EC931: International Trade

- Lecturer: Carlo Perroni

- In this module, we will survey
  - Key contributions and recent developments in the theoretical and empirical literature on international trade
  - Applications of the theory to the analysis of trade policy

- Assessment is 100% by exam in May 2024
  - Exam format as in previous years (samples available online)

Module Outline

1. Trade under perfect competition
   - Comparative advantage; comparative factor abundance
2. Instruments of trade policy under perfect competition
   - Tariffs and subsidies; quotas and other non-tariff barriers; rent seeking; theory of distortions; externalities and trade
3. Imperfect competition and international trade
   - Oligopoly and trade; scale economies; product variety; trade and geography; strategic trade policy; trade and industry structure
4. The political economy of trade policy
   - Trade and income distribution; lobbying for protection
5. International economic integration
   - The theory of customs unions; customs unions and free trade areas; Brexit; multilateral trade liberalization under the WTO

EC984 Experimental Economics

Course Outline

Prof Daniel Sgroi

Course Objectives

- To enable you to understand why experiments are now an important part of Economics.
- To appreciate when and where experiments can and should be used.
- To give a primer on how to design and run an experiment.
- To be able to understand and critique published experiments.
- To examine closely a series of important experimental papers and issues.

Lectures & Assessment

- Teaching Team: Prof Daniel Sgroi, Dr Mahnaz Nazneen & Dr Love Idahosa (seminar tutor).
- Lectures:
  - Lectures 1-2 (4 hours): Experimental Methodology.
  - Lectures 3-9 (14 hours): Case Studies/Special Topics.
- Seminars: 8 hours.
- Assessment:
  - 2 hour exam.

Case Studies/Special topics

- The case studies change over time but here are the likely topics for this year:
    1. Rationality and expected utility.
    2. Heuristics and the work of Kahneman & Tversky.
    3. Mood induction in the laboratory.
    4. Gender differences in experiments (rRisk preferences & competitive behaviour).
    5. Social Preferences (game theory).
    6. Focus on field experiments (overview and classification, an application in charitable giving.
    7. Tests and Surveys used in Experiments.

Who Should Take the Course?

- Intellectual curiosity about experiments?
- Wondering how to judge the effectiveness of experimental work within Economics or Psychology?
- At a practical level maybe you are thinking of including/discussing experimental papers in an MSc dissertation?
- MSc BES/BDS students undertake a project (PS916) that usually involves experimental data so EC984 is especially important.
- Longer term, perhaps you are thinking of running an experiment in a PhD in a future career?
- Note though that experimental economics is not behavioural economics! This is a practical/methodological course and there is of course a separate behavioural economics course.

Ec982: Development Economics

James Fenske

University of Warwick

How I will teach this module

- In this module, I will teach four different types of material:
    - *How to ...*: e.g. "How to do pairwise randomization." In these sections, I will identify a technique described in Glennerster and Takavarasha's "Running Randomized Evaluations: A Practical Guide," explain the math behind it, and show you how to implement it in Stata.
    - *Participation: ...*: e.g. "Participation: Glennerster and Takavarasha Chapter 1". In these sections, I will test whether you are learning the material covered in Glennerster and Takavarasha and the required articles. We will proceed at the rate of about one chapter and one article per week, so check the slides in advance in order to not fall behind.
    - *A concept in development economics: ...*: e.g. "A concept in development economics: Dual Economy Models ." In these sections, I will teach you a concept from de Janvry and Sadoulet's textbook, "Development Economics."
    - *A recent paper: ...* e.g. "A recent paper: Bertrand et al." In these sections, I will guide you through a paper published in the past year.

Assessment: Overview

- The assessment will consist of:
  - A replication assignment (20%)
  - An essay (i.e. a literature review) (20%), written in groups of ~ 3.
  - Required reading (20%)
  - Independent reading (20%)
  - An empirical assignment (20%)

Why I am doing this

- The interview process for jobs in development, such as with the Abdul Latif Jameel Poverty Action Lab (J-PAL), have several similar components. The "How to Get a Job in Development Economics without a PhD" document on Moodle explains this in more detail.
- A *normal interview* will assess your knowledge of impact evaluation techniques, general economics knowledge (both concepts and recent papers), soft skills, and understanding of the state of knowledge on a project.
  - The *Participation: ...* sections of the lecture and the essay and required reading sections of the assessment will increase your understanding of impact evaluation techniques.
  - The *A concept in development economics: ...* and *A recent paper: ...* sections of the lecture will increase your general economics knowledge. Required reading exists to reinforce this.
  - The "Independent reading" portion of the assessment will allow you to direct your efforts to improving the weakest part of your profile.

Why I am doing this

- The *normal interview*, continued:
  - The *Participation: ...* sections of the lecture and requirement the literature review be written in groups are meant to help with soft skills.
- A *coding test* will evaluate your ability to analyze data.
  - The *How to ...* sections of the lecture, the replication assignment, and the empirical assignment are intended to improve your performance on this part of the interview process.

- Want to know more? I've already put everything on Moodle and on my personal website (`www.jamesfenske.com`).

EC966 - Labour Economics

Natalia Zinovyeva

University of Warwick

2023/2024

Module description

- In this module, we will study the theoretical and empirical tools that economists use to understand labour markets.
- Labour economics builds on microeconomics, macroeconomics, as well as econometrics.
- **Prerequisites**:
  - ▶ Basic knowledge of microeconomic principles
  - ▶ Elementary mathematical methods such as constrained optimisation
  - ▶ Simple statistical methods such as multivariate regression.
  - ▶ Knowledge of panel data techniques and basic microeconometrics would be an advantage.

Questions that we will address

- **Labour demand**
  - ► How does technological change affect labour demand for various skills?
- **Labour supply**
  - ► Which factors do affect individuals' decisions on how much to work?
- **Human capital**
  - ► What are the returns to education? How do they evolve over time? Why does education matter?
- **Equilibrium on the labour market**
  - ► How does immigration affect the salaries of native workers?
  - ► How does minimum wage regulation affect employment?
- **Compensating differentials**
  - ► In which other ways are workers compensated beyond salaries?
- **Superstars**
  - ► Why are CEOs paid that high salaries?
- **Unemployment**
  - ► Why do we have unemployment?
- **Discrimination**
  - ► Why do some employers discriminate some employees? How do we detect it?
  - ► Which policies may help to address discrimination?
- **Active Labour Market Policies**
  - ► Which active labour market policies do help to reduce unemployment?

Assessment

- **Essay 1** (12%)
  - ▶ Referee report
- **Essay 2** (12%)
  - ▶ Assessment of a policy proposal
- **Exam** (76%)

EC910/EC987
Econometrics B
2023/24 Term 1

WARWICK

Who am I?

▶ Wiji Arulampalam   (**Aru** **lam** **palam**) [Module leader]

▶ Office: S 2.118 (Social Studies 2nd floor)

▶ Email: wiji.arulampalam@warwick.ac.uk

▶ Teaching: Term 1 – Wiji;   Term 2 -Eric Renault

Outline of this presentation

▶ Talk about the module (EC910/EC987) set up.

Including

- Who is it for

- Econometrics **A** vs **B**

- A tentative syllabus outline for Term 1

MSc BES Economics track students will be doing only the first term of Econometrics B – EC987.

Who is it for?

Students

▶ with some **background** in Econometrics.

▶ who are ready to be **challenged**!

▶ who **want to learn** new stuff (hopefully)!

Econometrics A vs B

Econometrics B will

1. assume some familiarity with some basic material listed on the next page.

2. be more methodological – will include some proofs.

3. cover more topics and will focus more on underlying theoretical justification.

4. use matrix derivation for some results.

5. will have data-based exercises.

Need to be familiar with…..

1. t and F tests of linear restrictions.

