

# Master 2 “Economics”

## Track Theoretical and Empirical Economics Classic training

- Field: Economics
- Duration of studies: 1 year
- Diploma: Master
- Language: English

Aix-Marseille School of Economics  
is a department of the Faculty of Economics and Management

# SUMMARY

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## TERM 2

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## ADVANCED MACROECONOMICS - 24H

### TEACHER

- Jan-Luca HENNIG - [jan-luca.hennig@univ-amu.fr](mailto:jan-luca.hennig@univ-amu.fr)

### CONTENT

The course will analyse advanced macroeconomics models, with a special focus on growth and development. The empirical validity of these theories will be discussed.

#### Course outline:

The aim of the course is to examine the “new growth” or “endogenous growth” theories developed in the last 25 years, as well as the closely related literature on development.

The course consists of two sections. The first part will examine the seminal work in growth and economic development. We will study the various mechanisms that will result in sustained long-run growth - learning-by-doing, investments in infrastructure, education, and firms’ R&D decisions - and analyse the role played by externalities and increasing returns to scale. We will see that a crucial implication of these growth models is that the equilibrium growth rate is not socially optimal, and that a laissez-faire economy can grow either too slowly or too fast. We will also examine the causes of economic development, and why poverty traps may emerge. The explanations proposed include the theory of “the big push”, whereby increasing returns to scale can result in poverty traps and hence explain why certain economies remain underdeveloped. We will then address the role of “threshold effects” in education, their implications for development, and the role of the distribution of wealth.

The second part of the course will examine several topics related to growth: the empirical evidence, the relationship between growth and inequality, recent views on the causes of the industrial revolution, and the role of institutions in development.

### PROFESSIONAL SKILLS

- Develop modelling skills in macroeconomics,
- Understanding the causes of long-term growth and of why some countries remain in poverty traps.

### BIBLIOGRAPHY AND TEXTBOOKS

- Barro, R. and X. Sala-i-Martin, Economic Growth, Mc Graw-Hill 1995.
- Aghion, P. and P. Howitt, Endogenous Growth Theory, MIT Press 1998.
- Aghion, P. and P. Howitt, The Economics of Growth, MIT Press 2009.
- Aghion, P. and S. Durlauf (eds.) Handbook of Economic Growth, North Holland 2005.

### ORGANIZATION

The 24 hours of the course will be (roughly) divided as follows: 12 hours of lectures devoted to analysing in detail models, 4 hours devoted to problem solving, and 8 hours focusing on ‘topics’ such as inequality and growth or trade and growth.

### COURSE LANGUAGE

French       English

### FUNDAMENTAL PREREQUISITES

A reasonable competence on math is expected.

### RECOMMENDED PREREQUISITES

Macroeconomics modelling, growth, development.

*Updated on April 2021*

## ADVANCED MICROECONOMICS - 24H

### TEACHER

- Alain TRANNOY - [alain.trannoy@univ-amu.fr](mailto:alain.trannoy@univ-amu.fr)

### CONTENT

To master the fundamentals of the economics of taxation.

#### Course outline:

Foreword

Modern Public Finance: Why advanced?

- The dual approach of consumer choice
- Mechanism Design
- Welfare economics

Taxation: The conundrum Capital, consumption, income

- Consumption better than capital (Chamley-Judd)
- Income better than Consumption (Atkinson-Stiglitz)
- Capital better than Income (Allais)

Chap 1 Why Taxation

Public Expenditures and Redistribution

How to define inequality

Hardy-Littlewood-Polya Theorem

Progressivity and Inequality: Jakobson Theorem

Helping the poor

Universal vs targeted benefits

EITC vs NIT

Chap 2 What Taxes

Firms vs Households

How to defend the corporate tax?

Globalization and the Destination Based Cash Flow

Tax (Devereux Auerbach)

Capital vs Labor (Human Capital)

Capital: Income vs Stock; Inheritance or Wealth

Income vs Consumption

Chap 3 First best taxation

The second theorem of Welfare Economics

The curse of talented people

Examples of first best taxes: Pigouvian and Land taxes (The Henry Georges theorem)

The Diamond Mirrlees Production efficiency Lemma: The foundation of VAT

Chap 4 Second best taxation and the efficiency cost of taxation

Substitution vs Income effect

The measure of the deadweight loss with the surplus measures

Changes in behavior, labor, saving, risk-taking

Changes in equilibrium and pass through

Partial Equilibrium (competitive vs non-competitive environment)

General Equilibrium (Habegger)

Dupuit's Approximation formula and the marginal cost of public fund

Chap 5 Social Objectives

Social Welfare functions and Social welfare weights/Rawls Vs Utilitarianism

Non Welfarist view-points

The Saez Stancheva generalization

Justice in taxation: The equal sacrifice

Chap 6 Ramsey Taxation

The inverse elasticity rule

Generalizations

The Scope of the Atkinson-Stiglitz Theorem

Chap 7 Capital taxation

- The Chamley-Judd result (Straub and Werning result)
- The Overlapping generation framework and positive result
- The Piketty-Saez approach

Chap 8 Optimal Non-Linear Taxation: Analytics

- From Mirrlees to Saez
- The formulation as a Mechanism design pb
- The principle of taxation
- The Spence-Mirrlees condition as a sorting condition
- Derivation of the pb as the solution of an optimal control pb
- Bunching
- The small perturbation approach
- The ETRI as the sufficient statistics

Chap 9 Applications of the Optimal Non-linear taxation

- The ABC formula
- The optimal top tax rate
- EITC vs NIT

Chap 10 On the research frontier

- Nudge, behavioral economics and optimal tax results
- More than 1 heterogeneity parameter
- Optimal tax in an open economy
- Optimal tax and Job search

**BIBLIOGRAPHY AND TEXTBOOKS**

- A Mas Collé, M Whinston and J Green: Microeconomic Theory OUP.
- J. Mirrlees, Reforming the Tax System for the 21st Century - The Mirrlees Review, Oxford University Press, 2010 (An Accurate Encyclopedia about taxation, many references there up to 2010).
- B. Salanié, Théorie économique de la fiscalité, Economica, 2002 (The Economics of Taxation, MIT Press, 2003) (A compact version of mainly optimal taxation a bit outdated).

+ the papers listed in the reference list of each chapter since 2010.

**COURSE LANGUAGE**

French       English

*Updated on April 2021*

## ADVANCED ECONOMETRICS - 24H

### TEACHER

- Emmanuel FLACHAIRE - [emmanuel.flachaire@univ-amu.fr](mailto:emmanuel.flachaire@univ-amu.fr)

### CONTENT

The goal of this course is to present advanced methods in econometrics for distributional analysis, regression and classification models. The course will present theoretical foundations and underlying intuition of each method, as well as several empirical examples.

#### Course outline:

1. Resampling Methods
  - Pseudo-random generator
  - Monte Carlo experiments
  - Bootstrap and permutation tests
2. Nonparametric Econometrics
  - Density estimation
  - Regression splines
  - Finite mixture models
3. Econometrics and Machine Learning
  - Philosophy and general principle
  - Resampling-based methods and algorithms
  - Misspecification detection

#### BIBLIOGRAPHY AND TEXTBOOKS

- Ahumada et Flachaire (2011) Non-Parametric Econometrics, Oxford University Press.
- Efron et Hastie (2016) Computer Age Statistical Inference, Cambridge University Press.

