CHAPTER 2

Thinking Like An Economist

PRINCIPLES OF Economics

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Premium PowerPoint Slides
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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 them?
- How is the Production Possibilities Frontier related to opportunity cost? What other concepts does it illustrate?
- What is the difference between microeconomics and macroeconomics? Between positive and normative?

The Economist as Scientist

- Economists play two roles:
  1. Scientists: try to explain the world
  2. Policy advisors: try to improve it
- In the first, 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: To study international trade, assume two countries and two goods. Unrealistic, but simple to learn and gives useful insights about the real world.
- **Model:** a highly simplified representation of a more complicated reality. Economists use models to study economic issues.

Experiments vs. Models

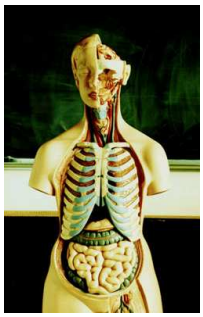
- Observation, Theory, and More Observation? Or,
- Observation, Theoretical Models, and **Experiments**!
  - Experimental Economics: a growing field
  - Vernon Smith: 2002 Nobel Prize Winner
- A **controlled experiment** is a highly simplified environment of a more complicated reality.
- Just as a **model** is a highly simplified representation of a more complicated reality.

Some Familiar Models

A road map

Some Familiar Models

A model of human anatomy from high school biology class



Some Familiar Models

A model airplane

Some Familiar Models

The model teeth at the dentist's office

An Economic 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.

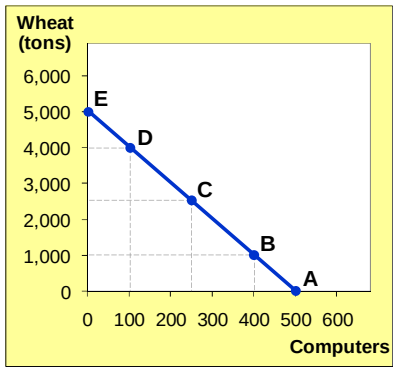
PPF Example

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

	Employment of labor hours		Production	
	Computers	Wheat	Computers	Wheat
A	50,000	0	500	0
B	40,000	10,000	400	1,000
C	25,000	25,000	250	2,500
D	10,000	40,000	100	4,000
E	0	50,000	0	5,000

PPF Example

Point on graph	Production	
	Com-puters	Wheat
A	500	0
B	400	1,000
C	250	2,500
D	100	4,000
E	0	5,000



ACTIVE LEARNING 1

Points off the PPF

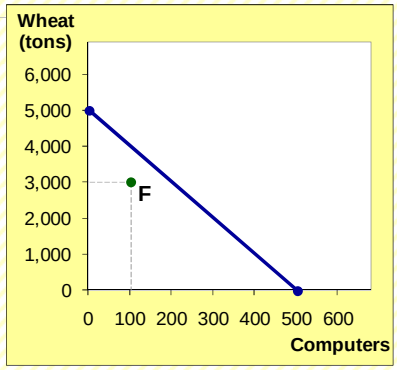
A. On the graph, find the point that represents (100 computers, 3000 tons of wheat), label it **F**. Would it be possible for the economy to produce this combination of the two goods? Why or why not?

B. Next, find the point that represents (300 computers, 3500 tons of wheat), label it **G**. Would it be possible for the economy to produce this combination of the two goods?

ACTIVE LEARNING 1

Answers

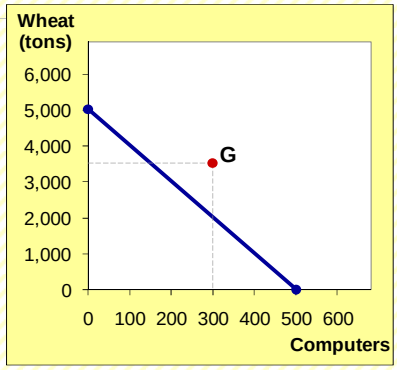
- Point **F**: 100 computers, 3000 tons wheat
- Point **F** requires 40,000 hours of labor. Possible but not efficient: could get more of either good w/o sacrificing any of the other.



ACTIVE LEARNING 1

Answers

- Point **G**: 300 computers, 3500 tons wheat
- Point **G** requires 65,000 hours of labor. Not possible because economy only has 50,000 hours.



