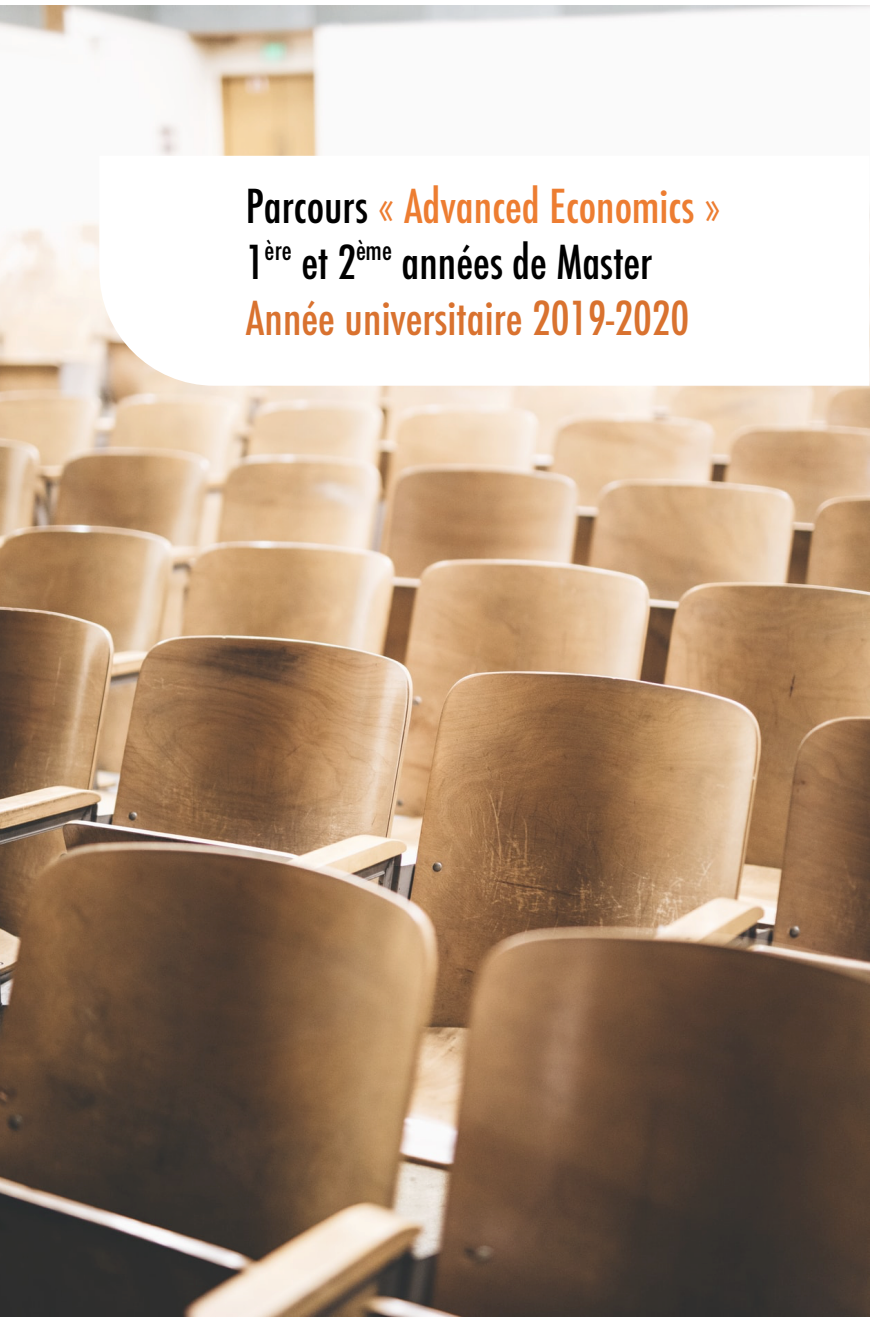

Parcours « Advanced Economics »
1ère et 2ème années de Master
Année universitaire 2019-2020

ENS de Lyon

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Objectifs

« Notre master forme des professionnels polyvalents, à même de **comprendre, analyser et concevoir les politiques publiques** dans les pays développés comme en développement. Elle dote les étudiants de bases solides dans l'ensemble des domaines de l'économie moderne et leur apprend à les mobiliser pour saisir les grands enjeux du monde contemporain. Essentiellement en anglais, notre cursus est résolument tourné vers les **carrières internationales**. »

Laurent SIMULA, professeur des Universités et responsable de la section d'économie

Le master « Advanced Economics » constitue une excellente préparation à la poursuite d'études en doctorat d'économie, et permet aux étudiants d'envisager des carrières de haut niveau à l'international, dans le monde de la recherche publique ou privée, et vers les métiers de la prise de décision publique (haute administration nationale, européenne, internationale, banque de France, etc.).

Le master « Advanced Economics » :

- offre une formation cohérente et approfondie en économie sur le modèle des meilleures formations internationales ;
- est une collaboration pédagogique entre l'École Normale Supérieure (ENS) de Lyon (80% des cours) et l'UJM (20% des cours) ;
- s'inscrit dans le cadre de la mention de master « Analyse et Politiques Economiques » de l'Université de Lyon, labellisée IDEXLYON.

Maquette

Master 1, 1er semestre (S7)

	Crédits	Coefficient	CM	TD	Présentiel
UE 7–1 : Microeconomics & macroeconomics					
Macroeconomics 1: Macrodynamics* *Alexis PENOT*	3	3	24		24
Macroeconomics 2: International macroeconomics* *Giorgio FABBRI*	4	4	24		24
Microeconomics 1: Households and firms* *Christophe BRAVARD*	4	4	24		24
UE 7–2 : Quantitative methods					
Econometrics: Advanced linear models *Clément GORIN*	3	3	18		18
Econometrics 2: Time series, discrete choice* *Alexeï TSYGVINTSEV*	3	3	24		24
Mathématiques 1* *Guillaume HANROT*	3	3	20		20
UE 7–3 : Applied economics					
Applied economics 1: Evaluation of public policies *Antoinette BAUJARD*	3	3	24		24
Applied economics 2: Economics of law and competition *Philippe SOLAL*	3	3	24		24
Anglais*	3	3	20		20
LV2 (optionnel)*					

* = Cours dispensés à l'ENS Lyon

Master 1, 2nd semestre (S8)

	Crédits	Coefficient	CM	TD	Présentiel
UE 8-1 : Microeconomics & macroeconomics					
Microeconomics 2* *Sinan SARPCA*	3	3	24		24
Microeconomics 3: Negotiation and collective choice *Philippe SOLAL*	3	3	24		24
Macroeconomics 3: Quantitative economic history* *Maleke FOURATI*	3	3	24		24
UE 8-2 : Outils et méthodes					
Anglais*	1	1	20		20
Econometrics 3: Program Evaluation *Julien SALANIE*	3	3	12	12	24
Mathematics 2* *Eric THIERRY*	3	3	24		24
UE 8-3 : Applied economics					
Applied economics 3: Economic geography* *Pierre-Philippe COMBES*	3	3	24		24
Applied economics 4: Public economics* *Mathilde GODARD & Jonathan GOUPILLE-LEBRET*	3	3	24		24
Applied economics 5: Natural resource economics* *Mathieu COUTTENIER*	3	3	24		24
UE 8-4 : Vocational training					
LV2 (optionnel)*					
Stage et mémoire de recherche	5	5			

* = Cours dispensés à l'ENS Lyon

Master 2, 1st semestre (S9)

	Crédits	Coefficient	CM	TD	Présentiel
UE 9–1 : Core courses					
Topics in econometrics: Panel data and discrete choice* *Lavinia PIEMONTESE & Jean-Paul RENNE*	4	4	24		24
Machine learning, big data and quantitative spatial analysis* *Clément GORIN*	4	4	24		24
Topics in microeconomics* *Sinan SARPCA*	4	4	24		24
UE 9–2 : Specialization courses					
Political economy* *Sophie HATTE & Lavinia PIEMONTESE*	3	3	24		24
Social security* *Mathilde GODARD*	3	3	24		24
Experimental economics* *Fabio GALEOTTI*	3	3	24		24
Redistribution and taxation* *Laurent SIMULA*	3	3	24		24
Development* *Sylvie DEMURGER & Mathieu COUTTENIER*	3	3	24		24
Environmental economics *Julien SALANIE & Philippe SOLAL*	3	3	24		24

* = Cours dispensés à l'ENS Lyon

Master 2, 2nd semestre (S10)

	Crédits	Coefficient	CM	TD	Présentiel
UE 10–1 : Research workgroups					
Topics in applied economics (guest lectures by invited professors; attendance to PPD@ENS workshops, WIP seminars)*	5	5	48		48
UE 10–2 : Master's thesis and seminars					
Master's thesis and defense*	25	25			

* = Cours dispensés à l'ENS Lyon

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Syllabi

MASTER 1

Macroeconomics 1

Teacher: Alexis Penot

Overview

The next step after the introduction of the main growth models is to improve the knowledge of the dynamic (introduction of a time component) dimension in the macro-economic models. It will be a way to introduce the spreading of micro-economic foundations in this class of models. After a first chapter dedicated to some reminders in maths beyond the usual tools of static optimization, the course will cover the following topics:

- dynamic models of consumption: permanent income, intertemporel choices under certainty and uncertainty,
- dynamic models of investment: models of capital renting, Tobin's Q ratio through the introduction of adjustments costs
- the introduction of Real Business Cycles models that are the first step to the design of micro-founded dynamic general models.