2. Heteroskedasticity and Serial correlation.

3. Estimation – in the presence of above problems (OLS/GLS)

4. Dummy variables.

5. Exogeneity vs Endogeneity.

Some text books for the basic material : (i) Stock & Watson; (ii) Wooldridge

The aim of this module

► To enable you to evaluate the econometric work of others that you read

AND

► To produce good econometric work of your own.

Module Information

A combination of

▶ Learning necessary econometric techniques to study the

empirical economics literature

AND

▶ Doing your own empirical work.

Teaching

▶ Term 1 – Wiji Arulampalam

 Cross-section & panel data models.

▶ Term 2 - Eric Renault (will talk about his part)

▶ Classes – weekly classes starting in week 3.

▶ You sign up for a class on Tabula.

Tentative Outline for Term 1 (1/6)

1. A quick revision of 'Classical' Linear Model.

2. <u>Properties of Estimators</u>

   What statistical properties we would like our estimators to have.

3. <u>Generating Estimators (OLS, MM, MLE)</u>

   How do you generate these?

4. <u>Testing linear restrictions</u>

   Single and joint hypotheses

Move away from the classical model. The issues that invalidate the assumptions of the classical model.

5. Linear static panel data models   2 dimensional obs
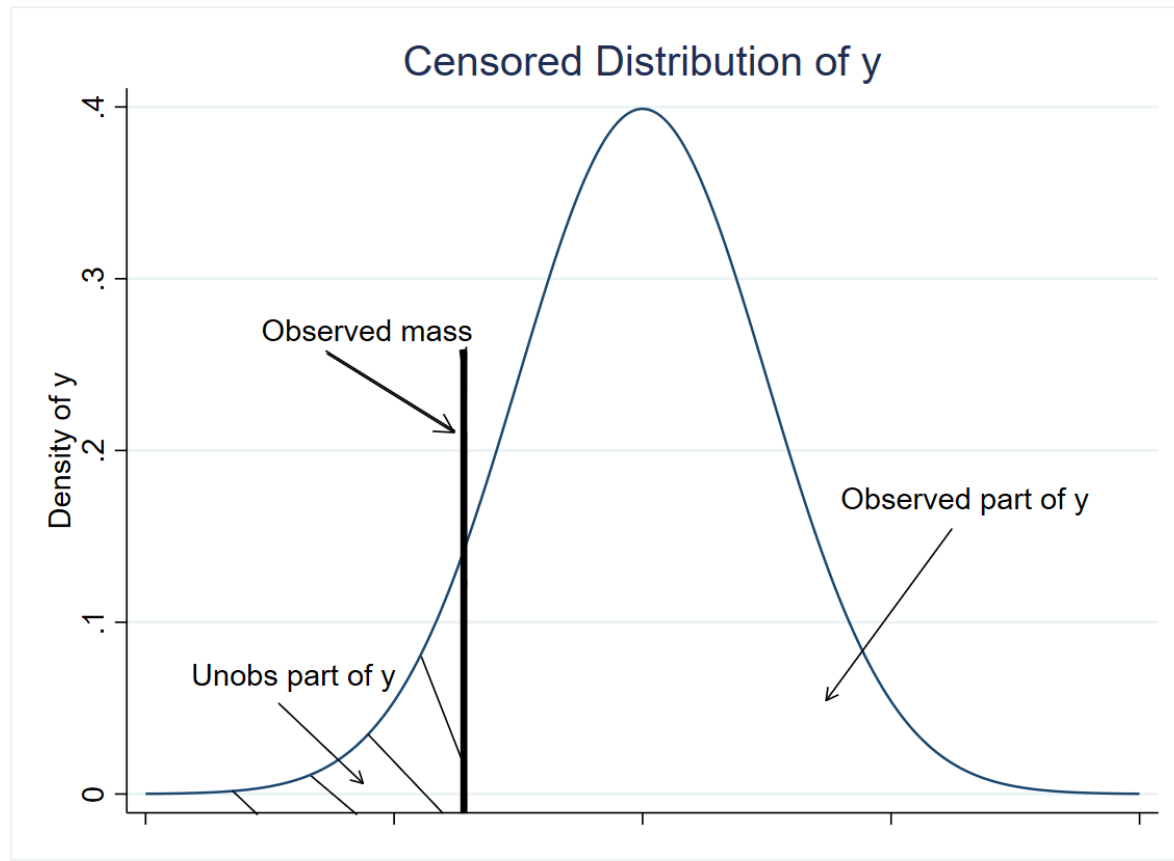
6. Discrete choice models

Outcome variable is not continuous and not unrestricted.

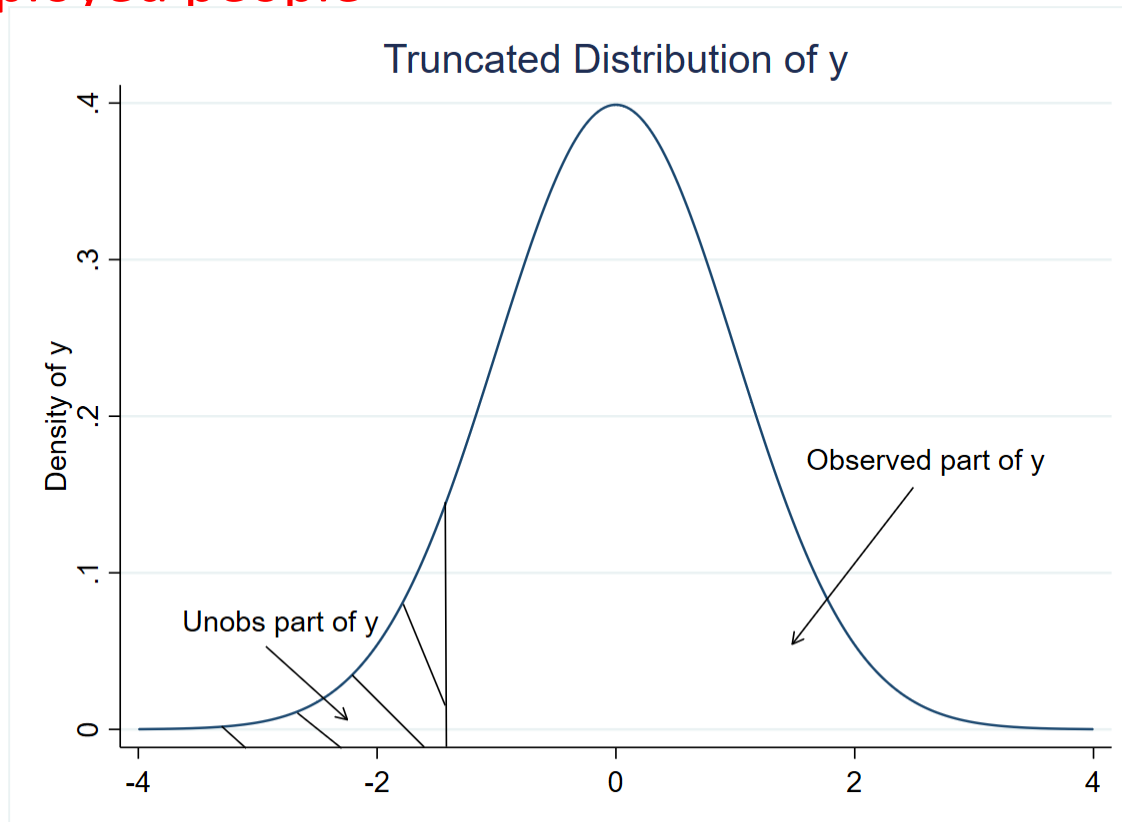Takes discrete values: E.g. 1/0   yes/no answers

6(a) <u>Censored</u> dependent variable model (Expenditure data)

Censored Distribution of y

6.   (b) <u>Truncated</u> dependent variable model (wages for employed people

Truncated Distribution of y

7. <u>Endogenous</u> <u>selection</u> and switching models. e.g. estimating wage equations.

Discuss how to deal with the missing parts of the outcome variable.

