Introduction to Urban Economics

EC 330, Set 01

Andrew Dickinson
Fall 2022

Prologue

Schedule

Today

- Welcome, check in, survey, and syllabus
- Introduction: *What is (urban) economics?*
- Toolkit: *What is a model?*

Upcoming

- EC201 review
- Principals of urban economics

Introduction: About me

Admin: Just call me **Andrew**

- Office: PLC 523, Office Hours: **TBD**, Email: **adickin3@uoregon.edu**

School:

- **Fourth year** PhD student researching:
  - Applied micro topics related to environmental economics
  - Causal inference, ML, and data science

Not school:

- Grew up in San Diego, CA
- I enjoy spending time outside and listening to good music 👇

Introduction: About you

I hope that you:

(i) Are an eager student ready to learn about urban economics

(ii) Have passed EC201 with at least **some recollection** of the material

(iii) Engage in class (ask lots of questions) and support your peers

(iv) Will read my syllabus (especially before sending me an email)

I want to discuss the following:

(i). Course policies

(ii). Grades and grading

Syllabus

Syllabus: Attendance

Attendance is "**mandatory**", though

- it does **not** impact your grade
- records will **not** be kept (though I have a good memory)
- lectures will **not** be recorded

Attendance is an efficient use of your time

- Mixture of **slide decks** and **in-class examples** on the board

Slide decks will be posted to the course page (https://ajdickinson/EC330F22) *sometime* after lecture[†]

Exams will be administered during class time

[†] This is the only course material that will not be posted to the Canvas page. Examples will not be posted

Syllabus: Grading

There are **500** points total. **Your grade will be determined by:**

- 45%: Final Exam: **225** pts
- 30%: Midterm Exam: **150** pts
- 25%: Problem sets: 25 pts each, **75** pts total
- 10%: Book Report: **50** pts

Q: Is there a curve?

A: Typically yes. At the end of the term the class will be curved

Syllabus: Grading

Caveat: Due to a curve, standing in this course will depend on your score relative to your peers--I may not be able to give you an accurate assessment of your grade

From the syllabus:

> Your grade will be determined relative to your peers, so during the course, I will not be able to tell you what your exact letter grade is at any point in time, because it depends on everyone's overall scores of the class.

Following department policies, for 300 and 400 level classes roughly 65% of the class will receive A's and B's.

Syllabus: Exams

Midterm: Wed, Nov 2 (in class)

Final: Wed, Dec 7 @ 14:45

Absolutely no makeups

Under **extraordinary circumstances** I will shift midterm weight to the final

- Entirely by my discretion
- Must contact me before the exam via email

Drop this course if you are unable to take the scheduled midterm

Syllabus: TotC

Required reading Triumph of the City by Ed. Glaeser.

Easy reading that is **suuuuper interesting**, covering many of the same topics that we will in class; building your intuition

Book Report: Due Sunday following the last day of class (Dec 4 @ 11:59p)

- Instructions and a rubric are posted on the course page + canvas soon
- Straight forward, easy points--so long as you read

Midterm and **final** will have questions connecting key topics in the books to topics in lecture

- If you read they should be easy; if you do not read they will be painful

Syllabus: Problem sets

There will be **4** problem sets throughout the term:

- Signal what to expect on the exams
- You must submit a **.pdf** document on Canvas
- The lowest scored problem set is dropped
- No late homework assignments will be accepted
- If you scan is bad, or your handwriting illegible, you get **nothing**

The problem sets are your **best study tool** for the **exams**. Do all of them!

General tips:

- Start them **early**
- Bring your work to class and ask for help
- Go to my office hour

Syllabus: Canvas + course site

I use Canvas in conjunction to a simple course website hosted on GitHub

Canvas:

- **All** assignments submissions and announcements

Course site:

- Light, public page with links to all course material
- Do not need an account
- I use it out of convenience and other personal reasons
- **ONLY** thing on the page that will not be on Canvas is the slide decks

What is economics?

What is economics?

The Wealth of Nations *by* Adam Smith (1776)

Seminal work on economics, four volumes; comparable to the works of:

- Newton's *Principia Mathematica*
- Darwin's *Origin of Species*

Wealth ("weal")

- Money and other assets
- But also well-being, welfare

Archaic use of "wealth"

- Economics is not merely the study of how to get rich
- Please don't ask me about the stock market

What is economics?

