

**UNIVERSITY OF TORONTO  
DEPARTMENT OF ECONOMICS**

**ECONOMICS 2601H1S – ‘SPRING’ 2023**

**PUBLIC ECONOMICS II**

**Course Description:**

This Public Economics course has two main components.

First, it offers a comprehensive introduction to the economics of *externalities*, both theoretically and empirically. In doing so, it provides a natural foundation for the economic analysis of public policy, given that many of the most interesting and challenging economic issues we face involve externalities, in one way or other. (Here, think of issues related to global warming, for example.)

In line with this focus, the course will characterize externalities from a theoretical perspective, then consider how they can be measured, drawing out the practical implications that externalities have for the organization of economic activity. We will also cover topics related to these broad considerations: public goods theory, the theory and empirics of local public goods provision (especially, education), and environmental regulation. Along the way, we will consider issues relating to equity, or rather, *inequity*: they are inescapable.

Second, having cultivated the perspective of a Public Economist, we will turn our attention to (a subset of the) pressing issues of our time, and the way economic analysis can help address these. Here, we will be paying particular attention to what has been termed “*the climate crisis*” and a *biodiversity crisis* that is accompanying it. The economics of these issues is evolving rapidly: we will endeavour to figure out how to contribute, academically speaking. (Doing so will entail identifying smaller, more micro aspects of these global crises, in line with the microeconomic emphasis of this course.)

**Course Goals:**

The course has **four goals**: (i) to familiarize you with some basic theory that students of Public Economics should know; (ii) to acquaint you with relevant empirical methods in applied research, including the way that theory and empirics can be fruitfully combined in the form of a *structural* model; (iii) to give you experience critiquing existing research; (iv) to introduce you to some of the interesting work in the field, with a view to identifying promising areas for new academic research.

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I will use Quercus to post relevant material.

**Lectures:**

Tuesday 5:10PM – 7:00PM+ in GE106.

Office hours will be held directly after class (or email me to fix a time).

**Grading:**

Final Examination	60%
Short Homework Assignments (3)	9%
Referee Reports (2)	15%
Class Participation	16%

The final examination for the course will take place sometime in early/mid-April. It will be based heavily on the material we cover in the course, including the papers discussed in class (see below). In preparation for the final, I will post sample problems on Quercus, to give you a feel for the types of question that may appear.

There will be three short homework assignments, each worth 3 percent of the overall grade. I will give these out during class: they will be due back the following week. Their purpose is to get you to engage with the material being covered at that stage, and allow me to see how you are doing. (There will be some purely ‘bonus’ assignments too, for students who wish to score in excess of 100 percent!)

We will spend an increasing amount of time as the course progresses discussing interesting or important (or both) papers in the field, some of which are listed in the Course Outline below. I will distribute a set of questions related to each of these papers beforehand to provide a basis for class discussion. Please read these papers carefully, and work through the corresponding questions. As incentives for doing so, note that some of these questions will appear on the final exam, and the “Class Participation” component of the overall grade will be based in part on your contribution to the class discussion.

“Class Participation” will have other aspects also. These include quick micro-assignments (worth one percent of the overall grade) and mini-presentations based on assigned questions from the readings. Aside: when students have done the mini-presentations in the past, they have typically been *excellent*.

To ensure that your critiquing skills are on track, I will be assigning two referee reports for you to write. One of these will be handed out in mid-February; you will have a couple of weeks to work on it. The second will be assigned in March and will be due on or before the last day of class. Together, the assignments are worth 15 percent of the total grade: 5 percent for the first and 10 percent for the second.

Research in Public Economics is a key focus of the course. (Let’s note that original, high-quality research is a scarce, and highly prized, commodity.) In line with that, there is a research proposal/paper. It is not optional for PhDs, optional for MA students,. For the

former, the paper accounts for 34 percent of the overall grade, and the other course elements above will be weighted 66 percent. (For the MAs choosing this option, it is worth 20 percent of the overall grade, and the above components are weighted 80 percent.) The paper is intended for students who wish to get to grips with a strand of literature in Public Economics, to think seriously about it, and how to improve it. (Research focusing on some aspect of the climate crisis or the biodiversity crisis would be two *very* good places to start.)

For PhD students, a worthwhile research paper will identify an interesting research topic in the field, pose a clear research question, demonstrate that the question remains unanswered, and propose a sensible way of answering it. PhD students should speak to me about possible ideas for their proposed project *early* in the course, sooner the better.

