CHAPTER SUMMARY

- Interdependence and trade allow everyone to enjoy a greater quantity and variety of goods & services.
- Comparative advantage means being able to produce a good at a lower opportunity cost. Absolute advantage means being able to produce a good with fewer inputs.
- When people – or countries – specialize in the goods in which they have a comparative advantage, the economic “pie” grows and trade can make everyone better off.
- CA and direction of trade.
CHAPTER SUMMARY

- A consumer’s budget constraint shows the possible combinations of different goods she can buy given her income and the prices of the goods. The slope of the budget constraint equals the relative price of the goods.
- An increase in income shifts the budget constraint outward. A change in the price of one of the goods pivots the budget constraint.
A consumer’s indifference curves represent her preferences. An indifference curve shows all the bundles that give the consumer a certain level of happiness. The consumer prefers points on higher indifference curves to points on lower ones.

The slope of an indifference curve at any point is the marginal rate of substitution – the rate at which the consumer is willing to trade one good for the other.

The consumer optimizes by choosing the point on her budget constraint that lies on the highest indifference curve. At this point, the marginal rate of substitution equals the relative price of the two goods.

When the price of a good falls, the impact on the consumer’s choices can be broken down into two effects, an income effect and a substitution effect.
CHAPTER SUMMARY

- The income effect is the change in consumption that arises because a lower price makes the consumer better off. It is represented by a movement from a lower indifference curve to a higher one.
- The substitution effect is the change that arises because a price change encourages greater consumption of the good that has become relatively cheaper. It is represented by a movement along an indifference curve.

CHAPTER SUMMARY

- The theory of consumer choice can be applied in many situations. It can explain why demand curves can potentially slope upward, why higher wages could either increase or decrease labor supply, and why higher interest rates could either increase or decrease saving.
CHAPTER SUMMARY

- A competitive market has many buyers and sellers, each of whom has little or no influence on the market price.
- Economists use the supply and demand model to analyze competitive markets.
- The downward-sloping demand curve reflects the Law of Demand, which states that the quantity buyers demand of a good depends negatively on the good’s price.
CHAPTER SUMMARY

- Besides price, demand depends on buyers' incomes, tastes, expectations, the prices of substitutes and complements, and # of buyers. If one of these factors changes, the $D$ curve shifts.

- The upward-sloping supply curve reflects the Law of Supply, which states that the quantity sellers supply depends positively on the good’s price.

- Other determinants of supply include input prices, technology, expectations, and the # of sellers. Changes in these factors shift the $S$ curve.

CHAPTER SUMMARY

- The intersection of $S$ and $D$ curves determine the market equilibrium. At the equilibrium price, quantity supplied equals quantity demanded.

- If the market price is above equilibrium, a surplus results, which causes the price to fall. If the market price is below equilibrium, a shortage results, causing the price to rise.

- Excess demand, excess supply.
CHAPTER SUMMARY

- We can use the supply-demand diagram to analyze the effects of any event on a market: First, determine whether the event shifts one or both curves. Second, determine the direction of the shifts. Third, compare the new equilibrium to the initial one.

- In market economies, prices are the signals that guide economic decisions and allocate scarce resources.
CHAPTER SUMMARY

- Elasticity measures the responsiveness of $Q_d$ or $Q_s$ to one of its determinants.

- Price elasticity of demand equals percentage change $Q_d$ in divided by percentage change in $P$. When it’s less than one, demand is “inelastic.” When greater than one, demand is “elastic.”

- When demand is inelastic, total revenue rises when price rises. When demand is elastic, total revenue falls when price rises.

CHAPTER SUMMARY

- Demand is less elastic in the short run, for necessities, for broadly defined goods, or for goods with few close substitutes.

- Price elasticity of supply equals percentage change in $Q_s$ divided by percentage change in $P$. When it’s less than one, supply is “inelastic.” When greater than one, supply is “elastic.”

- Price elasticity of supply is greater in the long run than in the short run.
CHAPTER SUMMARY

- The income elasticity of demand measures how much quantity demanded responds to changes in buyers’ incomes.
- The cross-price elasticity of demand measures how much demand for one good responds to changes in the price of another good.
- Midpoint method, sign of cpe and ie.
CHAPTER SUMMARY

- A price ceiling is a legal maximum on the price of a good. An example is rent control. If the price ceiling is below the eq’m price, it is binding and causes a shortage.

- A price floor is a legal minimum on the price of a good. An example is the minimum wage. If the price floor is above the eq’m price, it is binding and causes a surplus. The labor surplus caused by the minimum wage is unemployment.

CHAPTER SUMMARY

- A tax on a good places a wedge between the price buyers pay and the price sellers receive, and causes the eq’m quantity to fall, whether the tax is imposed on buyers or sellers.

- The incidence of a tax is the division of the burden of the tax between buyers and sellers, and does not depend on whether the tax is imposed on buyers or sellers.

