Microeconomics: Canada in the Global Environment

Chapter 1: What is Economics?

Definition of Economics

- All economic questions arise because we want more than we can get.
- What each of us can get is limited by time, by the incomes we earn, and by the prices we must pay – so everyone ends up with some unsatisfied wants
- **Scarcity:** Our inability to satisfy all our wants (ex. A child wants a 1 dollar pop and two 50 cent packs of gum but has only 1 dollar in his pocket) (ex. A millionaire wants to spend the weekend playing golf and the same weekend at a conference)
- **Incentive:** A reward that encourages an action or a penalty that discourages one. (Ex. If the price of pop falls, the child has an incentive to choose more pop)
- **Economics:** the social science that studies the choices that individuals, business, governments, and societies make as they cope with scarcity and the incentives that influence and reconcile those choices.
  - **Microeconomics:** The study of the choices that individuals and businesses make, the way these choices interact in markets, and the influence of governments. [ex. Pollution]
- **Macroeconomics**: The study of the performance of the national economy and the global economy. [ex. Unemployment]

Two Big Economics Questions

a) How do choices end up determining ***what***, ***how*** **and** ***for whom*** goods and services are produced?

b) How can choices made in the pursuit of ***self-interest*** also promote the ***social interest***?

What, How, and for Whom?

- **Goods and Services:** are the objects that people value and produce to satisfy human wants
- What should we produce? What we produce changes over time.
- Sixty years ago, almost 20 percent of Canadians worked on farms: Today that number is 3 percent.

What, How, and for Whom?

- Goods and services are produced by using productive resources that economists call **factors of production:**
  - ***Land***: natural resources (ex. Land, minerals, oil, coals, water, air, forests, fish)
  - ***Labor***: the work time and work effort that people devote to producing goods and services. The quality of labor depends on **human capital,**

which is the knowledge and skill that people obtain from education, on-the-job training, and work experience.
    - ***Capital:*** the tools, instruments, machines, buildings, and other constructions that businesses use to produce goods and services
    - ***Entrepreneurship:*** The human recourse that organize the land labour and capital. They have new ideas about what and how to produce, make business decisions, and bear the risks that arise from these decisions.

What, How, and for Whom?

- Who gets the goods and services depends on the incomes that people earn.
- People obtain their incomes by selling services of the factors of production they own.
    - They can earn rent through land
    - They can earn wages through labor
    - They can earn interest through capital
    - They can earn profit through entrepreneurship.
- Labor wages are around 70% of total income

How can the Pursuit of Self-Interest Promote the Social Interest?

- *Do we produce the right things in the right quantities? Do we use our factors of production in the best way? Do the goods and services go those who benefit most from them?*
- You make choices that are in your **self-interest**—choices that you think are best for you.
- Choices that are best for society as a whole are said to be in the **social interest.**
- Is it possible that when each one of us makes choices that are in our self-interest, it also turns out that these choices are also in the social interest? Yes, sometimes.
    - Five questions in today's world illustrate the tension between self-interest and the social interest:

1. Who benefits from and who bears the cost of globalization?
2. Who are the winners and losers in the information age?
3. Are we changing the climate and endangering our planet?
4. Are we going to run out of forest and fish resources?
5. Has greed caused the great recession of 2008-2009?

Choices and Trade-Offs:

- You can think about every choice as a **tradeoff**—an exchange—giving up one thing to get something else.

Cost and Benefit:

- To make a choice, we compare costs and benefit

- **Opportunity Cost:** Thinking about a choice as a tradeoff emphasizes cost as an opportunity forgone. The **opportunity cost** of good or service is the highest-valued alternative that we **must give up** to get it.
- The benefit of a good or service is the pleasure that we get from it
- The **benefit** of good or service is measured as the highest-valued alternative that we **are willing to give up** to get it.

Choosing at the Margin

- The benefit from pursuing an incremental increase in an activity is its **marginal benefit**.
- The opportunity cost of pursuing an incremental increase in an activity is its **marginal cost**.
- For any activity, if marginal benefit exceeds marginal cost, people have an incentive to do more of that activity
- If marginal cost exceeds marginal benefit, people have an incentive to do less of that activity.

Economics as a Social Science:

- Economists distinguish between two types of statement:
  - What *is*—***positive*** statements [facts]
  - What *ought to be*—***normative*** statements [opinion]

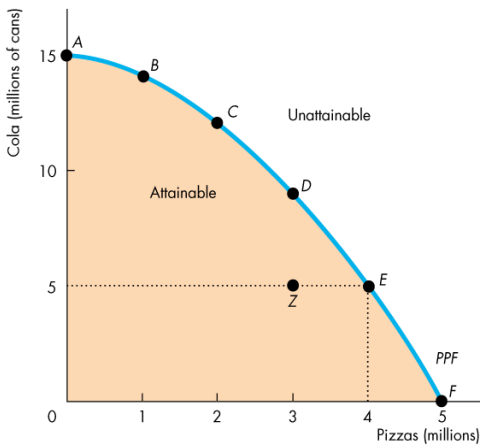
Reality, Models, Theories:

- **Reality** is the complicated world we live in and observe and record
- A **model** is an abstract artificial representation of something real
- A **theory** is a proposition about a model and a reality of the form Model X explains and predicts Reality Y.

Chapter 2: The Economic Problem.

Production Possibilities and Opportunity Cost:

- **The production possibilities frontier (*PPF*)** is the boundary between the combinations of goods and services that can be produced and those that cannot.
- To illustrate the *PPF,* we look at a model economy in which everything remains the same (*ceteris paribus*) except the two goods we're considering. [Ex. Food and Computers]
- Any point on the curve is attainable [Ex. Point E]



- Any point inside the curve is attainable [Ex. Point Z]
- Any point outside the curve is unattainable and unsustainable
- Every point on the frontier are *production efficient*.
- We achieve **production efficiency** if we cannot produce more of one good without producing less of some other good.
- Any point inside the frontier, such as *Z*, is *inefficient*. At this point, it is possible to produce more of one good without producing less of the other good. At *Z*, resources are either unemployed or misallocated.
- Every point along the *PPF* involves a **tradeoff**: we must give up some cola to get more pizzas or give up some pizzas to get cola.
- As we move down along the PPF, we produce more pizzas, but the quantity of cola we can produce decreases. The **opportunity cost** of a pizza is the cola forgone.
- In moving from *E* to *F,* the quantity of pizzas increases by 1 million and the quantity of cola decreases by 5 million cans, therefore the opportunity cost of the fifth 1 million pizzas is 5 million cans of cola. One of these pizzas costs 5 cans of cola.
- Because resources are not equally productive in all activities, the *PPF* bows outward and is concave. The concave curve is reflected by increasing opportunity costs - meaning that as the quantity produced of each good increases, so does its opportunity cost.

Using Resources Efficiently

- **Allocative Efficiency:** Point on the PPF where goods and services are produced at the lowest possible cost in the quantities that provide the greatest possible benefit.

The PPF and Marginal Cost

- The **marginal cost** of a good or service is the opportunity cost of producing *one more unit* of it.
- Slope of the PPF
- Positive slope

Preferences and Marginal Benefit

- **Preferences** are a description of a person's likes and dislikes.
- To describe preferences, economists use the concepts of marginal benefit and the marginal benefit curve.
- The **marginal benefit** of a good or service is the benefit received from consuming one more unit of it. We measure marginal benefit by the amount that a person is *willing to pay* for an additional unit of a good or service.
- It is a general principle that the more we have of any good, the smaller is 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**.
- The **marginal benefit curve** shows the relationship between the marginal benefit of a good and the quantity of that good consumed.

