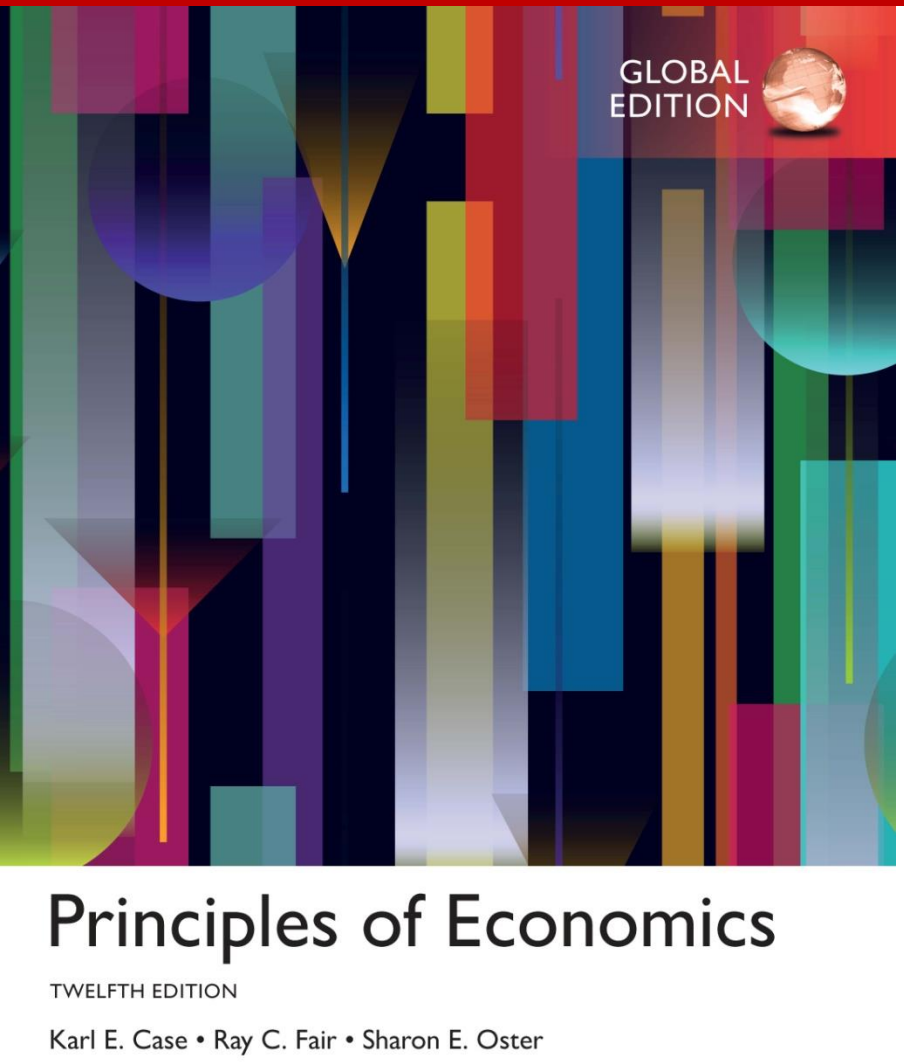
Principles of Economics

Twelfth Edition



Chapter 2

The Economic Problem: Scarcity and Choice

This chapter is largely unrelated to other chapters. Key aspects covered in this chapter:

- Division of work based on specialization
- Benefits of specialization and trade
- Two-person economy and production possibility frontier (PPF)
- Introduction to a few technical terms related to economics
- Learn to quantify opportunity cost
- PPF of a country
- Different types of economic systems

Recall the simple economy example with two individuals: Collaborate, coordinate, and cooperate

- Human needs are better met when we are allowed to exchange our produce or our skills for G&S
- Of course it is not possible for a single individual to produce what all she/he wants to consume
- Time is a scare resource and our skills are different; at the same time needs are unlimited!

