

# ECONOMICS TODAY

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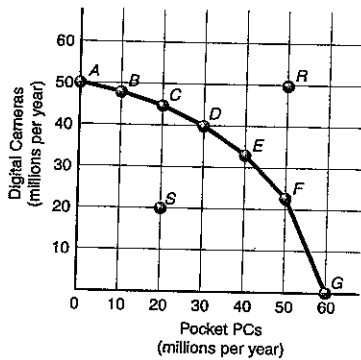
## Microeconomics

### The Nature of Economics

1. Economics is the study of allocating limited resources to satisfy unlimited wants.
2. Economic models or theories are simplified representations of the real world.

### Scarcity and Trade-Offs

1. Opportunity cost is the highest-valued, next-best alternative that must be sacrificed to obtain an item or to satisfy a want.
2. The production possibilities curve gives all possible output combinations that can be efficiently produced with a fixed amount of resources.



### Law of Demand

When the price of a good goes up, people buy less of it, *ceteris paribus* (other things equal).

### Law of Supply

At higher prices, a larger quantity will be supplied than at lower prices, *ceteris paribus* (other things equal).

### Movements Along vs. Shifts in a Demand or Supply Curve

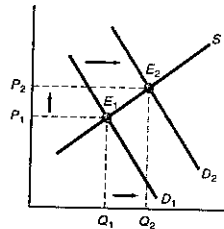
If the relative price changes, we *move along* a curve—there is a change in quantity demanded and/or supplied. If a *ceteris paribus* condition affecting demand or supply changes, we *shift* the curve—there is a change in demand and/or supply.

### Market Equilibrium

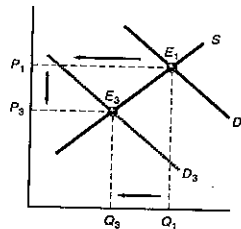
At the market clearing price, quantity demanded equals quantity supplied; there is no surplus or shortage.

### Changes in Demand & Supply

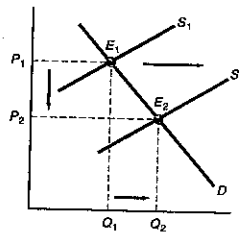
1. An increase in demand causes the market price to increase and the equilibrium quantity to increase.



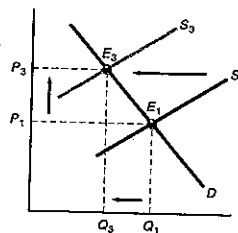
2. A decrease in demand causes the market price to decrease and the equilibrium quantity to decrease.



3. An increase in supply causes the market price to decrease and the equilibrium quantity to increase.



4. A decrease in supply causes the market price to increase and the equilibrium quantity to decrease.



### Price Ceilings & Floors

1. A price ceiling is a legal maximum price which results in a shortage and encourages black markets.
2. A price floor is a legal minimum price, such as an agricultural price support. This results in an excess quantity supplied, or a surplus, at the floor price.

### Market Failures

1. Externalities are spillover costs or benefits from an economic activity.
2. Public goods are goods that can be consumed by many individuals simultaneously at no additional cost and with no reduction in quality or quantity.

### Marginal & Average Tax Rates

$$\text{Marginal tax rate} = \frac{\text{change in taxes due}}{\text{change in taxable income}}$$

$$\text{Average tax rate} = \frac{\text{total taxes due}}{\text{total taxable income}}$$

### Taxation Systems

1. Under proportional taxation, the tax bill comprises exactly the same proportion of each individual's income.
2. Under progressive taxation, as income increases, a higher percentage of the additional income is taxed.
3. Under regressive taxation, as income increases, a lower percentage of the additional income is taxed.

### Types of Taxes

1. Sales taxes are assessed on the prices paid for a large array of items; an excise tax applies to a specific item.
2. *Ad valorem* taxes are assessed as a fraction of the price of an item; a unit tax is a constant tax levied on each unit.



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## Consumer Choice

1. Utility analysis is the analysis of consumer decision making based on maximization of utility, or the want-satisfying power of a good or service.

2. Marginal utility is the change in total utility due to a one-unit change in the quantity of a good or service consumed; marginal utility diminishes as more of an item is consumed.

