



Faculté des Sciences Économiques / Faculty of Economics

Academic year September 2009 - September 2010

Master Economie publique et finances publiques

Master in Public Economics and Public Finance

Une formation aux métiers de l'économie et finances publiques

/ A high level training in public economics and public finance

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Organization in Rennes

Academic year September 2008 - September 2009

Scope of the master:

Applied public economics and public finance in contexts of multi-level governments

Objective of the master: To build a two track program:

- Research-oriented track: aims at providing students with a background that will serve their future academic project
- Vocational training track: proposes three fields of competences (local public finance, health care management, project evaluation)

The master is organized in such a way as to enhance cross-fertilization between the two tracks. Research seminars are open to the two tracks. They are given in English by professors coming from various foreign universities. Vocational training involves by professionals or professors specialized in the fields of competence. The host research center for the master is a CNRS¹ unit (UMR 6211), the Center for Research in Economics and Management (<http://crem.univ-rennes1.fr>).

Overall structure:

- Semesters 1 and 2 (first year of the master) are spent at the home university. The preparation of the year abroad (semesters 3 and 4) begins during semester 2.
- Semester 3: (September 2008 - December 2008)

This semester is dedicated to the lectures. Concurrently, students prepare the next semester (in particular, decide on the track they will follow).

- Semester 4: (January 2009 – September 2009)

This semester is dedicated to research and vocational seminars and to internship (internship takes place in April and May).

Organization of the two tracks:

Whichever track is chosen, participation in all lectures and seminars (research or training oriented) is mandatory in order to widen the range of skills of the students. The differentiation between the tracks is as follows:

- Research-oriented track: Students write a master thesis and do their training in one of the programs of the host research center for the master. The master thesis should aim at reaching the standards for applying to a PhD grant. The internship takes place in our research center CREM and/or with other research partners.
- Vocational training track: Students specialize in one of the professional fields. Internship is chosen accordingly and it takes place in a public administration or a private firm. Students join a public or private organization in April and May. They write a master thesis that links their job in the organization to its microeconomic theoretical background.

¹ The CNRS (National Center for Scientific Research) grants its accreditation to a few University research centers according to international scientific standards.

Detail of the program in Rennes (academic year 2008-2009)

Semester 3

September 2008 to December 2008

Econometrics 6 ECTS

Public Economics 8 ECTS

Multilevel governments 8 ECTS

Cost benefit analysis 8 ECTS

Semester 4

January 2009 to June 2009

Seminars (usually from 9 to 12 hours each)

Internship

Master thesis 30 ECTS

Lectures are given in English except for the econometric courses (to be chosen from a panel of lectures) which provide a textbook in English and the option of writing the examination reports in English.

Seminars by invited professors (for academic year 2007-2008)

Geoffrey Brennan, Australian National University, Canberra, Australia

Alberto Cassone, Eastern Piedmont University, Alessandria, Italy

Bernard Dafflon, University of Fribourg, Fribourg, Switzerland

Randall Holcombe, Florida State University, Tallahassee, USA

Roselyne Joyeux, Macquarie University, Sidney, Australia

Hannu Laurila, University of Tampere, Tampere, Finland

Carla Marchese, Eastern Piedmont University, Alessandria, Italy

Fabio Mendez, University of Arkansas, Fayetteville, USA

Antti Moisio, Government Institute for Economic Research (VATT), Helsinki, Finland

Content of lectures in economics

Rennes 2007-2008

Lecture 1: Public Economics

Part 1 offers an analytical overview of the role of public goods in the search for Pareto efficient allocations of resources. Chapter 1 offers a static approach while chapter 2 extends the framework to overlapping exchange economies. Part 2 complements part 1 with a focus on institutions. Downstream of fiscal federalism, chapter 3 examines the delegation of public good provision to a firm, where the government structure reflects diverse interests. Upstream of fiscal federalism, chapter 4 describes the various constitutional arrangements of prerogatives and competencies within the government structure.

PART 1: PUBLIC GOODS AND PARETO EFFICIENCY

Chapter 1: Public goods: A refresher course

Chapter 1 provides a refresher on public good provision. Optimal allocation of resources and alternative methods of provision are presented. Utility functions are quasi linear in order to keep the presentation as straightforward as possible. The framework is a general equilibrium with two goods, leisure as numéraire and a pure public good. The same numerical example is used throughout the chapter to calculate Pareto efficient allocations and compare them to alternative equilibria.

Mathematical tools: Simple Lagrangeans

Chapter 2: The role of public goods in OLG exchange economies

In a OLG framework, chapter 2 questions the ability of the competitive equilibrium to sustain an optimal steady state. The chapter builds on Samuelson's 1958 seminal article and shows with a simple model how the first welfare theorem fails in an economy with overlapping generations. The solutions proposed by Samuelson to remedy this situation are then presented: The social contrivances of the Hobbesian contract and of money are assessed and debated.

