### ADVANCED PRICE THEORY AND MARKET STRUCTURES ECON 4527 Glen Weyl

#### **ESCUELA DE VERANO 2012**

**Fechas:** 9 al 23 de julio **Horario:** 2:00 a 5:00 pm. **Salón:** G-101

Universidad de

**J**los Andes

Facultad de Economía

Each lecture includes required readings and references; references are typically more dificult than the required readings and may be substituted by students interested in a more detailed treatment. Readings are drawn from a variety of sources: books, articles and even some online sources. The readings assume you have a basic knowledge (at the level of an intermediate microeconomics textbook like Varian's Intermediate Microeconomics or a bit higher) of the relevant topics and other basic price theory concepts like demand theory. If you don't have this for any of the topics, please read the relevant sections of such a textbook before completing the readings. Readings from proprietary books will be available on the course website at

http://economia.uniandes.edu.co/programas/Escuela de verano/Cursos/ Teoria\_Avanzada\_de\_Precios\_ y\_Estructuras\_de\_Mercado

Course notes are available on my webpage, http://www.glenweyl.com/teaching.htm.

A separate, extended reading list is available for students interested in digging deeper. This includes, for each lecture, readings that supply greater technical depth, empirical and policy applications, historical references about the origins of the concepts taught in class, contrasting/alternative perspectives on the issues considered, related current events and related readings from the humanities (primarily literature and philosophy).

### Lecture 1: Rationality and the Foundations of Economics (July 9)

In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satis\_ed, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast Map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.

- Jorge Luis Borges, "On Exactitude in Science"

### Required

- 1. "Occupational Licensure" by Milton Friedman
- 2. "The `Coroboration' of Theories" by Hilary Putnam
- 3. "The Economic Approach to Human Behavior" by Gary S. Becker
- 4. "The Internal Consistency of Choice by Amartya K. Sen (Section 3)
- 5. "Risk-Aversion and Expected Utility Theory" by Matthew Rabin
- 6. "Subjective Well-Being, Income, Economic Development and Growth" by Daniel W. Sacks et al.

- Capitalism and Freedom by Milton Friedman
- The Structure of Scienti\_c Revolutions by Thomas S. Kuhn (substitutes for the Putnam piece)
- Notes on the Theory of Choice by David M. Kreps
- Reasons and Persons by Derek Parfit
- On What Matters by Derek Parfit
- "Decision Theory without Logical Omniscience" by Barton Lipman (Section 1)
- "The Ambiguity Aversion Literature" by Nabil Al-Najjar and Jonathan Weinstein

### Lecture 2: Supply (July 10)

### Required

- 1. "The Social Responsibility of Business is to Increase Pro\_ts" by Milton Friedman
- 2. "A Survey of Corporate Governance" by Andrei Shleifer and Robert Vishny
- 3. Course note "Durable and Storable Factors"
- 4. Lectures 16-17 from Gary S. Becker's Economic Theory
- 5. "Power Laws in Economics and Finance" by Xavier Gabaix
- 6. "Cattle Cycles" by Sherwin Rosen et al.

- On Time by Peter Diamond (substitutes for Becker Lecture 17)
- "The Economics of Superstars" by Sherwin Rosen (complements Gabaix)
- "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity"
- by Mark J. Melitz (complements Becker Lecture 16)
- "A Simple Model of Demand Anticipation" by Igal Hendel and Aviv Nevo
- "Market Structure and Productivity" by Chad Syverson
- "Does Management Matter? Evidence from India" by Nicholas Bloom et al.

# Lecture 3: Equilibrium (July 11)

### Required

- 1. Course note \The Correspondence Principle"
- 2. "Walrasian Equilibrium in Large, Quasilinear Markets" by Eduardo M. Azevedo et al.
- 3. "The Use of Knowledge in Society" by F. A. Hayek
- 4. "Consumer's Surplus without Apology" by Robert Willig
- 5. "The Combinatorial Assignment Problem" by Eric Budish (Section I)
- 6. "A Supply and Demand Framework for Two-Sided Matching Markets" by Eduardo M. Azevedo and Jacob D. Leshno (Section 1)
- 7. On Liberty by John Stuart Mill, Chapter 3
- 8. "Railroads of the Raj" by Dave Donaldson

