# **COURSE CATALOGUE**

# MASTER – M.Sc. IN ECONOMICS PO 2013

Note that the optional courses were provided in past terms; there is no guarantee that they will be offered again. Please refer to the current information found on our master homepage:

http://www.en.master.vwl.uni-muenchen.de/courses/index.html

Version October 2023

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# Compulsory Modules (CM)

Mathematics for Economists	
Professor/Lecturer	Englmaier, Florian
Course type	Lecture and Tutorial
Compulsory/Optional	Compulsory
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	"Abiturwissen" mathematics; basic knowledge of linear algebra and multivariable calculus; being open for a rigorous approach - theorems stated carefully and some proofs given
Syllabus/Course outline	

# 1. Introduction

- 2. Methods of Proof
- 3. Matrix Algebra
- 4. Functions
- 5. Integration
- 6. Optimization
- 7. Basics in Probability Theory
- 8. Basic Stochastic Processes
- 9. Basics in Dynamic Programming
- 10. More Advanced Material in Topology

# Literature

Most of the material is covered in any good math for econ book. We will mostly be using the ones below. Most of the relevant core material is covered in the Jehle/Reny appendix.

- de la Fuente. Mathematical Methods and Models for Economists. Cambridge University Press (2000)
- M. Hoy, J. Livernois, C.J. McKenna, R. Rees, and T. Stengos. Mathematics for Economics. MIT Press. 2nd edition (2001)
- G. Jehle and P.J. Reny. Advanced Microeconomic Theory. Addison Wesley. 2nd edition (2000)
- Mas-Colell, M.D. Whinston, and J.R. Green. Microeconomic Theory. Oxford University Press (1995)
- C.P. Simon and L.E. Blume. Mathematics for Economists. W. W. Norton & Company (1994)
- K. Wainwright and A. Chiang. Fundamental Methods of Mathematical Economics. McGraw-Hill/Irwin. 4th edition (2004)

Microeconomics	
Professor/Lecturer	Schmidt, Klaus
Course type	Lecture and Tutorial
Compulsory/Optional	Compulsory
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Undergraduate microeconomics

This course introduces graduate students to some of the most important and most commonly used microeconomic methods. The first half of the course offers an introduction to neoclassical decision theory and game theory (strategic decision making). The second part of the course focuses on models of imperfect competition and information economics. We discuss models of monopoly pricing, oligopolistic competition, and information asymmetries in markets including auctions, adverse selection, screening and moral hazard. Furthermore, basic models of optimal contracting under informational asymmetries are introduced.

1. Decision Theory - Individual decisions under certainty and under uncertainty

2. Game Theory - Strategic interaction of individual decision makers

3. Market Power - Strategic interaction on oligopolistic markets

4. Markets with Asymmetric Information - Adverse Selection, signaling and screening

# Literature

All participants have to work with this book. Additional references were given in the lecture.

Mas-Colell, M.D. Whinston, and J.R. Green. Microeconomic Theory. Oxford University Press (1995)

Macroeconomics	
Professor/Lecturer	Sunde, Uwe
Course type	Lecture and Tutorial
Compulsory/Optional	Compulsory
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Basic Knowledge in Macro, Micro and Mathematical
	Methods (Calculus)

This course offers an introduction to modern macroeconomics. The course is intended to make students familiar with methods and models used in contemporary research in macroeconomics. The course focuses on substance in different areas of macroeconomics, in particular in models of economic growth and fluctuations. The course is also devoted to provide an introduction in methodological aspects. In particular, the course covers the basic concepts used in dynamic models of intertemporal choice.

The course covers the following topics:

- 1. Economic Growth
  - Motivation and Recap of Methods (Differential Equations, Taylor Series)
  - Solow RecapMore Methods: Dynamic Optimization
  - Ramsey Model
  - Extensions of the Neoclassical Growth Model
  - Endogenous Growth
- 2. Overlapping Generations (OLG) Models
- 3. Economic Fluctuations
  - Basics
  - Real Business Cycles
  - Some Methods: Log-Linearization
  - Solution,
  - Calibration and Simulation
  - New-Keynesian Models and Monetary Policy

# Literature

Main Reference:

D. Romer: Advanced Macroeconomics, 4rd edition, McGraw Hill, 2011 Additional references:

D. Acemoglu: Introduction to Modern Economic Growth, Princeton University Press, 2011

J. Gali, Monetary Policy, Inflation and the Business Cycle, an Introduction to the New Keynesian Framework, Princeton University Press, 2008.

Additional references and research articles were given in the course.

Econometrics	
Professor/Lecturer	Winter, Joachim / Wuppermann, Amelie
Course type	Lecture and Tutorial
Compulsory/Optional	Compulsory
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Empirische Ökonomie für Fortgeschrittene or an
	equivalent course in econometrics; basic knowledge of matrix algebra and probability theory.

This course introduces graduate students to econometric methods for the analysis of cross-sectional and panel data. The course presents commonly used inference methods for linear and nonlinear specifications, including linear and nonlinear regression models, maximum likelihood estimation, instrumental variables estimation, generalized method-of-moments estimation, and estimation methods for models with qualitative and limited dependent variables. In the accompanying exercise sessions, participants practice the application of these methods to real-world problems, using the econometrics package STATA.

The course covers the following topics:

- 1. The linear model and OLS estimation
- 2. Instrumental variables
- 3. Linear models for panel data
- 4. Treatment effects
- 5. M estimators

# Literature

Core text:

Jeffrey M. Wooldridge, Econometric Analysis of Cross Section and Panel Data, 2<sup>nd</sup> Edition, Cambridge, MA: MIT Press, 2010 Additional references were given in the lecture.

Public Economics	
Professor/Lecturer	Meier, Volker / Haufler, Andreas
Course type	Lecture and Tutorial
Compulsory/Optional	Compulsory
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Undergraduate Level Economics

The course gives an introduction to advanced level public economics, covering both the expenditure and the revenue side of the government budget. The first half of the term is devoted to the welfare state, with a particular focus on the pension and unemployment insurance branches of social security systems. The second half of the course will turn to the efficiency and redistributional effects of modern tax systems. Core topics are optimal commodity and income taxation, the effects of taxes on risk-taking, and tax evasion.

I. Expenditures and the welfare state

- 1. Justification of Redistribution
- 2. Justification of Social Insurance
- 3. Public Pensions
- 4. Family policy
- 5. Unemployment insurance

# II. Tax system: efficiency and redistribution

- 6. Overview: Tax systems in the OECD
- 7. Optimal commodity taxation
- 8. Optimal income taxation
- 9. Taxation and risk-taking
- 10. Tax evasion

# Literature

Myles, Gareth (1995). Public Economics. Cambridge University Press. Rosner, Peter G. (2003). The Economics of Social Policy. Edward Elgar: Cheltenham and Northampton, MA.

Further references were given in the lecture.

N.N.
<b>T</b>
Tutorial
Revision tutorials for the compulsory modules "Mathematics for Economists", "Microeconomics", "Macroeconomics", "Econometrics" and "Public Economics"
2
Written exam (120 minutes)
Summer term
6
English
Lecture & Tutorial of the respective module as held in the winter term

The revision tutorials support students to retake the respective exam.

# Literature

See respective module (winter term)

# **Optional Modules (OM)**

To maximize flexibility for students in choosing any given course all of them are eligible for every module, as there are:

- Studies in Economic Theory (12 ECTS)
- Topics in Economic Theory A (6 ECTS)
- Topics in Economic Theory B (6 ECTS)
- Studies in Economic Analysis and Empirical Economics (12 ECTS)
- Topics in Economic Analysis and Empirical Economics A (6 ECTS)
- Topics in Economic Analysis and Empirical Economics B (6 ECTS)
- Studies in Public Economics (12 ECTS)
- Topics in Public Economics A (6 ECTS)
- Topics in Public Economics B (6 ECTS)

Hence students just have to decide which OM-course they want to attend, modules as regulated by the examination regulations will be filled with any given course.

# Specialization:

In the 2<sup>nd</sup> and 3<sup>rd</sup> semesters, students freely choose courses from a wide selection of modules. They have the possibility to specialize and/or opt for research-oriented courses. We offer the following fields of specialization:

- Microeconomics and Strategic Interaction
- Applied Econometrics
- Public Sector Economics
- Macro and International Economics

In order to acquire a certificate of specialization, students must obtain at least 24 ECTS from courses within the specific field and write their Master thesis in the same field. In addition to the certification for studies in a special field, students can acquire a certificate for obtaining 18 ECTS in research-orientated courses. Opting for research-oriented courses will especially be the choice for those students who plan to continue their studies in a PhD-program. While you may combine a field of specialization with a research specialization you may not combine two fields – you will have to decide with the field of your Master thesis at the latest which specialization your certificate is issued.

Advanced Macroeconomics	
Sunde, Uwe	
Lecture and Tutorial	
Optional	
Macro and International Economics; Research	
2+2	
Written exam (120 min)	
Summer term	
6	
English	
Good knowledge in Macroeconomics,	
Microeconomics and Mathematical Methods	
(calculus)	

Macroeconomics has two goals: It (should) develop theories to describe/understand the evolution of important aggregate variables such as consumption, output, investment, employment, as well as prices such as interest rates and wages. It should judge policy measures in a normative way based on the relevant macroeconomic theories. In its methods, modern macroeconomics is based on the concept of dynamic, stochastic, general equilibrium models.

- 1. Topics in Growth Theory
  - Growth Empirics
  - Unified Growth Theory and Long-Run Development
- 2. Theories of Consumption
  - Permanent Income and Lifecycle Consumption
  - Risk, Time Inconsistency, and the CCAPM
  - Equity Premium Puzzle
- 3. Investment
  - Adjustment Costs and the q-Theory
  - Irreversible Investments and Capital Market Imperfections
- 4. Unemployment
  - Measurement and Stylized Facts
  - Hiring Costs
  - Efficiency Wages
  - Frictions: Search, Matching, and the 'Shimer-Puzzle'
- 5. Fiscal Policy
  - Debt, Deficit, and Ricardian Equivalence
  - The Fiscal Multiplier: Theory and Evidence
  - Political Economy, Debt Crises, and Growth

# Literature

Galí, J. (2008), "Monetary Policy, Inflation, and the Business Cycle", Princeton University Press.

Walsh, C. (2003), "Monetary Theory and Policy", The MIT Press.

Advanced Microeconomics: Contract Theory	
Professor/Lecturer	Schmidt, Klaus
Course type	Lecture with Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction;
	Research
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Good knowledge of Microeconomics and Game
	Theory

The lecture will give a solid introduction into the main methods and some applications of contract theory in order to provide graduate students with a thorough understanding of the tools of contract theory and to enable them to use these tools in their own research.

- 1. Introduction
- 2. Static Moral Hazard
- 3. Dynamic Moral Hazard
- 4. Adverse Selection Models
- 5. Mechanism Design
- 6. Relational Contracts and Career Concerns
- 7. Incomplete Contracts
- 8. Behavioral Contract Theory

# Literature

Was given in the course

# Advanced Microeconomics: Decision Theory

Professor/Lecturer	Englmaier, Florian
Course type	Lecture and Tutorial
Specialization	Microeconomics and Strategic Interaction; Research
Compulsory/Optional	Optional
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics

# Syllabus/Course Outline

- 1. Classical Demand and Production Theory
  - individual decisions under certainty
- 2. Decisions under Uncertainty
  - Expected Utility Theory
  - Risk aversion, Measures of risk
  - Subjective Probabilities
  - Deviations from the Expected Utility Hypothesis
- 3. Information Economics
  - (a bit of) markets with adverse selection
  - (some more) bilateral contracting situations with moral hazard
- 4. Partial and General Equilibrium
  - competitive equilibrium
  - Pareto optimality
  - two fundamental theorems of welfare
  - some other properties of competitive equilibria and welfare economics
  - the theory of social choice
- 5. (causes and consequences of) Market Failure
- 6. Auctions and Mechanism Design

# Literature

G. Jehle and P.J. Reny. Advanced Microeconomic Theory. Prentice Hall. 3rd edition (2011)

Mas-Colell, A., M. Whinston und J. Green: Microeconomic Theory, Oxford: Oxford University Press 1995

Advanced Topics in Taxation	
Professor/Lecturer	Haufler, Andreas
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics; Microeconomics and
	Strategic Interaction
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Public Economics (compulsory)

The first half of the course is a lecture with tutorial; this part is relevant for students in both the 6 ECTS and the 12 ECTS tier. The lecture aims to cover a broad range of research questions in the field of taxation, and simultaneously provides an introduction to the methods used in recent theoretical and empirical work in public economics. Topics include taxation and risk-taking, tax evasion, public goods and externalities and taxation in imperfect markets. A particular focus will be on international tax competition where the strategic interaction between countries and, in some cases, firms is analyzed.

The lecture is accompanied by a tutorial that deepens the understanding of the material through exercise questions and structured reading assignments.

The second half of the semester has a seminar-style format. Each student presents a recent research paper that empirically tests or applies the theories covered in the first part of the course. Based on these presentations, students then write a term paper in the format of a research proposal.

# Literature

Gareth D. Myles (1995): Public Economics. Cambridge University Press.

Andreas Haufler (2001): Taxation in a Global Economy. Cambridge UP. Original journal articles

Applied Health Economics	
Professor/Lecturer	Winter, Joachim
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Econometrics (M.Sc.) is strongly recommended

The lectures will focus on six specific topics in empirical health economics, for instance:

- What is health? How can we measure health?
- The demand for health and health care
- Health investments and health in a life-cycle perspective
- Causal links between socio-economic status and health

The lectures will discuss the substantive research question as well as the data and the econometric methods required to answer them. Results from existing studies will be discussed.

The econometric methods will then be applied in the PC classes, with the aim of replicating some or all of the results in the studies discussed in the lecture.

Essays and student presentations will reconsider these substantive research questions and the empirical methods taught in the first half of the course. Topics will be based on published research papers. There is some flexibility with respect to precise contents of these essays and presentations, but generally it won't be possible to succeed in the 12 ECTS essay and presentation module without also having followed the lecture part.

# Literature

In the lecture part of the course, the following textbook were used:

Andrew M. Jones, Nigel Rice, Teresa Bago dUva & Silvia Balia: Applied Health Economics, Second Edition. Abingdon, UK: Routledge, 2013

In addition, recent published research papers were discussed

Contest Theory and Experiments	
Professor/Lecturer	Martin Kocher & Florian Lindner
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction
Hours/week	2+2
Exam	Presentation (30 min)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics

Economic, political and social problems are described as contests when agents exert costly efforts while competing over the distribution of a scarce resource. Examples are: competition for mates, patents, promotions within firms, lobbying politicians, elections, sports competitions, or global conflicts. Such environments have been analyzed using Tullock contests, all-pay auctions and rank-order tournaments.

The course will cover theoretical models and experimental papers testing predictions from the models.

# Literature

Was given in the course

Contract Theory: Incentives and Behavior	
Professor/Lecturer	Schmidt, Klaus
Course type	Lecture, and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Microeconomics

The first half of the course is a lecture with tutorial offering a solid introduction into contract theory.

- 1. Introduction
- 2. Static Moral Hazard Models
- 3. Dynamic Moral Hazard Models
- 4. Static and Dynamic Adverse Selection
- 5. Relational Contracts
- 6. Mechanism Design
- 7. Incomplete Contracts

The lecture aims to cover a broad range of research questions in the field of taxation, and simultaneously provides an introduction to the methods used in recent theoretical and empirical work in public economics. Topics include taxation and risk-taking, tax evasion, public goods and externalities and taxation in imperfect markets. A particular focus will be on international tax competition where the strategic interaction between countries and, in some cases, firms is analyzed.

The lecture is accompanied by a tutorial that deepens the understanding of the material through exercise questions and structured reading assignments.

The second half of the semester has a seminar-style format. Each student presents a recent research paper that empirically tests or applies the theories covered in the first part of the course. Based on these presentations, students then write a term paper in the format of a research proposal.

# Literature

Gareth D. Myles (1995): Public Economics. Cambridge University Press.

Andreas Haufler (2001): Taxation in a Global Economy. Cambridge UP. Original journal articles

Determinants of Individual Productivity	
Professor/Lecturer	Kocher, Martin & Sunde, Uwe & Winter, Joachim
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	not given*)
Hours/week	2+2)
Exam	Presentation (30 min)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics

Aim of the course is discussing determinants of individual labor productivity as a consequence of individual decisions; covering studies analyzing human capital accumulation and the effects of ageing as well as illness; debating theoretical models and empirical evidence.

# Literature

Was given in the course

\*) PhD-Course; advanced Master students may attend after consultation (please contact the professor)

Dynamic Stochastic General Equilibrium Models	
Wollmershäuser, Timo &Hristov, Nikolay	
Lecture and Tutorial	
Optional	
Macro and International Economics	
4+2	
Term paper and presentation (30 min)	
Summer term/Winter term	
12	
English	
Advanced Macroeconomics, New Keynesian	
Macroeconomics or Monetary Theory	

The objective of the the seminar is to present some important extensions of the baseline Real Business Cycle model and the baseline New Keynesian model. The extensions are drawn from publications in leading international journals and from advanced macroeconomic textbooks. The participants are expected to work out the differences of the extension with respect to the baseline model and to implement the model into the software platform Dynare.

# Literature

Provided in the course

Empirical International Trade	
Professor/Lecturer	Daniel Baumgarten
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Macro and International
	Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Econometrics; moreover, some background in
	international trade will be very helpful

The aim of this course is to introduce graduate students to the empirics of international trade. At the end of the course, students should have a good understanding of trade patterns in the world, be able to understand and critically evaluate empirical trade papers, know *how to bring trade theories* to the data and how to implement (some of) the empirical techniques learnt in the course in the widely used econometrics software Stata.

- 1. Introduction
- 2. Tests of the Heckscher-Ohlin model
- 3. Tests of the Ricardian model
- 4. The gravity equation
- 5. Firm-level trade empirics
- 6. Assorted topics (time permitting)
  - a. Trade and economic growth
  - b. Trade and the labour market

# Literature

The course is not based on a specific textbook. Some of the material is covered by Feenstra, R. (2004), "Advanced International Trade: Theory and Evidence", Princeton University Press.

Most of the material is based on original journal articles. References were given in the course.

Evaluation Economics	
Professor/Lecturer	Danzer, Alexander
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
General Prerequisites	Econometrics. Advanced knowledge and interest in
	applied econometrics, experience with working with
	Stata, willingness to conduct own empirical research

<u>Aims</u>

- give students broad training in the economics and econometrics of policy evaluation
- provide students with the facility to apply economic models and quantitative techniques to evaluate actual policy interventions
- give students the opportunity to apply quantitative techniques and reproduce the results of a top published empirical paper which evaluates actual policy interventions in particular fields of economics

Learning Outcomes: By the end of this course students should:

- have an advanced level of understanding of the most important econometric techniques for ex-post evaluations of economic policies and political interventions
- understand key debates and problems in the economics of policy evaluation
- be able to apply their knowledge of econometrics to the evaluation literature in peerreviewed journals
- be able to apply advanced-level evaluation methods to study the effects of a specific policy intervention

Selected topics:

- Research methods to identify causal effects in the economics of policy evaluation
- Randomized experiments
- Natural experiments: Diff-in-Diff, regression discontinuity design, regression kink design
- Matching, synthetic control groups
- Two stage estimation: IV, Heckman

# Literature

Angrist, J.D. and J.-S. Pischke (2008). Mostly Harmless Econometrics.

- LaLonde, R.J. (1986). Evaluating the Econometric Evaluations of Training Programs with Experimental Data. *American Economic Review*, Vol. 76, 4: 604-620.
- Krueger, A.B. (1999). Experimental Estimates of Education Production Functions. *Quarterly Journal of Economics*, Vol. 114, 2: 497-532.

Meyer, B.D. (1995). Natural and Quasi-experiments in Economics. *Journal of Business and Economic Statistics*, Vol. 13, 2: 151-161.

Angrist, J.D. and V. Lavy (1999). Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement. *Quarterly Journal of Economics*, Vol. 114, 2: 533-575.

Blundell, R., C. Meghir, M. Costa Dias and J. Van Reenen (2004). Evaluating the Employment Impact of a Mandatory Job Search Program. *Journal of the EEA*, Vol. 2, 4: 569-606.

Imbens, Guido W. and Joshua D. Angrist (1994). Identification and Estimation of Local Average Treatment Effects. *Econometrica*, Vol. 62, 2: 467-475.

Growth and Natural Resources	
Professor/Lecturer	Pittel, Karin / Jaakkola, Niko
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics, Macro and International
	Economics
Hours/week	2+2
Exam	Written exam (120 min)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Macroeconomics
	Basic knowledge in the fields of environment and
	resource economics as well as in dynamic modeling
	is helpful but not essential.

The lecture addresses the question whether and under which conditions growth, resource use and sustainable development are compatible. As this question is of an essentially dynamic nature, the lecture extensively uses intertemporal economic approaches.

The first part of the course is dedicated to an introduction to dynamic optimization and growth theory. After a short repetition of exogenous growth models, the basic control theoretic approach is introduced. Building on this methodology, different endogenous growth models that differ with respect to the forces driving long-run development are presented.

After these growth theoretic foundations have been laid, the lecture turns to the usage of exhaustible and renewable resources in the production process. Conditions for intertemporally optimal price and extraction paths are derived and aspects and caveats of optimal resource policy are discussed. Finally, the course turns to the prerequisites for sustainable development and long-run growth

# Literature

Specific references were given at the beginning of and during the lecture series.

General references which may be useful:

Dynamic optimization: A textbook covering dynamic optimization methods may be useful. One straightforward introduction is Chiang, A.C. (1992), Elements of Dynamic Optimization, McGraw-Hill.

Growth theory: A general reference on growth theory will be useful. Some possible titles (among others!) are Barro, R. J. and X. Sala–i–Martin (2004), 'Economic Growth', MIT Press; Aghion, P. and P. Howitt (2009): 'Economics of Growth', MIT Press; Acemoglu, D. (2008): Introduction to Modern Economic Growth, Princeton University Press. These overlap in content, but differ in terms of style, difficulty and comprehensiveness; you should pick the one you feel suits you best.

Environmental economics: An easy introduction to environmental economics is Perman, R. et al. (2011), 'Natural Resource and Environmental Economics', Pearson.

# Introduction to Liquidity Trap Economics: Theory, Quantitative Methods, and Empirical Results

Professor/Lecturer	Watzka, Sebastian
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics (6 and 12 ECTS),
	Research (12 ECTS)
Hours/week	2+2 (6 ECTS), 4+2 (12 ECTS)
Exam	Written exam (120 min)
Cycle	Summer term
ECTS-Points	6 or 12
Language	English
Prerequisites	Macroeconomics
	Interest in monetary economics and DSGE models
	more generally

# Syllabus/Course Outline

1. Introduction (Motivation, liquidity trap in the General Theory, recent developments in industrialised economies)

2. Liquidity Trap in modern style New Keynesian DSGE models

3. Computational issues and empirical testing

# Aims

Introducing students to recent developments in monetary economics, and in particular to issues related to liquidity trap and implications for monetary and fiscal policies.

Learning Outcomes:

Better understanding of the theoretical, computational and empirical issues related to the liquidity trap, or more generally to an environment of low interest rates.

Selected topics:

liquidity trap, Zero Lower Bound, unconventional monetary policy, inflation expectations, depression economics

# Literature

David Romer, Short-Run Fluctuations, Manuscript University of California, Berkeley, in particular Chapter IV David Romer, Advanced Macroeconomics, McGraw-Hill

Labor Economics:	Theory and Applications
Professor/Lecturer	Sunde, Uwe
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics,
	Microeconomics and Strategic Interaction, Applied
	Econometrics
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	

This course offers an introduction to modern labor economics with a focus on the combination of theoretical models and their empirical implementation, as well as empirical applications. The course covers standard theories of the labor market and discusses recent developments, including the implications of imperfect labor markets and extensions to behavioral economics.

Topics .

- 1. Quantitative Labor Supply
- 2. Qualitative Labor Supply: Human Capital Theory

3. Labor Demand

- 4. Search
- 5. Unemployment
- 6. Imperfect Labor Markets

# Literature

Was given in the course

#### **Microeconometrics** Professor/Lecturer Winter, Joachim Lecture and Tutorial Course type Compulsory/Optional Optional Applied Econometrics Specialization 2+2 Hours/week Exam Written exam (120 min) Summer term Cycle **ECTS-Points** 6 Language English Prerequisites **Econometrics**

# Syllabus/Course Outline

- 1. Review of linear regression models
- 2. Maximum likelihood estimation
- 3. Hypothesis and specification tests, bootstrap methods
- 4. Binary dependent variables
- 5. Multinomial models and discrete choice
- 6. Censoring and selection models
- 7. Count data models
- 8. Mixture models and unobserved heterogeneity

# Literature

A. C. Cameron and P. K. Trivedi: Microeconometrics: Methods and Applications. New York: Cambridge University Press, 2005.

A. C. Cameron and P. K. Trivedi: Microeconometrics Using Stata. College Station, TX: Stata Press, 2008.

New Reynesian Macroeconomics - Theory and	
Empirics	
Professor/Lecturer	Wollmershäuser, Timo & Hristov, Nikolay
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Advanced Macroeconomics (Real Business Cycle models, dynamic modeling),Time-series Econometrics

# Now Kowposian Macrooconomics Theor

# Syllabus/Course Outline

This course provides a thorough introduction, both from an empirical and a theoretical perspective, into the basic New Keynesian macroeconomic model. This framework has emerged as the workhorse for the analysis of monetary policy and its implications for inflation, economic fluctuations and welfare. A particular emphasis will be put on the following questions: How do we measure monetary policy shocks? What are the empirical effects of monetary policy? Can we explain these effects theoretically? How should optimal monetary policy look like?

Stylized Macroeconomic Facts of the European and US Business Cycle:

- The Hodrick-Prescott filter
- Some stylized facts

# Literature

**Required Readings:** 

Backus, David, Patrick Kehoe and Finn Kydland (1995) "International Business Cycles: Theory and Evidence", in T. Cooley, ed.: Frontiers in Business Cycle Research. Princeton, University Press.

Cooley, Thomas and Edward Prescott (1995) "Economic Growth and Business Cycles", in T. Cooley, ed.: Frontiers in Business Cycle Research. Princeton, University Press.

Suggested Readings:

Ambler, Steve, Emanuela Cardia and Christian Zimmermann (2004) "International business cycles: what are the facts?", Journal of Monetary Economics, 51, 257-276.

Gomme, Paul and Peter Rupert (2007) "Theory, Measurement and Calibration of Macroeconomic Models, Journal of Monetary Economics, 54, 460-497.

King, Robert G. and Sergio T. Rebelo (1999) "Resuscitating real business cycles," Handbook of Macroeconomics, in: J. B. Taylor & M. Woodford (ed.), Handbook of Macroeconomics, edition 1, volume 1, chapter 14, pages 927-1007 Elsevier.

Rebelo, Sergio (2005) "Real Business Cycle Models: Past, Present and Future," Scandinavian Journal of Economics, 107(2), 217-238.

Recent Developments in International Trade		
Professor/Lecturer	Felbermayr, Gabriel	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Microeconomics and Strategic Interaction; Macro	
	and International Economics	
Hours/week	4+2	
Exam	Term paper and presentation (30 min)	
Cycle	Summer term	
ECTS-Points	12	
Language	English	
Prerequisites		

In the last ten to fifteen years, both theoretical modeling and empirical research in inter-national trade have undergone a profound revolution. New modeling approaches, new data, and better econometric methods shed new light on one of the oldest and most established fields in economic. Today, international trade research is a resolutely empirical field with manifold interactions between theory, econometrics, and quantitative model simulation for policy analysis. The objective of the seminar is to acquaint students with the most important recent developments and to rigorously prepare them for their own research work.

# Literature

Antras, P. and S. Yeaple, 2013, "Multinational Firms and the Structure of International Trade"

Costinot, A., and A. Rodriguez-Clare, 2013, "Trade Theory with Numbers: Quantifying the Consequences of Globalization"

Head, K., and T. Mayer, 2013, "Gravity Equations: Workhorse, Toolkit and Cookbook

Melitz, M., and S. Redding, 2013, "Heterogeneous Firms and Trade" Burstein, A., and M. Melitz, 2013, "Trade Liberalization and Firm Dynamics" Helpman, E., and O. Itskhoki, 2013, "Trade and Labor Market Outcomes" Eaton, J., S. Kortum, and S. Sotelo, 2013, "International Trade: Linking Micro and Macro'

Search and Matching Models		
Professor/Lecturer	Holzner, Christian	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Public Sector Economics, Macro and International	
	Economics	
Hours/week	2+2	
Exam	Written exam (120 min)	
Cycle	Summer term	
ECTS-Points	6	
Language	English	
Prerequisites		

- 1. Introduction
- 2. Mortensen-Pissarides matching model
- 3. Endogenous job destruction
- 4. Search and on-the-job search
- 5. Directed search

# Literature

The following three textbooks cover most of the course:

Pierre Cahuc and Andr e Zylberberg (2004): Labor Economics, MIT Press. Christopher A. Pissarides (2000): Equilibrium Unemployment Theory, MIT Press. Dale Mortensen (2005): Wage dispersion, MIT Press.

Information about specific readings were given in the course.

#### **System Competition** Professor/Lecturer Meier, Volker Lecture and Tutorial Course type Compulsory/Optional Optional **Public Sector Economics** Specialization 2+2Hours/week Exam Written exam (120 min) Summer term Cycle **ECTS-Points** 6 Language English Microeconomics, Public Economics Prerequisites

# Syllabus/Course

Introduction: Competition among States Taxes and Public Infrastructure Goods The Erosion of the Welfare State Hamiltonians Social Dumping in the Transformation Process Ecological Competition The Competition of Product Standards Limited liability, Risk Taking and the Competition of Bank Regulators The Competition of Competition Rules The Implications of Systems Competition for Europe and the Greek Crisis

# Literature

D. C. Mueller (2003), Public Choice III. Cambridge University Press: Cambridge etc. T. Persson and G. Tabellini (2000), Political Economics. MIT Press: Cambridge and London

Time Series Analysis	
Professor/Lecturer	Flaig, Gebhard
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2+2
Exam	Written exam (120 min)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Good knowledge of econometric methods and
	statistical analysis; at least basic knowledge of time
	series models (ARIMA models)

Outline of lecture

1) Basic Concepts of time series models

2) ARIMA models

3) Spectral analysis

4) Analysis of important filters in economics

5) State space modelling and the Kalman filter

The aim of the course is to present important concepts of time series analysis (Stationarity of stochastic processes, ARIMA models, spectral analysis, state space modelling etc.). The course is a mixture of theory and practical applications of time series methods. The theoretical material (presented mainly in the lecture) focuses upon properties of stationary time series and their analysis in the time and frequency domain. In the tutorial, problems of specification and estimation of time series are treated. We use the programming language GAUSS for empirical applications.

