

Chapter 1:
Limits, Alternatives and
Choices

The fundamental economic problem

Scarcity:

- The basic economic problem arises because resources are limited, but human wants are unlimited.
- Scarcity. . . means that society has limited resources and therefore cannot produce all the goods and services people wish to have.

What is economics?

- Economics is the study of how individuals and economies deal with the fundamental problem of scarcity.
- Scarcity forces individuals, firms, governments and societies to make choices.
- Choice, therefore, is a direct result of scarcity.
- Because resources are both desirable and scarce, we must choose how we will allocate them among various uses.

Allocation of resources: 3 fundamental questions

- Any individual, organization or nation has to make three fundamental types of choices about how to allocate the scarce resources available:
 1. What to produce – food or industrial machinery, books or newspapers...
 2. How to produce – how many workers will be used, with what machinery...
 3. For whom to produce – will some people get a bigger share of resources than other?

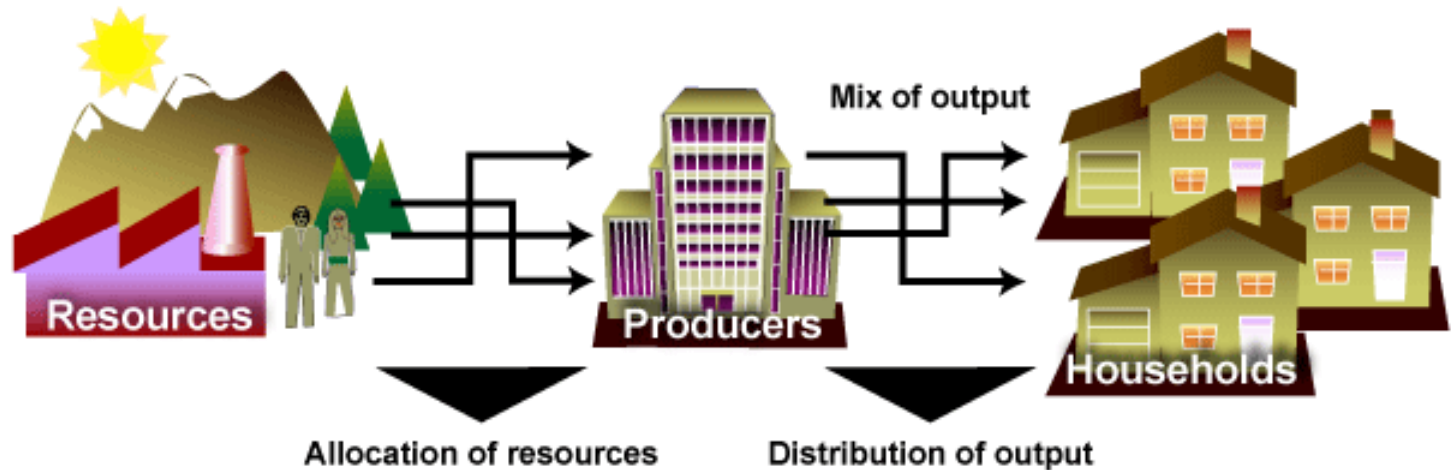
Allocation of resources: 3 fundamental questions

The three basic questions:

1. What gets produced?

2. How is it produced?

3. Who gets what is produced?



Production is the process that transforms scarce resources into useful goods and services.

Factors of production

The basic resources that are available to a society are *factors of production*:

1. Land: natural resources, the “free gifts of nature”
2. Labor: the contribution of human beings
3. Capital: plant and equipment
4. Entrepreneurial ability: takes initiatives, makes decisions, innovates, and takes risks

- **Resources or factors of production** are the *inputs* into the process of production.
- **Goods and services** are the *outputs* of the process of production.

Resource payments

Economic Resource

land

labor

capital

entrepreneurial ability

Resource payment

rent

wages

interest

profit

Capital Goods and Consumer Goods

- *Capital goods* are goods used to produce other goods and services.
- *Consumer goods* are goods produced for present consumption.
- *Investment* is the process of using resources to produce new capital.

Efficiency and Equity

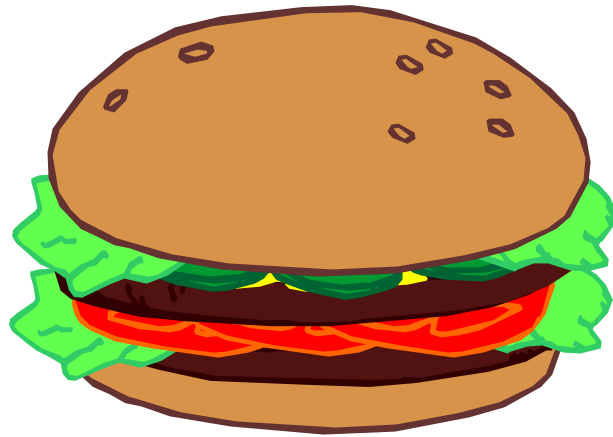
- *Efficiency* means society produces what people want at the least possible cost.
- *Equity* means the benefits of those resources are distributed fairly among the members of society.

The Economic Perspective

- Thinking like an economist:
 - The study of economics teaches us a way of thinking and helps us make decisions.
 - Choices involve tradeoffs.
 - Tradeoffs involve opportunity costs.
- How people make decisions?

1: People Face Tradeoffs

“There is no such thing as a free lunch!”



1: People Face Tradeoffs

To get one thing, we usually have to give up another thing.

- Food v. clothing
- Leisure time v. work

Making decisions requires trading
off one goal against another.

