TRADE-OFFS, COMPARATIVE ADVANTAGE, AND THE MARKET SYSTEM

Chapter 2

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Chapter Outline

- **2.1** Production Possibilities Frontiers and Opportunity Costs
- **2.2** Comparative Advantage and Trade
- **2.3** The Market System

Note: Recall scarce resources and trade-offs from Chapter 1 before moving on further.

2.1 Production Possibilities Frontiers and Opportunity Costs

A PPF can be used to analyze opportunity cost and trade-offs.

A **production possibilities frontier (PPF)** is a curve showing the maximum attainable combinations of two goods that can be produced with available resources and current technology.

Question: Is the PPF a positive or normative tool?

Answer: Positive; it shows “what is”- a fact, not “what should be”.

Figure 2.1 Tesla's Production Possibilities Frontier (Constant Opportunity Costs)

Tesla can produce sedans and/or SUVs. If it wants to produce more sedans, it must reduce the number of SUVS.

- Points on the PPF (green line) are attainable for Tesla.
- Points below the curve are inefficient (Point F)- because it is wasteful to not produce if you have available resources.
- Points above the curve are unattainable with current resources (Point G).

Tesla's Production Choices at Its Fremont Plant

Choice	Quantity of Sedans Produced	Quantity of SUVs Produced
A	80	0
B	60	20
C	40	40
D	20	60
E	0	80

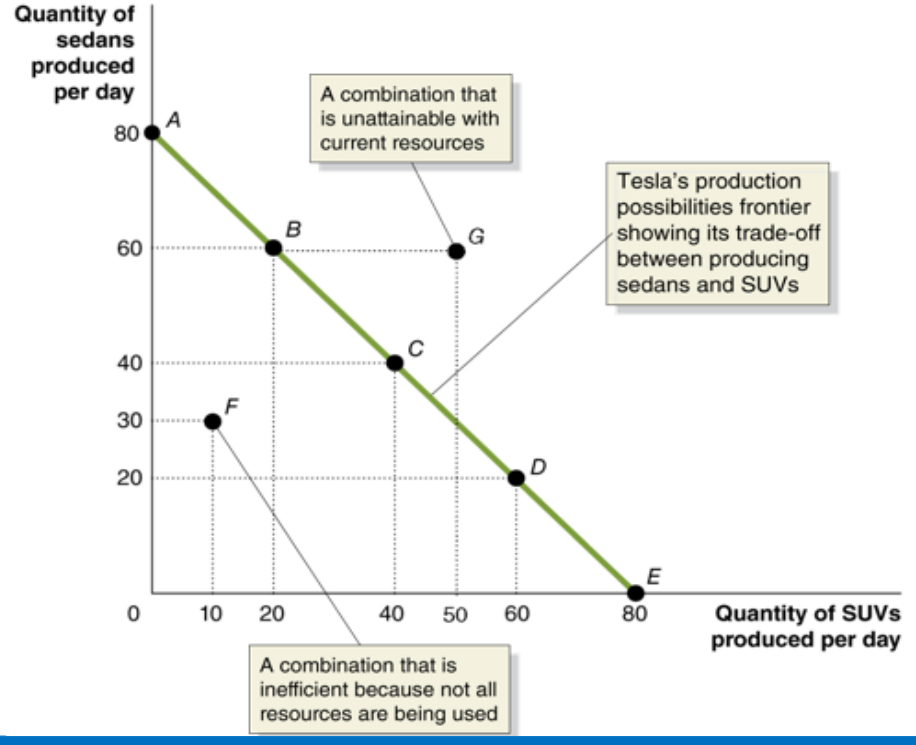
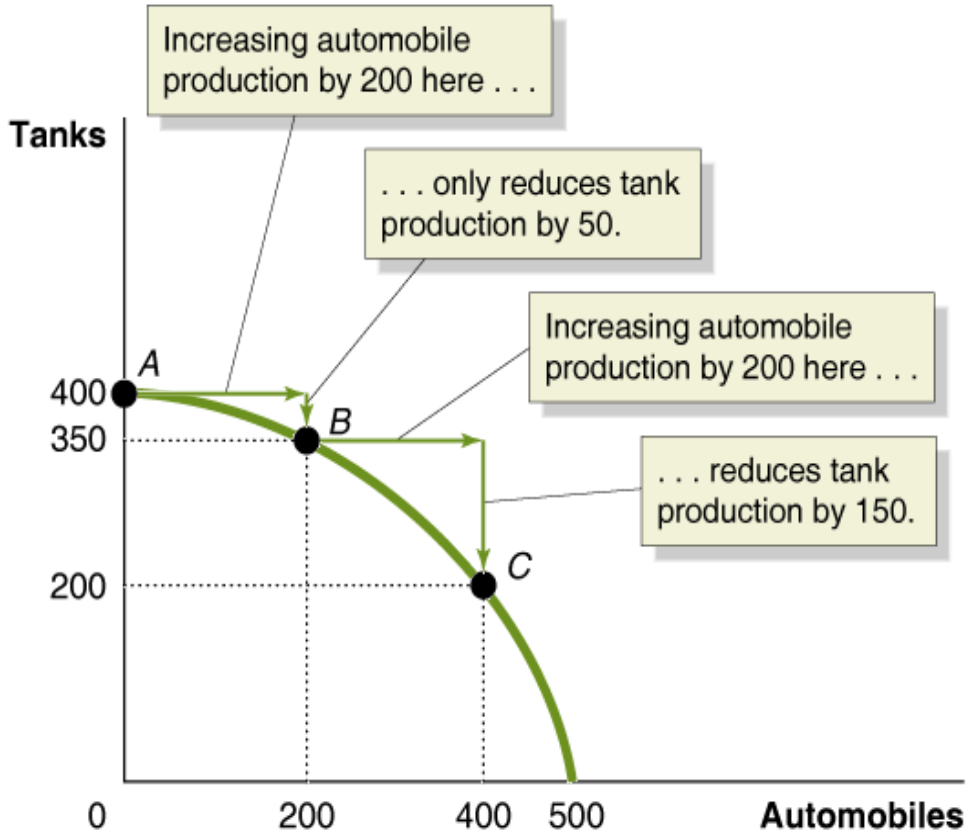