(MA students wishing to pursue the paper option should also have a word with me early on. For MAs, an informed and up-to-date survey of the relevant literature focused on an interesting question could work well, but it is essential to get clearance from me.)

### **Textbooks:**

The lectures are intended to be reasonably self-contained. That said, for the first part of the course, I will refer (in passing) to sections from several sources:

Laffont, Jean-Jacques, *Fundamentals of Public Economics*, MIT Press, 1988. (This is a great, concise book, by someone with a deep understanding of the fundamentals.)

Cornes, Richard and Todd Sandler, *The Theory of Externalities, Public Goods and Club Goods*, Second Edition, Cambridge, 1996.

Mas-Colell *et al.* Chapter 11 is also a valuable resource, as are other parts of this very comprehensive book. Budding microeconomists should read, and study, “Mas-Colell” a lot. (Varian’s graduate *Microeconomic Analysis* book offers a concise treatment of several of the same topics. We will also refer to Varian, especially at the front end. As an additional resource, the Jehle/Reny *Advanced Microeconomic Theory* book is excellent.)

For econometric background,

Wooldridge, Jeffrey M., *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2002 (or more recent)

is an excellent reference. I would recommend that students interested in carrying out empirical work in economics buy a copy. (Wooldridge also has an introductory text that supplies lots of intuition, developed more formally in the graduate book listed above. Both books are worth owning, even though they are not cheap.)

I’d also recommend reading a book that addresses how to write well. Why? At some level, economics is a persuasive subject: in economics, and in professional life more generally, a premium attaches to being able to write clearly and convincingly. You should therefore practise, and pay lots of attention to, the art and science of writing.

Stephen Pinker's *The Sense of Style* offers a fascinating treatment of the art, from a 'neuroscience' perspective. It is worth thinking about what he has to say about the "classic style."

The *Economist* magazine is nothing short of essential reading for an applied economist who wishes to be – and remain – informed. (I find *The New York Times* and *The Guardian* have merit also.)

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### Graduate Public Economics

#### COURSE OUTLINE (briefly)

The Lectures will cover the topics listed below. [Note: We might not get right to the bottom of the list, the order is not strict, and additional papers will certainly be added as we proceed...]

Starred (\*) readings are recommended, providing useful background material. We will **discuss** readings marked with a **D** in class; please read them prior to the class discussion. For each of these, I will make a set of questions available beforehand to provide a basis for that.

All the ‘D’ readings and all the starred readings will be made available.

*Topic 1:*        **Preliminaries: Welfare Theorems**

\*Laffont, Introduction.

\*Cornes and Sandler, Chapter 2.

\*Varian, Hal R. (1992), *Microeconomic Analysis*, 3<sup>rd</sup> Edition, Norton: Chapter 17 (and for a more general coverage including firms, see Chapter 18). (Mas-Colell *et al.* Chapters 10 and 16 are excellent also.)

*Topic 2:*        **Externalities - Theory**

Characterization of Externalities

\*Laffont, Chapter 1.

\*Cornes and Sandler, Chapter 3.

\*Mas-Colell *et al.* Chapter 11.

Responses to Externalities

\*Cornes and Sandler, Chapter 4.

\*Mas-Colell *et al.* Chapter 11.

**D [To challenge partial equilibrium intuitions (about Pigouvia taxation)...]** Chu, C.Y. Cyrus and C. Wang (1998), “Economy of Specialization and Diseconomy of Externalities,” *Journal of Public Economics*, **69**: 249-61.

**D [In a sense, an application of Pigouvian taxation...]** Kandel, Eugene and Edward P. Lazear (1992), “Peer Pressure and Partnerships,” *Journal of Political Economy*, **100**(4): 801-817.

*Topic 3:*        **Measuring Externalities - Empirics**

Peer Effects in ‘Production’

**D [An introduction to (i) instrumental variables, and (ii) econometric models...]** Evans, William, Wallace Oates, and Robert Schwab (1992), “Measuring Peer Group Effects: A Study of Teenage Behavior,” *Journal of Political Economy*, **100**: 966-991.

\*Mas, Alexandre, and Enrico Moretti (2009), "Peers at Work," *American Economic Review*, **99**(1): 112-45.