#### COURSE LANGUAGE

French       English

*Updated on April 2021*

## ECONOMICS OF NETWORKS - 24H

### TEACHER

- Yann BRAMOULLÉ - [yann.bramouille@univ-amu.fr](mailto:yann.bramouille@univ-amu.fr)

### CONTENT

The objective of this course is to provide an introduction to a fast-growing new field of research, the economics of networks. At the end of the course, students should notably be familiar with elementary network notions, should understand the microeconomic and econometric foundations of linear models of peer effects in networks and should be able to compute Nash equilibria of a model of altruism in networks.

**Course outline:** The course is organized in four parts.

(1) An introduction to the field.

A new field of research. Reasons behind its emergence. Examples of networks. Overview of the field.

(2) Elementary network notions.

Adjacency matrix. Types of networks. Specific networks. Degree. Density. Walks. Paths. Cycles.

Components. Shortest paths. Diameter. Clustering. Homophily.

(3) Peer effects in networks: theory and econometrics.

Sources of correlations between peers' outcomes. Simultaneity and strategic interactions. Continuous outcomes and small interactions. Bonacich centrality. Large interactions and bounds. Binary outcomes. Econometric issues: identification, estimation.

(4) Altruism and informal transfer in networks.

Magnitude and motives behind informal transfers. The empirics of perfect insurance. Informal insurance in networks.

Altruism in networks.

### PROFESSIONAL SKILLS

- Ability to manipulate formal concepts.
- Interest in research.
- Independence, curiosity, conscientiousness.

### BIBLIOGRAPHY AND TEXTBOOKS

Self-contained lecture notes with exercises and detailed references are provided. For students interested in going beyond these notes, three books are recommended:

- Social and Economic Networks, Matthew O. Jackson, Princeton University Press.
- The Oxford Handbook of the Economics of Networks, Yann Bramoullé, Andrea Galeotti and Brian Rogers (eds.), Oxford University Press.
- Connected: The Surprising Power of Our Social Networks and How They Shape our Lives, Nicholas A. Christakis and James H. Fowler, Little, Brown & Company.

### ORGANIZATION

Lectures and exercises.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

Students must have successfully completed graduate entry-level courses in microeconomic theory, game theory and econometrics.

*Updated on April 2021*

## DEVELOPMENT ECONOMICS - 24H

### TEACHER

- Roberta ZIPARO - [roberta.ziparo@univ-amu.fr](mailto:roberta.ziparo@univ-amu.fr)

### CONTENT

This course is meant to train students on recent topics in development economics bridging the gap between theoretical and empirical research and the implementation of public policy to eradicate poverty. In this sense, the course will allow the students to apply the analytical tools they acquired during the first year of the master to specific questions and to relate them to targeted policies and their effectiveness.

This course will focus on *microeconomic issues*, seeking to understand the factors and constraints influencing individual-level, household-level, or firm level decision-making in developing countries. We will cover a series of broad topics.

The first will concern human capital. Health and education are desirable per se, but they are also important determinants of productivity and of fertility levels (and of each other). What prevents poor households from becoming healthier and to acquiring more education? Why are girls often at a disadvantage within the household? What policies can improve health and education levels in developing countries?

The second broad topic will concern financial capital. Most people in developing countries are self-employed earning highly irregular income, either a daily profit in the informal sector when business is good or only realizing income once or twice a year in farming when the harvest is good. How do households deal with such irregular income? Can they borrow and save, and if not why not? How and how well do informal insurance networks work? Is microfinance the solution to all problems? We will also consider the importance of physical capital. Since the majority of poor households live in rural areas, agricultural productivity is central determinant of income for most of the world' poor. How do the land distribution, property rights and access to technology matter for agricultural productivity?

To summarize, the course will cover complementary topics in the development literature linking relevant econometric techniques and theoretical models to the implementation of relevant public policies.

### Course outline:

The detailed list of the topics covered (and the related plan of the course) is the following:

#### INTRODUCTION

- What is economic development? Measuring poverty.

#### HUMAN CAPITAL

1. Determinants of health: the household behaviour
  - Nutrition based poverty traps
  - Adoption and use of health products
2. Education:
  - The demand for education and child labour
  - The returns to education
3. Fertility, gender gaps and
  - The determinants of fertility choices and the missing women
  - Intra-household decision making

#### FINANCIAL CAPITAL

1. Microfinance and micro-savings
  - Access to credit in poor countries
  - Why don't the poors save more?
2. Coping with risk
  - Income risk and agricultural production
  - Informal safety nets

#### PHYSICAL CAPITAL

- Property rights and technology adoption
- Property right and farm productivity
- Technology adoption and information

#### PROFESSIONAL SKILLS

- Being able to understand and replicate simple theoretical models applied to core issues of development economics.
- Being able to understand and replicate simple econometric analysis to analyse core issues of development economics.
- Being able to understand how to test relevant theoretical model through econometric techniques.
- Being able to link the economic analysis of development issues to the design and implementation of effective public policies.



## BIBLIOGRAPHY AND TEXTBOOKS

### Textbooks

- Understanding Poverty, A. Banerjee, R. Benabou, and D. Mookherjee, editors, Oxford University Press: March 2006.
- Development Economics by Debraj Ray.

### Introduction + Topic 1.1

- UP Chapter 1 (Angus Deaton): "Measuring Poverty" (12 pages) note: available online for those who are still in the process of ordering books.
- Banerjee et al. (2015). "A Multi-faceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries" (May 2015) Science, 348(6236), pp. 772.
- Dasgupta, Partha and Debraj Ray (1986), "Inequality as a Determinant of Malnutrition and Unemployment: Theory," Economic Journal 96 (384): 1011-1034.
- Jensen, Robert and Nolan Miller (2011). "Do Consumer Price Subsidies Really Improve Nutrition?" Review of Economics and Statistics, 93(4), p. 1205-1223.
- Haushofer, Johannes and Jeremy Shapiro (2016). "The Short-Term Impact of Unconditional Cash Transfers to the Poor: Evidence from Kenya". Quarterly Journal of Economics. 131(4), 1973–2042.

### Topic 1.2

- Section 5 in: Dupas, Pascaline, and Ted Miguel (2016). "Impacts and Determinants of Health Levels in Low-Income Countries," Handbook of Field Experiments, Eds. A. Banerjee and E. Duflo.
- Dupas, Pascaline (2014). "Short-Run Subsidies and Long-Run Adoption of New Health Products: Evidence from a field experiment". Econometrica.
- Cohen, Jessica, and Pascaline Dupas (2010). "Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment." Quarterly Journal of Economics, 125(1): 1-45.
- Ashraf, Nava, James Berry and Jesse Shapiro. (2010). "Can Higher Prices Stimulate Product Use? Evidence from a Field Experiment in Zambia." American Economic Review 100: 2383-2413.
- Dupas, Pascaline (2009). "What matters (and what does not) in households' decision to invest in malaria prevention?" American Economic Review, 99(2): 224-30.
- Cohen, Jessica, Pascaline Dupas and Simone Schaner (2012). "Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment".
- Field, Erica, Rachel Glennerster and Reshma Hussam (2011). "Throwing the Baby out with the Drinking Water: Unintended Consequences of Arsenic Mitigation Efforts in Bangladesh". Working paper.

### Topic 2.1

- Attanasio, Orazio, Costas Meghir and Ana Santiago (2012). "Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate Progresa". Forthcoming in Review of Economic Studies.
- Jensen, Robert (2012). "Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India". Quarterly Journal of Economics 127(2), p. 753-792.
- Jensen, Robert (2010). "The (Perceived) Returns to Education and the Demand for Schooling," Quarterly Journal of Economics, 125(2), p. 515-548.
- Benhassine, Najy, Florencia Devoto, Esther Duflo, Pascaline Dupas and Victor Pouliquen (2015). "Replacing the Shove with a Nudge: A Small Unconditional Transfer for Education". AEJ Economic Policy.