Figure 2.2 Tesla's Production Possibilities Frontier (Increasing Marginal Opportunity Costs)

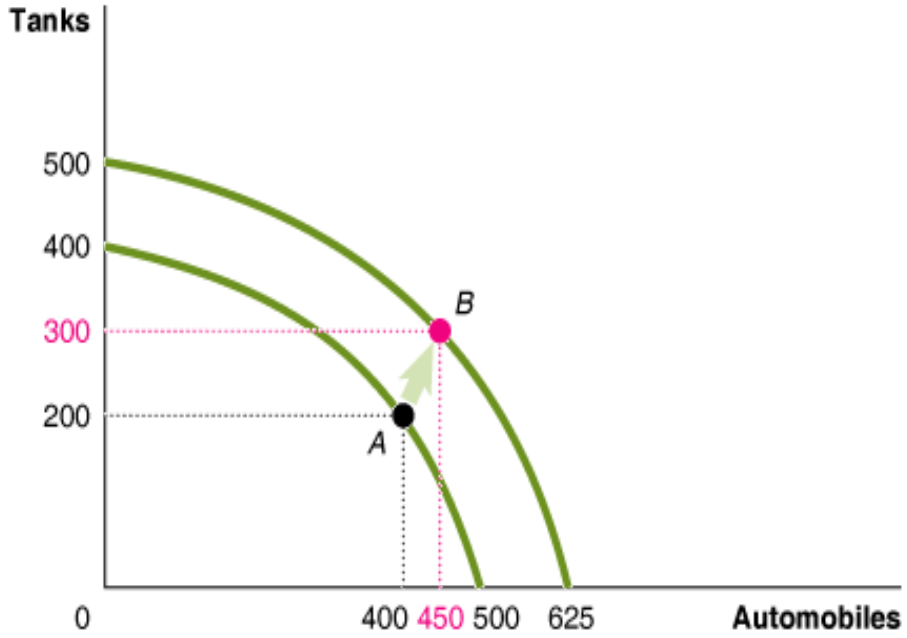
- Some resources are better suited to one task than another. The first resources to "switch" are the one best suited to switching.
- *The more resources already devoted to an activity, the smaller the payoff to devoting additional resources to that activity.*

Note: Here, the slope/gradient changes as production changes from point A to B to C as opposed to the constant marginal cost example in the last slide.