Prerequisites

Standard static macro-economic models (IS/LM, AS/AD), Solow model and Endogeneous growth models

Practical information

This is a 8-week course, typically with 3 hours of lecture per week.

Final exam (75% of final grade) will have two dimensions. The first will be the knowledge of the technical aspects taught in class. The second will be their meaning and their place in the design of macro-economy.

Other of evaluation: 25% of final grade.

Bilbiography

- Dynamique économique, Gilbert Abraham-Frois (in French)
- Advanced macroeconomics, David Romer (French translation available)

Macroeconomics 2

Teacher: Giorgio Fabbri

Overview

In this course we will study theoretical models for open-economy macroeconomics and international finance. Among the themes that we will touch: basic stochastic and deterministic models for the dynamic of aggregate variables under the open-economy assumption, models for capital flow, exchange rates, international asset prices, financial crises, sovereign debt.

Prerequisites

The content and techniques used during the course of Macroeconomics 1 will be considered as established.

Practical information

This is a 8-week course, with 3 hours of lecture/workshop per week on open-economy macroeconomics and international finance. The focus of the lectures will be on theory but we will also see, especially during the workshops, empirical contributions and debates.

After an introduction to the course, the first lecture will be devoted to theory.

Problem sets will be provided during lectures 1, 2, 3, 4, 5, 6 ; a selection of the problems will be corrected by the teacher during lectures 2, 3, 4, 5, 6, 7 (students are not supposed to return solution of the problems to teacher and in particular solution of problem sets are not graded).

Lectures 2, 3, 4, 5, 6 and 7 will be divided into two parts: the first part of the lecture will discuss economic theory, while the second part will consist of exercise corrections. The eight and last lecture will be devoted to student presentations: (i) During the 2nd lecture the teacher will deliver a list of papers for presentations. The articles proposed will be mostly empirical oriented. (ii) Before the 4th lecture each student (or group of students depending on the number) will choose a paper to present (iii) Before the 5th lecture the teacher will assign two "discussants" for each presentation. Each of them will be asked to prepare a couple of questions (iv) Before the 7th course the slides of the presentations and the questions will be sent to the teacher. The presentations and the questions will be graded.

Course grade is determined as follows: 20+5% from the paper presentation and questions and 75% from final written exam.

Bilbiography

Main Texts :

- Obstfeld, M. and Rogoff, K. (1996). Foundations of International Macroeconomics., MIT Press, October.

  Obstfeld and Rogoff (1996) is probably the most standard reference for theory of "New open-economy macroeconomics". Even if the book is not recent I think it remains the most solid source for theoretical models in Open-Economy Macro and international finance. We make use of many, but not all, chapters of the book. Students are advised to have a copy (electronic or in paper-format) at hand.

Three other book that could be interesting (not compulsory):

- Uribe, M., and Schmitt-Grohé, S. (2017). Open economy macroeconomics. Princeton University Press

and

- Schmitt-Grohé, Uribe abd Woodford International Macroeconomics (not yet published, a preprint version is available online)

  These are a recent book on open-economy macroeconomics by recognized scholars of the subject. The first is a good reference for recent and up-dated empirical findings on some key questions on business on cycle, crisis and public debt sustainability. The second is a simpler reference.

- Gandolfo, G. (2016). International Finance and Open-Economy Macroeconomics. Springer.

  Gandolfo (2016) presents a mathematically rigorous approach to "classical" international macroeconomics whose conceptual (and ideological) framework is rather far from the one presented by Obstfeld and Rogoff (1996)

Microeconomie 1

Professeur : Christophe Bravard

Aperçu

Ce cours est divisé en trois parties.

Dans la première partie, nous présentons et mettons en relation les différents types de demandes (demande Hicksienne, demande Walrassienne). Nous mettons aussi en relation les différents types de programmes d'optimisation du consommateur.

Dans la seconde partie, nous présentons les principaux résultats de l'équilibre général en trois temps. Nous décrivons tout d'abord l'équilibre général associé à des économies spécifiques : économie d'échange, économie de production avec deux biens. Nous démontrons ensuite les deux théorèmes du bien-être dans des cadres généraux. Nous donnons enfin les éléments principaux permettant de justifier l'existence d'un équilibre général sous certaines conditions.

Dans la dernière partie, nous rappelons les principaux cadres et résultats de la théorie des jeux non-coopératifs en situation d'information incomplète avant de les modifier afin de rendre compte de situations avec information incomplète. Les situations avec information incomplète sont modélisées grâce aux jeux bayésiens.

Les objectifs de la première partie sont les suivants :

- connaître les principales propriétés vérifiées par les différentes demandes;
- relations entre ces différentes demandes, mais aussi les relations entre les différents types de programme d'optimisation (nous verrons en particulier la liaison entre le primal et le dual);

Les objectifs de la deuxième partie sont les suivants.

- savoir caractériser un équilibre général dans des situations simples;
- démontrer les deux premiers théorèmes du bien-être.;
- connaître les conditions permettant de s'assurer de l'existence d'un équilibre général.

Les objectifs de la troisième partie sont les suivants.

- connaître les définitions principales des jeux bayésiens;
- savoir résoudre certains jeux à information incomplète.

Prérequis

Le cours s'appuie sur les compétences acquises dans les différents cours de microéconomie. Il fait également usage des résultats usuels d'optimisation sous contraintes.

Modalités pratiques

Le cours se déroulera pendant huit semaines tous les jeudi après-midi.

Les cours seront agrémentés d'exercices, résolus en classe. Les étudiants devront également réaliser des exercices au cours des séances ou des lectures entre deux cours.

Examen de milieu de trimestre : 25%

Examen final sur table : 75 %

Bilbiographie

Manuels de cours :

- Mas Collel et al.(1995),Microeconomic Theory,MIT Press.
- Varain(1992),Microeconomic Analysis,3rdedition.Norton International Student Edition.
- Fudenberg et Tirole (1996),Game Theory, MIT Press.
- Osborne Rubinstein (1994),A course in game theory, MIT Press
- Vega-Redondo (2010),Game theory, Cambridge University Press.

Ces manuels peuvent être complétés par différents manuels de microéconomie et de théorie des jeux.

Quelques textes concernant la troisième partie pourront être lus en complément du cours.

- Chakraborty, Harbaugh, Cheap talk comparisons in multi-issue bargaining, 2003, Economic Letters
- Crawford Boundedly Rational versus Optimization-Based Models of Strategic Thinking and Learning in Games,2013, Journal of Economic Perspectives
- Crawford et Sobel, Strategic Information, 1982, Econometrica
- Kamphorst et Swank, Don't Demotivate, Discriminate, 2016, American Economic Journal: Microeconomics

D'autres textes seront fournis lors du cours. Les autres parties du cours s'appuieront sur des exercices résumant des articles anciens qui seront donnés en référence en cours.

Econometrics 1: Advanced linear model

Teacher: Clément Gorin

Overview

This course introduces you to the regression methods needed for empirical research in economics. We will emphasize both the theoretical and the practical aspects of statistical analysis, focusing on techniques for estimating econometric models of various kinds and for conducting tests of hypotheses of interest to economists. The goal is to help you develop a solid theoretical background in econometrics, while giving you the ability to implement the techniques and execute independent research projects. Covered topics include statistical inference, hypothesis testing, multiple regression, generalised least squares, instrumental variables, among others.

Skills developed

At the end of the course, you will be able to understand, implement and interpret a range of econometric models. Depending on the specific characteristics of the data set, you will also learn to diagnose and correct common issues affecting the estimation results. Finally, you will be able to handle economic data and use it for your own research projects.

Content

The course is organised in six three-hours sessions, which will be held the computer lab. Sessions articulates theoretical concepts and their practical implementation using the R programming language. As you probably guessed from the syllabus, the course will be taught in English. The tentative schedule for the course is the following.

Session	Topic	
1	Multiple regression	3 hours
2	Introduction to R	3 hours
3	Heteroscedasticity	3 hours
4	Autocorrelation	3 hours
5	Multicollinearity	3 hours
6	Endogeneity	3 hours

R is open source and available on all platforms at https://cran.r-project.org/bin/.