# Literature

James Hamilton (1994), Time Series Analysis. Princeton University Press Andrew Harvey (1993), Time Series Models. MIT Press Robert Shumway/David Stoffer (2011), Time Series Analysis and its Applications. Springer

Topics in International Trade		
Professor/Lecturer	Tarasov, Alexander & Davide Suverato	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Macro and International Economics	
Hours/week	4+2	
Exam	Written exam (120 min) and presentation (30 min)	
Cycle	Summer term	
ECTS-Points	12	
Language	English	
Prerequisites	Graduate course in Microeconomics or equivalent	
	background and a working knowledge of calculus	

# Syllabus/Course

This course covers the theory of international trade at a graduate level. Specifically, it includes basic theories of international trade which explain why countries trade with one another such as the Ricardo Model, the Heckscher- Ohlin Model and trade with monopolistic competition. The course then covers more recent topics in international trade such as firm heterogeneity, the boundaries of multinational firms, international trade and the organization of firms and income distribution and trade.

# Literature

Feenstra, R. (2003): "Advanced International Trade: Theory and Evidence," Princeton University Press.

E. Helpman, D. Marin, T. Verdier (eds.) (2008): "The Organization of Firms in a Global Economy", Harvard University Press.

Advanced Contributions to Innovation and Copyright		
Economics Research		
Professor/Lecturer	Müller-Langer	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Microeconomics and Strategic Interaction	
Hours/week	4+2	
Exam	Term Paper (45.000), Presentation (30 min)	
Cycle	WS2015/16	
ECTS-Points	12	
Language	English	
Prerequisites		

We aim to achieve a better understanding of recent advances in innovation economics research with a special focus on copyright economics. In a term paper, participants will analyze a recent paper (henceforth, main paper) that was published in a top journal or presented at a renowned conference, respectively. Participants are expected to pro-actively search for further literature on the topic of the main paper. The following questions shall serve as guidelines for the term papers: What is the scientific contribution of the main paper? How do the authors derive their research hypotheses? What is the underlying economic theory? Which data and methods are used? What is the identification strategy? What are the implications for science and policy?

In addition to writing a term paper, participants will either give a presentation on the main paper (presenter) or comment on the main paper (discussant). The presenter shall aim at a positive assessment of the main paper in terms of originality, methods used and policy implications. The discussant shall focus on constructive criticism and potential flaws of the main paper. The aim of this debate is to trigger a lively discussion among all participants (ca. 10 to 15 minutes). Presenters as well as discussants shall briefly introduce the related literature. The presenter shall provide a general overview and focus on the main paper's contribution to the literature. In contrast, the discussant shall focus on the main differences between the main paper and related literature. Presentations, discussions and discussions among all participants (in total, ca. one hour per main paper) will take place at the Max Planck Institute for Innovation and Competition on Friday 16 October 2015 and Saturday 17 October 2015. Participants are expected to read all main papers.

# Literature

No textbook Various papers

Advanced Economic History		
Professor/Lecturer	Davide Englem	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Applied Econometrics	
Hours/week	4+2	
Exam	Term Paper, presentation	
Cycle	Winter term	
ECTS-Points	12	
Language	English	
Prerequisites	Principles of economics (micro and	
	macroeconomics, and especially econometrics at the master level).	

This course aims to explain the very long run trends in economic history. The two main questions that underlie the classes will be: (1) why are our societies so much more productive/rich than our ancestors' ones? and (2) why are there such large differences in income levels across societies today? To investigate these questions, we will look for the explanatory power of various factors, such as geography, technology, institutions, and culture, trying to isolate fundamental determinants from proximate ones. As put by North and Thomas in 1973: "The factors we have listed (innovation, economies of scale, education, capital accumulation etc.) are not causes of growth; they are growth" — instead, causes of growth will be the focus of this class.

As such, this class is highly complementary to any courses or readings you might do in economic growth, economic development, or political economy. Moreover, the focus of this class will be on reading and discussing research papers with a strongly empirical focus; it will thus be complementary to the (micro) econometrics classes in the program and should be viewed as good preparation to one's own writing of applied research papers.

# Literature

(Note: this is just a selection of books that represent the core topics discussed in the lecture.)

Diamond, Jared (1997), Guns, Germs, and Steel. New York: W.W. Norton

Clark, Gregory (2007), A Farewell to Alms. Princeton, N.J.: Princeton University Press

North, D. C. and Thomas, R. P. (1973). The Rise of the Western World: A New Economic History. Cambridge University Press, Cambridge, New York

Engerman, S. L. and Sokoloff, K. L. (1997). Factor endowments, institutions, and differential paths of growth among New World economies: A view from economic historians of the United States. In Haber, S., editor, How Latin America Fell Behind. Stanford University Press, Palo Alto, Calif

Advanced Search Theory	
Professor/Lecturer	Holzner, Christian
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics; Microeconomics and
	Strategic Interaction
Hours/week	4+2
Exam	Term Paper, presentation
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Lecture in "Search and Matching Theory"

The focus seminar is addressed to master students, who are interested in the latest developments in search theory. Aim of the seminar is to give the seminar participants an overview of current research topics in search theory with a focus on heterogeneity on both sides. The topics will cover mismatch, sorting and auctions in environments with search frictions.

Topics:

1. Sorting versus screening in frictional markets

The aim is to understand under which type of meeting (search) frictions induce firms to choose to commit to prices, to post an asking price without commitment, or to post an auction.

2. How to identify sorting

The aim is to understand how one can empirically identify the direction (positive assortative vs. negative assortative) and the strength of sorting based on a framework with search frictions.

3. Mismatch, sorting and search frictions

The aim is to understand the role of mismatch and subsequent sorting through onthe-job search for job-to-job transitions and the output lost due to search frictions.

### Literature

Books:

- Pierre Cahuc and André Zylberberg: Labor Economics
- Christopher Pissarides: Equilibrium Unemployment
- Dale Mortensen: Wage dispersion

The different topics of your seminar thesis were based on various search theory papers.

## Advanced Topics in Organizational Economics

Professor/Lecturer	Englmaier, Florian
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Master Level knowledge in Microeconomics and Econometrics are necessary; some familiarity with game theory and principal agent theory will be helpful.

### Syllabus/Course Outline

**1** Behavioral Approaches

- 1.1 The Role of Social Preferences Theory
- 1.2 The Role of Social Preferences Evidence
- 1.3 Matching of Types
- 1.4 Contracts as Reference Points
- 1.5 The Role of Salience Evidence
- 1.6 The Role of Salience Theory
- 2 Persistent Productivity Differences What do managers do?
  - 2.1 Evidence
  - 2.2 Explanations: Management Practices
- 2.3 Explanations: Relational Contracts
- 3 Authority and Leadership
- 4 Delegation and Communication
- 5 Learning about Organizations through Field Experiments

### Literature

"The Handbook of Organizational Economics", edited by Robert Gibbons & John Roberts, Princeton University Press, 2012

Advanced Topics in Econometrics	
Professor/Lecturer	Helmut Farbmacher
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Research
Hours/week	2+2
Exam	Term paper (45.000 characters)
Cycle	
ECTS-Points	6
Language	English
Prerequisites	Solid knowledge in Econometrics, Linear Algebra
	and Statistics and a high motivation

The goal of the course is to give an introduction to recent developments in (Micro-) Econometrics. The student should be enabled to understand the basic concepts and to utilize recent results for his own applied work.

The course will cover fundamental methods for microeconomic data, including maximum likelihood, moment condition models, quantile regression, and Bayesian methods.

Outline:

- Methods for Nonlinear Models: MLE, GMM, Minimum Distance, Extremum Estimation
- Large Sample Theory
- Continuously Updating GMM, Empirical Likelihood
- Quantile Regression
- Bayesian and Quasi-Bayesian Methods (From a Classical View)
- Bounds and (Partial) Identication
- Semi- and Nonparametric Methods
- Paneldata Methods

### Literature

Amemiya: Advanced Econometrics Anatolyev / Gospodinov: Methods for Estimation and Inference in Modern Econometrics Selected articles

Advanced Seminar	in Empirical International Trade
Professor/Lecturer	Daniel Baumgarten
Course type	Lecture and Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Macro and International
	Economics
Hours/week	4 + one blocked seminar (2 days)
Exam	Term Paper (45.000), Presentation (30 min)
Cycle	Winter Term
ECTS-Points	12
Language	English
Prerequisites	

The aim of the course is to introduce graduate students to the empirics of international trade and to equip them with the necessary skills to conduct own empirical projects in this field.

The course consists of two parts.

The first part of the course (which roughly lasts for the first half of the semester) is held in typical lecture-style (4h per week) and will introduce students to the different topics covered in the course. We also plan for one or two Stata sessions to get everybody acquainted with the software and some of the empirical methods.

In the second part of the course, students independently conduct their own empirical projects. Typically, this means replicating a study published in a leading journal and providing a reasonable extension. Students summarize their findings in a term paper and present them in class.

Course outline (tentative):

- 1. Introduction
- 2. Tests of the Heckscher-Ohlin model
- 3. Tests of the Ricardian model
- 4. The gravity equation
- 5. Firm-level trade empirics
- 6. Assorted topics (time permitting)
  - a. Trade and economic growth
  - b. Trade and the labour market

### Literature

The course is not based on a specific textbook, but on original journal articles. Detailed references are given in the syllabus, which is available on the course website and in the LSF Depot.

Behavioral and Experimental Economics	
Professor/Lecturer	Martin Kocher
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	4+2
Exam	Term Paper, Presentation (split up in 2 short ones)
Cycle	Winter Term
ECTS-Points	12
Language	English
Prerequisites	Microeconomics (Master Level)

- **Contents**: The course focuses on how psychological insights and experimental methods have been influencing economic thinking. We will discuss several selected topics in microeconomics and public economics, most of which involve situations with strategic interaction.
- Aims: The standard economic paradigm has been complemented over the last decades by important insights from psychological research, sociology, biology, and other related fields. Concurrently, the methodological foundations of laboratory and field experiments in economic environments have been developed, and experimental methods have been applied to many basic and more applied research questions. Results from experiments provide feedback and input for the development of new models of economic behavior. This course aims to provide an selective overview of the interesting research programs in behavioral and experimental economics, to give a flavor of their importance and their extent as well as and, probably most importantly, to create a basis and interest for the use of the methods in one's own research regardless of the subfield of economics one works in.

### Literature

Provided in the course

Behavioral Economic Theory	
Professor/Lecturer	Johannes Maier; Takeshi Murooka
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Micoreconomics and Strategic Interaction; Research
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	Graduate Microeconomics

Behavioral Economics emerged out of a number of empirical and experimental puzzles which are difficult to explain with the standard economic paradigm, the homo oeconomicus. Why do default decisions matter even if transaction costs are low? Why do people borrow on credit cards and, at the same time, hold substantial illiquid wealth? Why do people engage in charitable giving? Behavioral economics is the attempt to shed light on these and other puzzles by enriching standard theory with psychological realism, i.e., creating models about behavior that bring more accurate predictions.

The aim of the course is to make students familiar with the most important workhorse models in behavioral economics. At the end of the course, students should be able to apply these workhorse models to particular economic problems, e.g., pricing, moral hazard, savings for retirement, etc. This course has a strong focus on formal theoretical models. We will only occasionally survey experiments but will not cover them in full detail.

The first part of the course will be lectures, interrupted by some tutorials. In the second part of the course, students have to present and discuss recent papers in the field of behavioral economics. These papers typically will be behavioral theory and its applications, for instances, Industrial Organization and Contract Theory.

### Literature

Books:

- Camerer, C. (2003): Behavioral Game Theory: Experiments in Strategic Interaction, Princeton University Press.
- Wakker, P.P. (2010): Prospect Theory: For Risk and Ambiguity, Cambridge University Press.
- Wilkinson, N. and M. Klaes (2012): An Introduction to Behavioral Economics, Palgrave Macmillan.

Several anthologies, survey articles and papers were given in the lecture

Behavioral Economics: Decision Making	
Professor/Lecturer	Martin Kocher
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Micoreconomics and Strategic Interaction; Research
Hours/week	2+2
Exam	Exam (60 min)
Cycle	WS2015/16
ECTS-Points	6
Language	English
Prerequisites	

**Contents**: The course will be an "experiment". We want to implement two innovative features. First, we plan to combine standard theory (reading a book together) with behavioral elements (recent experimental papers). Second, we shall select the topic of the course jointly in the first meeting by a majority vote of those who are present. The two options are: (i) Bargaining Theory and Experiments; (ii) Auction Theory and Experiments.

**Update:** Option (i) has been selected.

- **Aims**: The idea is to discuss the theoretical models based on standard assumptions (perhaps extend them a bit) and present experimental papers related to them. After the course, everybody should have a very good overview of the selected topic.
- Methods: The lecture will be hold as a discussion group. Everybody is requested to read the chapters before class (really!). We shall have **two participants** (master students) being responsible to answer questions and to organize the discussion in the lectures. There will be a blocked seminar with presentations of related behavioral papers (by Ph.D. students).

**Grading:** Series Presence and active participation in classes (necessary prerequisite for passing)

 Presentation (Ph.D. students) or Exam (master students) (100%)
 Prerequisites: Basic economic thinking (micro-economics) and standard gametheoretic concepts. In case you do not feel comfortable with concepts like Nash equilibrium, sub-game perfect equilibrium, Bayesian equilibrium or perfect Bayesian equilibrium, you should refresh your knowledge by reading a standard textbook on game theory (our recommendation would be: Gibbons, Robert (1992). A Primer in Game Theory, Prentice Hall).

### Literature

Muthoo, A. (1999). Bargaining Theory with Applications. Cambridge University Press.

Several papers for the seminar part that were announced after selection.

Capital Income Taxation	
Professor/Lecturer	Volker Meier
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	2+2
Exam	Presentation
Cycle	SS2015
ECTS-Points	6
Language	English
Prerequisites	Public Economics

- 1. Introduction: Theory of Intertemporal Allocation
- 2. Taxation and the Financial Decisions of the Firm
- 3. Taxation and Intersectoral Allocation of Capital
- 4. Optimal Firm Behaviour under Taxation
- 5. Cash Flow Taxation
- 6. Investment Neutral Taxation and Economic Depreciation
- 7. The Taxation Paradox
- 8. Taxes in the Lifecycle of a Firm: The Nucleus Theory
- 9. Taxation and the Birth of Foreign Subsidiaries

### Literature

Hans-Werner Sinn (1987): Capital Income Taxation and Resource Allocation, North Holland, Amsterdam.

Hans-Werner Sinn (1991): "Taxation and the Birth of Foreign Subsidiaries", in: H. Herberg und N.V. Long, ed., Trade, Welfare, and Economic Policies, Essays in Honour of Murray C. Kemp, University of Michigan Press: Ann Arbor, pp. 325-352.

Econometric Evaluation of Education Policy	
Professor/Lecturer	Ludger Wößmann & Marc Piopiunik
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2+2
Exam	Written Exam (120 min)
Cycle	WS2015/16
ECTS-Points	6
Language	English
Prerequisites	Econometrics knowledge at level of MSc course;
	Experience in working with Stata; Willingness to
	conduct own empirical research

This Ph.D. course, which is open for advanced Master students, is not a traditional lecture course, but rather a reading-&-paper course. The main part of the course is that each participant develops her/his own applied paper project, and the main course requirement is not a traditional exam, but instead a term paper that should look like the first draft of a small empirical paper, plus a presentation.

The course is devised to ensure that participants learn about education policy, about evaluation methods, and about (the reality of) how to do applied research. At the same time, it tries to convey the enjoyment of doing economic research and requires participants to be creative and productive. Even though it is fun to do sound research, it also requires (a lot of) work; thus, participants are expected to work on the topic throughout the semester, not just in preparing an exam.

After a brief introduction on research methods for empirical identification and on selected hot topics in the economics of education, the main part of the course consists of sessions to discuss papers that everyone has read in advance and of sessions where everybody presents and discusses his/her ongoing paper project, new ideas and practical problems that turn up while working on it. The specific topics covered in the course will partly be endogenous to the specific interests expressed by participants.

### Literature

No textbook Various papers

Economic Evaluations of Family Policy Interventions	
Professor/Lecturer	Helmut Rainer
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	
ECTS-Points	12
Language	English
Prerequisites	Altough the course is largely self-contained, Econometrics (M.Sc.) is recommended

The course offers an introduction to modern family economics with a focus on empirical evaluations of family policy interventions. The course will include but is not limited to the following topics:

- What kind of public policies are targeted at families, and how are they expected to affect family outcomes from a theoretical point of view?

- How does the provision of public child care affect maternal employment and fertility?

- What is the causal link between early child care and child development?
- How do families respond to unconditional monetary benefits?
- How does the liberalization of divorce laws affect flows into and out of marriage?

The course has two main parts. The first part consists of weekly lectures which will discuss the substantive research questions as well as the data and the econometric techniques necessary to address them. In the second part of the course, which will be blocked on 2 days, students will present their term papers. The topics of the term papers will reflect the substantive research questions and empirical methods covered in the first part of the course.

### Literature

Havnes, T. and Mogstad. M. (2011), Money for Nothing? Universal Child Care and Maternal Employment; Journal of Public Economics

Gelbach, J. (2002), Public Schooling for Young Children and Maternal Labour Supply, The American Economic Review;

Magnuson, K.A., Ruhm, C., Waldfogel, J. (2007), Does prekindergarten improve school preparation and performance?, Economics of Education Review

Gonzales, L. (2013), The Effect of a Universal Child Benefit on Conceptions, Abortions, and Early Maternal Labor Supply, American Economic Journal: Economic Policy

Lalive, R., Zweimüller, J. (2009), How Does Parental Leave Affect Fertility and Return to Work? Evidence from Two Natural Experiments; Quarterly Journal of Economics

Friedberg, L., (1998), Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data, American Economic Review

Further literature was added during the course.

### Economic Foundations and Applications of Risk

Professor/Lecturer	Till Stowasser
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction
Hours/week	2+2
Exam	Exam
Cycle	SS2015
ECTS-Points	6
Language	English
Prerequisites	

### Syllabus/Course Outline

- A. Foundations I: The Core
  - Chapter 1: Expected Utility Theory Chapter 2: Measures of Risk Aversion Chapter 3: Measures of Risk

### **B.** Applications

Chapter 4: Optimal Portfolio Choice Chapter 5: Insurance Markets

Chapter 6: Firms under Uncertainty

### C. Foundations II: More about Risk

Chapter 7: Pareto Efficient Allocation of State Dependent Income Chapter 8: The Value of Information Chapter 9: Non-expected Utility Theory

### Literature

\*Gollier, C. [2004] The Economics of Risk and Time MIT Press Bewley, T. F. [1986] Knightian Decision Theory: Part I. Yale University, Cowles Foundation **Discussion Paper No. 807** Bewley, T. F. [1987] Knightian Decision Theory: Part II. Yale University, Cowles Foundation **Discussion Paper No. 868** Diamond, P and M Rothschild (eds) [1989] Uncertainty in Economics. Readings and Exercises, Academic Press Dixit, A K and R S Pindyck [1994] Investment under Uncertainty, Princeton University Press \*Eeckhoudt, E. and C. Gollier [1995] Risk: Evaluation, Management and Sharing. Harvester/Wheatsheaf Uncertainty, Physica-Verlag, Heidelberg Van Zandt, T. [2004] Introduction to the Economics of Uncertainty and Information, Unpublished manuscript Von Neumann, J. and O. Morgenstern [1953] Theory of Games and Economic Behavior, Princeton University Press \*Gravelle, H.S.E. and R. Rees [2004] Microeconomics, Prentice Hall Hirshleifer, J. and J.G. Riley, [1992] The Analytics of Uncertainty and Information, Cambridge University Press Knight, F. H. [1921] Risk, Uncertainty and Profit \*Laffont, J-J [1989] The Economics of Uncertainty and Information, MIT Press Savage, L. J. [1954] The Foundations of Statistics, Wiley \*Sinn, H.-W. [1989] Economic Decisions under

The Economics of Science and Innovation	
Professor/Lecturer	Martin Watzinger
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	

This advanced seminar discusses important early and new contributions to the literature on the economics of science and innovation. Students conduct with assistance from the lecturer an own empirical research project based on a current paper. The results are discussed along with their identification strategy and econometric details and contrasted to the literature in a lecture format. It is expected that the students read all underlying papers.

### Literature

Among others the projects are based on:

Azoulay, Pierre, Joshua S. Graff Zivin, and Bhaven N. Sampat. The diffusion of scientific knowledge across time and space: Evidence from professional transitions for the superstars of medicine. No. w16683. National Bureau of Economic Research, 2011.

Galasso, Alberto, and Mark Schankerman. "Patents and cumulative innovation: causal evidence from the courts." Available at SSRN 2247011 (2013).

Gruber, Marc, Dietmar Harhoff, and Karin Hoisl. "Knowledge recombination across technological boundaries: scientists vs. engineers." Management Science 59.4 (2013): 837-851.

MOSER, PETRA. "How Do Patent Laws Influence Innovation? Evidence from Nineteenth-Century World's Fairs." The American Economic Review 95.4 (2005): 1214-1236.

Abrams, David S., Ufuk Akcigit, and Jillian Popadak. Patent Value and Citations: Creative Destruction or Strategic Disruption?. No. w19647. National Bureau of Economic Research, 2013.

Economics of Education	
Professor/Lecturer	Volker Meier
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	Public Economics

- Justification of government involvement in the market for education
- Political economy of public education
- Tracking procedures and vouchers in mixed education systems
- Regulation of higher education by fees, admission tests and standards
- International externalities in higher education finance

### Literature

Bénabou, R. (2002). "Tax and Education Policy in a Heterogeneous-Agent Economy: What Levels of Redistribution Maximize Growth and Efficiency?", *Econometrica* 70, 481-517. Gasparini, L.C. and S. M. Pinto (2006). "Equality of Opportunity and Optimal Cash and In-Kind Policies", *Journal of Public Economics* 90, 143-169.

Lülfelsmann, C. and G. M. Myers (2011). "Two-Tier Public Provision: Comparing Public Systems", *Journal of Public Economics* 95, 1263-1271.

Epple, D. and R. Romano (2014). "On the Political Economy of Educational Vouchers", Journal of Public Economics 120, 62-73.

Lee, K. (2015). "Higher Education Expansion, Tracking, and Student Effort", *Journal of Economics* 114, 1-22.

Gary-Bobo, R. and A. Trannoy (2008). "Efficient Tuition Fees and Examinations", *Journal of the European Economic Association* 6, 1211-1243.

Mechtenberg, L. and R. Strausz (2008), "The Bologna Process: How Student Mobility Affects Multi-Cultural Skills and Educational Quality", *International Tax and Public Finance* 15, 109-130.

### **Empirical Gender Studies** Professor/Lecturer Martin Kocher & Monika Schnitzer Lecture and Tutorial Course type **Compulsory/Optional** Optional Specialization Microeconomics and Strategic Interaction Hours/week 2+2 Exam Exam 120 min Winter term Cycle **ECTS-Points** 6 Language English Prerequisites Principles of economics (microeconomics, game theory, and econometrics on the master level).

### Syllabus/Course Outline

Discussing assessments of gender in economics with a focus on studies that use field data, field experiments, and laboratory experiments.

Debating methodological aspects of these studies such as design, potential pitfalls, biases, etc.

Topics:

Gender in models, experiments, and field data A primer in behavioral and experimental economics; Gender and uncertainty Gender and stereotypes Gender and firm performance Gender and competition Gender and wage gap Gender and prosocial behavior; Gender in psychology

### Literature

Was given in the course

The Estimating Causal Effects – Replication Seminar	
Professor/Lecturer	Amelie Wuppermann
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	

Do minimum wages affect earnings, employment and firms' profits? Does parental leave affect fertility? And do bans on texting while driving reduce traffic accidents? Answering these and similar questions on causal relationships is key to understanding the impacts of different policies. However, answering causal questions is often not straight-forward. Depending on the specific question and data at hand, (quasi-)experiments in combination with different econometric techniques such as difference-in-difference, instrumental variables estimators, or regression-discontinuity designs can help. This seminar aims at deepening students' understanding of these econometric techniques, introducing them to real-life empirical research, and preparing them to conduct their own empirical analyses, e.g. as part of their master's thesis. To reach these goals each student will be asked to replicate and extend an empirical study on causal effects from fields such as labor, health, education or family economics and to summarize the findings in a term paper (ca. 45.000 symbols). Students will have to present and discuss their findings during the seminar.

### Literature

No textbook Various papers

Frontiers in International Trade	
Professor/Lecturer	Gabriel Felbermayr
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics, Background of International Trade

This course takes a global and a firm level approach to the theory of international trade. The course is based on recent papers in this area and is intended to bring students to the frontier of research in this field.

- 1. Introduction: Facts in International Trade
- 2. The Krugman Model
- 3. The Armington Model
- 4. The (Anderson and van Wincoop) Gravity Model of International Trade
- 5. Gravity Applications Regional Trade Agreements
- 6. Gravity Applications Estimation of Elasticities
- 7. New Trade Theory: Structural Estimation of Trade Models
- 8. Trade in Numbers: The Effects of Free Trade Agreements
- 9. Heterogeneous Firms The Melitz Model
- 10. The Empirics of Firm Heterogeneity
- 11. Multinational Firms: Theory and Empirics I
- 12. Multinational Firms: Theory and Empirics II

### Literature

Feenstra, R. (2015): "Advanced International Trade: Theory and Evidence", Second Edition, Princeton University Press.

Melitz, M., and S. Redding (2014): "Heterogeneous Firms and Trade", In: Helpman, E., G. Gopinath, and K. Rogoff (eds.), *Handbook of International Economics* Vol. 4, Ch. 1: 1-54.

Antràs, P., and S. Yeaple (2014): "Multinational Firms and the Structure of International Trade", In: Helpman, E., G. Gopinath, and K. Rogoff (eds.), *Handbook of International Economics* Vol. 4, Ch. 2: 55-130.

Head, T., and T. Mayer (2014): "Gravity Equations: Workhorse, toolkit, and Cookbook", In:

Helpman, E., G. Gopinath, and K. Rogoff (eds.), *Handbook of International Economics* Vol. 4, Ch. 3: 131-159.

Costinot, A., and A. Rodriguez-Clare (2014): "Trade Theory with Numbers: Quantifying the Consequences of Gobalization", In: Helpman, E., G. Gopinath, and K. Rogoff (eds.), *Handbook of International Economics* Vol. 4, Ch. 4: 197-261.

Game Theory	
Professor/Lecturer	Klaus Schmidt
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	2+2
Exam	Written exam (120 min)
Cycle	SS2015
ECTS-Points	6
Language	English
Prerequisites	

- 1. Static Games with Complete Information
- 2. Dynamic Games with Complete Information
- 3. Bargaining Games
- 4. Repeated Games
- 5. Static Games with Incomplete Information
- 6. Dynamic Games with Incomplete Information

### Literature

- Fudenberg, Drew, and Jean Tirole, Game Theory, Cambridge MA: MIT Press 1991
- Mas-Colell, Andreu, Whinston, Michael and Ed Green, Microeconomic Theory, Oxford: Oxford University Press 1995

Health Economics	
Professor/Lecturer	Volker Meier
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	4+2
Exam	Term Paper (45.000), Presentation (30 min)
Cycle	WS2015/16
ECTS-Points	12
Language	English
Prerequisites	Public Economics

- Demand for health over the lifecycle: deficit accumulation vs health capital model.
- Optimal health insurance contracts
- Regulation of compensation of health care providers
- Political economy of public health insurance

### Literature

Dalgaard, C.-J. and H. Strulik (2014). "Optimal Aging and Death: Understanding the Preston Curve", *Journal of the European Economic Association* 12, 672-701. Dalgaard, C.-J. and H. Strulik (2015). "The Economics of Health Demand and Human Aging: Health Capital vs Health Deficits", Working Paper, University of Göttingen.

Boone, J. (2014). "Basic versus Supplementary Health Insurance: Moral Hazard and Adverse Selection", CentER Discussion Paper No. 2014-059, Tilburg University. Ellis, R. P., S. Jiang and W. G. Manning (2015). "Optimal Health Insurance for Multiple Goods and Time Periods", *Journal of Health Economics* 41, 89-106. Schottmüller, C. (2013). "Cost Incentives for Doctors: A Double-Edged Sword", *European Economic Review* 61, 43-58.

Kifmann, M. (2005). "Health Insurance in a Democracy: Why Is It Public and Why Are Premiums Income Related?", *Public Choice* 124, 283-308.

Nuscheler, R. and K. Roeder (2015), "Financing and Funding Health Care: Optimal Policy and Implementability", *Journal of Health Economics* 42, 197-208.

# International Migration: Empirical Methods and Economics Implications

Professor/Lecturer	Christoph Trebesch	
Course type	Lecture and Tutorial	
Compulsory/Optional	Optional	
Specialization	Macro and International Economics; Applied	
	Econometrics	
Hours/week	4+2	
Exam	Term Paper, Presentation	
Cycle	SS2015	
ECTS-Points	12	
Language	English	
Prerequisites		

### Syllabus/Course Outline

The course will cover central questions in the academic debate on international labor migration. We will discuss recent and classic contributions and debate how policy questions are addressed by leading researchers in the field.

Methodologically, the course aims to train students to critically assess and replicate state-of-the art empirical papers.

- How can research help us to answer important policy questions on labor migration?
- How does the literature try to pin down causal effects?
- What are the most influential empirical approaches and results?
- What are the flaws and limitations in the literature? We will focus on the following six research questions:

The effects of emigration on the sending country:

- 1) What is better for development: international aid or international migration?
- 2) High-skilled emigration: Brain drain or brain gain?
- 3) Is emigration good for political economy and institutions in sending countries?

The effects of immigration on the receiving country:

- 4) Does immigration reduce wages and employment in receiving countries?
- 5) Does immigration and ethnic diversity foster economic growth and innovation?
- *6)* Does immigration cause crime?

### Literature

Survey on 1): Qian, N. (2014). Making Progress on Foreign Aid. Annual Review of Economics, Vol 7 (forthcoming)

Survey on 2): Docquier, F., and H. Rapoport (2012): Globalization, Brain Drain and Development, Journal of Economic Literature, 50(3): 681-730.

Survey on 3) Kapur, D. (2014). Political Effects of International Migration. Annual Review of Political Science, 17: 479-502.

Survey on 4): Kerr, S. and W. Kerr. (2011). Economic Impacts of Immigration: A Survey. NBER Working Paper No. 16736.

Survey on 5) Alesina, A., and E. La Ferrara (2005). Ethnic Diversity and Economic Performance. Journal of Economic Literature, 43(3): 762-800.

International Public Economics	
Professor/Lecturer	Kai Konrad
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	

The strengthened internationalization of modern economies constitutes a new framework to public spending and revenue policies, creating new challenges for policy makers. This course analyses the incentives for and effects of state actions in an international setting. Topics include, among others, the theory of tariffs, strategic trade policy, tax competition, and further cooperative and non-cooperative interactions between countries that affect public finances.