2.3 Economic Growth (Panel a)

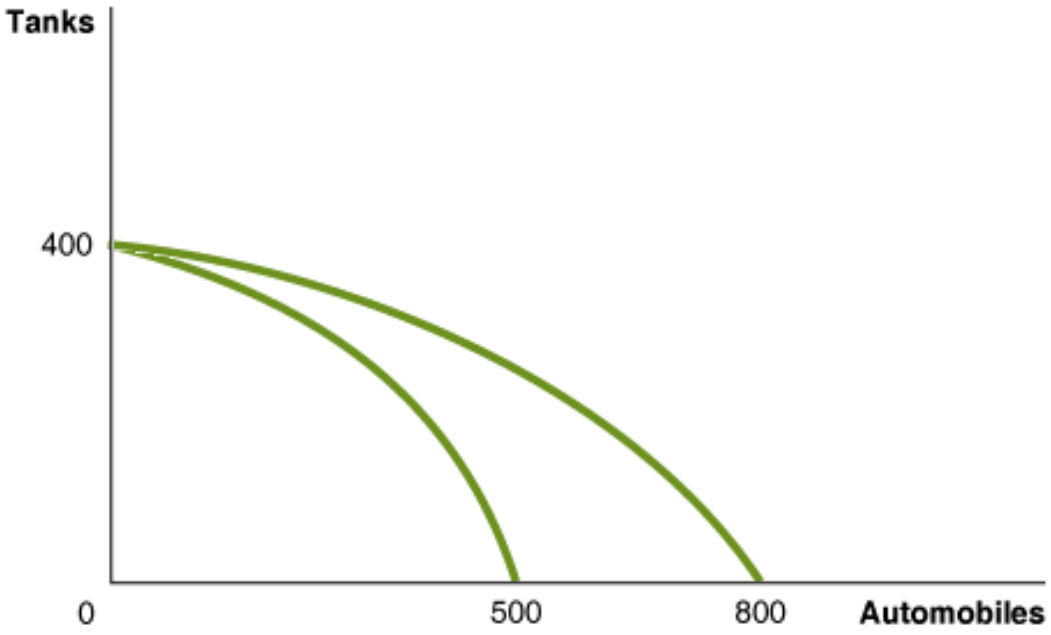
- As more economic resources become available, the economy can move from point *A* to point *B*, producing more tanks and more automobiles. The PPF shifts to the right as their productive potential increases.
- Shifts in the production possibilities frontier represent *economic growth*.
- **Economic growth**: the ability of the economy to increase the production of goods and services.
- Remember, economic growth and technology growth have the potential to shift an economy's PPF to the right by increasing its productive potential.



(a) Shifting out the production possibilities frontier

2.3 Economic Growth (Panel b)

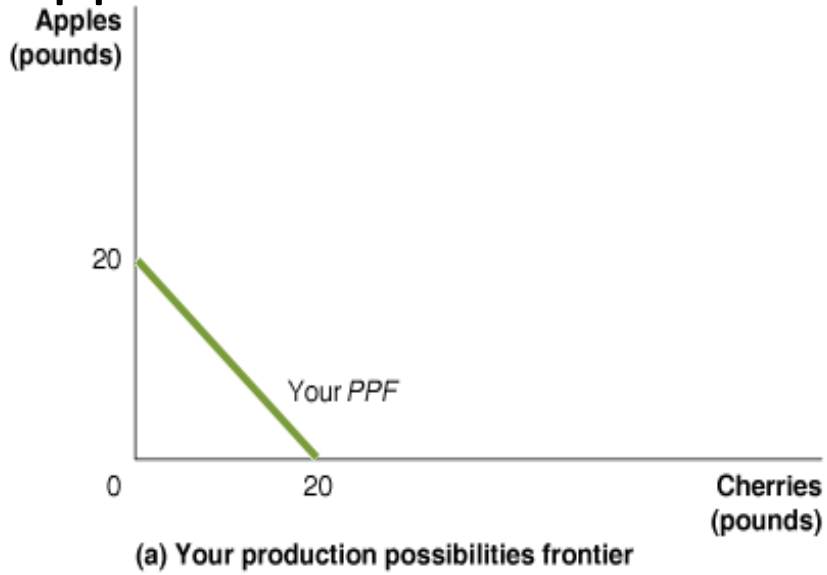
- This panel shows technological improvement ONLY in the automobile industry (unlike the figure in the last slide- compare!).
- The quantity of tanks that can be produced remains unchanged.
- As in the previous slide, many previously unattainable combinations are now attainable.