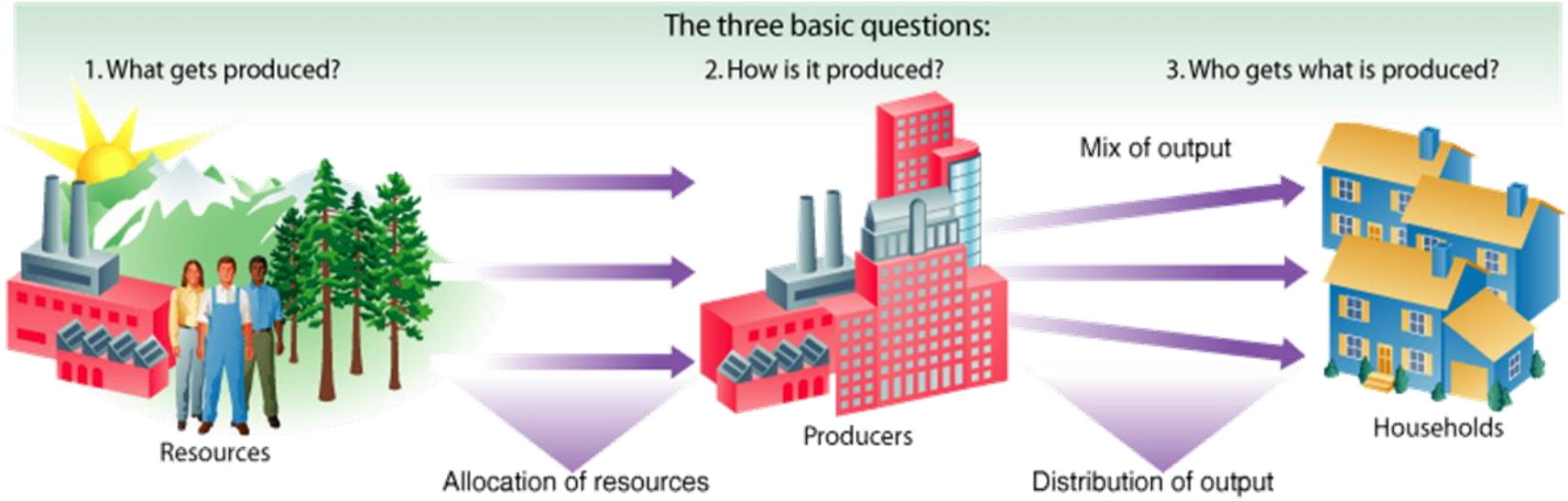
The Economic Problem: Scarcity and Choice *(1 of 2)*

- As discussed in the introductory session, on the surface, economic issues seem quite different from one another.
- But the fundamental concern is *choice* in a world of scarcity.
- Individuals' choices determine three key features of society:
  - What gets produced?
  - How is it produced?
  - Who gets what is produced?

The Economic Problem: Scarcity and Choice *(2 of 2)*

- **capital** Things that are produced and then used in the production of other goods and services.
- **factors of production** (or **factors**) The inputs into the process of production. Another term for resources.
- **production** The process that transforms scarce resources into useful goods and services.
- **inputs** or **resources** Anything provided by nature or previous generations that can be used directly or indirectly to satisfy human wants.
- **outputs** Goods and services of value to households.

FIGURE 2.1 The Three Basic Questions



Every society has some system or process that transforms its scarce resources into useful goods and services.

In doing so, it must decide what gets produced, how it is produced, and to whom it is distributed.

The primary resources that must be allocated are land, labor, and capital.

Scarcity, Choice, and Opportunity Cost

Scarcity and Choice in a One-Person Economy

- Nearly all the same basic decisions that characterize complex economies must also be made in a simple economy.
- A person must decide what to produce and how and when to produce it.

Scarcity and Choice in a One-Person Economy

Opportunity Cost

- The concepts of constrained choice and scarcity are central to the discipline of economics.
- **opportunity cost** The best alternative that we give up, or forgo, when we make a choice or decision.

Scarcity and Choice in an Economy of Two or More *(1 of 3)*

Suppose you have the following information about two individuals' daily production when they put all their resources into production of each output individually (interpret it as: its either poems or TV commercials in a day):

	Krystal	Mark
Writing Poems	8	12
Writing TV Commercials	2	4

Scarcity and Choice in an Economy of Two or More *(2 of 3)*

Specialization, Exchange, and Comparative Advantage

- **theory of comparative advantage** Ricardo's theory that specialization and free trade will benefit all trading parties, even those that may be "absolutely" more efficient producers.
- **absolute advantage** A producer has an absolute advantage over another in the production of a good or service if he or she can produce that product using fewer resources (a lower absolute cost per unit).
- **comparative advantage** A producer has a comparative advantage over another in the production of a good or service if he or she can produce that product at a lower *opportunity cost*.

FIGURE 2.2 Comparative Advantage and the Gains from Trade

Panel (a) shows the best Colleen and Bill can do each day, given their talents and assuming they each wish to consume an equal amount of food and wood.

Notice that Colleen produces by splitting her time equally during the day, while Bill must devote two thirds of his time to wood production if he wishes to equalize his amount produced of the two goods.

Panel (b) shows what happens when both parties specialize. Notice that more units of each good are produced.