In addition, I strongly recommend that you use an IDE / GUI such as RStudio available at https://www.rstudio.com/products/rstudio/download/#download

Requirements

You are required to have a basic background in econometrics, i.e. a good knowledge of the basic regression model and hypothesis testing. An intermediate level of calculus is also necessary. No prior knowledge of R is required, although some computer programming

background would help. Finally, you must be able to understand the research articles studied in class. Since you're economists, this should not be a problem.

Grading

You will be evaluated as follows

1. Final test (40%)
The test will be held at the end of the semester, when all the topics have been covered. Depending on the students' programming ability, the test may be written or given on a computer.

2. Empirical project (60%)

Groups of two students are requested to investigate a research question of their choice using econometric techniques. You will be graded on the choice of the research question, the selection of the appropriate model, the diagnostic and correction of estimation issues, and the accurate economic interpretation of the estimation. More details will be given in class.

References

[1] Joshua D. Angrist and Jorn-Stefen Prischke. Mostly Harmless Econometrics: An Empiricist's Companion. Princeton University Press, 2009.

[2] Florian Heiss. Using R for Introductory Econometrics. CreateSpace Independent Publishing Platform, 2016.

[3] Emmanuel Paradis. R for beginners. Contribution to the R project, 2005.

[4] Jeffrey M. Wooldridge. Introductory Econometrics: A Modern Approach. South-Western College Publishing, 6 edition, 2016.

Additional references of research articles will be given during the semester.

Econometrics 2

Teacher: Alexeï Tsygvintsev

Overview

1. Basic principles of financial Time Series (stationarity and forecasting). Examples.

2. Simple Autoregressive Models. Lags, Autocorrelation Function. AR(p) models and their identifying/parameter estimation. Condition for stationarity. Forecasting.

3. Basic ideas of Non-Linear Optimisation. Gradient Descent. Maximal Likelihood method. Examples.

4. Simple Moving Average Models, MA(q). Estimation of coefficients. Forecasting. Examples

5. Different forms of ARMA(q,p) models, inversibility. Examples.

6. Artificial Neural Networks and their applications to Time Series analysis. Examples

7. Random Walks. Fractal characteristics of Times Series.

8. Discrete Choice Models. Probit and Logit. Estimation of parameters. Examples.

Prerequisites

Linear Algebra. Matrices. Functions of several variables. Differential calculus. Random variables and probability theory. Linear Regression.

Practical information

This is a 4-week course, with 6 hours of lecture per week.

Bilbiography

- Kennedy, "A Guide to Econometrics"
- Jeffrey Wooldridge, "Introductory Econometrics. A Modern Approach"
- William H. Greene, "Econometric analysis"

Mathématiques 1

Ce cours sera assuré par Guillaume Hanrot pour l'année 2019-2020. Le syllabus de ce cours sera mis en ligne prochainement.

Evaluation of public policy

Teacher: Antoinette Baujard

Course's objectives

This lecture is a general introduction to Evaluation of Public policy (EPP). EPP is meant to help the public decision maker and the citizens to assess whether public policies comply with the society's standards. It can also be used to design new public policies likely to fit the society's aim. EPP implies to: 1) identify the society's aim, 2) implement the project's evaluation by assessing the social state with or without the policy, and 3) test with econometric methods whether observed effects are imputable to the policy or alternative causes.

After a general introduction to EPP (section 1), the lecture in M1 S7 focuses on the two first aims: 1) methods to evaluate the procedures of public decision (section 3), and 2) alternative approaches to the evaluation of social states (section 2). A specific course in M1 S8 is devoted to econometrics of program evaluation (with Julien Salanié).

Numerous theories and tools exist to meet the three challenges; none of them however comes with no bias. The lecture aims at providing an introduction to the wide scope of theories and tools used in the process of evaluation. It specifies for each its general principles, conditions or limits for its application. The relevance of using one tool rather than another along with different specific context should be made clear by the end of the lecture.

Practical information about the sessions

The course is organized with 6 sessions of 4 hours of lectures.

1– Introduction to Evaluation of public policies
- 1.1– Organization and outline of the lecture
- 1.2– Presentation
- 1.3– Content and methods for evaluating

2– Evaluation of public policies: theories and toolbox

2.1– Cost–Benefit Analysis
- 2.1.1– CBA calculus
- 2.1.2– Criticism of CBA

2.2– Alternatives to CBA
- 2.2.1– Objective tools
- 2.2.2– Subjective tools

3– Evaluation of procedures of public decision: theories and toolbox

3.1– Aggregation of opinions and preferences
- 3.1.1– Aggregation of opinions
- 3.1.2– Impossibility or possibility of aggregating preferences

3.2– Properties of procedures of collective decisions
- 3.2.1– Votes and power
- 3.2.2– Analysis of some procedures of collective decisions

I expect that students show up in class and participate with their critical assessment, or by contributing to exercises.

Skills developed

- The students are expected to set an evaluation problem on the basis of complex data.
- Depending on their academic backgrounds, they should be able to compute the results of exercises (e.g. CBA computation, inequality index).
- They shall be able to draw upon philosophical approaches to assess EPP (e.g. to analyse social states and situations of economic expertise).
- All students should know the diversity of tools and approaches, and develop critical assessment of specific evaluations of public policy in cases studies.

Prerequisites

Notions of microeconomics and discounting methods are used.

Grading system:

Evaluation will be an individual test (2h) covering the topics covered in class, including, one short lecture question, one exercise, and one reflection question. A list of possible questions and all previous examination papers are available on the ENT.

Bibliography:

An extensive list of references is proposed on the ENT.

Bernard Perret, *L'évaluation des politiques publiques*, Repères La Découverte, 2014.

Matthew Adler. *Measuring social welfare, an introduction*. Oxford University Press. Forthcoming.

Marc Fleurbaey et Didier Blanchet, Beyond GDP. *Measuring Welfare and assessing sustainability*. Oxford University Press, 2013.

Wulf Gaertner, *A primer in social choice theory*, Oxford University Press, 2006/2009.

Microeconomics 2

Teacher: Sinan Sarpca

Overview

This course provides a formal discussion of several types of market failures. In the first half of the course our focus will be on market equilibrium with public goods and externalities. We will review the motives and mechanisms to improve the equilibrium, and restore efficiency when possible. The second half will discuss equilibrium under information asymmetries and also review some mechanisms which aim to deal with inefficiencies resulting from moral hazard and adverse selection.

Prerequisites

A good understanding of microeconomic theory (as in Microeconomics L3 or similar). A good command of multivariate calculus is necessary.

Practical information

This is a 4-week course, with 6 hours of lecture per week.

Bilbiography

Hindriks, J. and Myles, G. (2006) Intermediate Public Economics, The MIT Press.

Macho-Stadler, I. and Perez-Castrillo, D. (2001) An Introduction to the Economics of Information: Incentives and Contracts, Oxford University Press

Microeconomics 3: Negotiation and Collective Choice

Teacher: Philippe Solal

Overview

This course studies some main solutions in cooperative and non-cooperative game theory, and in social choice theory: the Nash bargaining solution, the Shapley value, the Myerson value, the Nash equilibrium, and the dictatorial social welfare functions. Each of these solutions is studied from a normative point of view, i.e. each solution is characterized by a set of (desirable) properties.

Skills developed

Most of this course pertains to the field of normative economics which is a part of economics that expresses value or normative judgments about economic fairness and concerns statements of what the outcome of the economy or goals of public policy "ought to be" rather than facts based on cause-and-effect statements.

Content

Chapter 1. The Nash bargaining solution

1. The Nash bargaining problem
2. The Nash solution
3. Axiomatic characterization
4. Application: Union-Firm negotiation

Chapter 2. Cooperative TU-games and the Shapley value

1. Cooperative games with transferable utilities
2. The Shapley value
3. Application: land production economies
4. Axiomatic characterization

Chapter 3. The Myerson value

1. Preliminaries on graph theory
2. Communication situations
3. The Myerson value
4. Axiomatic characterization

Chapitre 4. The Nash solution for non-cooperative games

1. Strategies and payoffs
2. Nash equilibrium
3. Axiomatic characterization

Chapitre 5. Social choice theory

1. Social states and individual preferences
2. Social welfare functions
3. Arrow's impossibility theorem.

Prerequisites

Relational and linear algebra

Grading

Written exam (2 hours)

References

Arrow K. (1953/1963) Social choices and individuals values. Wiley.

Nash J.F. (1950). The bargaining problem. *Econometrica* (18) :155-162,

1950.

Nash J.F. (1950). Equilibrium points in n-person games. *Proceedings of the*

National Academy of Sciences, (36) :48-49.

Peleg B., Tijs S. (1996). The consistency principle for games in strategic form.

International Journal of Game Theory (25):13-34.

Peters H. (2008*), Game theory, a multi-leveled approach*, Springer.