In a nutshell:

> **Economics is the study of how people make allocation decisions to maximize their happiness when facing limited resources (budgets)**

There is never **enough resources**; we call this **scarcity**

Scarcity gives us constraints to which we do the best *we can*

Other examples of scarcity

- Time
- Health
- Land
- Natural resources

Economics is very general; the market lens can be used across many topics

Intro to Urban Economics

Intro to Urban Economics

A mash-up between **economics** and **geography**

Economics: Study of how people and firms allocate scarce resources.

- Individual utility, markets, trade, welfare

Geography: Studies effects of location and the environment

- Hydrology, climate, resources, etc.

Economics + **Geography** : Study of how individuals and firms choose utility and profit maximizing locations, and consequences of these decisions

Intro to Urban Economics

We will study how the **distribution** of people & firms across space impacts:

- City growth 🏙
- Crime 👮‍♀️
- The environment ♻️
- Income growth & inequality 📈
- Education 🏫
- Employment + wages 🤑

We will also examine the efficacy of various **place - based policies**

- Minimum Wage
- Rent Control
- Land Use Restrictions
- Sustainability

What are the economic drivers behind urban development?

This Course

This class has two fairly distinct halves:

1. **Philosophy & Tools**
    - Why do cities exist? Why do they grow? Why do they decline?
    - Fundamental tools of labor & urban econ (supply and demand)
2. **Application**
    - Rent Control & Minimum Wage
    - Highways and urban transportation
    - Income inequality and environmental issues

What is a city?

According to the Census Bureau...

Urban Area: a densely settled geographical area with:

- Minimum population of **2,500**
- Minimum density of **500 people per square mile**

Metropolitan Area: an urbanized area with at - least **50k population**

Micropolitan Area: an urbanized area with at least **10k** but not as many as **50k** people

MSA: abbrev. for both **metropolitan** and **micropolitan** statistical area

Principal City: the **largest municipality in an MSA**

City: Dense collection of people in specific geographic area

Intro to Urban: Cities

The majority of the US population lives in cities† and more people will continue to migrate into urban areas

Questions:

1. Do you like cities?
2. What are favorite city **amenities**?
3. Are cities at odds with the natural world?

Why do cities exist?

Location matters

†. 80 - ish percent, according to the Census Bureau

Intro to Urban: Location...

Where you live has implications for

- Your contribution to **global carbon emissions**
    - *Why does this vary across cities?*
- Your **wage** and **rent**
    - *Why does this vary across cities?*
- Your **economic mobility**
    - *Why does this vary across cities?*

We will answer these questions as we progress through this course

What is a model?

In this class we will make use of various **mathematical models**

What is a **mathematical model**?

- A model is a description of a system using .... **math**
- Useful to help **explain** and **predict** behavior

The Canonical Example

$$\begin{aligned} \text{Supply}: \quad & P(Q_s) = 10 + 5 * Q_s \\ \text{Demand}: \quad & P(Q_d) = 20 - 2 * Q_d \end{aligned}$$

This model allows us to make predictions about prices and quantities (from the supply & demand side), *and* the **equilibrium** price and quantity

What is a model?

What are the **pros** of models?

- Allows for us to be very precise with our language
- Gives us the ability to **predict** the various aspects of the economy
- Can shed insight on **mechanisms** through which processes interact

What are the **cons** of models?

- They require assumptions
- **Almost** all assumptions are wrong

But not all wrong assumptions are useless

The ability of the model to **predict data** and **understand mechanisms** determines how useful it is

What is a model?

Did we make assumptions our supply/demand model? **Discuss**

$$\text{Supply}: \quad P(Q_s) = 10 + 5 * Q_s$$
$$\text{Demand}: \quad P(Q_d) = 20 - 2 * Q_d$$

1. **Marginal values** are diminishing and **marginal costs** are increasing †
    - Generates downward demand and upward supply
1. Demand and Supply are **linear**
2. Demand and Supply are **deterministic**

Are these reasonable? Can your behavior be explained by a simple **linear function**?

Does a function even exist?

†: Marginal = Adding one additional unit

Planning

Next Class:

- EC201 Review
- 5 Axioms of Urban Economics

Reading:

- Get the book ASAP!!
- Read the introduction

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