### Outline:

- 1. Theory of tariffs
- a. Incidence of import tariffs, and optimal tariffs and tariff war
- b. Political economy of tariffs
- c. Strategic trade policy
- 2. International public goods
- a. Non-cooperative and cooperative provision of international public goods
- b. Applications in the field of international climate policy
- 3. Tax competition
- a. Tax competition between welfare states
- b. Tax competition and political economy
- 4. Commitment problems of sovereigns
- a. Sovereign debt and default
- b. Foreign direct investment and expropriation

### Literature

 Brander, James A., 1995. Strategic Trade Policy, in: Gene M. Grossman and Kenneth Rogoff (Eds.), Handbook of International Economics, Vol. 3, Chapter 27. Elsevier, Amsterdam, 1395-1455.
 Feenstra, Robert C., 2004. Advanced International Trade, Chapter 7. Princeton University Press, Princeton, 209-253.

3. Hoel, Michael, 1991. Global Environmental Problems - The Effects of Unilateral Actions Taken by One Country. Journal of Environmental Economics and Management 20(1), 55-70.

4. Huck, Steffen, and Kai A. Konrad, 2004. Merger Profitability and Trade Policy. Scandinavian Journal of Economics 106(1), 107-122.

5. Keen, Michael, and Kai A. Konrad, 2014. The Theory of International Tax Competition and Tax Coordination, in: Alan J. Auerbach, Raj Chetty, Martin Feldstein, and Emmanuel Saez (Eds.), Handbook of Public Economics, Vol. 5, Chapter 5. North-Holland, Amsterdam, 257-328.

Monetary Theory	
Professor/Lecturer	Gerhard Illing
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	4+2
Exam	Exam 120 min
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Macroeconomics; Microeconomics; Econometrics

The aim of the course is to introduce into core models of Monetary Theory and to show how they can be used to provide insights for the design of monetary policy. The course will also survey selected current research topics in this field. Topics include the role of money in flexible-price general equilibrium models and in models with sticky price adjustment; Monetary Transmission mechanisms, Monetary policy rules; credibility issues in monetary policy; the importance of institutional design for monetary policy and issues in monetary policy implementation. Apart from New Keynesian models, the course will also cover the interaction between monetary and fiscal policy, the role of government debt and the theory of the fiscal price level; monetary policy and financial stability; incomplete models financial markets and of liquidity crises. Requisite for taking part in the exam is a reading-group-type presentation of a recent research paper, to be presented in January.

- Introduction: Central Banks and the role of money
- Stylized Facts about Money
- Long Run Growth The Basic Framework
- Money and long run growth
- Money and short run stabilization
- Monetary Policy and Financial Stability

### Literature

The course is based on:

Cao, Jin and Gerhard Illing, Money - Theory and Practise - script, mimeo, LMU Munich

Walsh, Carl E. (2010): Monetary Theory and Policy. 3rd edition. MIT Press.

Additional reading list were given in the course

Offshoring and Multinational Firms	
Professor/Lecturer	Daniel Baumgarten
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Macro and International
	Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Winter term, Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics and econometrics; moreover, some
	background in international trade will be very helpful

A characteristic feature of today's era of globalization is the growing international fragmentation of production processes (offshoring). Relatedly, multinational firms have evolved as key players of globalization.

The aim of the course is to introduce graduate students to the theory and empirics of offshoring and multinational firms. At the end of the course, students should have a good understanding of the firms' motives for operating in more than one country, of the determinants of internalizing production stages vs sourcing them out, as well as of the effects both in the home country and the host country, with a particular focus on the respective labour markets.

- Introduction
- Horizontal foreign direct investment
- Vertical (and complex) foreign direct investment I
- International fragmentation of production and trade in tasks
- The boundaries of multinational firms
- Effects of offshoring and multinational firms on the home economy

### Literature

The course is not based on a specific textbook, but on original journal articles. References were given in the course.

Political Economy	
Professor/Lecturer	Marcus Drometer und Björn Kauder
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	2+2
Exam	Term Paper and/or Presentation (30 min)
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	Good knowledge of intermediate microeconomics

The lecture will cover basic theoretical models in political economy. The topics to be covered include: Preferences and voting, Electoral competition, Voter turnout, Agency problems, Rent seeking, Partisan politicians, Special-interest politics, and General-interest politics.

### Literature

Grossman, G.M. and E. Helpman (2001), Special Interest Politics, Cambridge, Mass: MIT Press.

Mueller, D. (2003), Public Choice III, Cambridge University Press, Cambridge.

Persson, T. and G. Tabellini (2000), Political Economics — Explaining Economic Policy, MIT Press, Cambridge.

The Political Economics of Development	
Professor/Lecturer	Lukas Buchheim
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	Macroeconomics, Microeconomics, Econometrics

In this course, we will study how political economy considerations are intertwined with economic development. Examples for questions we will be interested in are: How do political institutions influence economic development? What are the incentives of political actors to change political institutions (i.e. implement democratic reforms), thereby potentially affecting economic development? What are potential tradeoffs that political rulers face when designing economic institutions (i.e. the extent of rule of law or the quality of the bureaucracy)?

While these are old questions which can be found already in the works of Adam Smith, they have received renewed interest in the past few decades. Hence, there is an exciting new literature with both, theoretical and empirical studies, which we are going to explore. Furthermore, since this is a seminar-style course, students' interests can be to some extent considered when specifying the topics of the course in detail.t.b.a.

### Literature

To get a feeling for potential topics of the course, students may want to consult the following sources:

**Acemoglu, Daron**, 2014, "Political Economy Lecture Notes", particularly Chapters 11 ff., <u>http://economics.mit.edu/files/9524</u> (Theory)

**Besley, Tim and Torsten Persson,** 2011, "Pillars of Prosperity", *Princeton University Press* (Theory and Empirics)

Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, and James A. Robinson, 2014, "Democracy Does Cause Growth", *NBER Working Paper*, No. 20004 (Empirics)

**Olken, Benjamin,** 2007, "Monitoring Corruption: Evidence from a Field Experiment in Indonesia," *Journal of Political Economy*, 115 (2): 200-249 (Empirics)

The Political Economy of Intergenerational Transfers	
Professor/Lecturer	Poutvaara
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	2+2
Exam	Written Exam
Cycle	SS2015/WS201516
ECTS-Points	6
Language	English
Prerequisites	

This course analyzes political economy models related to various intergenerational transfers, most notably, social security (public pensions) and public education. The course starts with an overview of median voter models in the presence of overlapping generations, and discusses also probabilistic voting models. After this, more structure is added into the discussion by including different types of social security, with focus on how the political support to social security depends on whether social security benefits are earnings-related or flat-rate, and also on the effects of early retirement provisions. Moreover, the course analyzes political support for public education, and how public education and social security can be linked in the political process. The course also explores the scope for reforming social security, military draft as a form of intergenerational redistribution, and the effects of the mobility of labor.

Course Outline:

- 1 Introduction
- 2 Models on voting
- 3 Voting on social security
- 4 Population aging
- 5 Earnings-related and flat-rate benefits
- 6 Probabilistic voting
- 7 Voter responses
- 8 Education and social security
- 9 Scope for reforming social security
- 10 Migration and redistribution
- 11 Migration and Social Security
- 12 Mobility of labor and public provision of higher education
- 13 Generational incidence and political economy of conscription

### Literature

Was given in the course

Recent Advances in Monetary Economics	
Professor/Lecturer	Gerhard Illing & Sebastian Watzka
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	4+2
Exam	Term Paper (45.000), Presentation (30 min)
Cycle	WS2015/16
ECTS-Points	12
Language	English
Prerequisites	Participants need to be familiar with modern textbook models of "Monetary Theory"

**Topics:** 

- 1. Zero Lower Bound and optimal policy
- 2. Secular stagnation
- 3. Financial frictions and financial stability
- 4. Debt and deleveraging
- 5. Sovereign Debt and Default
- 6. Fiscal policy in a currency union

### Literature

Gali 2008, Walsh 2010, Woodford 2003, Illing "Money – Theory and Practise"

Social Policy	
Professor/Lecturer	Volker Meier
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	4+2
Exam	Exam 120 min
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Advanced Macroeconomics, Advanced
	Microeconomics, Public Economics

The seminar deals with various issues in the sphere of intergenerational redistribution of income, with a focus on higher education and family policies.

• Policy Issues in Higher Education

Centralization of Standards - Standards and Distribution - College Expansion and Academic Quality - Admission and Pricing in Higher Education - Tests and Tuition Fees

Family Policy Family Policy with Noncooperative Families - Impact of Child Benefits and Taxation on Fertility and Labour Supply - Household Behavior with Endogenous Bargaining Weights - Family Policy with Endogenous Gender Power

### Literature

Apps, P. and R. Rees (2004), "Fertility, Taxation and Family Policy", *Scandinavian Journal of Economics* 106, 745-763.

Basu, K. (2006), "Gender and Say: A Model of Household Behaviour with Endogenously Determined Balance of Power", *Economic Journal* 116, 558-580.

Betts, J. (1998). "The Impact of Educational Standards on the Level and Distribution of Earnings", *American Economic Review* 88, 266-275.

Costrell, R. (1997). "Can Centralized Educational Standards Raise Welfare?", *Journal of Public Economics* 65, 271-293.

Epple, D., R. Romano and H. Sieg (2006). "Admission, Tuition and Financial Aid in the Market for Higher Education", *Econometrica* 74, 885-928.

Gary-Bobo, R. and A. Trannoy (2008). "Efficient Tuition Fees and Examinations", *Journal of the European Economic Association* 6, 1211-1243.

Kemnitz, A. and M. Thum (2014), "Gender Power, Fertility and Family Policy", *Scandinavian Journal of Economics*, forthcoming.

Konrad, K. A. and K. E. Lommerud (1995), "Family Policies with Non-Cooperative Families", *Scandinavian Journal of Economics* 97, 581-601.

Su, X., M. Kaganovich and I. Schiopu (2012). "College Expansion and Curriculum Choice", University of Alberta, Working Paper No. 2012-25.

Systems Competition	
Professor/Lecturer	Björn Kauder & Marcus Drometer
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	2+2
Exam	Written exam (120 min)
Cycle	WS2015/16
ECTS-Points	12
Language	English
Prerequisites	Intermediate microeconomics recommended

- 1. Introduction
- 2. Tax Competition
- 3. Mobility and the Welfare State
- 4. Social Dumping
- 5. Environmental Regulation
- 6. Competition of Product Standards
- 7. Banking Regulation
- 8. Competition of Competition Rules

### Literature

Hans-Werner Sinn, The New Systems Competition, Yrjö Jahnsson Lectures, Basil Blackwell: Oxford, 2003.

Topics in Applied Econometrics	
Professor/Lecturer	Joachim Winter
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2+ blocked tutorials
Exam	Exam
Cycle	Winter Term/Summer Term
ECTS-Points	6
Language	English
Prerequisites	Econometrics (required), Microeconometrics
	(recommended)

This is a reading course for advanced master and doctoral students interested in the application of microeconometric methods. We will discuss recently published papers that use state-of-the-art econometric methods in applied microeconomic research. Some knowledge of the basic methods is needed. It is thus advisable that students have taken a lecture in microeconometrics before participating in this course.

### Literature

A new list of papers is prepared each year

Topics in International Taxation	
Professor/Lecturer	Andreas Haufler
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	4+2
Exam	Term Paper, Presentation
Cycle	SS2015
ECTS-Points	12
Language	English
Prerequisites	

In the Summer Term 2015 the Seminar for Economic Policy offers a Master level seminar "Topics in International Taxation". We will cover topics that play an important role in current research in the field. We focus on the taxation of individuals and firms under conditions of international or interregional mobility. For the taxation of individuals we will address issues such as the optimal degree of progressivity, or discriminatory taxation of foreigners versus domestic residents. In the area of corporate taxation we cover issues of international competition for mobile firms and profit shifting in multinational corporations.

### Literature

Cremer, H., Gahvari, F. (2000): Tax evasion, fiscal competition, and economic integration. European Economic Review 44, 1633-1657.

Huizinga, H., Laeven, L. (2008): International profit shifting within multinationals: A multi country perspective. Journal of Public Economics 92, 1164-1182.

Mintz, J., Smart, M. (2004): Income shifting, investment, and tax competition: theory and evidence from provincial taxation in Canada. Journal of Public Economics 88, 1149-1168.

Hong, Q., Smart, M. (2010): in praise of tax havens: International tax planning and foreign direct investment. European Economic Review 54, 82-95.

Elsayyad, M., Konrad, K. (2012): Fighting multiple tax havens. Journal of International Economics 86, 295-305.

Johannesen, N., Zucman, G. (2014): The end of bank secrecy: An evaluation of the G20 tax haven crackdown. American Economic Journal: Economic Policy 6, 65-91.

Firm Heterogeneity in Global Markets	
Professor/Lecturer	Carsten Eckel
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics; Research
Hours/week	2+2
Exam	
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	

This course is an advanced introduction to firm heterogeneity, with an emphasis on issues related to international trade. It is divided in 5 main blocks: (i) New trade theory, which provides the background for micro-founded trade models, (ii) Stylized facts on firm heterogeneity, (iii) General equilibrium models with heterogeneous firms; (iv) Production function estimation with firm heterogeneity and (v) Theory and empirics of multi-product firms and product quality.

### Outline

- 1. New Trade Theory
- 2. Firm Heterogeneity: Stylized Facts
- 3. Firm Heterogeneity: Theory
- 4. Firm Heterogeneity: Estimating Production Functions
- 5. Products and Productivity
  - a. Multi-product Firms
  - b. Quality

### Requirements

This course is intended for students in the research training group GRK 1928. Students are expected to be familiar with and have a working knowledge of graduate level micro. Evaluation consists of an exam at the end of the course, a 30 minute presentation by students and participation in class. Papers for the presentations can be picked from a list provided in class on a first-come-first-serve basis.

### Literature

(O) are overviews.

Arnold, J. and Javorcik, B. (2009): "Gifted Kids or Pushy Parents? Foreign Direct Investment and Plant Productivity in Indonesia," *Journal of International Economics*, 79, 42-53.

Baldwin, R. and J. Harrigan (2011): "Zeros, Quality and Space: Trade Theory and Trade Evidence," *American Economic Journal: Microeconomics*, 3, 60-88.

Bernard, A., Eaton, J., Jensen, B. and S. Kortum (2003): "Plants and Productivity in International Trade," *American Economic Review*, 93, 1268-90.

(O) Bernard, A., Jensen, J., Redding, S. and P. Schott (2007): "Firms in International Trade,"

Experimental Political Economy	
Professor/Lecturer	Simeon Schudy
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics; Research
Hours/week	2+2
Exam	Presentation (30 min.)
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	

The standard economic model assumes that people are rational and selfish. However, it has been shown in lab and field experiments that people systematically deviate from the rationality as well as the selfishness assumption. People may adhere to social norms, hold ethical values such as honesty, or have fairness concerns, i.e. are willing to (punish) reward (un)kind actions and trust others even in one shot interactions. Such behavior has important implications for the design of political institutions, voting outcomes and economic welfare. In this course, we will discuss classical as well as recent papers that relate models from political economy to human behavior. The main goals of the course are i)to make the students familiar with recent models of political economy theory and ii) to learn how such formal models can be tested empirically. We will touch upon topics, such as committee decision making, information aggregation, elections and political promises and voter turnout. Thereby the course will provide an overview of the existing research linking the consequences human behavior for institutional design.

### Literature (excerpt)

Morton, R.B., Williams, K.C., 2010. Experimental political science and the study of causality: From nature to the lab. Cambridge University Press.

Gerber, A.S., Green, D.P., 2012. Field experiments: Design, analysis, and interpretation. WW Norton.

Moffatt, P.G., 2015. Experimetrics: Econometrics for Experimental Economics. Palgrave Macmillan.

Feddersen, Timothy, and Wolfgang Pesendorfer, 1998, "Convicting the Innocent: The Inferiority of unanimous Jury Verdicts under Strategic Voting", American Political Science Review, 92:23-35.

Coughlan, PJ. 2000. "In defense of unanimous jury verdicts: Mistrials, communication, and strategic voting." American Political Science Review 94(2): 375–393.

Guarnaschelli, Serena, Richard McKelvey, and Thomas Palfrey, 2000, "An Experimental Study of Jury Decision Rules", American Political Science Review, 94:375-393.

Corazzini, L., Kube, S., Maréchal, M., & Nicolo, A. (in press). "Elections and deceptions: an experimental study on the behavioral effects of democracy". American Journal of Political Science.

Bartling, B., Fischbacher, U., & Schudy, S. (2015). Pivotality and responsibility attribution in sequential voting. Journal of Public Economics, 128, 133-139.

Demographic Economics	
Professor/Lecturer	Uwe Sunde
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2+2
Exam	Written (90 min.)
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	Knowledge in Micro and Mathematical Methods

- 1. Basic Concepts in Demography
- 1.1 Rates and Probabilities
- 1.2 Mortality and Age Structure
- 1.3 Life Tables
- 1.4 Fertility
- 1.5 Population Projection
- 1.6 Stationary vs. Stable Populations
- 1.7 Modeling Age Patterns
- 2. Economic Models of Individual Behavior
- 2.1 Fertility Choices
- 2.2 Education and Labor Supply
- 2.3 The Demographic Transition
- 2.4 Health Behavior
- 2.5 Migration
- 2.6 Preferences
- 3. Quantitative Implementation and Policy Applications
- 3.1 Age Structured Models
- 3.2 Quantitative Solutions of Permanent Income and Life Cycle Models
- 3.3 Quantitative Solutions of OLG Models
- 3.4 Labor Supply
- 3.5 Pensions and Social Security
- 3.6 OLG Models with Heterogeneity (Earnings, Constraints, Preferences)

### Literature

- D. Acemoglu, Introduction to Modern Economic Growth, Princeton University Press, 2008
- A.J. Auerbach and L.J. Kotlikoff, Dynamic Fiscal Policy, Cambridge University Press, 1998
- S.H. Preston, P. Heuveline, and M. Guillot, Demography: Measuring and Modeling Population Processes, Blackwell, Malden, 2001

D.Romer, Advanced Macroeconomics, McGraw Hill, 5th edition, 2015 Articles (references will be given along the way)

Advanced Econometrics	
Professor/Lecturer	Derya Uysal
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Research
Hours/week	2+2
Exam	Written (120 min.)
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	Master-level course in econometrics

- 1. Introduction
- 2. GMM and (advanced) Instrumental Variable methods
- 3. (Advanced) methods for panel data
- 4. Simulation-based methods
- 5. Non-/semi-parametric estimation

### Literature

Main texts:

Cameron, A.C. and Trivedi, P.K. (2005), Microeconometrics. Cambridge: Cambridge Univ. Press

Wooldridge, J.M. (2010), Econometric analysis of cross section and panel data. 2nd ed., Cambridge, Mass: MIT Press

Further reading:

Cameron, A.C. and Trivedi, P.K. (2010), Microeconometrics Using Stata. revised ed., College Station, Texas: Stata Press

Policy Evaluation in Family and Health Economics	
Professor/Lecturer	Natalia Danzer, Timo Hener, Helmut Rainer
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term Paper (45.000 char.), Presentation (30 min.)
Cycle	Winter Term
ECTS-Points	12
Language	English
Prerequisites	Master-level course in econometrics

The course offers an introduction to modern family economics with a focus on empirical evaluations of family policy interventions and related health policies. The course will include but is not limited to the following topics:

• What kind of public policies are targeted at families, and how are they expected to

affect family outcomes from a theoretical point of view?

• How do early child care and parental leave policies affect maternal employment,

fertility and child development?

- How do families respond to monetary benefits?
- Does the liberalization of divorce laws affect family stability or other outcomes?
- · How do environmental and medical regulations affect health outcomes?

The course has two main parts. The first part consists of weekly lectures which will discuss the substantive research questions as well as the data and the econometric techniques necessary to address them. In the second part of the course, students will present their term papers. The topics of the term papers will be related to the research questions and empirical methods covered in the first part of the course.

#### Literature

The Political Economy of Redistribution	
Professor/Lecturer	Panu Poutvaara
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	4+2
Exam	Term Paper (45.000 char.), Presentation (30 min.)
Cycle	Winter Term
ECTS-Points	12
Language	English
Prerequisites	Master-level Econometrics, Empirical Econonomic Research

The course starts with an overview of median voter, probabilistic voting, and lobbying models. After this, median voter models are applied to analyze political support for redistribution through a linear tax system, public provision of goods, and public pensions (referred to as social security in American literature). Moreover, the course analyzes political support for public education, and how public education and social security can be linked in the political process. The lectures are complemented with exercise sessions.

Term paper and presentation should analyze a question related to the political economics of redistribution, including both literature overview and independent work. Independent work can be theoretical or empirical, or a combination of both. Possible topics include the link between population aging and/or technological change and redistribution, the effects of migration on the political economics of redistribution and/or public goods provision, evaluating to what extent economic self-interest and social considerations explain voting, how political parties or individual candidates choose their policy platforms, comparisons between median voter and probabilistic voting models. Course participants are also welcome to come up with their own suggestions for topics. The topic must be agreed on before the student starts to write the term paper.

#### Literature

Pre-reading:

Persson, T. and Tabellini, G. (2002), Political Economics, MIT Press, Pages 1-64 and 117-132

Additional material provided in course.

International Capital Flows and Financial Crises	
Professor/Lecturer	Christoph Trebesch
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Public Sector Economics
Hours/week	6
Exam	Term Paper (45.000 char.), Presentation (30 min)
Cycle	Winter Term
ECTS-Points	12
Language	English
Prerequisites	Advanced applied econometrics, macroeconomics

This Masters-level course focuses on international capital flows and financial crises. We will make intensive use of econometric methods and discuss seminal contributions in the literature, in particular empirical papers. The course is structured around three main topics:

- Cross-border capital flows, the current account, and sudden stops
- Exchange rate regimes and currency crises
- Sovereign risk, international lending, and debt crises

Methodologically, the course aims to train students to critically assess and replicate state-of-the art empirical papers.

- How can research help us to answer important policy questions?
- How does the literature try to pin down causal effects?
- What are the most influential empirical approaches and results?
- What are the flaws and limitations in the literature?

Possible pro/contra questions for the seminar paper include:

- Financial globalization: are international capital flows good for growth?
- Cutting back: does austerity pay off in crisis times?
- What explains the Eurozone debt crisis: bad fundamentals or multiple equilibria?
- Bailouts: does the IMF help or hurt?
- Debt overhang: are high public debt levels bad for growth?
- Early warning systems for financial crises: useful tools or pseudo-science?
- The costs of sovereign default: are they negligible?

#### Literature

Background textbook:

Obstfeld and Rogoff. 1996. Foundations of International Macroeconomics. MIT Press. I can also recommend an introductory recent textbook manuscript: Uribe and Schmidt-Grohe. 2012. "International Macroeconomics"

# Monetary Policy: Theory and Practice

Professor/Lecturer	Gerhard Illing
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	t.b.a.

#### Syllabus/Course Outline

# 1. Introduction: Central Banks and the role of money

- 1.1 Monetary Policy: Theory and Practice- Issues
- 1.2 Money Demand and Money Supply
- 1.3 Endogenous Money
- 1.4 Instability of Money Multiplier

#### 2. Stylized Facts about Money

- 2.1 Empirical analysis of monetary policy
- 2.2 Stylized Long Run Facts
- 2.3 VAR models
- 2.4 Rules vs. Discretion

#### 3. Money and long run growth

- 3.1 The money in the utility approach
- 3.2 The Cagan Model of Money and Prices
- 3.3 Bubbles and self fulfilling inflationary expectations
- 3.4 Price level targeting vs inflation targeting
- 3.5 Costs and benefits of inflation

#### 4. Interaction between Monetary and Fiscal Policy

- 4.1 Active and Passive Monetary Regimes
- 4.2 Seignorage
- 4.3 Monetary vs. fiscal adjustment: A Chicken Game
- 4.4 The Fiscal Theory of the Price Level

# 5. Money and short run stabilisation

- 5.1 New Keynesian Macroeconomics The basic framework
- 5.1 Dynamic macro in a two-period model
- 5.1.1 The Wealth Constraint
- 5.1.2 The Fisher relation and Indexed Bonds
- 5.1.3 Inter-temporal Demand: The Euler Equation
- 5.1.4 The natural rate of interest
- 5.2 Endogenous Production: The Labour Market
- 5.3 Monopolistic distortions: Market power on the product market
- 5.4 Structural inefficiencies

#### 6. **Optimal Monetary Policy: Trade Off between Flexibility and Credibility**

- 6.1 Optimal Response to different types of shocks
- 6.2 Barro Gordon Model: The Problem of dynamic inconsistency
- 6.3. Strict Rules as Second Best Commitment mechanisms
- 6.3.1 Strict Inflation targeting
- 6.3.2 Poole analysis: Interest Rate vs. Money supply targeting
- 6.3.3 Delegation of monetary policy to a conservative Central Banker (Rogoff)
- 6.4 Monetary Policy under Uncertainty -Control Errors, Imperfect Information and Robustness

# 7. **The Effective Lower Bound**

- 7.1 Challenges at the Zero Lower Bound
- 7.2 Forward Guidance in a Model with Price-Level Targeting

# 8. Monetary Policy and Financial Stability

- 8.1 Endogenous Exposure to Systemic Liquidity Risk (Cao/Illing)
- 8.2 The Risk Taking Channel of Monetary Policy

# Literature Basic reading:

The course will be based on: a) Cao, Jin /Illing, Gerhard script: Money - Theory and Practise - mimeo, LMU Munich and b) Walsh, Carl E. (2010): Monetary Theory and Policy. 3<sup>rd</sup> edition. MIT Press.

# **Additional reading**

Stock, James/ Mark Watson (2001), "Vector autoregressions", Journal of Economic Perspectives, 15(4), 2001.

Paul R. Krugman; **It's Baaack: Japan's Slump and the Return of the Liquidity Trap** *Brookings Papers on Economic Activity*, Vol. 1998, No. 2 (1998), 137-205.

Barlevy, Gadi (2011), Robustness and Macroeconomic Policy, Annual Review of Economics, Vol. 3: 1-24

Benigno, Pierpaolo (**2009**) New-Keynesian Economics: An AS-AD View, <u>NBER Working</u> <u>Paper</u> 14824, 2009

Cao, J. and Illing, G. (2011), Endogenous Exposure to Systemic Liquidity Risk, *International Journal of Central Banking* 7, 173-216.

Calvo Guillermo A (1988), Servicing the Public Debt: The Role of Expectations, *American Economic Review*, Vol. 78, No. 4 pp. 647-661

Illing, Gerhard, Thomas Siemsen (2016), Forward Guidance in a Simple Model with a Zero Lower Bound, *CESifo Economic Studies* 62(1): 47-67

Leeper, Eric M. (2013) Fiscal Limits and Monetary Policy, NBER Working Paper 18877

Sargent, Tom (2012), United States then, Europe now, *Journal of Political Economy*, 2012, vol. 120, issue 1, 1 - 40.

Sims, Christopher (2013), Paper Money, American Economic Review, 103(2), 563-584.

Firms in the Knowledge Economy	
Professor/Lecturer	Gumpert, Anna
Course type	Lecture with Tutorial
Compulsory/Optional	Optional
Specialization	Macro- and International Economics;
	Microeconomics and Strategic Interaction
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics, Econometrics

The aim of the course is to introduce graduate students to opportunities and challenges created by the "knowledge economy" for firms. The course covers the following topics:

- 1. Incentives to innovate
- 2. Knowledge diffusion and knowledge spillovers
- 3. Skill-biased technological change and its impact on labor demand
- 4. Management practices and the organization of knowledge
- 5. Data as assets
- 6. Multinational firms and intangible assets

At the end of the course, students should have a good understanding of how technological change has been affecting production in firms, be able to understand empirical papers in the field, and know how to critically evaluate them.

#### Literature

A list of papers is provided at the first meeting.

International Trade	and Labour Market Outcomes
Professor/Lecturer	Michele Battisti & Gabriel Felbermayr
Course type	Seminar (M12)
Compulsory/Optional	Optional
Specialization	Microeconomics
Hours/week	blocked
Exam	Paper + Presentation
Cycle	none
ECTS-Points	12
Language	English
Prerequisites	

In the last years, the literature on the labor market effects of trade liberalization has made substantial progress both on the theoretical front but also in the area of quantification and empirical research. Recent election results make it very clear that the labor market effects of trade liberalization can have very important political consequences. So, it is crucial to develop a better understanding of the mechanisms that link trade and labor market outcomes.

The setup of this course consists in a small number if introductory lectures (probably 4 lectures, each 4 hours), which cover the older literature on trade, wages, and unemployment. The objective is to prepare students to digest the more recent work which will be discussed in class presentations, debates, and term papers.

#### Literature

#### Trade and Unemployment

- 1. Itskhoki Oleg & Elhanan Helpman, 2010, Labour Market Rigidities, Trade and Unemployment, *Review of Economics Studies,* July 2010, 77(3): 1100-1137
- 2. Egger Hartmut& Udo Kreickemeier, 2012, Fairness, Trade, and Inequality, Journal of International Economics 86 (2), 184---196.
- 3. Felbermayr Gabriel & Julien Prat & Hans-Jörg Schmerer, "Globalization and labor market outcomes: Wage bargaining, search frictions, and firm heterogeneity", Journal of Economic Theory 146 (1), 2011, 39-73
- 4. Felbermayr Gabriel & Mario Larch & Wolfgang Lechthaler, "Unemployment in an Interdependent World", American Economic Journal: Economic Policy 5 (1), 2013, 262–301.

#### Sectoral effects of trade: unemployment and adjustment

- 1. Carrère Céline & Marco Fogazza & Marcelo Olarreaga & Frederic Robert-Nicoud, 2016, On the Heterogeneous Effect of Trade on Unemployment, CEPR Discussion Paper No. DP11540
- 2. Itskhoki Oleg & Elhanan Helpman, 2015, Trade Liberalization and Labor Market Dynamics with Heterogeneous Firms, http://www.princeton.edu/~itskhoki/papers/TradeLMDynamics.pdf

#### Trade and Inequality

1. Helpman Elhanan & Oleg Itskhoki Oleg & Stephen Redding, (2010): "Inequality and Unemployment in a Global Economy," Econometrica 78(4), 1239–1283.

- 2. Helpman Elhanan & Oleg Itskhoki Oleg & Marc-Andreas Mündler & Stephen Redding, Trade and Inequality: From Theory to Estimation, NBER WP 17991, Review of Economic Studies, forthcoming.
- 3. Felbermayr Gabriel & Giammario Impullitti & Julien Prat, 2015, "Firm Dynamics and Residual Inequality in Open Economies" CESifo Working Paper No. 4666.

