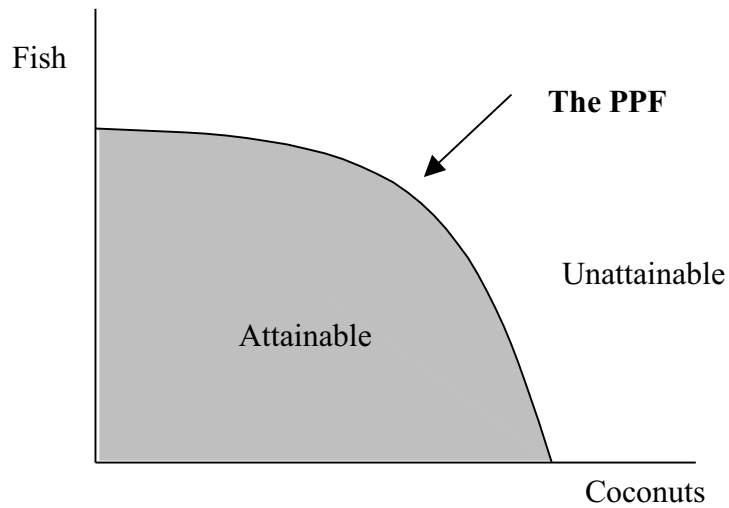
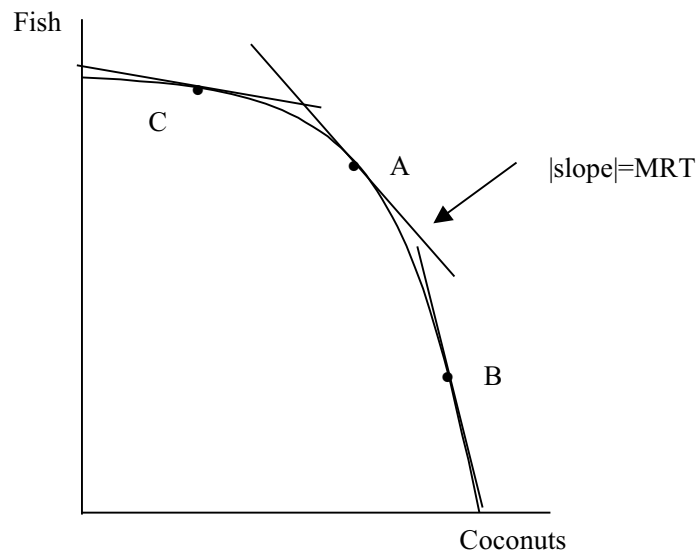


Economics studies the choices that people, businesses and governments make given that they have scarce resources.

WHY DO PEOPLE INTERACT?



Marginal Rate of Transformation Opportunity Cost



COMPARATIVE ADVANTAGE

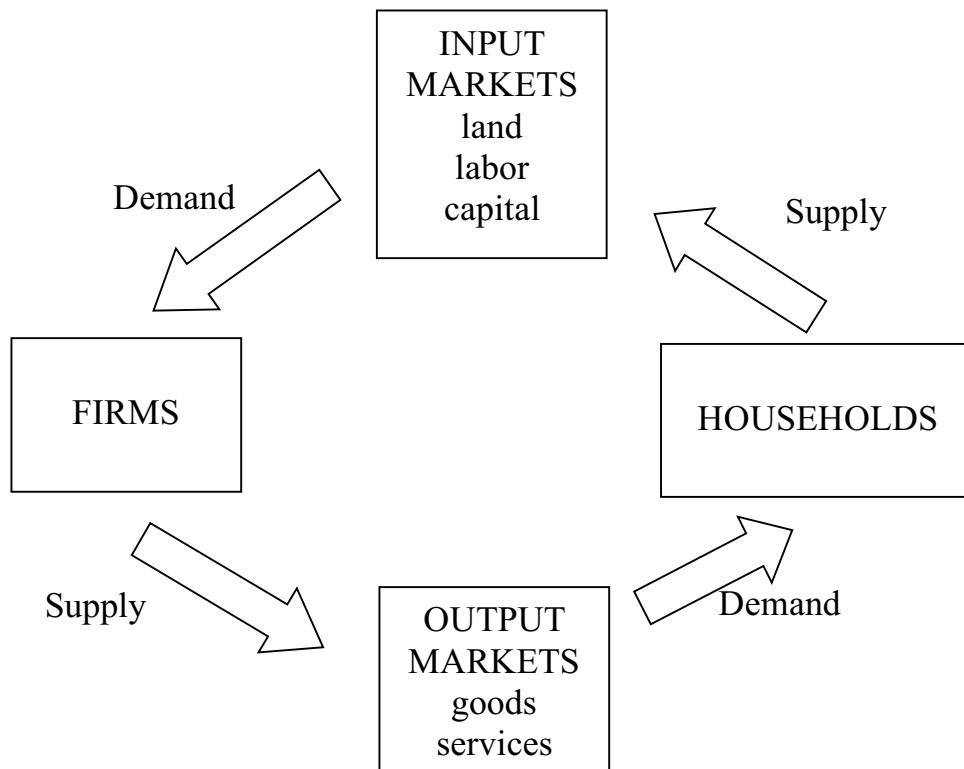
ABSOLUTE ADVANTAGE

THE THEORY OF COMPARATIVE ADVANTAGE: Argues that specialization (in the good in which an individual or country has a comparative advantage) and trade will benefit all trading parties, even those that may be absolutely more efficient producers.

AND THIS IS WHY PEOPLE TRADE OR INTERACT

THE ROLE OF MONEY

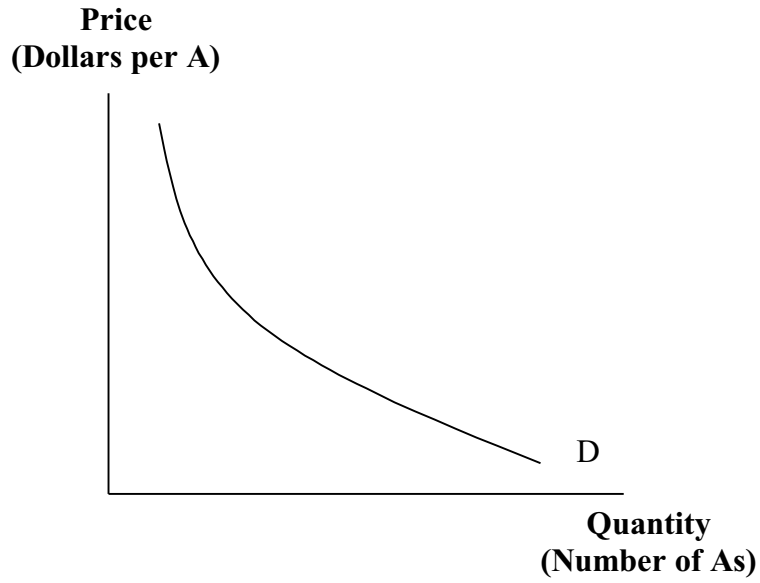
THE STRUCTURE OF THE ECONOMY



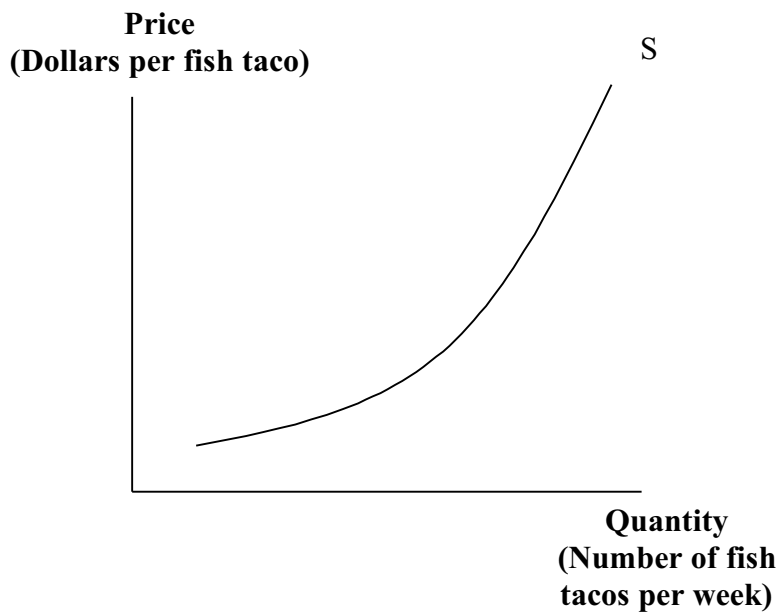
SUPPLY AND DEMAND

The *price* of an item is the opportunity cost of that item.