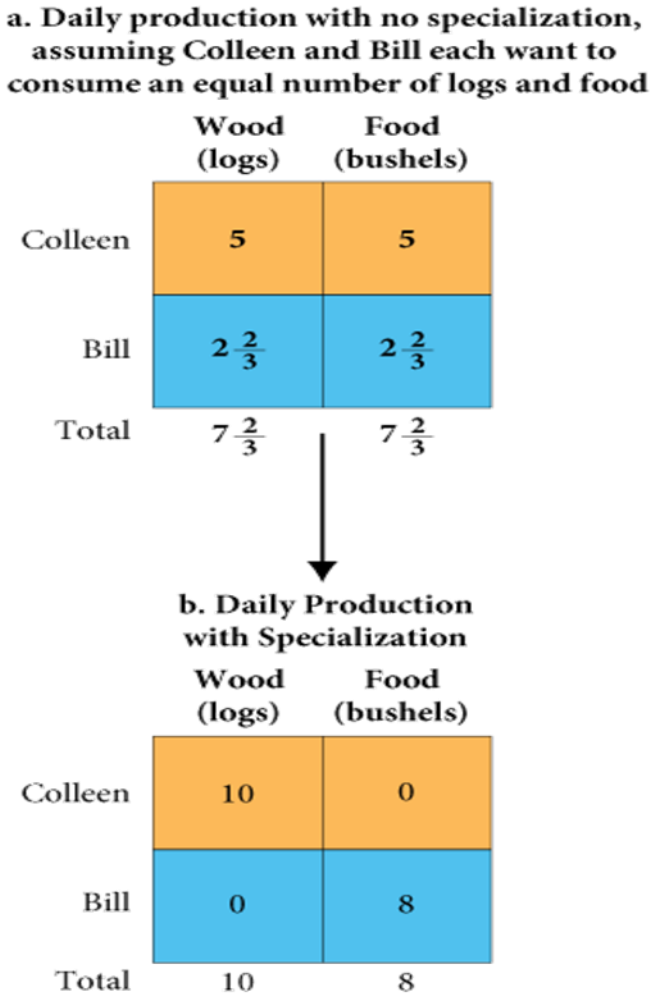
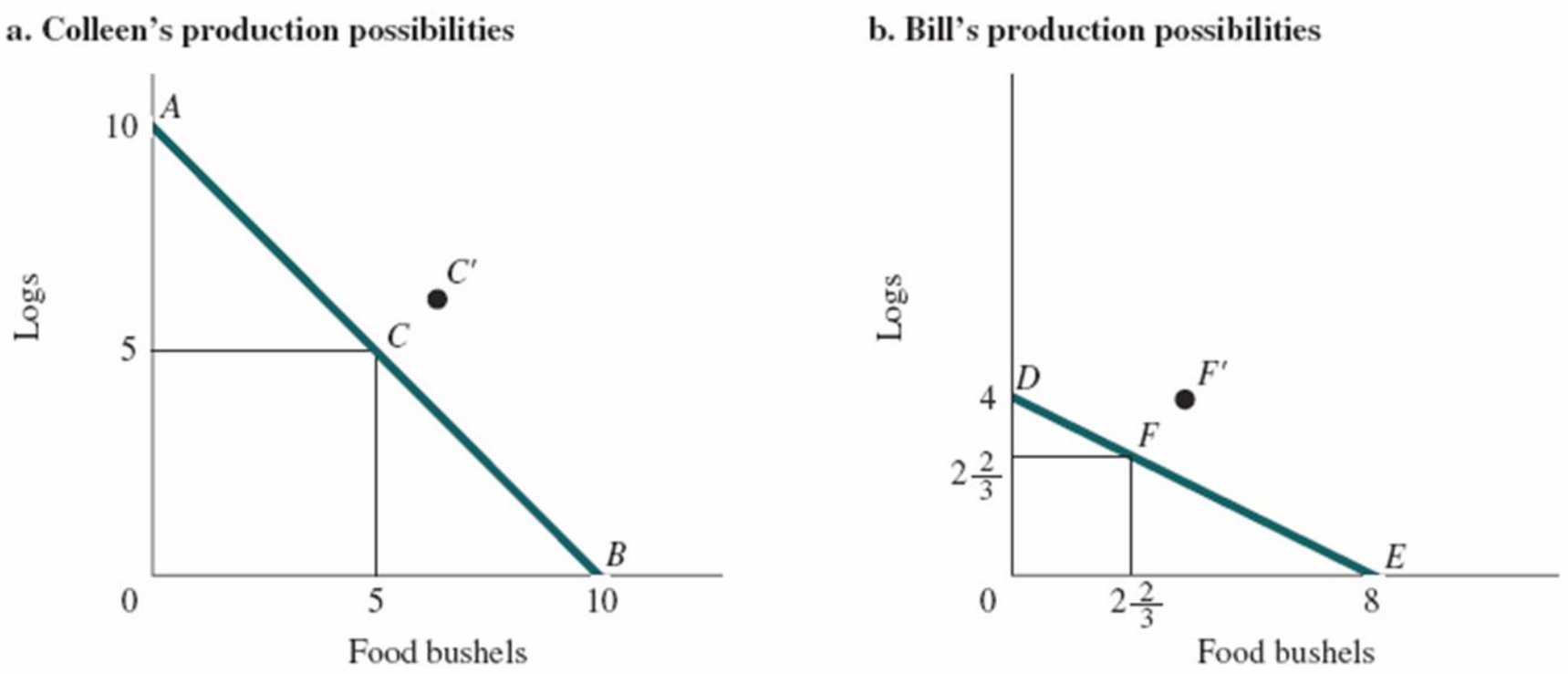