Tentative Outline for Term 1 (6/6)

8. Estimating Treatment Effects – [program evaluation –

    identifying causal effects]

    How to identify the effect of a program/treatment on

    outcome of interest.

Module page

Module Webpage – EC910 & EC987:

www.warwick.ac.uk/go/ec910   **or**

www.warwick.ac.uk/go/ec987

TERM 1 - Delivery of material (1/2)

Module material will be delivered in person.

- Two lectures per week – **Recorded**;

- Classes - **Not recorded.**

Computer Exercises

Practical computer exercises will be an integral part of the module.

▶ Datasets & STATA - do files (some): will be provided;

▶ Complete each exercise **<u>before</u>** the class and take your outputs to the class meeting

Models estimated is not from a re-estimation of published papers, but imperfect models.

Assessments (1/2)

Module: part of the QM bundle

	EC910	EC987
Pre-sessional Maths & Stats	10%	20%
Project (group)	25%	-
Mid-Term Test in week 7	10%	20%
Exam	3-hour 55%	2-hour 60%

Project

Group Project (3 students):

Independent piece of short practical exercise.

References

Main Texts (one would do)

▶ A.C. Cameron & P.K. Trivedi.
Microeconometrics: Methods and Applications,
2005, Cambridge University Press. (electronic
version via library – Term 1 material)

▶ M. Verbeek, A Guide to Modern Econometrics,
5th edition, Wiley

Finally

Good luck

EC902/EC907: Quantitative Methods: Econometrics A

Manuel Bagues

Warwick University

October 6, 2023

`Lecture Slides`

Introduction

- Two tracks
  - Quantitative Methods A (EC902, more applied)
  - Quantitative Methods B (EC910, more mathematically oriented)
- EC902 module has a practical flavor, emphasis on intuitions and applications.
- If you have a good background in Econometrics and/or plan to do a PhD, EC910 is a better match
- Both EC902 and EC910 will give you a good training for the MSc dissertation
- Two different terms
  - 1st term: Microeconometrics (Manuel Bagues)
  - 2nd term: Time series (Subham Kailthya)

Structure of the first term

1. Introduction
   - The experimental ideal
   - Identification strategy
2. Empirical strategies
   - Randomized control trials (RCTs)
   - Identification based on observables
   - Instrumental variables (IV)
   - Differences-in-differences (DID)
   - Regression discontinuity design (RDD)
3. Inference (e.g. how to cluster standard errors)

Course material

- Main textbooks:
  - Cunningham, Scott (2021), *Causal Inference: The Mixtape*, Yale University Press. (free online version available here)
  - Angrist, J. and J.S. Pischke (2009), *Mostly Harmless Econometrics*, Princeton University Press. (ebook available following this link)
  - You may also want to read first the baby version: Angrist, J. and J.S. Pischke (2014), *Mastering Metrics: The Path from Cause to Effect*, Princeton University Press.
- And if you need to refresh some basic knowledge of econometrics:
  - Wooldridge, J. (2013), *Introductory Econometrics: A Modern Approach*. South-Western College Publishing.

Evaluation: EC902

- Coursework (45%)
  - Introductory Mathematics and Statistics: test 1 (4%) and test 2 (6%)
  - Midterm (10%): 1 hour test, Week 7.
  - Project (25%): 3,000 word
    - short practical exercise investigating some empirical question using the methods of the module
    - 3-member groups
- Exam (55%)
  - May

MSc Optional Module Meeting

EC990 - Topics in Applied Macroeconomics

Emil Kostadinov

Dita Eckardt

6 October 2023

EC990 - General Information

- ▶ Applied macroeconomic topics in *labour economics*

- ▶ Two separate parts with 4 weeks worth of lectures each

- ▶ Revision lecture in final week of the term

- ▶ Lectures will take place on Thursdays 1-3pm

- ▶ Assessment: Exam, two referee reports (one for each part)

Part I - Search theory and unemployment

1. Search theory of labour market

2. How are unemployment, vacancies, wages, job-finding probability, unemployment duration, etc, determined?

3. The unemployment rate – cyclicality and trends.

4. How do policies affect labour-market outcomes?

Part II - Inequalities, Skills and Worker Mobility

Topic 1 - Labour market inequalitites

- ▶ Particular focus on macro-level inequalities across firms

Topic 2 - Skill biased technological change

- ▶ Causes and consequences of "job polarisation"

Topic 3 - Worker self-selection and mobility

- ▶ The relationship between skills and occupational choice

EC924: Monetary Economics

Marija Vukotic
Alexander Karalis Isaac

October 2023

Aims and learning outcomes

- Aims
  - ► Understand replicate key basic findings in monetary economics
  - ► To enable you to undertake your own research
  - ► To support a future in macro-oriented research

- Learning outcomes
  - ► Maths skills; metric skills; introduction to Dynare; stata skills
  - ► Thorough understading of Basic New Keynesian model
  - ► Thorough knowledge of Structural VAR methods
  - ► Introduction to monetary policy design, solution methods, advanced topics

Outline of topics

- The Classical Monetary Model
    - Perfect competition and price flexibility
    - Money in the utility function
    - Money is super neutral

- The New Keynesian Model
    - Nominal rigidities and monopoly power
    - Creates a role for policy
    - Understand the model in detail, basis of modern macro, central banking
    - Derivation and properties of these models; solving and simulating model; evaluation of model

Outline of topics

- Optimal Policy
  - ▶ Policy in the BNKM: stabilising inflation
  - ▶ Policy with real rigidities: the monetary policy tradeoff
  - ▶ Policy with discretion and commitment
  - ▶ Applications to recent policy debates

- The data
  - ▶ Discover and understand key 'stylized facts
  - ▶ Identify shocks and model economic dynamics: VARS
  - ▶ Modern identification: SVARs, news shocks, financial data
  - ▶ Evaluating models, evlauating policy and transmission mechanisms

NB: These topics subject to staff and student interests, the speed of course etc.

Delivery and Assessment

- Lecturers: Marija Vukotic and Alex Karalis Isaac

- Example delivery: Synchronous lectures 1-2hrs per week; supporting video material for technical parts

- Assessment: 2x 15% term-time roblem sets and 70% final exam

- Pre-requisite: UG: intermediate macro and econometrics. PG: Econ Analysis: the step from macro B to EC924 smaller than step from A; Econometrics - B preferred.

- Lecture notes provided; useful text books inc. Walsh, C.E. *Monetary Economics*, Gali, J. *Monetary Policy* and Wickens, M. *Macroeconomic Theory*

EC994: Applications of Data Science

Nathan Canen
University of Warwick

MSc Optional Modules

October 5th, 2023

Background

(a) Word cloud for titles

Figure: Often Used Terms in Economics, Desai (2023)

Figure: Often Used Terms in Energy, Tyralis & Papacharalampous (2021)

(My) Definition of Data Science and Course Goals

1. Use large datasets to answer an empirically relevant question in a domain (Economics).

2. Coding ability to extract and manipulate (large) new datasets from nonstandard sources

3. Use of statistical methods appropriate for prediction and inference with large datasets

Hence, the **course goals** are for you to gain an introductory understanding over **collection and use of large datasets (with R), statistical methods appropriate for such data, and how to analyze them accordingly.**

ECON 994, Applications of Data Science: General Information

- **Instructor:** Nathan Canen
- **Schedule:** Tuesdays, 12:00-14:00 (Weeks 16-24), S0.18
              Tuesdays 14:00-15:00 (Weeks 19, 24), S0.20
- **Assessment (TBC):** Exam (100%), with suggested problem sets, class discussion as complements.
- **Main References (TBC):**
    1. Grolemund, G and Wickham, H. 2016. *R for Data Science.*
    2. James, G., Witten, D., Hastie, T., and Tibshirani, R. 2021 (2nd Ed.). *An Introduction to Statistical Learning with Applications in R.* Springer

For Some More Details...