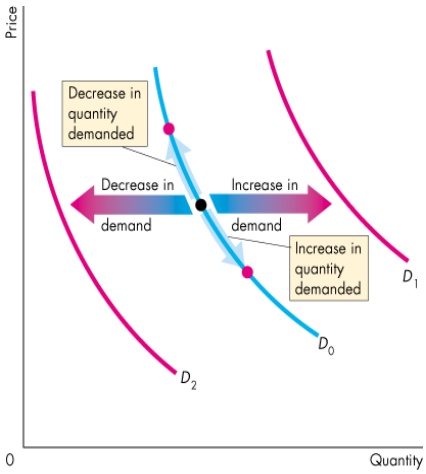
Chapter 3: Supply and Demand

Market and Prices:

- **Competitive Market:** A market that has many buyers and many sellers, so no single buyer or seller can influence the price.
- **Money Price:** The number of dollars that must be given up in exchange for a good or service
- **Relative Price:** The ratio of the price of one good or service to the price of another good or service. A relative price is an opportunity cost.

Demand

- **Wants** or **Utility** are the unlimited desires or wishes people have for goods and services. Demand reflects a decision about which wants to satisfy.
- **Quantity Demanded:** The amount of a good or service that consumers plan to buy during given period at a particular price.



  - **Law of Demand:** Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded of it; the lower the price of a good, the larger is the quantity demanded of it.
    - **Substitution Effect**: The effect of a change in price of a good or service on the quantity bought when the consumer hypothetically remains indifferent between the original and new consumption situations – that is, the consumer remains on the same indifference curve.
    - **Income Effect:** The effect of a change in income on consumption, other things remaining the same.
  - **Demand:** The entire relationship between the price of a good and the quantity demanded of it when all other influences on buyers' plans remain the same.
- **Demand Curve:** A curve that shows the relationship between the quantity demanded of a good and its rice when all other influences on consumers' planned purchases remain the same
- **Change in Demand:** A change in buyers' plans that occurs when some influence on those plans other than the price of the good changes. It is illustrated by a shift of the demand curve.
- **Determinants of Demand:** These determinants cause the demand curve to shirt left or right / change in demand.
  - *Population*
    - [Ex. If population increases, there are more people to demand a good]
  - *Expectations* of future prices

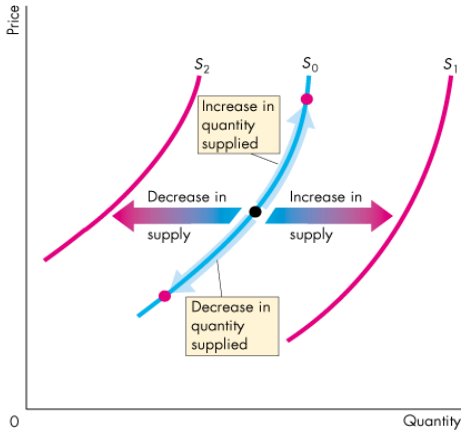
        - [Ex. If you think price of a good is going up next week, you'll buy it this week]
    - *Income*
        - [Ex. When income increases, people want more goods so demand goes up]
    - *Expected* future income and credit
        - [Ex. When income is expected to increase in the future or when credit is easy to obtain, the demand might increase now]
    - *Preferences*
        - [Ex. Goods that provide satisfaction to people, are more in demand]
    - *Prices* of related goods
        - [Ex. If tea is cheap, you'll buy sugar]
- **Change in the quantity Demanded:** A change in buyers' plans that occurs when the price a good changes but when all other influences on buyers' plans remain unchanged. A movement along the demand curve illustrates it.

Goods

- **Substitute Good:** A good that can be used in place of another good [ex. Airplane ticket prices go up, the demand for the train (substitute good) goes up]
- **Complement Good:** A good that is used in conjunction with another good [ex. Skis go on sale; demand for ski boots will go up. Ski boots are the complement good]
- **Normal Good:** A good for which demand increases as income increases. [Higher income people buy normal goods]
- **Inferior Good:** A good for which demand decreases as income increases. [Low income people buy inferior goods]

Supply

- **Quantity Supplied:** The amount of a good or service that producers plan to sell during a given time period at a particular price
- **Supply:** The entire relationship between the price of a good and the quantity supplied of it when all other influences on producers'' planned sales remain the same.
- **Law of Supply:** Other things remaining the same, the higher the price of a good, the greater is the quantity supplied of it.
- **Supply Curve:** A curve that shows the relationship between the quantity supplied of a good and its price when all other influences on producers' panned sales remain the same.
- **Change in supply:** A change in sellers' plans that occurs when some influence on those plans other than the price of the good



changes. It is illustrated by a shift of the supply curve.

- **Determinants of Supply:** The five main factors that change supply of a good are..
  - *The prices of factors of production*
  - *The prices of related goods produced*
  - *Expected future prices*
  - *The number of suppliers*
  - *Technology*
  - *State of nature*
- **Change in the quantity supplied**: A change in sellers' plans that occurs when the price of a good changes but all other influences on sellers' plans remain unchanged. It illustrated by a movement along the supply curve.

Chapter 4: Elasticity

Price Elasticity of Demand = $\frac{\textit{Percentage change in quantity demanded}}{\textit{Percentage change in price}}$

- This measures the responsiveness of the change in a demand of a product when the price of this product changes, assuming all other influences stay the same.
- We find the nominator and denominator by calculating averages for demand and price. The original price plus the new price, divided by 2, then put the difference between original and new over that average. This calculation gets your average price. Do the same for the quantity

Inelastic and Elastic Demands

- If the quantity demanded does not change when the price changes then then it is called a **perfectly inelastic demand...elasticity = 0**
- If the percentage change of price and demand are equal, the **elasticity = 1.** This is called **unit elastic demand**.

And good within the range of these two: 0 to 1 is said to have an **inelastic demand**.

- If the quantity demanded changes by an infinity large percentage for every tiny price change, it is said to have a **perfectly elastic demand**. Where elasticity = ∞

Any goods, which have an elasticity of greater than 1 are said to have an **elastic demand**.

TOTAL REVENUE AND ELASTICITY

Total revenue is calculated by taking the price of the goods sold, multiplied by the total # of goods sold.

Total revenue depends on elasticity of demand:

- if a price cut increases total revenue, demand is elastic
- if a price cut decreases total revenue, demand is inelastic
- if a price cut doesn't change revenue, demand is unit elastic.

Factors influencing elasticity

- *Closeness of substitutes* – if people can buy another product instead of yours, then your product is elastic. Meaning if you lower the price, they may buy yours over the substitutes and revenues will go up.
- *Proportion of income spent on the good* – a very cheap item is inelastic, cause say if gum prices double, u will still pay the 2 bucks for gum, if car prices double, u may look for alternative transportations, so car demand is elastic.
- *Time elapsed since price change* – the longer the time that has elapsed since a price change, the more elastic is demand.

Cross Elasticity of Demand: This measures the influence of a change in demand for your product, when the price of a substitute or compliment changes. If the price of a substitute falls, demand for your product decreases. If the price of a compliment falls, the demand for your product increases.

Equation = $\dfrac{\textit{Percentage change in quantity demanded}}{\textit{Percentage change in price of a substitute or compliment}}$

Income Elasticity of Demand

- If a products demand increases at the same rate as income increases, it has a income elasticity of 1. A higher rate would have greater than 1 and lower less than 1.
- For example... products like pizza, magazines and gum would not increase in demand very much if a persons income increased, because they can usually already afford these items. But the demand for cars or more expensive items may increase, since they now are becoming affordable, with a higher income.

Equation = $\dfrac{\textit{\% change in quantity demanded}}{\textit{\% change in income}}$

Elasticity of Supply

Same as the other elasticity terms, elasticity of supply, measures the responsiveness of your supply of a product, when prices increase or decrease.