### Topic 2.2

- Duflo, Esther (2001), "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment," American Economic Review 91(4): 795-813.
- Duflo, Esther. « The Medium Run Effects of Educational Expansion: Evidence from a Large School Construction Program in Indonesia. » Journal of Development Economics 74, no. 1 (2004): 163-197.
- Bills, Mark, and Pete Klenow. « Does Schooling Cause Growth? » The American Economic Review 90, no. 5 (2000): 1160-1183.
- Foster, Andrew D. and Mark R. Rosenzweig (1996). "Technical Change and Human-Capital Returns and Investments: Evidence from the Green Revolution" The American Economic Review, 86(4): 931-953.
- Ozier, Owen (2016). "The Impact of Secondary Schooling in Kenya: A Regression Discontinuity Analysis". Journal of Human Resources, forthcoming.
- Psacharopoulos, George (1994), "Returns to Investment in Education: A Global Update," World Development 22(9): 1325-1343.
- Rosenzweig, Mark (1995), "Why Are There Returns to Schooling?" American Economic Review P&P 85(2): 153-158.
- Munshi, Kaivan, and Mark Rosenzweig (2006). "Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy." American Economic Review 96(4): 1225-1252.

### Topic 3.1

- Amartya Sen, "More Than 100 Million Women Are Missing," New York Review of Books 37(2), December 20, 1990.

- Eliana Carranza (2014) "Soil Endowments, Female Labor Force Participation, and the Demographic Deficit of Women in India" AEJ applied Vol. 6, Issue 4 -- October 2014.
- Nancy Qian (2008). "Missing Women and the Price of Tea in China: The Effect of Sex-Specific Income on Sex Imbalance," The Quarterly Journal of Economics, 123(3), August 2008.
- Chattopadhyay, Ragabendra, and Esther Duflo (2004). "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India". Econometrica. Vol. 72, No. 5.
- Jayachandran, Seema, and Ilyana Kuziemko (2011). "Why Do Mothers Breastfeed Girls Less Than Boys? Evidence and Implications for Child Health in India", Quarterly Journal of Economics, 126(3), August 2011, pp. 1485-1538.
- Pauline Rossi and Léa Rouanet (2015). "Gender Preferences in Africa: A Comparative Analysis of Fertility Choices". World Development, Vol. 72, pp.326-345, 2015.
- Lori Beaman, Esther Duflo, Rohini Pande and Petia Topalova (2012). "Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India".
- Elaina Rose (1999). "Consumption Smoothing and Excess Female Mortality in Rural India." Review of Economics and Statistics 81, no. 1: 41-49.

#### Topic 3.2

- Ashraf, Nava, "Spousal Control and Intra-Household Decision Making: An Experimental Study in the Philippines." American Economic Review.
- Ashraf, Nava, Erica Field, and Jean Lee. "Household Bargaining and Excess Fertility: An Experimental Study in Zambia." American Economic Review.
- Anderson, S., and J.-M. Baland. "The Economics of Roscas and Intra-household Resource Allocation". Quarterly Journal of Economics, 117(3): 963-95.
- Doepke, M., and M. Tertilt (2014). 'Does Female Empowerment Promote Economic Development?'
- Guirkinger, C., and J.P. Platteau (2015). 'Transformation of the Family under Rising Land Pressure: A Theoretical Essay'. Journal of Comparative Economics, 43(1): 112-37.

#### Topic 4.1

- Robert Cull, Asli Demirgüç-Kunt and Jonathan Morduch (2009). "Microfinance Meets the Market". February 2009. Journal of Economic Perspectives 23(1), Winter: 167-192.
- Erica Field, Abraham Holland and Rohini Pande (2014). "Microfinance: Points of Promise."
- Debraj Ray DE textbook, chapter 14.

#### Topic 4.2

- Gugerty, Mary Kay (2007), "You Can't Save Alone: Commitment in Rotating Savings and Credit Associations in Kenya." Economic Development and Cultural Change 55 (2007): 251-282.
- Dean Karlan, Aishwarya Ratan, Jonathan Zinman (2014). "Savings By and For the Poor: A research review and agenda". Review of Income and Wealth, 60(1), pp. 36-78.
- Dupas, Pascaline and Jonathan Robinson (2013). "Why don't the poor save more? Evidence from health savings experiments". American Economic Review, 103(4), pp. 1138-71.
- Dupas, Pascaline and Jonathan Robinson (2013). "Savings Constraints and Microenterprise Development". American Economic Journal: Applied Economics, January 2013.

#### Topic 5.1

- Udry, Christopher (1990), "Credit Markets in Northern Nigeria: Credit as Insurance in a Rural Economy." World Bank Economic Review 4(3): 251-269.
- Karlan, Dean, Robert Osei, Isaac Osei-Akoto and Christopher Udry (2013), "Agricultural Decisions after Relaxing Credit and Risk Constraints." Quarterly Journal of Economics.
- Cole, Shawn et al. (2013), "Barriers to Household Risk Management: Evidence from India." American Economic Journal: Applied Economics 5(1): 104-35.

#### Topic 5.2

- Dercon, Stefan (2002), "Income Risk, Coping Strategies, and Safety Nets." World Bank Research Observer 17(2): 141-166.
- Townsend, Robert (1994), "Risk and Insurance in Village India." Econometrica 62(3): 539-591.
- Ambrous, A., M. Mobious, AND A. Szeidl (2014): "Consumption Risk-Sharing in Social Networks," American Economic Review, 104(1), 149-182 [677].
- Fafchamps, M., and S. Lund (2003): "Risk Sharing Networks in Rural Philippines," Journal of Development Economics, 71, 261-287 [675,682].
- Foster, A. D., and M. R. Rosenzweig (2001): "Imperfect Commitment, Altruism, and the Family: Evidence From Transfer Behavior in Low-Income Rural Areas," Review of Economics and Statistics.

#### Topic 6.1

- Woodruff, C. (2001), "Review of de Soto's The Mystery of Capital", Journal of Economic Literature 39(4), 1215-1223. (9 pages)
- Udry, Christopher (2011). "Land Tenure", in Ernest Aryeetey, Shantayanan Devarajan and Ravi Kanbur, eds. The Oxford Companion to the Economics of Africa, 2011 (6 pages).
- Allendorf, Keera (2007). "Do Women's Land Rights Promote Empowerment and Child Health in Nepal?" World Development 35(11): 1975-1988. (13 pages).
- Field, Erica, and Maximo Torero (2006). "Do Property Titles Increase Credit Access Among the Urban Poor? Evidence from a Nationwide Titling Program." Working paper.
- Sebastian Galiani and Ernesto Schargrotsky (2010). "Property rights for the poor: Effects of land titling". Journal of Public Economics.
- Entitled to Work: Urban Tenure Security and the Labor Supply in Peru, Quarterly Journal of Economics, November 2007, 4(122): 1561-1602.
- Gollin, Doug, David Lagakos and Mike Waugh (2012) "The Agricultural Productivity Gap in Developing Countries". Quarterly Journal of Economics.
- Goldstein, Markus, and Chris Udry (2008). "The Profits of Power: Land Rights and Agricultural Investment in Ghana," Journal of Political Economy, December 2008.