2: The Cost of Something Is What You Give Up to Get It

- Decisions require comparing costs and benefits of alternatives.
 - Whether to go to college or to work?
 - Whether to go to class or sleep in?
- The opportunity cost of an item is what you give up to obtain that item.
- It is the value of the second best alternative forgone.
- It is the benefit that is lost in making a choice between two competing uses of scarce resources.

2: The Cost of Something Is What You Give Up to Get It

Who is making the choice?	What they choose	The opportunity cost (what they could have had)
BUSINESS	<input type="checkbox"/> New computers <input type="checkbox"/> New workers <input type="checkbox"/> Office party	<input type="checkbox"/> New fax <input type="checkbox"/> Delivery van <input type="checkbox"/> Pay for boss!
GOVERNMENT	<input type="checkbox"/> Unemployment benefit <input type="checkbox"/> Weapons	<input type="checkbox"/> New roads <input type="checkbox"/> More hospital beds
INDIVIDUALS	<input type="checkbox"/> Mars bar <input type="checkbox"/> T-shirt <input type="checkbox"/> Beach holiday	<input type="checkbox"/> Twix bar <input type="checkbox"/> DVD <input type="checkbox"/> Fixing the roof

2: The Cost of Something Is What You Give Up to Get It

- Everything has an opportunity cost.



You study late night
for a final



The next day you
are very sleepy



Your opportunity cost
is a good night's sleep.

3: Rational self-interest

- Individuals select the choices that make them happiest, given the information available at the time of a decision.
- Because they weight costs and benefits, their economic decisions are ‘rational’.

4: Rational People Think at the Margin

- Economic thinking is marginal thinking.
- The word marginal means ‘one more’:
 - If I consider eating one more slice of pizza, I ask myself, what is the benefit of one more slice of pizza? What is the cost of eating one more slice of pizza?
- People make decisions by comparing costs and benefits at the margin.

Marginal Cost and Marginal Benefit

- **Marginal cost** of a good or service is the additional cost associated with consuming/producing one more unit of it.
- **Marginal benefit** of a good or service is the benefit received from consuming/producing one more unit of it.

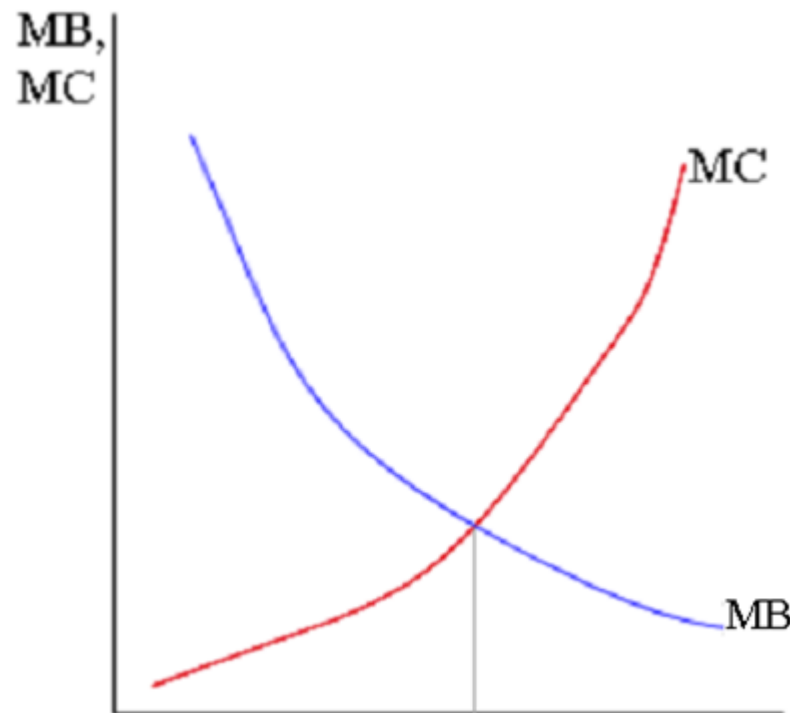
Marginal Benefit and Marginal Cost

- **MB** generally declines as the level of an activity rises.
- Graph of MB.

- For most activities, **MC** rises as the level of the activity increases.
- Graph of MC.

Optimal allocation

- The optimal amount of consumption/production occurs at the point at which $MB = MC$ (optimal output)



Principle of decreasing marginal benefit

–Generally, the more we have of any good or service, the smaller its marginal benefit and the less we are willing to pay for an additional unit of it.

–We call this general principle the *principle of decreasing marginal benefit*.

Net benefit

- Individuals are not expected to maximize benefit; nor are they expected to minimize costs.
- Individuals are assumed to attempt to maximize the level of net benefit (total benefit minus total cost).

Marginal analysis

- When the cost of ‘one more’ begins to pass the benefit of ‘one more,’ it’s time to stop ($MB < MC$ → contract the activity)
- As long as MB exceeds MC, keep consuming ($MB > MC$ → expand the activity)
- The optimal amount of activity occurs when $MB = MC$ (Net benefit is maximized at this point)

Summary of The Economic Perspective

Scarcity and Choice	Purposeful Behavior	Marginal Analysis
• Resources are scarce	• Rational self-interest	• Marginal benefit
• Choices must be made		• Marginal cost
• Opportunity cost		• Marginal means extra
• There's no free lunch		• MB and MC

The Scientific Method

- Main elements of the scientific method:
 - observe a phenomenon,
 - make assumptions,
 - generate predictions,
 - test the assumptions ,
 - develop theories.

Simplifying assumptions

- Economists make assumptions in order to make the world easier to understand.
- *ceteris paribus* – holding everything else constant
- A device used to analyze the relationship between two variables while the values of other variables are held unchanged.

