

Scarcity and Choice

Central problem in economics: how to choose among competing alternatives given the limited resources of decision-makers

Examples:

Decision-Maker	Alternatives
CA state government	Roads or schools
Federal government	Social security or defense
Households	Buy a new car or take a trip
Firms	Upgrade their computers or buy furniture

All resources are scarce so choices must be made among a limited set of possibilities, so a decision to have more of one thing is a decision to have less of something else.

The cost of any decision is its opportunity cost –the value of the next best alternative that is given up.

What is the cost of producing one car?

Goods are scarce because the inputs (land, labor, capital, and fuel) that are used to produce goods are scarce.

How does society decide whether cars or refrigerators are produced?
Forces of supply and demand determine these decisions.

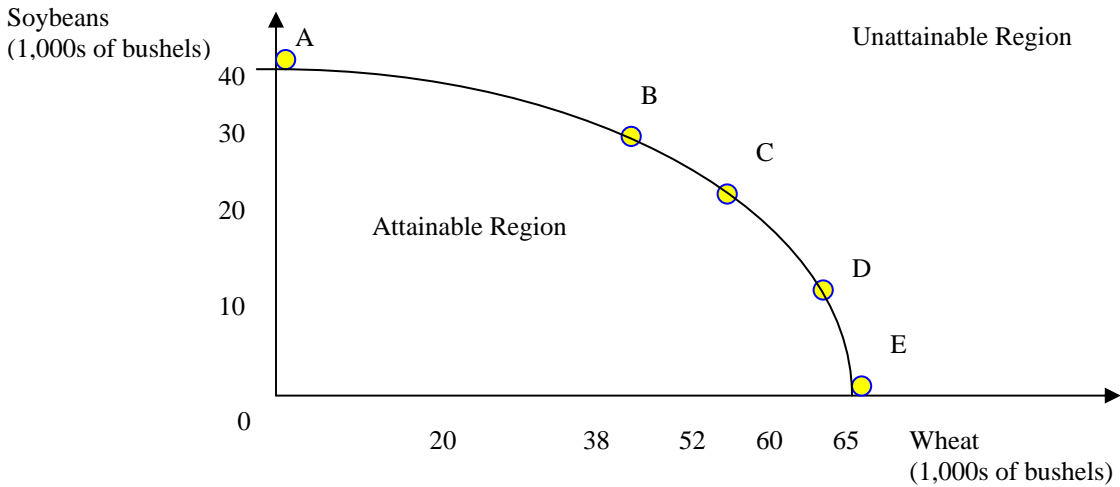
Use a single firm to describe opportunity cost:

With the available supply of land, labor, and capital equipment, a farmer can produce the following combinations:

Bushels of soybeans	Bushels of wheat	Label on the graph
40,000	0	A
30,000	38,000	B
20,000	52,000	C
10,000	60,000	D
0	65,000	E

What is the opportunity cost of 38,000 bushels of wheat?

Graph shows the Production Possibilities Frontier (PPF):



Features of the PPF:

(1) Negative slope

To get more wheat the farmer must move resources out of soybean production and into wheat production.