DEMAND

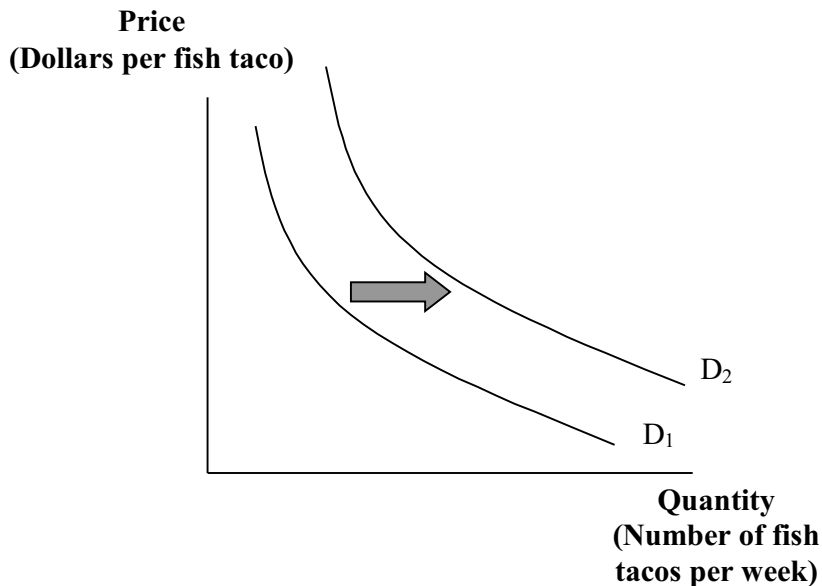


SUPPLY



A Change in Demand

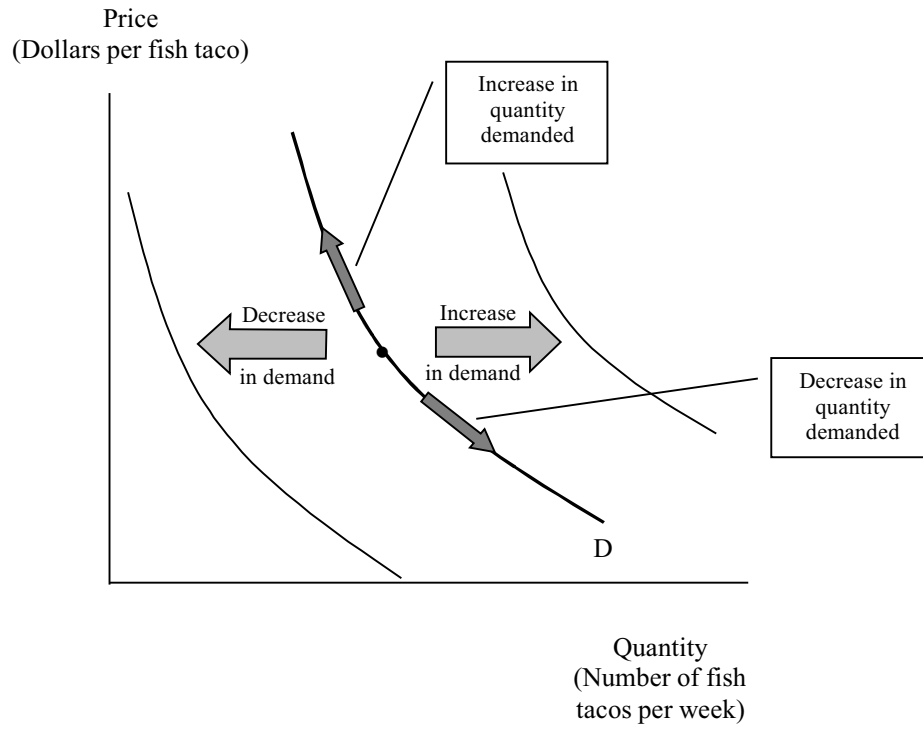
Change in the entire relationship between the quantity demanded and the price of a good.



Factors that lead to a change in demand

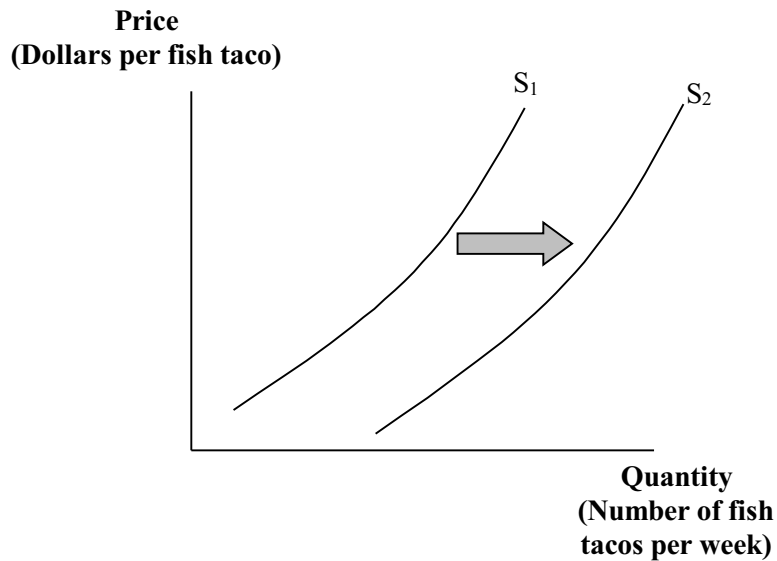
- 1. Price of other goods**
 - a. Substitutes
 - b. Compliments
- 2. Income and wealth**
 - a. Normal goods
 - b. Inferior goods
- 3. Tastes and preferences**
- 4. Expectations about future**
 - a. Future price increase
 - b. Future increase in income
- 5. Number of households (or population)**

A Change in the Quantity Demanded vs. a Change in Demand



A Change in Supply

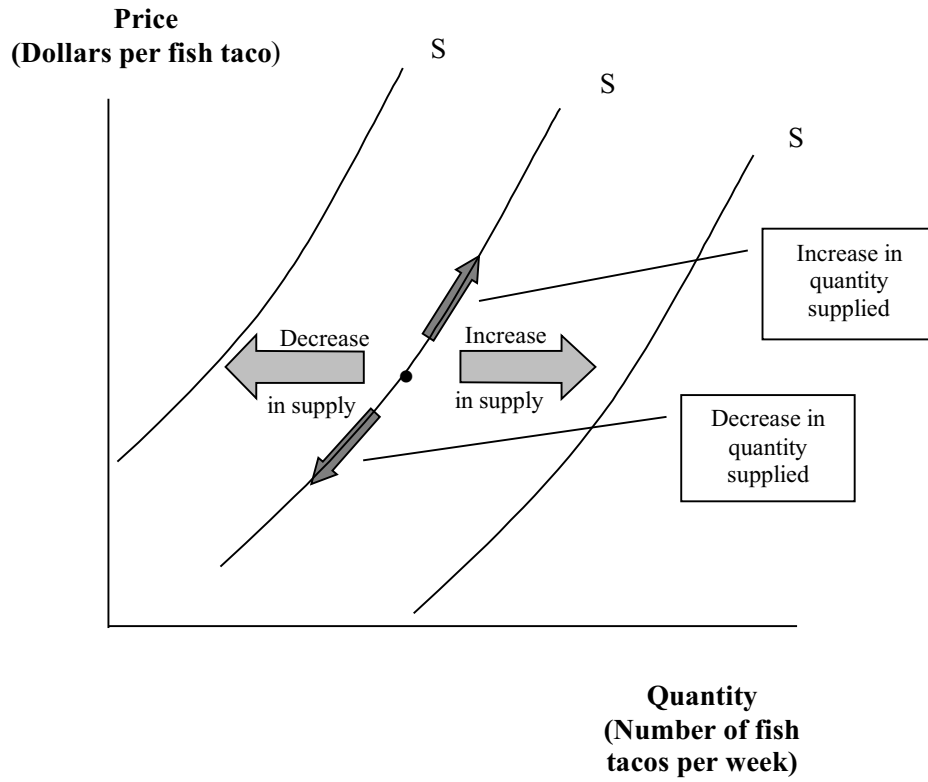
Change in the entire relationship between the quantity supplied and the price of a good.



