An Introduction to Economics

Daniel Barbezat and Tyler Porter

Amherst College

August 31, 2021

What is economics?

economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses
–Lionel Robbins (1932)–

Why study economics?

While studying economics, you'll gain the ability to:

- Reason about decisions effectively
- Evaluate policies and administrative decisions from a social welfare perspective
- Understand how your decisions may influence the welfare of others
- Determine potential causes for complex phenomena

Contact

- Daniel Barbezat
  - Email: dpbarbezat@amherst.edu
  - Office: Converse Hall 306-E
- Tyler Porter
  - Email: tporter@amherst.edu
  - Office: Converse Hall 316

Course Structure

The course is divided into two broad sections:

1. Microeconomics: Studies individual decision-makers, markets, and organizations.
2. Macroeconomics: Studies much larger and more complex economic systems, such as the economy as a whole.

Sections

We have added two additional discussion sections:

1. Section 04: Wednesday 3:00-3:50pm, Converse 302
2. Section 05: Wednesday 1:00-1:50pm, Seeley Mudd 204
3. Section 06: Wednesday 3:00-3:50pm, Converse 308
4. Section 07: Wednesday 3:00-3:50pm, Seeley Mudd 204

Opportunities to Meet

- The course TA's Selena Hong and Timothy Zhao will hold extra sessions for review.
- The instructors and TA's will also hold office hours.
- Dates for sessions and office hours to be posted this week.

Resources and Materials

The course has no required textbook. Instead, readings will be posted on Moodle. These may be drawn from:

- Khan Academy
- Open source textbooks
- Our own notes and experience in economics

Grade Breakdown

- Quizzes: 10%
- Problem Sets: 15%
- Two midterm exams: 20% each (2 total)
- Final Exam: 35%

Quizzes

- Posted each Tuesday on Moodle
- Discussed in sections on Wednesday
- Lowest quiz score is dropped
- Limited window for submission on Moodle

Problem Sets

- Posted each Friday on Moodle
- Due the following Friday
- Feel free to work together on problem sets, but please submit your own write-up. Let us know who you worked with on your submission.
- Please come to instructor and TA office hours if you need help.

Exams

- Planned to be in-person (pandemic permitting).
- Makeup exams and quizzes are not given.
- If you miss an exam with valid excuse, your course grade is based on your completed work.
- Please let us know in advance if you expect to miss an assignment.

Accomodations

- If you require an accommodation for assignments, please contact accessibility services at Amherst College.
- You should also let us know if there is anything we can do to improve your accessibility to the course material and maintain an inclusive environment.

Questions?

Questions? Comments?

Motivating Example

- I have the rights to exclusive access to a well that is proven to contain the purest water this side of the Mississippi River.
- I come to you to sell these exclusive rights. You're the only person I approach.
- I ask you to make me an offer (which cannot be negative), and I will accept any amount of money for the sale.
- What would you offer?

Lesson 1: Rationality

Rationality: An agent is rational if, given the choices available to them, they always make the best choice for themselves.
Problems:

- There could be an extremely large number of possible choices.
- The information about the benefits from these decisions may be limited.
- An outsider may not know whether somebody's decision was indeed the best one.

Another Layer

Now let us say that I approach everybody in ECON 111 with my offer. The person with the highest offer receives the well, and pays their offer.

- Everybody has some intrinsic value for the well, that can be expressed in U.S. dollars.
- We all value money the same way.
- Who ought to get the well?

Lesson 2: Efficiency

1. Pareto Efficiency: An outcome in which we can't make everybody better off. That is, if we are able to make a group of people better off, then at least one person must be worse off as a result.

Positive vs. Normative

Definition

Positive Economics: Reasoning about economic phenomena without regard to whether they are "good" or "bad."

What is the way things are? How can we make the pie as large as possible?

Definition

Normative Economics: Reasoning about economic phenomena that appeals to norms and ethics.

What is the way things should be? How should we split the pie?

Decisions, decisions

- Each day is composed of countless decisions by every individual.
- We sometimes make decisions without much thought, and this can lead to inefficiencies within our own lives.
- Are there simple principles that we can follow to reduce the likelihood of errors?

Definition

Opportunity Cost: The best alternative that we give up, or forgo, when we make a choice or decision.

When we make decisions, not only should we consider the explicit costs associated with it, but also alternative choices that could have been made.

A Simple Model of Production

You (a rational person) have been marooned on a tropical island somewhere in the middle of the Pacific. You need to spend each day gathering resources in order to survive. Each day you have the capacity to:

- Find 6 gallons of fresh water
- Catch 15 fish
- Produce any combination of 6 gallons of fresh water and 15 fish.[1]

[1] For instance, you can spend one day acquiring 4 gallons of fresh water and catching 5 fish.

Inputs and Outputs

Definition

Input: Materials and resources used in the production of goods and services.

Definition

Output: The goods and services that inputs are transformed into as a result of the production process.

Example

In the previous example, what were your inputs and outputs?

Feasibility

What combinations of fish and water are you *able* to produce in a single day?

