2 Thinking Like An Economist
In this chapter, look for the answers to these questions:

- What are economists’ two roles? How do they differ?
- What are models? How do economists use models?
- What are the elements of the Circular-Flow Diagram? What concepts does this diagram illustrate?
- How is the Production Possibilities Frontier related to opportunity cost? What other concepts does it illustrate?
- What is the difference between positive and normative?
The Economist as Scientist

- Economists play two roles:
  - Scientists: try to explain the world
  - Policy advisors: try to improve it

- In the first role, economists employ the scientific method: the dispassionate development and testing of theories about how the world works.
Assumptions & Models

- Assumptions simplify the complex world, make it easier to understand.
- Example: When studying international trade, we might assume the world consists of two countries and two goods. Very unrealistic, but simplifies the problem and yields useful insights about the more complicated real world.
- Economists use models to study economic issues. A model is a highly simplified representation of a more complicated reality.
First Model: The Circular-Flow Diagram

- The Circular-Flow Diagram: A visual model of the economy, shows how dollars flow through markets among households and firms.
- Includes two types of “actors”:
  - households
  - firms
- Includes two markets:
  - the market for goods and services
  - the market for “factors of production”
Factors of Production

- The factors of production are the resources that the economy uses to produce goods & services. They include:
  - labor
  - land
  - capital (buildings & machines used in production)
Second Model: The Production Possibilities Frontier

- The **Production Possibilities Frontier (PPF)**: A graph that shows the combinations of two goods the economy can possibly produce given the available resources and the available technology.

- Example:
  - Two goods: computers and wheat
  - One resource: labor (measured in hours)
  - Economy has 50,000 labor hours per month available for production.
### PPF Example

- Producing one computer requires 100 hours labor.
- Producing one ton of wheat requires 10 hours labor.

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<th>Employment of labor hours</th>
<th>Production</th>
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<td>Computers</td>
<td>Wheat</td>
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<td>A</td>
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PPF Example

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<th>Point on graph</th>
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<tr>
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The PPF: What We Know So Far

- Points on the PPF
  - possible
  - efficient: all resources are fully utilized

- Points under the PPF
  - possible
  - not efficient: some resources underutilized (e.g., workers unemployed, factories idle)

- Points above the PPF
  - not possible
The PPF and Opportunity Cost

- Recall: The opportunity cost of an item is what must be given up to obtain that item.
- Moving along a PPF involves shifting resources (e.g., labor) from the production of one good to the other.
- Society faces a tradeoff: Getting more of one good requires sacrificing some of the other.
- The slope of the PPF tells you the opportunity cost of one good in terms of the other.
The slope of a line equals the “rise over the run” – the amount the line rises when you move to the right by one unit.

Here, the opportunity cost of a computer is 10 tons of wheat.
PPF and Opportunity Cost Example

In which country is the opportunity cost of cloth lower?

FRANCE

ENGLAND
Economic Growth and the PPF

With additional resources or an improvement in technology, the economy can produce more computers, more wheat, or any combination in between.

Economic growth shifts the PPF outward.
The Shape of the PPF

- The PPF could be a straight line, or bow-shaped.
- Depends on what happens to opportunity cost as economy shifts resources from one industry to the other.
  - If opp. cost remains constant, PPF is a straight line. (In the previous example, opp. cost of a computer was always 10 tons of wheat.)
  - If opp. cost of a good rises as the economy produces more of the good, PPF is bow-shaped.
Why the PPF Might Be Bow-Shaped

As the economy shifts resources from beer to mountain bikes:

• PPF becomes steeper
• opp. cost of mountain bikes increases

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Why the PPF Might Be Bow-Shaped

At point $A$, most workers are producing beer, even those that are better suited to building mountain bikes.

So, do not have to give up much beer to get more bikes.

At $A$, opp. cost of mtn bikes is low.
Why the PPF Might Be Bow-Shaped

At B, most workers are producing bikes. The few left in beer are the best brewers. Producing more bikes would require shifting some of the best brewers away from beer production, would cause a big drop in beer output.
Why the PPF Might Be Bow-Shaped

- So, PPF is bow-shaped when different workers have different skills, different opportunity costs of producing one good in terms of the other.

- The PPF would also be bow-shaped when there is some other resource, or mix of resources with varying opportunity costs.
  - *E.g.*, different types of land suited for different uses
The Economist as Policy Advisor

- As scientists, economists make **positive statements**, which attempt to describe the world as it is.
- As policy advisors, economists make **normative statements**, which attempt to prescribe how the world should be.
- Positive statements can be confirmed or refuted, normative statements cannot.
- Govt employs many economists for policy advice. E.g., the U.S. President has a Council of Economic Advisors, which the author of this textbook recently chaired.
Identifying positive vs. normative

Which of these statements are “positive” and which are “normative”? How can you tell the difference?

a. Prices rise when the government increases the quantity of money.

b. The government should print less money.

c. A tax cut is needed to stimulate the economy.

d. An increase in the price of gasoline will cause an increase in consumer demand for video rentals.
Why Economists Disagree

- Economists often give conflicting policy advice.
- They sometimes disagree about the validity of alternative positive theories about the world.
- They may have different values and, therefore, different normative views about what policy should try to accomplish.
- Yet, there are many propositions about which most economists agree.