ECN1A: Introduction to Microeconomics

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Introduction

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- Section syllabus:
  [http://jaewookjung.weebly.com/uploads/2/1/5/2/21526362/2015fq_ecn1a_ta_syllabus.pdf](http://jaewookjung.weebly.com/uploads/2/1/5/2/21526362/2015fq_ecn1a_ta_syllabus.pdf)
Introduction

• It’s your turn! Get into groups of four and introduce yourself to your classmates.
  • name
  • email address
  • level of your excitement for taking this course and studying economics and the reason
Today We Will ...

- review Chapter 1 - What is Economics
  - identify the range of economic questions
  - start to think as an economist
- go over Chapter 1: Appendix
  - learn how to show/display data with three different “glasses”
  - learn how to “read” graphs
- review Chapter 2 - The Economic Problem
  - learn how to draw the production possibility frontier
  - learn how to calculate opportunity cost
  - learn how to determine where an efficient allocation is on graphs
We have learned the range of questions that economics addresses and started to think as an economist (economic way of thinking).

- Two big economic questions:
  - How do choices end up determining what, how, and for whom goods and services get produced?
  - When do choices made in the pursuit of self-interest also promote the social interest?
- As an economic way of thinking, define cost in a formal way: opportunity cost = what you much give up (a forgone alternative)
- have criteria for your best (rational) choice, that is $MC = MB$
What Three Countries Produce

- Answer the following questions in your group.
  - What determines these patterns of production?
  - How do choices end up determining the quantity of each item produced in the United States and around the world?
What, How, and For whom

- Economics study what, how, and for whom goods and services are produced.
- What category of economic questions (What / How / For whom) is the following statement fitted in?
  1. How does our economy determine how many light bulbs, automobiles, and pizzas to produce?
  2. Why does harvesting wheat from a plot of land in India occur with hundreds of laborers toiling with oxen pulling threshing machines, while in the United States, a single farmer listening to a Garth Brooks CD and sitting in an air-conditioned cab of a $500,000 machine harvests the same quantity of wheat from the same sized plot of land?
  3. Why is the annual income of an inspiring and effective grade school teacher much less than that of an average major-league baseball player?
Opportunity Costs

- opportunity cost = what you much give up (a forgone alternative)
- Q: You plan a major adventure trip for the summer. You won’t be able to take your usual summer job that pays $6,000, and you won’t be able to live at home for free. The cost of your travel accommodations on the trip will be $3,000, gasoline will cost you $200, and your food will cost $1,400. What is the opportunity cost of taking this trip?
Chapter 1: Appendix- Graphs in Economics

- Three different glasses in economic study
  - equations: $Q = 4 - 2P$
  - tables:

<table>
<thead>
<tr>
<th>price of an apple</th>
<th>number of apples that you want to buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.5$</td>
<td>$3$</td>
</tr>
<tr>
<td>$1.0$</td>
<td>$2$</td>
</tr>
<tr>
<td>$1.5$</td>
<td>$1$</td>
</tr>
<tr>
<td>$2.0$</td>
<td>$0$</td>
</tr>
</tbody>
</table>

- graphs:
Chapter 1: Appendix- Graphs in Economics

- Why do we use graphs?
Scatter Diagram

(a) Income and expenditure
Correlation Vs. Causation
Positive Relationship between Two Variables

- relationship: positive / direct, when variables move in the same direction
Negative Relationship between Two Variables

- relationship: negative / inverse, when variables move in opposite directions
No Relationship between Two Variables

- no relationship
Maximum and Minimum in Graphs

- max / min
Slopes

- Relationship between two variables can be also described by slopes.
- \( \text{slope} = \frac{\Delta y}{\Delta x} \)
- slopes and intercepts are the link between graphs and (linear) equations
Positive / Negative Slopes

(a) Positive slope

\[ \text{Slope} = \frac{3}{4} \]
\[ \Delta y = 3 \]
\[ \Delta x = 4 \]

(b) Negative slope

\[ \text{Slope} = -\frac{3}{4} \]
\[ \Delta y = -3 \]
\[ \Delta x = 4 \]
Slopes of a Curved Line

- Slope at point A is \( \frac{3}{4} \) with \( \Delta y = 3 \) and \( \Delta x = 4 \).
- Slope at point B is \( \frac{1}{2} = \frac{3}{4} \) with \( \Delta y = 1.5 \) and \( \Delta x = 2 \).
- Slope at point C is also \( \frac{1}{2} = \frac{3}{4} \) with \( \Delta y = 1.5 \).

Graphs showing the slopes at different points on a curved line.
Graphs for More Than Two Variables

- *ceteris paribus*: if all other relevant things remain the same
- when other things change

<table>
<thead>
<tr>
<th>Price (dollars per scoop)</th>
<th>Ice cream consumption (gallons per day)</th>
<th>70°F</th>
<th>90°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>25</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2.25</td>
<td>18</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>2.50</td>
<td>13</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>2.75</td>
<td>10</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td>7</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>3.25</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>3.50</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

![Graph showing ice cream consumption and price at different temperatures]
Production Possibility Frontier

- The border line between attainable and unattainable allocations
## Production Possibility Frontier

<table>
<thead>
<tr>
<th>points</th>
<th>apples</th>
<th>oranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>
Opportunity Costs

• What are the opportunity costs of producing apples and oranges at each output in the table?

<table>
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<tr>
<th>points</th>
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<th>oranges</th>
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<td>F</td>
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<td>1</td>
</tr>
<tr>
<td>G</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

• What is the marginal cost of (producing) oranges at point B?
Opportunity Costs

- Allocation efficiency is achieved where MC = MB
- Why?
Gains from Trade

- Sarah and her boyfriend Mike want to save some money to pay for their wedding. So they decided to help people in the neighborhood by cleaning their garages and mowing lawns. Sarah takes 60 minutes to clean a garage and 80 minutes to mow a lawn. Mike takes 80 minutes to clean a garage and 80 minutes to mow a lawn. Sarah and Mike devote 10 hours per week each to these activities and get paid $25 for each garage they clean and $25 for each lawn they mow. Sarah says to Mike: “I have an absolute advantage in cleaning and we are equally productive in mowing. Therefore I should do both cleaning and mowing but you should only mow lawns.” Mike disagrees. He thinks Sarah should specialize in cleaning garages and he should specialize in mowing lawns. Help Sarah and Mike to resolve their dispute.
Gains from Trade

a) Who has an absolute advantage in cleaning garages? In mowing lawns? Explain.

b) Draw Sarah’s and Mike’s production possibilities frontiers. What are each individual’s opportunity costs?

c) Who has a comparative advantage in cleaning garages? In mowing lawns? Explain.

d) Is Sarah right when she says that she should do both cleaning and mowing while Mike should only mow lawns? Or may be Mike is right when he suggests that Sarah specializes in cleaning and he specializes in mowing? Illustrate and substantiate your answer with a numerical example.