Microeconomics and Macroeconomics

- *Microeconomics* focuses on the individual parts of the economy.
 - How households and firms make decisions and how they interact in specific markets
- *Macroeconomics* looks at the economy as a whole.
 - Economy-wide phenomena, including inflation, unemployment

Microeconomics and Macroeconomics

TABLE 1.1 Examples of Microeconomic and Macroeconomic Concerns

Divisions of Economics	Production	Prices	Income	Employment
Microeconomics	<i>Production/output in individual industries and businesses</i>	<i>Price of individual goods and services</i>	<i>Distribution of income and wealth</i>	<i>Employment by individual businesses and industries</i>
	How much steel How much office space How many cars	Price of medical care Price of gasoline Food prices Apartment rents	Wages in the auto industry Minimum wage Executive salaries Poverty	Jobs in the steel industry Number of employees in a firm Number of accountants
Macroeconomics	<i>National production/output</i>	<i>Aggregate price level</i>	<i>National income</i>	<i>Employment and unemployment in the economy</i>
	Total industrial output Gross domestic product Growth of output	Consumer prices Producer prices Rate of inflation	Total wages and salaries Total corporate profits	Total number of jobs Unemployment rate

Positive vs. Normative Analysis

- *Positive statements* are statements that attempt to describe the world as it is.
 - Called descriptive analysis
 - The price of milk has risen from \$3 a gallon to \$5 a gallon in the past five years.
- *Normative statements* are statements about how the world should be.
 - Called prescriptive analysis
 - The price of milk should be \$6 a gallon to give dairy farmers a higher living standard and to save the family farm.

Individual's Economizing Problem

- The Economizing Problem focuses on Wants and Resources
- Build a microeconomic model of the economizing problem faced by an individual
 1. Limited income (people try to maximize their utility under budget constraint)
 2. Unlimited wants
 3. A budget line (to clarify the economizing problem facing consumers)
 4. Tradeoffs & opportunity costs
 5. Make best choice possible
 6. Change in income

Individual's Economizing Problem

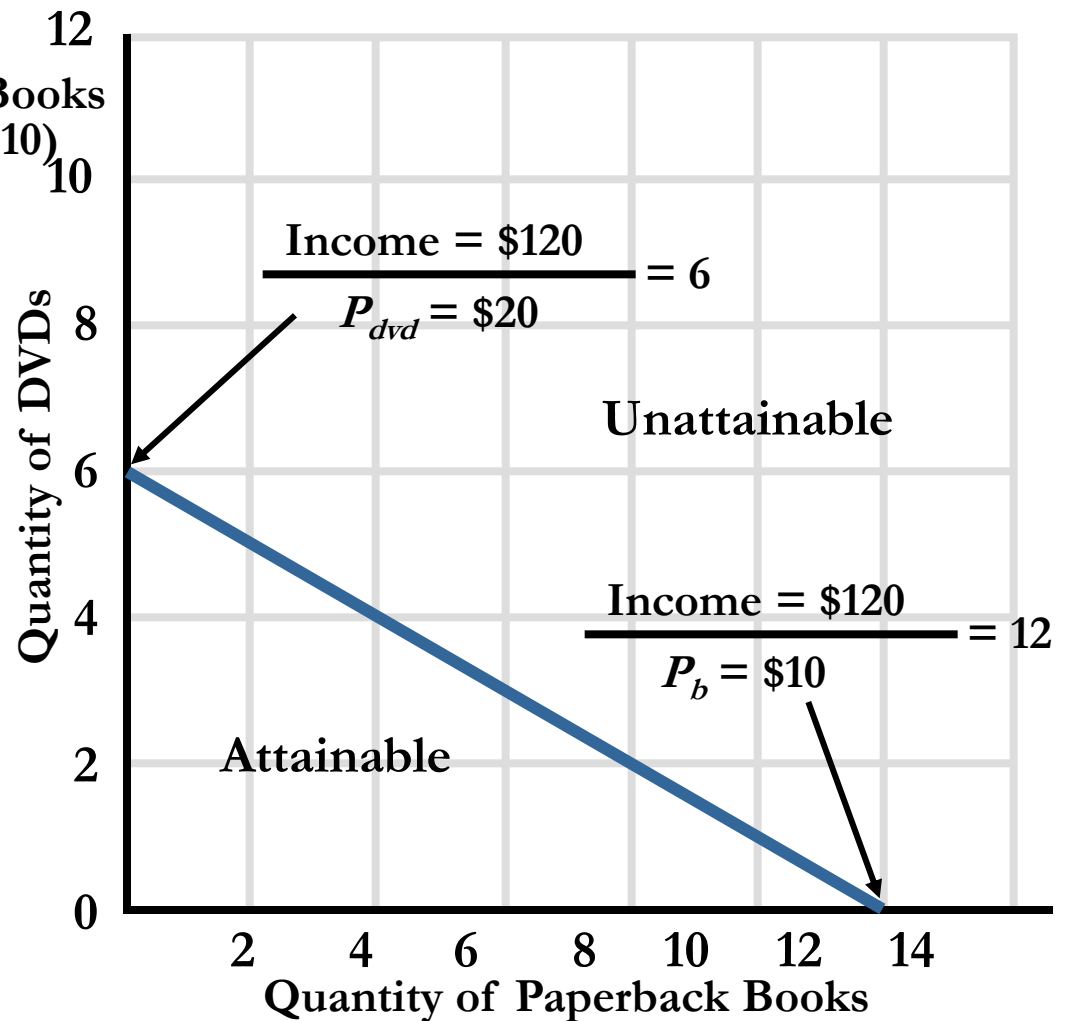
1. Limited income
 2. Unlimited wants
- Because we have only limited income but unlimited wants, it is our self-interest to economize: to pick and choose goods and services that create maximum utility.

