

Principles of Microeconomics

Sixth Edition

N. Gregory Mankiw



Chapter 2: Thinking Like an Economist

*In this chapter,
look for the answers to these questions:*

- What are the elements of the Circular-Flow Diagram? What concepts does the diagram illustrate?
- 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?

Our 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
- Two types of “actors”:
 - households
 - firms
- Two markets:
 - the market for goods and services
 - the market for “factors of production”

Factors of Production

- **Factors of production:** the resources the economy uses to produce goods & services, including
 - labor
 - land
 - capital (buildings & machines used in production)

FIGURE 1: The Circular-Flow Diagram

Households:

- Own the factors of production, sell/rent them to firms for income
- Buy and consume goods & services

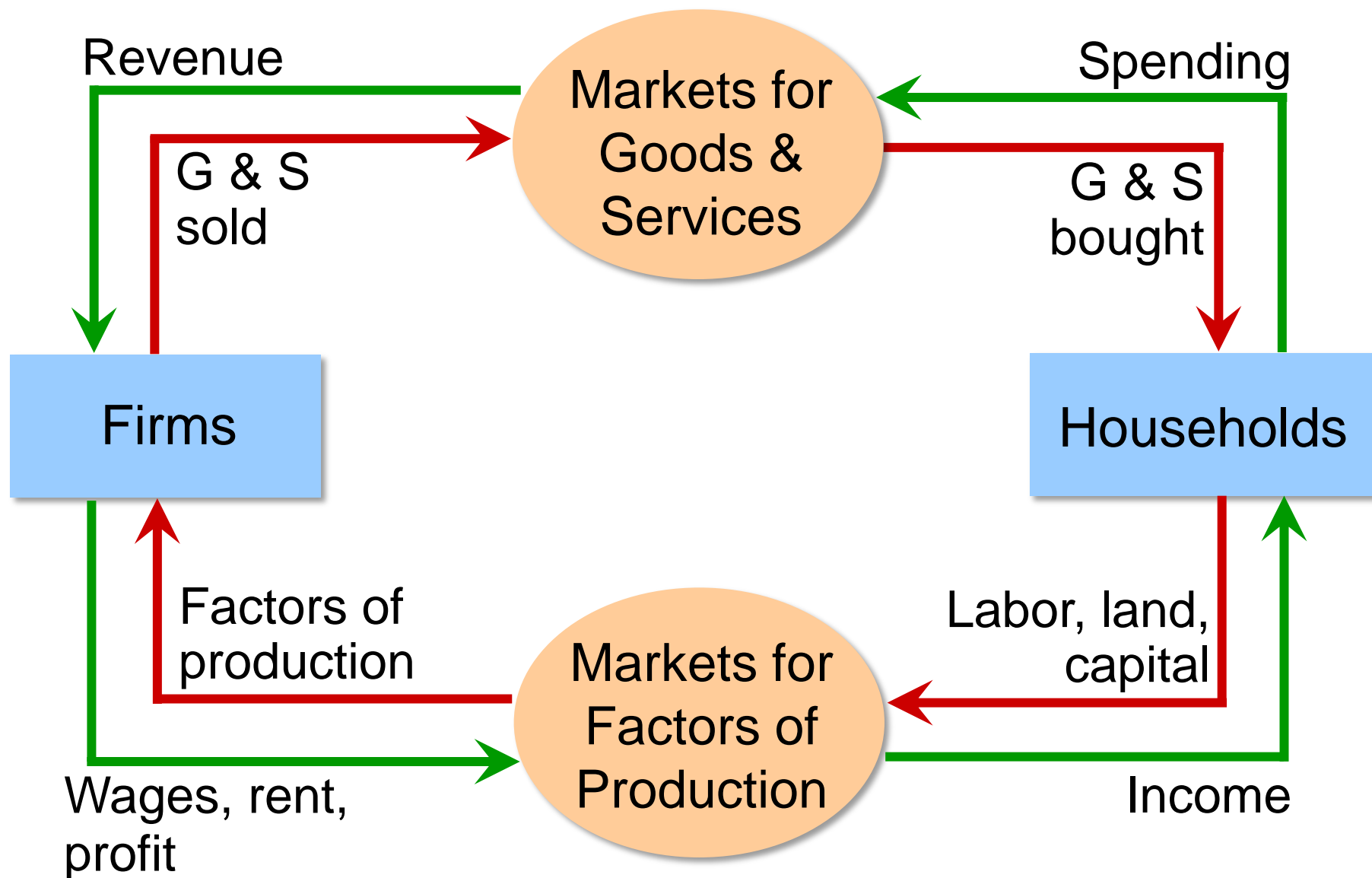
Firms

Households

Firms:

- Buy/hire factors of production, use them to produce goods and services
- Sell goods & services

FIGURE 1: The Circular-Flow Diagram



Our 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.