#### Gains from Trade when inequality matters

¶Antras Pol & Alonso de Gortari & Oleg Itskhoki, 2016, Globalization, Inequality and Welfare, NBER WP 22676, <u>http://www.princeton.edu/~itskhoki/papers/TradeWelfare.pdf</u>

#### Trade, labour markets and firm organisation (theory)

 Lorenzo Caliendo & Esteban Rossi-Hansberg, 2012."The Impact of Trade on Organization and Productivity," The Quarterly Journal of Economics, Oxford University Press, vol. 127(3), pages 1393-1467.

https://ideas.repec.org/a/oup/qjecon/v127y2012i3p1393-1467.html

 Lorenzo Caliendo & Maximiliano Dvorkin & Fernando Parro, 2015. "The Impact of Trade on Labor Market Dynamics," NBER Working Papers 21149, National Bureau of Economic Research, Inc.

https://ideas.repec.org/p/nbr/nberwo/21149.html

#### Wages and Employment at Multinational Firms

 Marc-Andreas Muendler & Sascha O. Becker, 2010. "Margins of Multinational Labor Substitution," American Economic Review, American Economic Association, vol. 100(5), pages 1999-2030, December.

https://ideas.repec.org/a/aea/aecrev/v100y2010i5p1999-2030.html

#### Labor Market Effects of Import Competition

 David H. Autor & David Dorn & Gordon H. Hanson, 2015. "Untangling Trade and Technology: Evidence from Local Labour Markets," Economic Journal, Royal Economic Society, vol. 0(584), pages 621-646, 05.

http://economics.mit.edu/files/11552

- David H. Autor & David Dorn & Gordon H. Hanson, 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States," American Economic Review, American Economic Association, vol. 103(6), pages 2121-68, October. <u>https://ideas.repec.org/a/aea/aecrev/v103y2013i6p2121-68.html</u>
- Daron Acemoglu & David Autor & David Dorn & Gordon H. Hanson & Brendan Price, 2016. "Import Competition and the Great US Employment Sag of the 2000s," Journal of Labor Economics, University of Chicago Press, vol. 34(S1), pages S141 - S198. https://ideas.repec.org/a/ucp/jlabec/doi10.1086-682384.html
- David H. Autor & David Dorn & Gordon H. Hanson & Jae Song, 2014.
   "Trade Adjustment: Worker-Level Evidence," The Quarterly Journal of Economics, Oxford University Press, vol. 129(4), pages 1799-1860.
   <u>http://economics.mit.edu/files/8897</u>
- Avraham Ebenstein & Ann Harrison & Margaret McMillan & Shannon Phillips, 2014. "Estimating the Impact of Trade and Offshoring on American Workers using the Current Population Surveys," The Review of Economics and Statistics, MIT Press, vol. 96(4), pages

581-595, October.

https://ideas.repec.org/a/tpr/restat/v96y2014i4p581-595.html

6. Wolfgang Dauth & Sebastian Findeisen & Jens Suedekum, 2014. "The Rise Of The East And The Far East: German Labor Markets And Trade Integration," Journal of the European Economic Association, European Economic Association, vol. 12(6), pages 1643-1675, December.

https://ideas.repec.org/a/bla/jeurec/v12y2014i6p1643-1675.html

7. Balsvik, Ragnhild & Jensen, Sissel & Salvanes, Kjell G., 2015. "Made in China, sold in Norway: Local labor market effects of an import shock," Journal of Public Economics, Elsevier, vol. 127(C), pages 137-144.

https://ideas.repec.org/a/eee/pubeco/v127v2015icp137-144.html

#### International evidence on Trade and Unemployment

1. Felbermayr, Gabriel & Prat, Julien & Schmerer, Hans-Jörg, 2011. "Trade and unemployment: What do the data say?," European Economic Review, Elsevier, vol. 55(6), pages 741-758, August.

https://ideas.repec.org/a/eee/eecrev/v55y2011i6p741-758.html

2. Dutt, Pushan & Mitra, Devashish & Ranjan, Priya, 2009. "International trade and unemployment: Theory and cross-national evidence," Journal of International Economics, Elsevier, vol. 78(1), pages 32-44, June.

https://ideas.repec.org/a/eee/inecon/v78v2009i1p32-44.html

#### Trade, Skills, Inequality

- 1. Dix-Carneiro, Rafael and Brian K. Kovak. 2015. "Trade Liberalization and the Skill Premium: A Local Labor Markets Approach." American Economic Review, 105(5): 551-57. https://www.aeaweb.org/articles?id=10.1257/aer.p20151052
- 2. Anders Akerman & Elhanan Helpman & Oleg Itskhoki & Marc-Andreas Muendler & Stephen Redding, 2013. "Sources of Wage Inequality," American Economic Review, American Economic Association, vol. 103(3), pages 214-19, May. https://ideas.repec.org/a/aea/aecrev/v103v2013i3p214-19.html

#### Trade and Politics: the effect of trade shocks on voting

- 1. David Autor & David Dorn & Gordon Hanson & Kaveh Majlesi, 2016. "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure," NBER Working Papers 22637, National Bureau of Economic Research, Inc. http://economics.mit.edu/files/11559
- 2. Christian Dippel & Robert Gold & Stephan Heblich, 2015. "Globalization and Its (Dis-)Content: Trade Shocks and Voting Behavior," NBER Working Papers 21812, National Bureau of Economic Research, Inc.

https://ideas.repec.org/p/nbr/nberwo/21812.html

Economics of Inequality and Redistribution	
Professor/Lecturer	Drometer, Marcus; Kauder, Björn; Neumeier, Florian
Course type	M12
Compulsory/Optional	Optional
Specialization	
Hours/week	Blocked
Exam	Presentation
Cycle	-
ECTS-Points	12
Language	English
Prerequisites	Profound knowledge of applied econometrics and
	microeconomics

The seminar is concerned with the ongoing debate and examines the development of inequality over time. In this context, it examines the impact of globalization on the income distribution, as well as the effects of economic policy reforms. Finally, we evaluate the efficacy and consequences of redistribution policies. The topics for the seminar are drawn from recent publications in leading international journals and cover both empirical and theoretical work. Participants are required to write a term paper and have to present their work during the seminar.

#### Literature

Piketty, T., Capital in the Twenty-First Century, 2013.

Barro, R.J., Inequality and Growth in a Panel of Countries, Journal of Economic Growth 5 (1), 2000, 5-32.

Corak, M., Income Inequality, Equality of Opportunity, and Intergenerational Mobility, Journal of Economic Perspectives 27 (3), 2013, 79-102.

Fuchs-Schündeln, N., D. Krueger, M. Sommer, Inequality Trends for Germany in the Last Two Decades: A Tale of Two Countries, Review of Economic Dynamics 13, 2010, 103-132.

Topics in International Taxation	
Professor/Lecturer	Andreas Haufler
Course type	Master Seminar
Compulsory/Optional	Optional
Specialization	International Taxation
Hours/week	6
Exam	Term Paper, Presentation
Cycle	non
ECTS-Points	12
Language	English
Prerequisites	non

We cover topics that play an important role in current research in the field. We focus on the taxation of individuals and firms under conditions of increasing international mobility of tax bases. For the taxation of individuals we address issues such as the optimal degree of tax progressivity, or discriminatory taxation of foreigners versus domestic residents. In the area of corporate taxation we cover issues of international tax competition for foreign direct investment and for profit shifting in multinational corporations. The topics for the seminar are drawn from recent publications in leading international journals and cover both theoretical and empirical work.

#### Literature:

Devereux, M., Loretz, S. (2013): What do we know about corporate tax competition? National Tax Journal 66(3), 745-773

Keen, M., Konrad, K. (2013): The theory of international tax competition and coordination. Handbook of Public Economics, Volume 5, Ch. 5, 257-328

Beliefs in Decision Theory	
Professor/Lecturer	Le Yaouanq, Yves
Course type	Lecture, Tutorial and Seminar
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Master-level knowledge in microeconomics and
	mathematics is necessary

The aim of the course is to introduce you to economic theories of beliefs and learning. We will mostly discuss theoretical models of decision under uncertainty, but we will also appeal to the existing experimental or empirical evidence to show how it informs the development of new theories---and vice versa.

At the end of the course, you will know the most important properties of the standard models and you will be able to use these theoretical foundations in your own research. You will also have some ideas about the empirical limitations of these models (cognitive biases, beliefs-based utility, etc.), and about the recent theoretical and experimental research that studies these departures.

The course consists of two parts. In the first part we will study the classic axiomatic foundations of individual decision-making under uncertainty. We will first briefly review the probabilistic foundations of beliefs in economic models. We will then proceed to study how beliefs are used in the standard representations of preferences. We will cover the axiomatic foundations and the philosophy behind several classic models of choice under uncertainty (Von Neumann-Morgenstern, Anscombe-Aumann, Savage).

The second part of the course will focus on recent research on beliefs in decision theory and economic applications. Each student will select a topic from a reading list and prepare a report and a 30 minute-presentation. The list of topics can be adapted depending on the students' interests. In all cases the following categories will be offered:

- Cognitive biases, non-standard updating
- Overconfidence and over-optimism
- Beliefs about oneself, dynamic choice
- Moral behavior

Each of these categories will contain theoretical, empirical and experimental papers, and will include both fundamental research and applications (education, development, political economy, finance, health...).

#### Literature

We will not follow a textbook, but most of the material covered in the lectures can be found in *Notes on the theory of choice* (1988), D. Kreps, Westview Press.

# **Topics in Environmental and Resource Economics**

Professor/Lecturer	Dr. Niko Jaakkola, Dr. Suphi Sen
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public economics
Hours/week	2 hr (lecture) + 2 hr (tutorial)
Exam	Written exam (120 minutes)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Macroeconomics, microeconomics, game theory

# Syllabus/Course outline

The course covers various aspects of environmental and resource economics, with a particular focus on climate change. Particular topics are: international environmental agreements, the theory of exhaustible resources, market power and limit pricing with exhaustible resources, energy policy.

#### Literature

Papers assigned during the course.

<b>Topics in Monetary</b>	<sup>v</sup> Economics
Professor/Lecturer	Peter Zorn
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2
Exam	Presentation of a Recent Research Article (50%) and
	Term Paper (50%)
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Graduate-level Macroeconomics and Econometrics

This seminar aims to explain the effect of monetary policy on the economy. Two classic questions in macroeconomics concern the identification of this effect in the data and the transmission of monetary policy to the real economy. To address these questions, we will study identification and estimation of causal effects in macroeconomics, and review models with frictions that generate monetary non-neutrality, such as menu cost models or models with information frictions. In addition, we will discuss empirical papers that asses the empirical relevance of each of these theories.

The seminar is organized as a semester-long course. Lectures will provide an introduction to each topic and related methodology. Each student will present one research article, and everyone is supposed to hand in brief reports on the papers we will discuss in class. Students must prepare a term paper due before the winter break.

#### Literature

A reading list will be provided at the beginning of the course.

Monetary Policy: Theory and Practice	
Professor/Lecturer	Gerhard Illing
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2+2
Exam	Exam 120 min
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	t.b.a.

#### 1. Introduction: Central Banks and the role of money

- 1.5 Monetary Policy: Theory and Practice- Issues
- 1.6 Money Demand and Money Supply
- 1.7 Endogenous Money
- 1.8 Instability of Money Multiplier

# 2. Stylized Facts about Money

- 2.1 Empirical analysis of monetary policy
- 2.2 Stylized Long Run Facts
- 2.3 VAR models
- 2.4 Rules vs. Discretion

#### 3. Money and long run growth

- 3.1 The money in the utility approach
- 3.2 The Cagan Model of Money and Prices
- 3.3 Bubbles and self fulfilling inflationary expectations
- 3.4 Price level targeting vs inflation targeting
- 3.5 Costs and benefits of inflation

# 4. Interaction between Monetary and Fiscal Policy

- 4.1 Active and Passive Monetary Regimes
- 4.2 Seignorage
- 4.3 Monetary vs. fiscal adjustment: A Chicken Game
- 4.4 The Fiscal Theory of the Price Level

#### 5. Money and short run stabilisation

- 5.1 New Keynesian Macroeconomics The basic framework
- 5.1 Dynamic macro in a two-period model
- 5.1.1 The Wealth Constraint
- 5.1.2 The Fisher relation and Indexed Bonds
- 5.1.3 Inter-temporal Demand: The Euler Equation
- 5.1.4 The natural rate of interest

- 5.2 Endogenous Production: The Labour Market
- 5.3 Monopolistic distortions: Market power on the product market
- 5.4 Structural inefficiencies

# 6. **Optimal Monetary Policy: Trade Off between Flexibility and Credibility**

- 6.1 Optimal Response to different types of shocks
- 6.2 Barro Gordon Model: The Problem of dynamic inconsistency
- 6.3. Strict Rules as Second Best Commitment mechanisms
- 6.3.1 Strict Inflation targeting
- 6.3.2 Poole analysis: Interest Rate vs. Money supply targeting
- 6.3.3 Delegation of monetary policy to a conservative Central Banker (Rogoff)
- 6.4 Monetary Policy under Uncertainty -Control Errors, Imperfect Information and Robustness

# 7. **The Effective Lower Bound**

- 7.1 Challenges at the Zero Lower Bound
- 7.2 Forward Guidance in a Model with Price-Level Targeting

# 8. Monetary Policy and Financial Stability

- 8.1 Endogenous Exposure to Systemic Liquidity Risk (Cao/Illing)
- 8.2 The Risk Taking Channel of Monetary Policy

# Literature

#### **Basic reading:**

The course will be based on:

a) Cao, Jin /Illing, Gerhard script: Money - Theory and Practise - mimeo, LMU Munich and
b) Walsh, Carl E. (2010): Monetary Theory and Policy. 3<sup>rd</sup> edition. MIT Press.

# Additional reading

Stock, James/ Mark Watson (2001), "Vector autoregressions", Journal of Economic Perspectives, 15(4), 2001.

Paul R. Krugman; **It's Baaack: Japan's Slump and the Return of the Liquidity Trap** *Brookings Papers on Economic Activity*, Vol. 1998, No. 2 (1998), 137-205.

Barlevy, Gadi (2011), Robustness and Macroeconomic Policy, *Annual Review of Economics*, Vol. 3: 1-24

Benigno, Pierpaolo (**2009**) New-Keynesian Economics: An AS-AD View, <u>NBER Working</u> <u>Paper</u> 14824, 2009

Cao, J. and Illing, G. (2011), Endogenous Exposure to Systemic Liquidity Risk, *International Journal of Central Banking* 7, 173-216.

Calvo Guillermo A (1988), Servicing the Public Debt: The Role of Expectations, American

Economic Review, Vol. 78, No. 4 pp. 647-661

Illing, Gerhard, Thomas Siemsen (2016), Forward Guidance in a Simple Model with a Zero Lower Bound, *CESifo Economic Studies* 62(1): 47-67

Leeper, Eric M. (2013) Fiscal Limits and Monetary Policy, NBER Working Paper 18877

Sargent, Tom (2012), United States then, Europe now, *Journal of Political Economy*, 2012, vol. 120, issue 1, 1 - 40.

Sims, Christopher (2013), Paper Money, American Economic Review, 103(2), 563-584.

Development Economics	
Professor/Lecturer	Bartos, Vojtech
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	
Hours/week	2 SWS Lecture + 2 SWS Tutorial
Exam	90 minutes
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics I, Game Theory (Basics), Econometrics I

Large share of the world's population subsists on less than \$2 per day. Despite substantial improvements over the recent decades, many people still remain uneducated, with limited access to medical services, sanitation, and clean water. The majority of these people are still employed in subsistence agriculture or in informal entrepreneurial jobs without access to adequate financial services.

The goal of this course is not only to provide more precise ideas about the lives of the poor around the world, but also to consider why poverty persists and what tools can help alleviate it. We will study this by discussing existing theories, recent literature, and we will accompany our discussions with hands-on work with existing data.

We will cover topics ranging from macroeconomic growth theories, the persistence of historical events in current development, and the determinants and the role of both formal and informal institutions in lifting countries out of poverty. We will also discuss the role of several types of capital (human, physical, financial, social, and "mental") that help to explain underdevelopment, and further — if properly understood — promise important directions for development policy and research.

#### Literature

Books for your reference are the following (but we will discuss an extensive list of recent academic papers too):

- Ray, D. (1998): Development Economics. Princeton University Press.
- Todaro, M. P., and Smith, S. C. (2011): Economic Development. Pearson.
- Banerjee, A., and Duflo, E. (2011): Poor Economics. Public Affairs.
- Armendriz, B., and Morduch, J. (2005): The Economics of Microfinance. MIT Press.
- Collins, D., Morduch, J., Rutherford, S., and Ruthven, O. (2009): Portfolios of the Poor: How the World's Poor Live on \$2 a Day. Princeton University Press.
- Wydick, B. (2008): Games in Economic Development. Cambridge University Press.

Experimental Political Economy	
Professor/Lecturer	Simeon Schudy
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction, Research
Hours/week	2+2
Exam	Presentation (30 min.)
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	

The standard economic model assumes that people are rational and selfish. However, it has been shown in lab and field experiments that people systematically deviate from the rationality as well as the selfishness assumption. People may adhere to social norms, hold ethical values such as honesty, or have fairness concerns, i.e. are willing to (punish) reward (un)kind actions and trust others even in one shot interactions. Such behavior has important implications for the design of political institutions, voting outcomes and economic welfare. In this course, we will discuss classical as well as recent papers that relate models from political economy to human behavior. The main goals of the course are i)to make the students familiar with recent models of political economy theory and ii) to learn how such formal models can be tested empirically. We will touch upon topics, such as committee decision making, information aggregation, elections and political promises and voter turnout. Thereby the course will provide an overview of the existing research linking the consequences human behavior for institutional design.

#### Literature (excerpt)

Morton, R.B., Williams, K.C., 2010. Experimental political science and the study of causality: From nature to the lab. Cambridge University Press.

Gerber, A.S., Green, D.P., 2012. Field experiments: Design, analysis, and interpretation. WW Norton.

Moffatt, P.G., 2015. Experimetrics: Econometrics for Experimental Economics. Palgrave Macmillan.

Feddersen, Timothy, and Wolfgang Pesendorfer, 1998, "Convicting the Innocent: The Inferiority of unanimous Jury Verdicts under Strategic Voting", American Political Science Review, 92:23-35.

Coughlan, PJ. 2000. "In defense of unanimous jury verdicts: Mistrials, communication, and strategic voting." American Political Science Review 94(2): 375–393.

Guarnaschelli, Serena, Richard McKelvey, and Thomas Palfrey, 2000, "An Experimental Study of Jury Decision Rules", American Political Science Review, 94:375-393.

Corazzini, L., Kube, S., Maréchal, M., & Nicolo, A. (in press). "Elections and deceptions: an experimental study on the behavioral effects of democracy". American Journal of Political Science.

Bartling, B., Fischbacher, U., & Schudy, S. (2015). Pivotality and responsibility attribution in sequential voting. Journal of Public Economics, 128, 133-139.

Labor Economics	
Professor/Lecturer	Lindenthal, Volker
Course type	Lecture + Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4+2
Exam	Term paper and presentation (30 min)
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Master level knowledge in econometrics

The course consists of two parts. The first part is based on lecture style sessions, the second part is a blocked seminar at the end of the term. The topic of the seminar is based on a specific topic of the initial lectures such as migration.

Tentative list of topics to be covered in the initial lectures:

Lecture 1: Labor Supply

Lecture 2: Labor Demand

Lecture 3: Human Capital and Signaling

Lecture 4: School Quality

Lecture 5: Discrimination and the Gender Pay Gap

Lecture 6: Migration

#### Literature

Cahuc, Pierre and Andre Zylberberg (2004), Labor Economics, MIT Press.

Borjas, George (2007), Labor Economics (4th edition), McGraw-Hill.

Angrist and Pischke (2009) Mostly Harmless Econometrics, Princeton University Press, Princeton and Oxford.

In addition to the textbook, the course is based on academic papers.

Quantitative Macroeconomics	
Professor/Lecturer	Georg Dürnecker
Course type	Lecture + Tutorial
Compulsory/Optional	Optional
Specialization	Macroeconomics
Hours/week	2h Lecture + 2h Tutorial
Exam	Term Project
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Advanced Macroeconomics, Calculus, Linear
	Algebra, Topology

A large part of modern macroeconomics relies on the use of dynamic stochastic (general equilibrium) models. Such models are particularly useful not only to address theoretical questions, but also to confront theory with data in a consistent manner. This course provides an introduction to numerical tools for the analysis and evaluation of such models. The main emphasis is on learning the methods and their practical implementation. The course will require students to use standard computer programming languages (such as Matlab or Fortran). We study a variety of topics, including projection methods, iteration-based solution methods, approximation of functions and stochastic processes, sparse grid methods, rootfinding, homotopy methods, calibration, simulation-based model estimation, parallel programming (OpenMP, MPI) and (if time permits) GPGPU computing. Moreover, we explore a number of applications in labor search, inequality, growth and business cycles to illustrate the practical use of the methods presented in the course. After completion of the course, students are able to numerically solve quantitative economic models, to simulate the equilibrium, and to calibrate and estimate the structural model parameters. Students learn to solve the following class of models: the neoclassical growth model, overlapping-generations models, labor search and matching models and heterogeneous agents models with idiosyncratic and/or aggregate risk. Furthermore, students learn to use economic models together with quantitative research methods to study theoretical questions and to confront theory with the data in a consistent manner.

# Literature

Fabio Canova: Methods for Applied Macroeconomic Research Burkhard Heer - Alfred Maussner: Dynamic General Equilibrium Modelling Ken Judd: Numerical Methods in Economics Lars Ljunqvist - Thomas J. Sargent: Recursive Macroeconomic Theory Jerome Adda - Russell Cooper: Dynamic Economics William Press et al: Numerical Recipes, The Art of Scientific Computing Miranda - Fackler: Applied Computational Economics and Finance

Trade Policy Analysis with Structural Gravity	
r. Jasmin Gröschl	
tion (30 min.)	
include Master-level ster-level Jndergraduate or ational trade. night be required.	
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Gravity equations are a model of bilateral interactions in which size and distance effects enter multiplicatively. They have been used as a workhorse for analyzing the determinants of bilateral trade flows for 50 years. Over the last decade, concentrated efforts of trade theorists have established that gravity equations emerge from mainstream modeling frameworks in economics. Meanwhile empirical work has proceeded to lay down a raft of stylized facts about the determinants of bilateral trade. As a result of recent modeling, we now know that gravity estimates can be combined with trade policy experiments to calculate implied welfare changes.

#### Literature

"Trade Theory with Numbers: Quantifying the Consequences of Globalization" Costinot, A., and A. Rodríguez-Clare, 2014. in the Handbook of International Economics Vol. 4, eds. G. Gopinath, E. Helpman, and K. Rogoff.

"Gravity Equations: Workhorse, Toolkit, and Cookbook", Head, K. and T. Mayer, 2014. in the

Handbook of International Economics Vol. 4, eds. G. Gopinath, E. Helpman, and K. Rogoff.

The Future of Corporate Taxation	
Professor/Lecturer	Prof. Clemens Fuest
Course type	M12 Seminar
Compulsory/Optional	Optional
Specialization	Public Economics
Hours/week	-
Exam	Seminar Paper and Presentation
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Master level microeconomics & econometrics, public
	economics

Today's globalised business environment and the move towards a knowledge-based economy with increasing importance of the digital economy raise important questions on the design of corporate tax. The seminar will analyse flaws of current (source based) tax systems and discuss opportunities for reform. These include proposals such as to introduce a common consolidated corporate tax base (CCCTB) at the European level or to replace the current CIT scheme by a destination based cash-flow tax (DBCFT). Special attention will be paid to the challenges of taxing digital business activities.

#### Literature

hods in Economics
Alex Schmitt, Ph.D.
Lecture
Optional
Public Economics, Macroeconomics
2 (Lecture) + 2 (Tutorial)
Oral (20 min)
Winter term
6
English
First-year courses in Microeconomics,
Macroeconomics

This course provides an introduction to what is commonly referred to as "numerical" or "computational" methods for economic analysis.

The first part of the course covers some essential topics in scientific computing, including numerical optimization, root finding, integration and function approximation. Along the way, it introduces some important concepts in the context of Machine Learning, for example the gradient descent algorithm and neural networks.

The second part presents important methods for solving dynamic models in economics, in particular dynamic programming. The standard neoclassical (Ramsey) growth framework is used as a workhorse model. Advanced applications of numerical methods, for example in the context of climate change economics and of optimal taxation, are also discussed.

The programming language Python will be used throughout the course for implementing algorithms and for solving models numerically. Previous knowledge of Python is not required; an introduction to Python will be provided at the beginning of the course.

#### Literature

Miranda, M.J., Fackler, P.L. (2002), Applied Computational Economics and Finance, MIT Press

Empirical Development Economics	
Professor/Lecturer	Resnjanskij
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2.0
Exam	Written exam (120 minutes)
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	Econometrics, Applied Microeconomics

The course is a "hands-on applied econometrics course", which utilizes examples from the field of Development Economics to understand advanced methods in econometrics. We will implement some techniques in Stata in the course. The course will closely follow the book by Söderbom, Mans and Francis Teal (2015). You can download the book for free and check its content here: Link The prerequisites for the course are

• Econometrics

• Applied Microeconomics

#### Literature

The structure of the course is adapted from Söderbom and Teal (2015). You should be willing to read the relevant chapters (subchapters) over the course period. If you look for an refresher for empirical methods on linear models Angrist and Pischke (2014) and more advanced Angrist and Pischke (2009) are very good text books to start with. For the second part of the lecture both textbooks written by Wooldridge (2010, 2016) can be used to complement the main text book of the course (Söderbom and Teal 2015). In the statistical inference part of the course, we also use a chapter from Fox (2016).

Throughout the course, we will use examples from several research papers. I will provide the respective references during the course. Finally, there are very good online courses related to topics discussed in this course available for free at edX.org, e.g.:

- Data Analysis for Social Scientists
- Foundations of Development Policy
- Causal Diagrams: Draw Your Assumptions Before Your Conclusions

he Political Econo	
ofessor/Lecturer	Poutvaara
urse type	M12 Seminar
mpulsory/Optional	Optional
ecialization	Public Economics, Microeconomics and Strategic
	Interaction
urs/week	Blocked lectures (12 hours) and blocked
	presentations on two days
am	No exam; term paper and presentation
cle	Winter term
TS-Points	12
nguage	English
erequisites	Microeconomics

The course starts with an overview of median voter, probabilistic voting, and lobbying models. After this, median voter models are applied to analyze political support for re-distribution in different settings, including education. As for the term paper, students can express a preference for a theoretical or empirical topic, or a combination of the two. For an empirical part, a well-developed research proposal of the intended analyses suffices.

#### Literature

Justman, M. and Thisse, J. (1997). Implications of the Mobility of Skilled Labor for Local Public Funding of Higher Education. Economics Letters 55, 409-412.

- Persson, T. and Tabellini, G. (2002). Political Economics. MIT Press. Pages 1-64 and 117-132.
- Poutvaara, P. (2006). On the Political Economy of Social Security and Public Education. Journal of Population Economics 19, 345-365.
- Poutvaara, P. (2007). Social Security Incentives, Human Capital Investment and Mobility of Labor. Journal of Public Economics 91, 1299–1325.

Rangel, A. (2003). Forward and Backward Intergenerational Goods: Why is Social Security Good for the Environment? American Economic Review 93, 813-834.

Wildasin, D. E. (1991). Income Redistribution in a Common Labor Market. American Economic Review 81 (4), 757-774.

Wildasin, D. E. (2000). Labor Market Integration, Investment in Risky Human Capital, and Fiscal Competition. American Economic Review 90, 73-95.

# Econometric Evaluations of the Consequences of the COVID-19 Pandemic

Professor/Lecturer	Zierow/Lergetporer
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Public Sector Economics
Hours/week	6.0
Exam	Paper (1/2) and Presentation (1/2)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Microeconometrics

#### Syllabus/Course outline

The COVID-19 pandemic has major impacts on almost all aspects of the economy. Consequently, a rapidly growing new body of research in various subfields of economics - including, for instance, labor, education, political economy, or health, investigates the effects of the pandemic.

The course discusses selected topics covered in the latest research on the impacts of the COVID-19 on economically relevant outcomes. Focusing on modern empirical methods for causal analysis, and the challenges in applying them to the pandemic, the covered topics include, but are not limited to, the following areas:

- How did the COVID-19 induced school closures affect educational inequality?

- How did the pandemic affect labor-market success of men and women?

- How did (mis)information broadcast on mass media affect health outcomes?

- Can mentoring programs mitigate the negative impacts of the pandemic on university students' educational success?

Students will prepare term papers on how the pandemic affected different facets of economic activity, and present their term papers in the seminar. The focus of the term papers will be on empirical strategies for causal analysis

#### Literature

Structural Microeconomics	
Professor/Lecturer	Veramendi
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4.0
Exam	Exam or final project
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Econometrics at the level of Econometrics:
	Regression Analysis

The course introduces students to state-of-the art methods in structural microeconometrics.

After the course, students should understand the advantages and limitations of structural

approaches, develop basic programming skills, and be able to simulate/estimate structural

microeconometric models. Students need to have good knowledge of econometrics at the level

of Econometrics (MSc) or Econometrics: Regression Analysis (MQE). Topics:

I. Methodology and Identification

II. Numerical Methods

III. Discrete Choice Models

IV. Dynamics Discrete Choice Programming Models

V. Demand Estimation

VII. Advanced Topics in Labor/IO (To be determined by course progress)

#### Literature

Train, Kenneth E. (2009), Discrete Choice Methods with Simulation, Cambridge University

Press.

Judd, Kenneth L. (1998), Numerical Methods in Economics, MIT Press, Cambridge, MA.

Optimal Taxation of Top Incomes	
Professor/Lecturer	Dr. Jonas Löbbing
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Public Economics
Hours/week	Blocked on 6 days
Exam	n/a
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Public Economics at the graduate level
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In most countries, income is highly concentrated at the top of the income distribution. Consequently, a large share of tax revenue is generated from the taxation of high incomes. Moreover, the concentration of income at the top has increased in many countries over the last decades. Thus, the taxation of top incomes becomes an increasingly important topic.

In this seminar, we will discuss the trade-offs involved in setting tax rates for incomes at the top of the distribution. First, the basic models and methods are presented in a series of four lectures. Subsequently, the students work independently on research articles that extend the basic models in different directions. Students are required to write a seminar paper and give a presentation on one of the topics listed below.

# Literature

See attached list.