Equation = *% change in quantity supplied*

% Change in price

Chapter 5: Efficiency and Equity

Resource Allocation Methods

- Resources are scarce, so they must be allocated somehow
- Trading is just one of the several alternative methods.
- Resources might be allocated by
  - **Market Price:**
    - The people who are willing and able to pay that price get the resource.
    - Two kinds of people decide not to pay the market price: those who can afford to pay but choose not to buy and those are two poor and simply cannot afford to buy the resource
  - **Command**
    - The **Command System** allocates resources by the order command of someone in authority
    - In Canada, the command system is used inside firms and government department
    - Example: if you have a job, most likely someone tells you what to do. Your labour is allocated to specific tasks by a command
    - Command system is successful in organizations in which the lines of authority and responsibility are clear and it is easy to monitor the activities being performed. Command system works badly when the range of activities to be monitored is large and when it is easy for people to fool those in authority.
  - **Majority Rule**
    - Societies use majority rule to elect representative governments that make some of the biggest decisions.
    - This works well when the decisions being made affect large numbers of people and self interest must be suppressed to use resources more effectively
  - **Contest**
    - Allocates resource to a winner of a group of winners.
  - **First-come, first-served**
    - Allocates resources to those who are first in line
  - **Lottery**
    - Allocate resources to those who pick the winning number, draw the lucky cards, or come up lucky in some other gaming system
  - **Personal characteristics**
    - Allocate resources on the basis that, people with the ”right” characteristics get the resource.

        - Ex. You will choose a marriage partner on the basis of personal characteristics
        - Example of using it unacceptably: Allocating the best jobs to white males and discriminating against visible minorities and women
    - **Force**
        - Could play both a good or ill role in allocating resources
        - Ill: War, the use of military force by one nation against another, has played an enormous role historically in allocating resources
        - Good: it provides the state with an effective method of transferring wealth from the rich to the poor, and it provides the legal framework in which voluntary exchange in markets takes place.

Demand and Marginal Benefit:

- A demand curve is a marginal benefit curve.
- The maximum price that someone would pay for another unit of the good or service
- **Individual demand** is the relationship between the price of a good and the quantity demanded by one person
- **Market demand** is the relationship between the price of a good and the quantity demanded by all buyers
- **Consumer Surplus:**
    - We don't always have to pay what we are willing pay – we get a bargain
    - By definition: consumer surplus is the value (or marginal benefit) of a good minus the price paid for it, summed over the quantity bought
        - $\frac{MB - PRICE}{Quantity\ Bought}$

Supply and Marginal Cost:

- A supply curve is a marginal cost curve
- Marginal cost is the minimum price that producers must receive to induce them to offer one more unit of a good or service for sale
- **Individual Supply** is the relationship between the price of a good and the quantity supplied by one producer
- **Market Supply** is the relationship between the price of a good and the quantity supplied by all the producers
- **Producer Surplus:**
    - When price exceeds marginal cost, the firm receives a producer surplus
    - By definition: it is the price received for a good minus its minimum supply-price (or marginal cost), summed over the quantity sold.
        - $\frac{Price - MC}{Quantity\ Sold}$

Is the Competitive Market Efficient?

- Where the demand curve and supply curve intersect, marginal social benefit equals marginal social cost. This condition delivers an efficient use of resources for the entire society.
    - This point is called ***competitive equilibrium***

Underproduction and Overproduction

- Inefficiency can occur because either too little of an item is produced (underproduction) or too much is produced (overproduction)
- We measure the scale of inefficiency by **deadweight loss,** which is the decrease in total surplus that results from an inefficient level of production.

Obstacles to Efficiency

- The obstacles to efficiency that bring underproduction or overproduction are:
    - *Price and Quantity regulations*
        - Ex. Price regulations that put a cap on the rent a landlord is permitted to charge – leads to overproduction
        - Ex. Quantity regulations that limit the amount that a farm is permitted to produce – leads to underproduction
    - *Taxes and subsidies*
        - Ex. Taxes increase the price paid by buyers and lower the prices received by sellers so taxes decrease the quantity produced and lead to underproduction
        - Ex. Subsidies, which are payments by the government to producers, decrease the price paid by buyers and increase the price received by sellers, s subsidies increase the quantity produced and lead to overproduction
    - *Externalities*
        - Externality is a cost or a benefit that affects someone other than the seller or the buyer
        - Ex. An external cost arises when an electric utility burns coal and emits carbon dioxide – leads to overproduction.
        - Ex. An external benefit arises when an apartment owner installs a smoke detector and decreases her neighbours's fire risk – leads to underproduction.
    - *Public goods and common resources*
        - Ex. A public good is a good that is consumed simultaneously by everyone even if they don't pay for it (ex. National Defense) – leads to underproduction
        - Ex. A common resource is owned by no one but available to be used by everyone – this leads to overuse and overproduction
    - *Monopoly*
        - Ex. A monopoly is a firm that is the sole provider of a good or service – this leads to underproduction

- *High transactions cost*
  - Ex. “Stroll around a shopping mall and observe the retail markets in which you participate. You’ll see that these markets employ enormous quantities of scarce labour and capital resources. It is costly to operate any market. Economists call the opportunity costs of making trades in a market transaction costs.” – textbook

Alternatives to the Market

- When a market is inefficient, can of the alternative nonmarket methods be used? Yes, Sometimes
  - Managers in firms issue commands and avoid the transaction costs
  - First-come, first-served work at a busy ATM machine

Is the Competitive Market Fair?

There are two groups

- *Its not fair if the result isn’t fair*
  - For example: It is unfair that a bank president earns millions of dollars a year while a bank teller earns only thousands of dollars.
  - Economists of the 19th thought they made an incredible discovery: they thought that efficiency requires equality of incomes. To make the economic pie as large as possible, it must be cut into equal pieces, one for each person. This idea turns out to be wrong.
    - This idea is called **Utilitarianism,** which is a principle that states that we should strive to achieve “the greatest happiness for the greatest number”
    - Recognizing the costs of making income transfers from the rich to the poor, leads to what is called the big tradeoff, which is a tradeoff between efficiency and fairness.
- *Its not fair if the rules aren’t fair*
  - **Symmetry Principle:** the requirement that people in similar situations be treated similarly
  - **Robert Nozick** suggests that fairness obeys two rules:
    - The state must enforce laws that establish and protect private property
    - Private Property may be transferred from one person to another only by voluntary exchange.

Fairness and Efficiency

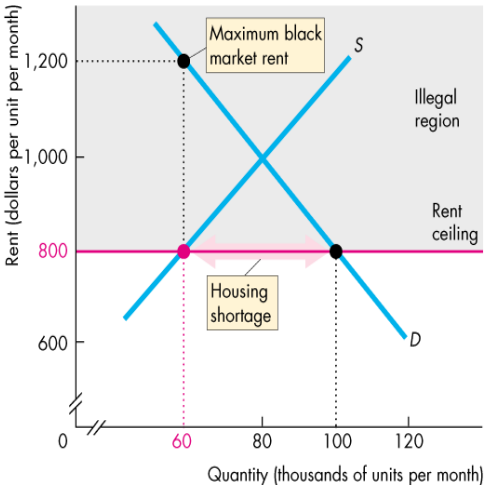
- IF private property rights are enforced and if voluntary exchange takes place, resources will be allocated efficiently is there are no
  - Price and quantity regulations
  - Taxes and subsides
  - Externalities
  - Public goods and common resources

- Monopolies
- High transaction costs

Chapter 6 Notes: Government Actions in Markets

Housing Market with a Rent Ceiling

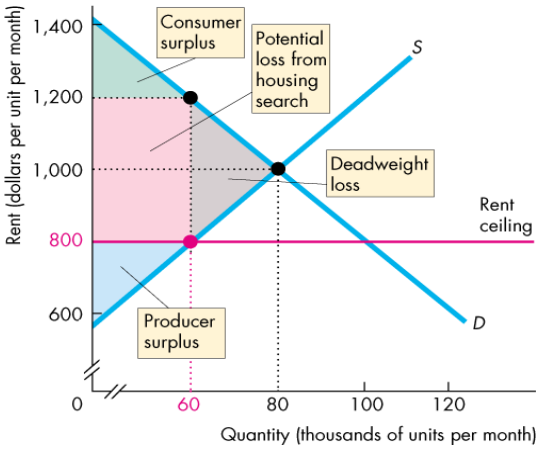
- We spend more of our income on housing than on any other good or service
- When rent is high, renters might lobby the government for limits on rents.
- A government regulation that makes illegal to charge a price higher than a specified level is called a ***price ceiling*** *or* ***price cap***
  - A price ceiling set **above** the equilibrium price has no effect – as the market just runs at the equilibrium price and quantity
  - A price ceiling **below** the equilibrium price has powerful effects
  - When a price ceiling is applied to a housing market, it is called a **rent ceiling**. A rent ceiling set **below** the equilibrium rent creates:



1. **A housing shortage**: when there is a shortage, the quantity available is less than the quantity demanded and somehow, this quantity must be allocated among the frustrated demanders. One way in which this allocation occurs is through increased search activity
2. **Increased search activity**: the time spent looking for someone with whom to do business with
3. **A black market**: A rent ceiling also encourages illegal trading in a black market (an illegal market in which the equilibrium price exceeds the price ceiling). Black markets occur in rent-controlled housing and many other markets.