(2) Bowed outward

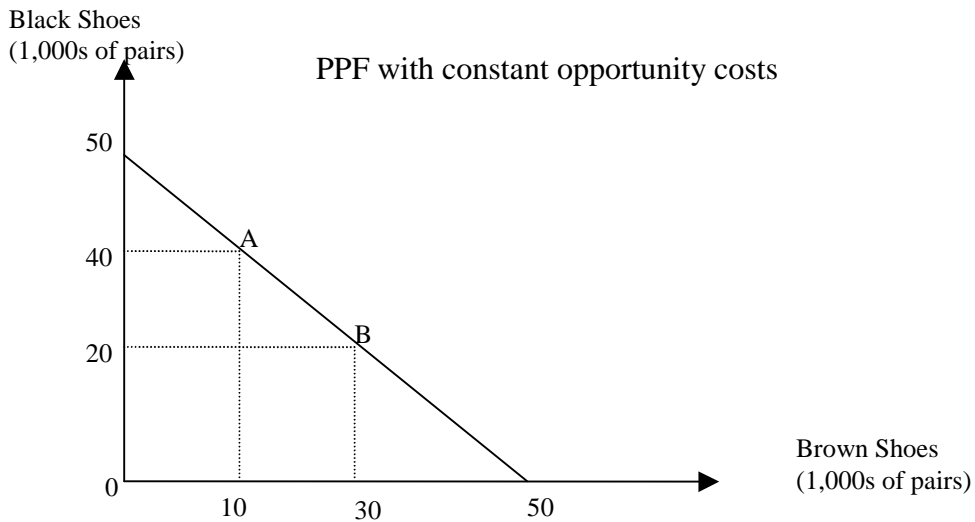
From A to B, 38,000 bushels of wheat cost 10,000 bushels of soybeans. From B to C, an additional reduction in 10,000 bushels of soybeans yields only 14,000 bushels of wheat.

Why is the wheat becoming more costly (in terms of forgone soybeans) as we produce more wheat?

Inputs tend to be specialized. Some land may be better suited for wheat versus soybean production.

Principle of Increasing Costs

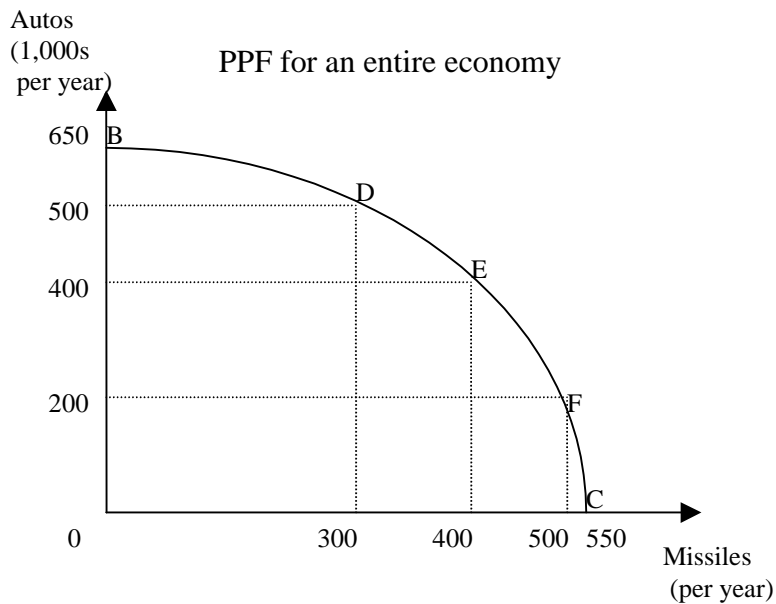
As the production of one good expands, the opportunity cost of producing another unit of this good generally increases. In this case, the PPF is bowed outward. Underlying this principle is the notion that inputs tend to be specialized. If they were not, then the PPF is a straight line.



Inputs are not specialized in the PPF above. The inputs used to produce black shoes are equally well suited to producing brown shoes.

We can use PPFs to show scarcity and choice for the entire economy.

The PPF for a country depends on its resources, the skills of its labor force, technology, willingness to work, and past investments in factories, education, and research.



From B to D, give up only 150,000 cars to get 300 missiles. From F to C, give up 200,000 cars and only get 50 missiles.

The opportunity cost of purchasing military strength is increasing as more resources that are suited for car production are forced into missile production. Different materials and labor skills are required for the production of these two goods.

Economic Growth

An increase in resources or technology will shift the PPF outward.

