax Auditing when some Individuals Need not File", *Economic Design* **2**(1), 99-115, 1996.
- "Instability in the Labour Market for Researchers", *Economic Design* **2** (3), 263-281, 1996.
- (Joint with I. MACHO-STADLER), "Optimal Auditing Policy With Heterogeneous Income Sources", *International Economic Review*, forthcoming.
- (Joint with J. SANDONIS), "Disclosure of Know-how in Research Joint Ventures", *International Journal of Industrial Organization*, forthcoming.
- (Joint with J. ALCALDE and A. ROMERO-MEDINA), "Hiring Procedures to Implement Stable

Allocations", mimeo.

"Incentivos y Premios", *Expansión*, 1996

- (Joint with I. MACHO-STADLER), *An Introduction to the Economics of Information: Incentives and Contracts*, Oxford University Press, 1996.

## **PONSATÍ, Clara**

- (Joint with J. WATSON ), "Multiple-Issue Bargaining and Axiomatic Solutions" *International Journal of Game Theory*, forthcoming.

- "Compromise vs Capitulation in Bargaining with Incomplete Information", *Annales d'Economie et de Statistique*, forthcoming.

- (Joint with J. SÁKOVICS), "Rubinstein Bargaining with Two-Sided Outside Options", mimeo.

- (Joint with J. SÁKOVICS), "Bargaining in a Changing Environment", mimeo.

## **Editorial Activities**

### **BARBERÀ, Salvador**

Editor:

- REVISTA ESPAÑOLA DE ECONOMÍA

Associate Editor:

- SOCIAL CHOICE AND WELFARE

- MATHEMATICAL SOCIAL SCIENCES

- ECONOMIC THEORY

- ECONOMIC DESIGN

Advisory Board:

- THEORIA

- DERECHOS Y LIBERTADES

**CABALLÉ, Jordi**

Editorial board:

- REVISTA ESPAÑOLA DE ECONOMÍA

- INVESTIGACIONES ECONÓMICAS

**MACHO-STADLER, Inés**

Editorial board:

- REVISTA ESPAÑOLA DE ECONOMÍA

- INVESTIGACIONES ECONÓMICAS

- REVUE ECONOMIQUE

**MARTÍNEZ-LEGAZ, Juan Enrique**

Editorial board:

- OPTIMIZATION

- JOURNAL OF CONVEX ANALYSIS

**MASSÓ, Jordi**

Editorial board:

- INVESTIGACIONES ECONÓMICAS

## **PÉREZ-CASTRILLO, David**

Editorial board:

- REVISTA ESPAÑOLA DE ECONOMÍA

## **Conferences and Meetings**

CODE members have attended the main conferences organized along the year. Among these we may highlight,

- International Conference on Game Theory and Economic Applications

Bangalore, India - January .

- Francqui Colloquium. "Social Organization and Mechanisms Design".

Brussels, Belgium - June

-The 3rd. International Meeting of the Society for Social Choice and Welfare

Maastricht, The Netherlands - June.

- International Workshop in Game Theory and Politics

Universidad de Santiago de Compostela

Spain - July

- Econometric Society European Meeting

Bogaziçi University

Istambul, Turkey - August

- ASSET Meeting

Universitat d'Alacant

Alacant, Spain - October

- 5th Workshop on Interfirm Relationships: Market Structure and Competition

Leuven, Belgium

- Workshop on Industrial Organization / Network CEE

Barcelona (Spain)

- Market Microstructure Center of Economic Policy Research / CEPR Workshop.

Barcelona, Spain

- 3a. Conferencia Internacional de Teoría Económica: Crecimiento y ciclos económicos

Santiago de Compostela, Spain

- Encuentros de Teoría de Juegos

- XXI Simposio de Análisis Económico

Universitat Autònoma de Barcelona

Bellaterra, Spain - December

- Journées d'Analyse Numérique et Optimization

Meknès - April

- 5th. International Symposium on Generalized Convexity

Marseille, France - June

## **Seminars**

**BARBERÀ, Salvador**

- Universitat Pompeu Fabra, Spain - June

- Universidad de Málaga, Spain - May

**CABALLÉ, Jordi**

- Universidad del País Vasco, Spain

- Universidad Complutense de Madrid, Spain

- Universidad Carlos III de Madrid, Spain

**MACHO-STADLER, Inés**

- Universitat de Girona, Spain

- Universidad del País Vasco, Spain

**MARTÍNEZ-GIRALT, Xavier**

- Universidad del País Vasco, Spain

**MARTÍNEZ-LEGAZ, Juan Enrique**

- Barcelona-Jocs, Spain

- Université de Perpignan, France

- Hanoi Institute of Mathematics, Vietnam

**MASSÓ, Jordi**

- Universidad de San Luis, Instituto de Matemática Aplicada, Argentina

- Universitat de Girona, Spain

### **PÉREZ-CASTRILLO, David**

- Universidad del País Vasco, Spain

- Universitat d'Alacant, Spain.

- Universitat Autònoma de Barcelona, Spain.

- Ben Gurion University, Israel

### **PONSATÍ, Clara**

- Universidad Pública de Navarra, Spain.

## **Organization of Conferences**

"BARCELONA-JOCS", Academic year 1996/97

Organizer: Jordi Massó

BARCELONA-JOCS is a series of seminars attended by researchers from the following five academic institutions located in Barcelona metropolitan area: Institut d'Anàlisi Econòmica, Universitat Autònoma de Barcelona, Universitat Politècnica de Catalunya and Universitat Pompeu Fabra. It started two years ago and it consists in a monthly meeting (the last Monday of every month). Each session has two speakers, an insider from one of Barcelona institutions and an outsider from everywhere else. The seminars are hold at the Institut d'Estudis Catalans, downtown Barcelona.

### **ESEM 96. ECONOMETRIC SOCIETY EUROPEAN MEETING**

August 25-29, 1996, Istanbul, Turkey .

Chairman of the Economic Theory Section: Salvador Barberà

Member of the Programme Committee: Jordi Caballé, Inés Macho-Stadler

## LATIN AMERICAN MEETING OF THE ECONOMETRIC SOCIETY

August 5-9, 1996, Rio de Janeiro, Brasil

Member of the Program Committee: Salvador Barberà

## XXI SIMPOSIO DE ANÁLISIS ECONÓMICO

December 11-13, 1996, UAB, Barcelona, Spain

Member of the Organizing Committee: Inés Macho-Stadler

## 5TH. INTERNATIONAL SYMPOSIUM ON GENERALIZED CONVEXITY

June 17-21, 1996, Marseille, France

Member of the Organizing Committee and of the International Program Committee: Juan Enrique Martínez-Legaz.

## Stages of Research

### **BARBERÀ, Salvador**

Indian Statistical Institute, New Delhi, India. One month.

### **MARTÍNEZ-GIRALT, Xavier**

Universidade Nova de Lisboa, Lisboa, Portugal. Six weeks.

### **MARTÍNEZ-LEGAZ, Juan Enrique**

Université de Perpignan, Perpignan, France.

Hanoi Institute of Mathematics, Hanoi, Vietnam. One month.

**MASSÓ, Jordi**

Universidad Nacional de San Luis, Instituto de Matemáticas Aplicadas, San Luis, Argentina. One month.