Inefficiency of a rent ceiling:

- A rent ceiling set below the equilibrium rent results in an inefficient underproduction of housing services. The ***marginal social benefit*** from housing is exceeds its ***marginal social cost***
- Because the quantity of housing supplied/available is less than the efficient quantity, a **deadweight loss** arises. **Producer Surplus** and **Consumer Surplus** both shrink.



Are rent ceilings fair?

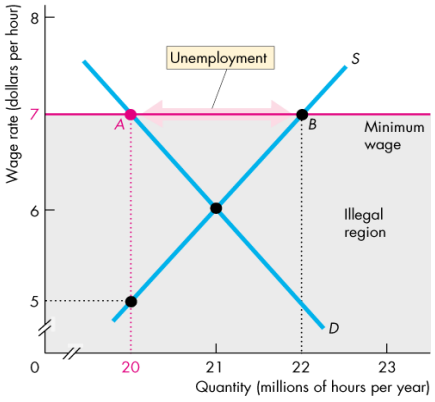
- To see whether rent ceilings help to achieve a fairer outcome in this sense, we need to consider how the market allocates scare housing resources in the face of a rent ceiling.
- Possible mechanisms to that allocate scarce housing are:
    1. **Lottery**- allocates to those who are lucky and not to those who are poor
    2. **First come first served-**allocated to those who have the greatest foresight and who get their names on a list first, not to the poorest
    3. **Discrimination**-based on friendship, family ties, and criteria such as a race, ethnicity or sex. Although it is illegal, we can not prevent it from happening

A Labor Market with Minimum Wage:

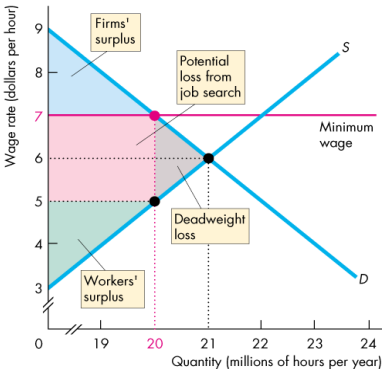
- **Firms** decide how much labor to demand, and the lower the wage rate, **the greater is the quantity of labor demanded.**
- **Households** decide how much labor to supply and the higher the wage rate, **the greater quantity of labor supplied.**
- The wage rate adjusts to make the quantity of labor demanded= to the quantity of labor supplied.
- When wage rates are low, or when they fail to keep up with rising prices, labor unions might turn to governments and lobby for higher wage rates.
- A government imposed regulation that makes it illegal to change a price lower than a specified level is called a **price floor**
    - A price floor set below the equilibrium price has no effect.
    - A price floor set above the equilibrium price has powerful effects because the price floor attempts to prevent the price from regulating the quantities demanded and supplied. The force of law and the market forces are in conflict.
- When a price force floor is applied to a labor market, it is called a **minimum wage**

Minimum wage brings unemployment

- A minimum wage imposed at a level that is above equilibrium wage creates unemployment
- The demand for labor determines the level of employment and the **surplus** of labor is unemployed.



Inefficiency of minimum wage



- In a labor market, **the supply curve measures the marginal social cost of labor to workers. This cost is leisure forgone**
- The **demand curve measures the marginal social benefit from labor. This benefit is the value of the goods and services produced**
- The minimum wage frustrates the market mechanism and results in unemployment and increased job search. At the quantity of labor employed, the marginal social benefit of labor exceeds its marginal social cost and a deadweight loss shrinks the firms' surplus and the worker's surplus.

Is the minimum wage fair?

- The minimum wage is unfair on both views of fairness. It delivers **unfair *results*** and imposes an **unfair *rule*.**
  - **Result**: Only the people who have jobs and keep them benefit from minimum wage. The unemployed end up worse off than they would be with no minimum wage
  - **Rules**: blocks voluntary exchange.

Taxes

* Everything you own and almost everything you buy is taxed.

- **Tax incidence**: the division of the burden of a tax between buyers and sellers. Does not depend on tax law
  - Tax on **sellers**: This is like an increase in cost, so it decreases supply. You add the minimum price that sellers are willing to accept for each quantity sold. (S+tax on sellers **= shift left on supply curve)**
  - Tax on **buyers**: Lowers the amount they are willing to pay sellers, so it decreases demand and shifts the demand curve leftward. (D-tax on buyers **= shit left on demand curve**)

Equivalence of Tax on buyers and sellers:

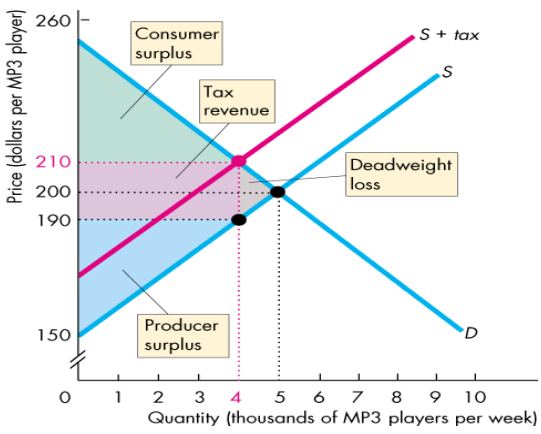
- When a transaction is taxed, there are 2 prices. The price paid by buyers, which **includes** the tax and the price paid by sellers, which **excludes** the tax.
- EI (**Employment Insurance Tax**) is an example of a tax that the federal government imposes on both the buyers of labor (employers) and sellers of labor (employees)
- Tax incidence and elasticity of demand has **two** extreme cases

i. **Perfectly inelastic demand**- buyers pay: even though the price rises, the quantity demanded does not change. Therefore, buyers pay the entire tax.
ii. **Perfectly elastic demand**- sellers pay: sellers pay the entire tax. The more inelastic the demand, the larger is the amount of tax paid by the buyers

- Tax incidence and elasticity of **supply** has **two** extreme cases
  iii. **Perfectly inelastic supply**- sellers pay: the tax reduces the price received by sellers and sellers pay the entire tax
  iv. **Perfectly elastic supply**- buyers pay: the buyers pay the entire tax. The more elastic the supply, the larger is the amount of tax paid by buyers.