Mathematical tools: Manipulation of budget constraints

PART 2: POLITICAL ECONOMY OF GOVERNMENT IN AN AGENCY FRAMEWORK

Chapter 3: Public choice approach: Government as a multi principal structure

Chapter 3 presents and assesses the organization of government as a multi principal structure. Those principals have shared interests but also conflicting views on the projects they delegate to a firm,

the agent in charge of the provision of public goods. Firstly, in a situation of imperfect information with regard to the firm's costs, the chapter asks whether the jurisdictions composing government should remain separated and play a non cooperative game, or become integrated and play cooperatively. Secondly, the consequences of a bias towards the firm are evaluated. The final discussion concerns the influence of the number of jurisdictions on the outcome of the delegation process.

Mathematical tools: Standard optimization; all calculations are fully detailed

Chapter 4: Constitutional political economy approach: Government as a multi agent structure

Chapter 4 uses the principal agent setting to classify the various structures of democratic government, from unitary states to the different forms of federalism. The chapter offers a microeconomic interpretation of Kelsen's constitutional theory. The ensuing classification of government structures builds on the three criteria of supply of jurisdictions, assignment of prerogatives and ownership shares in government.

Mathematical tools: None but a good intuitive understanding of agency theory

References:

- Inman, R., D. Rubinfeld. (1997a) "Rethinking Federalism", *Journal of Economic Perspectives* 11: 43-64.
- Inman, R., D. Rubinfeld. (1997b) "The Political Economy of Federalism", in Dennis C. Mueller (ed.) *Perspectives on Public Choice*. Cambridge: Cambridge University Press: 73-105.
- Josselin J-M., A. Marciano (2004) "Federalism and Subsidiarity, in National and International Contexts", in J.G. Backhaus et R. Wagner (eds.), *The Handbook of Public Finance*, Dordrecht: Kluwer Academic Publishers: 477-520.
- Laffont J-J., J. Tirole (1993) *A Theory of Incentives in Regulation and Procurement*, Cambridge: MIT Press.
- Martimort D. (1996) "The Multiprincipal Nature of Government", *European Economic Review* 40: 673-85.
- Myles G.D. (1995) *Public Economics*, Cambridge: Cambridge University Press.
- Samuelson P.A. (1958) "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money", *Journal of Political Economy* 66: 467-82.

Lecture 2: Multilevel governments

Academic literature in public finance has recently focused on horizontal fiscal externalities coming from strategic interactions between jurisdictions belonging to the same layer of government, as well as vertical fiscal externalities arising from interactions between overlapping governments. The purpose of this lecture is to provide an overview relating to both theoretical and empirical aspects of horizontal (part 1) and vertical (part 2) fiscal externalities.

PART 1: HORIZONTAL FISCAL EXTERNALITIES

Chapter 1: Horizontal fiscal externalities based on tax base mobility

When tax bases are mobile, an action chosen by a government affects the budget constraint of another government, by means of a policy-driven resource flow among jurisdictions, leading to strategic interactions in local fiscal choices. These fiscal games typically result in inefficient taxation. Taxes are too low compared to their optimal level. Each policymaker neglects the benefit of expanded tax base that it conveys on other policymakers when it raises its own tax rate. Chapter 1 uses Wildasin's framework to illustrate these propositions.

Mathematical tools: Standard optimization; all calculations are fully detailed

Chapter 2: Horizontal fiscal externalities based on asymmetric information

Externalities also arise whenever information asymmetries between voters and politicians exist. In such a setting, an action chosen by a politician in one jurisdiction affects the informational set of imperfectly informed voters in other jurisdictions. If voters use the performance of other governments as a benchmark, decreasing taxation in one jurisdiction may induce neighboring politicians to do the same in order not to be signaled as bad incumbents. This informational externality may therefore yield tax mimicking behaviors. As far as economic efficiency is concerned, yardstick competition has beneficial effects either in encouraging revenue-maximizing Leviathans to tilt tax rates toward their efficient level, or in signaling to voters the quality of their representatives. Chapter 2 uses Besley and Case's framework to illustrate these propositions.

Mathematical tools: Agency theory; all calculations are fully detailed

PART 2: VERTICAL FISCAL EXTERNALITIES

Chapter 3: Vertical fiscal externalities based on tax base sharing

A vertical externality is supposed to arise whenever the tax policy of a given layer of government has an impact on the budget of another layer. This is the case when several levels of government set

their tax rates on a common tax base independently. Chapter 3 examines what are the consequences on the optimal tax level of such a taxation design.

Mathematical tools: Standard optimization; all calculations are fully detailed

Chapter 4: Vertical fiscal externalities based on asymmetric information

Chapter 4 analyses the optimal design of intergovernmental fiscal relations under the hypothesis of imperfect information. Its main purpose is to study the central government optimal use of audit and incentive mechanisms to make the grantee (the local government) reporting the truth about local parameters required in the granting process. The central government is the principal while the local is the agent. The agent is assumed to hold private information not available to the central government and which can be used for misreporting its situation in order to achieve a higher amount of grants. The goal of the principal is to design the optimal grant system.