Syllabus

The syllabus may cover, but is not limited to, the following areas:

- Data Science Use cases (e.g. in academia, business, public sector)
- Linear Methods
- Naïve Bayes
- General Linear models
- Model selection
- Bootstrapping
- Random trees, forests
- Dimensionality reduction (Principal Component, Clustering)
- Supervised learning methods
- Unsupervised learning
- Applications using statistical packages (such as R or others)

Context

Optional Module	L1P6 - Year 1, L1P7 - Year 1
Pre or Co-requisites	Probability and statistics as well as basic econometrics and maths (Algebra, Analysis). Programming skills are helpful but not a prerequisite.

Assessment

Assessment Method	Online Examination (100%)
Coursework Details	Online Examination (100%) ⓘ
Exam Timing	May

EC988: Investment and the Financial System

Dr Zeynep Ozde Kurter

Dr Deva Velivela

Department of Economics

University of Warwick

Module Lecturers …….

Module Leader

Dr Zeynep Ozde Kurter: (Week 5-10)

Zeynep.Kurter@warwick.ac.uk

Office: S1.117 Department of Economics
Advice and feedback hours: TBA

Dr Deva Velivela (Week 1-5)

Deva.Velivela@warwick.ac.uk

Office: S0.70 Department of Economics
Advice and feedback hours: TBA

Lectures and Seminars

- **Lectures:**
  - **Lectures on Mondays between 9:00 and 11:00 at FAB 0.08**

- **Seminars**

  No Seminar

MACRO-FINANCE COURSE

- This is a MACRO-FINANCE COURSE

Module Lecturer – Dr Deva Delivela

During the first part, which is taught by Dr Deva Delivela and runs from week 1 to week 5, we will cover the following topics:

The module will typically cover the following topics:

Firms' Investment Decisions – How do firms choose investment?

Investment - Lagrange Optimization: Adjustment Cost and Tobin's Q

Financial Constraints, Financial Market Imperfections, and Investment

Introduction to Bank runs – Diamond Dybvig model

Module Lecturer – Dr Zeynep Ozde Kurter

During the second part of the course, which is taught by me, and runs from week 5 to week 10, we will cover the following topics:

The module will typically cover the following topics:

- *Bonds/Yield Curves*

- *Credit Ratings*

- *Credit Default Swap Spreads (CDS) – Fixed Income Derivatives*

- *Stock Market and Investment (with more focussed on Capital Asset Pricing Model – CAPM)*

- *Systemic Risk in Financial Markets*

- *Investment and Uncertainty*

Assessment and Pre-requisites

Assessment:

Two hour written examination (100%)

Pre-requisites:

Basic knowledge of calculus and econometrics

Learning Outcomes

Learning outcomes:

By the end of the module students should be able to understand and learn:

- *The behaviour of firms in financial markets, firms' investment decisions analysis*

- *Changes in financial markets & financial crises*

- *How equity and derivative instruments work in financial markets*

- *You will learn how data can help assess the state of the economy and guide policy responses.*

- *The relevant literature explaining how theories have been tested and the results obtained*

"Why you should consider studying this course."

Real-world applications and helps to understand key features of financial industry

- *Developing critical thinking with economic theory and its applications to real-world problems*

- *Better preparing you for the business and finance world that awaits.*

- *Equipped with our Investment and the Financial System MSc, students should have the skills suitable for much wider opportunities in the finance sector globally.*

Reading Materials

Bank runs:

Book: Global Financial Systems: Stability and Risk by Joe Danielsson

Lagrange Optimization: Adjustment Cost and Tobin's Q:

Gregory, Chow: Dynamic Economics: Optimization by the Lagrange Method - Chapter 2.

Adda and Cooper: Dynamic Economics: Quantitative Methods and Applications - Chapter 1.

Steven M. Fazzari, R. Glenn Hubbard, Bruce C. Petersen, "Financing Constraints and Corporate Investment", Brookings Papers on Economic Activity.

Financial Constraints, Financial Market Imperfections, and Investment:

Gilchrist and Himmelberg, 1995," Evidence on the role of cashflow for investment", Journal of Monetary Economics.

Alternative Readings for Bank Runs:

Douglas W. Diamond and Philip H. Dybvig (1983), "Bank Runs, Deposit Insurance, and Liquidity," Journal of Political Economy, 91, 401-419;

Douglas W. Diamond (2007), "Banks and Liquidity Creation: A Simple Exposition of the Diamond-Dybvig Model," Federal Reserve Bank of Richmond Economic Quarterly, 93, 189-200

Reading Materials

Stock Market Bubbles and Investment

Campello and Graham 2007, "DO STOCK PRICES INFLUENCE CORPORATE DECISIONS? EVIDENCE FROM THE TECHNOLOGY BUBBLE", NBER.

Systemic Risk:

Chapter 1/Systemic Risk/Book: Global Financial Systems: Stability and Risk by **Joe Danielsson**

Uncertainty and Investment

Bloom, Nicolas (2014), Fluctuations in Uncertainty, Journal of Economic Perspectives.

Scott R. Baker, Nicholas Bloom, Steven J. Davis Author (2016), Measuring Economic Policy Uncertainty, The Quarterly Journal of Economics

Nick Bloom & Stephen Bond & John Van Reenen, 2007. "Uncertainty and Investment Dynamics"

https://www.policyuncertainty.com/

https://www.economicsobservatory.com/why-uncertainty-so-damaging-economy

I will indicate further additional readings/articles during the course.

Reading Materials

Alternative Readings for systemic risk:

V-LAB https://vlab.stern.nyu.edu/ ~you can find many articles and some important data here.

Tobias Adrian and Markus K. Brunnermeier, AMERICAN ECONOMIC REVIEW, VOL. 106, NO. 7, JULY 2016 (pp. 1705-41)

Brownlees, C. and Engle, R. F. (2016). SRISK: A Conditional Capital Shortfall Measure of Systemic Risk. The Review of Financial Studies, 30(1):48–79.

Acharya, V., Engle, R., and Richardson, M. (2012). Capital Shortfall: A New Approach to Ranking and Regulating Systemic Risks. American Economic Review, 102(3):59–64.

Acharya, V. V., Pedersen, L. H., Philippon, T., and Richardson, M. (2016). Measuring Systemic Risk. The Review of Financial Studies, 30(1):2–47.

Brunnermeier, Markus K., Simon Rother, and Isabel Schnabel. "Asset Price Bubbles and Systemic Risk". Review of Financial Studies 33 (2020): , 33, 4272-4317

Brunnermeier, Markus K, and Isabel Schnabel. "Bubbles and Central Banks: Historical Perspectives". Central Banks at a Crossroads: What Can We Learn from History? . Cambridge, UK: Cambridge University Press, 2016

Political Risk, Economic Risk, and Financial Risk Claude B. Erb, Campbell R. Harvey and Tadas E. Viskanta