3. At a consumer optimum involving a choice between good A and good B:

$$\frac{MU \text{ of good A}}{\text{Price of good A}} = \frac{MU \text{ of good B}}{\text{Price of good B}}$$

## Demand & Supply Elasticity

1. Price elasticity of demand ( $E_p$ ): responsiveness of the quantity demanded of an item to changes in its price.

a. Calculating  $E_p$ :

$$E_p = \frac{\text{percentage change in quantity demanded}}{\text{percentage change in price}}$$

$$= \frac{\Delta Q}{(Q_1 + Q_2)/2} \div \frac{\Delta P}{(P_1 + P_2)/2}$$

b. Elasticity ranges:

$E_p > 1$ : elastic demand

$E_p = 1$ : unit elasticity

$E_p < 1$ : inelastic demand

2. Cross price elasticity of demand

$$E_{xy} = \frac{\text{percentage change in demand for good X}}{\text{percentage change in price of good Y}}$$

3. Income elasticity of demand

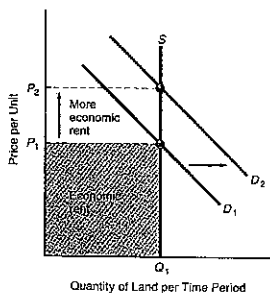
$$E_i = \frac{\text{percentage change in demand}}{\text{percentage change in income}}$$

4. Price elasticity of supply

$$E_s = \frac{\text{percentage change in quantity supplied}}{\text{percentage change in price}}$$

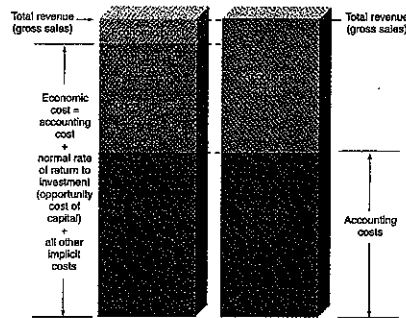
## Economic Rent

Economic rent is a payment for the use of any resource, such as land, over and above its opportunity cost.



## Economic Profits

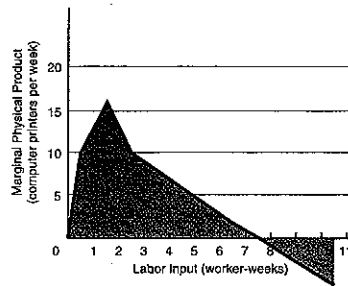
Economic profit = total revenues  
– explicit costs – implicit costs



## Law of Diminishing Marginal Returns

1. The marginal physical product is output of a good or service that is due to the addition of one more unit of a variable factor of production.

2. The law of diminishing marginal returns is the observation that after some point, successive equal-sized increases in a variable factor of production will result in smaller increases in output.



## Short-Run Costs

1. Total costs are the sum of total fixed costs—costs that do not vary with output—and total variable costs—costs that vary with the rate of production.

2. Short-run average costs:

$$\text{Average total costs (ATC)} = \frac{\text{total costs (TC)}}{\text{output (Q)}}$$

$$\text{Average variable costs (AVC)} = \frac{\text{total variable costs (TVC)}}{\text{output (Q)}}$$

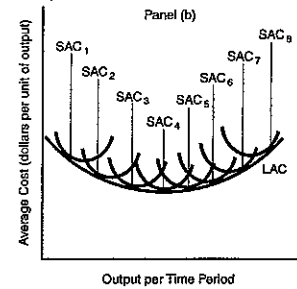
$$\text{Average fixed costs (AFC)} = \frac{\text{total fixed costs (TFC)}}{\text{output (Q)}}$$

3. Marginal cost:

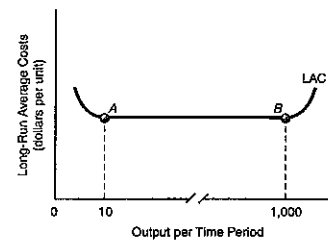
$$\text{Marginal cost} = \frac{\text{change in total cost}}{\text{change in output}}$$

## Long-Run Costs

1. The long-run average cost curve, or planning curve, is the locus of points representing the minimum unit cost of producing any given rate of output, given current technology and resource prices.



2. Minimum efficient scale is the lowest rate of output per unit time at which long-run average costs for a particular firm are at a minimum.

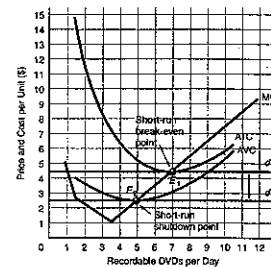


## Perfect Competition

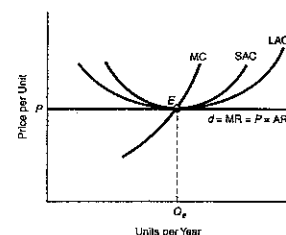
1. Properties of perfect competition:

- Many buyers and sellers
- Homogeneous products
- Easy entry or exit
- Equal information access

2. Short-run break-even and shutdown points



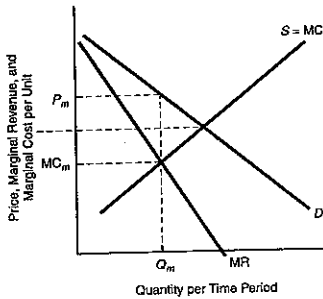
3. Long-run equilibrium: zero economic profits



## Monopoly

1. A monopolist is a single supplier of a good or service for which there is no close substitute. The monopolist constitutes its entire industry.