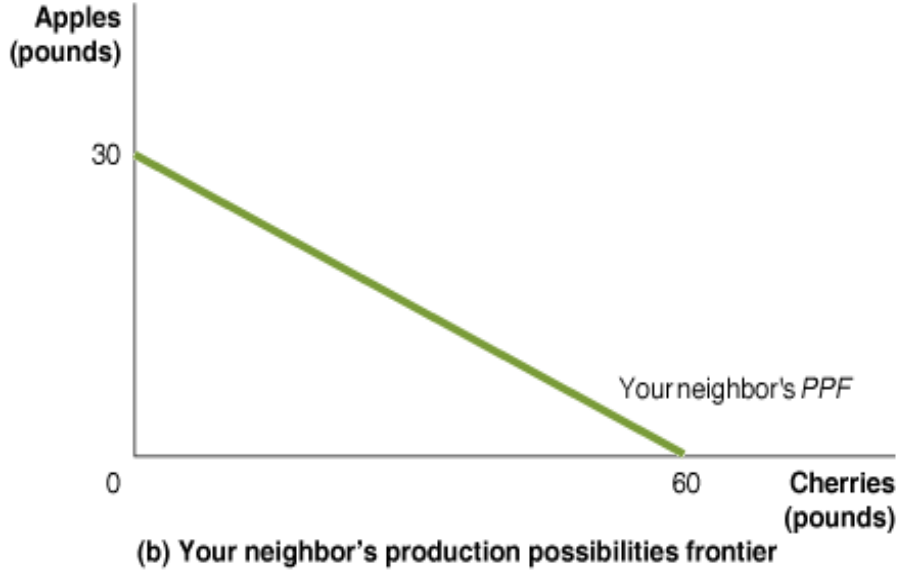
(b) Technological change in the automobile industry

2.2 Comparative Advantage and Trade

- Example: You and your neighbor each have limited time to pick apples and/or cherries. If you spend all of your time picking cherries, you can pick 20 pounds of cherries; or if you spend all your time picking apples, you can pick 20 pounds of apples.
- Your neighbor can similarly pick 60 pounds of cherries or 30 pounds of apples.



(a) Your production possibilities frontier



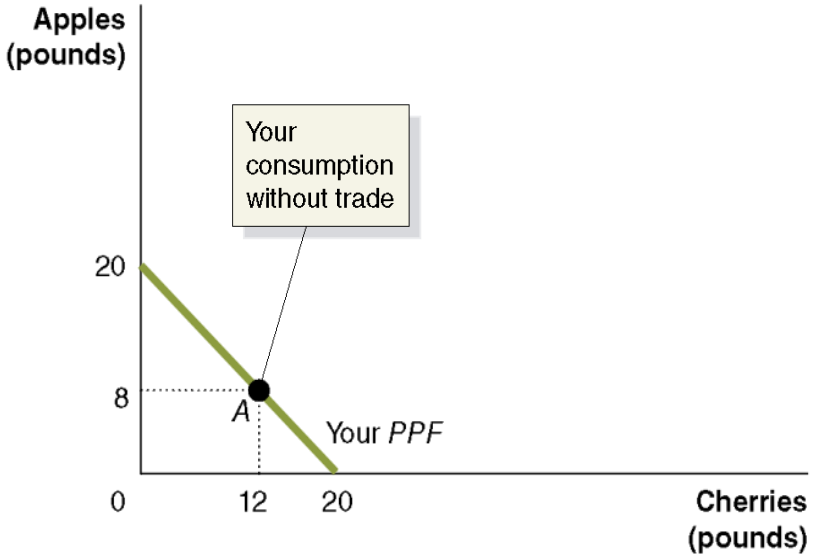
(b) Your neighbor's production possibilities frontier