The PPF: What We Know So Far

Points on the PPF (like **A** – **E**)
- possible
- efficient: all resources are fully utilized

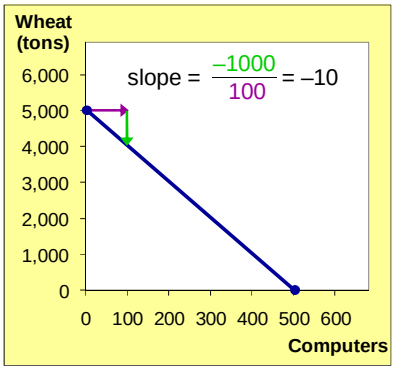
Points under the PPF (like **F**)
- possible
- not efficient: some resources underutilized (*e.g.,* workers unemployed, factories idle)

Points above the PPF (like **G**)
- 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 PPF and Opportunity Cost



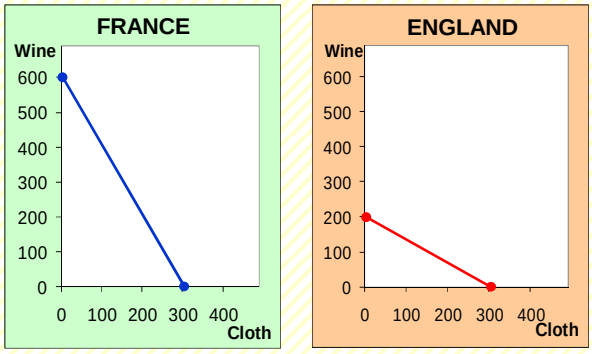
The slope of a line equals the "rise over the run," the amount the line rises when you move to the right by one unit.

Here, the opportunity cost of a computer is 10 tons of wheat.

ACTIVE LEARNING 2

PPF and Opportunity Cost

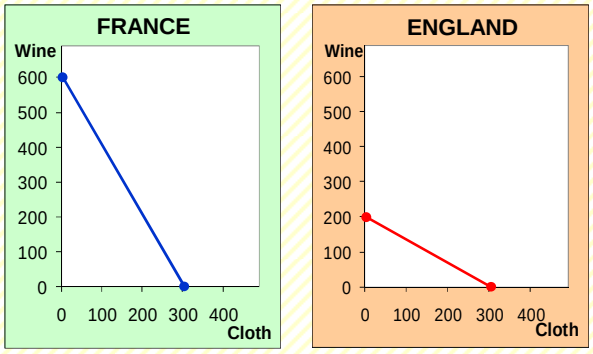
In which country is the opportunity cost of cloth lower?



ACTIVE LEARNING 2

Answers

England, because its PPF is not as steep as France's.

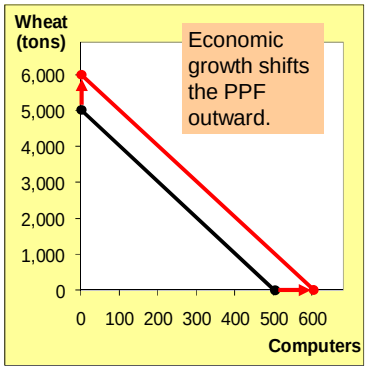


Economic Growth and the PPF

With additional resources or an improvement in technology, the economy can produce more computers,

more wheat,

or any combination in between.



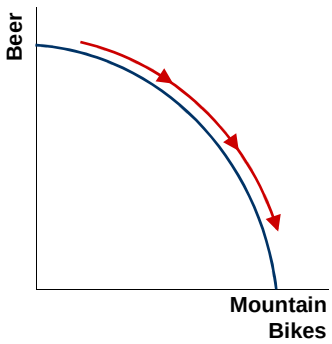
The Shape of the PPF

- 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:

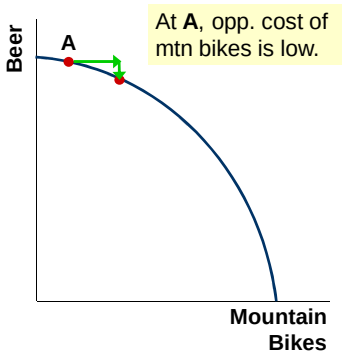
- PPF becomes steeper
- opp. cost of mountain bikes increases



Why the PPF Might Be Bow-Shaped

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

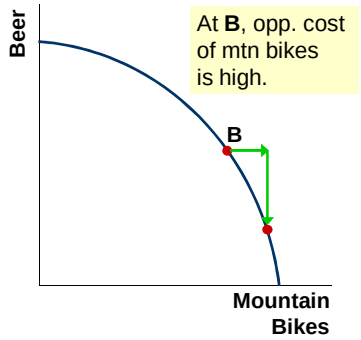
So, do not have to give up much beer to get more bikes.



