

# Microeconomics

## - CHAPTER 1

- Economy greek word “oikonomos” which means “one who manages a household”
- Scarcity: society has limited resources and therefore cannot produce all the goods and services people wish to have
- Economics: study of how society manages its scarce resources
- Principle 1: People face trade-offs
  - When you choose to spend an extra dollar on one good, you have one less dollar to spend on some other good
  - Efficiency: society is getting the maximum benefits from its scarce resources
    - EX: when the government redistributes income from the rich to the poor, it reduces the reward for working hard. People work less and produce fewer goods and services
  - Equality: benefits are distributed uniformly among society’s members
- Principle 2: The cost of something is what you give up to get
  - Opportunity cost: what you give up to get that item
- Principle 3: Rational people think at the margin
  - Rational people: systematically and purposefully do the best to achieve their objectives, given the available opportunities
  - Margin change: a small incremental adjustment to an existing plan of action
    - Compare marginal benefit and the marginal cost
  - A rational decision maker takes an action only if the marginal benefit of the action exceeds the marginal cost
- Principle 4: People respond to incentives
  - Incentive: something (punishment or reward) that induces a person to act
- Principle 5: Trade can make everyone better off
  - Trade between 2 countries can make each country better off
  - Trade allows each person to specialize in the activities they do best
- Principle 6: Markets are usually a good way to organize economic activity
  - Market economy: decisions of a central planner are replaced by the decisions of millions of the firms and households
  - Adam Smith: households and firms interacting in markets act as if they are guided by an “invisible hand” that leads them to desirable market outcomes
  - Buyers look at the price when determining how much to demand, sellers look at the price when deciding how much to supply
- Principle 7: Governments can sometimes improve market outcomes
  - Intervene in the economy and change the allocation of resources that people would choose on their own; to produce efficiency or to promote equality

## Microeconomics

- Externality: impact of one person's actions on the well-being of a bystander
  - EX: pollution
- Principle 8: A country's standard of living depends on its ability to produce goods and services
  - Productivity: amount of goods and services produced by each labor input
- Principle 9: Prices rise when the government prints too much money
  - Inflation: an increase in the overall level of prices
    - Cause: growth in the quantity of money; value falls
- Principle 10= Society faces a short-run trade off between inflation and unemployment
  - Monetary injections: Increase the amount of money that stimulates overall level of spending and the demand for goods and services
    - Raise in prices, raise in employment

## Microeconomics

### - CHAPTER 2

- Scientific method: the dispassionate development and testing of theories about how the world works
  - \*High inflation arises when the government prints too much money
  - \*In economics, conducting experiments is often impractical
  - Use natural experiments offered by history
  - Assumptions can simplify the complex world and make it easier to understand
- The circular flow diagram
  - Simplified to include firms and households
  - Firms: produce goods and services using inputs (labor, land, and capital)
  - Factors of production: capital, land, labor
  - Households: own the factors of production and consume all the goods and services that the firms produce
- The production possibilities frontier
  - Shows the various combinations of 2 outputs that the economy can possibly produce given the available factors of production and the available production technology that firms use to turn these factors into output
  - Can produce any combination on or inside the frontier. Points outside are not feasible
- Microeconomics: study of how households and firms make decisions and how they interact in specific markets
- Macroeconomics: study of economy-wide phenomena
- Positive analysis: how the world works
  - What is
  - Describe the world as it is
- Normative analysis: how to change the world
  - What should
  - Offers an opinion as to the way the world should be
- Differences in scientific judgments
  - Economists sometimes disagree because they have different hunches about the validity of alternative theories or about the size of important parameters that measure how economic variables are related