Shapley L.S. (1953). A value for n-person games. In H.W. Kuhn and A.W. Tucker, editors, *Contributions to the Theory of Games*. Vol II. Princeton, 307-317.

Macroeconomics 3

Teacher: Maleke Fourati

Overview

This course covers both theory and evidence related to the flourishing field of Quantitative Economic History. Topics considered include the unified growth model, from the Malthusian, the post-Malthusian, to the modern growth; and the link between long-term economic growth and institutions, religion, culture, and trade.

The purpose of this course is for the students (i) to have a clear understanding of basic theories and empirical applications of the topics covered during the lectures, (ii) to critically summarize research articles and, (iii) constructively assess research articles.

The Course Learning Outcomes are what students should be able to do by the end of this course if the students participate fully in learning activities and successfully complete the assessment items.

Program Learning Goals and Outcomes		Course Learning Outcomes	Course Assessment Item
This course helps you to achieve the following learning goals		*On successful completion of the course, you should be able to:*	*This learning outcome will be assessed in the following items:*
1	Knowledge	Describe the historical origins of the inequality in income per capita across countries and regions. Explain what accounts for the divergence in per-capita income across countries in the past two centuries. Discuss the respective roles of institutions, religion, culture, and trade on long-run economic growth.	• Discussion • Final Exam
2	Critical thinking and assessing	Summarize the main argument of a research paper. Critically point out the contribution and the shortcoming of a research paper. Propose and discuss constructive, detailed and realistic suggestions for improvement of a research paper.	• Presentations • Discussion • Report • Final Exam
3a	Written communication	Organize and present argument using conceptual and quantitative analytical skills.	• Report • Final Exam

3b	Oral communication	Communicate critical argument in a concise and clear way.	• Presentations • Discussion
4	Teamwork	Discuss collaboratively to associate given research papers in light of the broader related topics.	• Presentations *(if applicable)* • Discussion

Prerequisites

The course is offered as part of the economics stream in the MSc program. Familiarity with contents of the following concurrent courses is assumed: Microeconomics I and II, Macroeconomics I and II, and Econometrics. Note that while the core of the course is Macro-grounded, many of the models presented are micro-founded.

Practical information

The course consists of 8 sessions, each covering a separate topic in Quantitative Economic History.

Classes will be organized in two parts: Lectures and Workshops.

Lectures will provide the grounding (theoretical and empirical) literature of the topics that make up the course by emphasizing the important concepts and methods of each topic.
Workshops will consist of students' presentations and discussions. One student (or one group of students) will present a recent research paper. Then, another student (or group of students) will present a report on the paper. A discussion with the class will follow. One paper will be presented and debated per session (no presentation in class 1).

Each student (or one group of students) will have two presentations with slides: one "standard" presentation and one report presentation (i.e., on a different paper) on recent papers to be distributed in the first session of the course. Each student should actively participate (i.e., prepare questions for discussion) to all presentations, hence read all papers that will be presented during the workshops. There will be one report on a research paper to submit individually. There will be a final exam made of multiple choice questions and open questions.

Assessment Task	Weighting	Length	Relevant Date(s)
Presentation (summary)	15%	App. 30 min	TBA after Lecture 1
Presentation (report)	15%	App. 20 min	TBA after Lecture 1
Participation (discussion)	15%	App. 20 min	During Workshops
Report	15%	3 pages	April 2
Final Exam	40%	3 hours	April 23 from 8:30-11:13am
	100%		

Bilbiography

The course focuses on research applications in the field of Quantitative Economic History with theoretical and econometrical foundations.

Main Textbooks

Galor, Oded, 2011, *Unified Growth Theory*, Economics Books, 1 ed., Princeton University Press.

Methodological Note

Berk, Jonathan B., Campbell R. Harvey, and David Hirshleifer, 2017, "*How to Write an Effective Referee Report and Improve the Scientific Review Process.*" Journal of Economic Perspectives, 31 (1): 231–44.

Articles and Papers – coming soon

Econometrics 3: Econometrics of Program Evaluation

Teacher: Julien Salanié

Course's objectives

This course covers the basic theoretical knowledge and technical skills required for implementing microeconometric methods of estimation of causal or treatment effects.

The course introduces students to the fundamental problem of causal inference and to the most common methodologies that can be implemented to overcome this problem. It covers controlled experiments (randomized controlled trials), natural experiments (instrumental variables, differences in differences and regression discontinuity design) and observation methods (controls in regressions and matching).

At the end of the class, students are expected to:
- understand the basic language to encode causality,
- know the fundamental problems of causality and the biases of intuitive estimators,
- understand how econometric methods recover treatment effects,
- be able to compute these estimators along with an estimate of their precision using the statistical software R.

The students are not expected to know how to reproduce the mathematical derivations of the various results seen in class.

Practical information about the sessions

The course is organized in 2 hours of lectures (6 sessions) followed by 2 hours of practice (6 sessions) relating to the previous lecture session. Practice sessions involve replicating the results of a published paper.

Lecture Session	Practice sessions
1. The fundamental problem of causal inference	1. End of lecture 1 (if necessary) + the basics of R
2. Controlled experiments	2. Replication of Banerjee *et al.* (2015)
3. Instrumental variables	3. Replication of Angrist and Krueger (1991)
4. Difference in differences	4. Replication of Papke (1994)
5. Matching	5. Replication of Dehejia and Wahba (1999)
6. Regression discontinuity design	6. Replication of Lee (2008)

Students are expected to show up in class and read the replicated papers before the practice sessions. All slides, papers and data will be posted in advance. I expect a lot of participation from students, especially during the practice sessions.

Skills developed

At the end of the course, students will be able to:
- identifiy causality / endogeneity issues in a study / expertise
- discuss the validity of a program evaluation study

- build a coherent program evaluation design using quantitative methods
- undertake the basic approaches to program evaluation (using R)

Prerequisites

Students are expected to master the basic notions of statistical inference (population, sample, OLS, IV, unbiasedness, consistency, estimation of standard errors, testing, binary discrete choice models (probit and logit)), as detailed in the Econometrics courses at the bachelor level (Licence, third year) and during the first semester. Students are not expected to master R but having a basic knowledge of the software and its GUI (e.g. RStudio) is a plus. Knowledge of nonparametric estimation techniques (e.g. kernel estimation) is also a plus.

Grading system

Evaluation will be an individual test (2h) covering all the topics covered in class.

Bibliography/references

There will be no textbook assigned for this class. However, most of the content of the class can be found in the following textbooks:

Angrist, J. D., & Pischke, J. S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.

Angrist, J. D., & Pischke, J. S. (2014). *Mastering 'Metrics: The path from cause to effect*. Princeton University Press.

Imbens, G. W., & Rubin, D. B. (2015). *Causal inference in statistics, social, and biomedical sciences*. Cambridge University Press.

and in several chapter of several econometrics textbooks:

Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: methods and applications*. Cambridge university press.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.

Papers used in replication sessions:

Angrist, J. D., & Krueger, A. B. (1991). Does compulsory school attendance affect schooling and earnings?. *The Quarterly Journal of Economics*, 106(4), 979-1014.

Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics*, 7(1), 22-53.

Dehejia, R. H., & Wahba, S. (1999). Causal effects in nonexperimental studies: Reevaluating the evaluation of training programs. *Journal of the American Statistical Association*, 94(448), 1053-1062.

Lee, D. S. (2008). Randomized experiments from non-random selection in US House elections. *Journal of Econometrics*, 142(2), 675-697.

Papke, L. E. (1994). Tax policy and urban development: evidence from the Indiana enterprise zone program. *Journal of Public Economics*, 54(1), 37-49.

Software:

R can be freely downloaded at: https://cran.r-project.org/

RStudio can be freely downloaded at: https://www.rstudio.com/

The Microsoft R Open distribution of R can be downloaded at: https://mran.microsoft.com/

Microsoft R Open is optimized for Microsoft computers (it uses Microsoft's multi-threaded math libraries).

Mathématiques 2

Professeur : Eric Thierry

Aperçu

Ce cours d'informatique est destiné à des étudiants désireux de s'initier ou se perfectionner en programmation. Le langage de programmation choisi sera Python, langage très utilisé à la fois en enseignement pour sa simplicité d'accès et dans le monde professionnel pour le large éventail de ses applications. Outre l'apprentissage de la syntaxe en Python et la réalisation de petits programmes, ce cours sera l'occasion de discuter des bonnes pratiques en programmation, de s'essayer à la conception d'algorithmes et à leur analyse, et d'apprendre à utiliser des bibliothèques classiques de programmes comme Matplotlib pour la visualisation de données ou Scipy pour le calcul scientifique (en lien avec le contenu des enseignements en mathématiques).

Modalités pratiques

Le cours se déroulera pendant huit semaines au rythme de 3 heures par semaine

Références

Langage Python (python.org), bibliothèque Scipy (scipy.org)

Applied economics 3

Teacher: Pierre-Philippe Combes

Overview

The first part of the course is devoted to the economic mechanisms that shape the within- and between city spatial organization. This will typically answer the following questions.