Specialization and Trade

- What if you and your neighbor decided to specialize and *trade*?
- **Trade**: The act of buying and selling.
- Could your neighbor benefit from trade? You are equally good as producing both apples and cherries. She is better at picking both apples and cherries…
- Both of you can benefit from trade, by specializing in what you are *relatively* good at. Let's see how…

Figure 2.5 Gains from Trade (1 of 3)

- When you don't trade with your neighbor, let's say you pick and consume 8 pounds of apples and 12 pounds of cherries per week—point *A* in panel (a).
- When your neighbor doesn't trade with you, she picks and consumes 9 pounds of apples and 42 pounds of cherries per week—point *C* in panel (b).

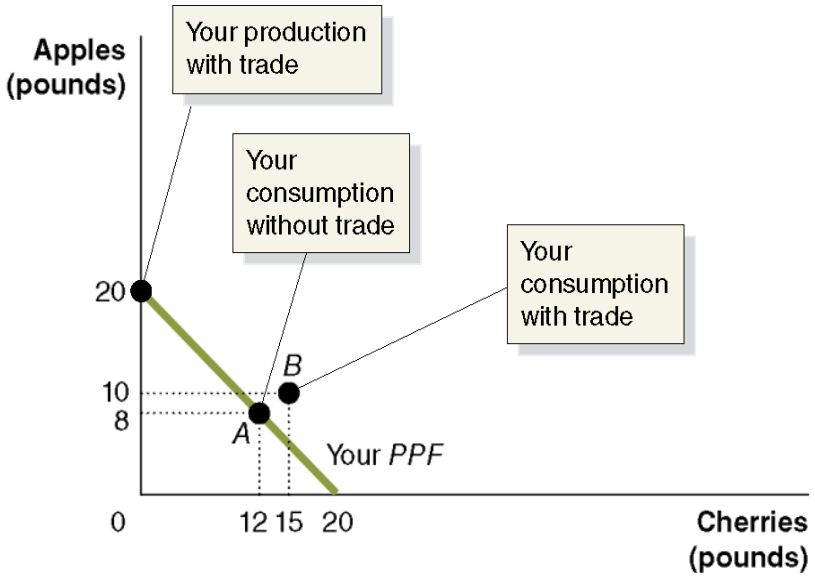


(a) Your production and consumption with trade

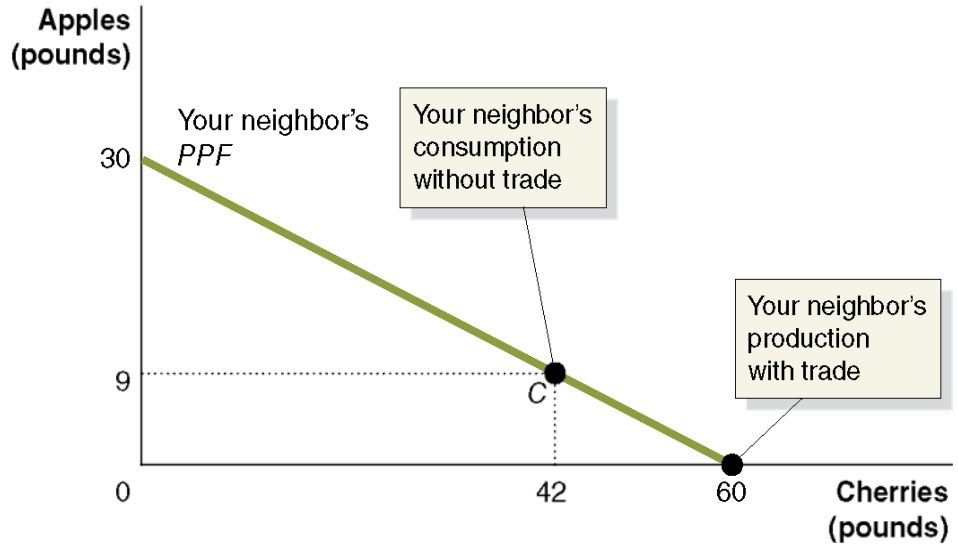
(b) Your neighbor's production and consumption with trade

Figure 2.5 Gains from Trade (2 of 3)

- If you specialize in picking apples, you can pick 20 pounds. If your neighbor specializes in picking cherries, she can pick 60 pounds.
- If you trade 10 pounds of your apples for 15 pounds of your neighbor's cherries, you will be able to consume 10 pounds of apples and 15 pounds of cherries— point *B* in panel (a).