Economics of Demographic Change		
Professor/Lecturer	Uwe Sunde	
Course type	M12	
Compulsory/Optional	Optional	
Specialization	Macroeconomics	
Hours/week	4 hours introductory lecture, 2-day workshop	
Exam	Written assignment, presentation	
Cycle	Summer Term	
ECTS-Points	12	
Language	English	
Prerequisites	Macro, Micro, Econometrics	

Population aging will be the drivers of some of the most important economic and social challenges of the twenty-first century. With increasing life expectancy, falling fertility, and the progression of relatively large-sized cohorts to the older ages, the populations and workforces of most developed countries are growing older. These shifts have important implications for macroeconomic potential and performance. For instance, population ageing will change the aggregate stock of human capital as well as its age distribution, with likely implications for labor force participation, hours worked, and savings, and for cross-country trade, capital mobility, and labor mobility. In addition, relatively large cohorts with low or moderate levels of formal education will be successively replaced by smaller cohorts with higher levels of formal education. The shift in the age distribution also has important implications for social security. Demands for transfers and private provisions for old age support will increase, while the population shares of working-age adults will decline. This will pose a threat to the financial sustainability of the pension systems creating the need for reforms of pension systems. At the same time, many developing countries, particularly in Africa, are experiencing population explosions and fertility at rates well above replacement, which induces completely different economic implications and demands for public policy.

This seminar will cover some of the core facets of demographic change:

- How does population aging affect productivity and macroeconomic performance?

- What are the main challenges associated with fertility and population dynamics?

- What are the requirements and options for economic policy?

The seminar will cover these aspects on the basis of original research contributions: Most of the discussed literature will be empirical, but some theoretical contributions will also be covered.

# Literature

The course is paper-based, a reference list is provided during the course.

Political Economy and Institutional Development		
Professor/Lecturer	Uwe Sunde	
Course type	M6	
Compulsory/Optional	Optional	
Specialization	Macroeconomics	
Hours/week	2 Lecture + 2 Tutorial	
Exam	90 Minutes	
Cycle	Winter Term	
ECTS-Points	6	
Language	English	
Prerequisites	Macro, Micro, Econometrics	

In this course, we study how decisions about policies are made in democracies, how institutions shape these decisions, and what are the forces that shape these institutions. The core question motivating the analysis will be: How do institutions influence economic development?

Starting from this question, we will dissect what institutions are, how they work, and how they are shaped. While these are old questions which can be found already in the works of Adam Smith, they have received renewed interest in the past few decades. Hence, there is an exciting new literature with both, theoretical and empirical studies, which we are going to explore. Furthermore, since this is an elective-style course that provides students with the necessary background to be able to discuss recent research contributions. The course is self-contained and covers the following topics:

- 1. Political Economy An Introduction
- 2. Key concepts of Political Competition
- **3.** Constitutional Design
- **4.** Economic Institutions
- 5. Institutional Dynamics
- 6. Institutions and Development Reconsidered

#### Literature

Most of the course is paper-based. Useful general references are:

- Acemoglu, Daron, Simon Johnson, and James A. Robinson (2005), "Institutions as a Fundamental Cause of Long-Run Growth." In: *Handbook of Economic Growth*. Vol. 1 (Philippe Aghion and Steven N. Durlauf, eds.), 385–472.
- Acemoglu, Daron, and James A. Robinson (2006), *Economic Origins of Dictatorship and Democracy*, Cambridge University Press.
- Besley, Tim and Torsten Persson (2011), "Pillars of Prosperity", Princeton University Press.
- Persson, T., and G. Tabellini (2000): *Political Economics: Explaining Public Policy*. MIT Press.

Topics in Macroeconomics		
Professor/Lecturer	Uwe Sunde	
Course type	M6	
Compulsory/Optional	Optional	
Specialization	Macroeconomics	
Hours/week	2 Lecture + 2 Tutorial	
Exam	90 Minutes	
Cycle	Summer Term	
ECTS-Points	6	
Language	English	
Prerequisites	Macro, Micro, Econometrics	

This course offers an elective course that addresses several topical issues in macroeconomics. The course complements and extends the compulsory course Macroeconomics offered during the winter term.

# Outline

The course will build on the methods covered in the compulsory course to address current issues of research. The aim is to provide students with an overview of specific sub-fields in macro and the corresponding research methods. The precise range of topics varies from year to year. Relevant topics include:

- Growth Empirics
- Long-Run Growth
- Health, Aging, and Demography
- Technical Change
- Secular Stagnation
- Dynamics of Inequality
- Unemployment
- Consumption
- Investment
- Financial Markets
- Monetary Policy
- Expectations and Expectation Formation

#### Literature

The course is paper-based, a reference list is provided during the course.

#### Background Reading:

D. Acemoglu, *Introduction to Modern Economic Growth*, Princeton University Press, 2008.

D. Romer, Advanced Macroeconomics, MacGraw Hill, 5th edition, 2018

Long-Run Growth and Comparative Development		
Professor/Lecturer	Uwe Sunde	
Course type	M12	
Compulsory/Optional	Optional	
Specialization	Macroeconomics	
Hours/week	4 hours introductory lecture, 2-day workshop	
Exam	Written assignment, presentation	
Cycle	Summer Term	
ECTS-Points	12	
Language	English	
Prerequisites	Macro, Micro, Econometrics	

This course offers an introduction to the ongoing debates about the determinants of long run development, about the reasons for world inequality, and about the perspectives for growth in the future. The course will discuss topics related to the dynamics of long-run growth from a theoretical and empirical perspective and will be structured as follows: i) a lecture part, which will familiarize students with background and methods; ii) a tutorial part, which is devoted to the discussion of topical questions and related papers.

# Outline

The course will begin with an introductory lecture that delivers the background of unified growth theory and economic dynamics. The aim is to provide students with a comprehensive overview of the topic.

- 1.) Background and Empirical Facts
- 2.) The Role of Demographics: Malthusian Models
- 3.) Fertility and the Quantity-Quality Trade-off
- 4.) Unified Growth Theory
- 5.) Long-Run Growth and Comparative Development

The second part of the course is a seminar-style workshop in which students present recent research articles in the field.

# Literature

The course is paper-based, a reference list is provided during the course.

Long-Run Growth and Institutional Development	
Professor/Lecturer	Uwe Sunde
Course type	M6
Compulsory/Optional	Optional
Specialization	Macroeconomics
Hours/week	2 Lecture + 2 Tutorial
Exam	90 Minutes
Cycle	Winter Term
ECTS-Points	6
Language	English
Prerequisites	Macro, Micro, Econometrics

This course offers an introduction to the ongoing debates about the determinants of long run development, about the reasons for world inequality, and about the perspectives for growth in the future. The course will discuss topics related to the dynamics of long-run growth from a theoretical and empirical perspective and will be structured as follows:

- i) a lecture part, which will familiarize students with background and methods;
- ii) ii) a tutorial part, which is devoted to the discussion of topical questions and related papers.

#### Outline

The course will focus on recent contributions to unified theories of demographic, institutional, and economic dynamics well as empirical investigations of implications of these models. The aim is to provide students with a comprehensive overview of the topic.

- 1.) Background and Empirical Facts
- 2.) The Role of Demographics: Malthusian Models
- 3.) Fertility and the Quantity-Quality Trade-off
- 4.) Unified Growth Theory
- 5.) Long-Run Growth and Comparative Development
- 6.) Institutional Development: Democracy
- 7.) Institutional Development: Rule of Law
- 8.) The Bigger Picture

#### Literature

The course is paper-based, a reference list is provided during the course.

#### **Background Reading:**

- D. Acemoglu and J. Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, 2006.
- T. Besley and T. Persson, *Pillars of Prosperity*, Princeton University Press, 2011.
- O. Galor, Unified Growth Theory, Princeton University Press, 2011.

Research	
Professor/Lecturer	Fackler/Laurentsyeva
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2.0
Exam	Term Paper
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	

## Machine Learning: Applications in Economic

#### Syllabus/Course outline

The first two weeks will be used for introductory tutorials to Python (in particular, Pandas) and some other tools useful for working with data (such as SQL and Google BigQuery). These (optional) tutorials serve to bring everyone up to speed when using Python. The tutorials will be live on Zoom.

The remainder of the course will cover different Machine Learning topics, which could be relevant for economic research. Every Monday (starting from November 16), we will release an introduction lecture on LMUcast and post a problem set. Every Friday (10:00AM-12:00PM), we will have an applied tutorial session (live on Zoom) to go over the problem set and discuss your questions. Topics introduced in the course include natural language processing and machine learning methods for count data, model regularization, random forests and causal forests, as well as deep learning. The lectures and tutorials will use examples from recent academic papers relating to different areas of economic research. Interactive materials with exercises and answers will be provided on Moodle.

Various Machine Learning books and methodological papers will be used as references, as well as several economics papers applying Machine Learning methods. One good reference is Matt Taddy's "Business Data Science" (the book's code examples are in R, however).

#### Literature

General

• Matt Taddy (2019) Business Data Science: Combining Machine Learning and Economics to Optimize, Automate, and Accelerate Business Decisions. McGraw-Hill Education.

• Athey, Susan, and Guido W. Imbens. "Machine learning methods that economists should know about." Annual Review of Economics 11 (2019): 685-725.

• Mullainathan, Sendhil, and Jann Spiess. "Machine learning: an applied econometric approach." Journal of Economic Perspectives 31.2 (2017): 87-106.

Model regularisation

• Chernozhukov, Victor, Christian Hansen, and Martin Spindler. "Postselection and post-regularization inference in linear models with manycontrols and instruments." American Economic Review 105.5 (2015): 486-90.

• Belloni, Alexandre, Victor Chernozhukov, and Christian Hansen. "Highdimensional

methods and inference on structural and treatment effects."

Journal of Economic Perspectives 28.2 (2014): 29-50.

Natural language processing

• Gentzkow, Matthew, Bryan Kelly, and Matt Taddy. "Text as data." Journal of Economic Literature 57.3 (2019): 535-74.

Random forests

Athey, Susan, Julie Tibshirani, and Stefan Wager. "Generalized random forests." The Annals of Statistics 47.2 (2019): 1148-1178.
Wager, Stefan, and Susan Athey. "Estimation and inference of heterogeneous

treatment effects using random forests." Journal of the American Statistical Association 113.523 (2018): 1228-1242.

Deep learning

• Chollet, F. (2018). Deep learning with Python.

• Goodfellow, I., Bengio, Y., Courville, A. (2016). Deep learning. MIT press. https://www.deeplearningbook.org

Methods and Tools for Data Science: Applications to	
Economic Research	
Professor/Lecturer	Fackler/Laurentsyeva
Course type	Lecture and Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4.0
Exam	Oral exam
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Applied Microeconometrics

The aim of this course is to provide the participants with the practical skills for managing and analyzing big data. Our target group are interested PhD students, as well as advanced (2nd year) Master and MQE students who anticipate using big data in their research projects or for work outside academia.

We plan to cover methods related to different stages of processing and analyzing big data for economic research: getting big data (e.g. webscraping, google BigQuery), organizing and storing data (basics of databases), analyzing big data using machine learning techniques, visualizations. We will also discuss recent economic papers that use big data and apply corresponding methods to answer their research questions.

All lectures and tutorials will be hands-on. Therefore, we expect participants to bring their own laptops for our lecture/tutorial sessions in order to successfully follow class exercises. The main programming language of the course is Python. We do not expect deep knowledge of Python (we will cover the basics in the first lectures). Yet, some familiarity with the basics of coding (in any programming language) will be helpful. Participants should also have good knowledge of applied microeconometrics and be motivated for working with big data.

This course consists of two parts. In the first weeks of the semester there will be blocked lectures and tutorials covering the following topics:

1. Basics of data analysis in Python (e.g. Pandas). Version control.

2. Basics of databases (e.g. SQL)

3. Web-scraping, API

4. Google Cloud (e.g. BigQuery)

5. Analyzing big data using Python (e.g. ML techniques, scikit learn)

6. Vizualization

In the second half of the semester there will be a seminar focusing on applications of Data Science methods and tools for economic research. In this part students, present and discuss their own applied projects.

Master students can decide whether to take the full course (lectures and the seminar) and get 12 credit points or to participate only in the lectures and get 6 credit points.

Students who participate in the lecture only have to take an oral exam. They can get credit for the research track by taking this course.

Students who take the full course will participate in lectures, but do not have to take the exam. Instead, they will be assigned one of the methods covered during the lectures and one/two economic research articles that apply this method. They will have to write a term paper where they critically discuss the assigned paper(s) and conduct their own empirical project using the method. They will present the work during the blocked seminar.

**Literature** Provided during the introductory meeting

<b>Replication Semina</b>	r: Empirical Public Economics
Professor/Lecturer	Glogowsky
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Public Sector Economics; Applied Econometrics
Hours/week	4
Exam	Your final grade will be composed of the grade of your term paper (one half) and the oral grade for the seminar (one half). The oral grade at the seminar is composed of the presentation of your term paper (weight: 2/3) and your participation in the general discussion (weight: 1/3).
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Econometrics (Msc). Econometrics: Regression Analysis (MQE) Advanced Knowledge of STATA.

The seminar has two parts. In the first part, students work in groups and replicate the analysis of current research papers covering topics in public economics (such as public goods provision or taxation). Furthermore, students also summarize and present the results of their replications in a seminar. The goal of the replication exercise is to get hands-on experience with econometric methods while studying current topics in public economics. The second part takes place after the seminar. In this part, each student independently extends the replication analysis by conducting further analyses. This includes, for example, further robustness checks or applying additional methods. Each student also independently summarizes the results of his/her extension in a short report (approx. five pages). To participate in the course, students need to have good knowledge of econometrics at the level of Econometrics (MSc) or Econometrics: Regression Analysis (MQE).

#### Literature

Brown, Annette N., Drew B. Cameron, and Benjamin DK Wood. (2014) "Quality evidence for policymaking: I'll believe it when I see the replication." Journal of Development Effectiveness. 6(3): 215-235.

Labour and Innovation Economics	
Professor/Lecturer	Waldinger
Course type	Lecture and Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Research
Hours/week	4 weeks lechture (2.5) and block seminar
Exam	The grade will be based on the term paper and the
	presentation in the block seminar.
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	

#### Literature

Readings are mainly from journal articles. In addition to that the following books are a useful reference for most of the topics covered:

Cahuc, Pierre and Andre Zylberberg (2004), *Labor Economics*, MIT Press. Angrist and Pischke (2009) *Mostly Harmless Econometrics*, Princeton University Press, Princeton and Oxford (to refresh your knowledge of applied econometrics)

Advanced Eduacation Economics	
Professor/Lecturer	Lergerporter/Mergele/Werner
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	2 days in the semester
Exam	(X minutes)
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Microeconometrics

The course offers an introduction to recent research in education economics and focuses on modern empirical methods for causal education policy evaluation. The topics covered include, but are not limited to, the following policy areas:

- How does class size affect student learing?

- How do teachers enter the education production function?
- Can information asymmetries account for poor educational choices?

- Are preschool expansions an appropriate tool to foster maternal labor market participation?

- How do state-specific school reforms affect student outcomes?

Students will prepare term papers on specific topics in education economics, and present their term papers in the seminar. The focus of the term papers will be set on empirical strategies for policy evaluation.

#### Literature

Political Economics	
Professor/Lecturer	Bühler (primary Iwanowsky)
Course type	Lecture
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Public Sector Economics
Hours/week	2
Exam	Written exam
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	

We will begin with some foundational theory and introduction in the first two lectures to set the ground for the coming weeks.

Every Wednesday, we will have "Lectures", in which I may discuss an underlying idea, cover a few papers and discuss their implications.

Every Friday, we will have student presentations of papers covering the Topics in the lecture of the same week. These presentations will be short, and should focus on Background, Motivation, Identification, Results, Implication, Conclusion, and Potential Problems. I will provide a template. These 15 Minutes presentations, with 5 minutes discussions afterwards are intended for you to quickly analyze a paper and distill its main contributions and weaknesses. These presentations are mandatory, not graded, but lay the foundation for the Exam. Thus, as they provide you with a cheat-sheet for the exam, be precise and concise - for your colleagues' sake.

I plan to have a little Survey-Experiment with all participants. Ideally, we will interview you in person (with the appropriate distance) in one-on-one meetings in the Econ-Hist library. In this experiment, we will **not** record any personal data except gender. The data from this experiment will then be subject of a "classical" homework for you to work on and discussed in Lecture.

#### Literature

Spatial Data in Economics	
Professor/Lecturer	Iwanowsky
Course type	Lecture and seminar
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Research
Hours/week	4 (only 6 events)
Exam	presentation and research paper
Cycle	Winter/Summer term
ECTS-Points	12
Language	English
Prerequisites	

This course aims to provide an introduction into ArcGIS, python 2.7 and spatial data for Economists.

In particular, we will cover the tools and data sources necessary to work with spatial data to achieve identification for interesting economic questions. At completion of the courses, the student should be able to conduct her own research using spatial methods and present the results in a presentation and research paper.

#### Literature

Nunn&Wantchekon (2011): The Slave Trade and the Origins of Mistrust in Africa Dell (2010): The Persistent Effects of Peru's Mining Mita Rogall (2018): Mobilizing the Masses for Genocide (https://economics.ubc.ca/faculty-and-staff/thorsten-rogall/) The course will closely follow Masayuki's great course on GIS but cover topics much more rapidly: https://sites.google.com/site/mkudamatsu/gis

Economics of Conflicts	
Professor/Lecturer	Cahlikova/Serena
Course type	Lecture
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	3
Exam	Written exam (120 minutes)
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Principles of economics, basic game theory,
	introductory econometrics

The world had experienced hundreds of armed conflicts since the end of the Second World War. Civil wars are important contributors to poverty and underdevelopment. In recent decades, conflicts have increasingly become of interest to economists. In this course, we aim to introduce students to the economics of conflicts, with half of the course focusing on economic theory and half on empirical economics. From a theoretical perspective, conflicts are economic, social and political problems where agents exert costly efforts while competing over a certain resource. The course covers theoretical materials that help make sense of the conflict contexts; namely, conflicts are modeled as Tullock contests or all-pay auctions. The empirical part of the course covers evidence on the causes and mechanisms of conflict (economic shocks, ethnic bias, leaders, etc.) and conflict resolution. The aim is to introduce the topics, as well as to present different data sources and a range of empirical methods that can be applied to the analysis of conflicts, including micro-econometrics, economic experiments and RCTs.

#### Literature

The course is based on academic papers rather than a textbook. A non-exhaustive list of resources is available below. Required readings will be announced in advance during lectures and will be available on the course website (password protected – password will be given out during lectures)

The Economics of Climate Change and Climate Policy	
Professor/Lecturer	Karen Pittel and Valeriya Azarova
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Economics
Hours/week	2+2
Exam	written (120 minutes)
Cycle	No cycle
ECTS-Points	6
Language	English
Prerequisites	Public Economics, Econometrics

In the wake of the latest climate assessment report of the Intergovernmental Panel on Climate Change (IPPC), the urgency to combat rising temperatures is felt more acutely than ever. But climate change also poses one of the biggest long-term challenges for economists: Climate change itself is a global commons and efforts to mitigate greenhouse gas emissions are essentially global public goods. The lecture aims at improving the understanding of how economists address climate change theoretically and empirically. It introduces some of the most important topics climate economists work on:

- How should carbon emissions and, more general, the environment be valued using the economists' toolkit?
- How can the interaction between climate and the economy be captured in economic models?
- What role does discounting play for policy advice and what discout rate is correct?
- What fundamentals drive the speed at which fossil energy resources are extracted?
- Given the multitude of policy instruments at the disposal of politicians, which ones hold the most promise of successfully curbing emissions?

#### Chapters:

- 1. Introduction
- 2. Some Basics of Public Economics
- 3. Economic Valuation of the Environment
- 4. Climate-Economy Modelling
- 5. Discounting
- 6. Supply of Fossil Energy Resources
- 7. Climate Policy Instruments
- 8. Climate Policy Valuation Methods

#### Literature

Perman, R. et al. (2011), Natural Resource and Environmental Economics, 4th ed. Harlow: Pearson.

Tol, Richard S.J. (2019) Climate Economics: Economic Analysis of Climate, Climate Change and Climate Policy, 2nd ed., Cheltenham, UK: Edward Elgar.

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

Further references will be provided in the course of the lecture.

Economic Growth and Natural Resources	
Professor/Lecturer	Karen Pittel
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Economics
Hours/week	2+2
Exam	written (120 minutes)
Cycle	No cycle
ECTS-Points	6
Language	English
Prerequisites	Macroeconomics, Econometrics

Natural resources are the basis for many economic activities. Fossil energy, for example, has powered economic development for a long time and also energy generation from renewable sources relies on resources like rare earths. Given the absolute scarcity of non-renewable resources and limitations to the use of renewable resources, the question is often asked whether economic development and growth can be sustainable in the long-run.

The lecture addresses the question whether and under which conditions growth, resource use and sustainable development are compatible. As this question is of an essentially dynamic nature, the lecture extensively uses intertemporal economic approaches. The first part of the course is therefore dedicated to a re-introduction tof dynamic optimization and growth theory. Building on this methodology, endogenous growth models that differ with respect to the forces driving long-run development are presented. Building on these theoretic foundations, the lecture turns to the usage of exhaustible and renewable resources in the production process. Conditions for intertemporally optimal price and extraction paths are derived and aspects and caveats of optimal resource policy are discussed. Finally, the course turns to the prerequisites for sustainable development and long-run growth.

#### Topics

- 1. Introduction
- 2. Neoclassical Growth Theory and Dynamic Optimization
- 3. Endogenous Growth Theory
- Non-Renewable Resources
- 5. Renewable Resources
- 6. Pollution
- 7. Climate Change

#### Literature

Barro, R.J./Sala-I-Martin, X. (2004), Economic Growth, MIT Press, Cambridge, MA, 2nd ed.

Perman, R. et. al (2003), Natural Resource and Environmental Economics, Pearson. (Additional references in the course of the lecture)

## **Development Economics: Firms in Developing Countries**

countries	
Professor/Lecturer	Dr. Anik Ashraf
Course type	M12
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction
Hours/week	3
Exam	Term/Research Paper
Cycle	Winter term
ECTS-Points	
Language	English
Prerequisites	Master level knowledge in Microeconomics and
	Econometrics

#### Syllabus/Course outline

A non-exhaustive list of topics to be covered in the course is given below:

- 1. Firm Size and Formalization
- 2. Labor Inputs
- 3. Managerial Capital: Management Practices and Business Training
- 4. Capital: Access to Finance
- 5. Institutions, Property Rights
- 6. Conflicts, Business Environment
- 7. Firm Ownership
- 8. Trade
- 9. Technology Adoption
- 10. Climate and Climate Change

#### Literature

A guiding reading list:

#### Motivation

Bartelsman, Eric, John Haltiwanger, and Stefano Scarpetta. 2013. "Crosscountry differences in productivity: The role of allocation and selection." *American Economic Review* 103(1):305-334

Bloom, Nicholas, Aprajit Mahajan, David McKenzie, and John Roberts. 2010. "Why do firms in developing countries have low productivity?" *AER: P&P* 100(2): 619-623

Hsieh, Chang-Tai, and Peter J. Klenow. 2009. "Misallocation and Manufacturing TFP in China and India". *The Quarterly Journal of Economics*. 124(4).

#### 1. Firm Size and Formalization

Amin, Mohammad, and Cedric Okou. 2020. "Casting a shadow: Productivity

of formal firms and informality." Rev Dev Econ. 24:1610-1630

Benhassine, Najy, David McKenzie, Victor Pouliquen, Massimiliano Santini. 2018. "Does inducing informal firms to formalize make sense? Experimental evidence from Benin." *Journal of Public Economics* 157:1-14

De Andrade, Gustavo Henrique, Miriam Bruhn, and David McKenzie. 2013. "A Helping Hand or the Long Arm of the Law? Experimental Evidence on What Governments Can Do to Formalize Firms." World Bank Policy Research Working Paper 6435.

De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2013. "The Demand for, and Consequences of Formalization among Informal Firms in Sri Lanka." *American Economic Journal: Applied Economics* 5(2): 122–50.

Johnson, Simon, Daniel Kaufmann, John McMillan, and Christopher Woodruff. 2000. "Why do firms hide? Bribes and unofficial activity after communism." *Journal of Public Economics* 76: 495-520

La Porta, Rafael, and Andrei Shleifer. 2008. "The Unofficial Economy and Economic Development." *Brookings Papers on Economic Activity*, Fall: 275–352.

La Porta, Rafael, and Andrei Shleifer. 2014. "Informality and Development." *Journal of Economic Perspectives* 28(3):109-126

Rauch, James E. 1991. "Modeling the Informal Sector Formally." *Journal of Development Economics* 35(1): 33–47.

Tybout, James R. 2000. "Manufacturing Firms in Developing Countries: How well do they do, and why?" *Journal of Economic Literature* 38:11-44

#### 2. Labor Input

Alfonsi, Livia, Oriana Bandiera, Vittorio Bassi, Robin Burgess, Imran Rasul, Mushi Sulaiman, and Anna Vitali. 2020. "Tackling Youth Unemployment: Evidence from a Labor Market Experiment in Uganda" *Econometrica* 88(6): 2369-2414

Blattman, C., And L. Ralston (2015): "Generating Employment In Poor And Fragile States: Evidence From Labor Market And Entrepreneurship Programs" *Report*, Chicago

Blundell, R., L.Dearden, C.Meghir, And B. Sianesi (1999): "Human Capital Investment: The Returns From Education And Training To The Individual, The Firm And The Economy," *Fiscal Studies*, 20, 1–23.

Card, D., J.Kluve, And A.Weber (2018): "What Works? A Meta Analysis Of Recent Active Labor Market Program Evaluations," *Jeea*, 16, 894–931.

Card, David, Pablo Ibarraran, Ferdinando Regalia, David Rosas-Shady, And Yuri Soares. 2011 "The Labor Market Impacts Of Youth Training In The Dominican Republic" *Journal Of Labor Economics* 

Duflo, Esther, Rema Hanna, And Stephen P. Ryan. 2012. "Incentives Work: Getting Teachers To Come To School" *American Economic Review* 102(4): 1241-1278

Kaur, Supreet, Sendhil Mullainathan, Suanna Oh, And Frank Schilbach.

2021. "Do Financial Concerns Make Workers Less Productive?" Working Paper.

Mani, Anandi, Sendhil Mullainathan, Eldar Shafir, And Jiaying Zhao. 2013. "Poverty Impedes Cognitive Function" *Science* 341

Mckenzie, D. (2017): "How Effective Are Active Labor Market Policies In Developing Countries? A Critical Review Of Recent Evidence," *World Bank Research Observer*, 32, 127–154.

#### 3. Managerial Capital: Management Practices and Business Training

Bloom, Nicholas and John Van Reenen. 2007. "Measuring and Explaining Management Practices Across Firms and Countries". *The Quarterly Journal of Economics*: 122(4)

Bloom, Nicholas, Aprajit Mahajan, David McKenzie, and John Roberts. 2020. "Do Management Interventions Last? Evidence from India" *American Economic Journal: Applied Economics* 12(2): 198-219

Bloom, Nicholas, Benn Eifert, Aprajit Mahajan, David McKenzie, and John Roberts. 2013. "Does Management Matter? Evidence from India". *The Quarterly Journal of Economics*: 128(1)

Brooks, Wyatt, Kevin Donovan, and Terence R. Johnson. 2018. "Mentors or Teachers? Microenterprise Training in Kenya" *American Economic Journal: Applied Economics* 10(4): 196-221

Bruhn, Miriam, Dean Karlan, and Antoinette Schoar. 2010. "What Capital is Missing in Developing Countries?" *American Economic Review: P&P* 100:629-633

Cai, Jing and Adam Szeidl. 2018. "Interfirm Relationships and Business Performance" *The Quarterly Journal of Economics* 

David McKenzie and Christopher Woodruff. 2013. "What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World?" *The World Bank Research Observer* 

David McKenzie. 2020. "Small Business Training to Improve Management Practices in Developing Countries: Re-assessing the Evidence for "training doesn't work" *Oxford Review of Economic Policy* 

De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2014. "Business Training and Female Enterprise Start-up, Growth, and Dynamics: Experimental Evidence from Sri Lanka" *Journal of Development Economics* 106:199-210

Iacovone, Leonardo, William Maloney, and David McKenzie. 2019. "Improving Management with Individual and Group-Based Consulting" *Policy Research Working Paper* 

#### 4. Capital: Access to Finance

Bandiera, Oriana, Robin Burgess, Narayan Das, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2017. "Labor Markets and Poverty in Village Economies" *Quarterly Journal of Economics* 

Banerjee, Abhijit, and Esther Duflo. 2014. "Do Firms Want to Borrow More: Testing Credit Constraints Using a Targeted Lending Program<u>"</u> *The Review of Economic Studies* 

Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman. 2015. "Six Randomized Evaluations of Microcredit: Introduction and Further Steps" *American Economic Journal: Applied Economics* 

Bjorvatn, Kjetiland, Lars Ivar Oppedal Berge, and Bertil Tungodden. "Human and Financial Capital for Microenterprise Development: Evidence from a Field and Lab Experiment ", *Management Science*, 61(4): 707-722, 2015.