Taxes and Efficiency:

- A tax drives a wedge between the buying and selling price and results in an inefficient underproduction. The price buyer's pay is also the buyer's willingness to pay aka marginal social benefit. The price sellers receive is also the seller's minimum supply price aka marginal social cost.
- A tax makes marginal social benefit exceed marginal social cost, shrinks producer surplus and consumer surplus, and creates a deadweight loss.
- Aka tax is **inefficient**



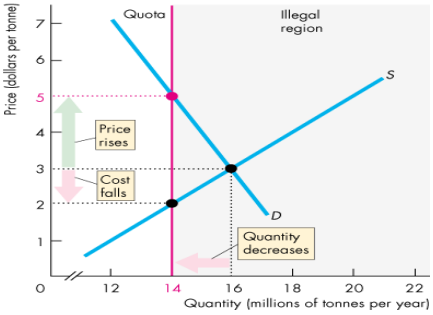
Taxes and fairness

- Economists have proposed two conflicting principles of fairness to apply to a tax system
  1. **The benefits principle:** proposition that people should pay taxes equal to the benefits they receive from the services provided by governments. This arrangement is ***fair*** because it means that those who benefit most pay the most taxes. It makes tax payments and the consumption of government provided services similar to private consumption expenditures
  2. **The ability to pay principle:** proposition that people should pay taxes according to how easily they can bear the burden of a tax. A rich

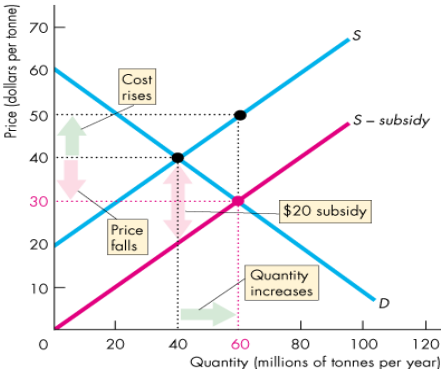
person can more easily pay than a poor person. This reinforces the benefits principle to justify high rates of income tax on high incomes.

Production quotas and subsidies:

- Governments often use two methods of intervention in the markets for farm products



1. **Production quotas**: is an upper limit to the quantity of a good that may be produced in a specified period
    - A production quota set BELOW THE EQUILIBRIUM PRICE has big effects such as
        - *A decrease in supply*
        - *A rise in price*
        - *A decrease in marginal cost*
        - *Inefficient underproduction*
        - *An incentive to cheat and overproduce*
2. **Subsidies**: a payment made by the government to a producer
    - The effects of subsides are similar to the effects of a tax but they go in an opposite direction
        - *An increase in supply*
        - *A fall in price and increase in quantity produced*
        - *An increase in marginal cost*
        - *Payments by governments to farmers*
        - *Inefficient overproduction*



Markets for illegal goods:

- Free market for a drug: the lower the price of a drug, the smaller is the quantity supplied
- A market for an illegal drug: the larger the penalties and the better the policing, the higher the costs. Penalties might be imposed on sellers, buyers, or both.
- Legalizing and taxing drugs: the quantity of bought of a drug could be decreased if the drug was legalized and taxed.

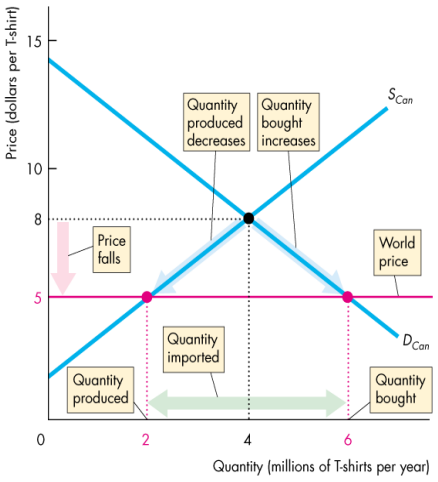
Chapter 7 Notes: Global Markets in Action

How Global Markets Work: the goods and services we buy from other countries are our **imports**. The goods and services that we sell to people in other countries are our **exports.**

International Trade today =enormous

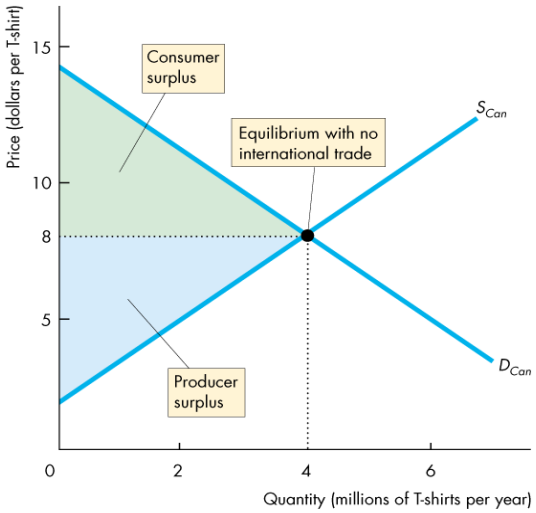
What drives international trade?

- **Comparative advantage** is the fundamental force that drives international trade. This is when a person can produce a good at a lower opportunity cost than anyone else.
- **National comparative advantage**: as a situation in which a nation can perform an activity or produce a good or service at a lower opportunity cost than any other nation.

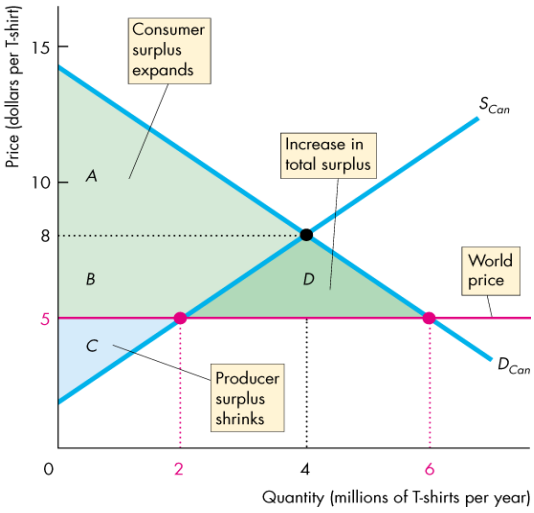


(b) Equilibrium in a market with imports

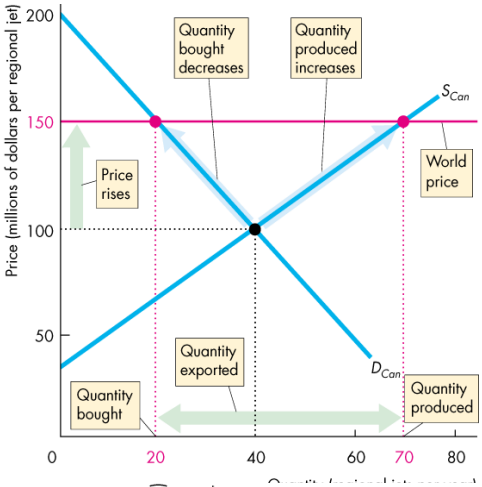
- Canada imports t-shirts because the rest of the world has a comparative advantage in producing t-shirts.
- In a market with imports – the consumer surplus increases (winners) and the producer surplus shrinks (losers)



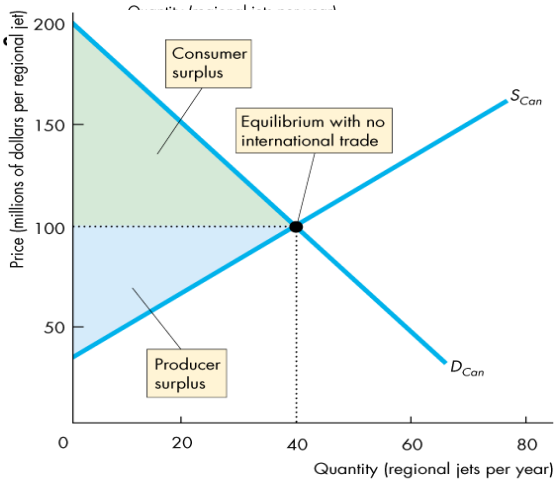
(a) Consumer surplus and producer surplus with no international trade



(b) Gains and losses from imports

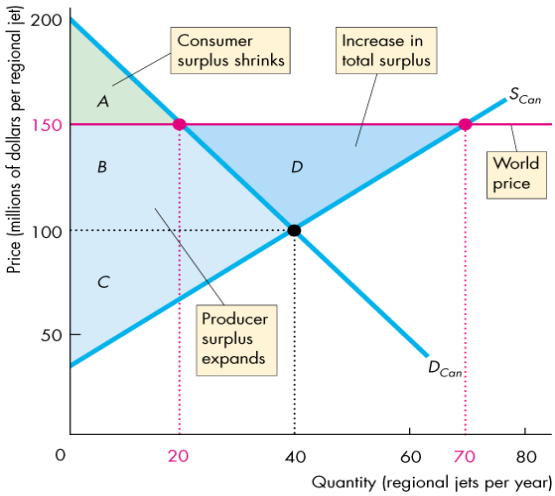


(b) Equilibrium in (



(a) Consumer surplus and producer surplus with no international trade

- Canada exports regional jets because we have the lowest comparative advantage than anyone else.
- With exports, the consumer surplus decreases (losers) and the producer surplus increases (winners)



(b) Gains and losses from exports

International trade restrictions:

Governments use **four** sets of tools to influence international trade and protect domestic industries from foreign competition.