Individual's Economizing Problem

3. A budget line: shows all the combinations of any two products that can be purchased, given:
 - the prices of the products
 - and the consumer's money income.

A Budget Line

\$120 Budget	
Units of DVDs (Price = \$20)	Units of Books (Price \$10)
6	0
5	2
4	4
3	6
2	8
1	10
0	12



Society's Economizing Problem

- Two facts constitute the Economizing Problem:
 1. Society's economic wants are unlimited
 2. Economic resources are limited or scarce

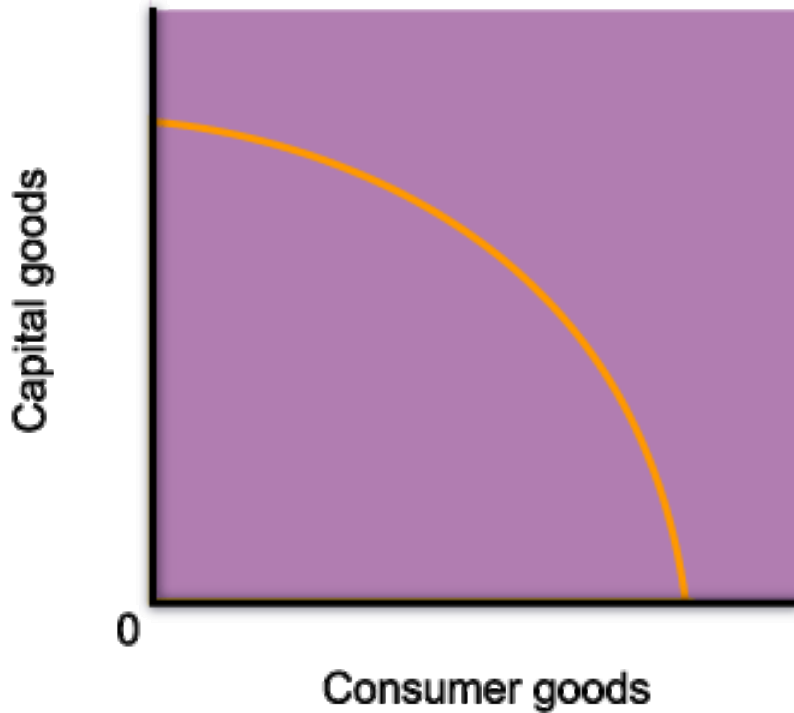
Production Possibilities Model

- **Illustrates production choices**
- The *production possibility frontier/curve*:
 - is a graph that shows all of the combinations of goods and services that can be produced if all of society's resources are used efficiently.

Production Possibilities Model

- Assumptions:
 - **Full employment:** no unemployment and no underemployment
 - **Fixed resources:** a fixed quantity and quality of available resources
 - **Fixed level of technology**
 - **Two goods**

The Production Possibility Frontier



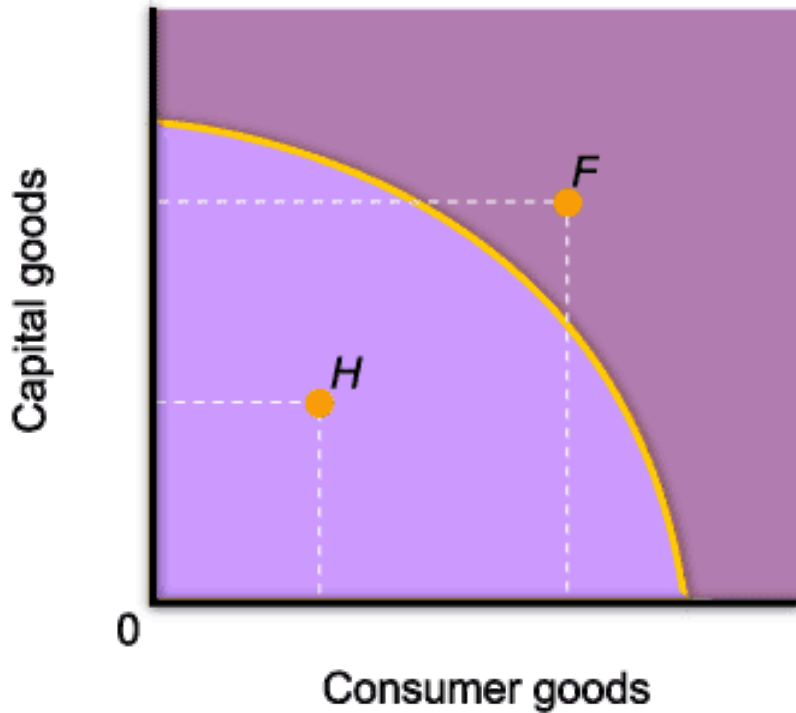
- The production possibility frontier/curve has a negative slope
- which indicates a trade-off between producing one good or another.