#### Topic 6.2

- Kyle Emeick, Alain de Janvry, and Elisabeth Sadoulet and Manzoor H. Dar (2016). Technological innovations, downside risk, and the modernization of agriculture, American Economic Review.
- Suri, Tavneet (2011). "Selection and Comparative Advantage in Technology Adoption", Econometrica, 79(1), pp. 159-209.
- Duflo, Esther, Michael Kremer and Jonathan Robinson (2011), "Nudging Farmers to Use Fertilizer: Theory and Experimental Evidence from Kenya" American Economic Review 101(6): 2350-2390.
- Aker, Jenny C. (2010). "Information from Markets Near and Far: The Impact of Mobile Phones on Grain Markets in Niger". American Economic Journal: Applied Economics 2(3): 46-59.
- Aparajita Goyal (2010). « Information, Direct Access to Farmers, and Rural Market Performance in Central India » American Economic Journal: Applied Economics.
- AD Foster, MR Rosenzweig, "Microeconomics of technology adoption" Annual Review of Economics.
- O Bandiera, I Rasul "Social networks and technology adoption in northern Mozambique".

#### ORGANIZATION

The course will consist of 8 lectures of 3 hours.

#### COURSE LANGUAGE

French  English

*Updated on April 2021*

## RESEARCH QUESTIONS - 24H

### TEACHERS

- 12 AMSE faculties (Sebastian BERVOETS, Timothée DEMONT, Marion DOVIS, Romain FERRALI, Charles FIGUIÈRES, Gaëtan FOURNIER, Mathieu LEFEBVRE, Michel LUBRANO, Eva MORENO GALBIS, Patrick PINTUS, Eva RAIBER and Federico TRIONFETTI)

### CONTENT

This course is organized as a series of lectures during which faculty members will introduce students to a series of modern research topics.

**Course outline:** To be determined.

### ORGANIZATION

Lectures.

### COURSE LANGUAGE

French       English

*Update in progress*

## POLITICAL ECONOMY - 24H

### TEACHERS

- Marc SANGNIER - [marc.sangnier@univ-amu.fr](mailto:marc.sangnier@univ-amu.fr)
- Avner SEROR - [avner.seror@univ-amu.fr](mailto:avner.seror@univ-amu.fr)

### CONTENT

This course provides a graduate-level introduction to political economy, with a focus on the functioning of institutions and their impact on development and politics. The first part of the course deals with the building of states, institutional change and conflicts.

The second part covers topics in democratic politics such as voting and electoral competition and electoral control, collective action and the links between politics and the media. Both theories and empirical works will be covered. By the end of the course, students will have an understanding of how institutions, power and economic outcomes interact with each other, and will be familiar with frontier research in this area.

### Course outline:

Lecture 1: State building and state capacity

Weak states - Institution building and inequality - historical origin of institutions

Lecture 2: Institutional change

Regime transition - Radical political change - Revolutions – Corruption

Lecture 3: Civil war

War inefficiency - Ethnic conflicts - Natural resources - Economic causes of conflict

Lecture 4: Voting and electoral competition

Models of voting - Lobbying and special interest

Lecture 5: Political agency and electoral control

Government quality - Clientelism - Bureaucracies

Lecture 6: Politics and the media

Media capture - Media bias

### PROFESSIONAL SKILLS

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.

### BIBLIOGRAPHY AND TEXTBOOKS

Reference handbooks:

- Acemoglu, Daron and James A. Robinson, 2006, Economic Origins of Dictatorship and Democracy, Cambridge MA: Cambridge University Press.
- Persson, Torsten, and Guido Tabellini, 2002, Political Economics: Explaining Economic Policy, Cambridge MA: MIT Press.
- North, Douglass, 1990, Institutions, Institutional Change and Economic Performance, Cambridge: Cambridge University Press.
- Besley, Timothy, 2006, Principled Agents? The Political Economy of Good Government, Oxford University Press.

### ORGANIZATION

Lectures and problem sets.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

The course assumes knowledge of basic micro theory, game theory and econometrics.

### RECOMMENDED PREREQUISITES

State, conflict, institutions, democracy, voting.

*Updated on April 2021*

## INCENTIVES THEORY - 24H

### TEACHERS

- Renaud BOURLÈS - [renaud.bourles@centrale-marseille.fr](mailto:renaud.bourles@centrale-marseille.fr)
- Frédéric DEROÏAN - [frederic.deroian@univ-amu.fr](mailto:frederic.deroian@univ-amu.fr)

### CONTENT

The aim of this course is to present the main issues coming from the need to provide incentives (through mechanism or contract) in the presence of information asymmetries. It will highlight the contributions of the theory of incentives to many economic issues (in IO, public economics, macroeconomics, finance and insurance...) and present the recent developments (extrinsic motivation, behavioral biases).

#### Course outline:

1. Introduction: the principal-agent model and mechanism design
2. The case of adverse selection
  - 2.1. The basic model
  - 2.2. Applications and extensions
  - 2.3. Signaling models
  - 2.4. Dynamic aspects: the issue of commitment
3. The issue of moral hazard
  - 3.1. Reminder on the basic model
  - 3.2. Applications and extensions
  - 3.3. Moral hazard in teams
  - 3.4. Dynamic aspects: career concerns
4. The contribution of the theory of incentive in the main economic fields
  - 4.1. Contributions to IO: Procurement and Optimal regulation
  - 4.2. Contributions to public economics: Optimal taxation and Public-Private Partnerships
  - 4.3. Contribution to Macroeconomics: Efficiency wage
5. The limits of the theory of incentives
  - 5.1. Countervailing incentives
  - 5.2. Behavioral aspects: intrinsic motivation and altruism

### PROFESSIONAL SKILLS

- Understand how contract specificities can allow extracting information.
- Understand the specific patterns of dynamic (or repeated) relationships.
- Apprehend the limits of the theory of incentives.

### BIBLIOGRAPHY AND TEXTBOOKS

#### Books

- The Economics of contracts, B. Salanié, MIT Press.
- The Theory of incentives, J.-J. Laffont and D. Martimort, Princeton University Press.
- A Theory of Incentives in Procurement and Regulation, J.-J. Laffont and J. Tirole, MIT Press.

#### Articles

- Aghion, P., and Jackson, M. O., « Inducing Leaders to Take Risky Decisions: Dismissal, Tenure, and Term Limits. » American Economic Journal: Microeconomics, 8(3): 2016.
- Alger, I., & Weibull, J. W., Kinship, Incentives, and Evolution. American Economic Review, 100(4), 2010.
- Bénabou, R. and Tirole, J., Intrinsic and Extrinsic Motivation, The Review of Economic Studies, 70(3), 2003.
- Gibbons, R., Murphy, K., Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence. Journal of Political Economy, 100, 1992.
- Holmstrom, B., Moral Hazard in Teams. Bell Journal of Economics, 13(2), 1982.
- Holmstrom, B., Milgrom, P., Multitask Principal-Agent Analyses: Incentive Contracts, Asset ownership, and Job Design. Journal of Law, Economics, and Organization, 7, 1991.
- Lewis, T. R. and Sappington, D., Countervailing incentives in agency problems, Journal of Economic Theory, 49(2), 1989.

### ORGANIZATION

The course is composed of 24 hours of lectures. The first 12h are taught by Renaud Bourlès, the other 12 by Frédéric Déroïan.

**COURSE LANGUAGE**

French  English

**FUNDAMENTAL PREREQUISITES**

Knowledge in microeconomics and mathematics (real analysis, differential calculus and integrals).