Factors that lead to a change in supply

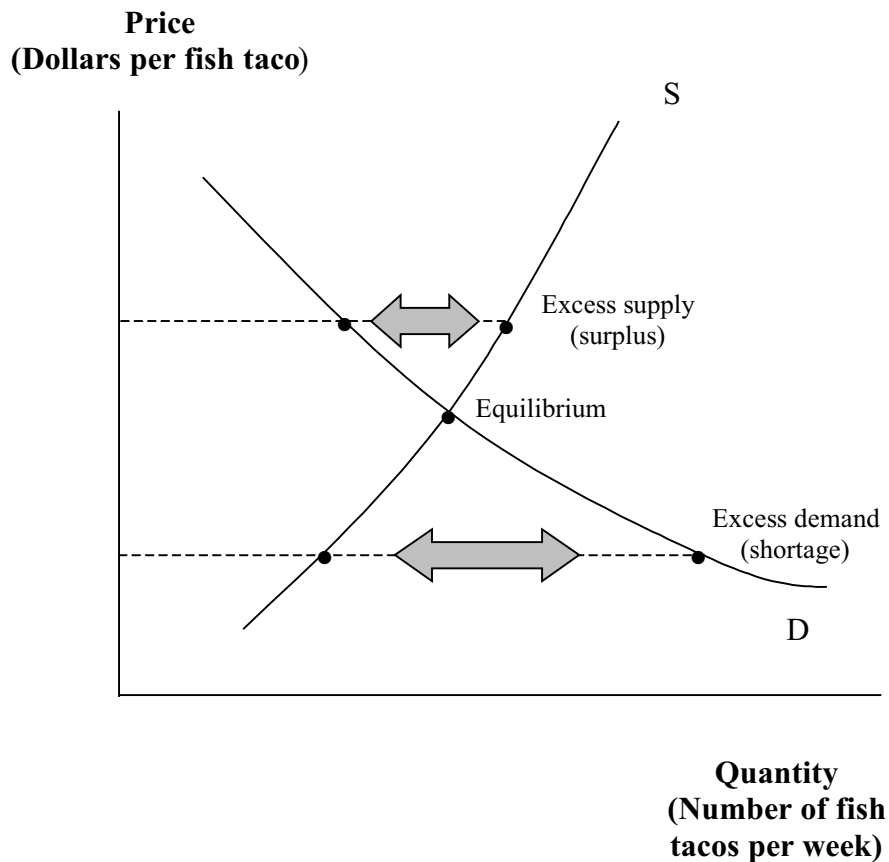
1. **Price of resources used to produce the good**
2. **The prices of related goods that the firm produces**
 - a. Related goods whose inputs are **complimentary** in production
 - b. Related goods whose inputs are **substitutes** in production
3. **Expected future prices**
4. **The number of suppliers**
5. **Technology**

A Change in the Quantity Supplied vs. a Change in Supply



MARKET EQUILIBRIUM

In **equilibrium**, price is such that the quantity supplied equals the quantity demanded. The idea is that prices adjust so that the production of firms is compatible with the demand of households.



- A **shortage** tends to force prices up.
- A **surplus** tends to force prices down.

Predicting Changes in Equilibrium Quantity

- **Change in Demand**
- **Change in Supply**
- **Combined Effect of Changes in Supply and Demand**

ELASTICITY

$$\text{Price elasticity of demand} = \frac{\% \Delta Q_D}{\% \Delta P}$$

- Elasticity is not slope

Revenue and Elasticity

$$\text{Income elasticity of demand} = \frac{\% \Delta Q_D}{\% \Delta I}$$

- positive if normal good
- negative if inferior good

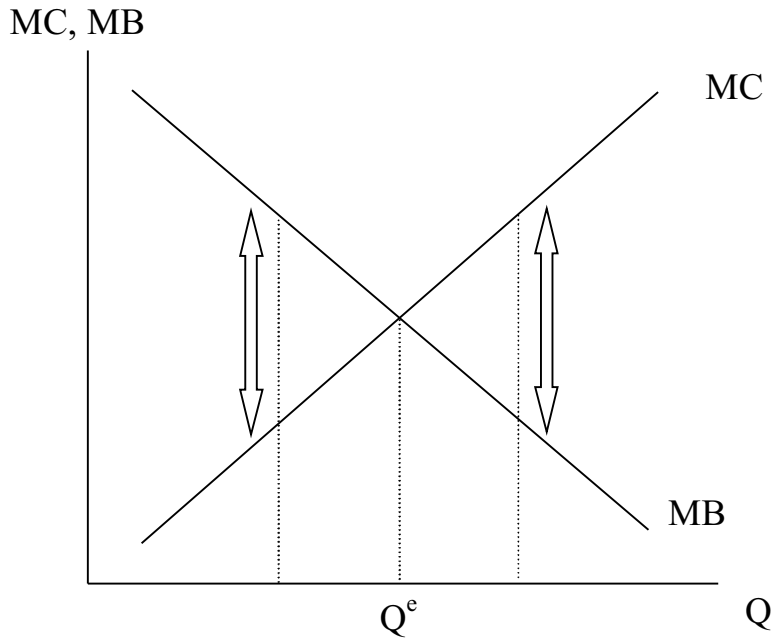
$$\text{Cross-price elasticity of demand} = \frac{\% \Delta Q_{D_x}}{\% \Delta P_y}$$

- positive if substitutes
- negative if compliments

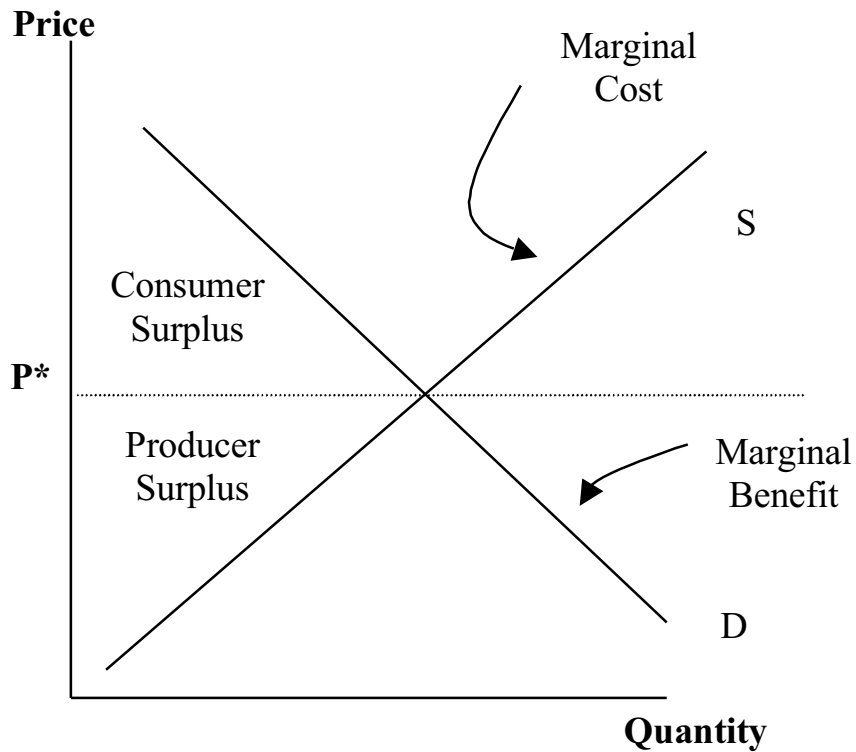
$$\text{Price elasticity of supply} = \frac{\% \Delta Q_S}{\% \Delta P}$$