EC981: Public Economics

Atisha Ghosh & Ben Lockwood

MSc Optional Module

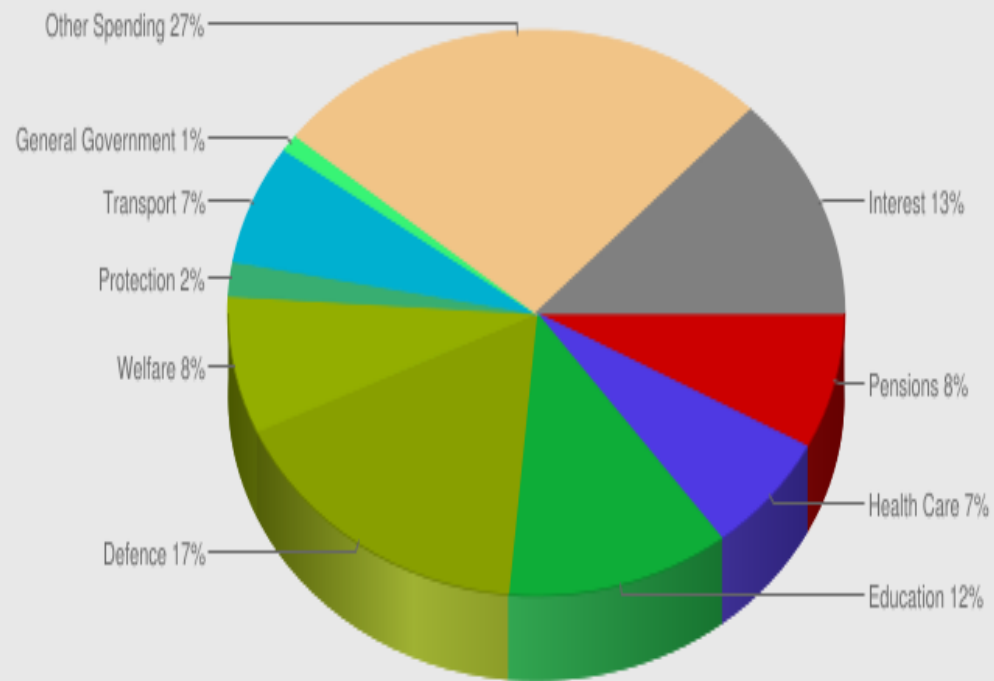**2023-24**

Why study Public Economics /Public Finance

- Study of the role of government in an economy

- There are certain goods and services for which citizens generally do not tend to contribute voluntarily or are inefficient to fund privately

- It deals with the manner in which government objectives are pursued through the means of expenditures, revenues, debt management, and related transactions

- Broadly, it tells us how decisions are reached in the public sector and how they are executed and controlled

Central government expenditure as share of GDP, 2020

Total central government expenditures (payments for operating activities of the government in providing goods and services), as share of GDP.

No data 0%   10%   15%   20%   25%   30%   35%   40%   45%   50%   >60%

Source: Data compiled from multiple sources by World Bank   OurWorldInData.org/public-spending/ · CC BY

Government Expenditure, by function, UK

Spending: Total Pie Chart for - FY 1950

Other Spending 27%
General Government 1%
Transport 7%
Protection 2%
Welfare 8%
Defence 17%
Interest 13%
Pensions 8%
Health Care 7%
Education 12%

Spending: Total Pie Chart for - FY 2020

Transport 4%
Protection 4%
Welfare 14%
Defence 6%
Education 11%
Health Care 19%
General Government 2%
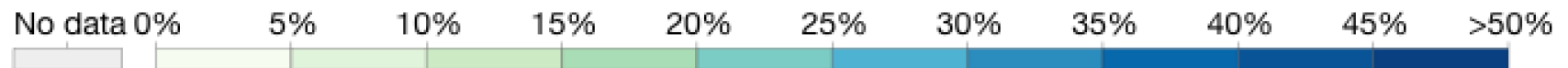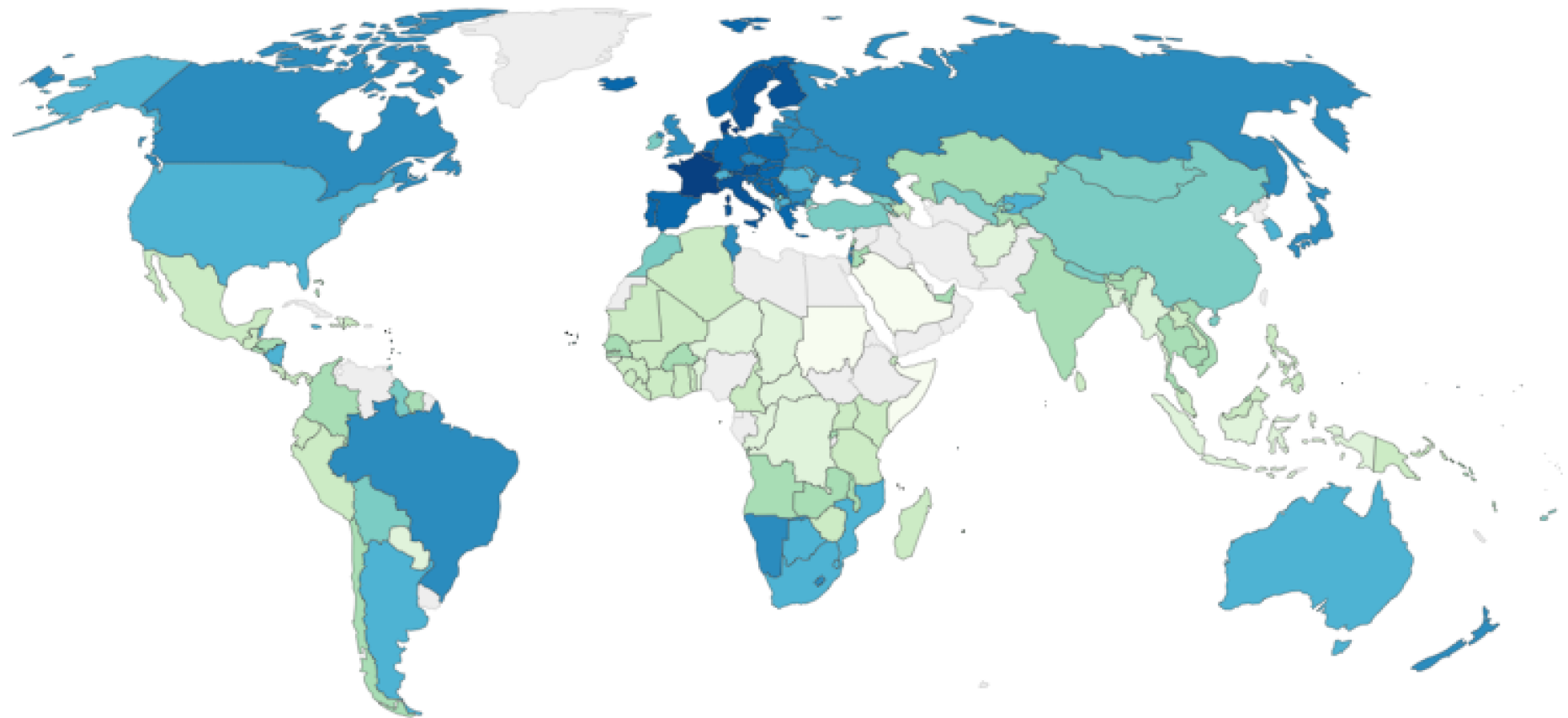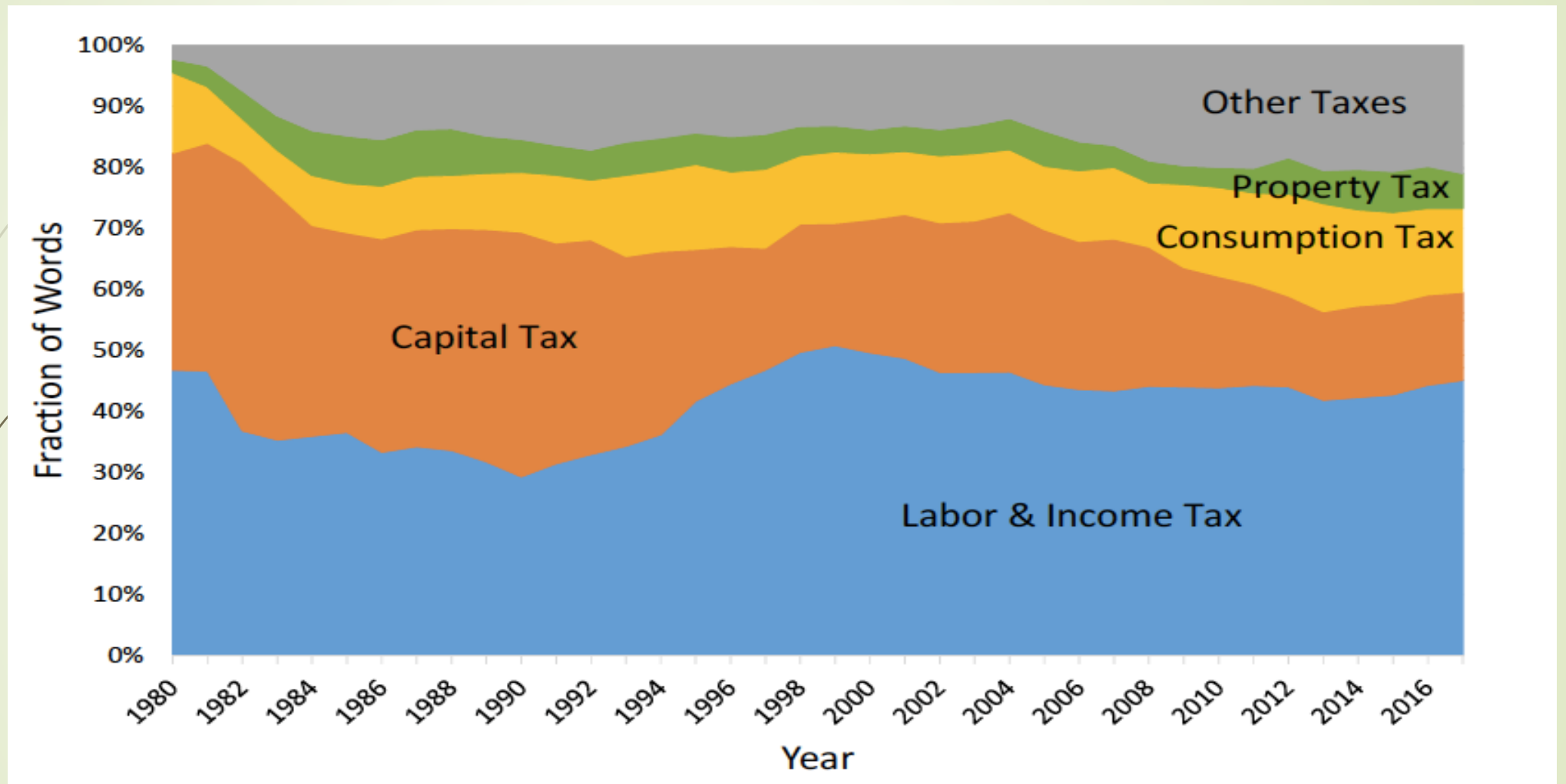Other Spending 17%
Interest 6%
Pensions 18%
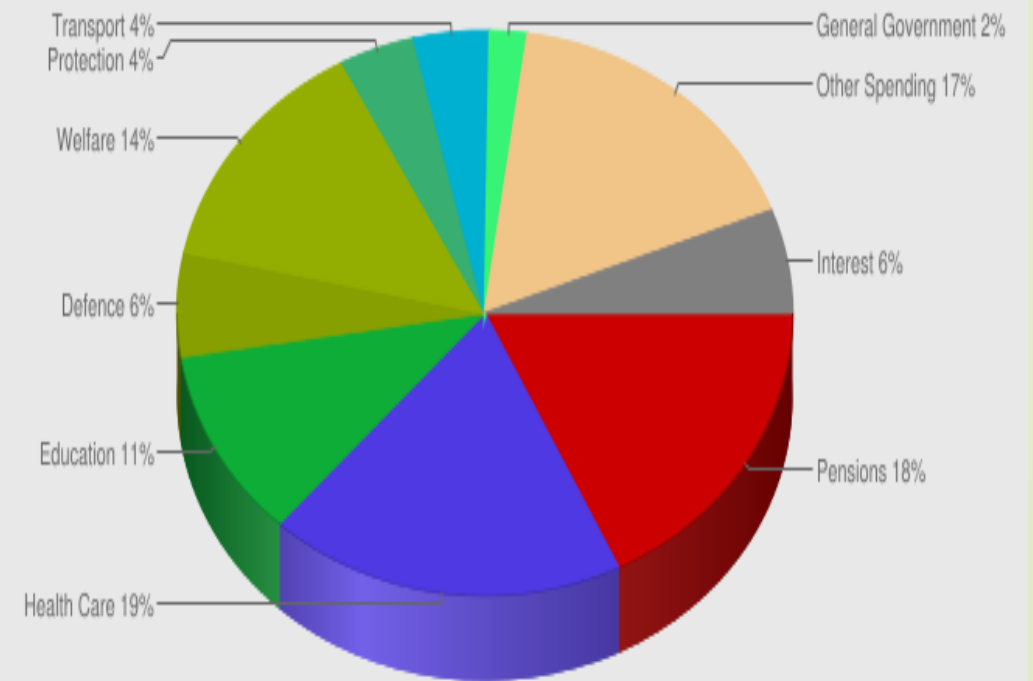
Total tax revenues, 2020