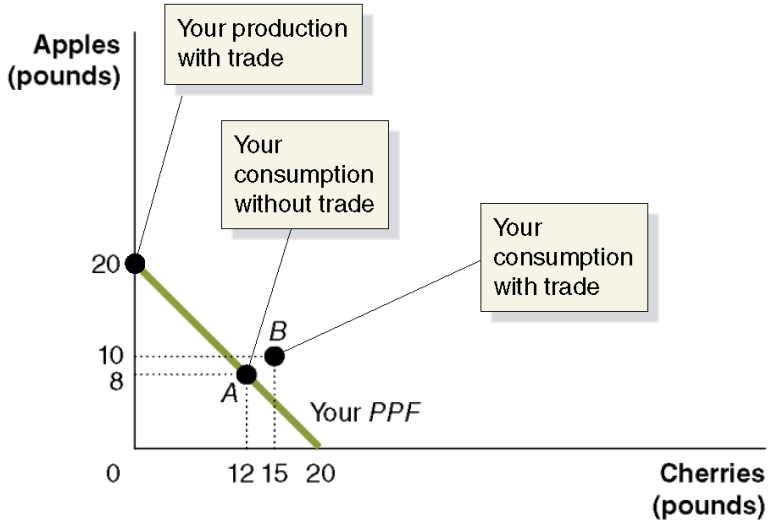
(a) Your production and consumption with trade



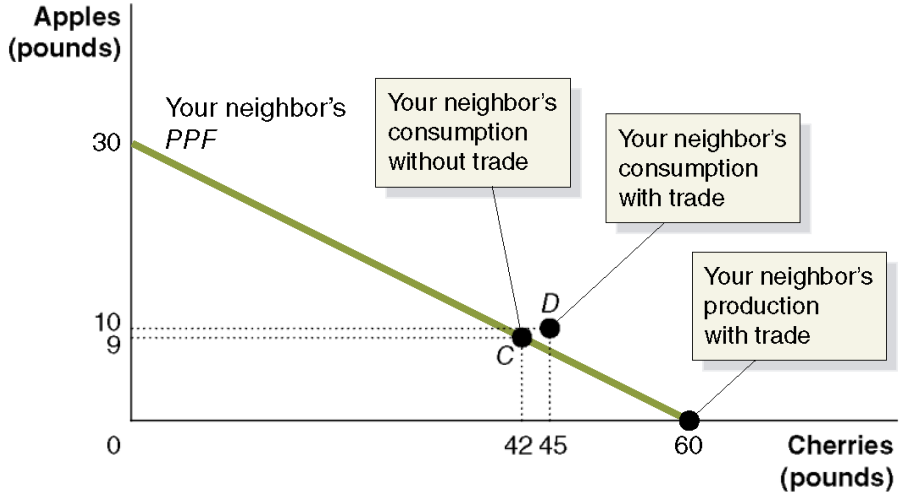
(b) Your neighbor's production and consumption with trade

Figure 2.5 Gains from Trade (3 of 3)

- Your neighbor can now consume 10 pounds of apples and 45 pounds of cherries—point *D* in panel (b). You and your neighbor are both better off as a result of trade.
- Note that your neighbor benefits from trade *even though she could produce more of either fruit than you could*.
- Check Table 2.1: Both you and your neighbor are able to consume more with trade than without.



(a) Your production and consumption with trade



(b) Your neighbor's production and consumption with trade

Explaining the Gains from Specialization and Trade

- How could both of you benefit from trade, when your neighbor was so much better than you?
- **Absolute advantage**: The ability of an individual, a firm, or a country to produce more of a good or service than competitors, using the same amount of resources.
- **Comparative advantage**: The ability of an individual, a firm, or a country to produce a good or service at a lower opportunity cost than competitors.
- Therefore, your neighbor had an *absolute advantage* in both cherry and apple picking, but you had a *comparative advantage* in picking apples. You had a lower opportunity cost in picking apples.
- The same theory could be applied to trade between countries as well: when domestic opportunity cost ratio differs between two countries, each country will produce the good in which it has a lower opportunity cost of production.