Why do cities exist and induce an uneven spatial distribution of income and of land and commodity prices? How can cities of different size co-exist within integrated economic areas? What does shape the city internal structure, in terms of housing types and income segregation? What is the impact of people and goods mobility on spatial concentration? What is the role of local public policies and of land use regulation on spatial disparities?

The second part of the course moves to the empirical studies that evaluate the gains and costs from agglomeration. A special emphasis is put on the impact on spatial disparities of individual location choices made by workers that are heterogeneous in skills. The balance between income gains and costs of living is studied, typically assessing whether cities are too large or too small. Studies about the value of consumption amenities (restaurants, cultural life, climate,…) will be presented too. Last, and depending on time available, either the evaluation of place-based policies trying to revive deprived neighborhoods and/or the impact of transport infrastructure on local development will be presented.

Prerequisites

Microeconomics under perfect and imperfect competition (Micro I and II).

Basics of applied econometrics (including panel approaches and notions of instrumentation).

Practical information

Slides are circulated before the lectures such that students can concentrate on the course and participate through questions.

Work from one week to the other consists in carefully re-reading the slides and asking further clarification at the next course if needed. Extra readings will be suggested too.

The exam has two parts. A three-hour in-class essay will have to explain and criticize under the light of the course a newspaper article about an urban issue in a developed or a developing country. Then a couple of days later, a 20-minute oral examination will take place and some aspects of the essay will be deepen, and a couple of extra questions about the rest of the course will be asked. The essay will count for 75% of the total grade and the oral examination for 25%.

Bilbiography

Preliminary list of references

Chapter 1

Combes, P.-P., T. Mayer, and J.-F. Thisse, 2008. Economic Geography (ch. 1 and 2), Princeton University Press.

McMillen, D. and J. McDonald, 2011. Urban Economics and Real Estate; Theory and Policy (ch. 1 and 2), 2nd ed. Wiley.

O'Sullivan, A., 2012. Urban Economics (ch. 1 and 2), 8th ed. McGraw-Hill.

Chapter 2

Brueckner, J., 2011. Lectures on Urban Economics (ch. 1), MIT Press.

Combes, P.-P., T. Mayer, and J.-F. Thisse, 2008. Economic Geography (ch. 2), Princeton University Press.

Duranton, G., Puga, D., 2004. Micro-foundations of urban agglomeration economies. In: Henderson, V., Thisse, F. (Eds.), Handbook of Regional and Urban Economics, vol. 4. North-Holland, Amsterdam, pp. 2063-2117.

Chapter 3

Fujita, M., 1990. Urban Economic Theory: Land Use and City Size (ch. 2, 3, 4), Cambridge University Press.

Fujita, M. and J.-F. Thisse, Jacques-François. Economics of Agglomeration: Cities, Industrial Location, and Globalization. Cambridge University Press, Cambridge, 2013.

Chapter 4

Combes, P.-P., G. Duranton, and H. Overman, 2005. Agglomeration and the adjustment of the spatial economy, Papers in Regional Science, 84(3), 311-349.

Moretti, E. (2011). Local labour markets. In O. Ashenfelter & D. Card (eds.), *Handbook of Labor Economics*4.

Combes, P.-P., T. Mayer, and J.-F. Thisse, 2008 (chap. 6, 7, 8). Economic Geography, Princeton University Press.

Chapter 5

Combes, P.P. and L. Gobillon, 2015. The empirics of agglomeration economies. In Duranton, Gilles, Henderson, Vernon, and Strange, Will, eds., Handbook of Urban and Regional Economics 5A. North-Holland, Amsterdam.

Glaeser, E. L., and D. C. Maré. 2001. Cities and skills. Journal of Labor Economics 19:316–42.

Jaffe, A. B. (1989). Real effects of academic research, American Economic Review 79(5): 957–970.

Jaffe, A. B., Trajtenberg, M. and Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations, Quarterly Journal of Economics 108(3): 577–598.

Chapter 6

Albouy, D., 2008. Are big cities really bad places to live? Improving quality-of-life estimates across cities. Working Paper 14472, National Bureau of Economic Research.

Combes, P-P., Duranton, G., Gobillon, L., 2019. The Costs of Agglomeration: House and Land Prices in French Cities, Review of Economic Studies, forthcoming.

Handbury, J.. Are poor cities cheap for everyone? Non-homotheticity and the cost of living across US cities, 2013. Mimeograph, Wharton University.

Handbury, J. and D. Weinstein, 2015. Goods prices and availability in cities. Review of Economic Studies, 82(1): 258–296.

Moretti, E., 2013. Real wage inequality, American Economic Journal: Applied Economics 5(1): 65–103.

Chapter 7

Briant, A., M. Lafourcade, and B. Schmutz, 2015. Can Tax Breaks Beat Geography? Lessons from the French Enterprise Zone Experience, American Economic Journal: Economic Policy 7(2), 88–124.

Criscuolo, C., R. Martin, H.G. Overman, and J. Van Reenen, 2019. Some Causal Effects of an Industrial Policy, American Economic Review forthcoming.

Givord, P., S. Quantin, and C. Trevien, 2018. A long-term evaluation of the first generation of French urban enterprise zones, Journal of Urban Economics 105(C), 149–161.

Kline, P. and E. Moretti, 2014. Local Economic Development, Agglomeration Economies, and the Big Push: 100 Years of Evidence from the Tennessee Valley Authority, Quarterly Journal of Economics 129, 275–331.

Neumark, D. and H. D. Simpson, 2015. Place-based policies, in: G. Duranton, J.V. Henderson, W. Strange (eds), Handbook of Regional and Urban Economics 5A, North-Holland, Amsterdam.

Chapter 8

Baum-Snow, N., 2007. Did highways cause suburbanization? Quarterly Journal of Economics 122, 775–805.

Duranton, G. and M. Turner, 2016. The fundamental law of road congestion: Evidence from US cities, American Economic Review 101(6), 2616-2652.

Duranton, G. and M. Turner, 2012. Urban growth and transportation, Review of Economic Studies, 1407-1440.

Duranton, G., Morrow, P. M., and M. Turner, 2014. Roads and trade: Evidence from the US, Review of Economic Studies 81(2), 681-724.

Faber, B., 2014. Trade integration, market size, and industrialization: Evidence from China's national trunk highway system. Review of Economic Studies 81(3), 1046-1070.

Applied economics 4

Teachers: Mathilde Godard & Jonathan Goupille-Lebret

Overview

This course discusses when and how markets fail to produce efficient outcomes. The focus is on public goods, externalities, imperfect competition, and asymmetric information. We will explore the motives and mechanisms for government intervention to improve/restore efficiency when markets fail. We will also review issues and findings regarding collective decision-making.

Prerequisites

A good understanding of microeconomic theory (as in Microeconomics L3 or similar). A good command of multivariate calculus is necessary.

Practical information

This is a 4-week course, with 6 hours of lecture per week.

Bilbiography

Hindriks, J. and Myles, G. (2006) Intermediate Public Economics, The MIT Press.

Applied economics 5

Teacher: Mathieu Couttenier

Overview

Natural resources are at the forefront of the response to local, national and global economic development. The goal of the course is to raise awareness among the students on the impact of natural resources on economic development in both, developed and developing countries. It relies on the literatures in economics and political sciences. After a rigorous treatment of the theory that helps to link natural resources and development, it covers a large array of recent empirical papers on the impact of natural resources on different economics outcomes but also to shed new light on the underlined mechanisms.

The course consists in 4 parts:

- Natural resources and economic development: cross-country analysis (macro effects)

- -Case studies and stylized facts
- -Related theory
- -Empirical results on the impact of natural resources on economic growth
- -Role of institutions to mitigate the effect of natural resources on economic growth

- Natural resources and economic development: within-country analysis (local effects)

- -Survey of the potential threats/strengths of the presence of natural resources on the local development
- -Empirical evidence for both developed and developing countries of the impact of natural resources on different outcomes: income, local labor market, living standards, fiscal revenues, business environment, gender inequalities, health...

- Natural resources and violence

- -Theoretical background
- -Evidence with cross-country analysis
- -Evidence on local violence
- -Natural resources and institutions
- -Impact of natural resources abundance on the quality of institutions, political change, transition to democracy, corruption and political incentives
- -Impact of institutions on natural resources investment

Prerequisites

There is no formal readings required for the course. But the course builds on applied fields such as courses in the MSc program, in particular, Microeconomics I, Evaluation of Public Policy and Econometrics of Program Evaluation. Knowledge of how to apply economic models in context and how to select and use appropriate tools of analysis is required.