Total revenue from social contributions, direct and indirect taxes given as share of GDP.

Our World in Data

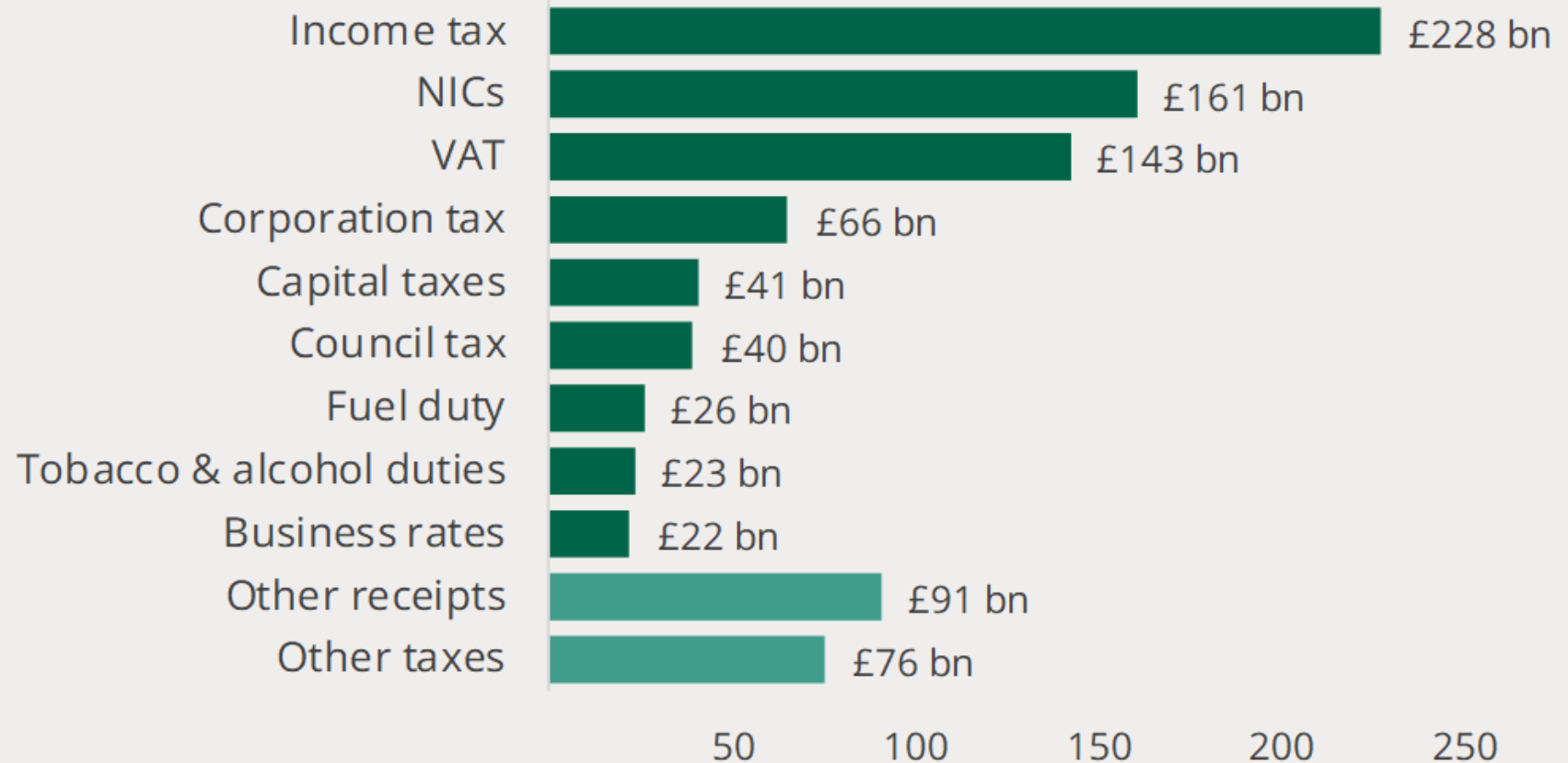No data   0%   5%   10%   15%   20%   25%   30%   35%   40%   45%   >50%