#### Neighborhood Effects

**D [An introduction to CES, a useful technology, and its use in an analytical exercise...]** Borjas, George J. (1992), "Ethnic Capital and Intergenerational Mobility," *Quarterly Journal of Economics*, February: 123-50.

**D [How to write a great empirical paper, using the same data as everyone else!]** Bertrand, Marianne, Erzo Luttmer, and Sendhil Mullainathan (2000), "Network Effects and Welfare Cultures," *Quarterly Journal of Economics*, August.

\*Sethi, Rajiv and Rohini Somanathan (2004), "Inequality and Segregation," *Journal of Political Economy*, **112**(6), 1296-1321.

#### Identification

\*Angrist, Joshua D. and Alan B. Krueger (2001), "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments," Princeton University Working Paper #455 (<http://www.irs.princeton.edu>).

**D [Essential reading for all applied economists...]** Deaton, Angus (2010), "Instruments, Randomization, and Learning about Development," *Journal of Economic Literature* **48**(2): 424-455.

\*Heckman, James J. (2010), "Building Bridges between Structural and Program Evaluation Approaches to Evaluating Policy," *Journal of Economic Literature* **48**(2): 356-398.

#### Topic 4: **Public Goods Theory**

**D [All-time classic paper, short and sweet!]** Samuelson, Paul (1954), "The Pure Theory of Public Expenditures," *Review of Economics and Statistics*, **36**: 387-9.

\*Atkinson, Anthony B. and Joseph E. Stiglitz (1980), *Lectures on Public Economics*, Chapter 16, New York: McGraw-Hill.

#### Topic 5: **Club Theory, Local Public Goods, and the Tiebout Hypothesis**

\*Atkinson, Anthony B. and Joseph E. Stiglitz (1980), *Lectures on Public Economics*, Chapter 17, New York: McGraw-Hill.

\*Rubinfeld, Daniel (1987), "The Economics of the Local Public Sector," *Handbook of Public Economics*, Vol. II, eds. by A. Auerbach and M. Feldstein, Elsevier, North Holland. (I don't think there is a better introduction to the basic theory, even today.)

Benabou, Rolando (1993), "Workings of a City," *Quarterly Journal of Economics*, August: 619-652. (This is a brilliant paper, way ahead of its time.)

#### Topic 6: **Valuing Local Public Goods**

D Black, Sandra E. (1999), “Do Better Schools Matter? Parental Valuation of Elementary Education,” *Quarterly Journal of Economics*, May: 577-599.

\*Bayer, Patrick, Fernando Ferreira, and Robert McMillan (2007), “A Unified Framework for Measuring Preferences for Schools and Neighborhoods,” *Journal of Political Economy*, **115**(4): 588-638.

Topic 7: **Competition and the Provision of Public Goods**

Theory

D Epple, Dennis, and Alan Zelenitz (1981), “The Implications of Competition among Jurisdictions: Does Tiebout Need Politics?” *Journal of Political Economy* **89**(6): 1197-1217.

Empirics

\* Hoxby, Caroline Minter (2000), “Does Competition Among Public Schools Benefit Students and Taxpayers?” *American Economic Review* **90**(5): 1209-1238.

Empirics: Estimating Equilibrium Models

Epple and Sieg (1999), and more...

Topic 8: **Education**

The Technology

D Shaikh, Hammad (2021), “Improving Online Learning Through Course Design: A Microeconomic Approach.”

\*Todd, Petra E. and Kenneth I. Wolpin (2003), “On the Specification and Estimation of the Production Function for Cognitive Achievement,” *Economic Journal*, **113**: F3-F33.

Class Size

Hanushek (1986), Krueger (1999), Krueger and Whitmore (2001), Angrist and Lavy (1999), Hoxby (2001), Gilraine (2019), and more

Teacher Effects

Chetty *et al.* (2014a,b), Rivkin *et al.* (2005), GGM (2022), and more

Incentives

\* Macartney (2014)

Topic 9: **Environmental Issues**

Henderson (1996), Greenstone (2003), \*Mueller, Mendelsohn and Nordhaus (2011), Boskovic (2015), etc.

Topic 10: **Climate “Change”**

D Stern (2006), \*Nordhaus (2007), \*Weitzman (2007, etc.), etc.

Topics 11+: **Deforestation, Species Preservation, Green Accounting, Incentives for Green Innovation, etc.**

D [Perhaps the best for last...] Dasgupta (2021)