Calculating Opportunity Cost

- Let's first calculate the opportunity cost (OC) of picking 1 pound of apples:

  Given your resources, you can either produce 20 pounds of apples or 20 pounds of cherries. So your OC of producing 1 pound of apples is giving up 1 pound of cherries.(^)

  Now, given your neighbor's resources, she can either produce 30 pounds of apples or 60 pounds of cherries. So your neighbor's OC of producing 1 pound of apples is giving up 2 pound of cherries.

- Similarly, we can calculate (try it yourself) the OC of picking 1 pound of cherries:

  You- giving up 1 pound of apples

  Your neighbor- giving up 0.5 pounds of apples(*)

Your neighbor has an absolute advantage in both apples and cherries because she can produce more of both goods but she has a comparative advantage in picking cherries (*) and you have a comparative advantage in producing apples(^). The basis for trade is comparative advantage, not absolute advantage.

2.3 The Market System

- A **market** is a group of buyers and sellers of a good or service, and the institution or arrangement by which they come together to trade.
- Two key groups participate in the modern economy:
- *Households* consist of individuals who provide the **factors of production**: labor, capital, natural resources, and other inputs used to make goods and services.
- Households receive payments for these factors by selling them to firms in **factor markets**.
- *Firms* supply goods and services to **product markets**; households buy these products from the firms.

Figure 2.6 The Circular Flow of Income

- **Circular-flow diagram**: A model that illustrates how participants in markets are linked.

  Households provide factors of production to firms.

  Firms provide goods and services to households.

  Firms pay money to households for the factors of production.

  Households pay money to firms for the goods and services.

- Like all economic models, the circular flow diagram is a simplified version of reality: no government, no financial system, and no foreign buyers and sellers of goods.

The Gains from Free Markets

- A **free market** is one with few government restrictions on how a good or service can be produced or sold, or on how a factor of production can be employed.
- Countries that come closest to the free market benchmark have been more successful than those with centrally planned economies in providing their people with rising living standards.
- This concept is not new: Adam Smith argued for free markets in his 1776 treatise, *An Inquiry into the Nature and Causes of the Wealth of Nations.*

The Beauty of Market Mechanism

- It is not immediately obvious that markets will do better than centrally-planned systems for satisfying human desires. One of the major arguments against such an idea is the example of China.
- After all, individuals are acting only in their own *rational self-interest*.
- But markets with *flexible prices* allow the collective actions of households and firms to signal the relative worth of goods and services.
- In this way, the Adam Smith's (remember his name) "invisible hand" allows *individual* responses to *collectively* end up satisfying the wants of consumers.

The Role of the Entrepreneur

- An **entrepreneur** is someone who operates a business, bringing together the factors of production—labor, capital, and natural resources—to produce goods and services.
- The best entrepreneurs create products that consumers never even knew they wanted. e.g. Mark Zuckerberg

- *"If I had asked my customers what they wanted, they would have said a faster horse."*
- - Henry Ford

- Entrepreneurs make a vital contribution to economic growth, often with considerable personal risk and sacrifice.

The Legal Basis of a Successful Market System

- In a free market, government does not restrict how firms produce and sell goods, or how they employ factors of production.
- Governments must provide a sound *legal environment* that will allow the market system to succeed, including:
- *Protection of private property*
- When criminals can take your wages or profits, households and firms have little incentive to work hard.
- **Property rights**: the rights individuals or firms have to the exclusive use of their property, including the right to buy or sell it.
- *Enforcement of contracts and property rights*
- Important for transactions across time to occur.
- An independent court system is critical for this.

Copyrights and patents protect the intellectual property of creators and inventors, in order to encourage innovation.

THE END

“The opportunity cost of an item is what you give up to get that item. When making any decision, decision makers should be aware of the opportunity costs that accompany each possible action. In fact, they usually are. College athletes who can earn millions if they drop out of school and play professional sports are well aware that their opportunity cost of college is very high. It is not surprising that they often decide that the benefit of a college education is not worth the cost.” – N. Gregory Mankiw