Different kinds of taxes

Source: Kleven (2018)

Public sector current receipts 2021/22: £916 billion

£ billion

Category	£ billion
Income tax	£228 bn
NICs	£161 bn
VAT	£143 bn
Corporation tax	£66 bn
Capital taxes	£41 bn
Council tax	£40 bn
Fuel duty	£26 bn
Tobacco & alcohol duties	£23 bn
Business rates	£22 bn
Other receipts	£91 bn
Other taxes	£76 bn

Source: Research briefing ''**Tax Statistics: an Overview''**, House of Commons Library, Tuesday 21st June, 2022

We talk less about taxes than we used to
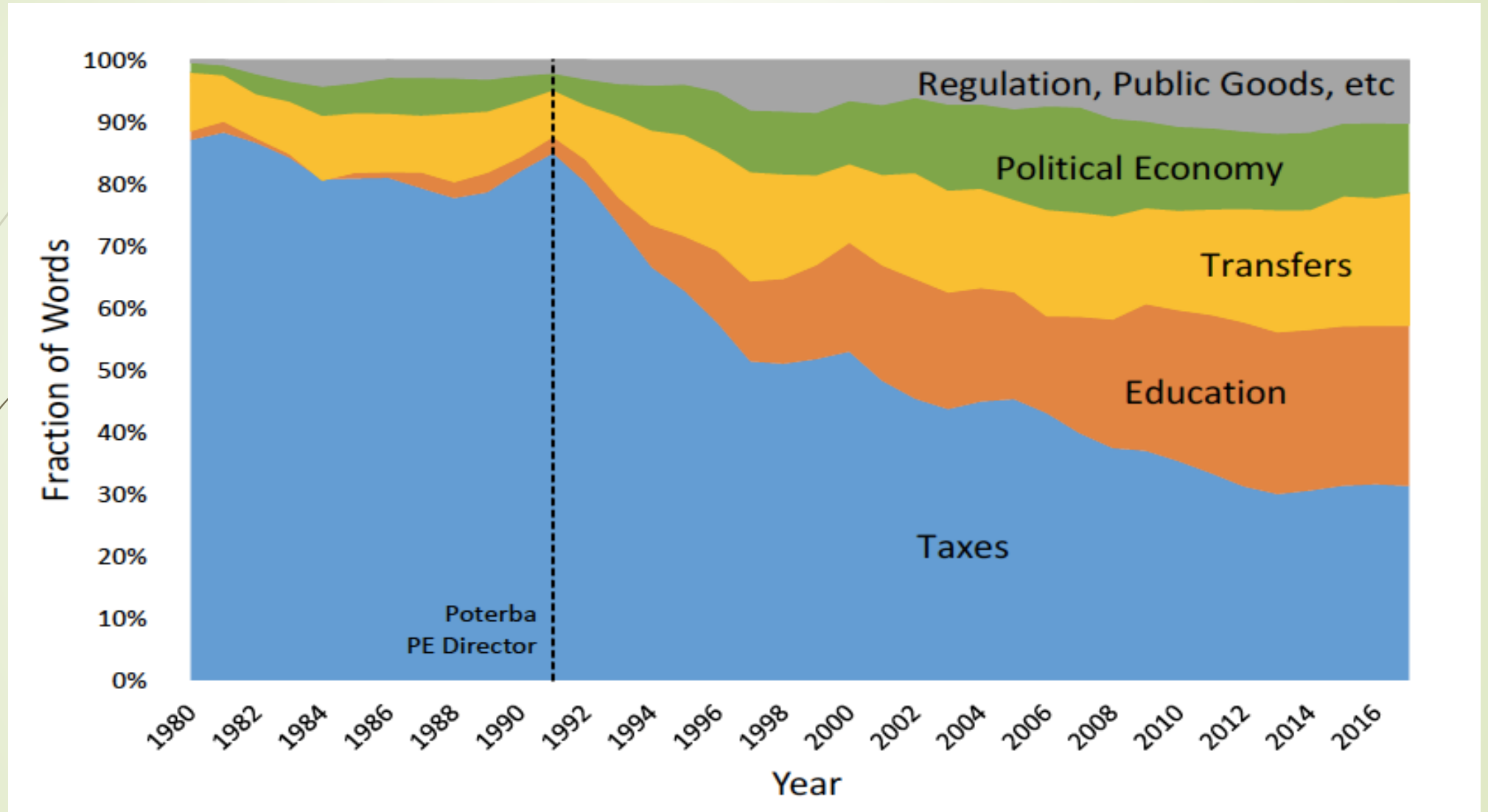
Source: Kleven (2018)

Brief Overview of the module

- Understand models of market failure and the necessity of government intervention

- Introducing application of analytical tools to key policy issues relating to various activities of the government

- Understand the importance of externalities and fiscal federalism

- Understand the principles of different kinds of taxations and their impact

Module requirements and assessments

Primarily, a module in the application of microeconomic theory

Main Textbooks:

- Jonathan Gruber, Public Finance and Public Policy. New York, Worth Publishers (6th edition)

- Jean Hindriks & Gareth Myles, Intermediate Public Economics, MIT Press (2nd edition)

Structure and Mode of Delivery

- 2 hours of lectures every week

- 2 hours of additional support classes during the term

Assessments

- ☐ Multiple Choice Test (10%)

- ☐ Policy Report (20%)

- ☐ Final Exam in Summer (70%)

EC 910. Econometrics B

Term 2

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Term1 vs Term 2

Term 2 will:

1. Assume mastering Term 1 concepts:

    OLS: Linear Regression Model

    Law of Large Numbers (Example: consistency of OLS)

    Central Limit Theorem (Example: asymptotic normality of OLS)

Term1 vs Term 2

2. Be more methodological than Term1 :

2SLS (Two-Stage Least Squares) $\Rightarrow$ Orthogonal Projections

Nonlinear/Dynamic settings $\Rightarrow$ No closed form formulas for computing estimators and their asymptotic normal distributions.

1st half of term 2 = GMM

GMM = Generalized Method of Moments

OLS estimator = solves sample counterparts of moment conditions (zero covariance between explanatory variables and error terms)

1st extension of OLS: Instrumental Variables (IV)

(zero covariance between IV and error terms) → Two Issues:

(i)   Choice of Valid IV

(ii) Overidentification → 2SLS and GMM (in case of heteroskedasticity)

1ˢᵗ half of term 2 = GMM

2ⁿᵈ extension of OLS : GMM with nonlinear moments:

- Invented for Financial Econometrics (Asset Pricing, GARCH: see nonlinear time series in 2ⁿᵈ half of term 2)

- Used nowadays for structural econometrics (micro, macro, finance) when likelihood function is not available.