**RECOMMENDED PREREQUISITES**

Basic knowledge in decision theory.

*Updated on April 2021*

## MACROECONOMIC CYCLES - 24H

### TEACHER

- Frédéric DUFOURT - [frederic.dufourt@univ-amu.fr](mailto:frederic.dufourt@univ-amu.fr)

### CONTENT

The purpose of the course is to acquire relevant knowledge to analyze, both theoretically and numerically, discrete-time dynamic rational expectation models in economics. Applications in the field of Real Business Cycle (RBC) theory and Dynamic Stochastic General Equilibrium (DSGE) models will be presented. Computer sessions will be undertaken using Matlab software.

#### Course outline:

Chap 1. Advanced Real Business Cycle theory

1. The RBC model: main results and early criticisms
2. Labor market extensions
3. Variable factor utilization
4. Capital adjustment costs and investment dynamics
5. Combining sources of uncertainty

Chap 2. Solving and estimating standard DSGE models

1. Linear rational expectation models: solution(s), uniqueness/multiplicity, stability
2. Solving standard DSGE model by first-order perturbation methods (log-linear approximation around the steady-state)
3. Estimation methods: overview

Chap 3. Computer sessions

1. Computer session 1
2. Computer session 2

Chap 4. Global methods: value function iteration and applications (optional)

### PROFESSIONAL SKILLS

- Understanding Real Business Cycle models
- Solving and estimating DSGE models
- Applications using Matlab

### BIBLIOGRAPHY AND TEXTBOOKS

- R. Farmer, *Macroeconomics of Self-Fulfilling Prophecies*, 2nd edition, MIT Press, 1999.
- King, R. and S. Rebelo, "Resuscitating real business cycles", *Handbook of Macroeconomics*, 1999, vol. 1, Part B, pp 927-1007.
- Dejong, D. and C. Dave, *Structural Macroeconometrics*, 2nd edition, Princeton University Press, 2011.
- Canova, F., *Methods for applied Macroeconometric Research*, Princeton University Press, 2007.

### ORGANIZATION

8 courses of 3h each, among which 2 courses are devoted to computer sessions.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

Standard knowledge in economics and mathematics for students in Economics at M1 level (theory of intertemporal choices, optimization, etc.).

### RECOMMENDED PREREQUISITES

Undergraduate macroeconomics, M1 Macroeconomics courses.

*Updated on April 2021*



## AUTOMATIC MODEL SELECTION METHODS - 24H

### TEACHER

- Sullivan HUÉ - [sullivan.hue@univ-amu.fr](mailto:sullivan.hue@univ-amu.fr)

### CONTENT

The objective of this course is to introduce quantitative methods allowing to reduce information. These methods cover different fields of statistics and are based on classical econometric methods (OLS, MLE) or classificatory or principal component methods. The ultimate goal is to study methods to do automatic variable selection in large-scale problems and to apply them to real data.

### Course outline:

- Classification methods
- Economic factor models
- Statistical factor models
- Lasso methods
- The so-called « General to Specific » method (Hendry, Gets or Autometrics Methodology)

### PROFESSIONAL SKILLS

- Understanding new methods
- Application on real data
- Learning new tools or econometric softwares dedicated to the reduction of information

### BIBLIOGRAPHY AND TEXTBOOKS

- Doornik, J.A. and Hendry, D.F. (2015). Statistical model selection with “Big Data”, Cogent Economics & Finance, vol 3, n°1, 1-15.
- Hendry, D.F. and Doornik, J.A. (2014). Empirical Model Discovery and Theory Evaluation. Automatic Selection Methods in Econometrics. The MIT Press.
- Richard A. Johnson and Dean W. Wichern, Applied Multivariate Statistical Analysis, Pearson.

### ORGANIZATION

Lecture.

### COURSE LANGUAGE

French  English

### MANDATORY PREREQUISITES

- Advanced statistics
- Introduction to econometrics

### RECOMMENDED PREREQUISITES

Programming (R or Ox)

### KEYWORD

Reduction of information

*Updated on April 2021*

## INTERNATIONAL TRADE - 24H

### TEACHER

- Lorenzo ROTUNNO - [lorenzo.rotunno@univ-amu.fr](mailto:lorenzo.rotunno@univ-amu.fr)

### CONTENT

The objectives of this module are to familiarize students with the basic theories of international trade and to expose them to the latest theoretical and empirical advances in the field. By doing so, students should develop a clearer sense of what constitutes a good research topic (especially in the field of international trade). The course should equip them with skills and knowledge useful to better understand the current debates surrounding trade policy.

#### Course outline:

This course covers the most important theories of international trade and their applications. Each week, the rigorous presentation of theoretical contributions is accompanied by a comprehensive overview of the corresponding empirical validations. The first part of the module quickly reviews the neoclassical theories of trade in the simplest frameworks, and then extends their predictions to more recent and realistic settings. The second part covers models of monopolistic competition with homogeneous and heterogeneous firms. It also defines a unifying theoretical framework that can encompass different market structures and is often used for quantitative analysis. The third and last part of the module applies the theoretical and empirical tools used in the first two parts to the study of three research topics that have recently received strong attention in the field.

- Part I: Neoclassical trade models

Ricardian models

Factor proportions theories

- Part II: Monopolistic competition and firms

Monopolistic competition with homogeneous firms

Monopolistic competition with heterogeneous firms

Gravity models and gains from trade

- Part III: Selected topics in international trade

Trade and labour markets

Trade policy

Global supply chains and multinationals

### PROFESSIONAL SKILLS

By the end of the course, students should be able to:

- Understand how trade and specialization affect welfare; Identify the ingredients of the main theoretical models of international trade.
- Derive analytically the gains from trade under different market structures.
- Appreciate the main channels whereby trade influences labour markets.
- Understand the economic incentives and consequences of trade policy.
- Analyse the ways firms can participate in international markets.

### BIBLIOGRAPHY AND TEXTBOOKS

The reading material consists of academic papers (review articles and research paper, published and unpublished) and various notes. These will be posted on AMeTICE before the relevant lecture. The full list of readings (marked as 'essential' or 'supplementary') will be made available in Week 1. Parts of the material is covered in the following textbook:

- Feenstra, R.C. (2016), Advanced International Trade: Theory and Evidence, Second Edition.

### ORGANIZATION

The course is organized in 8 weekly lectures of 3 hours each. The relevant slides will be available on AMeTICE right after the lecture. The reading materials will be posted on AMeTICE before the lecture.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

Intermediate microeconomics and econometrics (M1 level). Familiarity with STATA (or MATLAB).

### RECOMMENDED PREREQUISITES

International trade at undergraduate or M1 level.

*Updated on April 2021*

## PUBLIC CHOICE - 24H

### TEACHER

- Nicolas GRAVEL - [nicolas.gravel@univ-amu.fr](mailto:nicolas.gravel@univ-amu.fr)

### CONTENT

Understanding the basic models of public choice, incentives, and decision making.

#### Course outline:

1. Economic institutions
2. Social choice and information
3. Efficiency
4. Aggregation, Arrow's theorem
5. Non-manipulability, Gibbard and Saterthwaite theorem
6. Median voter theorem
7. Market institutions
8. Vickrey-Clarke-Groves schemes
9. Economic institutions and reform
10. Additional examples

### PROFESSIONAL SKILLS

Modeling an interactive public decision process and interpretation of the model.

### BIBLIOGRAPHY AND TEXTBOOKS

- Arrow, Social Choice and Individual Values.