FIGURE 2.3 Production Possibilities with and without Trade



This figure shows the combinations of food and wood that Colleen and Bill can each generate in one day of labor, working by themselves. Colleen can achieve independently any point along line ACB, while Bill can generate any combination of food and wood along line DFE.

Specialization and trade would allow both Bill and Colleen to move to the right of their original lines, to points like *C′* and *F′*. In other words, specialization and trade allow both people to be better off than they were acting alone.

Scarcity and Choice in an Economy of Two or More *(3 of 3)*

Weighing Present and Expected Future Costs and Benefits

- We trade off present and future benefits in small ways all the time.

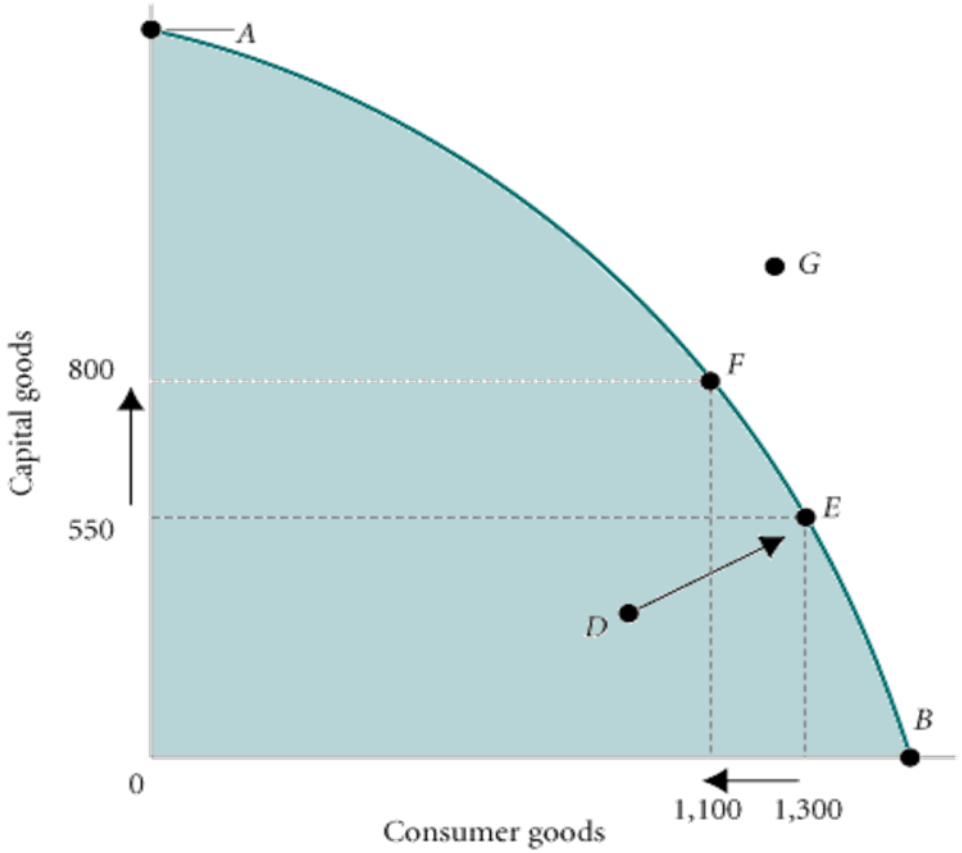
Capital Goods and Consumer Goods

- **consumer goods** Goods produced for present consumption.
- **investment** The process of using resources to produce new capital.

The Production Possibility Frontier *(1 of 7)*

- **production possibility frontier (ppf)** A graph that shows all the combinations of goods and services that can be produced if all of society's resources are used efficiently.

FIGURE 2.4 Production Possibility Frontier



The ppf illustrates a number of economic concepts. One of the most important is *opportunity cost*.

The opportunity cost of producing more capital goods is fewer consumer goods.

Moving from *E* to *F*, the number of capital goods increases from 550 to 800, but the number of consumer goods decreases from 1,300 to 1,100.