2nd half of term 2 = Time Series

3 types of time series:

Type 1: Linear Univariate: MA, AR , ARMA, Unit Roots

Type 2: NonLinear Univariate: GARCH

Type 3: Linear Multivariate: VAR : Granger Causality, Cointegration

2nd half of term 2 = Time Series

R1. Multivariate Time Series = similar to Panel Data:

i = 1,2, …,n ; t = 1 ,2, …,T → BUT:

Panel Data = small T, large n

Time Series = small n , large T

R2. Inference = (Quasi) Maximum Likelihood but only asymptotic results (T→∞)

Delivery of Material

→ <u>WARNING</u> : Methodological concepts and reasoning (maths) = can be efficiently understood only by interaction with teachers (lectures, classes, office hours) and WRITING on your own

→ Do no rely only upon online (or pictures) material

→ Useful to keep a paper copy of lecture slides and to bring it at office hour

Content of Classes

1. Methodological exercise: good training for final exam

2. Practical computer exercise (datasets provided): good training for project and dissertation

Warning: Expected to complete each exercise before the class and outputs taken to the class meetings

Remark : Try to understand during the class/lecture

→ Do not wait for several weeks before starting to work on the material

→ Reading textbooks (references provided for each lecture) = useful but only as a complement to lectures material

Key Textbooks

$\rightarrow$ May be a clever personal investment:

Term 2, Part 1:

Hayashi, *Econometrics*, Princeton University Press

Term 2, Part 2:

J. Hamilton, *Time Series Analysis*, Princeton University Press

Ec989 Behavioural Economics: Overview

Lecturers:

I. Alexander Dobson (module leader)

II. Matthew Ridley

- An introduction to the wide spectrum of topics in Behavioural Economics

- Aim: complement benchmark microeconomic approaches by exploring the psychological foundations of economic behaviour and experience in explicit contrast to standard rational choice models

- A young and exciting field! And increasingly influential in academia and policymaking

Delivery: 9 x 2 hour lectures; 4 x bi-weekly seminars (details TBC)

Ec989 Behavioural Economics: 2022-23 Course Structure

1. Introduction

2. Prospect Theory and Reference-dependent Preferences

3. Present Bias and Procrastination

4. Social Preferences and Economic Behaviour

5. Behavioural Economics and Nudging

6. Non-Standard Beliefs

7. Subjective Well-being and Utility

8. Status and Social Comparison

9. Subjective Well-being, Macro and Policy

Ec989 Behavioural Economics: Assessment and Contact

Further Reading (no set textbook)

- Kahneman and Tversky (2000) Choice, Values and Frames – seminal collection of papers

- Wilkinson and Klaes (2012) An Introduction to Behavioural Economics

Assessment:

- 2 hour exam in May, 2 questions from 4 (each specific to one of the 8 topics)

Further details:

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Advice and Feedback hours: time TBC, sign-up https://warwick.ac.uk/fac/soc/economics/staff/acdobson/

EC9011 Economic Analysis: Microeconomics

Michela Redoano and Carlo Perroni

1. Recommended Reading

The following textbooks are useful for the course:

JR	G. Jehle and P. Reny, *Advanced Microeconomic Theory*, Prentice-Hall (3rd ed., 2011).
HR	H. Gravelle and R. Rees, *Microeconomics*, Longman, 1992 (2nd ed).
HV	H. Varian, *Microeconomic Analysis*, Norton, 1992 (3rd ed).
MW	A. Mas-Colell, M.D. Whinston and J.R. Green, *Microeconomic Theory*, 1995, OUP.
KT	D. Kahneman and A. Tversky (ed)*, Choices, Values and Frames,* Cambridge University Press, 2000.
CLR	C. Camerer, G. Loewenstein, and M. Rabin, *Advances in Behavioral Economics*, 2004, Princeton University Press.
SD	S. Dhami, *The Foundations of Behavioral Economic Analysis*, 2016.
RG	R. Gibbons, *A Primer in Game Theory*, Harvester Wheatsheaf, 1998.
OR	M.J. Osborne and A. Rubinstein, *A Course in Game Theory*, 1994. MIT Press.

All the first four textbooks are useful for this module and you should probably buy one of them. The module follows JR quite closely, and is the book we most strongly recommend. MW is rigorous and comprehensive, but not for those that dislike maths. At the other extreme is HR, which relies much more heavily on diagrams and intuition. The last five books are more specialised and will be used in only parts of the module. In addition to the reading below we will refer to articles that are relevant as we lecture. These articles will be uploaded to the module homepage.

The module is based on lecture notes which will be handed out during lectures, and will also be available at the module homepage as the term progresses.

2. Course Outline

1. CONSUMER BEHAVIOUR (Michela Redoano)

Preference and utility. Utility maximisation, demand, and indirect utility. The dual approach to consumer theory: expenditure minimization, the expenditure function. Parametric and

non-parametric tests of consumer theory. The Slutsky equation. Utility maximization with endowments, with applications to labour supply and savings.

Readings: HR   Ch   3, 4, 5.B-D, 15
                            HV   Ch   6, 7, 8, 9, 10, 12, 19,22
                            JR   Ch   1
                            MW   Ch   2, 2A-3D, 3E-3G,3I

Choi, S., Kariv, S., Müller, W., & Silverman, D. (2014). 'Who is (more) rational?.' *American Economic Review*, *104*(6), 1518-50.

Deaton, A.S. and J. Muellbauer (1980a), 'An almost ideal demand system', *American Economic Review,* 70, 312–336.

Varian, H. R. (1983). 'Non-parametric tests of consumer behaviour.' *The Review of Economic Studies*, *50*(1), 99-110.

2. BEHAVIORAL ECONOMICS: AN INTRODUCTION (Michela Redoano)

The behavioral economics critique of consumer theory: framing, mental accounting, reference-dependent utility, non-exponential discounting and self-control problems. Savings with non-exponential discounting. Consumer choice with endogenous reference points.

        Readings: KT   Ch   1,7,8,10, 12, 14
                      CLR   Ch   1,2,6,7
                      SD   Ch   1,2,3,4,9,10,11

3. CHOICE UNDER UNCERTAINTY   (Michela Redoano)

Expected utility theory, with applications to portfolio choice and insurance. Prospect theory and applications.

        Readings: HR   Ch   19, 20
                      HV   Ch   11
                      JR   Ch   2.4
                      MW   Ch   6

4. GENERAL EQUILIBRIUM (Michela Redoano)

General competitive equilibrium in an exchange economy, the first theorem of welfare economics.

| Readings: | MW | Ch | 15-17, 19 |
| | JR | Ch | 5.1, 5.2, 5.4 |

5. GAME THEORY: NORMAL FORM GAMES (Carlo Perroni)

Strategic-form games of complete information: dominance solvability, pure and mixed strategies, Nash equilibrium. Strategic-form games of incomplete information: Bayesian-Nash equilibrium. Applications.

Readings:	MW	Ch	7-8
	JR	Ch	7.1, 7.2
	RG	Ch	1, 3

6. AUCTIONS   (Carlo Perroni)

Sealed bid, English, Dutch Auctions. Revenue equivalence. Auction design in practice.

| Readings: | JR | Ch | 9.1, 9.2, 9.3 |
| | P. Klemperer, *Auctions: Theory and Practice*, Princeton University Press, 2004, especially chapters 1,4,6. | | |

7. GAME THEORY: EXTENSIVE FORM GAMES   (Carlo Perroni)

Extensive-form games of perfect information: backward induction. Extensive-form games of imperfect information: subgame perfection; sequential equilibrium. Repeated games and the Folk Theorem. Applications from amongst Oligopolistic Competition, Bargaining, and Signalling games.

Readings:	MW	Ch	7, 9
	JR	Ch	7.3
	RG	Ch	2, 4.1

8. PRINCIPAL-AGENT PROBLEMS   (Carlo Perroni)

The principal-agent problem: moral hazard, adverse selection

Readings:	MW	Ch	13-14
	JR	Ch	8
	RG	Ch	4.1
	HV	Ch	25.1-25.6

3. Classes

The students taking this course will be divided into several classes, and each class will meet in weeks 3 though 10 of this term. You need to sign up for a class on Tabula. A problem set will be uploaded to the module webpage at least a week before each class with questions for discussion in that class. You are expected to try to solve the problems <u>before</u> the class meets.