Modalities

The course consists in 8 different slots (3 hours each). The structure is the following (at the notable exception of the first one):

-Lecture: 2h

-Student presentations: 1h

During the 1h student presentations, one recent empirical paper will be presented by a student and a second student will present a referee report on the same paper.

For the presentation of the paper, the student must place himself in the position of the author of the paper. The student has to convince the audience on different points:

-The relevance of the question

-The contribution to the literature

-The methods and data used are appropriate to answer the question

-The results are well grounded and relevant

Motivation of the question is very important. The presentation of the paper does not need to be structured in the same way as the original paper. No criticisms are expected, it's the task of the referee report. The referee report should start off with a one short paragraph summary of the main argument of the paper. It should proceed with the main criticisms of the paper. Conclude the report with minor comments. Please not that a good referee report not only clearly states the shortcomings of the work, but also lays out constructive, detailed and realistic suggestions for improvement. Presentations (presentation of the paper and presentation of the referee report) are a part of the evaluation (see hereafter).

The course evaluation has three components:

-The first component is the presentation of paper (20%). In-class presentation of the paper with slides (20 min).

-The second component is a referee report on a recent paper (30%). In-class presentation of the report with slides (20 min). Each referee report should be up to 3 pages single-spaced and submit just before the course.

-The third component is a final written exam (50%).

Bilbiography

No bibliography required

MASTER 2

Topics in econometrics

Teachers: Lavinia Piemontese & Jean-Paul Renne

Overview

This course introduces the students to advanced econometric methods for the analysis of cross-sectional and panel micro-data. The course explores different techniques that are used in empirical research in economics, as well as policy evaluation tools.

The objective of this course is to first gain a good understanding of the theory behind the models discussed, and then a have broad perspective of how these models are used in practice.

This course is structured in two blocks:

- Part 1 : panel data
  - Introduction
  - Pooled models
  - Random effects models
  - Fixed effects models
  - Differences-in-differences Estimator
  - Dynamic models

- Part 2 : Discret-time models
  - Introduction
  - Maximum Likelihood Estimation: A reminder
  - Binary models
  - Multinomial models
  - Sample selection models

Prerequisites

Students should be familiar with the most common statistical methods in econometrics, e.g. linear estimators such as OLS and GLS.

Practical information

Students will be evaluated on the basis of paper presentations (30%) and a final exam (70%)

Bilbiography

Cameron and Trivedi, (2005) Microeconometrics: Methods and Applications, Cambridge University Press.

Angrist and Pischke, (2008) Mostly Harmless econometrics: An Empiricist's Companion, Princeton University Press

Papers that will be discussed in class (subject to change):

Arellano and Bond (1991), Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations, Review of Economic Studies, 58, 277–297.

Ashenfelter and Krueger (1994), Estimates of the Economic Return to Schooling from a New Sample of Twins. The American Economic Review, vol. 84, no. 5, 1994, pp. 1157–1173.

Card and Krueger (1994), Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania, American Economic Review, vol. 84, issue 4, 772–93.

Freeman (1984), Longitudinal Analyses of the Effects of Trade Unions. Journal of Labor Economics Vol. 2, No. 1 (Jan., 1984), pp. 1–26.

Guryan (2004), Desegregation and Black Dropout Rates, American Economic Review, 94 (4): 919–943.

Heckman, J. J. (1979), Sample Selection as a Specification Error, Econometrica, 47, 153–161.

Herriges, J. A., and C. L. Kling (1999), Nonlinear Income Effects in Random Utility Models, Review of Economics and Statistics, 81, 62–72.

Pischke (2007), The Impact of Length of the School Year on Student Performance and Earnings: Evidence From the German Short School Years, The Economic Journal, 117: 1216–1242.

Machine learning, big data and quantitative spatial analysis

Teacher: Clément Gorin

Overview

This course introduces a range of modern research techniques to deal with high dimensional and potentially unstructured data. These techniques fall into two distinct categories. The first part of the course introduces statistical learning techniques. In recent years, there has been an increasing interest in predictive modelling, in particular for the collection of original research data that would not be available using traditional methods. This course provides a comprehensive understanding of some of the most capable supervised learning algorithms, including support vector machines, random forests, or neural networks. The second part of the course focuses on applied spatial economics. Many economic phenomena are spatial in nature. Manipulating and analysing spatial data rely on specific sets of tools known as geographical information systems. Specifically, students will learn how to manage vector and raster data, perform geocomputations, represent spatial processes and fit spatial models. Broadly speaking, the lectures use comprehensive theorising and mathematical formalisation but keeps a strong focus on intuition and effective implementation.

Skills :

-R programming

-Geographical information systems
- Machine learning

Prerequisites

Knowledge of:

- Econometrics: Advanced
- R programming: Intermediate

Practical information

This is a 8 week-course, typically with one 3 hours lecture each week.

Schedule :

1 - Statistical learning
2 - Advanced R
3 - Non-linear modeling
4 - Tree-based methods
5 - Support vector machines
6 - Neural networks
7 - Spatial data
8 - Geocomputations

Grading

Individual report – 80%
Critical review of a research paper – 20%

The report should be 10 to 12 pages long, and is due by December 6th, along with a script reproducing your results. Your work should articulate statistical learning techniques and/or geographical information systems, along with traditional econometrics. Grading is based on the following criteria:

- Question: Research question of interest to economists
- Background: Short review of the related literature
- Data: Collection and construction of the databases
- Model: Model selection, diagnostics and corrections
- Results: Meaningful interpretation and answer to the research question
- Writing: Clear and concise! English, referencing, etc.
- You may use Rmarkdown to weave together text, code and output.

Bilbiography

R Athey, Susan. The impact of machine learning on economics. National Bureau of Economic Research, 2018.

Bivand, Roger S, Edzer Pebesma, and Virgilio Gomez-Rubio. Applied spatial data analysis with R. Springer-Verlag, 2013.

Gareth, James, Trevor Hastie, Robert Tibshirani, and Daniela Witten. An introduction to statistical learning with applications in R. Springer-Verlag, 2014.

Goodfellow, Ian, Yoshua Bengio, and Aaron Courville. Deep learning. MIT Press, 2016.

Hastie, Trevor, Robert Tibshirani, and Jerome Friedman. The elements of statistical learning. Springer, 2009.

Sendhil, Mullainathan and Spiess Jann. Machine learning: An applied econometric approach. Journal of Economic Perspective, 31(2): 87-106, 2017.

Venables, William N, David M Smith, and R Core Team. An introduction to R. Network Theory Ltd., 2009.

Wickham Hadley. Advanced R. Chapman and Hall, 2019.

Topics in microeconomics

Teacher: Sinan Sarpca

Overview

We cannot always rely on the existence of a competitive equilibrium. Alternative mechanisms have been (and are being) developed for a number of important allocation problems. This course will first discuss matching markets, which operate without a price adjusting to clear the market. Applications to be considered include assignment of students to schools and assignment of kidney donors to transplant patients. Second, this course will review selected results on auctions and discuss some applications.

Prerequisites

A good understanding of microeconomic theory (as in Microeconomics L3 or similar). A good command of multivariate calculus is necessary.

Practical information

This is a 8 week-course, typically with one 3 hours lecture each week.

Bilbiography

Roth, A.E., Sotomayor, M.A. (1992) Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis. Econometric Society Monographs

Milgrom, Paul (2004) Putting Auction Theory to Work. Churchill Lectures, Cambridge University Press.

Political Economy

Teachers: Sophie Hatte & Lavinia Piemontese

Overview

This course provides a graduate-level introduction to political economy, with a focus on the functioning of institutions and their impact on economic development and politics. It discusses a heterogeneous field in terms of methodology with an effort to combine economic theory and data.

The course is divided in four parts. Part I provides an introduction to the course with a focus on the econometric tools that will be used in the rest of the course. Part II covers topics in democratic politics such as voting, electoral competition, electoral control and accountability. Part III deals with dictatorship and institutional change. Part IV focuses on bureaucracy, corruption, and a "case study", i.e. the Italian Mafia.

The questions discussed in this course constitute an increasingly important subfield of economics. Both recent theoretical advances and cutting-edge empirical approaches will be covered. An objective of the course is to provide students with adequate technical background and knowledge of existing literature to critically think about the link between development, institutions and politics, as well as to produce original research work on these topics.

Lectures of this course are inspired from those taught by D. Acemogly, N. Berman, H. Muller, B. Olken, and M. Sangnier.

Prerequisites

The course builds and extends in important applied fields on previous and concurrent courses in the MSc program, in particular, Microeconomics and Econometrics. Familiarity with contents of these courses is assumed. Familiarity includes a working knowledge of how to apply economic models in context and how to select and use appropriate econometric tools to test the theory. In addition, student should be familiar with basic optimization techniques used in economics (i.e. utility maximization problems). Moreover, students should be familiar with the most common statistical methods in econometrics, e.g. OLS and Fixed Effects estimators. Students should also have working knowledge of statistical packages such as STATA.