- **Tariffs**: a tax on a good that is imposed by the importing country when an imported good crosses its international boundary. The temptation for governments to impose tariffs is a strong one.
    - They provide revenue to the government
    - They enable the government to satisfy the self interest of the people who earn their incomes in the import-competing industries.
    - Tariffs and other restrictions on free international trade decreases the gains from trade and are not in the social interest
    - Ex. A $2 tariff set on the price of t-shirts will cause:
        - The price of a t-shirt in Canada to rise by $2.00 to $7.00
        - The quantity of t-shirts bought in Canada decreases- the higher the price of a t-shirt the decrease in quantity demanded.
        - The quantity of t-shirts produced in Canada increases-stimulates domestic production

        - The quantity of t-shirts imported into Canada decreases-decrease from 4 million to 1 million
        - The Canadian government collects tariff revenue. –total revenue is 2 million ($2.00 per shirt on 1 million imported.)
    - Winners, losers, and the social loss from a tariff:
        - Canadian consumers of the good lose
        - Canadian producers of the good gain
        - Canadian consumers lose more than Canadian producers gain
        - Society loses: a dead weight loss arises.
- **Import quotas**: a restriction that limits the maximum quantity of a good that may be imported in a given period.
        - The effects of an important quota: the effects of an import quota are similar to those of a tariff. The price rises, the quantity bought decreases and the quantity produced in Canada increase.
        - Winners, losers, and the social loss from an import quota: an import quota creates winners and losers that are similar to those of a tariff but with an interesting difference.
        - When the government imposes an import quota:
            - Canadian consumers of the good lose
            - Canadian producers of the good gain
            - Importers of the good gain
            - Society loses: a deadweight loss arises.
    - **Other import barriers**:
        - Two sets of policies that influence imports are:
            - Healthy, safety, and regulation barriers:
                - These all restrict international trade
            - Voluntary export restraints:
                - Like a quota allocated to a foreign exporter of a good. This type of trade barrier isn't common.
    - **Export subsidies**:
        - Export subsidies: a payment by the government to a producer
        - Export subsidy: is a payment by the government to the producer of an exported good

The case against protection:

- The two classical arguments for restricting international trade are :
    - **The infant-industry argument:**

        - For protection is that it is necessary to protect a new industry to enable it to grow into a mature industry that can compete in world markets. This idea is chased on the idea of dynamic comparative advantage which can arise from learning by doing.
    - **The dumping argument:**
        - Occurs when a foreign firm sells its exports at a lower price than its cost of production.
        - **Antidumping duties:** dumping is illegal under the rules of the WTO and is usually regarded as a justification for temporary tariffs, which are called antidumping duties
- These two arguments for protection that we've just examined have an element of credibility. The most common ones are that protection:
    - Saves jobs
    - Allows us to compete with cheap foreign labor
    - Penalizes lax environmental standards
    - Prevents rich countries from exploiting developing countries
    - Offshore outsourcing
    - Avoiding trade wars

Why is national trade restricted?

- Tariff revenue: made possible by the fact that most economic transactions are done by firms that must keep properly audited financial records. Governments in developing countries have a difficult time in collecting taxes from their citizens
- Rent seeking: lobbying for special treatment by the government to create economic profit or to divert consumer surplus or producer surplus away from others.

Compensating losers:

- **If, in total, the gains from international trade exceed the loses, why don't those who gain compensate for those who lose so that everyone is in favor of free trade?**
- Answer: there are serious obstacles to providing direct and correctly calculated compensation
    1) The cost of identifying all the losers from free trade and estimating the value of their losses would be enormous
    2) It would never be clear whether a person who has fallen on hard times is suffering because of free trade or for other reasons that might be largely under her or his control

3) Some people who look like losers at one point in time might end up gaining
4) As a result, protectionism is a popular and permanent feature of our national economic and political life.

Chapter 11: Outputs and Cost

Decision time frames:

- Decisions are aimed at achieving one overriding goal; maximum attainable profit
- To study the relationship between a firm's output decision and its costs, we distinguish between 2 decision time frames
    - **Short term**: is a time frame in which the quantity of at least one factor of production is fixed
        - Capital, land and entrepreneurship is fixed, labor is favorable variable factors of production
        - We call the fixed factors of production the firm's plant. In the short run, a firm's plant is fixed
        - To increase output in the short run, a firm must increase the quantity of a variable factor of production, which is usually labor
        - Short run decisions are easily reversed. A firm can change its production in the short run by increasing or decreasing the amount of labor it hires.
    - **Long term**: is a time frame in which the quantities of all the factors of production can be varied. That is, the long run is a period in which the firm can change its plant.
        - In increase output in the long run, a firm can change its plant as well as the quantity of labor it hires.
        - Long run decisions are not easily reversed. Once a plant decision is made, the firm usually must live with it for some time. To emphasize this fact, we call the past expenditure on a plant that has no resale value a **sunk cost.** A sunk cost is irrelevant to the firm's current decisions. The only costs that influence its current decisions are the short run costs of changing its labor inputs and the long run cost of changing its plant.
    - **Short run technology constraint**: to increase output in the short run, a firm must increase the quantity if labor employed.
        - Total product
        - Marginal product

        - Average product
    - These product concepts can be illustrated either by product schedules or by product curves
- Product Schedules:
    - Total product is the max output that a given quantity of labor can produce.
    - Marginal product of labor is the increase in total product that results from a one unit increase in the quantity of labor employed other inputs remaining the same.
    - The average product of labor is equal to the total product divided by the quantity of labor employed.
- Product curves
    - Relationship between employment and the other three product concepts
- Total product curve
    - Similar to the production possibilities frontier. It separates the attainable output levels from those that are unattainable. Points that inside are attainable but inefficient as they use more labor than is necessary to produce a given output.
- Marginal product curve:
    - The height of this curve measures the slope of the total product curve at a point.
    - **The shapes of the product curves are similar because almost every production process has 2 features**
        - **Increasing marginal returns initially**: occur when the marginal product of an additional worker exceeds the marginal product of the previous worker. IMR arise from increased specialization and division of labor in the production process
        - **Diminishing marginal returns eventually**: most production processes experience increasing marginal returns initially but all production processes eventually reach a point of diminishing marginal returns. DMR occur when the marginal product of an additional worker is less than the marginal product of the previous worker.
            - The law of diminishing returns states that:
                - As a firm uses more of a variable factor of production(which is labor) with a given quantity of the fixed factor of production the marginal product of the variable factor eventually diminishes.