The Production Possibility Frontier



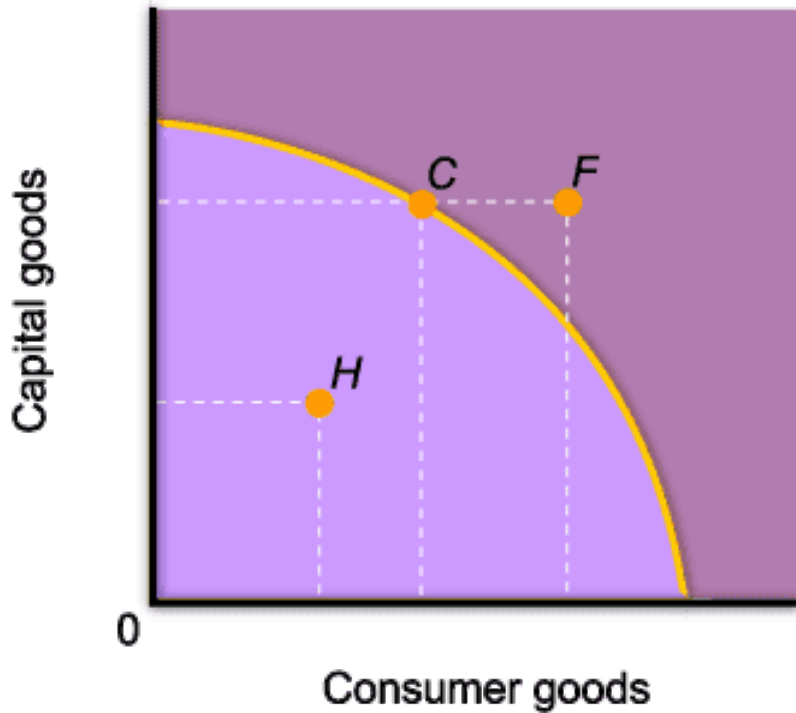
- Points inside of the curve are inefficient.
- At point H , resources are either unemployed, or are used inefficiently.

The Production Possibility Frontier



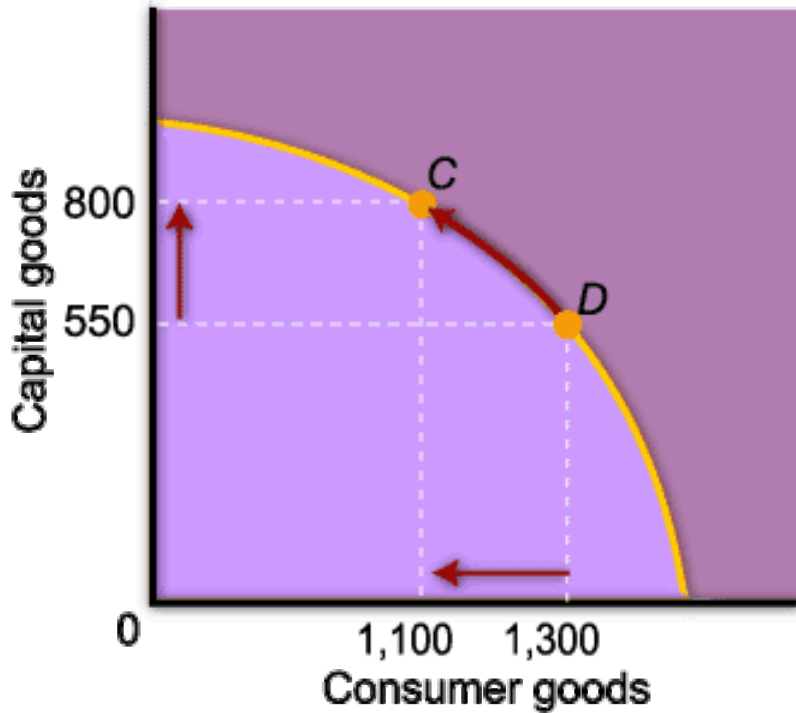
- Point *F* is desirable because it yields more of both goods
- But it is not attainable given the amount of resources available in the economy.

The Production Possibility Frontier



- Point *C* is one of the possible combinations of goods produced when resources are fully and efficiently employed.

The Production Possibility Frontier

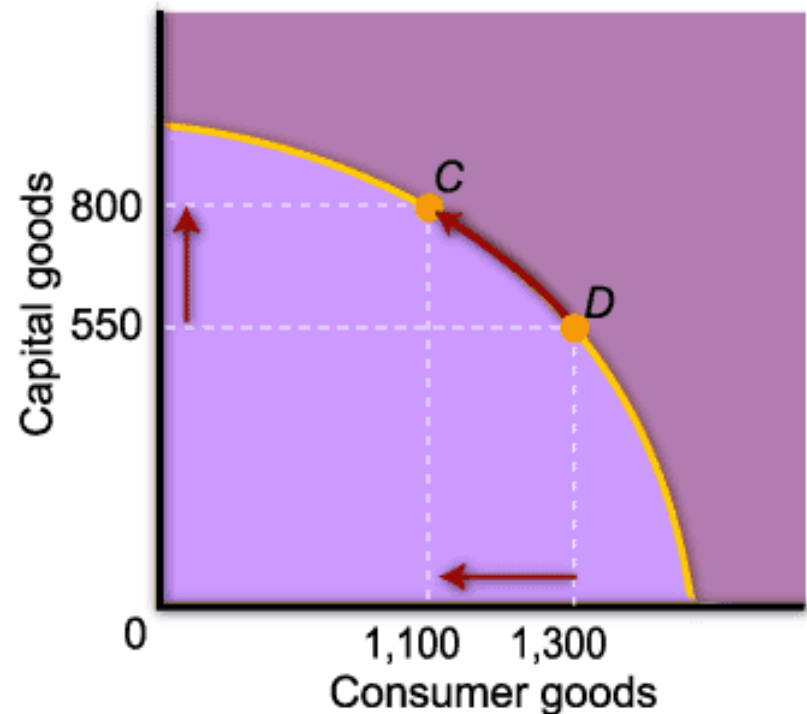


- A move along the curve illustrates the concept of opportunity cost.
- From point D, an increase in the production of capital goods requires a decrease in the amount of consumer goods.