Practical information

The course consists of 24 hours (9 sessions of 2 or 3 hours), each covering a separate topic in Political Economy.

Outline :

1. Introduction to political economy (week 1)

    a. Political economy and economic growth
    b. Under the thumb of history ?

c. Empirics : toolkit

2. Democratic politics (weeks 2-4)
   d. From social choice to political economy
   e. Political agency and electoral control
   f. Case study : the role of the media

3. Institutional change and dictatorships (weeks 5-6)
   g. Democracies and autocracies : stylized facts
   h. Revolutions and democratization : theory and empirics
   i. Dictatorship and economic performance

4. Bureaucracy and corruption (weeks 7-9)
   j. Bureaucracy as an institution: a theoretical
   k. Bureaucracy and corruption: an empirical approach
   l. Case study: the Italian Mafia

Students will be graded on the basis of continuous assessment (1/3 of the final grade), one in-class presentation (1/3 of the final grade), and a research project (1/3 of the final grade). Continuous assessment consists in four problem sets to be completed in groups of 2 students. Detailed guidelines for the research project will be discussed in class.

Bilbiography

The course focuses on research applications in the field of Political Economy with a strong theoretical and econometrical foundation. Here is the list of the main textbooks. Articles and papers presented in class will be listed on the Portail des Etudes.

Main Textbooks

Acemoglu, D., and J. Robinson (2006) Economic origins of dictatorship and democracy, Cambridge MA: Cambridge University Press.

Besley, T. (2006) Principled agents? The political economy of good government, Oxford University Press.

Morton, R. B. (2006) Analyzing elections, WW Norton.

North, D. (1990) Institutions, institutional change and economic performance, Cambridge MA: Cambridge University Press.

Persson, T., and Tabellini, G. (2002) Political economics: explaining economic policy, MIT Press.

Social security

Teacher: Mathilde Godard

Overview

This course covers an array of topics in health economics that relate with the impact of « work » – broadly defined as conditions on the job, career shocks, economic fluctuations, trade-imported shocks on the labor market – on health. As health and work should be placed in the wider context of the SES-health relationship, we first review and assess the determinants of inequalities in health. We then discuss the main theoretical models that may explain socio-economic differences in health (and in particular the Grossman model of health demand).

A first part of the course discusses the impact of career shocks (graduating in a bad economy, losing one's job, the *fear* of losing one's job, retiring, going on disability) on health. A second part studies the link between economic fluctuations and health. We ask whether recessions are good for health – and give a seemingly paradoxical answer. We also discuss trade-imported health shocks, and the (related?) rise of « deaths of despair » in the American white working class. We end the lecture with the lifecourse approach to health and ageing, with a particular focus on early life conditions.

Most of the course is embeded in the context of recent empirical research on policy evaluation in health. Endogeneity is a core issue when identifying the impact of work on health, and identification problems will be thoroughly discussed throughout the lecture.

Prerequisites

The course builds on previous and concurrent courses in the Msc program, in particular, Microeconomics II and Econometrics 1-3. Familiarity with contents of these courses is assumed.

Practical information

This is a 8 week-course, typically with one 3 hours lecture each week.

Bilbiography

Gerard J. van den Berg, Maarten Lindeboom and France Portrait (2006) : « Economic Conditions Early in Life and Individual Mortality », *American Economic Review,* vol. 96, no. 1 ; pp. 290-302.

Bassanini A., Caroli E. (2015), Is Work Bad for Health? The Role of Constraint versus Choice, *Annals of Economics and Statistics*, n°119-120, p. 13-37

Eibich, P. (2015) : « Understanding the effect of retirement on health : Mechanisms and Heterogeneity », *Journal of Health Economics, 43,1-12.*

Nicole Maestas, Katherine Mullen and Alexander Strand (2013) : « Does Disability Insurance Receipt Discourage Work? Using Examiner Assignment to Estimate Causal Effects of SSDI Receipt », *American Economic Review,* 103(5), pp. 1797–1829

García-Gómez P, van Kippersluis H, O´Donnell O and van Doorslaer E (2013) : « Long-term and spillover effects of health shocks on employment and income », *Journal of Human Resources*, 48(4): 873–909

Ferrie, J., M. Shipley, M. Marmot, S. Stansfeld, and G. Smith (1995): "Health effects of anticipation of job change and non-employment: Longitudinal data from the Whitehall II study," *British Medical Journal*, 311, 1264–1269.

Grossman, M. (1972): "On the concept of health capital and the demand for health," *The Journal of Political Economy*, 80, 223–255.

Till Von Wachter and Daniel Sullivan (2009) : « Job displacement and mortality : an analysis using administrative data », *Quaterly Journal of Economics*, Volume 124, Issue 3, August 2009, Pages 1265–1306.

Engdahl, M., M. Godard and O. N. Skans (2018) « Early Labor Market Prospects and Family Formation », IFAU Working Paper 2018:2.

Ruhm, C. (2000). Are Recessions Good For Your Health? *Quarterly Journal of Economics,*115(2): 617–650.

Jérôme Adda and Yarine Fawaz (2019), « Trade Induced Mortality », mimeo.

David Autor, David Dorn and Gordon Hanson (2019) : « When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men », *American Economic Review : Insights*, forthcoming.

2019 Tanner Lecture by Angus Deaton: 'Deaths of Despair and the Future of Capitalism », available at : https://www.youtube.com/watch?v=7ii48cTiruU

Experimental economics

Teacher: Fabio Galeotti

Overview

The course provides an introduction to the experimental methods used in economics to study behavior under controlled conditions. It is divided into two parts. The first part considers the rationale for experimentation in economics; it examines several of the ways in which experiments have been used; and it seeks to appraise the contribution experiments have made, and can be expected to make, in a variety of areas of economics, such as individual decision making, markets, coordination, negotiation, charitable giving, public goods games, social preferences, and lying behavior.

The second part concerns experimental methods, and focuses on how to design an experiment and to analyze experimental data. Students will replicate the results of a published experiment; they will learn how to formulate their own behavioral research questions and hypotheses, and develop an experimental design for collecting and analyzing data.

The course provides graduate research training in experimental economics, and is useful either for students wishing to become academic economists or for students wishing to develop a career in a wide range of fields where knowledge of behavioral or experimental economics can prove useful, such as finance, banking, business, consulting and government. The course also promotes the following transferable skills which are essential for any graduate job: oral and written communication skills (by presenting and writing a critical review of cutting-edge work in experimental economics), critical thinking skills (by critically reading, discussing, and summarizing breakthrough work in experimental economics), analytical skills (by replicating the analysis of a top experimental paper), and research skills (by identifying a research question and designing a research experiment).

Upon completion of the course, we expect students to be:
- Familiar with some of the major areas of research in experimental economics;
- Able to understand, critically assess and analyze experimental papers;
- Able to understand some of the strengths and limitations of experiments in economics;
- Able to analyze experimental data;
- Able to design a simple research experiment in economics.

The teaching approach is research-led. Each week, the lecture focuses on a few 'key readings' which all students should have read in advance. Students are asked to open the discussion with a brief critical summary of one of these key readings. As a part of the course assessment, each student is required to hand in a written report on a key reading, and a replication exercise (see below for more details). The assessment also includes a project concerning the design of a research experiment. Students will receive a one-to-one guidance on the project throughout the course. Finally, students will learn about the experimental methods and facilities used by the researchers at the Groupe d'Analyse et de Théorie Economique (GATE), and be invited to attend workshops and seminars in experimental economics organized by GATE.

Prerequisites

The module assumes that students have reasonable prior working knowledge of microeconomic theory, (especially decision-making under risk and uncertainty, and game theory) macroeconomic theory, and econometrics. There are linkages between this module and Microeconomics I, Microeconomics II, and Econometrics; the game theory component Microeconomics I and II is especially useful to get the most out of this module.

Practical information

This is a 8 week-course, typically with one 3 hours lecture each week.

Bilbiography

Particularly useful texts are:

Camerer, C. (2003), Behavioral Game Theory: Experiments in Strategic Interaction, Princeton University Press.

Kagel, J. and A. Roth, eds. (1995). The Handbook of Experimental Economics, Princeton University Press.

Friedman, D. and S. Sunder (1994), Experimental Methods: A Primer for Economists, Cambridge University Press.

Moffatt, P. G. (2015). Experimetrics: Econometrics for experimental economics. Macmillan International Higher Education.

Siegel, S., & Castellan, N. J., Jr. (1988). Nonparametric statistics for the behavioral sciences (2nd ed.). New York, NY, England: Mcgraw-Hill Book Company.

Other useful texts include:

Davis, D and C. Holt (1993), Experimental Economics, Princeton University Press.

Camerer, C.F., G. Loewenstein and M. Rabin, eds. (2004), Advances in Behavioral Economics, Princeton University Press.