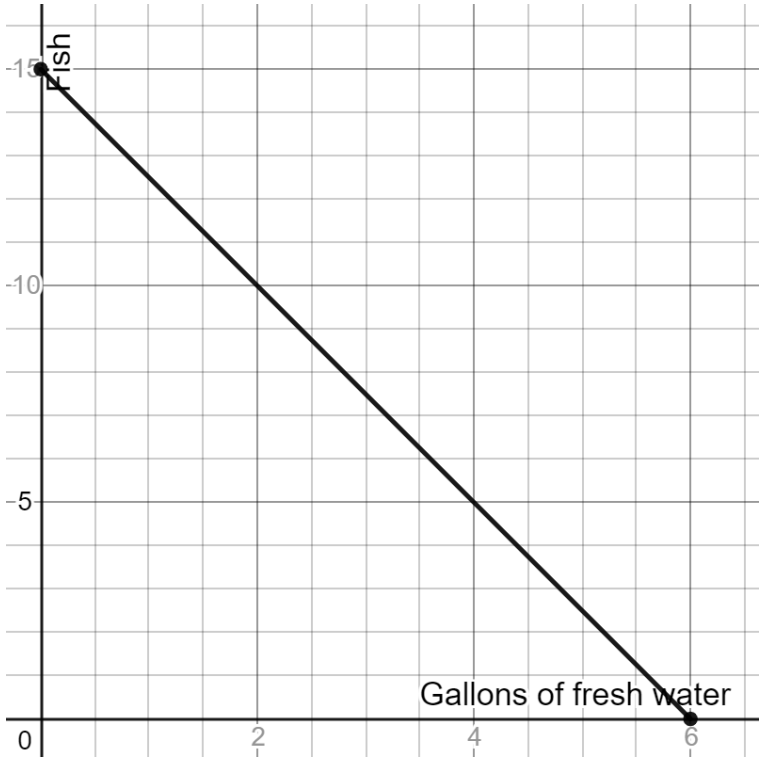

Figure 1: Your production possibilities set.

Opportunity Cost Revisited

What is the opportunity cost to you of producing an additional gallon of water? What about the opportunity cost of catching a fish?

A New Arrival

Let us suppose now that your survivalist best friend, in an attempt to rescue you, also winds up stranded on that same island. Your friend is able to do the following in a single day:

- Acquire 9 gallons of fresh water
- Catch 36 fish

If one of you were to devote their time to catching fish, and one to gathering water, who should do each?

Comparative Advantage

Definition

Producer A has a *comparative advantage* in the production of an output over Producer B if he or she can produce the good with a lower opportunity cost.

In the above example, who has the comparative advantage in acquiring gallons of fresh water?

Absolute Advantage

Definition

Producer A has an *absolute advantage* in the production of an output over Producer B if he or she can produce the good with a lower absolute cost.[a]

[a] That is to say, they require fewer inputs to produce.

In the above example, who has the absolute advantage in acquiring gallons of fresh water?

Feasibility with two agents?

If you and your best friend both play to your relative strengths, what are the possible combinations of gallons and fresh water that are feasible in a single day?

The Joint PPF

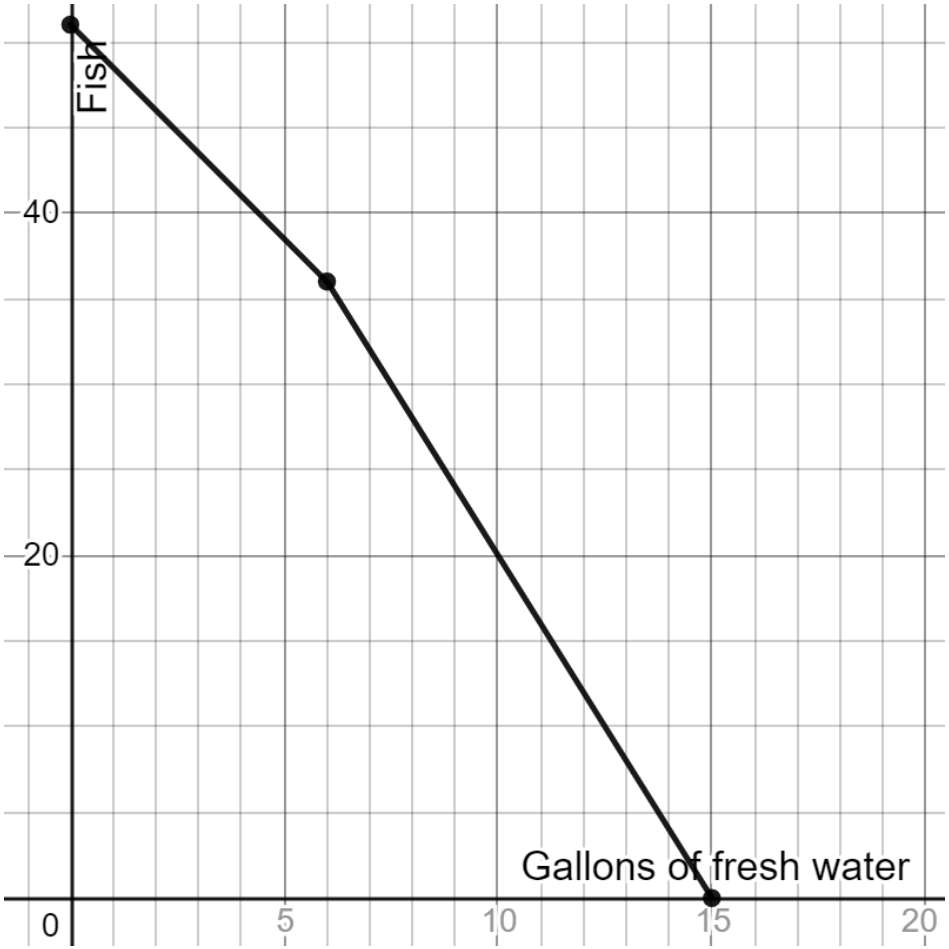

Figure 2: Your joint Production Possibilities Set