Intro to Economic analysis

Alberto Bisin - NYU

1 Course Outline

1.1 General information

1.1.1 Location and times

- Course: Mondays and Wednesdays 11:00-12:15, Goddard Residence Hall, 80 Washington Square East, Room B.
- Labs: Wednesdays 2:00-3:15, Silver Center (Main Building), 100 Washington Sq. East, # 714; Fridays 11:00-12:15, Silver Center (Main Building), 100 Washington Sq. East, # 514.

1.1.2 Contact information

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- Matthew Embrey:
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1.1.3 Goal

- Introduction to Economic Analysis is the introductory course of the theory concentration major in Economics. It is intended for students who wish to begin their formal study of economic reasoning. Its goal is to develop concepts and analytical tools that economists use to understand general social and economic phenomena. As such it relies on a higher level of abstraction and focuses on the concepts and the techniques of economic analysis rather than on the understanding of specific economic problems or institutions. It is particularly well suited for those who are interested in pursuing careers or higher degrees in economics or in quantitative fields such as finance.
### 1.1.4 Readings

- A handout will be given for each class. Also, all the handouts are available for downloading in PDF format from my web page. Thus, you need a recent version of Adobe Acrobat Reader to read these files. If you do not have Acrobat Reader installed, you can download it from Adobe Home Page (www.adobe.com). If you already have Acrobat Reader installed, you can start the Adobe Viewer simply by clicking on the link to a file on my web page. Also, the following texts are very useful:
- Each class a specific references will be given. All the books are available at Bobst library (70 Washington Sq. South) and should be available at the NYU Book Center (18 Washington Pl.). Also, the books are available at any of the on-line booksellers. You can check (www.pricescan.com for the lowest price).

### 1.1.5 Office hours

- By appointment in my office (269 Mercer St., # 705). Feel free to call or e-mail me to set up an appointment. You can also e-mail any question, and I will try to respond promptly.

### 1.1.6 Mathematics

- How much math do we need? Economists very often express their ideas using mathematical concepts and mathematical models. Virtually, all the math we will use comes from high school algebra and geometry. In any case any mathematical concept or technique we use will be thoroughly explained. Still, more than a little brushing up might be helpful. It is useful, but not necessary, that you like doing math and formal reasoning. You may find the mathematical appendix in Varian (1999) and several chapters of Simon-Blume (1994) very useful.

### 1.1.7 Problem sets

- Each week a problem set will be assigned and will generally be due the first class the following week. The problem sets are meant to be learning tools but will be counted 25% of the course grade.
1.1.8 Exams

- The requirements for a grade in the class are as follows: There will be two mid-term exams and a final exam (each worth approximately 25% of the class grade). The exams will test your basic knowledge in the course material and the ability to apply this material to new problems.

1.2 Outline

- Introduction and motivation (September 3).
  - Economics is a broad-ranging discipline, both in scope and in the methods been used. We will introduce it by means of examples.

- Rationality, Preferences, and Choice (September 8, 10, and 15).
  - This section of the course introduces formally the rational agent paradigm which is the central tool of economic analysis. We will characterize what rationality implies regarding the economic agent’s preferences, and choice. Topics discussed include: completeness and transitivity of preference orderings; utility representation; utility maximization.

- We will have a review class on September 15 and the first midterm examination will be held on Wednesday, September 17.

- Markets and Exchange (September 22 and 24).
  - Here, we investigate the fundamental economic problem of allocation of commodities through competitive markets. What determines prices? Why is water cheap and gold expensive, even though water is necessary for life, hence more “valuable”? When is the allocation of commodities through competitive markets efficient? Topics discussed include: competitive equilibrium and the First theorem of welfare economics.

- Time and Uncertainty (September 29, October 1, and 6).
  - In this section, by using the techniques that we have already learned, we examine the consumer’s saving and consumption behavior over time, and the determinants of economic growth and development. We then deal with preferences and choice under uncertainty. Topics discussed include: Permanent Income Hypothesis, endogenous growth, expected utility, risk aversion, Akerlof’s market for lemons.
• Financial Markets and Arbitrage (October 8 and 13)
  
  – Here, we apply the previous analysis of competitive markets, exchange, and price determination to a specific set of markets: financial and monetary markets. Are stock prices "predictable"? Are arbitrage opportunities available in equilibrium? Topics include: Black and Scholes formula, no arbitrage theorem.

• Economics, Sociology and Political Science: Family, Crime, Voting (October 15 and 20)
  
  – In these classes we will apply the rational agent paradigm to topics and issues from other social sciences. Topics discussed include: fertility choice, Rotten Kid Theorem, the social multiplier, Condorcet’s Theorem, Median voter theorem.

• Economic Policy (October 22, 27, and 29)
  
  – This section will introduce the analysis of economic policy. Is economic policy effective? How should policy institution be designed to realize efficient outcomes? In particular, is it better to set rules for policy institutions to follow, or allow discretion? Topics discussed include: Monetary Neutrality, Ricardian Equivalence, Time-inconsistency of policy.

• The second midterm examination will be held on Monday, November 3.

• Game Theory (November 5, 10, 12, and 17).
  
  – Game theory is a natural generalization of the single decision-maker theory which deals with how a utility maximizer behave in a situation in which her payoff depends on the choices of another utility maximizer. Topics discussed include: Normal form games, Nash equilibrium in pure and mixed strategies, Extensive form games, Sub-game perfection.

• Norms, Cooperation, and bargaining (November 19 and 24)
  
  – In this section we will address, using the tool of game theory just developed, a set of questions which are fundamental for all social sciences and biology as well: How do norms of behavior emerge? How is it that non-altruistic agents (animals) cooperate? What is the outcome of a bargaining process? Topics discussed include: Folk Theorem, Evolutionary game theory, Rubinstein’s bargaining.
• Empirical Analysis (November 26 and December 1 and 3).
  
  – In this section we introduce some of the methods economists use to empirically test their theories and to measure (estimate) the relevant parameters values of their models. The success of specific models, forecasts of prices and quantities, and policy recommendations, ultimately are all based on empirical analysis. Topics discussed include: Regression analysis, Causality, Selection.

• We will have a review class on Monday December 8 and the final examination will be held during the university exam week.