The Law of Increasing Opportunity Cost

The *law of increasing opportunity cost*:
As we increase the production of one good, we sacrifice progressively more of the other.

Moving from D to C, the number of capital goods increases from 550 to 800, but the number of consumer goods decreases from 1,300 to 1,100.



Production Possibilities Table

- **Production possibility table** shows various combinations of goods that an economy can produce if it uses all of its resources.
- **Production possibility point.**
- **Production possibility curve.**

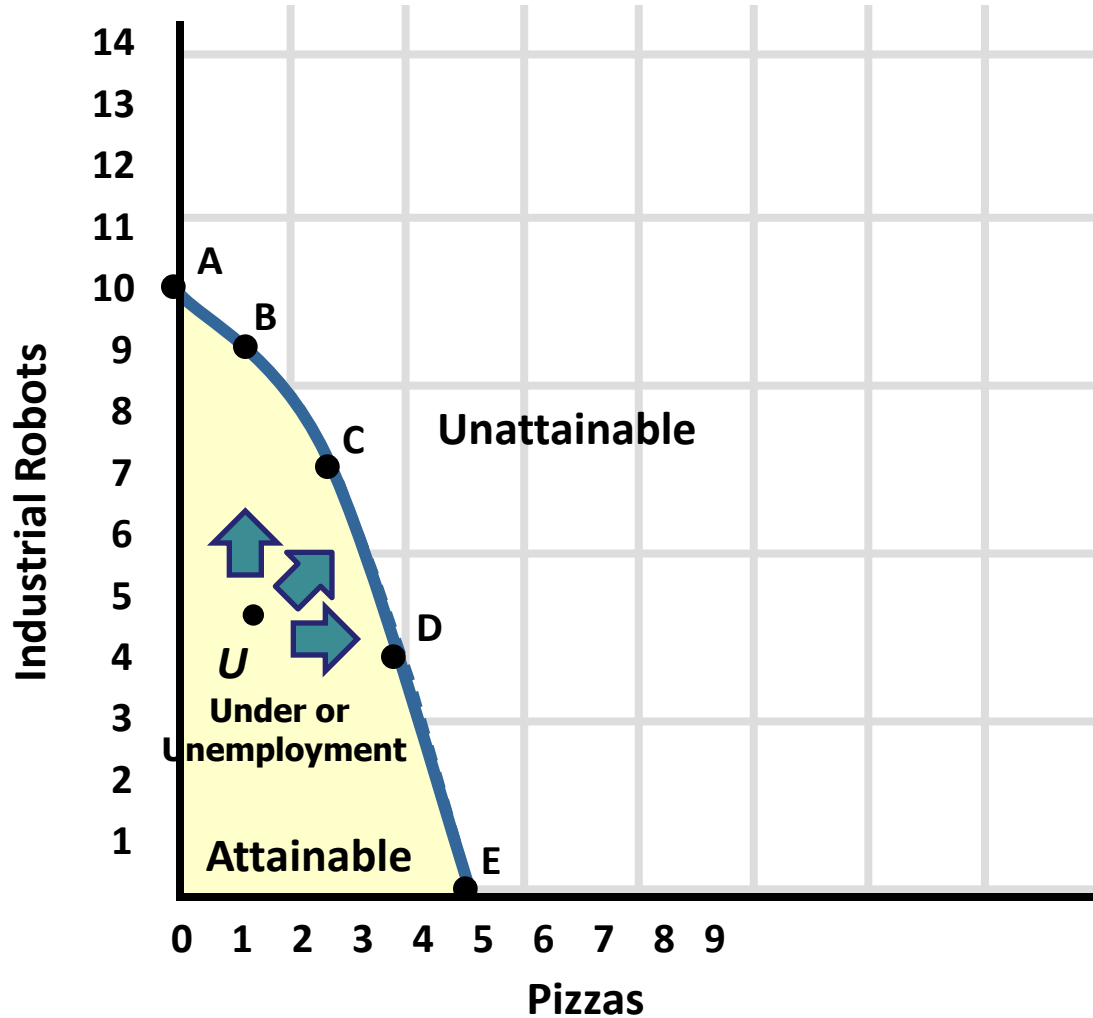
Production Possibilities Table

Production Alternatives

Type of Product	A	B	C	D	E
Pizzas (in hundred thousands)	0	1	2	3	4
Industrial Robots (in thousands)	10	9	7	4	0

Plot Points to Create Graph...