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### - CHAPTER 3

- Interdependence is possible because people trade with one another
- Trade can make everyone better off
- Benefit by specializing in what he or she does best and then trading with the other person
- Production possibilities frontier: shows the various mixes of output that an economy can produce
- People face trade-offs
- Bowed shape PPF graph: the rate at which society could trade one good for the other depended on the amounts that were being produced
- Straight shape PPF graph: producing goods at a constant rate
- Absolute advantage: the producer that requires a smaller quantity of inputs to produce a good is said to have an absolute advantage in producing that good
  - Do work with a lower input of time
- Opportunity cost: what you give up to get an item
- Comparative advantage: the producer who gives up less of other goods to produce good X has the smaller opportunity cost of producing good X and is said to have a comparative advantage in producing it
  - Interdependence and the gains from trade
  - Gains from specialization and trade are based on comparative advantage
  - When each person specializes in producing the goods for which they have a comparative advantage, total production in the economy rises
  - Trade can benefit from everyone in society because it allows people to specialize in activities in which they have a comparative advantage
- Two countries can achieve gains from trade even if one of the countries has an absolute advantage in the production of all goods
- No one can have a comparative advantage in everything
- It is not true that if a trade is good for one person, it cannot be good for the other person
- To be good for both parties, the trade price must lie between the two opportunity costs
- Trade that makes the country better off can harm certain individuals in the country

## Microeconomics

### - CHAPTER 4

- Market: a group of buyers and sellers of a particular good or service
  - Buyers: demand
  - Sellers: supply
- Competitive market: describe a market in which there are so many buyers and so many sellers that each has a negligible impact on the market
- Perfectly competitive:
  - Goods offered for sale are all exactly the same
  - The buyers and sellers are so numerous that no single buyer or seller has any influence over the market price
- Monopoly: only one seller
- Quantity demanded: the amount of the good that buyers are willing and able to purchase
- Law of demand: when the price of a good rises, the quantity demanded falls, and when the price falls, the quantity demanded rises.
- Demand curve: slopes downward because a lower price means a greater quantity demanded
- Price of the good: a movement along the demand curve
- Shift in demand curve:
  - Income
    - Normal Good: Demand for a good falls when income falls
    - Inferior Good: Demand for a good rises when income falls
  - Prices of related goods
    - Substitutes: fall in price of one good reduces the demand for another good
      - Computers and Typewriters
    - Complements: fall in the price of one good raises the demand for another good
      - Software and Computers
      - Bagels and Cream Cheese
  - Tastes
  - Expectations
  - Number of buyers
- Quantity supplied: the amount that sellers are willing and able to sell
- Law of supply: price of good rises, the quantity supplied of the good also rises
- Shifts in supply curve:
  - Input prices
  - Technology
  - Expectations
  - Number of sellers

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- Equilibrium: point at which supply and demand curves intersect
- Excess supply=surplus=price floor=downward pressure
- Excess demand=shortage=price ceiling=upward pressure
- Law of supply and demand: price of any good adjusts to bring the quantity supplied and quantity demanded for that good into balance
- Changes in equilibrium:
  - Whether the event shifts the supply curve, the demand curve or both curves
  - Whether the curve shifts to the right or to the left
  - Use the supply-and-demand diagram to compare the initial and new equilibrium

## Microeconomics

### - CHAPTER 5

- Elasticity: measure of how much buyers and sellers respond to changes in market conditions
- Demand: consumers usually buy more of a good when its price is lower, when their incomes are higher, when the prices of substitutes are higher, and when the prices of its complements are lower
- Price elasticity demand: measures how much the quantity demanded responds to a change in price
  - Elastic: quantity demanded responds substantially to changes in the price
    - Greater than 1
  - Inelastic: quantity demanded responds only slightly to changes in the price
    - Less than 1
- Influences price elasticity of demand:
  - Availability of close substitutes: more elastic demand
  - Necessities versus luxuries: Necessities have inelastic demands, luxuries have elastic demands
  - Definition of the market: Narrowly defined markets have more elastic demand than broadly defined markets
  - Time horizon: goods have more elastic demand over long time horizons
- Price elasticity of demand: Percentage change in quantity demanded / Percentage change in price
- Midpoint method: Divide the change by the midpoint of the initial and final levels
  - Midpoint method:  $\frac{(Q_2 - Q_1) / [(Q_2 + Q_1) / 2]}{(P_2 - P_1) / [(P_2 + P_1) / 2]}$
- Flatter the demand curve that passes through a given point, the greater the price elasticity of demand; steeper the demand curve that passes through a given point, the smaller the price elasticity of demand
- Total revenue = amount paid by buyers and received by sellers of a good
  - Price \* Quantity
  - Demand elastic: price and total revenue move in opposite directions
  - Demand inelastic: price and total revenue move in same direction
  - Demand unit elastic: total revenue remains constant when the price changes
- Income elasticity of demand: measures how the quantity demanded changes as consumer income changes
  - (Percentage change in quantity demanded) / (Percentage change in income)
- Cross-price elasticity of demand: measures how the quantity demanded of one good response to a change in the price of another good
  - (% change in quantity demanded of good 1) / (% change in the price of good 2)