- The incidence of the tax depends on the price elasticities of supply and demand.
CHAPTER SUMMARY

- The height of the $D$ curve reflects the value of the good to buyers—their willingness to pay for it.
- Consumer surplus is the difference between what buyers are willing to pay for a good and what they actually pay.
- On the graph, consumer surplus is the area between $P$ and the $D$ curve.
CHAPTER SUMMARY

- The height of the $S$ curve is sellers’ cost of producing the good. Sellers are willing to sell if the price they get is at least as high as their cost.

- Producer surplus is the difference between what sellers receive for a good and their cost of producing it.

- On the graph, producer surplus is the area between $P$ and the $S$ curve.

CHAPTER SUMMARY

- To measure of society’s well-being, we use total surplus, the sum of consumer and producer surplus.

- Efficiency means that total surplus is maximized, that the goods are produced by sellers with lowest cost, and that they are consumed by buyers who most value them.

- Under perfect competition, the market outcome is efficient. Altering it would reduce total surplus.
CHAPTER SUMMARY

- A tax on a good reduces the welfare of buyers and sellers. This welfare loss usually exceeds the revenue the tax raises for the govt.

- The fall in total surplus (consumer surplus, producer surplus, and tax revenue) is called the deadweight loss (DWL) of the tax.

- A tax has a DWL because it causes consumers to buy less and producers to sell less, thus shrinking the market below the level that maximizes total surplus.
CHAPTER SUMMARY

- The price elasticities of demand and supply measure how much buyers and sellers respond to price changes. Therefore, higher elasticities imply higher DWLs.
- An increase in the size of a tax causes the DWL to rise even more.
- An increase in the size of a tax causes revenue to rise at first, but eventually revenue falls because the tax reduces the size of the market.
- Incidence or Burden of a Tax.
- Does it matter WHO pays the tax?

Application: International Trade
CHAPTER SUMMARY

- A country will export a good if the world price of the good is higher than the domestic price without trade. Trade raises producer surplus, reduces consumer surplus, and raises total surplus.

- A country will import a good if the world price is lower than the domestic price without trade. Trade lowers producer surplus, but raises consumer and total surplus.

- A tariff benefits producers and generates revenue for the govt, but the losses to consumers exceed these gains.

CHAPTER SUMMARY

- Common arguments for restricting trade include: protecting jobs, defending national security, helping infant industries, preventing unfair competition, and responding to foreign trade restrictions.

Some of these arguments have merit in some cases, but economists believe free trade is usually the better policy.
CHAPTER SUMMARY

- Implicit costs do not involve a cash outlay, yet are just as important as explicit costs to firms' decisions.

- Accounting profit is revenue minus explicit costs. Economic profit is revenue minus total (explicit + implicit) costs.

- The production function shows the relationship between output and inputs.
CHAPTER SUMMARY

- The marginal product of labor is the increase in output from a one-unit increase in labor, holding other inputs constant. The marginal products of other inputs are defined similarly.

- Marginal product usually diminishes as the input increases. Thus, as output rises, the production function becomes flatter, and the total cost curve becomes steeper.

- Variable costs vary with output; fixed costs do not.

CHAPTER SUMMARY

- Marginal cost is the increase in total cost from an extra unit of production. The MC curve is usually upward-sloping.

- Average variable cost is variable cost divided by output.

- Average fixed cost is fixed cost divided by output. AFC always falls as output increases.

- Average total cost (sometimes called “cost per unit”) is total cost divided by the quantity of output. The ATC curve is usually U-shaped.
CHAPTER SUMMARY

- The MC curve intersects the ATC curve at minimum average total cost. When MC < ATC, ATC falls as Q rises. When MC > ATC, ATC rises as Q rises.
- In the long run, all costs are variable.
- Economies of scale: ATC falls as Q rises. Diseconomies of scale: ATC rises as Q rises. Constant returns to scale: ATC remains constant as Q rises.
CONCLUSION: The Efficiency of a Competitive Market

- Profit-maximization: $MC = MR$
- Perfect competition: $P = MR$
- So, in the competitive eq’m: $P = MC$
- Recall, $MC$ is cost of producing the marginal unit. $P$ is value to buyers of the marginal unit. MC curve is effectively the supply curve of a perfectly competitive firm.
- So, the competitive eq’m is efficient, maximizes total surplus.
- In the next chapter, monopoly: pricing & production decisions, deadweight loss, regulation.

CHAPTER SUMMARY

- For a firm in a perfectly competitive market, price = marginal revenue = average revenue.
- If $P > AVC$, a firm maximizes profit by producing the quantity where $MR = MC$. If $P < AVC$, a firm will shut down in the short run.
- If $P < ATC$, a firm will exit in the long run.
- In the short run, entry is not possible, and an increase in demand increases firms’ profits.
- With free entry and exit, profits = 0 in the long run, and $P = \text{minimum } ATC$. 
A Firm With Profits

- revenue per unit = \( P \)
- profit per unit = \( P - ATC \)
- cost per unit = \( ATC \)
- profit-maximizing quantity

\[
\text{profit per unit} = P - ATC
\]

\[
\text{revenue per unit} = P
\]

\[
\text{cost per unit} = ATC
\]
CHAPTER SUMMARY

- A monopoly firm is the sole seller in its market. Monopolies arise due to barriers to entry, including: government-granted monopolies, the control of a key resource, or economies of scale over the entire range of output.