De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2008. "Returns to Capital in Microenterprises: Evidence from a Field Experiment" *Quarterly Journal of Economics* 

De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2012. "One-Time Transfers of Cash or Capital Have Long-Lasting Effects on Microenterprises in Sri Lanka" *Science* 

Udry, Christopher and Santosh Anagol. 2006. "The Return to Capital in Ghana" African Economic Development

#### 5. Institutions, Property Rights

Akerlof, Robert, Anik Ashraf, Rocco Macchiavello, and Atonu Rabbani. 2021. "Layoffs and Productivity at a Bangladeshi Sweater Factory" *Working Paper* 

Bloom, Nicholas, Raffaella Sadun, and John Van Reenen. 2012. "The Organization of Firms Across Countries" *The Quarterly Journal of Economics* 

Dutta, Antara, and Siddarth Sharma. 2008. "Intellectual Property Rights and Innovation in Developing Countries: Evidence From India"

Johnson, Simon, John McMillan, and Christopher Woodruff. 2002. "Property Rights and Finance" *American Economic Review* 

Laeven, Luc and Christopher Woodruff. 2007. "The Quality of the Legal System, Firm Ownership, and Firm Size" *The Review of Economics and Statistics* 

McMillan, John and Christopher Woodruff. 1999. "Interfirm Relationships and Informal Credit in Vietnam" *The Quarterly Journal of Economics* 

Rasul, Imran and Daniel Rogger. 2018. "Management of Bureaucrats and Public Service Delivery: Evidence from the Nigerian Civil Service" *The Economic Journal* 

Schiffer, Mirjam, and Beatrice Weder. 2001. "Firm Size and the Business Environment: Worldwide Survey Results" *IFC Discussion Paper Number 43* 

#### 6. Conflicts, Business Environment

Adhvaryu, Achyuta, James Fenske, Gaurav Khanna, and Anant Nyshadham. 2020. "Resources, Conflict, and Economic Development in Africa" *Working Paper*  Ahsan, Reshad N. and Kazi Iqbal. 2020. "How Does Violence Affect Exporters? Evidence from Political Strikes in Bangladesh" *Review of International Economics* 

Ksoll, Christopher, Rocco Macchiavello, and Ameet Morjaria. 2021. "The Effect of Ethnic Violence on an Export-Oriented Industry" *Review of Economics and Statistics* 

#### 7. Firm Ownership

Bennedsen, Morten, Kasper Meisner Nielsen, Francisco Perez-Gonzalez, and Daniel Wolfenzon. 2007. "Inside the Family Firm: The Role of Families in Succession Decisions and Performance" *The Quarterly Journal of Economics* 

Bertrand, Marianne, Simon Johnson, Krislert Samphantharak, and Antoinette Schoar. 2008. "Mixing family with business: A study of Thai business groups and the families behind them" *Journal of Financial Economics* 

Bertrand, Marianne, and Antoinette Schoar. 2006. "The Role of Family in Family Firms" *The Journal of Economic Perspectives* 

Classens, Stijn, Simeon Djankov, and Larry H.P. Lang. 2000. "The separation of ownership and control in East Asian Corporations" *Journal of Financial Economics* 

De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Who are the microenterprise owners? Evidence from Sri Lanka on Tokman versus De Soto" NBER

Mertzanis, Charilaos. 2017. "Ownership structure and access to finance in developing countries" *Applied Economics* 

Schoar, Antoinette. 2009. "The divide between subsistence and transformational entrepreneurship" *NBER Innovation Policy and the Economy* 

#### 8. Trade

Atkin, David, Amit K. Khandelwal, and Adam Osman. 2017. "Exporting and firm performance: Evidence from a randomized experiment" *The Quarterly Journal of Economics* 

Looi, Hiau and Kala Krishna. 2008. "Firm-level heterogeneous productivity and demand shocks: Evidence from Bangladesh" *The American Economic Review* 

#### 9. Agriculture, Technology Adoption

Beaman, Lori, Ariel BenYishay, Jeremy Magruder, and Ahmed Mushfiq Mobarak. 2021. "Can network theory-based targeting increase technology adoption?" *American Economic Review*  Benyishay, Ariel and Mushfiq Mobarak. 2018. "Social learning and incentives for experimentation and communication" *Review of Economic Studies* 

Burchardi, Konrad B., Selim Gulesci, Benedetta Lerva, and Munshi Sulaiman. 2018. "Moral hazard: Experimental evidence from tenancy contracts" *The Quarterly Journal of Economics* 

Conley, Timothy G. and Christopher R. Udry. 2010. "Learning about a new technology: Pineapple in Ghana" *The American Economic Review* 

Jack, B. Kelsey. 2013. "Market inefficiencies and the adoption of agricultural technologies in developing countries" *Working Paper* 

#### **10.** Climate and Climate Change

Kala, Namrata. 2019. "Learning, adaptation, and climate uncertainty: Evidence from Indian agriculture" *Working Paper* 

Somanathan, E., Rohini Somanathan, Anant Sudarshan, Meenu Tewari. 2021. "The impact of temperature on productivity and labor supply: Evidence from Indian manufacturing" *Journal of Political Economy* 

Strategic Sophisticaton	
Professor/Lecturer	Lang, Matthias
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Microeconomics and Strategic Interaction; Research
Hours/week	2+2
Exam	Written exam (120 minutes)
Cycle	-
ECTS-Points	6
Language	English
Prerequisites	Good knowledge of Microeconomics and Game
	Theory

The course begins with basic concepts in behavioral game theory (Quantal response equilibrium, Noisy introspection, Cognitive hierarchy model, Level-k, Impulse balance) and then discusses selected topics in microeconomic theory (Herding, Consumer Search, and Two-sided Markets). The second part of the course is entirely based on research papers that students have to present and discuss.

#### Literature

Most of the material is based on original journal articles. References are provided in the course.

Behavioral Public Policy	
Professor/Lecturer	Le Yaouanq / Schwardmann
Course type	Seminar (M12)
Compulsory/Optional	Optional
Specialization	Behavioral economics, microeconomics
Hours/week	6
Exam	Term paper
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	A Master-level course in behavioral economics

This seminar focusses on the application of behavioral economics to the design and analysis of public policy. The exact focus of the course will be shaped by your interest, but we might cover diverse topics like consumer protection and the regulation of markets, the use of non-standard policy instruments like nudges, taxation, health policy in developing countries, and political economy, all through the lens of behavioral economics. Students should have taken a Master-level course in behavioral economics, i.e. Behavioral Theory (Imai) or Beliefs in Decision Theory (Le Yaouanq and Schwardmann), and have a strong interest in research. The seminar will require large amounts of mandatory independent reading and will culminate in a research proposal by each student.

#### Literature

### Introductory reading

Bernheim, B. Douglas, and Dmitry Taubinsky (2018). Behavioral Public Economics. In *Handbook of Behavioral Economics: Applications and Foundations 1* (Vol. 1, pp. 381-516). North-Holland.

Tirole, J. (2017). *Economics for the common good*. Princeton University Press.

Chetty, Raj (2015). Behavioral Economics and Public Policy: A Pragmatic Perspective. *American Economic Review*, 105(5), 1–33.

#### Behavioral taxation

Allcott, Hunt, and Dmitry Taubinsky (2015). Evaluating Behaviorally Motivated Policy: Experimental Evidence From the Lightbulb Market. *American Economic Review*, 105(8), 2501–38.

Farhi, Emmanuel, and Xavier Gabaix (2020). Optimal Taxation with Behavioral

Agents. American Economic Review, 110(1), 298–336.

Allcott, Hunt, Benjamin B. Lockwood, and Dmitry Taubinsky (2019). Regressive Sin Taxes, with an Application to the Optimal Soda Tax. Quarterly Journal of Economics. 134(3), 1557–1626.

O'Donoghue, Ted and Matthew Rabin (2006). Optimal Sin Taxes. *Journal of Public Economics*, 90(10-11), 1825–1849.

\* Chetty, Raj (2009). Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods. *Annual Review of Economics*, 1(1), 451-488.

Bernheim, B. Douglas, and Antonio Rangel (2004). Addiction and Cue-Triggered Decision Processes. *American Economic Review*, 94(5), 1558–1590.

Gruber, Jonathan, and Botond Koszegi (2001). Is Addiction Rational? Theory and Evidence. *Quarterly Journal of Economics*, 116(4), 1261–1303.

Gruber, Jonathan, and Botond Koszegi (2004). Tax Incidence when Individuals are Time-Inconsistent: The Case of Cigarette Excise Taxes. *Journal of Public Economics*, 88(9-10), 1959–1987.

#### Nudges

\* Thaler, Richard H., and Cass R. Sunstein (2009). Nudge: Improving decisions about health, wealth, and happiness. *Penguin*.

DellaVigna, Stefano, and Elizabeth Linos (2020). RCTs to Scale: Comprehensive Evidence from Two Nudge Units. *Working Paper*.

Carroll, Gabriel, James Choi, David Laibson, Brigitte Madrian, and Andrew Metrick (2009). Optimal Defaults and Active Decisions. *Quarterly Journal of Economics*, 124(4), 1639–1674.

Butera, Luigi, Robert Metcalfe, William Morrison, and Dmitry Taubinsky (2019). Measuring the Welfare Effects of Shame and Pride. *Working Paper*.

Allcott, Hunt, and Judd Kessler (2019). The Welfare Effects of Nudges: A Case Study of Energy Use Social Comparisons. *American Economic Journal: Applied Economics*, 11(1), 236–76.

\* Thaler, Richard H. and Cass R. Sunstein (2003). Libertarian Paternalism. *American Economic Review*, 93(2), 175–179.

\* Camerer, Colin, Samuel Issacharoff, George Loewenstein, Ted O'Donoghue, and Matthew Rabin (2003). Regulation for Conservatives: Behavioral Economics and the Case for Asymmetric Paternalism. *University of Pennsylvania Law Review*, 151(3), 1211–1254.

Madrian, Brigitte, and Dennis F. Shea (2001). The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior. *Quarterly Journal of Economics*, 116(4), 1149–1187.

Bernheim, B. Douglas, Andrey Fradkin, and Igor Popov (2015). The Welfare Economics of Default Options in 401(k) Plans. *American Economic Review*, 105(9), 2798–2837.

Ambuehl, Sandro, B. Douglas Bernheim, and Annamaria Lusardi (2017). A Method for Evaluating the Quality of Financial Decision Making, with an Application to Financial Education. *Working Paper*.

#### **Behavioral Industrial Organisation**

Heidhues, Paul and Botond Koszegi (2018). Behavioral Industrial Organization. *In Handbook of Behavioral Economics: Applications and Foundations 1* (Vol. 1, pp. 517-612). North-Holland.

DellaVigna, Stefano and Ulrike Malmendier (2006). Paying Not to Go to the Gym. *American Economic Review*, 96(3), 694–719.

DellaVigna, Stefano and Ulrike Malmendier (2004). Contract Design and Self-Control: Theory and Evidence. *Quarterly Journal of Economics*, 119(2), 353–402.

Ellison, Glenn (2006). Bounded Rationality in Industrial Organization. Econometric Society Monographs, 42, 142.

Eliaz, Kfir and Ran Spiegler (2006). Contracting with Diversely Naive Agents. *Review of Economic Studies*, 73(3), 689–714.

Gabaix, Xavier and David Laibson (2006). Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets. *Quarterly Journal of Economics*, 121(2), 505–540.

Malmendier, Ulrike and Young Han Lee (2011). The Bidder's Curse. *American Economic Review*, 101(2), 749–787.

Heidhues, Paul and Botind Koszegi (2010). Exploiting Naivete about Self-Control in the

Credit Market. American Economic Review, 100(5), 2279–2303.

Grubb, Michael (2009). Selling to Overconfident Consumers. *American Economic Review*, 99(5), 1770–1807.

Sandroni, Alvaro and Francesco Squintani (2007). Overconfidence, Insurance and Paternalism. *American Economic Review*, 99(5), 1994–2004.

Grubb, Michael D. and Matthew Osborne (2015). Cellular service demand: Biased beliefs, learning, and bill shock. *American Economic Review*, 105(1), 234–71.

Heidhues, Paul, Botond Kőszegi and Takeshi Murooka (2016). Inferior products and profitable deception. *Review of Economic Studies*, 84(1), 323–356.

Brown, Alexander L., Colin F. Camerer and Dan Lovallo (2012). To review or not to review? Limited strategic thinking at the movie box office. *American Economic Journal: Microeconomics*, 4(2), 1–26.

Alessandro Ispano and Peter Schwardmann (2019). Competition over cursed consumers. *Working Paper.* 

#### Non-Standard Responses to Policy

\* Rees-Jones, Alex, and Dmitry Taubinsky (2018). Taxing Humans: Pitfalls of the Mechanism Design Approach and Potential Resolutions. *Tax Policy and The Economy*, 32(1), 107–133.

Chetty, Raj, Adam Looney, and Kory Kroft (2009). Salience and Taxation: Theory and Evidence. *American Economic Review*, 99(4), 1145–77.

Hastings, Justine, and Jesse Shapiro (2018). How Are SNAP Benefits Spent? Evidence from a Retail Panel. *American Economic Review*, 108(12), 3493–3540.

Morrison, William, and Dmitry Taubinsky (2019). Rules of Thumb and Attention Elasticities: Evidence from Under- and Overreaction to Taxes. *Working Paper.* 

Taubinsky, Dmitry and Alex Rees-Jones (2018). Attention Variation and Welfare: Theory and Evidence from a Tax Salience Experiment. *Review of Economic Studies*, 85(4), 2462–2496.

Rees-Jones, Alex, and Dmitry Taubinsky (2019). Measuring Schmeduling. *Review of Economic Studies*, 87(5), 2399–2438.

Finkelstein, Amy (2009). Tax: Tax Salience and Tax Rates. Quarterly Journal of

Economics, 124(3), 969–1010.

Liebman, Jeffrey, and Richard Zeckhauser (2004). Schmeduling. Working Paper.

Feldman, Naomi, and Bradley Ruffle (2015). The Impact of Including, Adding, and Subtracting a Tax on Demand. *American Economic Journal: Economic Policy*, 7(1), 95–118.

Feldman, Naomi, Peter Katuscak, and Laura Kawano (2016). Taxpayer Confusion: Evidence from the Child Tax Credit. *American Economic Review*, 106(3), 807-35.

Chetty, Raj, and Emmanuel Saez (2013). Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients. *American Economic Journal: Applied Economics*, 5(1), 1–31.

DellaVigna, Stefano, Attila Lindner, Balazs Reizer, and Johannes Schmieder (2017). Reference-Dependent Job Search: Evidence from Hungary. *Quarterly Journal of Economics*, 132(4), 1969–2018

Ganong, Peter, and Pascal Noel (2019). Consumer Spending during Unemployment: Positive and Normative Implications. *American Economic Review*, 109(7), 2383– 2424

Bhargava, Saurabh, and Dayanand Manoli (2015). Psychological Frictions and the Incomplete Take-Up of Social Benefits: Evidence from an IRS Field Experiment. *American Economic Review*, 105(11), 3489–3529.

Shapiro, Jesse (2005). Is there a Daily Discount Rate? Evidence from the Food Stamp Nutrition Cycle. *Journal of Public Economics*, 89(2-3), 303–325

Stantcheva, Stefanie (2020). Understanding tax policy: How do people reason? *Working Paper*.

#### Behavioral political economy

Eissensee, Thomas and David Strömberg (2007). News Droughts, News Floods, and U.S. Disaster Relief. *Quarterly Journal of Economics*, 122(2), 693–728.

Finan, Frederico and Laura Schechter (2012). Vote-Buying and Reciprocity. *Econometrica*, 80(2), 863–881.

Ortoleva, Pietro and Erik Snowberg (2015). Overconfidence in political behavior. *American Economic Review*, 105(2), 504–35.

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Allcott, Hunt, and Matthew Gentzkow (2017). Social media and fake news in the 2016 election. *Journal of Economic Perspectives*, 31(2), 211–36.

Barrera, Oscar, Sergei Guriev, Emeric Henry and Ekaterina Zhuravskaya (2020). Facts, alternative facts, and fact checking in times of post-truth politics. *Journal of Public Economics*, 182, 104123.

Alesina, Alberto and George-Marios Angeletos (2005). Fairness and redistribution. *American Economic Review*, 95(4), 960–980.

Benabou, Roland (2008). Ideology. *Journal of the European Economic Association*, 6(2/3), 321–352.

Benabou, Roland and Jean Tirole (2006). Belief in a just world and redistributive politics. *Quarterly Journal of Economics*, 121(2), 699–746.

Piketty, Thomas (1995). Social mobility and redistributive politics. *Quarterly Journal of Economics*, 110(3), 551–584.

Alesina, Alberto, Stefanie Stantcheva and Edoardo Teso (2018). Intergenerational mobility and preferences for redistribution. *American Economic Review*, 108(2), 521–54.

Fisman, Raymond, Miguel, Edward (2007). Corruption, norms, and legal enforcement: evidence from diplomatic parking tickets. *Journal of Political Economy*, 115 (6), 1020–1048.

Bursztyn, Leonardo, Georgy Egorov and Stefano Fiorin (2017). From extreme to mainstream: How social norms unravel. *American Economic Review*.

Kuziemko, Ilyana, Michael I. Norton, Emmanuel Saez and Stefanie Stantcheva (2015). How elastic are preferences for redistribution? Evidence from randomized survey experiments. *American Economic Review*, 105(4), 1478–1508

#### Behavioral development economics

\* Kremer, Michael, Gautam Rao and Frank Schilbach (2019). Behavioral development economics. In *Handbook of Behavioral Economics: Applications and Foundations 1* (Vol. 2, pp. 345-458). North-Holland.

Ashraf, Nava, Oriana Bandiera and B. Kelsey Jack (2014). No margin, no mission? A field experiment on incentives for public service delivery. *Journal of Public Economics*, 120, 1–17.

Ashraf, Nava, Dean Karlan and Wesley Yin (2006). Tying Odysseus to the mast: Evidence from a commitment savings product in the Philippines. *Quarterly Journal of Economics*, 121(2), 635–672.

Banerjee, Abhijit V., Esther Duflo, Rachel Glennerster and Dhruva Kothari (2010). Improving immunisation coverage in rural India: Clustered randomised controlled evaluation of immunisation campaigns with and without incentives. *BMJ British Medical Journal*.

Beaman, Lori, Esther Duflo, Rohini Pande and Petia Topalova (2012). Female leadership raises aspirations and educational attainment for girls: A policy experiment

in India. Science, 335(6068), 582–586.

Blattman, Christopher, Julian C. Jamison and Margaret Sheridan (2017). Reducing crime and violence: Experimental evidence from cognitive behavioral therapy in Liberia. *American Economic Review*, 107(4), 1165–1206.

Blumenstock, Joshua, Michael Callen and Tarek Ghani (2018). Why do defaults affect behavior? Experimental evidence from Afghanistan. *American Economic Review*, 108(10), 2868–2901.

Bursztyn, Leonardo, Alessandra L. González and David Yanagizawa-Drott (2018). Misperceived Social Norms: Female Labor Force Participation in Saudi Arabia. *Working Paper*.

Carvalho, Leandro S., Stephan Meier and Stephanie W. Wang (2016). Poverty and economic decision making: Evidence from changes in financial resources at payday. *American Economic Review*, 106(2), 260–284.

Casaburi, Lorenzo and Jack Willis (2018). Time vs. state in insurance: Experimental evidence from contract farming in Kenya. *American Economic Review*, 108(12), 3778–3813.

Dean, Joshua T. (2018). Noise, cognitive function, and worker productivity. Mimeo.

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.

Dupas, Pascaline and Jonathan Robinson (2013). Why don't the poor save more? Evidence from health savings experiments. *American Economic Review*, 103(4), 1138–1171.

Ghosal, Sayantan, Smarajit Jana, Anandi Mani, Sandip Mitra and Sanchari Roy (2017). Stigma, discrimination and self-image: Evidence from Kolkata brothels. *Mimeograph*.

Hanna, Rema, Sendhil Mullainathan and Joshua Schwartzstein (2014). Learning through noticing: Theory and evidence from a field experiment. *Quarterly Journal of Economics*, 129(3), 1311–1353.

Henrich, Joseph, Jean Ensminger, Richard McElreath, Abigail Barr, Clark Barrett, Alexander Bolyanatz, Juan Camilo Cardenas, Michael Gurven, Edwins Gwako, Natalie Henrich, Carolyn Lesorogol, Frank Marlowe, David Tracer John Ziker (2010). Markets, religion, community size, and the evolution of fairness and punishment. *Science*, 327(5972), 1480–1484.

Hjort, Jonas (2014). Ethnic divisions and production in firms. *Quarterly Journal of Economics*, 129(4), 1899–1946.

Jakiela, Pamela and Owen Ozier (2015). Does Africa need a rotten kin theorem? Experimental evidence from village economies. *Review of Economic Studies*, 83(1), 231–268.

Jensen, Robert (2010). The (perceived) returns to education and the demand for schooling. *Quarterly Journal of Economics*, 125(2), 515–548.

Karing, Anne (2018). Social Signaling and Childhood Immunization: A Field Experiment in Sierra Leone. *Working Paper*.

Karlan, Dean and Jonathan Zinman (2009). Observing unobservables: Identifying information asymmetries with a consumer credit field experiment. *Econometrica*,

77(6), 1993–2008.

Kaur, Supreet, Michael Kremer and Sendhil Mullainathan (2015). Self-control at work. *Journal of Political Economy*, 123(6), 1227–1277.

Mani, Anandi, Sendhil Mullainathan, Eldar Shafir and Jiaying Zhao (2013). Poverty impedes cognitive function. *Science*, 341(6149), 976–980.

Nunn, Nathan and Leonard Wantchekon (2011). The slave trade and the origins of mistrust in Africa. *American Economic Review*, 101(7), 3221–3252.

Schilbach, Frank (2019). Alcohol and self-control: A field experiment in India. *American Economic Review*, 109(4), 1290–1322.

Schofield, Heather (2014). The economic costs of low caloric intake: Evidence from India. *Unpublished Manuscript*.

Shah, Anuj K., Eldar Shafir and Sendhil Mullainathan (2015). Scarcity frames value. *Psychological Science*, 26(4), 402–412.

Thornton, Rebecca L. (2008). The demand for, and impact of, learning HIV status. *American Economic Review*, 98(5), 1829–1863.

Empirical Methods in International Public Finance	
Professor/Lecturer	Miethe
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Applied Econometrics; Public Sector Economics
Hours/week	2.0
Exam	Presentation
Cycle	Winter/Summer term
ECTS-Points	6
Language	English
Prerequisites	

The goal of this course is to enable you to evaluate existing research and research proposals (of your colleagues) constructively but critically, develop you own research idea, and learn the necessary empirical skills to devise a promising research methodology. In order to do this, you will learn how to assess existing research, you will study the theory of current methodological approaches, learn how to process data in R using those same methods, and how to come up with your own research ideas and form them into a research proposal that you can present.

#### Literature

The content of the course will be organized around current applied and methodological

papers taken directly from the literature that are referenced in each block. If you prefer a textbook,

please refer to: Wooldridge, Je\_rey. 2002 (1st edition) or 2010 (2nd edition). Econometric Analysis

of Cross Section and Panel Data, MIT Press, Cambridge, MA.

Taxation and Inequality	
Professor/Lecturer	Prof. Dr. Dr. h.c. Clemens Fuest
Course type	M12 Seminar
Compulsory/Optional	Optional
Specialization	
Hours/week	Introductoral meeting + blocked seminar days
Exam	Seminar Paper, Presentation
Cycle	Winter term 2020/21
ECTS-Points	12
Language	English
Prerequisites	Master level microeconomics & econometrics, public
	economics

Being at the core of social justice theories for centuries, concerns about inequality remain a top priority for policy makers around the world. In this light, the optimal design of tax and transfer systems and its distributional consequences are recurring topics of economic debate. This seminar focuses on the role and different instruments of the welfare state in mitigating inequality generated by market forces. Among others, we study (i) theoretical work on optimal income and wealth taxation, (ii) empirical contributions analyzing the effects of tax policy, and (iii) literature related to the measurement of different types of inequality.

#### Literature

Auerbach, A. J., Chetty, R., Feldstein, M., & Saez, E. (Eds.). (2013). Handbook of public economics (Vol. 5). Newnes.

Monetary Economics	
Professor/Lecturer	Dr. Peter Zorn
Course type	Lecture + Tutorial
Compulsory/Optional	Optional
Specialization	Macro and International Economics
Hours/week	2 + 2
Exam	120 Minutes
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Graduate-level Macroeconomics, Mathematics, and
	Econometrics

This course studies the effects of monetary policy on the real economy. We start with a discussion of identification and estimation of causal effects in macroeconomics. After considering the evidence for monetary non-neutrality, the course introduces the New Keynesian Model. We then turn to menu cost models and the Heterogeneous Agent New Keynesian (HANK) model, which relax key assumptions of the New Keynesian Model. Lastly, the course presents current research on the transmission channels of monetary policy through firm balance sheets, redistribution, and mortgage markets. Along the way, we will build the essential tools to start thinking about these issues, including vectorautoregressions, local projections, dynamic programming, recursive competitive equilibrium, and incomplete market economies.

#### Literature

No required textbook. Parts of the material covered by:

– Galí, J. (2015): *Monetary Policy, Inflation, and the Business Cycle*, Princeton University Press.

– Niepelt, D. (2019): Macroeconomic Analysis, MIT Press.

Additional readings will be provided at the beginning of the course.

Topics in Macroeconomics	
Professor/Lecturer	Dr. Rainer Kotschy
Course type	M6
Compulsory/Optional	Optional
Specialization	Macroeconomics
Hours/week	2h lecture / 2h tutorial
Exam	120 minutes
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Introductory macroeconomics and econometrics

This is a topics course that aims to introduce you to research on recent macroeconomic debates and familiarize you with the usefulness (or inappropriateness) of macroeconomic tools. Ultimately, this course will give you a better understanding of open issues and unresolved puzzles in the literature, which might be a starting point for a master thesis.

The course comprises six different chapters:

- 1. Growth empirics
- 2. Long-run growth
- 3. Health and demography
- 4. Secular stagnation
- 5. Inequality
- 6. Unemployment

#### Literature

Background readings and references will be provided in the slides for each chapter.

# Economic and Social Problems: Insights from Big

Data	
Professor/Lecturer	Dr. Sarah Eichmeyer
Course type	Master Seminar
Compulsory/Optional	Optional
Specialization	Applied Microceonomics
Hours/week	4 full hours per week for 7 weeks (lectures), 4-week
	term paper writing period, 2 block seminar days
Exam	Term paper and block seminar presentation
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Master-level econometrics courses

#### Syllabus/Course outline

This seminar focuses on applied empirical research that employes large datasets to better understand and address some of the most pressing social issues of our time. We will review applications of latest empirical methods for causal inference in the context of large, often administrative, datasets. The main topics covered include inequality/social mobility, education, innovation, health care, climate change, and political polarization. In their term paper, students will replicate and extent an empirical research paper covered in the course.

Lectures:

Week 1 : social mobility

Week 2: innovation, education, gender/discrimination in labor markets

Week 3: health

Week 4: climate change, corruption, conflict

Week 5: conflict, migration, media/political opinion formation/political participation Week 6: economic development and institutional change, COVID-19

Syllabus:

# Topic / Paper

1 Social Mobility / Chetty et al. (2020a): The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility. NBER working paper.

2 Social Mobility / Chetty, Hendren, Kline, and Saez (2014): Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States. Quarterly Journal of Economics. Vol. 129(4): 1553-1623.

3 Social Mobility / Chetty and Hendren (2018): The Effects of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects. Quarterly Journal of Economics, 133(3): 1107-162.

4 Social Mobility / Fagereng, Mogstad, and Roenning (2021): Why Do Wealthy Parents Have Wealthy Children? Journal of Political Economy. Vol. 129(3): 703-756. 5 Innovation / Bell, Chetty, Jaravel, Petkova, and Van Reenen (2019): Who Becomes an Inventor in America? The Importance of Exposure to Innovation. Quarterly Journal of Economics 134(2): 715–783

6 Education / Zimmerman (2019): Elite Colleges and Upward Mobility to Top Jobs and Top Incomes. American Economic Review, 109(1): 1–47.

7 Education / Angrist, Autor, and Pallais (2020): Marginal Effects of Merit Aid for

Low-Income Students. Working Paper.

8 Gender/Discrimination/Labor markets / Sarsons, Gerxhani, Reuben, and Schram (2021): Gender Differences in Recognitio for Group Work. Journal of Political Economy, Vol. 129(1).

9 Gender/Discrimination/Labor markets / Dahl, Loeken, and Mogstadt (2014): Peer Effects in Program Participation. American Economic Review. Vol. 104(7).

10 Gender/Discrimination/Labor markets / Levy and Mattson (2021): The Effects of Social Movements: Evidence from #MeToo. Working Paper.

11 Gender/Discrimination/Labor markets / Sarsons (2019): Interpreting Signals in the Labor Market: Evidence from Medical Referrals. Working Paper.

12 Health / Lazer, Kennedy, King, and Vespignani (2014): The Parable of Google Flu: Traps in Big Data Analysis. Science 343 (6167): 1203–5.

13 Health / Handel (2013): Adverse Selection in Health Insurance Markets: When Nudging Hurts. American Economic Review, Vol. 103(7).

14 Health / Eichmeyer and Zhang (2021): Pathways Into Opioid Addiction: Evidence From Practice Variation in Emergency Departments. Forthcoming, American Economic Journal: Applied Economics.

15 Health / Allcott, Diamond, Dubé, Handbury, Rahkovsky, and Schnell (2019): Food Deserts and the Causes of Nutritional Inequality. The Quarterly Journal of Economics. Vol 134(4): 1793-1844.

16 Health / Barahona, Otero, Otero, and Kim (2021): Equilibrium Effects of Food Labeling Policies. Working Paper.

17 Health / Braghieri, Levy, and Makarin (2021): Social Media and Mental Health. Working Paper

18 Climate Change / Deryugina et al. (2019): The Mortality and Medical Costs of Air Pollution: Evidence from Changes in Wind Direction. American Economics Review, Vol. 109(12): 4178-4219.

19 Climate Change / Meng and Rode (2019): The Social Cost of Lobbying Over Climate Policy. Nature Climate Change, Vol. 9.

20 Corruption and Conflict / Bertrand, Bombardini, and Trebbi (2014): Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process. American Economic Review. Vol. 104(12).

21 Corruption and Conflict / Bertrand, Bombardini, Fisman, and Trebbi (2020): Tax-Exempt Lobbying: Corporate Philanthropy as a Tool for Political Influence. American Economic Review. Vol. 110(7): 2065-2102

22 Corruption and Conflict / Weese and Trebbi (2019): Insurgency and Small Wars: Estimation of Unobserved Coalition Structures. Econometrica, March 2019, 87(2): pp.463-496.

23 Conflict and migration / Allen, Dobbin, and Morten (2019): Border Walls. Working Paper.

24 Conflict and migration / Ginn (2020): Prison or Sanctuary? An Evaluation of Camps for Syrian Refugees. Working Paper

25 Media and political opinion formation/participation / Freddi (2021): Do People Avoid Morally Relevant Information? Evidence from the Refugee Crisis. The Review of Economics and Statistics, Vol. 103(4).

26 Media and political opinion formation/participation / Enikolopov, Makarin, and Petrova (2020): Social Media and Protest Participation. Econometrica, Vol. 88(4).
27 Media and political opinion formation/participation / Chen and Yang (2019): The Impact of Media Censorship: 1984 or Brave New World? American Economic Review, 109(6).

28 Media and political opinion formation/participation / Allcott, Braghieri,

Eichmeyer, and Gentzkow (2020): The Welfare Effects of Social Media. American Economic Review.

29 Political Polarization / Martin and Yurukoglu (2017): Bias in Cable News: Persuasion and Polarization. Vol. 107(9).

30 Political Polarization / Durante, Ruben, Paolo Pinotti, and Andrea Tesei. 2019. The Political Legacy of Entertainment TV. American Economic Review, 109(7): 2487-2530.

31 Political Polarization / Autor, Dorn, Hanson, and Majlesi (2020): Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure. American Economic Review. Vol. 110(10): 3139-83.

32 Economic Development, institutional change, and migration / Dell (2010): The Persistent Effect of Peru's Mining Mita. Econometrica, Vol. 78(6): 1863-1903.
33 Economic Development, institutional change, and migration / Dell and Olken (2020): The Development Effects of the Extractive Colonial Economy: The Dutch Cultivation System in Java. The Review of Economic Studies, Vol. 87(1): 164-203.
34 COVID-19 / Chetty et al. (2020b): The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data. NBER Working Paper.
35 COVID-19 / Bailey, Johnston, Koenen, Kuchler, Russel, and Stroebel (2021): Social Networks Shape Beliefs and Behavior: Evidence from Social Distancing During the COVID-19 Pandemic. Working paper.