Factors that promote growth:

Increasing labor skills
Technological advances
Investments in capital equipment --robots, computers, and factories

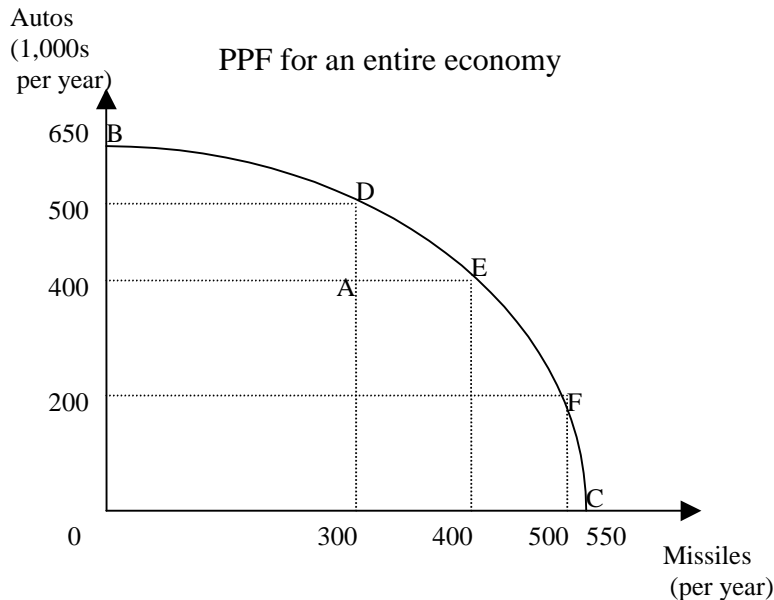
We can influence these factors by investing in education, research and development, and new factories and equipment.

What is the cost of economic growth?

We must forego current consumption. For example, steel that could be used for cars is used to build factories and capital equipment.

Efficiency

Efficiency is the absence of waste. The economy produces the maximum amount of output using available resources.



Point A is inefficient. The economy could have 100,000 more cars or 100 more missiles with the available resources.

Any point on the boundary of the PPF is efficient and any point on the interior of the PPF is inefficient.

Why might we find ourselves at a point like A?

- (1) Unemployment
- (2) Inputs are assigned to the wrong task
- (3) Discrimination

Three Coordination Tasks of Any Economy

- (1) How to utilize resources efficiently --get on the boundary of the PPF
- (2) What combinations of goods to produce --which point on the PPF
- (3) How much of each good to distribute to each person --who gets what

These goals can be accomplished by a central planner or a price system that is guided by consumer demands and producer costs.

Efficiency in production

Item (1) is accomplished by the division of labor where each person specializes in the production of a particular good or task.

Quotes by Adam Smith in the *Wealth of Nations* (1776):

Description of specialization in a pin factory:

“One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires 2 or 3 distinct operations; to whiten the pins is another; it is even a trade by itself to put them into the paper.”

Smith observed that this division of labor increased the productivity of the workers as a whole stating:

“I have seen a manufacturing plant where 10 men were employed. Those 10 men could make among them upwards of 48,000 pins a day. But if they had all worked separately and independently, they certainly could not each of them have made 20, perhaps not 1 pin in a day.”

Imagine a world without specialization. You would have to produce all of your clothing, food, shelter, and transportation.

Prior to the industrial revolution, workers produced much of what they consumed. After the industrial revolution, workers who produced shoes needed to trade with others who produced food or clothing.

Voluntary exchange between 2 parties *must* make both parties better off. Even though no additional goods were created in the act of trading, the welfare of society is improved. Individuals can trade what they have for what they need or want.

Why don't we trade goods for goods? Why do we need money?

Search costs are less if we all agree to a medium of exchange.

Firms are also encouraged by the profit motive not to waste inputs.

Production Decisions

Task (2) is accomplished by the forces of supply and demand. If consumers want more fuel-efficient cars, automakers will produce smaller more efficient cars.

The Distribution of Goods

Task (3) is accomplished by consumers purchasing what they like best given their income.

Yet, the ability to purchase goods is not equally distributed. Highly skilled workers and individuals that own valuable resources can sell their labor or resources at high prices giving them greater incomes.

Individuals who don't have marketable skills or own valuable resources receive lower incomes.

Should we redistribute income so that everyone can consume the same amount of goods and services?