- A monopoly firm faces a downward-sloping demand curve for its product. As a result, it must reduce price to sell a larger quantity, which causes marginal revenue to fall below price.

- Monopoly firms maximize profits by producing the quantity where marginal revenue equals marginal cost. But since marginal revenue is less than price, the monopoly price will be greater than marginal cost, leading to a deadweight loss.

- Monopolist does not have a supply curve. Why?

- Policymakers may respond by regulating monopolies, using antitrust laws to promote competition, or by taking over the monopoly and running it. Due to problems with each of these options, the best option may be to take no action.
CHAPTER SUMMARY

- Monopoly firms (and others with market power) try to raise their profits by charging higher prices to consumers with higher willingness to pay. This practice is called price discrimination.
CHAPTER SUMMARY

- Oligopolists can maximize profits if they form a cartel and act like a monopolist.
- Yet, self-interest leads each oligopolist to a higher quantity and lower price than under the monopoly outcome.
- The larger the number of firms, the closer will be the quantity and price to the levels that would prevail under competition.

CHAPTER SUMMARY

- The prisoners’ dilemma shows that self-interest can prevent people from cooperating, even when cooperation is in their mutual interest. The logic of the prisoners’ dilemma applies in many situations.
- Policymakers use the antitrust laws to prevent oligopolies from engaging in anticompetitive behavior such as price-fixing. But the application of these laws is sometimes controversial.
CHAPTER SUMMARY

- The economy’s income distribution is determined in the markets for the factors of production. The three most important factors of production are labor, land, and capital.
- A firm’s demand for a factor is derived from its supply of output.
- Competitive firms maximize profit by hiring each factor up to the point where the value of its marginal product equals its rental price.
CHAPTER SUMMARY

- The supply of labor arises from the trade-off between work and leisure, and yields an upward-sloping labor supply curve.
- The price paid to each factor adjusts to balance supply and demand for that factor. In equilibrium, each factor is compensated according to its marginal contribution to production.
- Factors of production are used together. A change in the quantity of one factor affects the marginal products and equilibrium earnings of all factors.
CHAPTER SUMMARY

- An externality occurs when a market transaction affects a third party. If the transaction yields negative externalities (e.g., pollution), the market quantity exceeds the socially optimal quantity. If the externality is positive (e.g., technology spillovers), the market quantity falls short of the social optimum.

CHAPTER SUMMARY

- Sometimes, people can solve externalities on their own. The Coase theorem states that the private market can reach the socially optimal allocation of resources as long as people can bargain without cost. In practice, bargaining is often costly or difficult, and the Coase theorem does not apply.
CHAPTER SUMMARY

- The government can attempt to remedy the problem. It can internalize the externality using corrective taxes. It can issue permits to polluters and establish a market where permits can be traded. Such policies often protect the environment at a lower cost to society than direct regulation.
CHAPTER SUMMARY

- A good is excludable if someone can be prevented from using it. A good is rival in consumption if one person’s use reduces others’ ability to use the same unit of the good.

- Markets work best for private goods, which are excludable and rival in consumption. Markets do not work well for other types of goods.

CHAPTER SUMMARY

- Public goods, such as national defense and fundamental knowledge, are neither excludable nor rival in consumption.

- Because people do not have to pay to use them, they have an incentive to free ride, and firms have no incentive to provide them.

- Therefore, the government provides public goods, using cost-benefit analysis to determine how much to provide.
CHAPTER SUMMARY

- Common resources are rival in consumption but not excludable. Examples include common grazing land, clean air, and congested roads.

- People can use common resources without paying, so they tend to overuse them. Therefore, governments try to limit the use of common resources.

Chapter 16
Oligopoly

and

Game Theory
Oligopoly

- “Figuring out the environment” when there are rival firms in your market, means guessing (or inferring) what the rivals are doing and then choosing a “best response”
- This means that firms in oligopoly markets are playing a ‘game’ against each other.
- To understand how they might act, we need to understand how players play games.
- This is the role of Game Theory.

Chapter 16
Oligopoly
and
Game Theory
Some Concepts We Used

- Strategies
- Payoffs
- Sequential Games
- Simultaneous Games
- Best Responses
- Elimination of Dominated strategies.
- Equilibrium: Nash Equilibrium, Backward Induction.
- Credible Threats

Economics of Uncertainty and Information
Some Concepts to Learn

- Asymmetric Information
- Hidden information or adverse selection
- Hidden actions or moral hazard.