The Production Possibility Frontier *(2 of 7)*

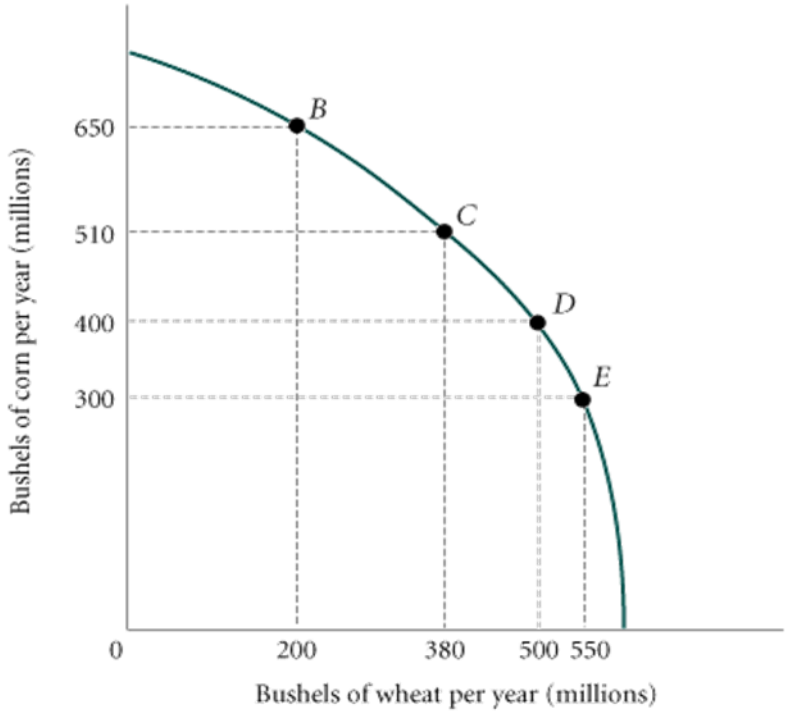
Negative Slope and Opportunity Cost

- **marginal rate of transformation (*MRT*)** The slope of the production possibility frontier (ppf).
- The negative slope tells us how much society has to give up of one output to get a unit of another output.

The Production Possibility Frontier *(3 of 7)*

The Law of Increasing Opportunity Cost

FIGURE 2.5 Corn and Wheat Production in Ohio and Kansas



The ppf illustrates that the opportunity cost of corn production increases as we shift resources from wheat production to corn production. Moving from point *E* to *D*, we get an additional 100 million bushels of corn at a cost of 50 million bushels of wheat.

Moving from point *B* to *A*, we get only 50 million bushels of corn at a cost of 100 million bushels of wheat. The cost per bushel of corn—measured in lost wheat—has increased.

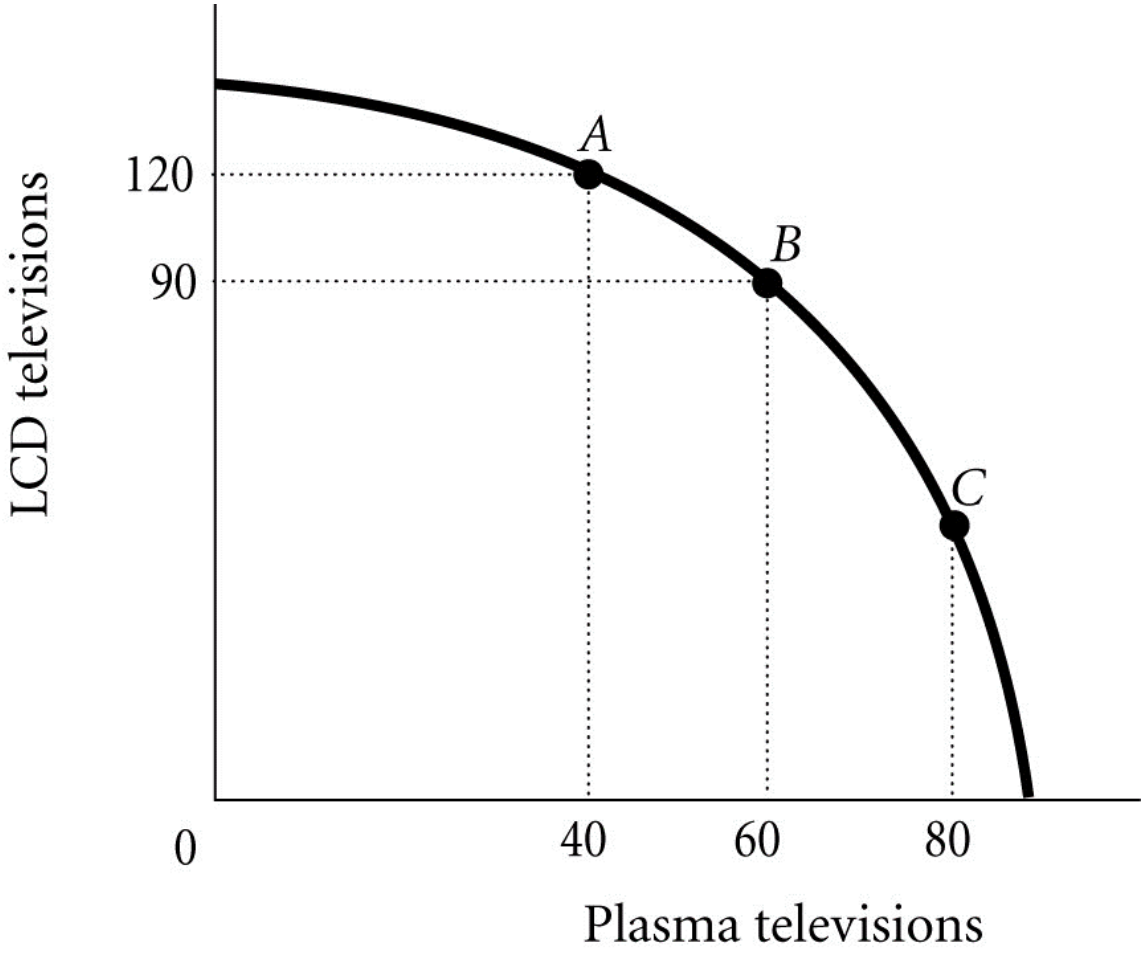
TABLE 2.1 Production Possibility Schedule for Total Corn and Wheat Production in Ohio and Kansas