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- Price elasticity of supply: measures how much the quantity supplied responds to changes in the price
  - $(\% \text{ change in quantity supplied}) / (\% \text{ change in price})$



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### - CHAPTER 6

- Price ceiling: price not allowed to rise above this level
  - Shortage
  - Rent control
- Price floor: price cannot fall below this level
  - Surplus: quantity supplied is greater than quantity
  - Minimum wage
- When government levies a tax on a good, the equilibrium quantity of the good falls

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### - CHAPTER 7

- Welfare economics: study of how the allocation of resources affects economic well-being
- Consumer surplus: the amount a buyer is willing to pay for a good minus the amount the buyer actually pays for it
  - Willingness to pay
  - The area below the demand curve and above the price measures the consumer surplus in a market
- Marginal buyer: buyer who would leave the market first if the price were any higher
- Cost: measure of seller's willingness to do service
- Producer surplus: the amount a seller is paid minus the cost of production
  - The area below the price and above the supply curve measures the producer surplus in a market
- Total surplus: sum of consumer and producer surplus
  - Consumer surplus: value to buyers - amount paid by buyers
  - Producer surplus: amount received by sellers - cost to sellers
  - Total surplus: value to buyers - cost to sellers
- Efficiency: allocation of resources maximizes total surplus
- Equality: various buyers and sellers in the market have a similar level of economic well-being
- Free markets allocate the supply of goods to the buyer who value them most highly
- Free markets allocate the demand for goods to the sellers who can produce them at the lowest cost
- Free markets produce quantity of goods that maximizes the sum of consumer and producer surplus

## Microeconomics

### - CHAPTER 10

- Social cost: private cost + external cost
  - Supply
- Social value: private value + external value
  - Demand
- External cost: value of the negative impact on bystanders
- Negative externality affects supply
- Positive externality affects demand

## Microeconomics

### - CHAPTER 13

- Industrial organization: study of how firms' decisions about prices and quantities depend on the market conditions they face
- Profit: total revenue - total cost
  - Total revenue: amount that the firm receives for the sale of its output
    - Quantity \* price
  - Total cost: amount that the firm pays to buy inputs
    - Fixed cost + variable cost
- Costs:
  - Explicit costs: money being paid out
  - Implicit costs: costs that do not require an outlay of money, opportunity cost
- Profit
  - Economic profit: the firm's total revenue minus all the opportunity costs of producing the goods and services sold
  - Accounting profit: firm's total revenue minus only the firm's explicit costs
- Production function: relationship between the quantity of inputs and quantity of output
- Marginal product: increase in the quantity of output obtained from one additional unit of that input
- Fixed costs: do not vary with the quantity of output produced
- Variable costs: change as the firm alters the quantity of output produced
- Average total cost: total cost divided by the quantity of output
- Marginal cost: change in total cost divided by change in the quantity

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### - CHAPTER 14

- Competitive market:
  - There are many buyers and sellers
  - The goods offered by the various sellers are largely the same
  - Enter and exit market
- Maximize profit: total revenue - total cost
- Total revenue: Price \* quantity
- Average revenue: total revenue / amount of output
  - Average revenue = price
- Marginal cost: change in the cost divided by change in quantity
- Marginal revenue: change in total revenue / change in amount
  - Marginal revenue: price, equal to the market price
- Profit: Revenue - cost
- $MR > MC$ , firm could increase production
- $MR < MC$ , firm could decrease production
- Profit maximized:  $MR = MC$
- Shutdown: a short run decision not to produce anything during a specific time
  - Fixed costs stay
- Exit: a long run decision to leave the market
- Shutdown if:
  - Revenue < variable costs
  - Price < average variable cost
- Exit if:
  - Revenue < total costs
  - Price < average total cost
- Profit:  $(\text{Price} - \text{Average total cost}) * \text{quantity}$