- always positive

EFFICIENCY



Efficiency in a Competitive Market



Impediments to Efficiency

- Price ceilings and price floors
- Taxes, subsidies and quotas
- Monopoly
- Public Goods
- Externalities

THE TRADEOFF BETWEEN EQUITY AND EFFICIENCY

Price Ceilings

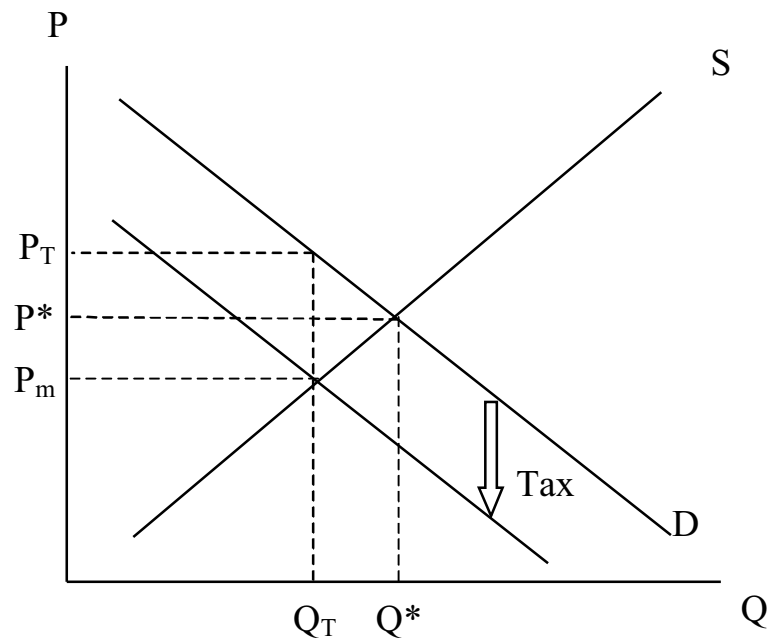
Rent Control

Price Floors

Minimum Wages

TAXES

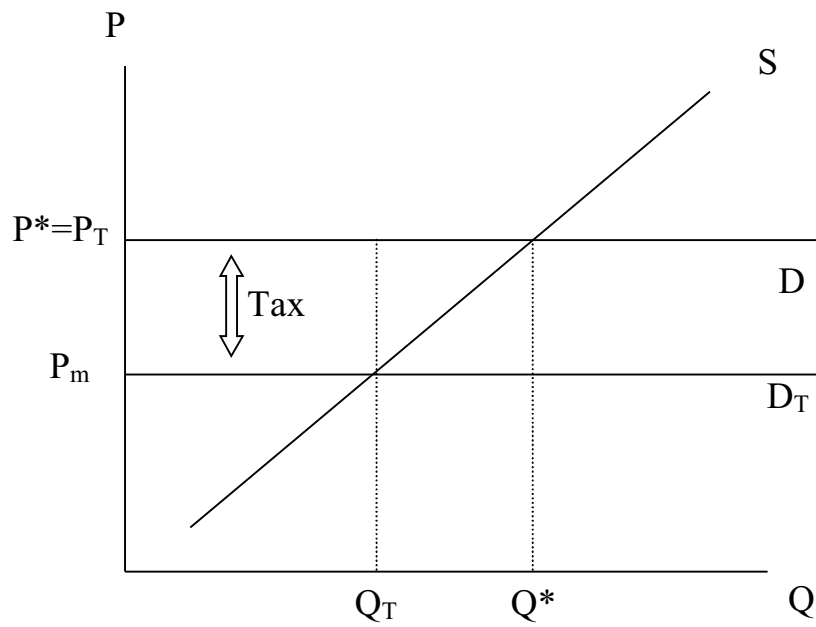
- The effect of taxes on the market equilibrium.



Who pays the sales tax?

- The higher the elasticity of demand relative to the elasticity of supply, the more producers pay.
- The higher the elasticity of supply relative to the elasticity of demand, the more consumers pay.

Perfectly Elastic Demand: Producers pay the sales tax



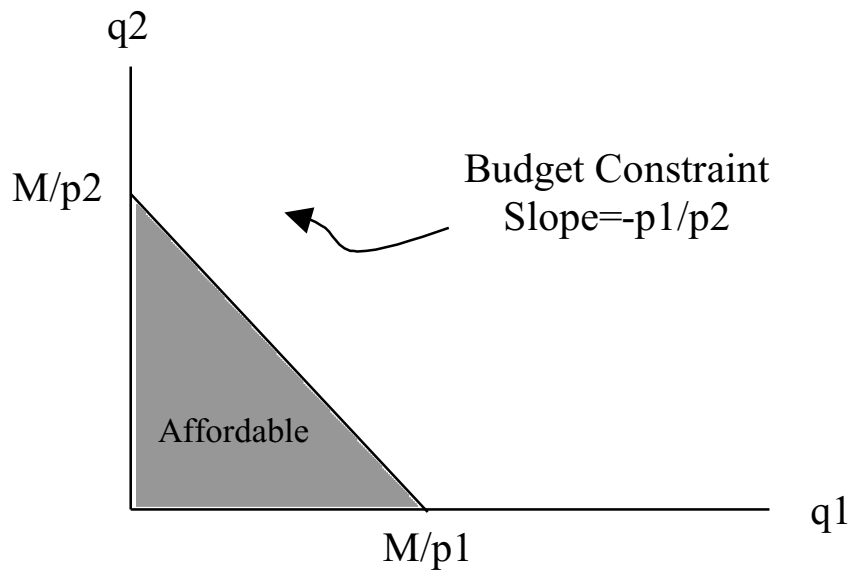
CONSUMER CHOICE

How do consumers decide what to buy?