Bardsley, N., Cubitt, R., Loomes, G., Moffat, P., Starmer, C., & Sugden, R. (2010). Experimental economics: Rethinking the rules. Princeton University Press.

Redistribution and taxation

Teacher: Laurent Simula

Overview

This course will be focused on answering and discussing the following types of questions:

1. What are the distortive effects of taxation?

2. What are the redistributive effects of taxation?

3. How should the government set commodity taxes?

4. Should VAT rates be uniform or differentiated? If differentiated, how?

5. How high should the labor income tax be set?

6. Should marginal income taxes vary across the income distribution? If so, how?

7. How high should the tax rate on top income earners be?

8. Should the government tax the personal income from savings and investments? Even if the savings themselves were already taxed when earned?

9. How can government fight tax evasion?

10. How do taxes affect individual behavior under risk?

11. Should the government set a minimum wage if it can redistribute with taxes?

Prerequisites

The course builds on previous and concurrent courses in the Msc program.

Practical information

This is a 4 week-course, typically with two 3 hours lectures each week.

Bilbiography

Graduate level books:

Atkinson, A.B. and J. Stiglitz (1980). *Lectures on Public Economics*. McGraw Hill.

Kaplow, L. (2008). *The Theory of Taxation and Public Economics*. Princeton University Press.

Mirrlees, J. et al. (2010). *Dimensions of Tax Design: The Mirrlees Review*. Oxford University Press.

Myles, G.D. (1995). *Public Economics*. Cambridge University Press.

Salanié, B. (2011). *The Economics of Taxation*. MIT Press.

Slemrod, J. and C. Gillitzer (2014). *Tax Systems*. MIT Press.

More lecture slides:

Raj Chetty: http://www.rajchetty.com/index.php/lecture-videos

Emmanuel Saez: http://eml.berkeley.edu//~saez/course/course.html

Guy Laroque: http://econ.sciences-po.fr/staff/guy-laroque

References:

OECD (2015). *Government at a Glance 2015*. OECD Publishing.

Piketty, T. (2014). *Capital in the Twenty-First Century*. Harvard University Press.

Tanzi, Vito and Ludger Schuknecht (2000). *Public Spending in the 20th Century*. Cambridge University Press.

Development

Teachers: Mathieu Couttenier & Sylvie Demurger

Overview

This course is designed to provide students with concepts and tools to understand the economics of developing countries and the development process. It mostly takes a microperspective and provides theoretical and empirical analytical techniques to assess key issues related to poverty, inequality, the functioning of credit and labour markets, migration, agriculture and conflicts.

The course consists in 4 parts:

Part 1 – Poverty, inequality and micro-credit (SD)

- Concepts of poverty, vulnerability and inequality
- Trends of worldwide poverty and inequality
- Why poverty? Market failures and missing institutions in credit and insurance
- Financial services for the poor: microfinance

Part 2 – Labour markets in developing countries (SD)

- Particularities of labour markets in the context of developing countries: informality
- Labour migration: definition and trends
- Multisector labour markets, informality and migration
- The economic analysis of the impact of migration
- Empirical challenges to assessing a causal impact on migration studies

Part 3 – Rural households (MC)

- Agriculture is a key for economic development: overview
- The role of technology adoption
- Farm household and food price variations
- Policies to cope food crisis

Part 4 – Civil conflicts (MC)

- Overview of the consequences and determinants of civil conflicts
- The role of income shocks
- Empirical challenges to assess a causal impact of income shocks on conflicts
- Other determinants

Prerequisites

Knowledge of economic courses taught during previous years.

Practical information

The course consists of 24 hours of lectures (8 courses of 3 hours), scheduled from October 1, 2019 to October 23, 2019. The last session (October 23) is devoted to students presentations of their assignment (worth 50% of the total grade). The final exam, scheduled on November 13, 2019 (3hours) worth 50%.

The course evaluation has four components.

- The first component is the presentation of paper (20%). In-class presentation of the paper with slides (15min) : October 23th

- The second component is a referee report on a recent paper (30%). In-class presentation of the report with slides (10min). Each referee report should be up to 3 pages single-spaced and submit just before the course : October 23th

- The third component is an answer to the referee report and comments you add during the presentation of the paper (10min). You may also suggest credible propositions to go further. Each answer should be up to 2 pages single-spaced (30%) : November 13th

- The fourth component is a short presentation of 180 seconds of the paper you have already presented during the first component of the evaluation (20%) : November 13th

Bilbiography

De Janvry, Alain, and Elisabeth Sadoulet. *Development Economics: Theory and Practice*. London: Routledge, 2016.

Ray, Debraj. *Development Economics*. Princeton, N.J: Princeton University Press, 1998.

Environmental Economics

Teachers: Julien Salanié & Philippe Solal

Course's objectives & content

This course explores some of the models used in microeconomics and game theory to deal with environmental issues. The course is particularly focused towards economic instruments to regulate pollution from both positive and normative points of view. The course is structured in several parts:

1. **Introduction.** Provides an overview of both environmental issues and environmental economics, including topics not covered at large in this course

2. **Environmental regulation.** Presents the main mechanisms of environmental regulation (taxes, standards, permits markets, compensation schemes etc.) and key elements to compare these mechanisms.

3. **Environmental regulation under uncertainty and imperfect competition.** Reassesses the efficiency of environmental regulation tools under uncertainty and under imperfect competition.

4. **Environmental regulation in space.** Reassesses the efficiency of environmental regulation tools when spatial dependence is present (leakage and slippage).

5. **Sharing a polluted river through environmental taxes.** Several agents located along a river generate residues or pollutants coming from agricultural, biological and industrial waste. River pollution is a negative externality: when an upstream country pollutes a river, this creates external cleaning costs for downstream countries. Several taxe rules are given to determine the division of the total pollutant-cleaning cost among of the agents.

6. **Sharing a clean river through compensation schemes**. Several agents (countries, farmers, cities) share water from a river. Each agent enjoys a benefit function from consuming water up to a satiation level. A fair river sharing problem is a fair division problem in which the waters of a clean river has to be divided among agents (countries) located along the river. Each agent enjoys a benefit function from consuming water. It differs from other fair division problems in that the resource to be divided – the water – flows in one direction – from upstream countries to downstream countries. To reach an optimal consumption plan, it may be required to limit the consumption of upstream agents. This chapter investigates what kind of monetary compensation schemes are acceptable for the upstream agents.

7. **Data sharing in the REACH regulation.** A new implementing regulation adopted by the European Commission defines more clearly what the terms 'fair, transparent and non-discriminatory' mean for data sharing in the REACH Regulation. Discussions on sharing data must take place before joint registration when a substance is manufactured or imported by more than one company. This data sharing process take place in a substance information exchange forums (SIEFs), which were used for phase-in substances that were pre-registered. This chapter investigates several fair methods to share the total cost of the information within a SIEF.

Altogether, the course will bring discussion elements to several questions: How pollution arises? How should the government set taxes, environmental standards and/or constraints on polluters? How the government should behave when not knowing how costly depolluting is? What environmental regulation should be in non-competitive sectors? What are the consequences of regulating pollution somewhere but not everywhere? How to share the tax burden among agents? Who should be liable for environmental damages? How to share the benefits of cooperation on international rivers?

Prerequisites

Students should be familiar with the core notions studied in microeconomics, public economics and (cooperative) game theory taught during previous years. However, some course reminders will be carried out if necessary.

Practical information

This is a 4 week-course, typically with two 3 hours lectures each week. Evaluation will be based on students' presentation of a pool of paper on a subject. Students will typically have to present core ideas and models and establish research paths they would follow on this subject.

Bilbiography

Baumol, W.J., & Oates, W.E. (1988). The theory of environmental policy. Cambridge University Press.

Hanley, N., Shogren, J. F., & White, B. (1997). Environmental economics: in theory and practice. Macmillan International Higher Education.

Kolstad, C. (2011). Intermediate Environmental Economics: International Edition. Oxford University Press.

Phaneuf, D. J., & Requate, T. (2016). A course in environmental economics: theory, policy, and practice. Cambridge University Press.

Ambec, S., Sprumont, Y (2002). Sharing a river, *Journal of Economic Theory*, 107, 453-462.

Dehez, P., & Tellone, D., (2013). Data Games: Sharing Public Goods with Exclusion, *Journal of Public Economic Theory* 15: 654-673.

Béal, S., & Deschamps, M. (2016), On compensation schemes for data sharing within the european REACH legislation, European Journal of Law and Economics 41:157-181.

Gómez-Rúa, M. (2013) Sharing a polluted river through environmental taxes, SERIES, 4:137-153.

Ni, D, & Wang, Y (2007) Sharing a polluted river. *Games Economic Behavior* 60: 176-186.

Van den Brink, R., van der Laan, G., & Vasil?ev V., (2007), Component efficient solutions in line-graph games with applications, Economic Theory, 33: 349-364.