	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

**Wheat
(tons)**

6,000

5,000

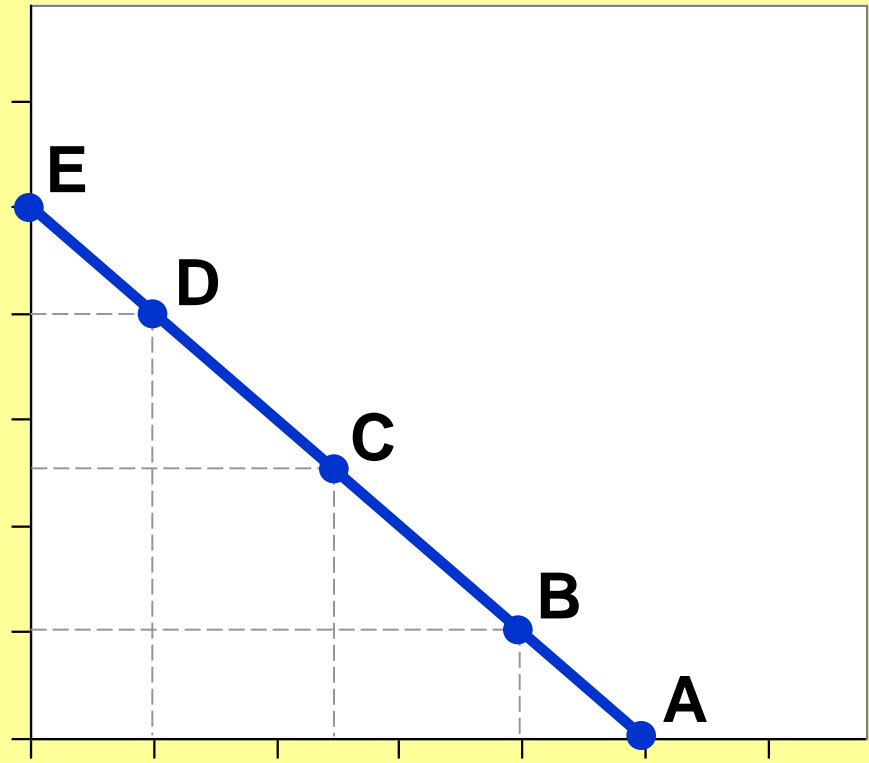
4,000

3,000

2,000

1,000

0



0

100

200

300

400

500

600

Computers