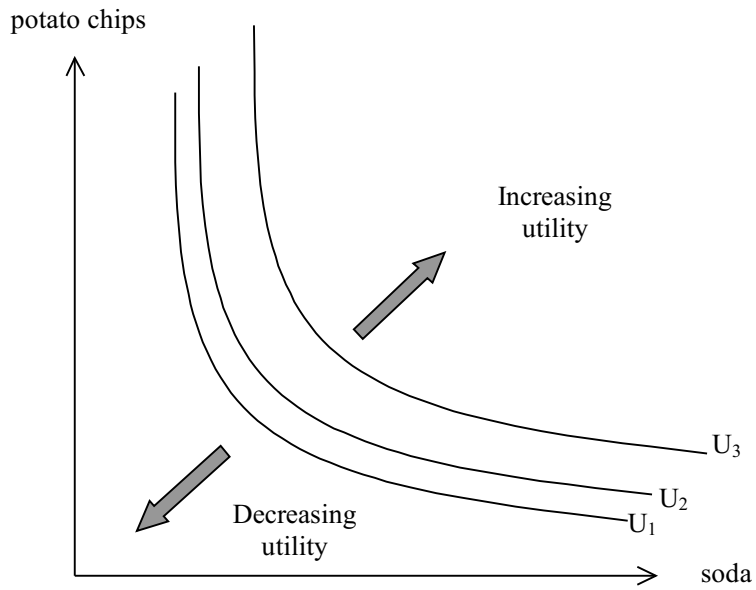
1. preferences
2. income
3. prices

Budget Line or Budget Constraint

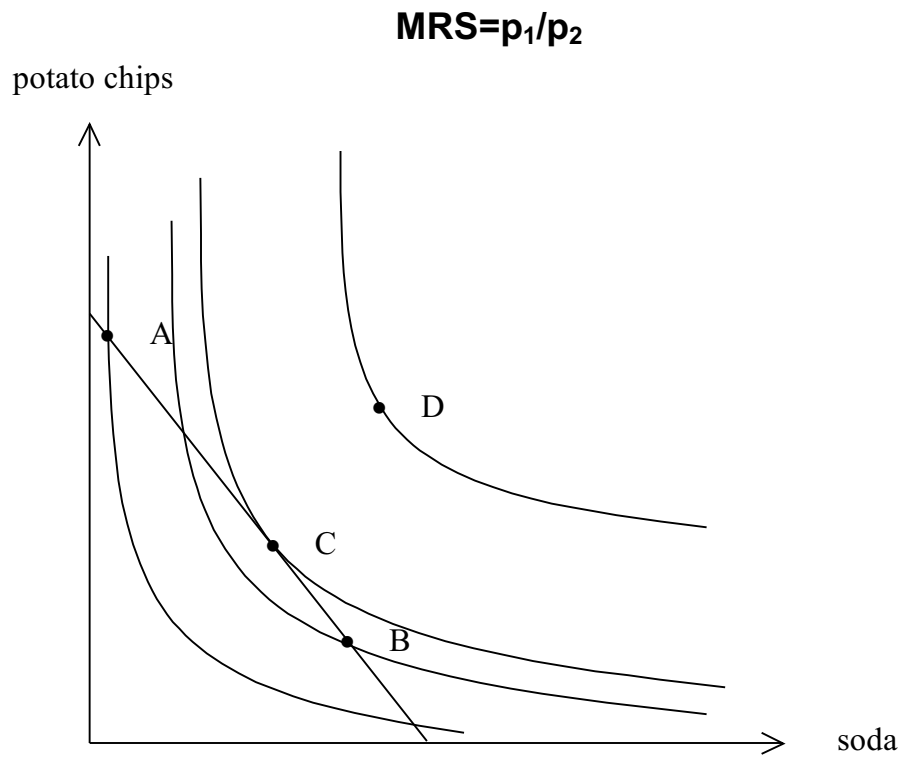
$$p_1q_1 + p_2q_2 = M$$



Preferences and Indifference Curves

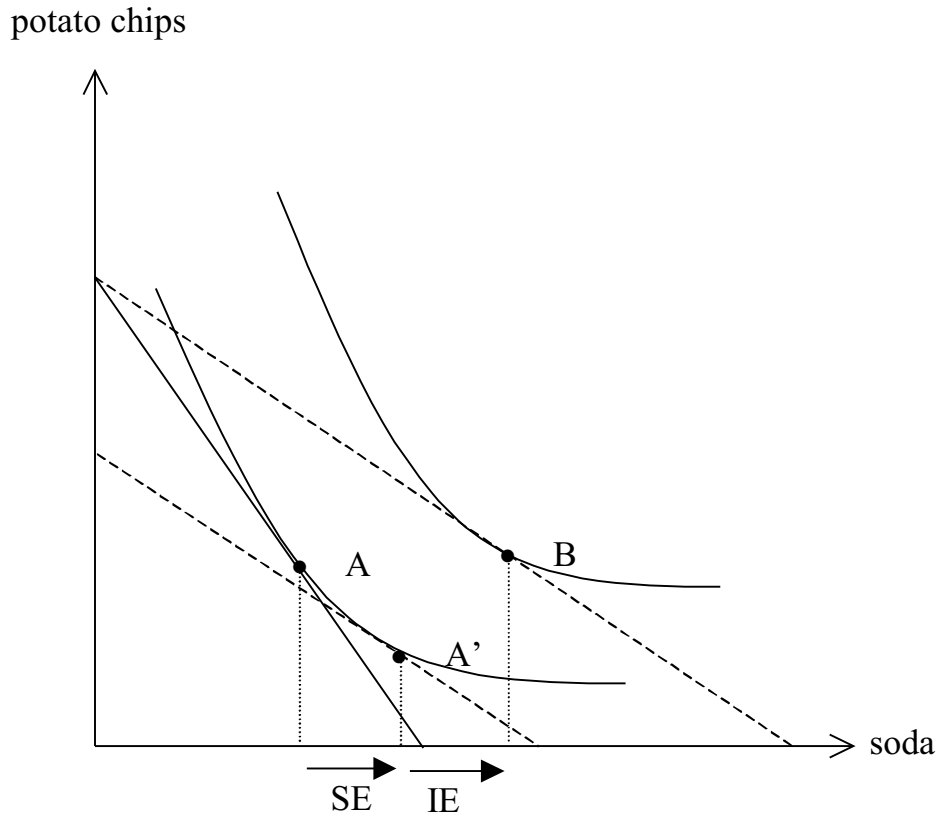


Predicting Consumer Behavior



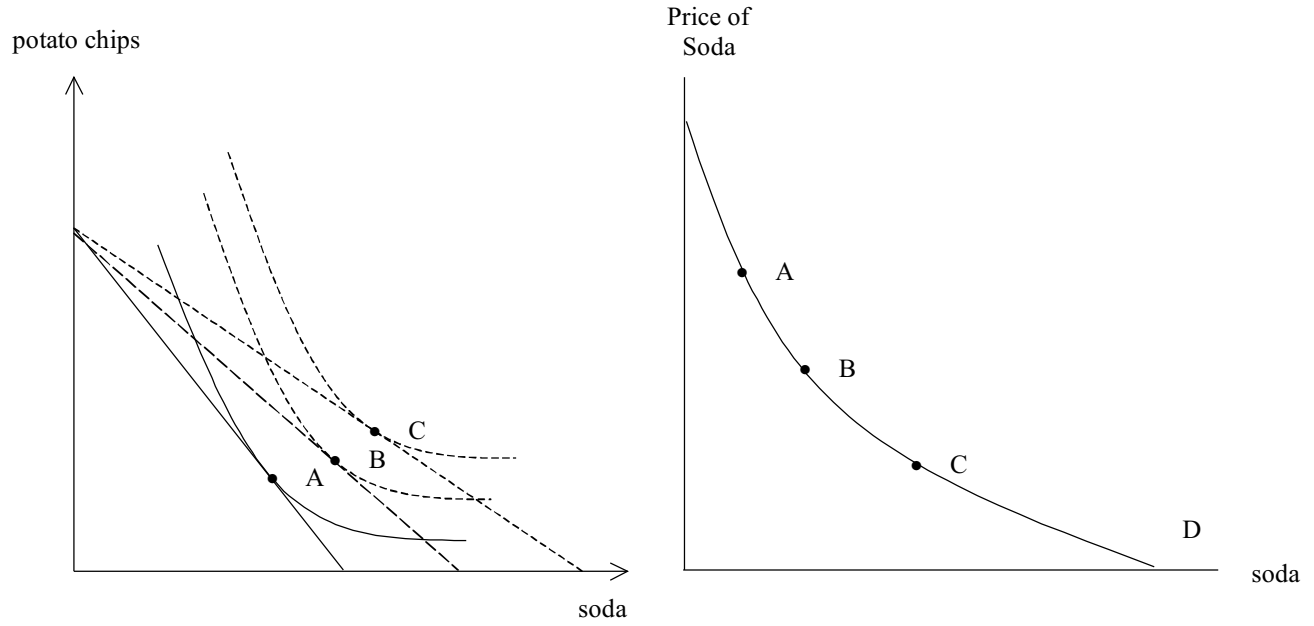
Change in Income

Change in Price

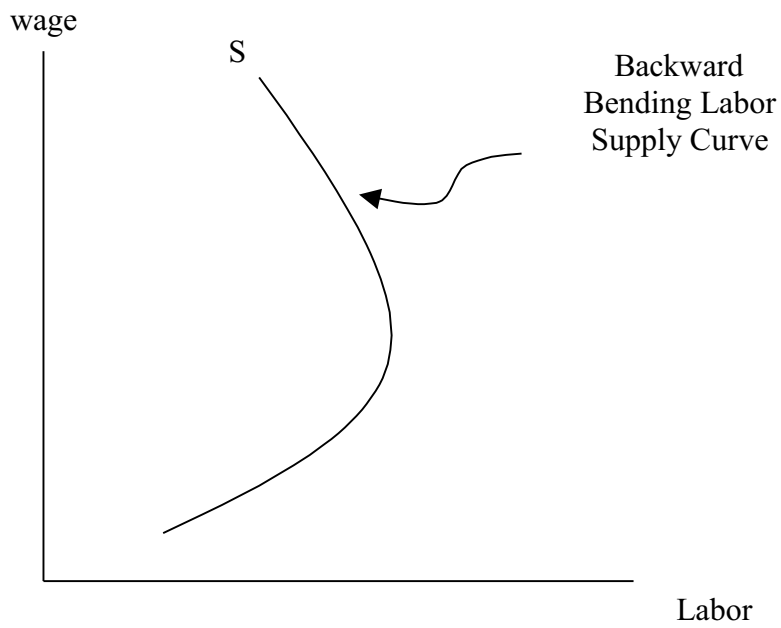


- The substitution effect
- The income effect

Deriving Demand from Utility Maximization



The Labor Market

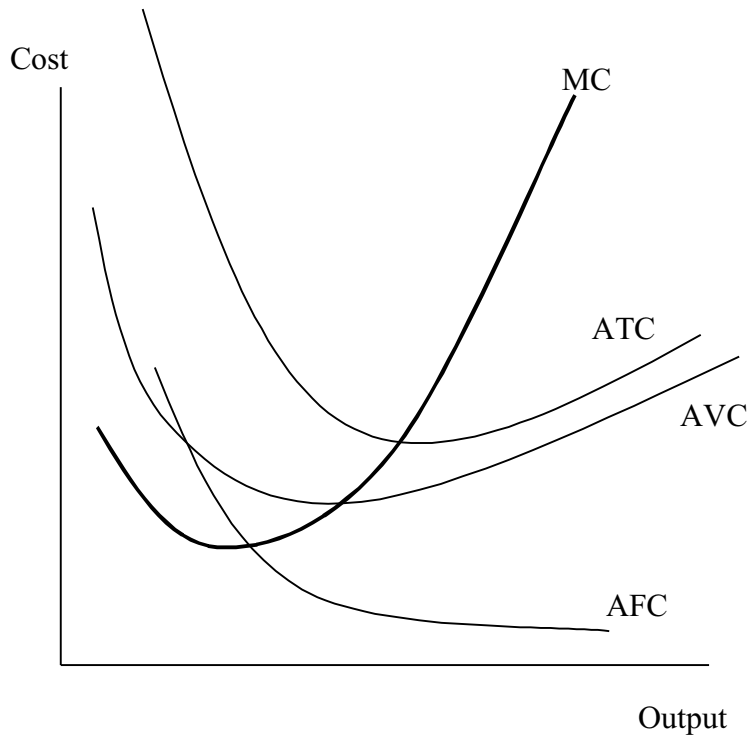