- "The Stability of Equilibrium" by Paul Samuelson
- "The Multi-unit Assignment Problem" by Eric Budish and Estelle Cantillon (complements Budish)
- "Permanent Income Hypothesis and Short-Run Price Stability" by Truman Bewley (complements Willig)
- "On the (Ir)Relevance of Distribution and Labor Supply Distortion to Government Policy" by Louis Kaplow
- "Protection and Real Wages" by Wolfgag F. Stolper and Paul A. Samuelson
- "Scale Economies, Product Di\_erentiation and the Patterns of Trade" by Paul Krugman
- "Dynamics in General Equilibrium Theory" by Stephen Smale
- "Technology, Geography and Trade" by Jonathan Eaton and Sam Kortum
- Sovereign Virtue by Ronald Dworkin (complements Budish)

# Lecture 4: Externalities (July 12)

### Required

- 1. "An Economic Theory of Tort Law" by Robert Cooter and Thomas Ulen
- 2. "A Reduced Form Approach to Behavioral Public Finance" by Sendhil Mullainathan et al.
- 3. Executive summary of the "Stern Review on the Economics of Climate Change"
- 4. "Contingent Valuation" by Peter Diamond and Jerry Hausman
- 5. "Expected Externalities and E\_ciency" by Richard Cornes and Todd Sandler
- 6. "The Value of Risks to Life and Health" by W. Kip Viscusi
- 7. Course note "Prices vs. Quantities"

- "Gasoline Prices, Fuel Economy, and the Energy Paradox" by Hunt Allcott and Wozny
- "Prices vs. Quantities" by Martin Weitzman (substitutes for course note)
- "Property Rules v. Liability Rules" by Louis Kaplow and Steven Shavell (substitutes for Cooter and Ulen)
- "Information and the Coase Theorem" by Joseph Farrell
- "A Price Theory of Multi-Sided Platforms" by E. Glen Weyl
- "The Property Rights Doctrine and Demand Revelation under Incomplete Information" by Kenneth J. Arrow (substitutes for Cornes and Sandler)
- "Is There a Role for Bene\_t-Cost Analysis in Environmental, Health and Safety Regulation?" by Kenneth J. Arrow et al.
- Using Surveys to Value Public Goods: The Contingent Valuation Method by R. Cameron Mitchell and Richard T. Carson (substitutes for Diamond and Hausman)
- "Characterization of Satisfactory Mechanisms for the Revelation of Preferences for Public Godos" by Jerry Green and Jean-Jacques Laffont

### Lecture 5: Monopoly and its Regulation (July 13)

(W)e may prepare the way for using, as we go, illustrations drawn from the incidence of taxation to throw side-lights on the problem of value. For indeed a great part of economic science is occupied with the di\_usion throughout the community of economic changes which primarily a\_ect some particular branch of production or consumption; and there is scarcely any economic principle which cannot be aptly illustrated by a discussion of the shifting of the e\_ects of some tax...

-Alfred Marshall, Principles of Economics

### Required

- 1. "Pass-Through as an Economic Tool" by E. Glen Weyl and Michal Fabinger
- 2. Learning from Seller Experiments in Online Auctions" by Liran Einav et al. (Section 1 and Subsubsection 3.2.1)
- 3. Chapter 1 from Jean-Jacques La\_ont and Jean Tirole's A Theory of Incentives in Procurement and Regulation
- 4. "Selection in Insurance Markets" by Liran Einav and Amy Finkelstein
- 5. "Private Information and Insurance Rejections" by Nathaniel Hendren

- "Beyond Testing" by Liran Einav et al.
- "Monopoly and Resource Allocation" by Arnold Harberger
- "Optimal Pricing Mechanisms with Unknown Demand" by Ilya Segal
- "Teaching the Lerner Rule with Uncertainty" by Michael Salinger
- "The Economic E\_ect of Regulation" by Paul L. Joskow and Nancy L. Rose
- "Estimating the Residual Demand Curve Facing a Single Firm" by Jonathan B. Baker and Timothy F. Bresnahan
- "Estimating Cost Function Parameters Without Using Cost Data: Illustrated Methodology" by James N. Rosse

### Lecture 6: Product Design and Pricing (July 16)

David Ben-Gurion dies and, for his service to the Jewish people, receives from God a choice of where to spend eternity. He requests to see each option before deciding. First he is shown Hell which, full of decadent food, French wines and beautiful women, seems a merry way to spend the rest of time. Heaven, on the other hand, is an unending stream of presentations about the future of the state of Israel and the other eternal questions of the world. Having spent his life in contemplation on these topics, Smith decides he has earned a bit of relaxation in the afterlife and opts for Hell. Immediately he is thrown onto the rack, whipped, waterboarded and subjected to other \enhanced" methods of entertainment Astonished, he says, \I was just here a few minutes ago and things were so much nicer. What happened?" Lucifer replies, \Then you were a tourist."