### COURSE LANGUAGE

French  English

### RECOMMENDED PREREQUISITES

Basic probability theory.

*Updated on April 2021*

## HEALTH ECONOMICS - 24H

### TEACHERS

- Alain PARAPONARIS - [alain.paraponaris@univ-amu.fr](mailto:alain.paraponaris@univ-amu.fr)
- Bruno VENTELOU - [bruno.ventelou@univ-amu.fr](mailto:bruno.ventelou@univ-amu.fr)

### CONTENT

This course proposes a balanced approach of health economics based on both theoretical and empirical considerations. It deals with the study of the main stakeholders' economic behaviours of the health sector: patients, health professionals (physicians and hospitals), health insurance, companies producing health goods or pharmaceuticals and health authorities. It invites to reconsider some of the basic concepts in economics (supply and demand, public intervention, uncertainty, information asymmetries, incentives, etc.) and models (growth models and human capital, labour supply, etc.), for a deep understanding of the phenomena at work in the sector. Thus, the course is likely to meet the expectations from students willing to specialise in the analysis of the health sector as well as students interested in illustrations of concepts and mechanisms derived from the economic theory.

#### Course outline:

General introduction (2h-BV)

Part 1. Micro foundations (8h)

Chap 1 The demand for health and healthcare (4hBV)

- Introducing health in the utility function and deriving healthcare demand: presentation of several options
- The demand for healthcare using the concept of health-capital (Grossman, 1972)
- Empirical illustration

Chap 2 Health supply (4h-AP)

- Self-employed physicians
- Modelling Quality
- Payment schemes
- Empirical illustration

Part 2. Health macroeconomics (8h)

Chap 3 Health as an economic sector (5h-AP)

- Health sector contribution to GDP and growth in France and other OECD countries
- The irresistible growth of the health sector in the economy (health as a luxury or a necessity good?)
- Innovation in the health sector
- Empirical illustration

Chap 4 Health, development and growth (3h-BV)

- A health-augmented Solow-model
- Health and the development process, the Sachs report & the econometrics of the health/growth relationship
- The burden of diseases in Africa and the notion of "Universal Health Coverage"
- Modelling health in a macroeconomic design: epidemic traps
- Empirical illustration

Part 3. Topics (6h)

Chap 5 Public regulations in the healthcare market

- Measuring and reducing social inequalities in health (3h-BV) Empirical illustrations
- Information asymmetries in health insurance (3hAP)
- Adverse selection in insurance companies' plans
- Moral hazard and healthcare consumption

### PROFESSIONAL SKILLS

- Analytical capabilities in health economics.
- Transferring knowledge to others (noneconomists).
- Ability to combine theoretical modelling and empirical analysis.
- Identifying the appropriate estimation strategy.
- Data creation/collection, handling datasets for health economics purposes.

### BIBLIOGRAPHY AND TEXTBOOKS

- Bras PL, de Pourville G, Tabuteau D. Traité d'économie et de gestion de la santé, Presses de Sciences Po, 2008.
- Culyer AJ, Newhouse JP (editors). Handbook of health economics, volumes 1A and 1B, North Holland, 2000.
- Folland S, Goodman AC, Stano M. The economics of health and health care, Pearson, 7th edition, 2013.
- Jones AM. The Elgar companion to health economics, Edward Elgar, 2006.

- Jones AM. Applied econometrics for health economists: a practical guide: Abingdon: Radcliffe Publishing Ltd, 2007.
- Jones AM, Rice N, Bago d'Uva T, Balia S. Applied Health Economics, Routledge, 2007.
- Pauly MV, McGuire TJ, Barros PP. Handbook of health economics, volume 2, North Holland, 2011.
- Phelps CE. Health economics, Pearson, 5th edition, 2013.
- Sloan F, Hsieh CR. Health economics, MIT Press, 2012.

#### **ORGANIZATION**

The course is taught by specialists in health economics involved in research projects most often implying or concerning health sector stakeholders (self-employed physicians, hospitals, DREES and DGOS of the French Health Ministry, National compulsory health insurance, complementary health insurances, regional health observatories, regional health agencies, National cancer institute, National drug safety agency, Public health research institute, etc.). It will use both theoretical modelling and search for empirical evidence backed by statistical and econometric methods.

#### **COURSE LANGUAGE**

French  English

#### **RECOMMENDED PREREQUISITES**

Microeconomics 1-4, Macroeconomics 1-4, Econometrics 1&2, Methodology 2, Health and environmental economics.

*Updated on April 2021*

## ENVIRONMENTAL ECONOMICS - 24H

### TEACHERS

- Dominique AMI - [dominique.ami@univ-amu.fr](mailto:dominique.ami@univ-amu.fr)
- Hubert STAHN - [hubert.stahn@univ-amu.fr](mailto:hubert.stahn@univ-amu.fr)

### CONTENT

Part I of this lecture is dedicated to the design of an environmental policy. These regulation tools are first introduced in the context of a competitive polluting industry. We concentrate our attention on property rights, usual command and control, Pigouvian taxes, and emission rights permits. In a second step, we discuss the effect of imperfect competition, of imperfect information and of policy spill-overs.

In part two of this course you will learn about the categories of economic value assigned to environment and work through the utility theory on which environment valuation methods are based. We will survey the nonmarket valuation method employed by economists to measure public goods. This includes Revealed Preference methods and Stated Preference methods based on surveys and hypothetical markets. We will explore theoretical and empirical issues.

### Course outline:

Part I: The design of an environmental policies

1. The regulation of a competitive polluting industry a. A competitive partial equilibrium model b. Property rights and the Coase theorem c. The different instruments
2. Some extensions a. Market Power b. Imperfect information c. Policy spill-overs

Part II: Valuing the Environment

1. The theory of environmental valuation a. Categories of Values b. From economic values of non-market goods to valuation methods c. Willingness To Pay (WTP) or Willingness To Accept (WTA)
2. Stated Preference Methods a. Hypothetical Market b. Contingent Valuation Methods c. Choice Modelling
3. Revealed preference Methods a. Valuing consumer's benefits b. Related topics

### PROFESSIONAL SKILLS

- Identifying the main issues of modern resource and environmental economics.
- Identifying the relevant theoretical models to deal with them.
- Identifying the relevant empirical models to deal with them.
- Valuing goods and services when markets do not exist.

### BIBLIOGRAPHY AND TEXTBOOKS

- Endres A. Environmental Economics: Theory and Policy Cambridge University Press 2010.
- Koldsadt C.D Environmental Economics Oxford University Press 2000.
- Hanley, N., E.B. Barbier Pricing Nature, Edward Elgar Publishing, Inc. 2009.
- Perman R., Ma Y., Common M., Maddison D., McGilvray J. Natural Resource and Environmental Economics 4th edition Addison Wesley 2011.
- Phaneuf D., T. Requate, A course in Environmental Economics, Theory, Policy and Practice Cambridge university Press 2017.

### ORGANIZATION

This lecture on environmental economics is split into two topics of 12 hours. One is dedicated to environmental policy and the other to environmental evaluation.

### COURSE LANGUAGE

- French  English

### FUNDAMENTAL PREREQUISITES

- Advanced Consumer's theory, producer theory, welfare economics.
- Market Failures: Externalities, Public Goods.
- Basic econometrics.

### RECOMMENDED PREREQUISITES

Econometrics of Qualitative dependent variable: logit, logit multinomial models.