FIRMS AND OUTPUT MARKETS

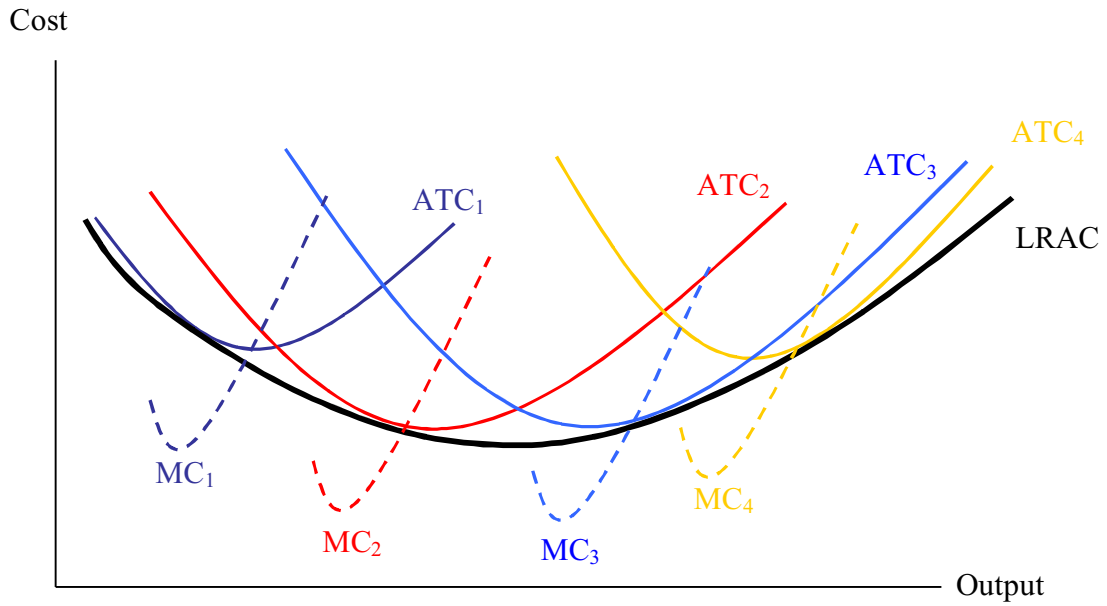
The Short Run and the Long Run

- Capital – Fixed in the short run
- Labor – Variable in the short run

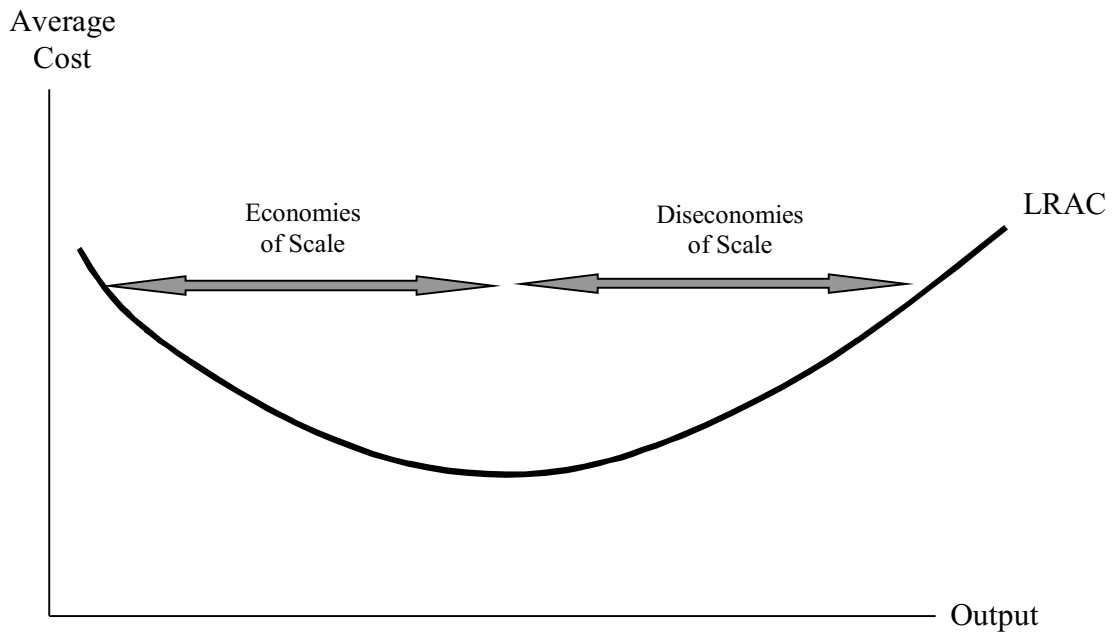
Costs in the Short Run



Costs in the Long Run



The Shape of the Long Run Average Cost Curve



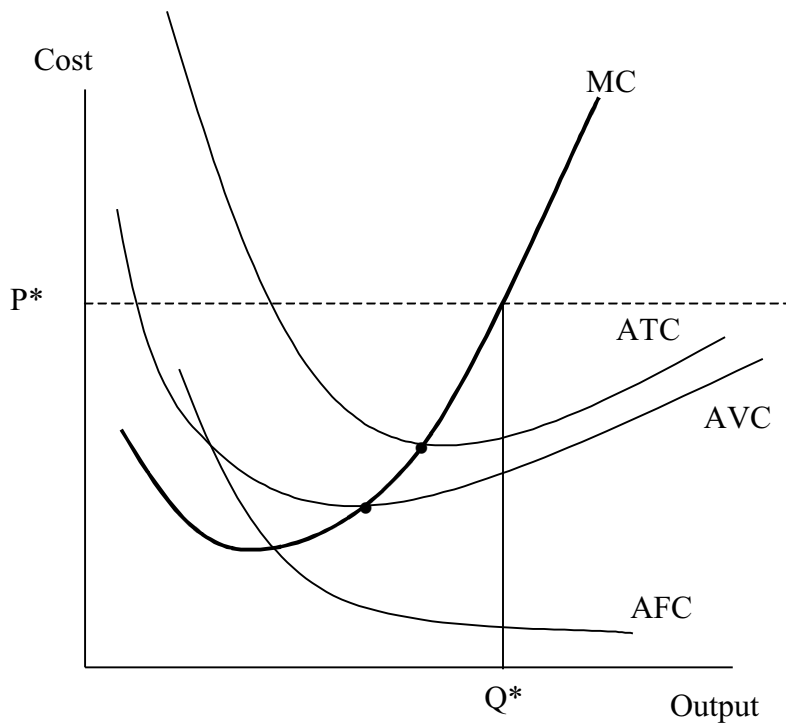
Output Decisions under Perfect Competition

Assumptions

1. many firms that are small compared to the industry
2. homogeneous products
3. many buyers
4. unrestricted entry and exit