ACTIVE LEARNING 1

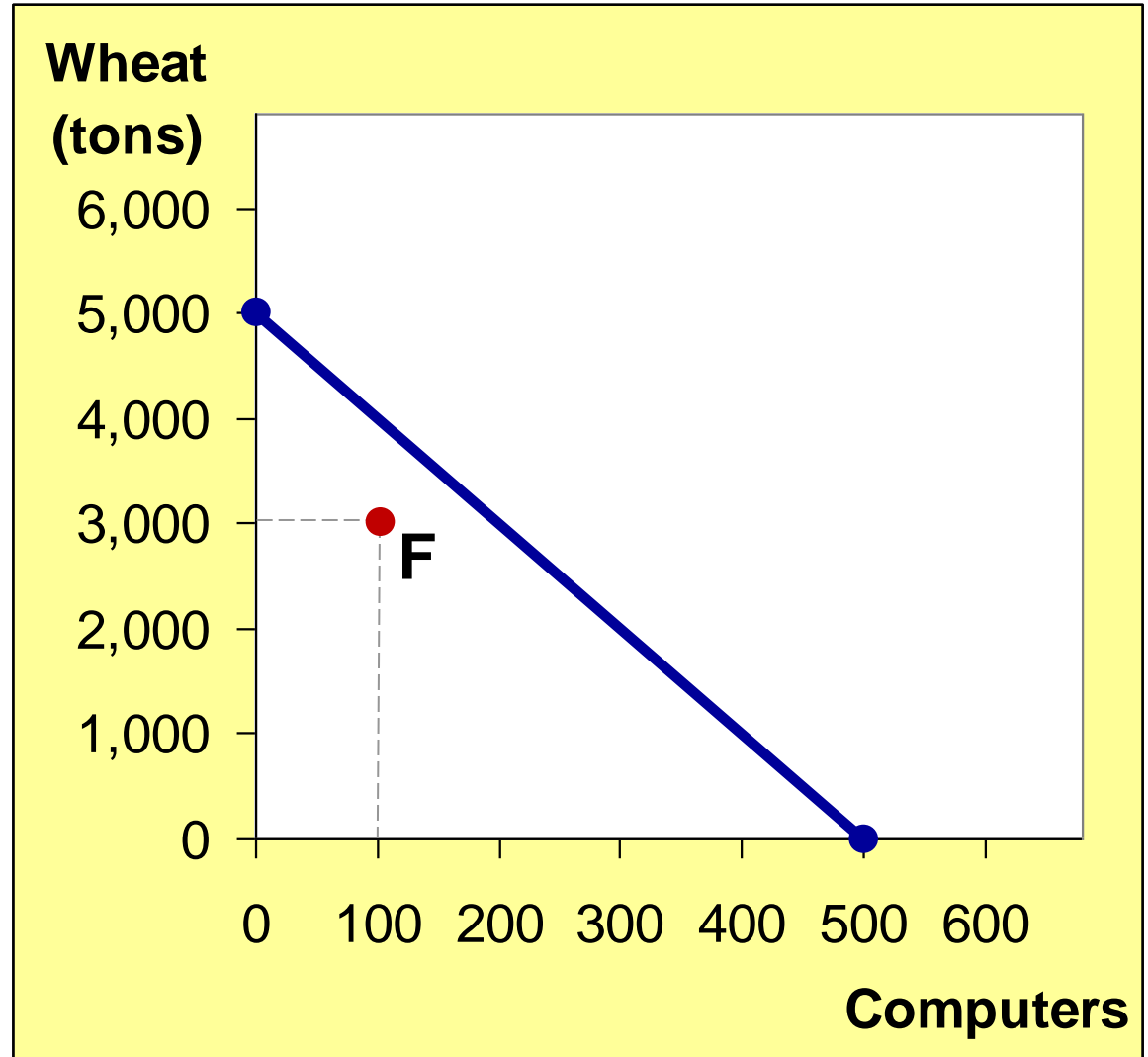
Points off the PPF

- 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

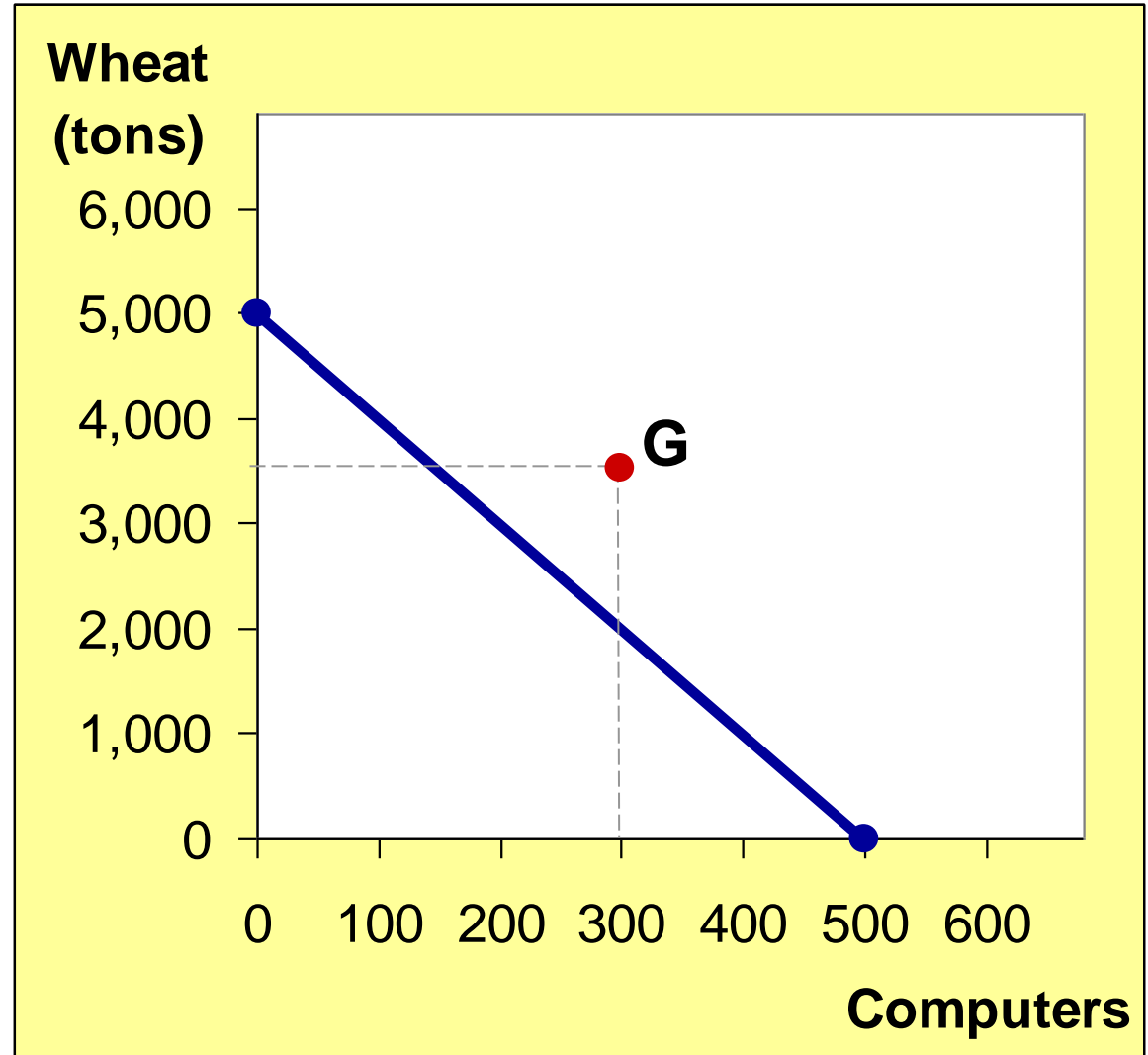
- Point **F**:
100 computers,
3000 tons wheat
- Point **F** requires
40,000 hours
of labor.
Possible but
not efficient:
could get more
of either good
w/o sacrificing
any of the other.



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**)