*Updated on April 2021*

## RESEARCH METHODOLOGY - 66H

### TEACHERS

- 6 AMSE faculties (Sebastian BERVOETS, Habiba DJEBBARI, Karine GENTE, Christian SCHLUTER, Avner SEROR and Miriam TESCHL)

### CONTENT

This course is organized as a series of lectures and activities. The first part of the course is made of lectures devoted to the epistemology of economics and to the description of today's organization of academic economics.

In the first set of lectures, what methodology and epistemology means in and for economics will be discussed. Students will be given a very broad overview over some historical developments and debates concerning key questions about "how to do science" and more specifically what this means in economics. What it means to produce a model and to reason in abstract terms, such as economics often does, will also be considered. Finally, some current debates of methodology in the context of experimental and behavioural economics will be introduced.

The second set of lectures will be devoted to the presentation of academic research in economics. Students will be introduced to the organization of research and to the form of academic research. Subsequent activities will allow the students to practice research skills thanks to different activities supervised by different faculty members.

### Course outline:

1. Epistemology of economics (lectures): What means methodology and epistemology in economics? - Some important historical debates - As-if reasoning - What is a model? - What is an experiment and how did it influence economics?
2. Academic research in economics (lectures): Academic research organization - Research ethics - Academic writing - Oral presentation guidelines
3. Critical assessment of research papers (activity)
4. Literature review and collective research proposal (activity)
5. Individual research proposal (activity)

### PROFESSIONAL SKILLS

- Capacity to understand research papers,
- Capacity to construct a research proposal.

### ORGANIZATION

Lectures and activities.

### COURSE LANGUAGE

French  English

*Updated on April 2021*

## LABOR ECONOMICS - 24H

### TEACHER

- Bruno DECREUSE - [bruno.decreuse@univ-amu.fr](mailto:bruno.decreuse@univ-amu.fr)

### CONTENT

The goal of this course is to provide the modern theoretical tools to model aggregate labor markets. We emphasize the role played by matching frictions, which summarize the mix of information imperfection and mobility costs for job-seekers and potential employers.

The course covers individual behavior in frictional environments, measurement of unemployment inflows and outflows, the matching function, equilibrium search unemployment, unemployment compensation and job protection. Theoretical mechanisms are illustrated by case studies, calibrations and use of macro data.

### Course outline:

#### Chapter 1: Job search and unemployment compensation

- 1.1 Stationary job search
- 1.2 Accounting for non-stationarity
- 1.3 Unemployment compensation
- 1.4 Extensions

#### Chapter 2: Unemployment inflows, outflows, and the matching function

- 2.1 Unemployment inflows and outflows
- 2.2 Beveridge curve
- 2.3 Matching functions
- 2.4 Microfoundations

#### Chapter 3: Equilibrium search unemployment

- 3.1 Model assumptions
- 3.2 Equilibrium with exogenous wage
- 3.3 Equilibrium with wage bargaining
- 3.4 Efficient unemployment

#### Chapter 4: The economics of job protection

- 4.1 What is Employment Protection Legislation?
- 4.2 Transfers vs deadweight costs
- 4.3 Labor market impacts of EPL
- 4.4 EPL and the legal origins of the judicial system

### PROFESSIONAL SKILLS

The course stimulates problem solving skills. By the end of the course, the students will be able to write models of the aggregate labor market to study various employment policies, calibrate these models on aggregate data, solve Bellman equations, discuss the effects of changes in the unemployment compensation scheme or in employment protection legislation, and relate theoretical models to empirical studies.

### BIBLIOGRAPHY AND TEXTBOOKS

- Cahuc, P., Zylberberg, A., 2014. Labor Economics, MIT Press.
- Pissarides, C., 2000. Equilibrium unemployment theory. MIT Press.
- Des références additionnelles, principalement des articles de recherche, seront données lors de chaque séance.

### ORGANIZATION

This is a 24-hour course. The website of the course contains lecture screens, exercises and their corrections, and past exams: <https://sites.google.com/site/brunodecreuseecon/teaching>

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

The course is fairly technical: integration problems, differential equations, statistics and probability, numerical solving of equations. However, these skills will be developed during the course through numerous exercises.

*Updated on April 2021*



## LABOR ECONOMETRICS - 24H

### TEACHER

- Christian SCHLUTER - [christian.schluter@univ-amu.fr](mailto:christian.schluter@univ-amu.fr)

### CONTENT

We will focus on the practical challenges that empirical work has to face. These challenges require a purposeful choice of an estimation strategy (a research design), and we will study the strengths and weaknesses of leading approaches. This will enable us to identify good research practice (which is at the heart of what some leading empirical labour econometrician have labelled the Credibility Revolution in Empirical Economics).

#### Course outline:

Empirical methods for labour economics

All methods will be illustrated with real-world data using R, and several papers in applied labour economics will be discussed.

#### (I) Selection biases: Problem and Remedies.

Standard econometric tools require that our datasets be random samples, thus being representative of the population or universe of interest. However, this requirement is rarely satisfied in practice. Individuals optimally self-select into economic states, rendering the observed states non-random. For instance, individuals decide whether to accept jobs, and the study of the wage distribution can only use this self-selected group thus yielding distorted results (selection biases).

We study Heckman's idea of attempting to remove this sample selection bias by modelling it explicitly (a Roy model).

Applications: Heckman and Honore (1990, ECTA). "The Empirical Content of the Roy Model." Roy models of migration: Borjas (1999, Handbook of LabEcon), "The Economic Analysis of Immigration", Chiquiar and Hanson (2005, JPE), "International Migration, SelfSelection, and the Distribution of Wages: Evidence from Mexico and the United States"; Gurgand, M. and D.N. Margolis (2008, JPubE), "Does work pay in France? Monetary incentives, hours constraints, and the guaranteed minimum income".

#### (II) Unobserved Heterogeneity: Fixed Effects, Panel Data Estimators, and Difference-in-Difference

Usually, we cannot measure or observe everything that is relevant for the determination of outcomes. Such unobservable heterogeneity then poses serious problems for the researcher if it is correlated with control variables (the omitted variables problem). Overcoming this problem using an instrumental variables strategy is often not feasible in practice since credible instruments are very difficult to find. However, if we observe the same individual over several periods, such panel data can offer a solution. We will develop and put into practice empirical methods for estimation and inference that exploit such a panel structure. After reviewing the classic approaches, we then proceed to discuss some important papers from the theoretical and applied econometrics literatures. An important setting in which panel data methods have become very popular is the estimation of causal policy effects of natural experiments. We will discuss the challenges and limitations of such difference-in-difference (DiD) strategies.

Applications: Ruhm, C.J. (1996, JoHE), "Alcohol policies and highway vehicle fatalities"; Card, D., J. Heining, and P. Kline. (2013, QJE) "Workplace Heterogeneity and the Rise of West German Wage Inequality"; Duflo, E. (2001, AER), "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment".

While DiD is a popular estimation method in situations in which the researcher disposes over a panel, drawing inference and testing is challenging is challenging. We consider several such situations which arise when errors are correlated within a group or across time.

Further readings: Moulton (1990, RESTAT), « An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units »; Donald and Lang (2007, RESTAT) « Inference with Difference-in-Differences and Other Panel Data »; Bertrand, Duflo, Mullainathan (2004, QJE), « How Much Should We Trust Differences-in-Differences Estimates? »

#### (III) Identification

What are the variations in the data that we seek to exploit in order to estimate the objects of our interest (typically the coefficients)? Are these variations random, or a manifestation of choices? An econometric model is identified if we can uniquely solve for these model coefficients. To achieve this, we usually have to impose some structure, such as the assumption that the error term in the linear regression be uncorrelated with the regressors (identification hypothesis). The validity of the chosen empirical strategy therefore depends on the empirical validity of the identification hypothesis. We will examine what constitutes good Research Design.