Production Possibilities Curve



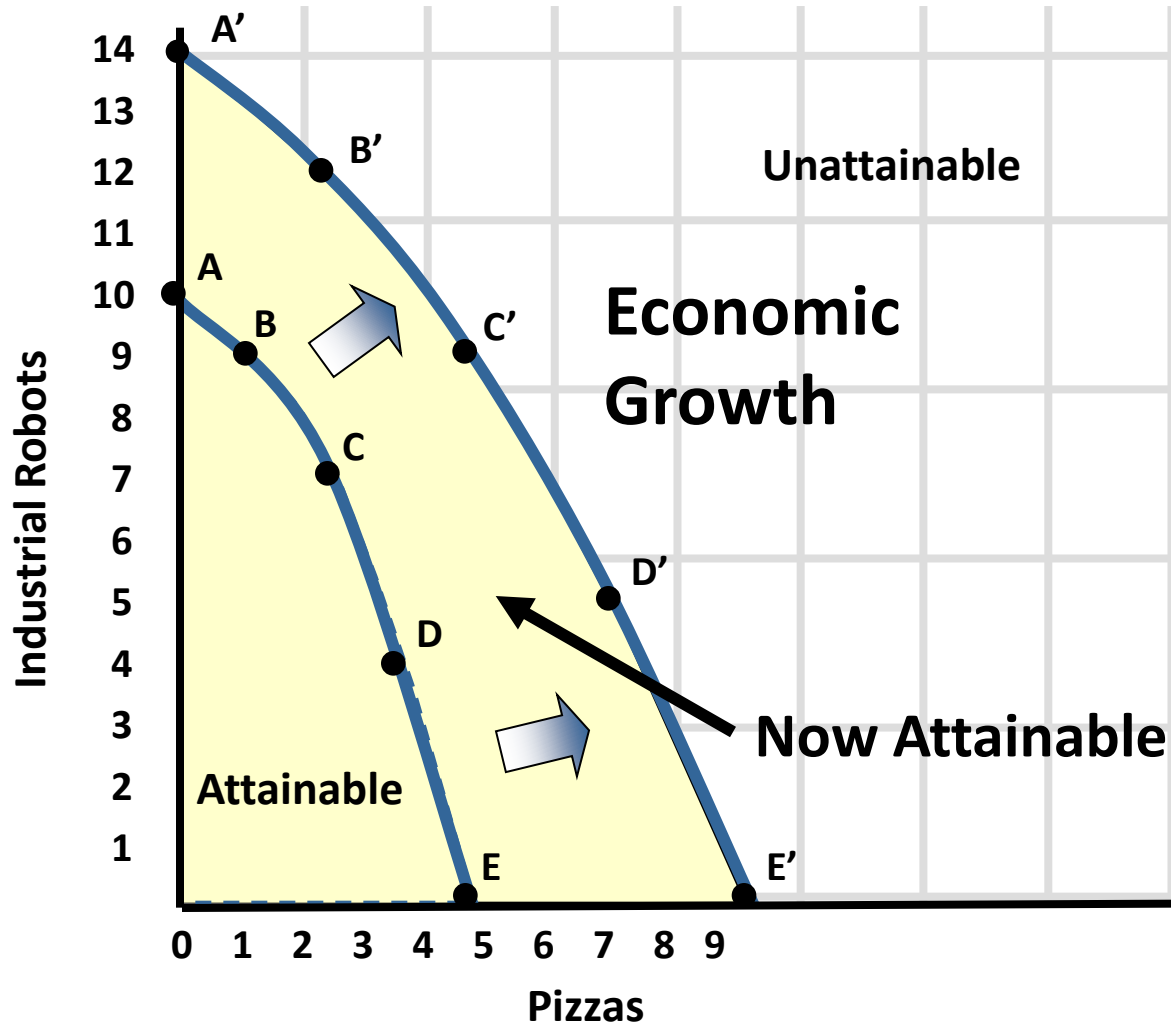
Law of Increasing Opportunity Cost

Shape of the Curve

Unemployment and productive inefficiency

- In the presence of unemployment or inefficiency, the economy would produce less
- Represented by points inside the original PPC
- A move toward full employment & productive efficiency would yield a greater output of one or both products.

A Growing Economy



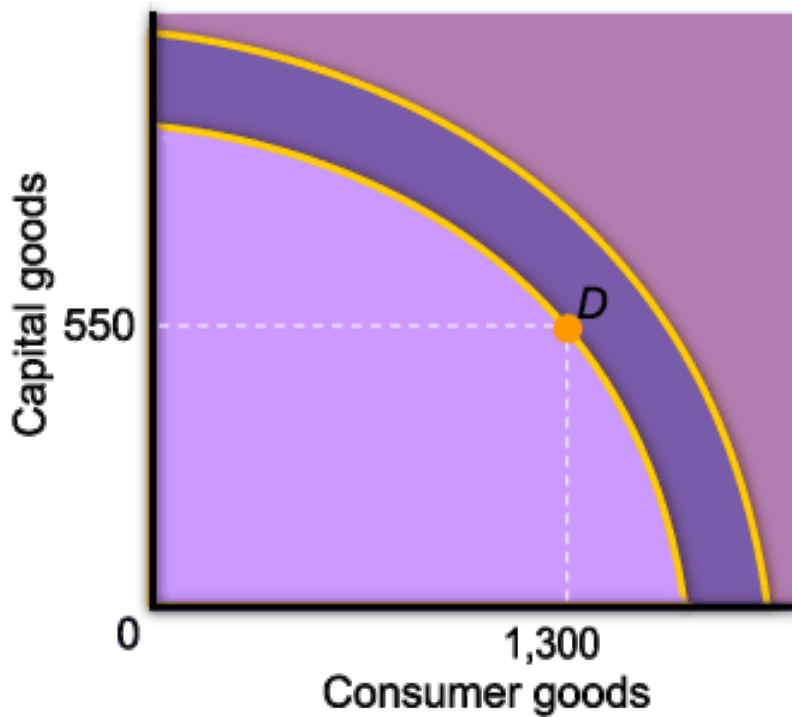
Economic Growth

- *Economic growth* is an increase in the total output of the economy.
- It occurs when a society acquires new resources, or when it learns to produce more using existing resources.
- The main sources of economic growth are capital accumulation and technological advances.