Point on ppf	Total Corn Production (Millions of Bushels per Year)	Total Wheat Production (Millions of Bushels per Year)
A	700	100
B	650	200
C	510	380
D	400	500
E	300	550

The ppf illustrates that the opportunity cost of corn production increases as we shift resources from wheat production to corn production. Moving from point *E* to *D*, we get an additional 100 million bushels of corn at a cost of 50 million bushels of wheat.

Moving from point *B* to *A*, we get only 50 million bushels of corn at a cost of 100 million bushels of wheat. The *cost per bushel* of corn—measured in lost wheat—has increased.

Test your understanding with an example: The marginal rate of transformation in moving from Point *A* to Point *B* is? From Point B to Point A? Which point is better for the economy?



The Production Possibility Frontier *(4 of 7)*

Unemployment

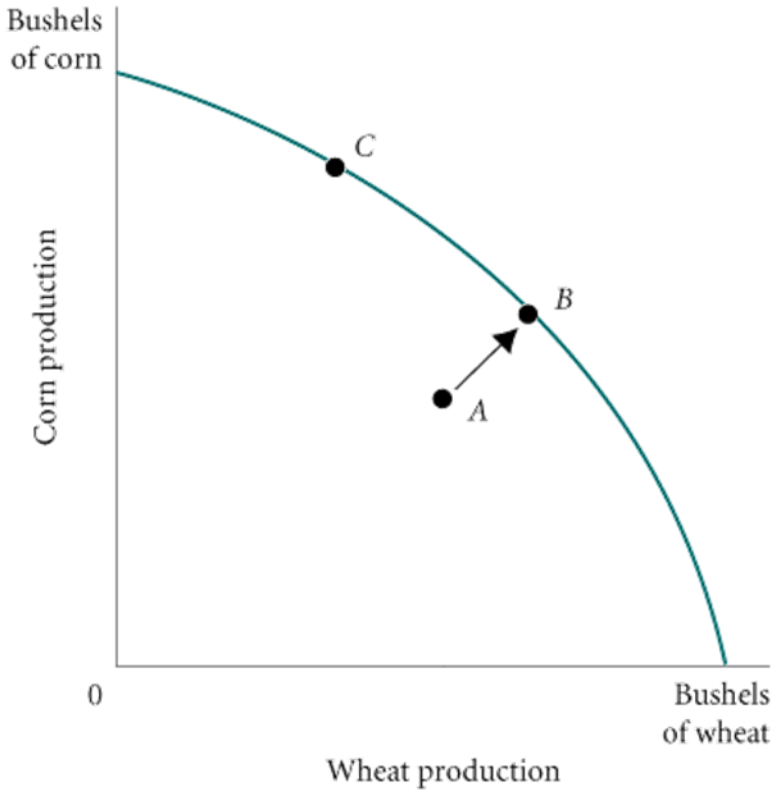
- During economic downturns or recessions, industrial plants run at less than their total capacity.
- When there is unemployment of labor, we are not producing all that we can.

The Production Possibility Frontier *(5 of 7)*

Inefficiency

- Waste and mismanagement are the results of a firm operating below its potential.
- Sometimes inefficiency results from mismanagement of the economy instead of mismanagement of individual private firms.