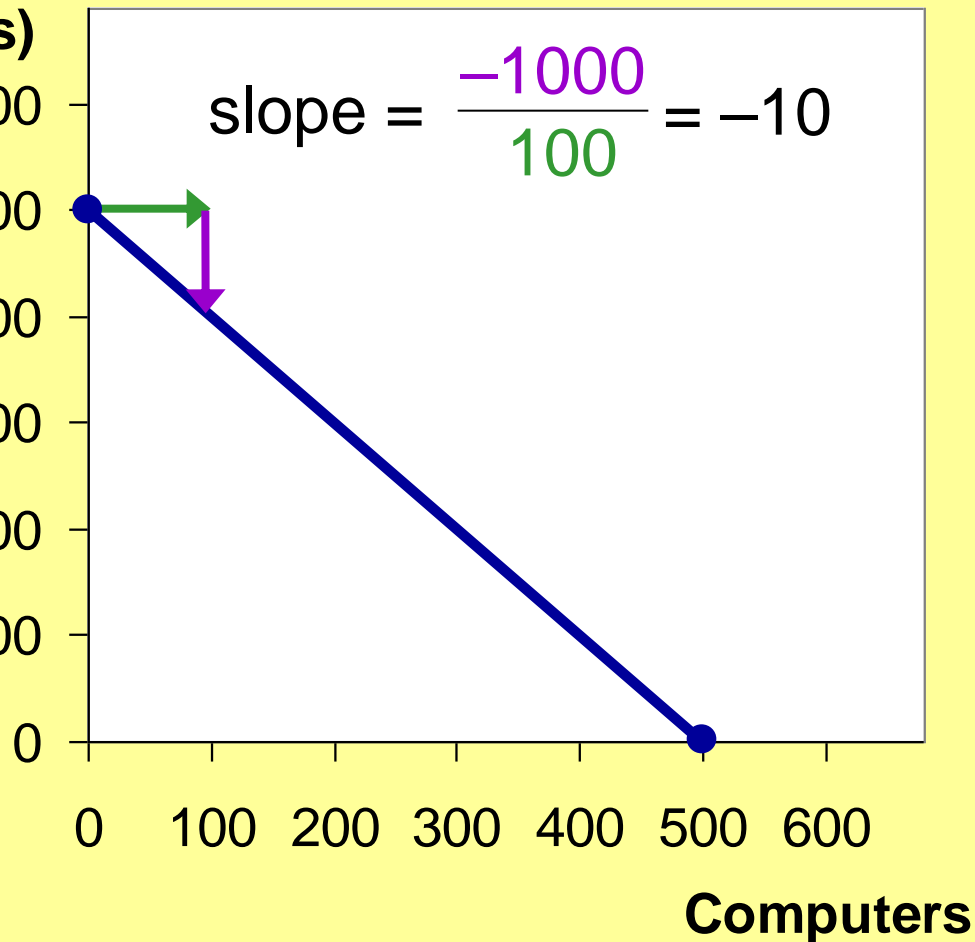
- not possible

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

Wheat
(tons)