2. A monopolist produces to the point at which marginal revenue equals marginal cost, which is an output below the perfectly competitive rate. It charges a price higher than the competitive price.

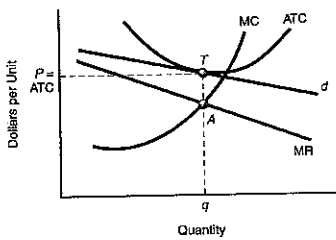


## Monopolistic Competition

1. Properties of monopolistic competition:

- Many buyers and sellers
- Differentiated products
- Sales promotion and advertising
- Easy entry in long run

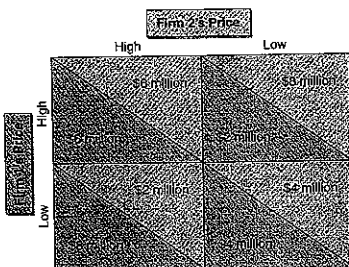
2. Long-run equilibrium: zero economic profits



## Oligopoly

1. In an oligopoly, there are few sellers, each of which knows that others will react to its price and quantity changes.

2. Game theory is a way of describing the various possible outcomes of interacting plans of sellers.



## Labor Markets

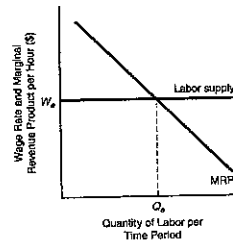
1. The demand for labor is a derived demand, which means that it is derived from the demand for the final product being produced.

2. Cost minimization requires a firm to hire factors of production up to the point at which the marginal physical product per last dollar spent on each factor of production is minimized:

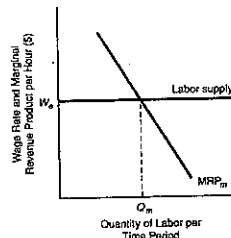
$$\frac{\text{MPP of land}}{\text{price of land (rental rate per unit)}} = \frac{\text{MPP of capital}}{\text{price of capital (cost per unit of service)}} = \frac{\text{MPP of labor}}{\text{price of labor (wage rate)}}$$

3. Labor market situations

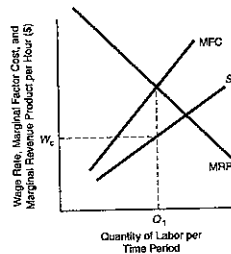
a. Perfect competition in product and input markets



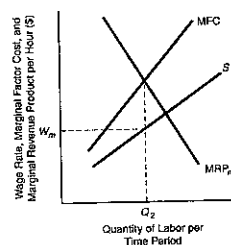
b. Monopolistic product market and competitive input market



c. Competitive product market and monopolistic input market

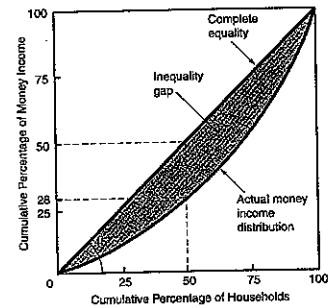


d. Monopolistic product market and monopolistic input market



## The Lorenz Curve

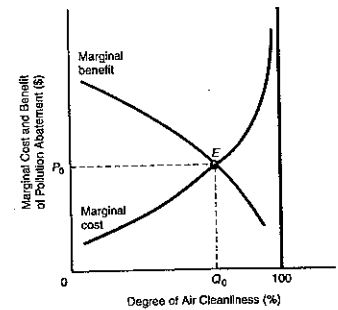
The Lorenz curve is a geometric representation of the distribution of income, or the way income is allocated among the population; the more bowed the Lorenz curve, the more unequally income is distributed.



## Environmental Economics

1. Private costs are borne solely by the individuals who incur them, whereas social costs are the full costs borne by society whenever a resource use occurs.

2. The optimal quantity of pollution achieves equality of the marginal benefit and marginal cost to society of a clean environment.



## International Trade

1. Absolute advantage is the ability to produce more output from given inputs of resources than other producers can; comparative advantage is the ability to produce an item at a lower opportunity cost.

2. Ways to restrict international trade: tariffs, or taxes on imports, or a quota system that restrains imports directly.