A Growing Economy: Advances in Technology

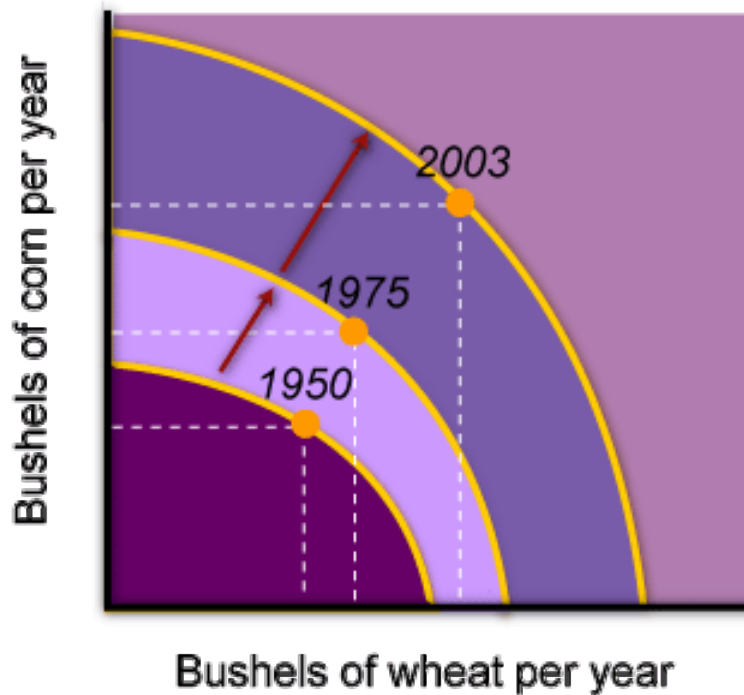
- Technology progresses over time
- Advanced technology brings new & better goods AND improved ways of producing them
- **Technological advances allows society to produce more goods with fixed resources.**

Economic Growth



- Outward shifts of the curve represent *economic growth*.
- *An outward shift* means that it is possible to increase the production of one good without decreasing the production of the other.

Economic Growth



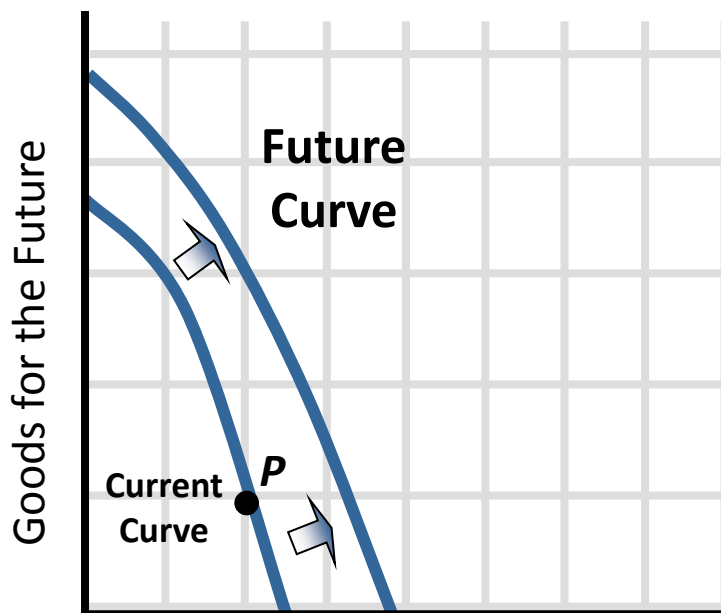
- Not every sector of the economy grows at the same rate.
- In this historic example, productivity increases were more for corn than for wheat over this time period.
- **Thus, the shifts in the curve were not parallel.**

Present Choices and Future Possibilities

- An economy's current choice of positions on its PPC helps determine the curve's future location

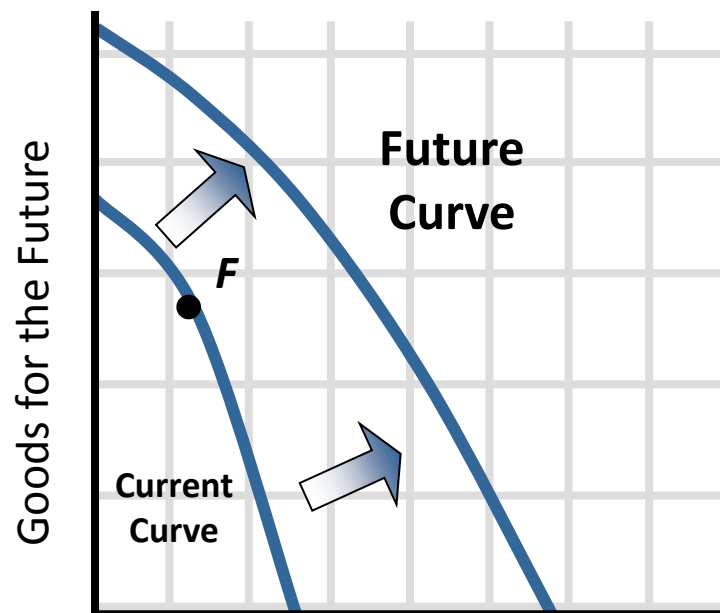
Present Choices, Future Possibilities

Compare Two Hypothetical Economies



Goods for the Present

Presentville



Goods for the Present

Futureville

International Trade

- **Production Possibilities Model** implies that an individual nation is limited to the combinations of output indicated by its PPC.
- Through specialization and trade, the output limits imposed by its domestic PPC can be avoided.

International Trade

- *International Specialization*: Directing domestic resources to make what a nation is highly efficient at producing.
- *International Trade*: the exchange of specialized goods for goods produced abroad.
- International specialization and trade enable a nation to obtain more goods than its PPC indicates.