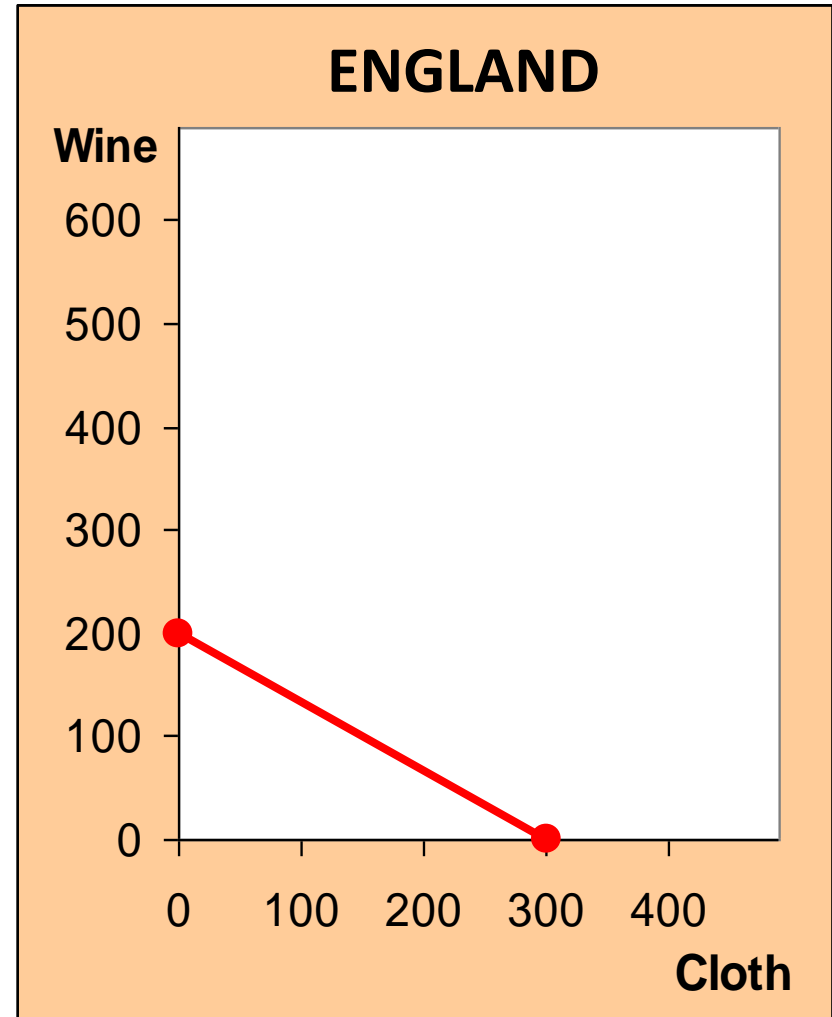
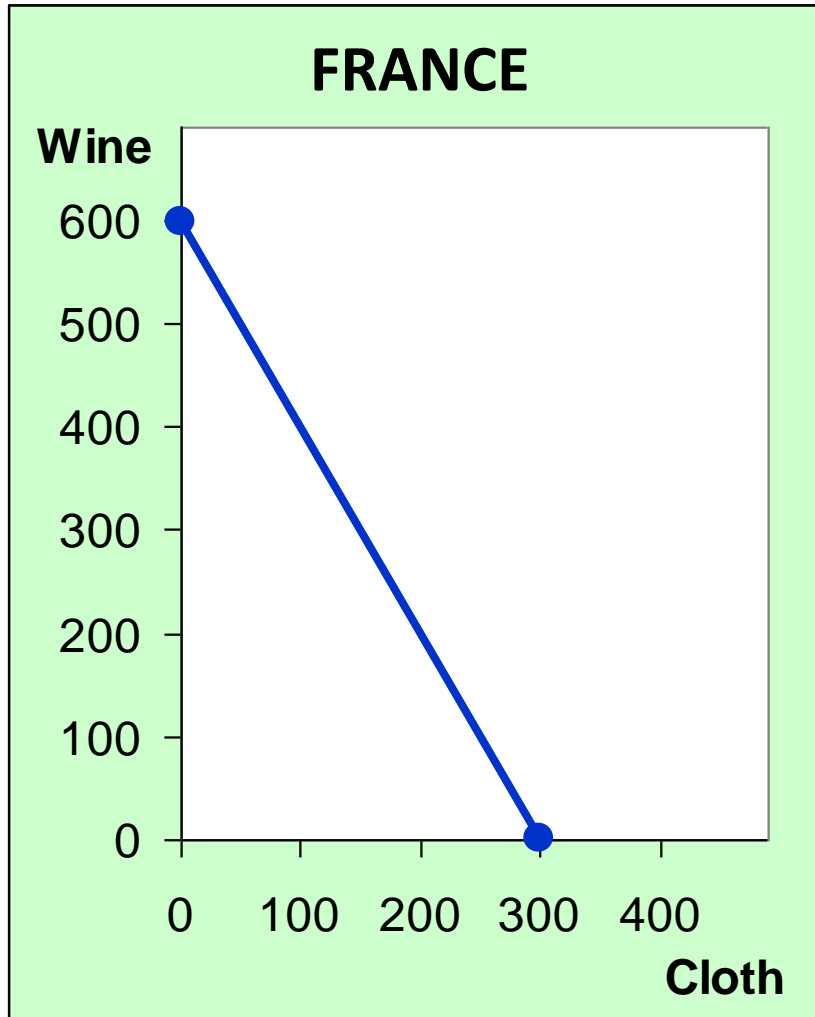
The slope of a line equals the “**rise** over the **run**,” the amount the line rises when you move to the right by one unit.