36 COVID-19 / Milkman et al. (2021): A megastudy of text-based nudges encouraging patients to get vaccinated at an upcoming doctor's appointment. PNAS, Vol. 118(20).

37 COVID-19 / Dai, Saccardo et al. (2021): Behavioural nudges increase COVID-19 vaccinations. Nature, Vol. 597.

#### Literature

Causal Inference for Statistics, Social, and Biomedical Science: An Introduction (by Guido Imbens); or Mostly Harmless Econometrics (by Angrist and Pischke)

Labor Markets in the Knowledge Economy	
Professor/Lecturer	Markus Nagler
Course type	Lecture
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4
Exam	Written, 120 minutes
Cycle	Summer term (expired)
ECTS-Points	6
Language	English
Prerequisites	A good knowledge of applied econometric methods
	is an advantage.

This lecture will cover topics in (mostly empirical) labor and innovation economics with a focus on the intersection of both fields. The first set of topics will cover impacts of technology on labor demand. The second set of topics deals with labor supply and wages. The final section will deal with productivity. During the lecture, we will first cover theoretical models analyzing the respective topics. Then, I will provide an overview over important current and past empirical research. The focus of the course will lie in evaluating the state-of-the-art in the empirical literature of the topics that are studied.

More details on the topics that are covered:

1. Introduction

- 2. Skill-biased Technological Change
  - a. Theories of SBTC
  - b. Empirical evidence
- 3. Automation at Work
  - a. A framework for impacts of automation on labor markets
  - b. Empirical evidence on the impacts of robots on local labor markets
- 4. Labor Shares and Superstars
  - a. The decline of the labor share
  - b. Superstar firms as a potential explanation
  - c. Micro-level evidence
- 5. The Supply of Inventors
  - a. Empirical evidence on the supply of inventors
  - b. Roy models of occupational choice
  - c. Empirical evidence on self-selection into inventor careers
- 6. Migration and Invention
  - a. Self-selection and migration: theory and evidence
  - b. The impact of migration on invention
- 7. Compensating Differentials and Rent-Sharing
  - a. Compensating differentials: theory and evidence
  - b. Rent-sharing at innovative firms: theory and evidence
- 8. Human Capital
  - a. Human capital theory and Mincer equations
  - b. Empirical issues and evidence on returns to education
  - c. Field of study choice, self-selection, and earnings
  - d. Education and invention
- 9. Incentives for Creativity

- a. Incentive structures for humdrum tasks
- b. Incentivizing innovation: theory and evidence
- 10. Peer Effects and Collaboration
  - a. Peer effects estimation and the reflection problem
  - b. Empirical evidence on peer effects for high skilled workers
  - c. Determinants of collaboration: empirical evidence

#### Literature

Angrist, Joshua and Jörn-Steffen Pischke (2008). "Mostly Harmless Econometrics", Princeton

University Press.

Angrist, Joshua D., and Steve Pischke (2010). "The credibility revolution in empirical economics: How better research design is taking the con out of econometrics." Journal of Economic Perspectives 24.2: 3-30.

Autor, David H. "Why are there still so many jobs? The history and future of workplace

automation." The Journal of Economic Perspectives 29.3 (2015): 3-30.

Tax Policy and Multinational Firms (Lecture)	
Professor/Lecturer	Professor Andreas Haufler
Course type	Lecture and Tutorial
Compulsory/Optional	Optional
Specialization	Public Economics, Applied Game Theory
Hours/week	2+2, blocked in the first 4-6 weeks of term
Exam	120 minutes
Cycle	Summer term
ECTS-Points	6
Language	English
Prerequisites	Microeconomics and Public Economics at Master
	level

This course analyzes the strategic choices of multinational firms with respect to the international tax environment, and the responses of governments to limit international tax arbitrage. It introduces students to the recent theoretical and empirical research on tax policy towards multinational firms, covering both the real investment decisions (FDI) and the profit-shifting decisions of multinationals. Along the way, the institutional setup for the taxation of multinational firms will be introduced. Current policy proposals such as the OECD's "Base erosion and profit shifting" (BEPS) initiative and the Global Minimum Tax are also discussed.

#### Literature

Devereux, M., Loretz, S. (2013). What do we know about corporate tax competition? National Tax Journal 66(3), 745-773.

Keen, M., Konrad, K. (2013). The theory of international tax competition and coordination. Handbook of Public Economics, Volume 5, Ch. 5, 257-328.

Tax Policy and Mul	tinational Firms (Seminar)
Professor/Lecturer	Professor Andreas Haufler
Course type	Seminar, preceded by lectures
Compulsory/Optional	Optional
Specialization	Public Economics, Applied Game Theory
Hours/week	4
Exam	
Cycle	Summer term
ECTS-Points	12
Language	English
Prerequisites	Microeconomics and Public Economics at Master
	level

In this seminar we cover the location, investment, financing and profit-shifting decisions that multinational firms can take to reduce their global tax burden. We then look at various government policies that aim to enforce corporate taxes on multinationals firms, both at the national and at the supranational level.

The course will introduce students to this active research field in a series of lectures (equivalent to a M6 course) that are blocked in the first weeks of the summer term. With this background, students then write their term papers. The course concludes with the blocked seminar in which students present their term paper and discuss its policy implications. The topics for the term papers are drawn from recent publications in leading international journals and cover both theoretical and empirical work.

#### Literature

Devereux, M., Loretz, S. (2013). What do we know about corporate tax competition? National Tax Journal 66(3), 745-773.

Keen, M., Konrad, K. (2013). The theory of international tax competition and coordination. Handbook of Public Economics, Volume 5, Ch. 5, 257-328.

Economics of Immaigration: Theory and Evidence	
Professor/Lecturer	Dominik Sachs
Course type	M12 Seminar + Lecture
Compulsory/Optional	Optional
Specialization	
Hours/week	
Exam	Presetation and Term Paper
Cycle	winter term
ECTS-Points	
Language	English
Prerequisites	Knowledge in econometrics and microeconomics

The Economics of Immigration is a growing field and becoming of more and more relevance. In the lecture part at the beginning of the semester, I will introduce the more classical papers to you. There are also two very helpful textbooks with which I will work here. The topics include: (i) selection of migrants (who migrates?), (ii) effects of immigrants on wages and inequality (iii) fiscal effects of immigration, (iv) effects on source countries. Fort the seminar part, I will mainly assign recent papers at the research frontier.

#### Literature

We will mainly read very recent papers that measure the fiscal impact of immigration and the effect of immigration on wage inequality and the level of wages of residents. The following two books will be a great complementary reading:

Bodvarsson, Ö. B., & Van den Berg, H. (2013). *The economics of immigration*. New York, NY: Springer New York.

Borjas, G. J. (2014). Immigration economics. Harvard University Press.

Income and Wealth Inequality	
Professor/Lecturer	Dominik Sachs
Course type	M12 Seminar
Compulsory/Optional	Optional
Specialization	Macroeconomics
Hours/week	
Exam	Presetation and Term Paper
Cycle	Summer term
ECTS-Points	
Language	English
Prerequisites	Macroeconomics, Microeconometrics

We study (i) recent empirical papers that document income and wealth inequality within countries using administrative data and (ii) various macroeconomic heterogenous agent models and will see how well they perform in generating the empirically observed levels of inequality.

#### Literature

We will read very recent papers from the economics literature on empirical measurement of inequality, macroeconomic modelling of wealth inequality, but also some quasi-experimental studies that evaluate the contribution of different phenomena (trade, aumotation) to income inequality.

Atkinson, A. B., Piketty, T., & Saez, E. (2011). Top incomes in the long run of history. *Journal of economic literature*, *49*(1), 3-71.

De Nardi, M., & Fella, G. (2017). Saving and wealth inequality. *Review of Economic Dynamics*, 26, 280-300.

Piketty, T., & Saez, E. (2014). Inequality in the long run. *Science*, *344*(6186), 838-843.

Labor Economics - Theory	
Professor/Lecturer	Christian Holzner
Course type	Lecture
Compulsory/Optional	Optional
Specialization	
Hours/week	2 SWS
Exam	Written exam (120 minutes)
Cycle	Summer term
ECTS-Points	6 ECTS
Language	English
Prerequisites	Advanced Microeconomics, Advanced
	Macroeconomics

Week 1: Introduction – different matching functions

Weeks 2-4: Diamond-Mortensen-Pissarides model (DMP)

- Worker and firm behavior, wage bargaining
- Steady in- and outflows into unemployment
- Equilibrium and comparative statics
- Efficiency
- Out of steady state dynamics

Weeks 5-8: Labor Market Policies

- Minimum wage
- Employment protection
- Optimal unemployment Insurance
- Counselling and wage subsidies

Week 9-12: Job search and on-the-job search

- One sided search and Diamond Paradox
- On-the-job search (Burdett-Mortensen model)
- Productivity dispersion and on-the-job search (Postel-Vinay and Robin model)

Week 13-14: Directed Search

- Baseline model
- Heterogeneity and sorting

#### Literature

- Pierre Cahuc, Stéphane Carcillo, and André Zylberberg, Labor Economics, MIT press, 2014.
- Pissarides, Christopher A., Equilibrium unemployment theory, MIT press, 2000.
- Different journal articels.

Empirical Research on Inequality and Redistribution	
Professor/Lecturer	Prof. Dr. Andreas Peichl
Course type	Seminar
Compulsory/Optional	Optional
Specialization	Public , Macro Applied Econometrics
Hours/week	blocked seminar; preliminary meeting at 25.01.2022
	from 10:30 am - 12:00 pm
Exam	term paper (about 45.000 characters) and
	presentation (30 minutes)
Cycle	Summer term
ECTS-Points	12 ECTS
Language	English
Prerequisites	B.Sc.: Statistics I and II, Empirical Economics
	Research
	M.Sc.: Econometrics (strongly recommended),
	Public Economics

This course is set at the intersection of public economics and applied econometrics with a special focus on inequality research. The course content is organized around the following thematic blocks: (i) income and wealth inequality, (ii) equality of opportunity, (iii) redistribution and (iv) behavioral response to tax-benefit policies.

The main objective of the course is twofold:

1. Provide a structured introduction into state-of-the art empirical research on inequality and redistribution in economics.

2. Enhance the applied econometric tool-kit of participants.

The lectures will give a structured introduction into each of the thematic blocks with a particular focus on empirical problems and methods.

#### Literature

Relevant literature will be discussed at the preliminary meeting.

Empirical Issues in Trade	
Professor/Lecturer	Martina Magli, PhD
Course type	M12
Compulsory/Optional	Optional
Specialization	
Hours/week	4
Exam	Paper submission and presentation
Cycle	Winter term
ECTS-Points	6
Language	English
Prerequisites	International Economics and Econometrics
	(recommended)

This course aims to introduce graduate students to the empirical literature of international economics and to help them to develop the necessary tools to conduct independent research in the field. The course is structured as follows. The first half (week 1-6) consists of a mix of lectures and STATA classes and introduces different topics covered in the course and their econometric applications. In the second half (week 7-12) the students carry their work independently replicating and extending a study published in a leading journal.

#### Course Outline:

- 1. Introduction to applied international economics
- 2. Trade and Credit constraints
- 3. Trade and the Labour markets
- 4. Geography of Trade
- 5. Trade Policy Evaluation
- 6. Firms in International Trade

#### Literature

Advanced International Trade	
Professor/Lecturer	Martina Magli, PhD
Course type	M6
Compulsory/Optional	Optional
Specialization	
Hours/week	8hours, half term
Exam	ТВА
Cycle	Summer term
ECTS-Points	4
Language	English
Prerequisites	Microeconomics (recommended)

The course is designed for Master students interested in deepening their knowledge of International Economics. We will analyse both theoretical and empirical works, spanning from the milestone model of Ricardo, to the advanced models exploring firms' heterogeneities (e.g. Melitz model). At the end of the course students will acquire the necessary tools to solve and critically understand the latest development of the International Trade literature. The course should also be a good base for those interested in pursuing a career in research.

#### Course outline:

- 1. Ricardo, Hecksher-Ohlin and Multi-factor models.
- 2. Trade in Itermediates and Offshoring.
- 3. Geography of trade ("New" trade models and Gravity model)
- 4. "New new" trade models and gains from trade
- 5. Multinational firms
- 6. Trade, technology and growth

#### Literature

The main text used in the course is available in the catalogue of the library and it is the following:

Feenstra, R. C. (2016). Advanced international trade: theory and evidence. Princeton university press

All papers cited in class are available on-line to all students through the University authentication system.

Professor/Lecturer	Giesing/Laurentsyeva
Course type	Seminar
Compulsory/Optional	Optional
Specialization	
Hours/week	6.0
Exam	Paper (about 45.000 characters) and presentation (30 minutes)
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Applied Econometrics; Microeconometrics

According to the current estimates, the number of people residing outside their country of origin is close to 250 million (IOM, 2018). While the majority of migrants moved to another country for economic or family-related reasons, over 20 million individuals experienced forced displacement. What causes and shapes the international movement of people and how does migration affect source and destination countries' economies, as well as political and social affairs? This course combines economic theory and robust empirical evidence in order to analyse drivers and effects of international migration. The course aims at fostering students' capacity to understand and critically assess academic research and to participate in relevant policy debates. A strong emphasis is put on recent economic literature, which applies state-of-the-art econometric methods to establish causal relationships and to evaluate policies.

We approach the topic from the perspectives of i) migrants themselves, ii) source and iii) destination countries. First, we focus on drivers of international migration, summarizing the existing theories and linking them to established empirical evidence. Among others, we discuss drivers of irregular migration and the effectiveness of policies aiming at curbing it. We further investigate the consequences of emigration on the source countries. While this literature is mainly concerned with the 'brain drain', researchers have argued that emigration could have countervailing positive effects due to remittances, trade, or incentives to invest in education. It is thus debatable whether emigration has overall adverse or positive effects on the source country. Lastly, we examine the effects of immigration on destination countries. Besides studying the labour market consequences of immigration on the native population, this course investigates the political effects of immigration (e.g. on extreme voting or distribution policies) and looks at the process of immigrant integration. In light of the recent increase in the number of refugees in the EU, we pay particular attention to the economic and political consequences of refugee migration and integration of refugee migrants.

Literature

Background literature:

Bansak, C., N.B. Simpson and M. Zavodny (2015). The Economics of Immigration. New York: Routledge, UK

Bodvarsson, Ö., and H. van den Berg (2009). The Economics of Immigration – Theory and Policy. Berlin/Heidelberg: Springer.

Dustmann, C., Fasani, F., Frattini, T., Minale, L., & Schönberg, U. (2017). On the economics and politics of refugee migration. Economic policy, 32(91), 497-550.

## Policy briefs: the design of taxes and transfers

Professor/Lecturer	Antoine FEREY
Course type	Seminar
Compulsory/Optional	Optional
Specialization	
Hours/week	
Exam	
Cycle	
ECTS-Points	12
Language	English
Prerequisites	Public Economics

Syllabus/Course outline

In this seminar, students will write policy briefs on the design of taxes and transfers. We will focus on the 3 following topics: (1) unemployment insurance, (2) social assistance and welfare transfers, (3) pigouvian taxes and subsidies related to health and the environment. The seminar will start with a mini-course (4 lectures, 90 minutes each) in the first 4 weeks of the Summer

Semester. An

introductory lecture will introduce what is a policy brief and review standard questions in the

design of taxes and transfers. Three lectures, each focusing on one topic will follow. Students will

then write their policy briefs, and finally present their policy briefs in a 1-day (or 2-day) seminar.

Each student will write one policy brief. For topic (1) and (2), the policy brief will focus on a

particular policy (e.g. unemployment benefits, housing benefits, family benefits, ...) in a given

country (e.g. Germany, the US, France, ...). For topic (3), the policy brief will focus on variations

of a particular policy (e.g. cigarette taxes, alcohol taxes, gasoline taxes, solar subsidies, ...) in

different countries, unless the policy design is really complex and requires focusing on a given

country. This will allow us to discuss the designs of different policies in different contexts, put

these designs in perspective, and analyze the trade-offs in policy making. After having stated the objective of the policy and placed it within a broader context, policy briefs

will comprise a first descriptive part, describing how the policy operates in practice. A second

analytical part will then connect the actual policy design to research papers (theoretical and / or

empirical) studying this policy and discuss the trade-offs in policy making. The objectives of the seminar is that students (a) gain applied knowledge on the institutional

context and the design of a public policy, (b) connect research papers with this

particular policy design to discuss the pros and cons of actual policies, (c) work on communicating their findings concisely and effectively in a polished and well designed policy brief.

Half of the grade will be based on the policy brief (term paper). The remaining half will be based on

the oral presentation of the policy brief (67%) and on oral participation (33%) in the seminar.

Dates might be modified in case of substantial conflicts with other classes or seminars.

Literature

Chetty & Finkelstein (2013). Social insurance: connecting theory to data. Handbook of Public Economics. Piketty, T., & Saez, E. (2013). Optimal labor income taxation. Handbook of Public Economics. Hines Jr, J. R. (2007). Taxing consumption and other sins. Journal of Economic Perspectives.

Incomplete Markets	
Professor/Lecturer	Dr. Christopher Busch
Course type	M12
Compulsory/Optional	
Specialization	
Hours/week	6 SWS
Exam	Term paper and presentation
Cycle	Winter/Summer term
ECTS-Points	12
Language	English
Prerequisites	

The course will make students familiar with the standard incomplete markets model that is at the core of all modern macroeconomics with individual-level heterogeneity.

The lecture-part of the course will first introduce students to the baseline model framework a la Bewley-Huggett-Aiyagari-İmrohoroğlu.

In those models households can only partly insure against the idiosyncratic risk they face by means of savings in a risk-free asset.

Along the way of this discussion, we will discuss Dynamic Programming, which is a very powerful tool used in the solution of the models.

We will then introduce aggregate risk into the framework (Krussell & Smith 1998) and finally extend the framework to a two-asset economy with liquid and illiquid wealth (Kaplan & Violante 2014), which has important implications for the consequences of micro-level heterogeneity for macroeconomic aggregates.

Equipped with this foundational knowledge, in the seminar part students will then read papers that study, e.g., the dynamics of idiosyncratic risk, the role of different insurance channels against this idiosyncratic risk, and the implications of heterogeneity for policy.

#### Literature

Basic references are:

Aiyagari, S., (1994): "Uninsured Idiosyncratic Risk and Aggregate Saving," *The Quarterly Journal of Economics*, 109(3), pp. 659-684.

Huggett, Mark, (1993): "The risk-free rate in heterogeneous-agent incompleteinsurance economies," *Journal of Economic Dynamics and Control*, 17(5-6), pp. 953-969.

İmrohoroğlu, Ayse, (1989): "Cost of Business Cycles with Indivisibilities and Liquidity Constraints," *Journal of Political Economy*, 97(6), pp. 1364-83.

Krusell, Per, and Anthony A. Smith, Jr. (1998): "Income and Wealth Heterogeneity in the Macroeconomy," *Journal of Political Economy*, 106(5), pp. 867–96.

Kaplan, G. and Violante, G.L. (2014): "A Model of the Consumption Response to Fiscal Stimulus Payments," *Econometrica*, 82, pp. 1199-1239.

The term papers will be based on a set of (recent) articles.

## Data Analytics

Professor/Lecturer	Mathias Bühler
Course type	Lecture
Compulsory/Optional	Optional
Specialization	
Hours/week	8
Exam	Essay (45,000 char)
Cycle	Summer term
ECTS-Points	
Language	English
Prerequisites	

#### Syllabus/Course outline

Course Idea:

This course aims to prepare students to handle and prepare data for their own empirical research.

Course Concept:

- Every week, students are introduced to a new dataset.
- During the lecture, we will prepare the data:
  - Loading the data,
  - Cleaning the data,
  - $\circ \quad \text{Understanding the data.}$
- At home, students then have to use this prepared dataset to answer an empirical question
  - E.g. 'What is the effect of education on income'
  - This can be done in R if necessary, I prefer Stata
- During the tutorial, we will then compare the results from each student, and discuss each student's approach to answering this question.

This course does not provide lecture slides

#### Literature

The Economics of Power Markets		
Professor/Lecturer	Mathias Mier	
Course type	Lecture	
Compulsory/Optional	Optional	
Specialization	Public Sector Economics; Microeconomics and	
	Strategic Interaction	
Hours/week	8	
Exam	Feb 8, 2023 (last date of regular lecture, in presence, content: mixture of theory and modeling/coding)	
Cycle		
ECTS-Points	6	
Language	English	
Prerequisites		

Objectives of this course:

- You learned the principles of how electricity markets work, how these principles can be

modeled in a mathematical way, and optimal pricing and investment be characterized.

- You can apply this knowledge to understand underlying principles of the current developments in the (European) energy market and assess policy proposals.

- You are able to interpret resulting prices, understand simulation models, and are able to

critically assess policy-relevant studies.

- You know relevant papers in the field of power markets.

<u>Procedure</u>

- The lecture will usually consist of two parts.

- In the first part, you will learn about the economic principles of the week's topic, get

introduced to some relevant papers, and learn about real-world markets and institutions.

- In the second part, you will learn how these economic principles get mathematically

modeled and how they can be leveraged in large-scale simulation models for studies of

market outcome and policy implications. For that purpose, you will study and use a model in the programming language GAMS.

- We will try to refer to ongoing developments on the power market and make the connection to the economic principles and modeling techniques we cover in class.

- Lecture slides and all other materials including readings can be found on LSF. <u>Class participation</u>

- Your grade is determined by an exam at the end of the semester.

- Your questions and comments during the lecture are highly encouraged.

- If you have specific questions on the news, please feel free to send us an email before

the lecture.

- We will dedicate one or two lectures before Christmas to dive into current dynamics

more deeply

Technological Change and Labor Markets	
Professor/Lecturer	Adrian Lerche
Course type	M12 Seminar
Compulsory/Optional	
Specialization	Micro-, Macroeconomics and Econometrics
Hours/week	
Exam	Term paper
Cycle	Winter term
ECTS-Points	12
Language	English
Prerequisites	Master level knowledge in Micro-, Macroeconomics
	and Econometrics

Technological change and the adoption of new technologies are fundamental to the understanding of economic growth. While new technologies have changed how we live, they do not necessarily result in economic improvements for all equally. The emergence of computer technology has provided a compelling example, with macroeconomic trends in the labor market such as rising wage inequality and skill polarization occurring simultaneously. Much has been learned since then and we will explore these findings and the link between technological change and labor market outcomes. With the ongoing automation and the economic potentials of artificial intelligence, new opportunities to explore technological change have emerged and we will also study such current developments.

The course consists of two parts. In the first part, through a mix of lectures and more interactive elements, the course will introduce key concepts, review important contributions to the literature, and discuss recent developments.

For this, we will meet on Thursdays 14:00-18:00 (c.t.): Oct 20, Oct 27, Nov 3, Nov 10, Nov 17, Nov 24, Dec 1 Location: To be confirmed

Lecture 1 & 2: Technology and Innovations

Lecture 3: Skill-Biased Technological Change

Lecture 4 & 5: Polarization and Routine-Biased Technological Change

Lecture 6: Topics on Technological Change and Labor Markets

Lecture 7: Current and Future Technological Change

In the second part, we will have a blocked seminar, in which students will present and discuss recent papers (MSc) or their research proposal (PhD). For that, we will meet January 26–27, 2023.

I will send around a list of the possible papers for the seminar. Participants will have the opportunity to submit their preference until Nov 23, after which I will assign the papers. You can start working on your term paper on Dec 5 and have to hand in your term paper Jan 13. Term papers should contain approximately 45,000 characters including spaces (roughly 20 pages, depending on formatting).

We will be building on Master level knowledge in Micro- and Macroeconomics, and

Econometrics, with the main focus lying on empirical research. To brush up your econometric knowledge, you can consult, e.g.:

Joshua Angrist and Jörn-Steffen Pischke: "Mostly Harmless Econometrics"; Princeton University Press; 1st edition; 2008

With the assignment and acceptance of the topic, your registration is considered binding. Please also note the following important information from the examination board:

muenchen.de/files/allgemein/verb\_seminaranmeldung\_2018.pdf

The course can be selected for the specialization "Macroeconomics and International Economics" and "Applied Econometrics". The course does not count as a "research" level course for the MSc research certificate. PhD students can take it as a "reading course".

The final grade will be composed of two parts:

- For MSc Students Term Paper (50%) & Paper Presentation (50%)
- For PhD Students Research Proposal (50%) & Paper Presentation (50%)

Term Paper (MSc students):

The term paper should present and critically discuss a recent paper related to the course and embed it into the related literature. Independent (theoretical or data) work is encouraged, but not necessary.

Research Proposal (PhD students):

The research proposal should, at a minimum, delineate a research topic by providing a concise overview of the relevant literature in that field, and work out an idea that would contribute to that field. Some independent (theoretical or data) work is strongly encouraged. A major element will be finding a suitable topic, which should be discussed beforehand with the instructor – I highly encourage you to be in touch about your ideas early on.

Paper Presentation (MSc & PhD students):

Each presentation will be 20 minutes long, followed by 5-10 minutes discussion. The grade for this part is given by your own presentation, and your contribution to the discussion segments of others' presentations.

#### Literature

Joshua Angrist and Jörn-Steffen Pischke: "Mostly Harmless Econometrics"; Princeton University Press; 1st edition; 2008

Labor Economics	
Professor/Lecturer	Ingrid Hägele
Course type	LS Seminar M12
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	
Exam	Final paper + presentation
Cycle	Winter/Summer term 2022/2023
ECTS-Points	12
Language	English
Prerequisites	Econometrics

This course will cover recent empirical research in labor economics. Key topics will include the role of firms as labor market institutions, wage setting, and labor market disparities. A special focus will be placed on recent studies applying modern econometric tools to large and novel datasets. A key objective of this course is to learn about the research frontier in labor economics and to familiarize oneself with the necessary steps towards conducting independent research.

Lecture #1 – Firms as Labor Market Institutions

Lecture #2 – Firms and Wage Setting

Lecture #3 – The Internal Labor Market

Lecture #4 – Discrimination and Racial Disparities in the Labor Market

Lecture #5 – Gender Disparities in the Labor Market

Lecture #6 – The Gender Leadership Gap

#### Literature

Angrist and Pischke (2009) Mostly Harmless Econometrics, Princeton University Press, Princeton and Oxford

Epidemics in Economic History	
Professor/Lecturer	Kalle Kappner
Course type	M6 Lecture
Compulsory/Optional	Optional
Specialization	Applied Econometrics
Hours/week	4
Exam	Term paper
Cycle	Only winter term 2022
ECTS-Points	6
Language	English
Prerequisites	There are no formal requirements. Interest in economic history and applied microeconomics is advantageous. This seminar is open to both Master's and PhD students.

How did historic epidemics shape production and consumption patterns, socioeconomic inequality and labour relations, both in the short and the long run? Did economic development, globalization and urbanization support a slow but steady conquest of infectious diseases, or was their role rather to expose societies to new risks? And what policy lessons can we learn from studying the economic impact of the bubonic plague, cholera, influenza and other scourges of humanity? This seminar introduces students to recent research on the economic history of epidemics, infectious disease and health, with an emphasis on quantitative, empirical evidence.

#### Literature

The full syllabus is available at

https://drive.google.com/file/d/18vFB2fUuF5GYmGHoptatLCkvkYdCIMh\_/view?us p=sharing

# Gender Inequality and the Optimal Taxation of

Couples	
Professor/Lecturer	Emanuel Hansen
Course type	M12 Seminar
Compulsory/Optional	Optional
Specialization	Public Economics
Hours/week	Blocked
Exam	Presentation and Term Paper
Cycle	
ECTS-Points	12
Language	English
Prerequisites	Public Economics, Empirical Economics,
	Microeconomics

#### Syllabus/Course outline

Lecture sessions on

- Development of gender inequality in wages and earnings
- The role of children for gender inequality
- The taxation of married couples

Student presentations on recent research articles and current working papers.

#### Literature

Background readings:

- Blau, F. and L. Kahn (2017), "The Gender Wage Gap: Extent, Trends, and Explanations", Journal of Economic Literature 55 (3), 789-865.
- Olivetti, C. and B. Petrongolo (2016), "The Evolution of the Gender Gap in Industrialized Countries", Annual Review of Economics 8, 405-434.
- Waldfogel, J. (1998), "Understanding the `Family Gap' in Pay for Women with Children", Journal of Economic Perspectives 12 (1), 137-156.

Globalization and Innovation	
Professor/Lecturer	Prof. Claudia Steinwender
Course type	M6 lecture
Compulsory/Optional	Optional
Specialization	Macroeconomics and International Economics; Applied Econometrics
Hours/week	2,5
Exam	MSc students: written exam PhD students (if taken as field course): - written exam - two paper discussions with slides, each consisting of a 10 minutes presentation during lecture and following discussion with students; the papers will be assigned to you and are related to the material covered in the course
Cycle	
ECTS-Points	6
Language	English
Prerequisites	Master level knowledge of Econometrics

In this challenging course we will learn and discuss topics at the intersection of innovation and globalization — two areas that in Economics are typically studied separately.

However, in today's world innovation and globalization are tightly linked: Technological innovation spreads globally and has global impacts, and globalization is often the driver for innovation. At the same time, we have witnessed rapid developments in both globalization and technological change over the past few decades. The world has never been more integrated with respect to trade, foreign direct investment and technology. More specifically, we will study three important

questions in this course:

1. How does globalization affect innovation?

In this part of the course we first discuss the mechanisms that may generate innovation in response to a variety of globalization shocks (e.g., access to export markets, access to imported inputs, import competition). Then the course will teach you how to empirically estimate the effect of globalization shocks on innovation and productivity using firm-level data.

2. What is the role of technological change to alleviate climate change driven by globalization? In this part of the course we first discuss the channels through which globalization may affect pollution, taking into account innovation responses. We study the decomposition of emission increases into scale, composition, and technique effects, and learn how to estimate the importance of the different

components in response to a change in trade or environmental policy. 3. How did important historical innovations affect globalization?

The final part of the course studies historical innovations that contributed to globalization, such as open sea sailing, the telegraph, canals and steam ships, containerization, airplanes, and the internet. We will discuss how these technologies affected firms and consumers, which frictions they addressed, and how much they contributed to economic growth.

Overall, we will compare and critically evaluate identification strategies used in a selection of important papers in these areas, and develop our critical thinking skills in discussions, problem sets, and group discussions.

Furthermore, the course will teach the use of Stata, and students will use Stata to analyze, replicate and criticize a number of selected paper. This will include a small data project to teach students how to conduct their own data analysis in their further academic work.