⇒ **The implication is that firms are price takers in both input markets and output markets.**

Short Run Output Decisions



In the short run, a firm can either

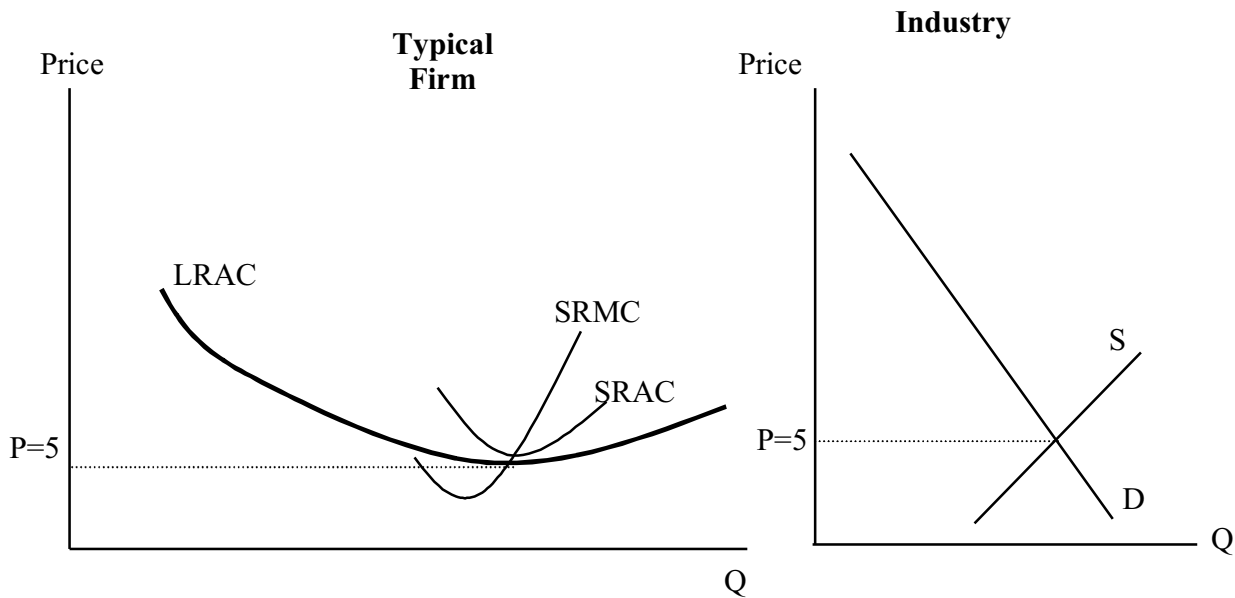
1. earn an economic profit
2. incur an economic loss
3. break even

Long-Run Decisions

In the long run, an industry can adjust in two ways

1. Enter and exit a market
2. Change the scale of production (adjust capital)

Long-Run Equilibrium

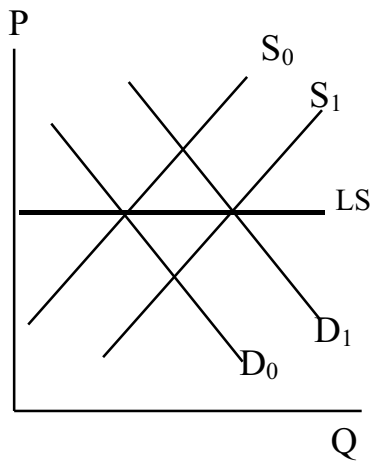


In the long run $p^* = SRAC = SRMC = LRAC$.