FIGURE 2.6 Inefficiency from Misallocation of Resources



Inefficiency always results in a combination of production shown by a point inside the ppf, like point *A*. Increasing efficiency will move production possibilities toward a point on the ppf, such as point *B*.

The Production Possibility Frontier *(6 of 7)*

The Efficient Mix of Output

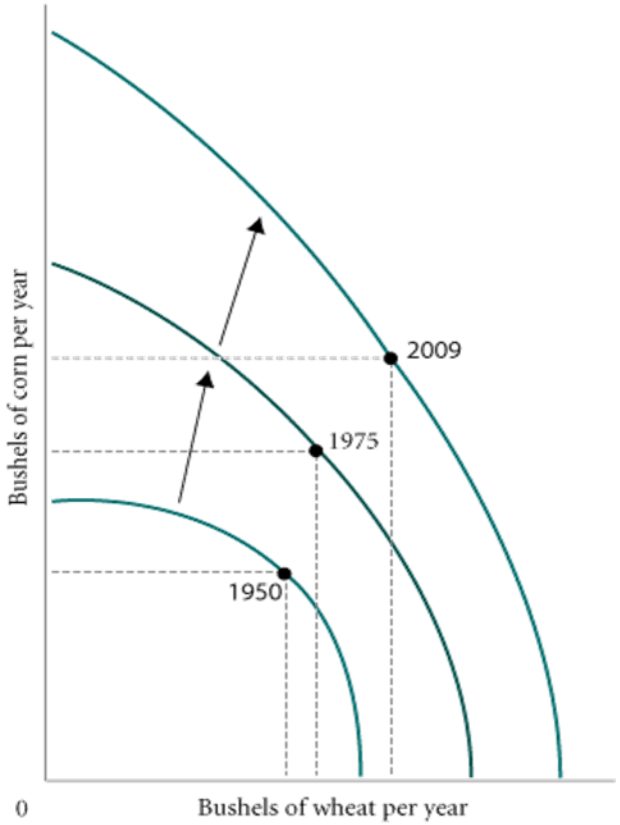
- To be efficient, an economy must produce what people want.
- Output efficiency occurs when the economy is operating at the “right” point on the ppf.

The Production Possibility Frontier *(7 of 7)*

Economic Growth

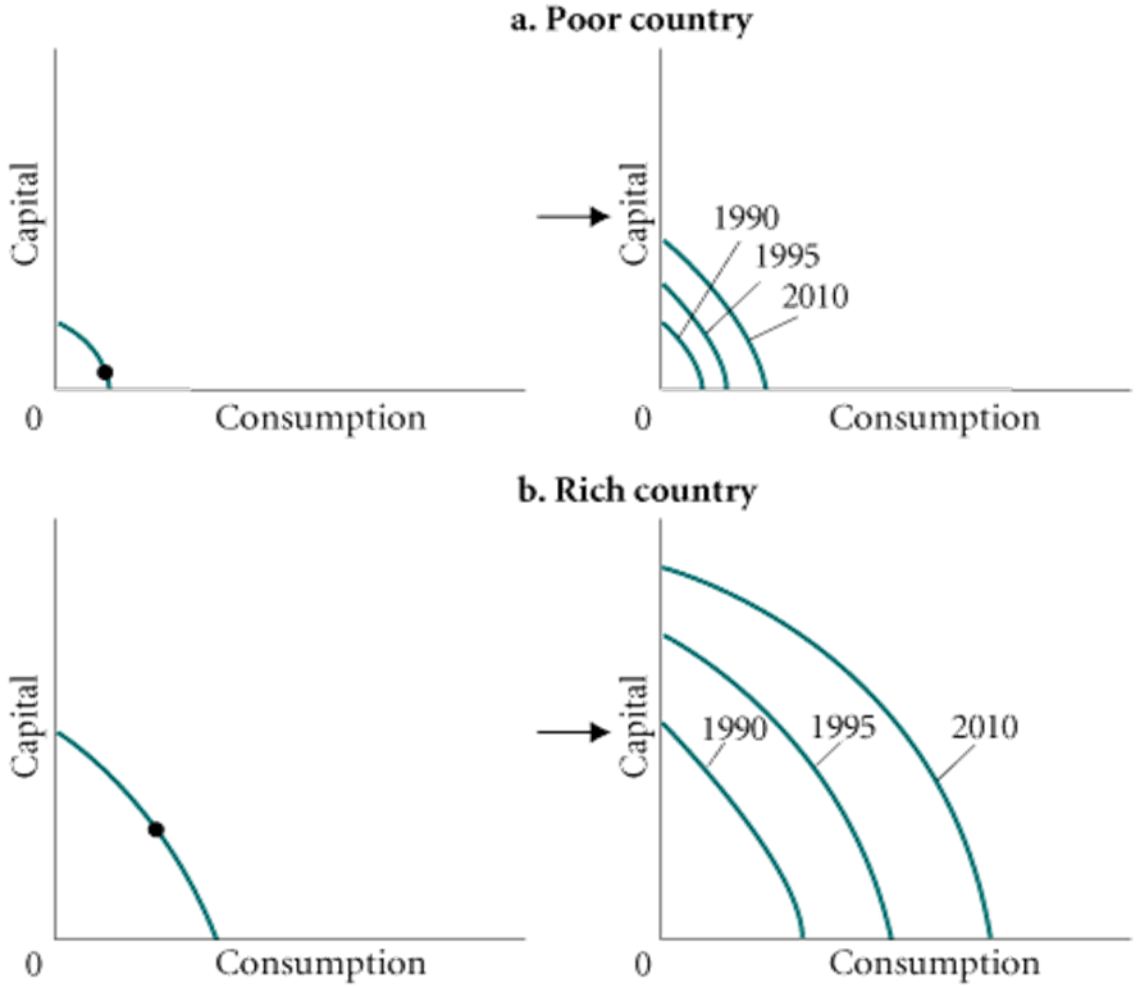
- **economic growth** An increase in the total output of an economy. Growth occurs when a society acquires new resources or when it learns to produce more using existing resources.
- Growth shifts the ppf up and to the right.