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

ACTIVE LEARNING 2

PPF and Opportunity Cost

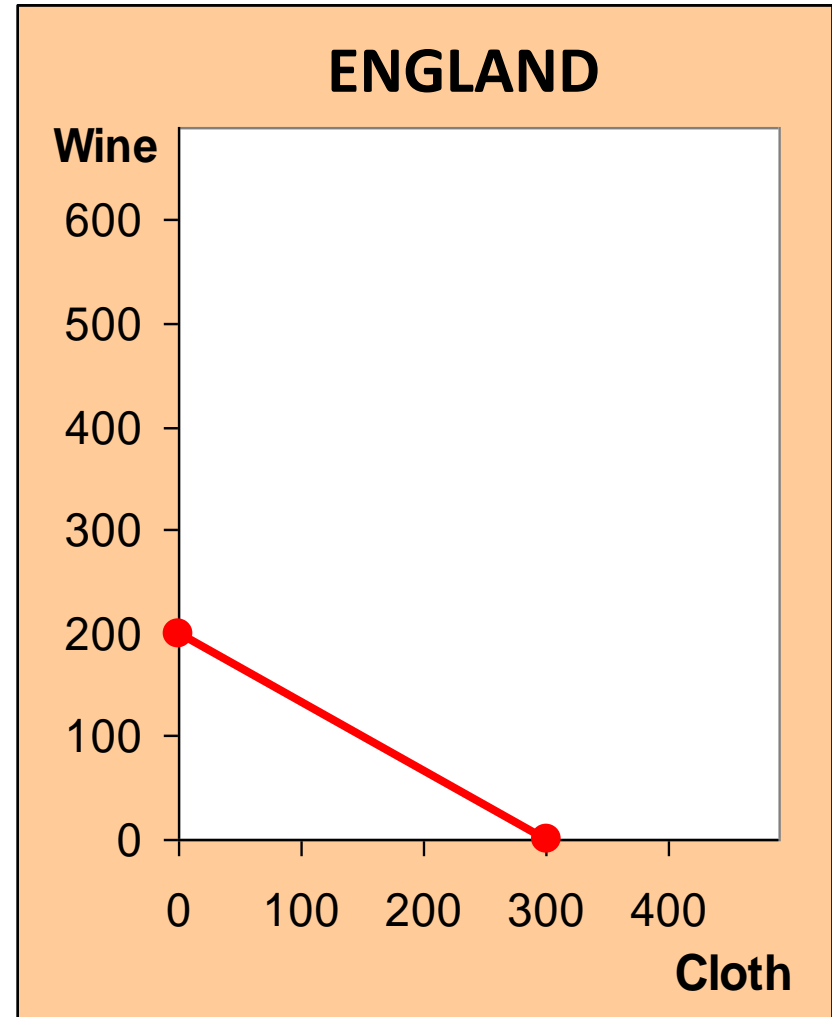
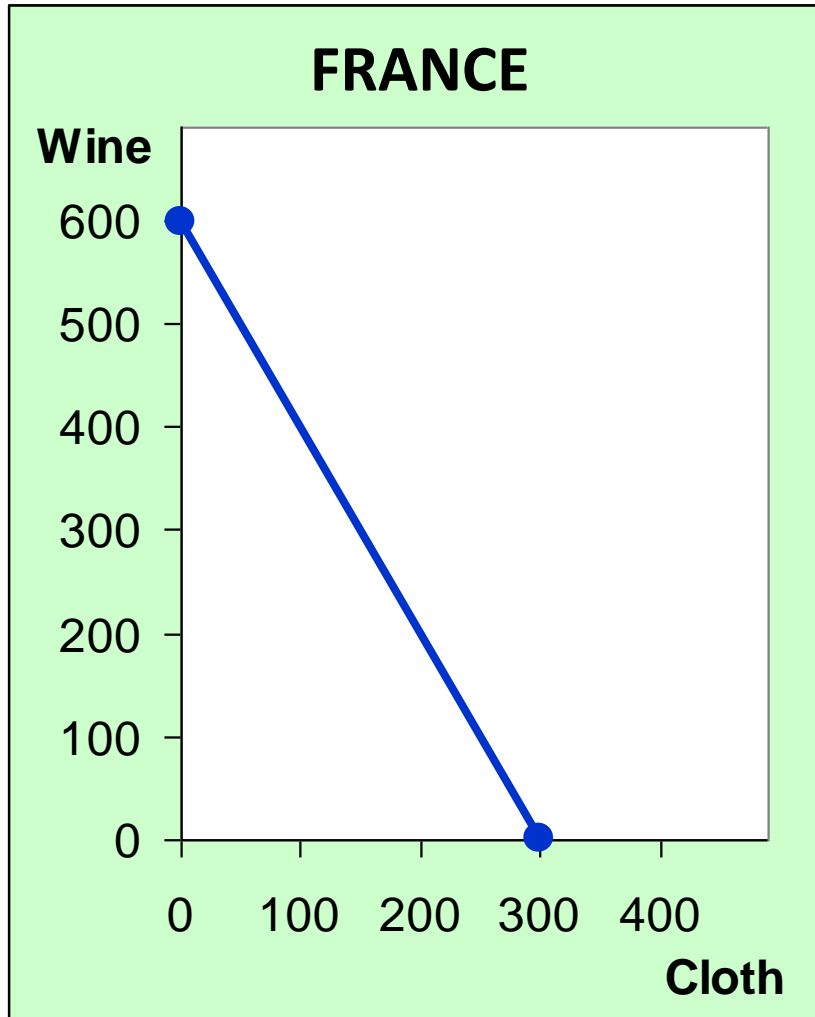
In which country is the opportunity cost of cloth lower?