Mathematical tools: Agency theory; all calculations are fully detailed

References:

- Besley T, Case A (1995) “Incumbent Behavior: Vote-seeking, Tax-setting, and Yardstick Competition”, *American Economic Review* 85: 25-44.
- Feld L, Josselin JM, Rocaboy Y (2003) “Tax Mimicking among Regional Jurisdictions”, in A. Marciano and J.M. Josselin (eds.), *From Economic to Legal Competition. New Perspectives on Law and Institutions in Europe*, London: Edward Elgar, 105-119.
- Flochel L. and Madiès T. (2002), “Interjurisdictional Tax Competition in a Model of Overlapping Revenue-maximizing Governments”, *International Tax and Public Finance* 9: 121-141.
- Gilbert G., Rocaboy Y. (2004) “The Central Government grant allocation problem in the presence of misrepresentation and cheating”, *Economics of Governance* 5: 137-147
- Madiès T, Paty S, Rocaboy Y. (2004) “Horizontal and Vertical Externalities: An Overview of Theoretical and Empirical Studies”, *Urban Public Economics Review* 2: 63-93.
- Wildasin D. (1988) “Nash Equilibria in Models of Fiscal Competition”, *Journal of Public Economics* 35: 229-240.

Lecture 3: Cost-Benefit Analysis

Cost-Benefit Analysis (CBA) is widely used to assess whether a public policy or a public project is globally beneficial or detrimental to society and thus to provide public managers with a decision criteria based on economic arguments. CBA is typically implemented to public decisions in the fields of transportation infrastructures, environment and natural resources and even health and education. This course aims at presenting the theoretical foundations of CBA both for private and public projects and discussing some refinements that more particularly matter for public projects (Part 1). A comprehensive examination of the major valuation techniques for costs and benefits in the case of projects involving non market goods is then provided (Part 2).

PART 1: FUNDAMENTALS OF COST-BENEFIT ANALYSIS

Chapter 1: The net present value criteria and the Kaldor-Hicks criteria

The net present value (NPV) criteria used to decide whether to develop private investment projects is first introduced. It originates from a separation theorem between the efficient allocation of the sum of discounted revenues among present and future consumption on the one hand and the maximization of this sum of discounted revenues on the other hand. The Kaldor-Hicks criterion is then presented. It may be thought of as an equivalent of the NPV criteria for public projects though it implies additional important welfare considerations. Its implementation also requires to define monetary equivalent measures of welfare variations such as the willingness to pay (WTP) and the willingness to accept (WTA) for a project.

Prerequisites: basic microeconomics

Chapter 2: Advanced topics in CBA applied to public projects

The individual monetary transfers that justify the Kaldor-Hicks criteria are seldom implemented. Instead, public projects are generally financed through taxes. Due to informational asymmetries it is generally not possible to use Pareto efficient taxes so that incidental costs of public projects financing have to be taken into account. The standard methods to assess these incidental costs of public funds are reviewed. This chapter also addresses the problem of choosing a discount rate for CBA of public projects, the effects of which often last many decades whereas the time horizon taken into account for long term market rate of interest seldom exceeds two or three decades. Some refinements such as the introduction of risk and uncertainty are finally discussed.

Prerequisites: basic microeconomics

Chapter 3: Revealed preference techniques

Revealed preference techniques for assessing the costs and/or benefits of a public project are based on the idea that the behavior of individuals indirectly depends on their own valuation of the project. As a result these costs and/or benefits may be inferred from what is observed on existing markets for other goods or on observed individual arbitrages. The two typical methods examined here are the travel cost method and the hedonic price method. After a brief introduction to their theoretical foundations the associated econometric methods are presented.

Prerequisites: basic econometrics

Chapter 4: Stated preference techniques

Stated preference techniques encompass the contingent valuation methods and the discrete choice methods. Contingent valuation methods use surveys to ask individuals how much they would be willing to pay or to accept in compensation for gains or losses of non market goods and services. In contrast to contingent valuation methods, discrete choice methods do not require respondents to construct their optimal WTP or WTA for a particular project but instead individuals are asked to choose between discrete alternatives relating to their own appraisal of the project. In this context, the random utility model has proved to be particularly useful in modeling the answers and deriving an estimate of the costs and/or benefits of public projects.

Prerequisites: basic econometrics

References:

- Bateman, I. (2002) *Economic Valuation with Stated Preference Techniques*, Northampton, Edward Elgar Publishing.
- Garrod, G., K. G. Willis (1999) *Economic Valuation of the Environment*, Northampton, Edward Elgar Publishing.
- Harberger, A. C., G. P. Jenkins (2002) *Cost-Benefit Analysis*, Northampton, Edward Elgar Publishing.
- Hidano, N. (2002) *The Economic Valuation of the Environment and Public Policy*, Northampton, Edward Elgar Publishing.
- Layard, R., Glaister S. (1994) *Cost-Benefit Analysis*, Cambridge, Cambridge University Press
- Nas, T. F. (1996), *Cost-Benefit Analysis: Theory and Application*, Thousand Oaks, SAGE Publications.