FIGURE 2.7 Economic Growth Shifts the PPF Up and to the Right



Productivity increases have enhanced the ability of the United States to produce both corn and wheat. As Table 2.2 shows, productivity increases were more dramatic for corn than for wheat. Thus, the shifts in the ppf were not parallel.

FIGURE 2.8 Capital Goods and Growth in Poor and Rich Countries



Rich countries find it easier than poor countries to devote resources to the production of capital, and the more resources that flow into capital production, the faster the rate of economic growth.

Thus, the gap between poor and rich countries has grown over time.

The Economic Problem

- Recall the three basic questions facing all economic systems:
  - What gets produced?
  - How is it produced?
  - Who gets it?
- Given scarce resources, how do large, complex societies go about answering the three basic economic questions?

Economic Systems and the Role of Government *(1 of 7)*

Command Economies

- **command economy** An economy in which a central government either directly or indirectly sets output targets, incomes, and prices.

Laissez-Faire Economies: The Free Market

- **laissez-faire economy** Literally from the French: "allow [them] to do." An economy in which individual people and firms pursue their own self-interest without any central direction or regulation.

Economic Systems and the Role of Government *(2 of 7)*

- **market** The institution through which buyers and sellers interact and engage in exchange.
- Some markets are simple and others are complex, but they all involve buyers and sellers engaging in exchange.
- The behavior of buyers and sellers in a laissez-faire economy determines what gets produced, how it is produced, and who gets it.

Economic Systems and the Role of Government *(3 of 7)*

Consumer Sovereignty

- **consumer sovereignty** The idea that consumers ultimately dictate what will be produced (or not produced) by choosing what to purchase (and what not to purchase).
- The mix of output is dictated by consumers who “vote” by buying or not buying.

Economic Systems and the Role of Government *(4 of 7)*

Individual Production Decisions: Free Enterprise

- Under a free market system, individual producers must determine how to organize and coordinate their production.
- In a free market economy, production decisions are made by private organizations acting in their own interest.

Economic Systems and the Role of Government *(5 of 7)*

Distribution of Output

- A household's income affects the amount of output it can get.
- *Income* is the amount that a household earns each year. It comes in a number of forms, such as wages, salaries, and interest.
- You may be able to increase your income by getting more education or training.

Economic Systems and the Role of Government *(6 of 7)*

Price Theory

- In a free market system, the basic economic questions are answered without the help of a central government plan or directives.
- This is what the “free” in free market means—the system is left to operate on its own, with no outside interference. Individuals pursuing their own self-interest will go into business and produce the products and services that people want.

Economic Systems and the Role of Government *(7 of 7)*

Price Theory

- Other individuals will decide whether to acquire skills; whether to work; and whether to buy, sell, invest, or save the income that they earn.
- The basic coordinating mechanism is price.

Mixed Systems, Markets, and Governments

- The differences between command economies and laissez-faire economies in their pure forms are enormous.
- In fact, these pure forms do not exist in the world.
- All real systems are in some sense “mixed.”

REVIEW TERMS AND CONCEPTS

- absolute advantage
- capital
- command economy
- comparative advantage
- consumer goods
- consumer sovereignty
- economic growth
- factors of production (or factors)
- inputs or resources
- investment
- laissez-faire economy
- marginal rate of transformation (MRT)
- market
- opportunity cost
- outputs
- production
- production possibility frontier (ppf)
- theory of comparative advantage