-Classic Israeli joke

### Required

- 1. "Multidimensional Product Design" by Andr\_e Veiga and E. Glen Weyl
- 2. "The Simple Economics of Optimal Auctions" by Jeremy I. Bulow and John Roberts (Sections I-IV)
- 3. "Crime and Punishment" by Gary S. Becker (Section IV)
- 4. "What Drives Media Slant?" by Matthew Gentzkow and Jesse Shapiro
- 5. "Contract Pricing in Consumer Credit Markets" by Liran Einav et al.

- "Monopoly Price Discrimination and Demand Curvature" by Iñaki Aguirre et al.
- Nonlinear Pricing by Robert Wilson
- "Recent Developments in the Econoimcs of Price Discrimination" by Mark Armstrong
- "Price Discrimination in Broadway Theatre" by Phillip Leslie
- "A Rational Theory of the Size of Government" by Allan H. Meltzer and Scott F. Richard (complements Gentzkow and Shaprio)
- "An Economic Theory of Democracy" by Anthony Downs (substitutes for Metlzer and Richards
- "The Economic Analysis of Advertising" by Kyle Bagwell (complements Spence)
- "Imperfect Competition in Two-Sided Matching Markets" by Eduardo M. Azevedo
- "Exit, Voice and Loyalty" by Albert O. Hirschmann

### Lecture 7: Billateral Monopoly (July 17)

For if the legislature should appoint a pecuniary reward for the inventors of new machines, etc., they would hardly ever be so precisely proportional to the merit of the invention as this is. For here, if the invention be good and such as is pro\_table to mankind, he will probably make a fortune by it; but if it be of no value he also will reap no benefit.

- Adam Smith, Lectures on Jurisprudence

### Required

- 1. "The Simple Economics of Optimal Auctions" by Jeremy I. Bulow and John Roberts (Section VII)
- 2. "The Process of Creative Destruction" by Joseph Schumpeter
- 3. "Crime and Punishment" by Gary S. Becker
- 4. Course note "Intellectual Property"
- 5. "Intellectual Property" by Nancy Gallini and Suzanne Schotchmer
- 6. "Property Rights" by Ilya Segal and Michael Whinston
- 7. "Market Power Screens Willingness-to-Pay" by E. Glen Weyl and Jean Tirole

- "Strikes and Wages" by David Card
- "Regulating a Monopolist with Unknown Costs" by David P. Baron and Roger B. Myerson (substitutes for Bulow and Roberts)
- "Capitalism, Socialism and Democracy by Joseph Schumpeter (substitutes for Schumpeter)
- "Creating Markets for New Vaccines. Parts I and II" by Michael Kremer (complements lectura notes and Schumpeter)
- "The Patent-Antitrust Intersection" by Louis Kaplow
- "Optimal Patent Breadth and Length" by Richard Gilbert and Carl Shapiro (substitutes for lecture notes)
- "Patent Buyouts" by Michael Kremer
- "Empirical Calibration of Optimal Innovation Policy in Smartphone Application Markets" by William F. Weingarten (complements Weyl and Tirole)

### Lecture 8: Oligopoly (July 18)

People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

- Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations

#### Required

- 1. "A Theory of Oligopoly" by George J. Stigler
- 2. "The First-Order Approach to Merger Analysis" by Sonia Ja\_e and E. Glen Weyl
- 3. "The Oligopoly Solution Concept is Identi\_ed" by Timothy F. Bresnahan
- 4. "2010 United States Horizontal Merger Guidelines"
- 5. Subsection 5.4-5.5 of Jean Tirole's The Theory of Industrial Organization
- 6. "Entry and Competition in Concentrated Markets" by Timothy Bresnahan and Peter C. Reiss
- 8. "The Gains form Merger or Collusion in Product-Di\_erentiated Industries" by Jonathan B. Baker and Timothy F. Bresnahan