#### Literature

- Amiti, M. and J. Konings (2007). Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia. American Economic Review 97 (5), 1611– 1638.
- Atkin, D., A. K. Khandelwal, and A. Osman (2017, May). Exporting and Firm Performance: Evidence from a Randomized Experiment. The Quarterly Journal of Economics 132 (2), 551–615.
- Autor, D., D. Dorn, G. H. Hanson, G. Pisano, and P. Shu (2017, December).
   ForeignCompetition and Domestic Innovation: Evidence from U.S. Patents. NBER
   WorkingPaper No. 22879.
- Bakker, J. D., S. Maurer, J.-S. Pischke, and F. Rauch (2021). Of mice and merchants: Connectedness and the location of economic activity in the iron age. Review of Economics & Statistics 103 (4), 652 – 665.
- Bloom, N., M. Draca, and J. van Reenen (2016, January). Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity. The Review of Economic Studies 83 (1), 87–117.
- Bombardini, M. and B. Li (2020). Trade, pollution and mortality in China. Journal of International Economics 125, 103321.
- Cherniwchan, J. (2017). Trade liberalization and the environment: Evidence from NAFTA and U.S. manufacturing. Journal of International Economics 105, 130–149.
- Coelli, F., A. Moxnes, and K. H. Ulltveit-Moe (2020). Better, Faster, Stronger: Global Innovation and Trade Liberalization. Working Paper .
- Copeland, B. R., J. S. Shapiro, and M. S. Taylor (2021, May). Globalization and the environment. Working Paper 28797, National Bureau of Economic Research.
- Feyrer, J. (2019, October). Trade and income—exploiting time series in geography. American Economic Journal: Applied Economics 11 (4), 1–35.
- Goldberg, P. K., A. K. Khandelwal, N. Pavcnik, and P. Topalova (2010, November).
   Imported Intermediate Inputs and Domestic Product Growth: Evidence from India.
   The Quarterly Journal of Economics 125 (4), 1727–1767.
- Guti'errez, E. and K. Teshima (2018). Abatement expenditures, technology choice, and environmental performance: Evidence from firm responses to import competition in Mexico. Journal of Development Economics 133, 264–274.
- Pascali, L. (2017). The wind of change: Maritime technology, trade, and economic development. American Economic Review 107 (9), 2821–54.
- Shu, P. and C. Steinwender (2018, June). The Impact of Trade Liberalization on Firm

Productivity and Innovation, pp. 39–68. University of Chicago Press.

Applied (Macro-) Economics	
Professor/Lecturer	Ilka Gerhardts
Course type	M6 lecture
Compulsory/Optional	Optional
Specialization	Macroeconomics and International Economics
Hours/week	Blocked
Exam	
Cycle	
ECTS-Points	6
Language	English
Prerequisites	Econometrics
	Micro-/ Macroeconometrics
	Intermediate knowledge of Stata and/ or R

#### Syllabus/Course outline

This course discusses and implements intermediate to advanced econometric methods. Examples are mainly taken from (but not limited to) the field of Development Economics.

The goal of the course is to provide students with the necessary tools to put their own little research project into practice, that is 1) to develop a research idea 2) to get and clean the data, 3) to implement the analysis using R or Stata, and finally 4) to present their work step-by-step to the class.

\*\*\* The special format of the course has 3 main implications: \*\*\*

1) Conducting real-world research (even on a small scale) is different from coding toy examples in class. Likely, students will face unforeseen difficulties that make you learn a lot while time investment is the price to pay.

Thus, choosing this course is probably more time-consuming than a course finishing with a classical exam.

However, this additional time investment makes sense for students interested in writing an empirical master's thesis or striving for an academic career in the long run.

2) If students want to take the course for grading early-on commitment is required (deadline: 2022/10/24, a few days after our introductory session with detailed information). New projects cannot be registered further into the semester. Firstly, executing a research project is time-consuming and sometimes stalled for reasons beyond your influence. Therefore you need to start working on the project

immediately.

Secondly, only a limited number of projects can be supervised and presented over the course period.

If the number of students exceeds these capacities we will need to shorten project presentations and switch to a classical exam for grading. This (unlikely) switch would be communicated right after the deadline.

3) Students are expected to come up with and carry through their own research ideas, e.g., replicating and extending a peer-reviewed paper. However, these single-authored projects shall not be lonely processes!

You are very welcome to raise general interest problems within classes. Moreover, please consult me after class to discuss specific issues from feasibility over early-stage obstacles up to alternative project ideas, coding bugs, etc.

Collaboration with classmates like bilateral feedback, etc. is very much recommended, too. While our moodle chat is yet another option to get support, students should be willing to participate in all sessions throughout the course period.

The 1st part of the course period is dedicated to acquiring theoretical and practical skills to employ core empirical methods.

During the 2nd part, students present their own and comment on each other's research projects. Everyone hands in the presentation slides, the code, and the data.

#### Literature

The structure of the course is adapted from Söderbom and Teal (2015). You can download the book for free and check its content here: https://www.routledge.com/Empirical-Development-Economics/Soderbom-Teal-Eberhardt-Quinn-Zeitlin/p/book/9780415810494

To brush up on required econometric skills, Angrist and Pischke (2009) is recommended.

For practical implementation of your own research project, please consult Cameron and Trivedi (2010) and Heiss (2020).

Further references will be provided in due time over the course period.

Topics in Empirical Public Finance		
Professor/Lecturer	Francis Wong	
Course type	M12 Seminar	
Compulsory/Optional	Optional	
Specialization	Public Finance	
Hours/week	4	
Exam	Final paper and presentation	
Cycle	Winter/Summer term	
ECTS-Points	12	
Language	English	
Prerequisites	Familiarity with applied econometrics	

**Description:** This course will cover recent empirical research in public finance. Key topics will include the study of taxation, social insurance, public goods, and inequality. A special focus will be placed on recent studies applying modern econometric tools to large administrative datasets. Please note that this syllabus is subject to change as the course demands.

**Lecture:** Each lecture will be comprised of three parts. First, I will present background material on the week's topic and provide in-depth discussion of selected papers. Second, students will present an assigned paper. These ungraded presentations are designed to offer practice and feedback before your final presentation. The third part will in an inverted classroom format in which students are invited to ask any questions pertaining the material covered thus far in the course. This will also offer students an opportunity to access group office hours.

**Assessment:** Grades will be based on the term paper and the presentation in the block seminar (50% each).

#### Timeline

- July 19, 2022, 4pm: Preliminary meeting/Vorbesprechung
- July 20, 2022 11:59pm: Deadline to email your binding confirmation of participation in the course.
- October 20, 2022, 2pm: Lecture #1 Inequality

- October 24, 2022, 11:59pm: Deadline for submitting preferences for your practice presentations. I will provide a list of research articles, and students will submit a ranking of preferences by email. I will announce assignments shortly afterwards.
- October 27, 2022: No lecture.
- November 3, 2022, 2pm: Lecture #2 Taxation
- November 10, 2022, 2pm: Lecture #3 Local Public Finance
- November 17, 2022, 2pm: Lecture #4 Housing and Neighborhoods
- November 22, 2022, 11:59pm: Deadline for submitting preferences over the topics for your seminar papers and presentations. I will provide a list of research articles, and students will submit a ranking of preferred articles by email.
- November 24, 2022, 2pm: Lecture #5 Social Insurance I
- November 24, 2022: I will inform you about the allocation of topics for final paper and presentation.
- December 1, 2022, 2pm: Lecture #6 Social Insurance II
- December 22, 2022, 11:59pm: Submission deadline for seminar papers. Please email me a PDF of your seminar papers. I will hold office hours to answer questions during the working period.
- January 20-21, 2023: Block seminar/student presentations.

#### Literature

Auerbach, Alan J., Raj Chetty, Martin Feldstein, and Emmanuel Saez, eds. Handbook of public economics. Vol. 5. Newnes, 2013.

Card, David, Raj Chetty, Martin S. Feldstein, and Emmanuel Saez. "Expanding access to administrative data for research in the United States." American economic association, ten years and beyond: Economists answer NSF's call for long-term research agendas (2010).

Frontiers in International Trade	
Professor/Lecturer	Prof. Dr. Carsten Eckel and Prof. Dr. Lisandra Flach
Course type	M6 lecture
Compulsory/Optional	Optional
Specialization	Macroeconomics and International Economics
Hours/week	3,5
Exam	There will be an exam at the end of the course for MSC and MQE students. The exam will be on Feb 9, 2023. Doctoral students are expected to write a research proposal and present their proposal. The date for presentations will be set at the end of the term.
Cycle	
ECTS-Points	6
Language	English
Prerequisites	This course is designed for graduate students with an interest in international trade. Students are expected to be familiar with and have a working knowledge of graduate level microeconomics and econometrics.

This course is an advanced course on international trade, with an emphasis on issues related to firm strategies and firm heterogeneity. The course will strive to achieve a balance between theory, empirical literature, and current work on international trade. The first part of the course will cover the theory part, in particular general equilibrium models with heterogeneous firms and theories of multi-product firms and product quality. The second part will focus on empirical aspects of firm heterogeneity and international trade.

### Course Outline

#### PART 1: Theory

- 1. Intra-industry trade and Gravity
- 2. Heterogeneous Firms and Market Structure
- 3. Mark-ups and Trade
- 4. Multi-product Firms
- 5. Quality and Trade

#### PART 2: Empirics

- 1. Stylized facts/Gravity/Global value chains
- 2. Firm productivity / TFP estimation
- 3. Market power and the rise of superstar firms / Measuring markups
- 4. Multi-product firms
- 5. Innovation, product quality and robotization

#### Literature

(O) are overviews.

Ackerberg, D. A., Caves, K., & Frazer, G. (2015). "Identification Properties of Recent Production Function Estimators". *Econometrica*, *83*(6), 2411–2451.

(O) Akcigit, Ufuk and Marc Melitz (2022), "International Trade and Innovation", *Handbook of International Economics*, edited by Gita Gopinath, Elhanan Helpman,

and Kenneth Rogoff, 2022, Vol 5:377-404, North-Holland.

Alfaro-Ureña, A., I. Manelici and J. Vasquez (2022), "The Effects of Joining Multinational Supply Chains: New Evidence from Firm-to-Firm Linkages", Quarterly Journal of Economics. 137(3), 1495–1552.

Anderson, J. E., and Van Wincoop, E. (2003): "Gravity with gravitas: a solution to the border puzzle," *American Economic Review*, 93(1), 170-192.

(O) Antras, Pol, and Davin Chor (2022). "Global Value Chains." Handbook of International Economics. v. 5, pp. 297-376. Elsevier, edited by Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff.

Arkolakis, C., Costinot, A., Donaldson, D., and Rodríguez-Clare, A. (2019): "The elusive pro-competitive effects of trade." *Review of Economic Studies*, 86(1), 46-80.

Arkolakis, C., Costinot, A., and Rodríguez-Clare, A. (2012): "New trade models, same old gains?" *American Economic Review*, 102(1), 94-130.

Arnold, J. and Javorcik, B. (2009): "Gifted Kids or Pushy Parents? Foreign Direct Investment and Plant Productivity in Indonesia," Journal of International Economics, 79, 42-53.

Autor D, Dorn D, Katz LF, Patterson C, Reenen JV. The Fall of the Labor Share and the Rise of Superstar Firms. Quarterly Journal of Economics. 2020;135 (2) :645-709.

Baldwin, R. and J. Harrigan (2011): "Zeros, Quality and Space: Trade Theory and Trade Evidence," American Economic Journal: Microeconomics, 3, 60-88.

Bernard, A., Eaton, J., Jensen, B. and S. Kortum (2003): "Plants and Productivity in International Trade," American Economic Review, 93, 1268-90.

(O) Bernard, A., Jensen, J., Redding, S. and P. Schott (2007): "Firms in International Trade," Journal of Economic Perspectives, 21, 105-130.

Bernard, A., Redding, S. and P. Schott (2010): "Multiple-Product Firms and Product Switching," American Economic Review, 100, 70-97.

Bernard, A., Redding, S. and P. Schott (2011): "Multi-Product Firms and Trade Liberalization," Quarterly Journal of Economics, 126(3), 1271-1318.

Bustos, P. (2011): "Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms," American Economic Review 11, 304-340.

Chaney, T. (2008): "Distorted Gravity: The Intensive and Extensive Margins of International Trade," American Economic Review, 98, 1707-21.

Crozet, M., K. Head, and T. Mayer (2012): "Quality sorting and trade: Firm-level Evidence for French Wine," Review of Economic Studies, 79(2), 609–644.

De Loecker, Jan (2007): "Do Exports Generate Higher Productivity? Evidence from Slovenia," Journal of International Economics, 73, 69-98.

Díez, Federico , Jiayue Fan, Carolina Villegas-Sánchez (2021), "Global Declining

Competition?", Journal of International Economics, v. 132, 103492.

Eaton, J. and Kortum, S. (2002): "Technology, geography, and trade," *Econometrica*, 70(5), 1741-1779.

Eaton, J., Kortum, S., and Kramarz, F. (2011): "An Anatomy of International Trade: Evidence from French Firms," Econometrica, 79(5), 1453-1498.

Eckel, C. and P. Neary (2010): "Multi-Product Firms and Flexible Manufacturing in the Global Economy," Review of Economic Studies, 77, 188-217.

Eckel, C., Iacovone, L., Javorcik, B. and J.P. Neary (2015): "Multi-Product Firms at Home and Away: Cost- versus Quality-Based Competence," Journal of International Economics, 95(2), 216-232.

Gandhi, Navarro and Rivers. (2020). "On the Identification of Gross Output Production Functions". *Journal of Political Economy*. 128 (8).

(O) Greenaway, D. and R. Kneller (2007): "Firm Heterogeneity, Exporting and Foreign Direct Investment," The Economic Journal, 117, F134-161.

Hummels, D., Klenow, P. (2005): "The Variety and Quality of a Nation's Exports," American Economic Review, 95(3), 704-723.

Krugman, P. (1979): "Increasing Returns, Monopolistic Competition, and International Trade," Journal of International Economics, 9, 469-479.

Krugman, P. (1980): "Scale Economies, Product Differentiation and the Pattern of Trade," American Economic Review, 70, 950-959.

Lileeva, A. and Treffler, D. (2010): "Improved Access to Foreign Markets Raises Plant-Level Productivity...for some Plants," Quarterly Journal of Economics, 125 (3), 1051-1099.

Manova, K., and Z. Zhang. 2012: "Export Prices across Firms and Destinations," Quarterly Journal of Economics, 127, 379–436.

Mayer, T., Melitz, M. and G. Ottaviano (2014): "Market Size, Competition, and the Product Mix of Exporters," American Economic Review, 104(2), 495-536.

Melitz, M. (2003): "The Impact of Trade on Intra-industry Reallocations and Aggregate Industry Productivity," Econometrica, 71, 1695-1725.

Melitz, M. and G. Ottaviano (2008): "Market Size, Trade and Productivity," Review of Economic Studies, 75, 295-316.

(O) Melitz, M. and S. Redding (Forthcoming): "Heterogeneous Firms and Trade," Handbook of International Economics, 4th ed. (Preliminary Draft)

(O) Neary, J.P. (2003b): "Monopolistic Competition and International Trade Theory," in S. Brakman and B.J. Heijdra (eds.): The Monopolistic Competition Revolution in Retrospect, Cambridge: Cambridge University Press, 2003, 159-184.

Olley and Pakes (1996): "The Dynamics of Productivity in the Telecommunications Equipment Industry," Econometrica 64 (6), 1263–1298.

(O) Redding, S. (2011): "Theories of Heterogeneous Firms and Trade," Annual Review of Economics, 3, 77-105.

(O) World Bank (2020). World Development Report: Trading for Development in the Age of Global Value Chains. World Bank Publications.

(O) Yotov, Yoto (2022), "Gravity at Sixty: The Workhorse Model of Trade", CESifo Working Papers 9584.

Econometric Theory	
Professor/Lecturer	Mauricio Olivares, Ph.D.
Course type	Lecture/Tutorial
Compulsory/Optional	Optional
Specialization	
Hours/week	105-min lecture/tutorial, twice a week
Exam	Final written exam (150 min)
Cycle	Summer 2024
ECTS-Points	6
Language	English
Prerequisites	Intermediate knowledge of probability and statistics

Part I

1. Population First

Introduce the conditional expectation and the conditional variance. Go over their properties. Introduction to projections. Best linear predictor. References: Hansen Chap. 2.1 - 2.28.

2. OLS Estimation

Sampling, Principle of Analogy: introduction to the Method of Moments, Ordinary Least Squares Estimator, Matrix Notation and a primer on Matrix Algebra, Projections once again. Mean and Variance of OLS. Gauss-Markov Theorem. Covariance Matrix Estimation References: Hansen Chap. 3.1–3.21, 4.1–4.8, 4.10–4.15.

3. Asymptotic Theory for OLS

Motivation. Modes of convergence, the law of large numbers, central limit theorems, continuous mapping theorem and delta method, small-oh and big-Oh notation. Consistency and Asymptotic Normality of Least Squares Estimator, Covariance Matrix Consistent Estimation, Functions of Parameters, Asymptotic Standard Errors. References: Hansen Chap. 6, 7.1–7.11.

4. Asymptotic Inference

T-test & Wald Test, Testing linear hypotheses, Confidence Intervals, Power and Consistency of Wald-Rao-Likelihood Ratio tests. Monte Carlo exercise.

References: Hansen Chp. 7.12–7.14, 7.16, 9.10 – 9.20, 9.22

	Aethod of moments estimators, overidentified moment equations, GMM estimator, asymptotic properties of GMM, Efficient GMM, Covariance Matrix	
	Estimation.	
	References: Hansen Chp. 13.1–13.12, 13.14	
2 (	SMM Hypothesis Testing	
	<ol> <li>GMM Hypothesis Testing Distance Test, Overidentification Test, Endogeneity Test.</li> </ol>	
	References: Hansen Chp. 13.19, 13.24 – 13.24.	
Part III		
1	. Instrumental Variables References: Hansen Chp. 12.1-12.12, 12.15-12.18, 12.28, 12.29-12.32, 12.34-12.38	
2	2. Panel Data	
	Random and Fixed Effect models and estimation, Two-Way Error	
	Components, Instrumental Variables in the FE Model.	
	References: Hansen Chp. 17.2–17.12, 17.17–17.29	
3	B. Binary Choice	
	Binary choice models, latent variable interpretation, marginal effects,	
	asymptotic theory.	
	References: Hansen Chp. 25.1–25.9	
4	. Censoring and Selection	
	Censored regression, the bias of OLS with censored data, Tobit model.	
	Sample selection and Heckman's model.	
	References: Hansen Chp. 27.2–27.5, 27.9–27.10	
Literatı	Ire	
i ne ma	in textbook for this course is	
Bruce H	lansen, Econometrics, Princeton University Press, 2022.	

# Machine Learning in Econometrics

Professor/Lecturer	Daniel Wilhelm
Course type	Optional
Compulsory/Optional	
Specialization	
Hours/week	4
Exam	Empirical project
Cycle	Summer
ECTS-Points	6
Language	English
Prerequisites	At least one of Master courses "Causal Inference" or
	"Econometric Theory" or equivalent

#### Syllabus/Course outline

Theoretical Foundations:

- 1. Linear Regression in Moderate Dimensions (OLS)
- 2. Linear Regression in High Dimensions (LASSO)
- 3. Nonlinear Regression in High Dimension (neural nets, trees, random forests)

Machine Learning in Econometrics:

- 4. Inference on parameters in high-dimensions
- 5. Double Machine Learning
- 6. Inference on Causal Effects in high-dimensions
- 7. Text as data

#### Literature

Lecture materials and papers recommended therein

Current Topics in Urban Economics		
Dr. Kalle Kappner		
M6 (Lecture)		
Optional		
Applied Microeconomics		
4		
120 minutes		
Summer term		
6		
English		
Graduate-level microeconomics		

This lecture introduces students to central concepts, ideas and theories, as well as recent empirical studies in Urban Economics, the study of the economics of cities. The first 8 lectures focus on formal models, empirical methods and data analysis techniques. The last 4 lectures feature an in-depth discussion of recent papers that apply these theories and techniques. The corresponding tutorial sessions deepen the understanding of the lecture content through problem sets and discussions.

The syllabus is subject to change but generally follows the following schedule:

Week 1: Introduction and stylized facts

Week 2: The von Thünen model of land use

Week 3: The Alonso-Muth-Mills and the monocentric city

Week 4: Extensions to the Alonso-Muth-Mills model

Week 5: The Rosen-Roback model and spatial equilibrium across cities

Week 6: New Economic Geography approaches to spatial equilibrium

Week 7: Polycentric Urban Models

Week 8: Quantitative Urban Models

Week 9: Liotta et Al (2022): "Testing the Monocentric Standard Urban Model in a Global Sample of Cities"

Week 10: Becker et Al (2021): "The Impact of Public Employment: Evidence from Bonn"

Week 11: Heblich et Al (2020): "The Making of the Modern Metropolis: Evidence from London"

Week 12: Ahlfeldt et Al (2023): "Optimal Minimum Wages in Spatial Economies"

A firm understanding of graduate-level microeconomics is useful. Students with an interest in Applied Micro, Economic Geography and/or International Trade, and interest in GIS & spatial data analysis are especially welcome.

PhD students taking the class as a Doctoral Class will give a presentation on a published research paper in the very last session.

#### Literature

See Brueckner (2011), Glaeser (2020) and Redding (2023) for a general flavour of the covered models, topics and questions.

Brueckner, J. (2011): Lectures on Urban Economics, MIT Press Glaeser, E. (2020): "Equilibrium over Space: The Canonical Urban Models", lecture held at the UEA conference 2020, <u>https://www.youtube.com/watch?v=zMmXo1nHetE</u> Badding S. (2022): "Ougnitative Urban Madels", The Journal of Economic

Redding, S. (2023): "Quantitative Urban Models", The Journal of Economic Perspectives 37(2), 75–98

Human capital formation and investment		
Professor/Lecturer	Dr. Andrew Proctor	
Course type	M12 Seminar	
Compulsory/Optional	Optional	
Specialization		
Hours/week	6 weeks of 4 contact hours per week (in addition to	
	self-study), and a full-day research colloquim for	
	research presentations.	
Exam	Term paper and presentation	
Cycle	Summer term	
ECTS-Points	12	
Language	English	
Prerequisites	Masters-level coursework in econometrics, and	
	macroeconomics. Previous coursework in labor	
	economics is useful but not required.	

#### **Description:**

This course examines human capital formation and the determinants of human capital investment. The broad topics of the course are as follows:

- 1. Foundational human capital models and the empirical returns to education
- 2. Financial and nonfinancial resource determinants of investment
- 3. Institutional and labor market determinants
- 4. Stochastic environment effects
- 5. Intra-household dynamics and social interaction effects
- 6. Behavioral determinants

Course instruction is primarily based on the structured reading of published research, with a focus on exemplary recent work. Readings comprise a methodologically diverse array of scholarship, including work from the reduced form, experimental, structural, and macroeconomic literatures. In order to successful complete the course, students will be expected to present and discuss these papers, in addition to the completion of a research proposal (8 – 15 pages), to be presented at the end of the course.

#### Literature

### Tentative Reading List (subject to revision)

#### Week 1: Human Capital Basics

 Acemoglu, Daron and David Autor. Lectures in Labor Economics, Chapter 1 – 2.
 Björklund, Lindahl, and Plug, "The Origins of Intergenerational Associations: Lessons from Swedish Adoption Data". The Quarterly Journal of Economics, 2006.

Heckman, James J., John Eric Humphries, and Gregory Veramendi, "Returns to Education: The Causal Effects of Education on Earnings, Health, and Smoking". *Journal of Political Economy*, 2018.

Adda, Jérôme and Christian Dustmann, "Sources of Wage Growth". Journal of

Political Economy, 2023.

#### Week 2: Financial and non-financial resources determinants

- Manoli, Day and Nicholas Turner, "Cash-on-Hand and College Enrollment: Evidence from Population Tax Data and the Earned Income Tax Credit". *American Economic Journal: Economic Policy*, 2018.
- Cornelissen, Thomas, Christian Dustmann, Anna Raute and Uta Schönberg, "Who benefits from universal child care? Estimating Marginal Returns to Early Child Care Attendance". Journal of Political Economy, 2018.
- Doyle, Orla, "The First 2,000 Days and Child Skils". *Journal of Political Economy*, 2020.
- Agostinelli, Francesco, Morteza Saharkhiz, and Matthew Wiswall, "Home and School in the Development of Children". Revise and Resubmit, *International Economic Review*, 2022.

#### Week 3: Institutional and labor market determinants

- Matthewes, Sönke Hendrik, "Better Together? Heterogeneous Effects of Tracking on Student Achievement". *The Economic Journal*, 2020.
- Sun, Stephen Teng and Constantine Yannelis, "Credit Constraints and Demand for Higher Education: Evidence from Financial Deregulation". *The Review of Economics and Statistics*, 2016.
- Fan, Xiaodong, Ananth Seshadri and Christopher R. Taber. "Estimation of a Life-Cycle Model with Human Capital, Labor Supply and Retirement". NBER Working Papers, 2022 (and Revise and Resubmit, Journal of Political Economy).

Fredricksson, Peter, Lena Hensvik and Oskar Nordström Skans, "Mismatch of Talent". *American Economic Review*, 2018.

#### Week 4: Stochastic environment effects

- Rege, Mari, Kjetil Telle, and Mark Votruba, "Parental Job Loss and Children's School Performance". *Review of Economic Studies*, 2011.
- Adukia, Anjali, Sam Asher, and Paul Novosad, "Educational Investment Responses to Economic Opportunity: Evidence from Indian Road Construction". *American Economic Journal: Applied Economics*, 2020.
- Cavounidis, Costas and Kevin Lang, "Ben-Porath Meets Lazear: Microfoundations for Dynamic Skill Foundation". *Journal of Political Economy*, 2020.
- Silos, Pedro and Eric Smith, "Human capital portfolios". *Review of Economic Dynamics*, 2015.

#### Week 5: Intra-household dynamics and social interaction effects

- Adda, Jerome, Christian Dustmann, and Katrien Stevens, "The Career Costs of Children". *Journal of Political Economy*, 2017.
- Altmejd, Adam et al, "O Brother, Where Start Thou? Sibling Spillovers on College and Major Choice in Four Countries". *The Quarterly Journal of Economics*, 2021.

Breda, Thomas, Julien Grenet, Marion Monnet, and Clémentine Van Effenterre, "How Effective are Female Role Models in Steering Girls Toward STEM? Evidence from French High Schools". *The Economic Journal*, 2023.

Battisti, Michele, Giovanni Peri and Agnese Romiti, "Dynamic Effects of Co-Ethnic Networks on Immigrants' Economic Success". *The Economic Journal*, 2021.

#### Week 6: Behavioral determinants

Wiswall, Matthew and Basit Zafar, "Preference for the Workplace, Investment in Human Capital, and Gender". *The Quarterly Journal of Economics*, 2018.

Falk, Armin, Fabian Kosse, Pia Pinger, Hannah Schildberg-Hörisch, and Thomas Deckers, "Socioeconomic Status and Inequality in Children's IQ and Economic Preferences". *Journal of Political Economy*, 2021.

Fé, Eduardo, David Gill, and Victoria Prowse, "Cognitive Skills, Strategic Sophistication and Life Outcomes". *Journal of Political Economy*, 2022.

Arcidiacono, Peter, Esteban Aucejo, Arnaud Maurel, and Tyler Ransom, "College Attrition and the Dynamics of Information Revelation". *NBER Working Papers* (and Revise and Resubmit, *Journal of Political Economy*), 2016.

Empirical Industrial Organization		
Professor/Lecturer	Dr. Alessandra Allocca	
Course type	lecture	
Compulsory/Optional		
Specialization		
Hours/week	4	
Exam	See "Course Requirements"	
Cycle	Summer term 2023	
ECTS-Points	6	
Language	English	
Prerequisites		

This course provides a comprehensive introduction to structural estimation methods applied in Industrial Organization (IO). Empirical research in IO is made of several ingredients: theory, institutional background, datasets, econometric tools, and computer programming. We will study how previous researchers have combined these ingredients to answer relevant economic questions. This course does not intend to be an exhaustive review of the literature: we will cover a limited number of topics in some depth. Importantly, the methods we will discuss are also employed in other fields, such as innovation, health, trade, labor, development, and finance. Hence, the course will be useful for students planning to conduct research in empirical IO and students interested in understanding, evaluating, and designing structural estimation strategies more widely.

#### Course Requirements:

There is no final exam. Grading is based on a term paper, which will be due on July 31st. You are encouraged to present a proposal for the term paper in class. The term paper should include 1) an introduction that states the research question and motivation; 2) a 1 comprehensive literature review; 3) institutional background and data description (summary statistics if you have data in hand, otherwise a feasible strategy to obtain data); 4) a description of the empirical approach; 5) if possible, (preliminary) results. The paper needs not strictly be an IO topic but should use methods discussed in class. Moreover, it must not exceed 40,000 characters. Other instructions will be given in due course. There are two more milestones for this course (not graded): - Discussion in class. We will base our discussion on papers selected from the reading list below. These papers will be posted on Moodle weekly. You should complete the readings before each lecture. - Problem sets. You will be divided into groups to work together on problem sets. Problem sets involve programming estimation routines for models discussed in class. For this purpose, you should familiarize yourself with the appropriate software packages (Stata, MATLAB, Python). Despite not being graded, participating in the discussion and working on the problem sets are highly encouraged since they tend to be positively correlated with the final grade.

#### Literature

Introduction:

Aguirregabiria, V. (2021) "Empirical Industrial Organization: Models, Methods, and Applications," Book in Progress, Chapter 1.

Reiss P. and F. Wolak (2007). "Structural Econometric Modeling: Rationales and Examples from Industrial Organization," Handbook of Econometrics, Vol. 6A, Chapter 64, Sections 1-4.

# Advanced Experimental Methods: Topics in Behavioral Economics

Denavioral Economics		
Professor/Lecturer	Lea Heursen	
Course type	M12 Seminar	
Compulsory/Optional	Optional	
Specialization		
Hours/week		
Exam	Grades will be based on the term paper (70%), the presentation in the block seminar (30%).	
Cycle	Summer term 2023	
ECTS-Points	12	
Language	English	
Prerequisites	Master-level course in experimental methods (e.g. Schudy and Woerner at LMU)	

#### Syllabus/Course outline

This seminar focuses on empirical research that documents the various ways in which human behavior differs from standard economic models. Knowledge of when, and how, human behavior departs from standard economic predictions is relevant for the better design of markets, organizations and policies. We will discuss recent applications of experimental methods for causal inference on topics including identity or image concerns in economic behavior, biases in the formation of beliefs or the use of information. The objective of the course is to give students an overview of active research areas in behavioral economics and deepen their understanding of experimental methods.

#### Literature

Since the goal of this course is to capture the research frontier in Behavioral Economics, readings are mainly from journal articles or working papers, which are not, yet, published in refereed journals. To refresh your knowledge of experimental design and data analysis of experiments, the following is a useful reference: Imbens and Rubin (2015). Causal Inference for Statistics, Social, and Biomedical Sciences. Cambridge: Cambridge University Press. Part II: Classical Randomized Experiments.