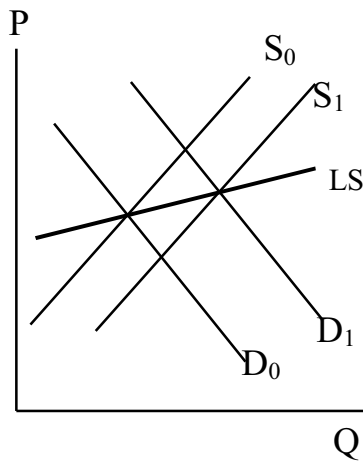
Changing Tastes

- A Permanent Decrease in Demand
- A Permanent Increase in Demand

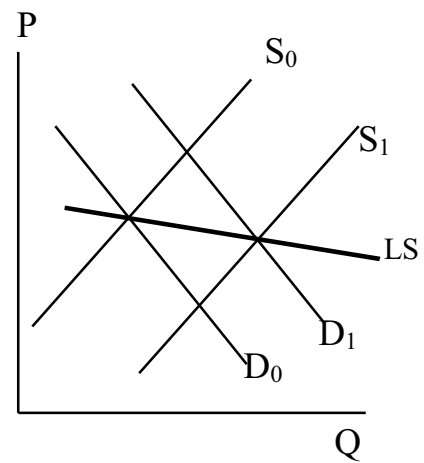
External Economies and Diseconomies



Constant-cost
Industry



Increasing-cost
Industry

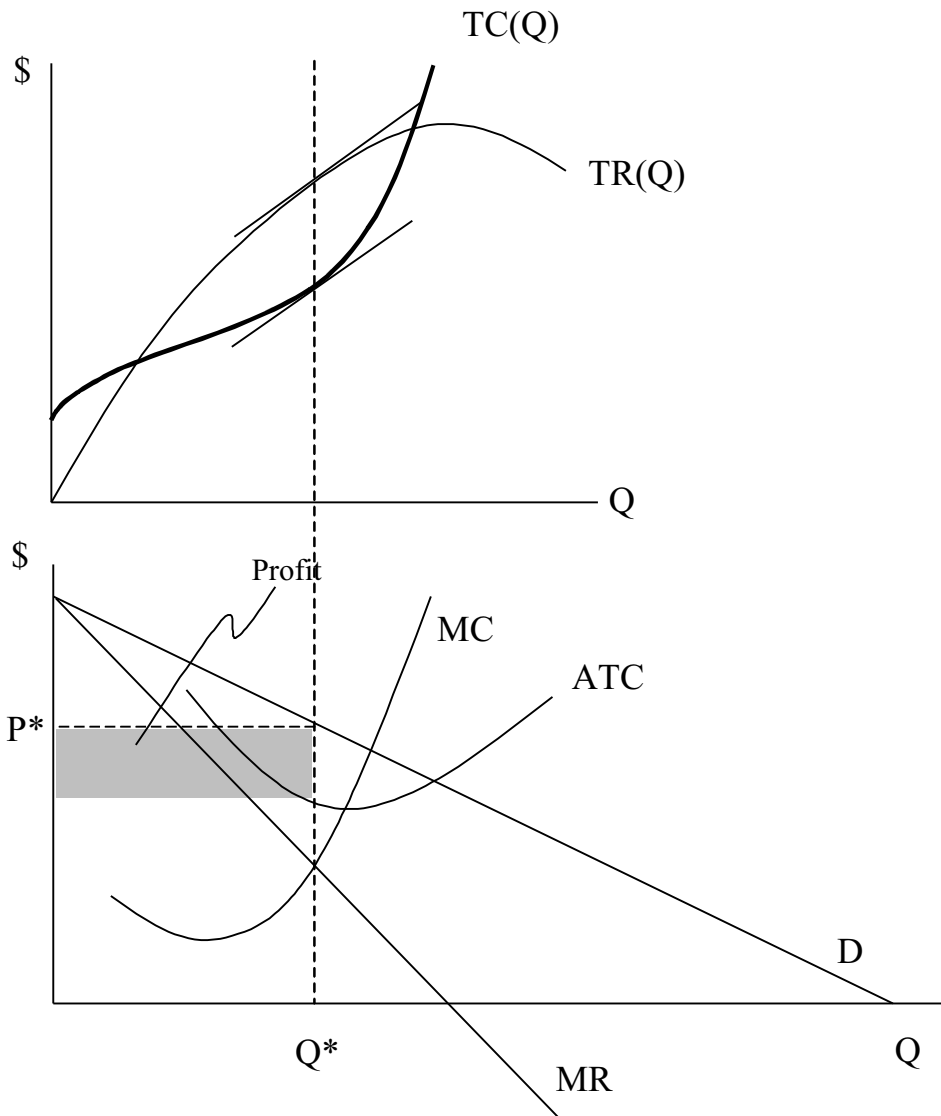


Decreasing-cost
Industry

MONOPOLY

Key features of a monopoly

1. No close substitutes
2. Barriers to entry



Comparison of Perfect Competition and Monopoly

- Price and Quantity
- Efficiency

PRICE DISCRIMINATION

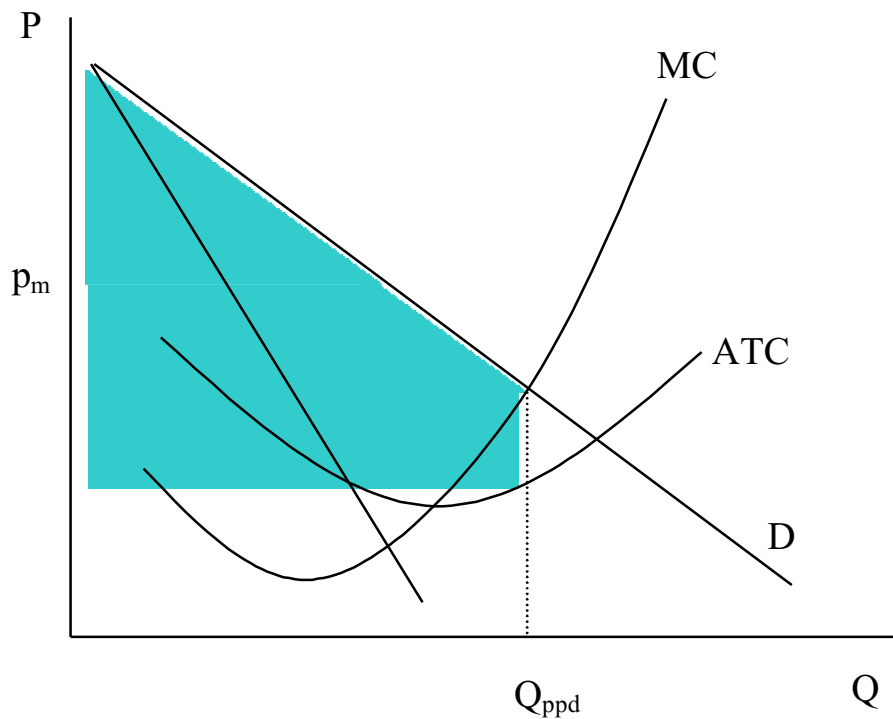
Key Features

1. Market power
2. Identify and separate different buyer types
3. Sell a product that cannot be resold

Two Surprising Things Price Discrimination

- It's profitable for firms to price discriminate.
- Price discrimination may improve efficiency.

Perfect Price Discrimination



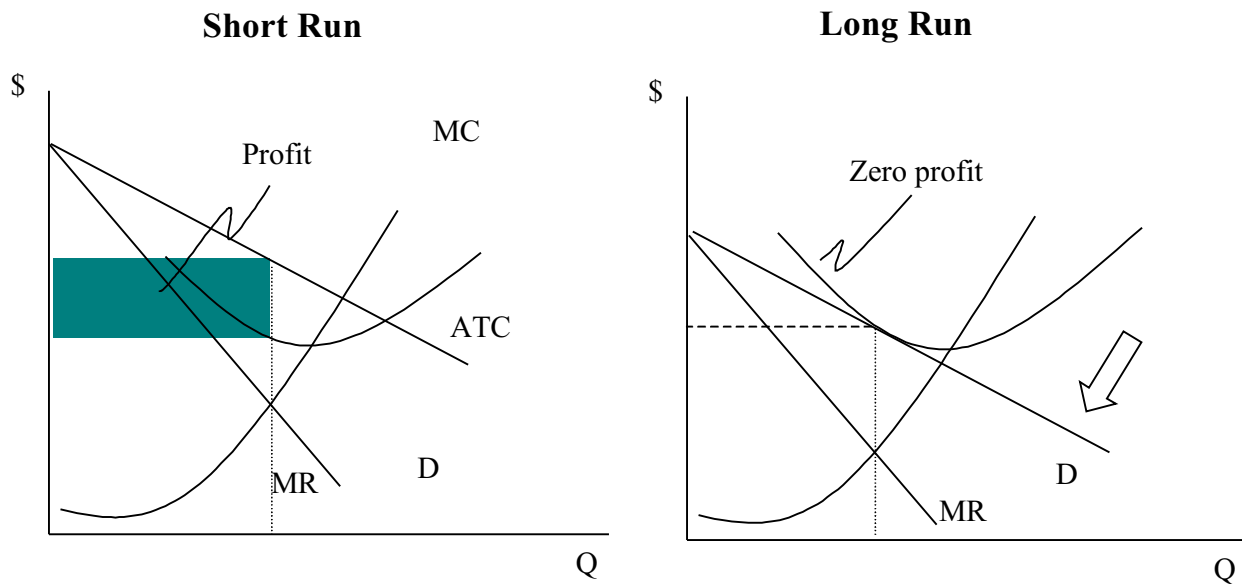
NATURAL MONOPOLY

Natural monopolies typically arise in markets in which there are huge economies of scale.

MONOPOLISTIC COMPETITION

Key Features

1. A large number of firms that compete
2. Each firm produces a differentiated product
3. Firms are free to enter and exit the market.



Good and Bad: Innovation vs. Wasteful Marketing

OLIGOPOLY

Game Theory

Key Features of a Game

1. Rules
2. Strategies
3. Payoffs

Nash Equilibrium

Both players are simultaneously taking the best possible action given the action of the other.

COURNOT MODEL OF OLIGOPOLY

Collusive Outcome

Nash Equilibrium Outcome

- Best response functions
- Collusion difficult to sustain

Efficient Outcome

PUBLIC GOODS

- Non-Rival
 - Non-Excludable
-

EXTERNALITIES

- Production/Consumption
- Positive/Negative

THEMES

1. People and firms make decisions at the margin
2. Perfect Competition leads to efficient outcomes
3. Exceptions to efficiency
4. Optimality of government intervention
5. Trade-off Between Efficiency and Equity
6. Game theory vs. standard economic analysis
7. Economics is a way of analyzing the behavior of individuals and firms

THE END