- Average product curve
    - The marginal product curve cuts the average curve at the point of max average product. For the number of workers at which marginal product exceeds average product, average product is increasing. For the number workers at which marginal product does not exceed average product, average product is decreasing.
- Short run cost: to produce more output in the short rum, a firm must employ more labor, which means that it ust increase its costs.
    - Total cost
    - Marginal cost
    - Average cost
- **Total cost**: is the cost of all the factors of production it uses. We separate total cost into total fixed costs and total variable costs. TFC is the cost of the firm's fixed factors. TVC is the cost of the firm's variable factors.
- **Marginal cost:** is the increase in total cost that results from a one unit increase in outut. We calculate marginal cost as the increase in total cost divided by the increase in output.
- **Average cost**: the average costs of production are
    - Average fixed costs: the total fixed cost per unit of output
    - Average variable cost: is total variable cost per unit of output
    - Average total cost: is the total cost per unit of output.
- MC intersects the average variable cost curve and the average total cost curve at their minimum points. When the MC is less than average cost, average cost is decreasing and when marginal cost exceeds the average cost, average cost is increasing.
- Average total cost curve is u shaped because average total cost is the sum of average fixed costs and average variable cost, so the shape of the ATC curve combines the shapes of the AFC and AVC. The u shaped of the ATC curve arises from the influences of two opposing forces
    - Spreading total fixed cost over a larger output
    - Eventually diminishing returns
- Shifts in cost curves:
    - Technology
    - Prices of factors of production
- Long run costs: the behavior of cost depends on the firm's production function
- Diminishing returns: occur at the each of the 4 plant sizes as the quantity of labor increases

- Diminishing marginal product of capital: also occur with each quantity of labor as the quantity of capital increases. The marginal product of capital is the change in total product divided by the change in capital when the quantity of labor is constant.
- Short run and long run cost:
    - Each short run ATC curve is u shaped
    - For each short term ATC curve, the larger the plant, the greater is the output at which average total cost is at a minimum.
    - The long run average cost curve is the relationship between the lowest attainable average total cost and output when the firm can change both the plant it uses and the quantity of labor It employs. This is the planning curve. It tells the firm the plant and the quantity of labor to use at each output to minimize average cost. Once the firm chooses a plant, the firm operates on the short run cost curves that apply to that plant.
- Economies and diseconomies of scale:
    - Economies of scale: are features of a firm's technology that make average total cost fall as output increases. LRAC slopes downward
    - Diseconomies of scale: are features of a firm's technology that make average total cost rise as output increases. LRAC slopes upward
    - Constant return to scale: are features of a firm's technology that keep average total cost contestant as output increases. LRAC is horizontal
    - Minimum efficient scale: is the smallest output at which long run average cost reaches its lowest level

Econ Chapter 17 Notes: Public goods and common resources

- Goods, services, and resources differ in the extent to which people can be excluded from consuming them and in the extent to which one person's consumption rivals the consumption of others.
- **Excludable**: a good is excludable if it is possible to prevent someone from enjoying its benefits.
- **Nonexcluable**: a good is nonexcluable if is impossible to prevent anyone from benefiting from it.
- A good is a **rival** if one person's use of it decreases the quantity available for someone else.
- A good is a **nonrival** if one person's use of it does not decrease the quantity available for someone else.
- A private good is both a rival and excludable good. Ex. Coke

- A public good is both a nonrival and a nonexlclubable good. A public good can be consumed simultaneously by everyone and no one has to be excluded from enjoying its benefits. Ex. National defense
- A common resource is rival and nonexcluable. A unit of a common good can only be used once, but no one can be prevented from using what is available.
- Natural monopolies: Ex. Internet cable
- The free rider problem: is that the market would provide an inefficiently small quantity of a public good. Marginal social benefit would exceed the marginal social cost in a public good.
- The principle of increasing marginal social cost applies to the marginal cost of a public good and the marginal social cost curve of public good slopes upward.
- Efficient quantity of a public good: MSB=MSC
- Inefficient private provision and efficient public provision= look on slide show and read examples
- The principle of minimum differentiation is the tendency for competitors to make themselves similar to appeal to the max number of clients or voters.
- If competition between two parties is to deliver the efficient quantity of a public good, bureaucrats must cooperate and help to achieve this outcome. Bureaucrats want to max their department's budget because a bigger budget brings greater status and more power.
- Rational ignorance is the decision not to acquire information because the cost of doing so exceeds the benefit.
- Two types of political equilibrium:
    - Social interest theory
        - Predicts that governments make choices that achieve an efficient provision of public goods. This outcome occurs in a perfect political system in which voters are fully informed about the effects of policies and refuse to vote for outcomes that can be improved upon.
    - Public choice theory
        - Predicts that governments make choices that result in inefficient overprovision of public goods. This outcome occurs in a political market where voters are rationally ignorant and base their votes on issues that they know affect their own net benefits. The result is government failure that parallels market failture.
- There are two possible reasons for this growth :
    - Voter preferences

        - As voter income increases the demand for public goods increases more quickly than income. These goods include public health, airports, highways, etc. If politicians did not support an increase in expenditures in the areas, they would not get votes.
    - Inefficient overprovision
        - Might explain the size of government but not its growth rate. It explains why government is larger than its efficient scale but it does not explain why governments use an increasing proportion of total resources.
    - Note: voters stick back: page 399
- Common resources:
    - The tragedy of the commons: is the absence of incentives to prevent the overuse and depletion of a commonly owned resource. If no one owns a resource, no one considers the effects of her or his use of the resource on others.
- Sustainable production: the rate of production that can be maintained indefinitely
- SEE EXAMPLE ON PAGE 401
- Achieving an efficient outcome: three main obstacles
    - Property rights: a common resource that no one owns and that anyone us free to use contrasts with private properties which, which is a resource that someone owns and has an incentive to use in the way that max's its value
    - Production quotas: see earlier notes
    - Individual transferable quotas: a production limit that is assigned to an individual who is then free to transfer (sell)the quota to someone else. They are traded at market price.

Chapter 12: Perfect Competition

What is Perfect Competition?

Perfect Competition is a market in which:

- Many firms sell identical products to many buyers
- There are no restrictions on entry into the market
- Established firms have no advantage over new ones
- Sellers and buyers are well informed about prices

How perfect Competition Arises:

- Arises if the minimum efficient scale of a single producer is small relative to the market demand for the good or service

- There is room in them market for many firms
- In perfect competition, each firm produces a good that has no unique characteristics, so consumers don't care which firm's good they buy

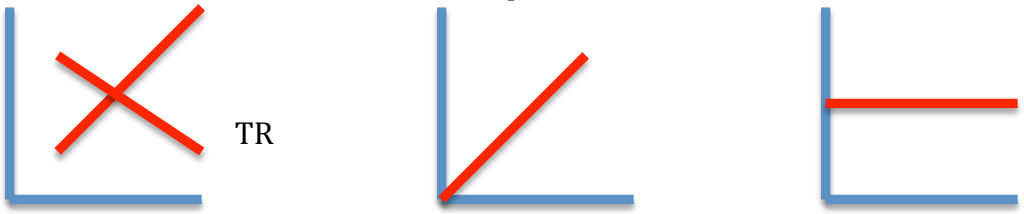
Price Takers

- A **price taker** is a firm that cannot influence the market price because its production is an insignificant part of the total market.
- Ex. If the market price for wheat is $300, you sell your wheat at the market price

Economic Profit and Revenue

- Goal is to maximize economic profit = total revenue – total cost
- Total cost is the opportunity cost of production, which includes normal profit
- A firms **total revenue** = price X quantity
    - It is an upward sloping straight line

- **Marginal revenue** is the change in total revenue that results from a one-unit increase in the quantity sold. MR = Change in total revenue / change in quantity sold
    - In perfect competition, the firm's marginal revenue equals the market price
    - Horizontal line at the market price



Market Total Revenue Marginal Revenue

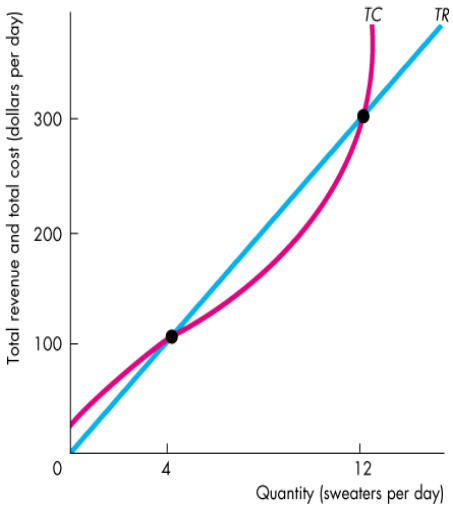
Demand for the Firm's Product

- Is horizontal, because at the market price, the firm can sell any quantity it chooses.
- Illustrates perfectly elastic demand