- "Equilibrium in Competitive Insurance Markets" by Michael Rothschild and Joseph E. Stiglitz
- "Multimarket Oligopoly" by Jeremy I. Bulow et al.
- "The Economics of Tacit Collusion" by Marc Ivalid et al. (substitutes for Stigler)
- "Conjectural Variations and Competition Policy" by RBB Economics
- "Duopoly Models with Consistent Conjectures" by Timothy F. Bresnahan
- "What Really Matters in Auction Design?" by Paul D. Klemperer
- "Of Unlimited Competition" by A.-Augustin Cournot, Chapter 8 of Researches into the Mathematical Principles of the Theory of Wealth.
- "Antitrust Evaluation of Horizontal Mergers" by Joseph Farrell and Carl Shapiro (substitutes for merger guidelines)

# Lecture 9: Inequality and Redistribution (July 19)

There, but for the grace of God, go I.

- John Bradford

### Required

- 1. Course note "Optimal Redistribution"
- 2. "Don't Eat Fortune's Cookie" by Michael Lewis
- 3. "Cardinal Utility inWelfare Economics and in the Theory of Risk-taking" by John C. Harsanyi
- 4. "The Case for Progressive Taxation" by Peter Diamond and Emmanuel Saez
- 5. "The Optimal Taxation of Height" by N. Gregory Mankiw and Matthew C. Weinzierl
- 6. "Top Incomes in the Long Run of History" by Anthony B. Atkinson et al.
- 7. "Progressive Estate Taxation" by Emmanuel Farhi and Ivan Werning
- 8. "Optimal Taxation in Theory and Practice" by Gregory N. Mankiw et al.
- 9. "The Elasticity of Taxable Income with Respect to Marginal Tax Rates" by Emmanuel Saez et al.

- "The Economics of `Tagging' as Applied to Optimal Income Tax, Welfare Programs and Manpower Planning" by George A. Akerlof (complements Mankiw and Weinzierl)
- "Using Elasticities to Derive Optimal Income Tax Rates" by Emmanuel Saez (substitutes for course note)
- "Fairness versus Welfare by Louis Kaplow and Steve Shavell (substitutes for Harsanyi)
- "A General Formula for the Optimal Level of Social Insurance" by Raj Chetty
- "De Gustibus non est Taxandum: Theory and Evidence on Preference Heterogeneity and Redistribution" by Benjamin Lockwood and Matthew C. Weinzierl
- "Taxing Leisure Complements" by Louis Kaplow
- "Taxation and the Allocation of Talent" by Charles Nathanson and E. Glen Weyl
- "Why do we Redistribute so Much but Tag so Little?" by Matthew C. Weinzierl
- Reasons and Persons by Derek Parfit

## Lecture 10: Public Goods and Social Choice (July 23)

The legitimate object of government, is to do for a community of people, whatever they need to have done, but can not do, at all, or can not, so well do, for themselves { in their separate, and individual capacities.

- Abraham Lincoln, Fragment on Government

### Required

- 1. "Asymmetric Information Bargaining Problems with Many Agents" by George J. Mailath and Andrew Postlewaite
- 2. "The Dual of Duopoly is Complementary Monopoly" by Hugo Sonnenschein
- 3. "Holdout in the Assembly of Complements" by Scott Duke Kominers and E. Glen Weyl
- 4. "Quadratic Vote Buying" by E. Glen Weyl
- 5. "Overcoming Incentive Constraints by Linking Decisions" by Matthew O. Jackson and Hugo F. Sonnenschein
- 6.. "Public-Good Provision in Large Economies" by Felix J. Bierbrauer and Martin F. Hellwig (Section 1)

- "Storable Votes" by Alessandra Casella (substitutes for Jackson and Sonnenschein)
- "Concordance Among Holdouts" by Scott Duke Kominers and E. Glen Weyl (substitutes for the Holdout reading)
- "Arrow's Theorem and the Gibbard-Satterthwaite Theorem: A Uni\_ed Approach" by Philip J. Reny
- "The Approximation of E\_cient Public Goods Mechanisms by Simple Voting Schemes" by John O. Ledyard and Thomas R. Palfrey
- Collective Choice and Social Welfare by Amartya K. Sen
- "Imperfect Personal Information and the Demand Revealing Process" by Jerry Green and Jean-Jacques Lffont
- Economists and Societies by Marion Fourcade
- "Cournot Equilibrium in Factor Markets" by Ted Bergstrom (substitutes for Sonnenschein)