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 PPF: A Summary

- The PPF shows all combinations of two goods that an economy can possibly produce, given its resources and technology.
- The PPF illustrates the concepts of tradeoff and opportunity cost, efficiency and inefficiency, unemployment, and economic growth.
- A bow-shaped PPF illustrates the concept of increasing opportunity cost.

Microeconomics and Macroeconomics

- **Microeconomics** is the study of how households and firms make decisions and how they interact in markets.
- **Macroeconomics** is the study of economy-wide phenomena, including inflation, unemployment, and economic growth.
- These two branches of economics are closely intertwined, yet distinct – they address different questions.
- However, the two theories are uniting with recent progress providing **micro-foundation** to macro.

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 chaired from 2003 to 2005.

ACTIVE LEARNING *3*

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 burritos will cause an increase in consumer demand for video rentals.

ACTIVE LEARNING 3

Answers

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

Positive – describes a relationship, could use data to confirm or refute.

b. The government should print less money.

Normative – this is a value judgment, cannot be confirmed or refuted.

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ACTIVE LEARNING 3

Answers

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

Normative – another value judgment.

d. An increase in the price of burritos will cause an increase in consumer demand for video rentals.

Positive – describes a relationship.
Note that a statement need not be true to be positive.

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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.

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Propositions about Which Most Economists Agree (and % who agree)

- A ceiling on rents reduces the quantity and quality of housing available. (93%)
- Tariffs and import quotas usually reduce general economic welfare. (93%)
- The United States should not restrict employers from outsourcing work to foreign countries. (90%)
- The United States should eliminate agriculture subsidies. (85%)

continued…

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Propositions about Which Most Economists Agree (and % agreeing)

- The gap between Social Security funds and expenditures will become unsustainably large within the next fifty years if current policies remain unchanged. (85%)
- A large federal budget deficit has an adverse effect on the economy. (83%)
- A minimum wage increases unemployment among young and unskilled workers. (79%)
- Effluent taxes and marketable pollution permits represent a better approach to pollution control than imposition of pollution ceilings. (78%)

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FYI: Who Studies Economics?

- Ronald Reagan, President of the United States
- Barbara Boxer, U.S. Senator
- Sandra Day-O'Connor, Former Supreme Court Justice
- Anthony Zinni, Former General, U.S. Marine Corps
- Kofi Annan, Former Secretary General, United Nations
- Meg Witman, Chief Executive Officer, eBay
- Steve Ballmer, Chief Executive Officer, Microsoft
- Arnold Schwarzenegger, Governor of California, Actor
- Ben Stein, Political Speechwriter, Actor, Game Show Host
- Mick Jagger, Singer for the Rolling Stones
- John Elway, NFL Quarterback
- Tiger Woods, Golfer
- Diane von Furstenburg, Fashion Designer

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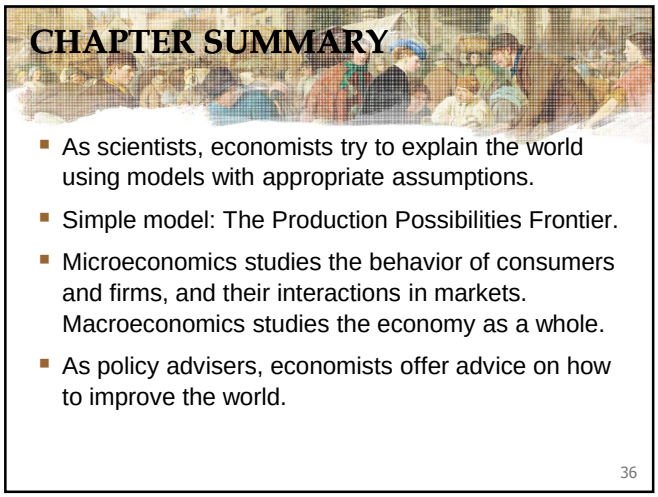

CHAPTER SUMMARY

- As scientists, economists try to explain the world using models with appropriate assumptions.
- Simple model: The Production Possibilities Frontier.
- Microeconomics studies the behavior of consumers and firms, and their interactions in markets. Macroeconomics studies the economy as a whole.
- As policy advisers, economists offer advice on how to improve the world.

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Chapter 2: Thinking Like an Economist

- See how Economists think
- Key Idea: Production Possibility Frontier
- Suggested Homework:
  - Read Appendix on Graphing (Mankiw p. 40-48)
  - Mankiw p.38-39, Problem 2, 3, 5, 6, 9