ACTIVE LEARNING 2

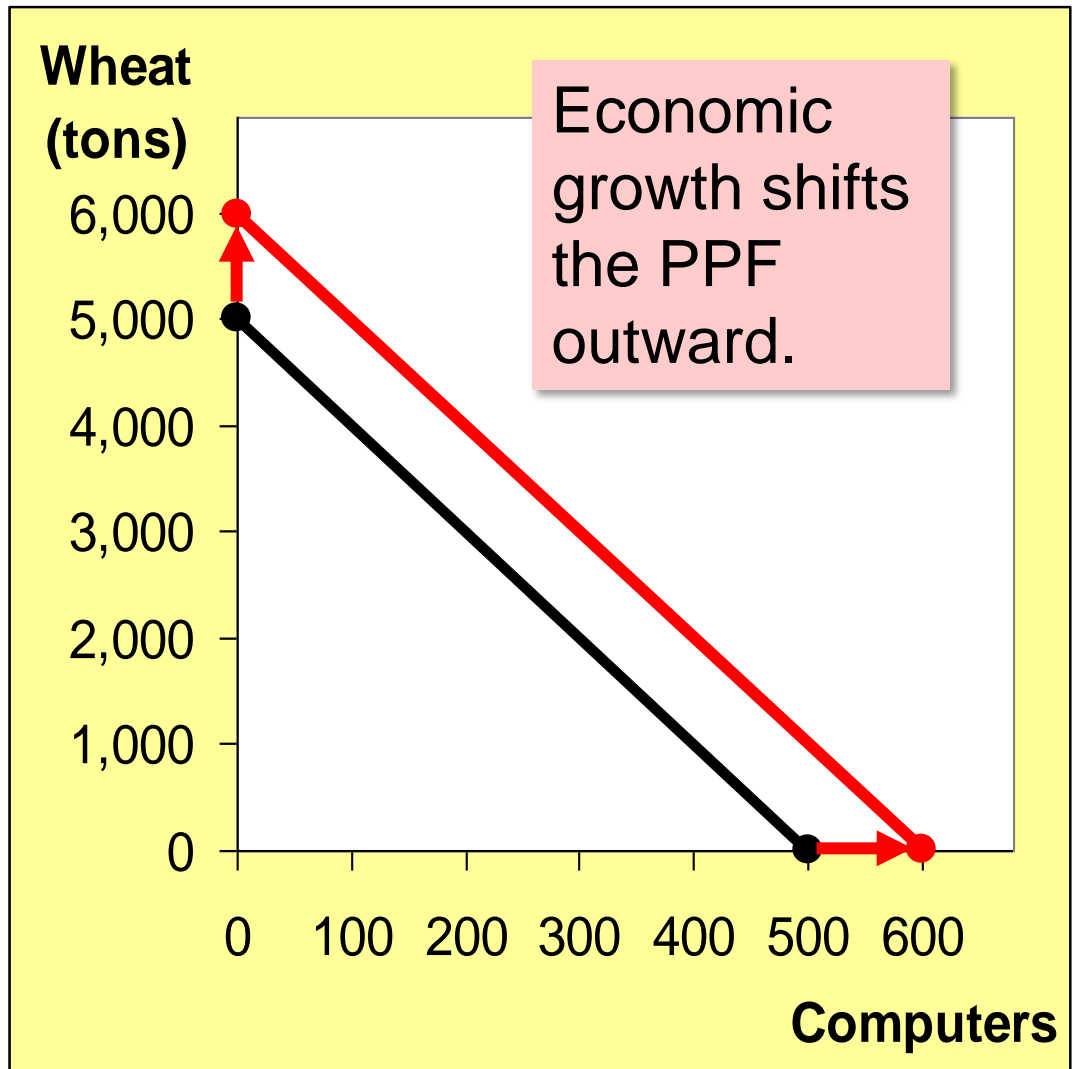
Answers

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 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.

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 music downloads.

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.

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 music downloads.

Positive – describes a relationship.

Note that a statement need not be true to be positive.

SUMMARY

- Two simple models are the Circular-Flow Diagram and 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.