Application and replication: D. Card (1993), "Using geographic variation in college proximity to estimate the return to schooling." Angrist and Krueger (2001, JEconPersp) "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments", Angrist and Pischke (2010, JEconPersp) "The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con out of Econometrics."

### PROFESSIONAL SKILLS

Students will improve their understanding of the strengths and weakness of empirical methods, which then enables them to choose an appropriate research design for a specific estimation problem. Using real-world data, we will replicate some well known investigations.

### BIBLIOGRAPHY AND TEXTBOOKS

For the key papers, see above.

Additional reading:

- Angrist and Krueger (Handbook of Lab Econ): Empirical strategies in Labour Economics.
- Angrist and Pischke, Mostly Harmless Econometrics.

### ORGANIZATION

Lectures.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

Basic econometrics (The linear model, ordinary least squares, instrumental variables).

*Updated on April 2021*

## DYNAMIC MACROECONOMICS - 24H

### TEACHERS

- Thomas SEEGMULLER - [thomas.seegmuller@univ-amu.fr](mailto:thomas.seegmuller@univ-amu.fr)
- Alain VENDITTI - [alain.venditti@univ-amu.fr](mailto:alain.venditti@univ-amu.fr)

### CONTENT

The 2008 crisis and its consequences have shown the important role played by the interplay between the financial and real spheres at the macroeconomic level. The aim of this course is to study some of these aspects. We will focus on two issues that have experienced recent empirical and theoretical developments, the relationship between growth, macroeconomic volatility and public debt, and the one between economic activity and speculative bubbles.

#### Course outline:

1. Public debt, growth and macroeconomic volatility (Alain Venditti)
  - 1.1. Balanced budget, fiscal policy and aggregate fluctuations
  - 1.2. Public debt, inequalities and macroeconomic fluctuations
  - 1.3. Multiple equilibria and collateral constraints in open economy
  - 1.4. Public debt and growth: the short term and long term effects
2. Rational bubbles and macroeconomic activity (Thomas Seegmuller)
  - 2.1. Existence of bubbles, crash and crowding-out effect in a simple overlapping generations model
  - 2.2. Bubbles and infinitely lived agents
  - 2.3. Bubbles enhancing production: heterogeneous investments and liquidity constraints
  - 2.4. The role of public policies

### PROFESSIONAL SKILLS

- Dynamic analysis understanding of the mechanisms source of macroeconomic fluctuations.
- Relationship between the real and financial spheres of the economy.

### BIBLIOGRAPHY AND TEXTBOOKS

#### Partie 1

- Abad, N., T. Seegmuller et A. Venditti (2017): « Non-Separable Preferences do not Rule Out Aggregate Instability under Balanced-Budget Rules: A Note », *Macroeconomic Dynamics* 21, 259-277.
- Cheron, A., K. Nishimura, C. Nourry, T. Seegmuller et A. Venditti (2015): « Growth and Public Debt: What are the Relevant Tradeoffs? », AMSE Working Paper.
- Futagami, K., T. Iwaisako et R. Ohdoi (2008): « Debt Policy Rule, Productive Government Spending, and Multiple Growth Paths », *Macroeconomic Dynamics* 12, 445-462.
- Ghilardi, M. et R. Rossi (2014): « Aggregate Stability and Balanced-Budget Rules », *Journal of Money, Credit and Banking* 46, 1785-1807.
- Giannitsarou, C. (2007): « Balanced Budget Rules and Aggregate Instability: the Role of Consumption Taxes », *The Economic Journal* 117, 1423-1435.
- Minea, A. et P. Villieu (2013): « Debt Policy Rule, Productive Government Spending, and Multiple Growth Paths: a Note », *Macroeconomic Dynamics* 17, 947-954.
- Morimoto, K., T. Hori, N. Maebayashi et K. Futagami (2017): « Debt Policy Rules in an Open Economy », *Journal of Public Economic Theory* 19, 158-177.
- Nishimura, K., C. Nourry, T. Seegmuller et A. Venditti (2015): « On the (De)stabilizing Effect of Public Debt in a Ramsey Model with Heterogeneous Agents », *International Journal of Economic Theory*, 11, 7-24.
- Nourry, C., T. Seegmuller et A. Venditti (2013): « Aggregate Instability Under Balanced-Budget Consumption Taxes: a Re-examination », *Journal of Economic Theory* 148, 1977-2006.
- Schmitt-Grohé, S. et M. Uribe (1997): « BalancedBudget Rules, Distortionary Taxes, and Aggregate Instability », *Journal of Political Economy* 105, 976-1000.
- Schmitt-Grohé, S. et M. Uribe (2018): « Multiple Equilibria in Open Economy Models with Collateral Constraints: Overborrowing Revisited », NBER Working Paper No. 22264.

#### Partie 2

- Fahri, E. et J. Tirole (2012): « Bubbly Liquidity », *Review of Economic Studies* 79, 678-706.
- Kocherlakota, N. (1992): « Bubbles and Constraints on Debt Accumulation », *Journal of Economic Theory* 57, 245-256.
- Martin, A. et J. Ventura (2012): « Economic Growth with Bubbles », *American Economic Review* 102, 3033-58.

- Miao, J. (2014): « Introduction to Economic Theory of Bubbles », Journal of Mathematical Economics 53, 130-136.
- Weil, P. (1987), « Confidence and the Real Value of Money in Overlapping Generations Models », Quarterly Journal of Economics 102, 1-22.
- Raurich, X. et T. Seegmuller (2015): "On the Interplay between Speculative Bubbles and Productive Investment", AMSE Working Paper 2015-42.

#### ORGANIZATION

Lecture with presentation of research articles.

#### COURSE LANGUAGE

French  English

*Updated on April 2021*

## THEORETICAL ECONOMETRICS - 24H

### TEACHER

- Russell DAVIDSON - [russell.davidson@mcgill.ca](mailto:russell.davidson@mcgill.ca)

### CONTENT

Provide students with a working knowledge of modern econometric practice, with the accompanying theoretical background. Students should also acquire skill with a suitable econometrics software package.

### Course outline:

The course starts with a brief review of the linear regression model, with emphasis on a geometric approach. This is followed by the study of instrumental variables estimation, the method of moments, and generalised least squares. Next comes the method of maximum likelihood, and the classical hypothesis tests that can be based on maximum likelihood estimation. Discrete choice models, such as probit and logit, are discussed and it is shown how to estimate them by maximum likelihood. Throughout the course, the use of the bootstrap for the implementation of statistical inference in the context of econometrics will be emphasised.

### PROFESSIONAL SKILLS

- Econometric estimation and inference
- Experience with econometrics software
- Understanding of maximum likelihood and related methods
- Understanding of the bootstrap for statistical inference

### BIBLIOGRAPHY AND TEXTBOOKS

The main reference is the textbook: "Econometric Theory and Methods", by Russell Davidson and James MacKinnon, Oxford University Press, 2004.

A few other references will be suggested occasionally, but the textbook is the only required reference.

### COURSE LANGUAGE

French  English

### FUNDAMENTAL PREREQUISITES

Matrix algebra (linear algebra), some experience with some variety of econometric software, for instance, Matlab, Stata, R, etc.

### RECOMMENDED PREREQUISITES

Basic differential and integral calculus.

*Updated on April 2021*

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