Trade-offs, Comparative Advantage, and the Market System

2.1 Production Possibilities Frontiers and Opportunity Costs

Learning Objective 1  Use a production possibilities frontier to analyze opportunity costs and trade-offs.

A graph of a linear production possibilities frontier (PPF) is used to illustrate the trade-off BMW faces in deciding how many roadsters and SUVs it should produce given its limited resources and technology.

A production possibilities frontier is a curve showing the maximum attainable combinations of two products that may be produced with available resource and current technology.

A. Graphing the Production Possibilities Frontier

Combinations of products on the frontier are technically efficient because the maximum output is obtained from the available resources. Combinations inside the frontier are inefficient because some resources are not being used. Combinations outside the frontier are unattainable with current resources.

Opportunity cost is the highest-valued alternative that must be given up to engage in an activity.

B. Increasing Marginal Opportunity Costs

A convex or “bowed out” PPF illustrates increasing marginal opportunity costs. Increasing marginal opportunity costs occur because some workers, machines, and other resources are better suited to one use than another. Increasing marginal opportunity costs illustrate an important concept: the more resources already devoted to any activity, the smaller the payoff to devoting additional resources to that activity. Economic growth will shift a PPF to the right.

C. Economic Growth
Economic growth is the ability of the economy to produce increasing quantities of goods and services. Economic growth can occur if more resources become available or if a technological advancement makes resources more productive. Growth may lead to greater increases in production for one good than another.

### 2.2 Comparative Advantage and Trade

**Learning Objective 2** Understand comparative advantage and explain how it is the basis for trade.

Trade is the act of buying or selling. One of the great benefits of trade is that it makes it possible for people to become better off by increasing both their production and their consumption.

A. Specialization and Gains from Trade

PPFs depict the combinations of two goods that can be produced if no trade occurs. If one individual’s PPF shows greater production of both goods, this individual has an absolute advantage in producing both goods.

B. Absolute Advantage versus Comparative Advantage

Absolute advantage is the ability of an individual, firm, or country to produce more of a good or service than competitors using the same amount of resources. Each individual will have a comparative advantage in the production of one of the goods if the two individuals have different opportunity costs for producing each good.

Comparative advantage is the ability of an individual, firm, or country to produce a good or service at a lower opportunity cost than other producers. Comparing the possible combinations of production and consumption before and after specialization and trade occur proves that trade is mutually beneficial.

C. Comparative Advantage and the Gains from Trade

The basis for trade is comparative advantage, not absolute advantage. Individuals, firms, and countries are better off if they specialize in producing the goods and services for which they have a comparative advantage and obtain the other goods and services they need by trading.

### 2.3 The Market System

**Learning Objective 3** Explain the basic idea of how a market system works.

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. Product markets are markets for goods – such as computers – and services – such as medical treatment. Factor markets are markets for the factors of production, such as labor, capital, natural resources, and entrepreneurial ability.

A. The Circular Flow of Income
A **circular-flow diagram** is a model that illustrates how participants in markets are linked. The diagram demonstrates the interaction between firms and households in both product and factor markets.

**B. The Gains from Free Markets**

A **free market** is a market 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. Adam Smith is considered the father of modern economics. His book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, published in 1776, was an influential argument for the free market system.

**C. The Market Mechanism**

A key to understanding Smith’s argument is the assumption that individuals usually act in a rational, self-interested way. This assumption underlies nearly all economic analysis.

**D. The Role of the Entrepreneur**

Entrepreneurs are an essential part of a market economy. An **entrepreneur** is someone who operates a business, bringing together the factors of production — labor, capital, and natural resources — to produce goods and services.

Entrepreneurs often risk their own funds to start businesses and organize factors of production to produce those goods and services that consumers want.

**E. The Legal Basis of a Successful Market System**

The absence of government intervention is not enough for a market economy to work well. Government has to provide secure rights to private property. Government can aid the working of a market by enforcing contracts between individuals through an independent court system. **Property rights** refer to the rights individuals or firms have to the exclusive use of their property, including the right to buy or sell it. Intellectual property rights are important. To protect intellectual property rights, the federal government grants inventors patents—exclusive rights to produce and sell a new product for 20 years from the date the product was invented. Books, films, and software receive copyright protection. Under U.S. law, the creator of a book, film, or piece of music has an exclusive right to use the creation. The creator’s heirs retain this right for 50 years.