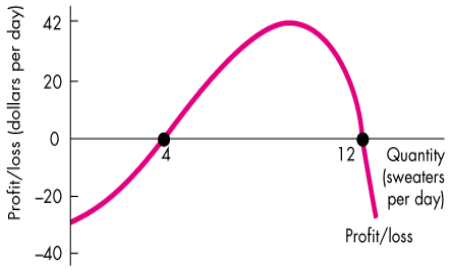
The Firm's Decision

- To achieve maximum economic profit, a firm must decide
    1. **How to produce at min cost**
        - By operating with the plant that min's long run average cost – by being on its long-run average cost curve

2. **What quantity to produce**
    - Output decision
    - From the firms cost curves and revenue curves, we can find the output that maximizes the firm's economic profit



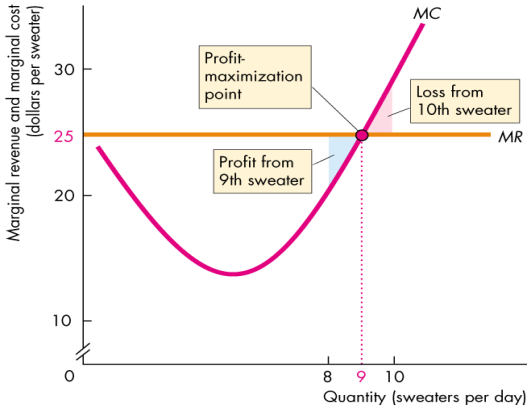
(a) Revenue and cost



(b) Economic profit and loss

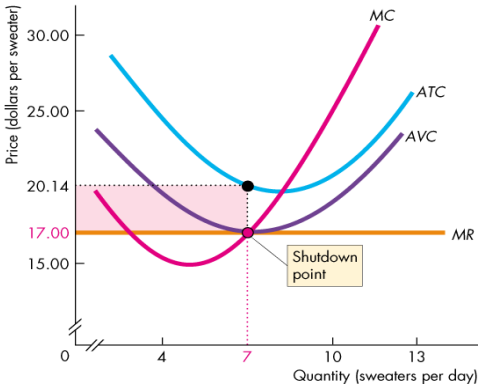
Marginal Analysis and Supply Decision

- The firm can use marginal analysis to determine the profit-maximizing output.
- Because marginal revenue is constant and marginal cost eventually increases as output increases, profit is maximized by producing the output at which marginal revenue, *MR*, equals marginal cost, *MC*.



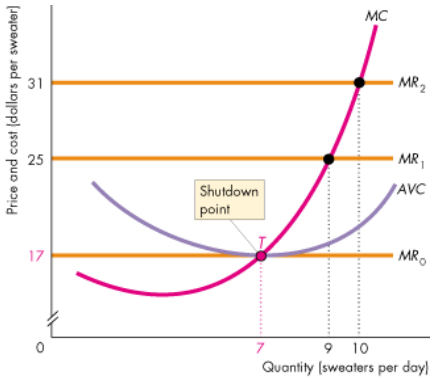
Temporary Shutdown Decision

- If the firm makes an economic loss it must decide to exit the market or to stay in the market.
- If the firm decides to stay in the market, it must decide whether to produce something or to shut down temporarily.
- The decision will be the one that minimizes the firm's loss.
- Economic loss = $TFC + TVC - TR$
  $= TFC + (AVC - P) \times Q$
- If the firm shuts down, Q is 0 and the firm still has to pay its *TFC.*
- So the firm incurs an economic loss equal to *TFC.*
- This economic loss is the largest that the firm must bear.



- **Shutdown point** is the price and quantity at which it is indifferent between producing and shutting down
- This point is where *AVC* is at its minimum.
- It is also the point at which the *MC* curve crosses the *AVC* curve.

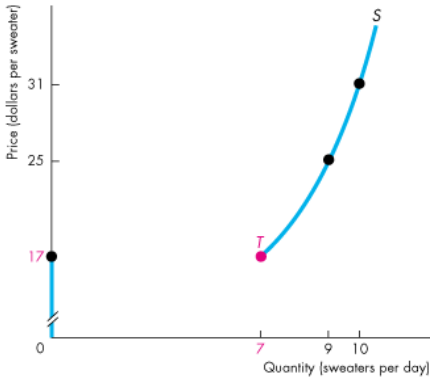
- At the shutdown point, the firm is indifferent between producing and shutting down temporarily.
- The firm incurs a loss equal to *TFC* from either action.



(a) Marginal cost and average variable cost

The Firm's Supply Curve

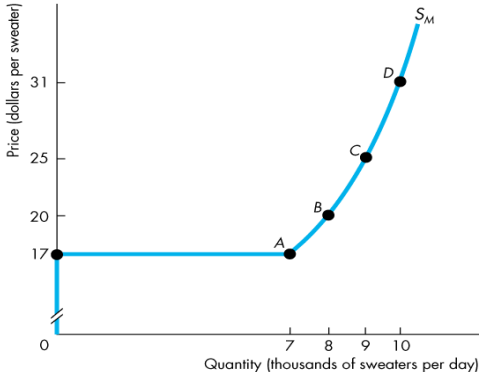
- A perfectly competitive firm's supply curve shows how the firm's profit-maximizing output varies as the market price varies, other things remaining the same.
- Because the firm produces the output at which marginal cost equals marginal revenue, and because marginal revenue equals price, the firm's supply curve is linked to its marginal cost curve.
- But at a price below the shutdown point, the firm produces nothing.

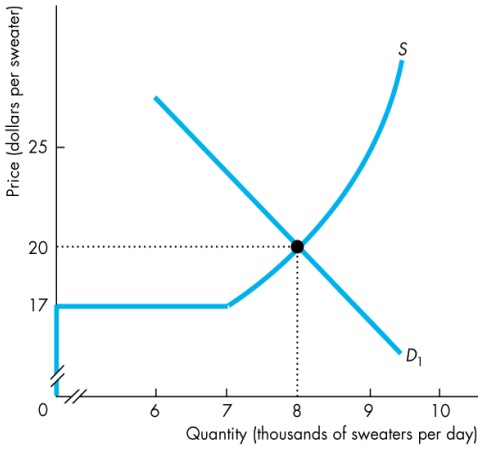


(b) Campus Sweaters short-run supply curve

Market Supply in the Short Run

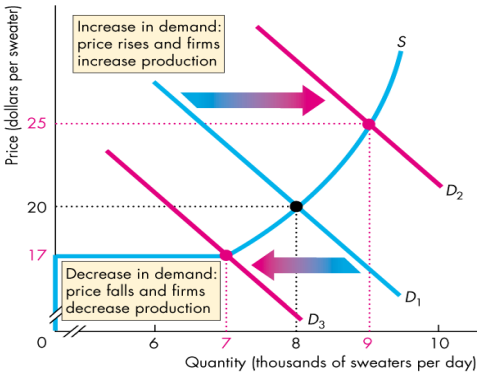
- The **short-run market supply curve** shows the quantity supplied by all firms in the market at each price when each firm's plant and the number of firms remain the same.





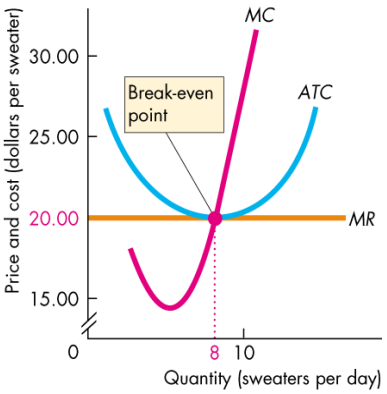
(a) Equilibrium

A change in Demand changes the short run equilibrium



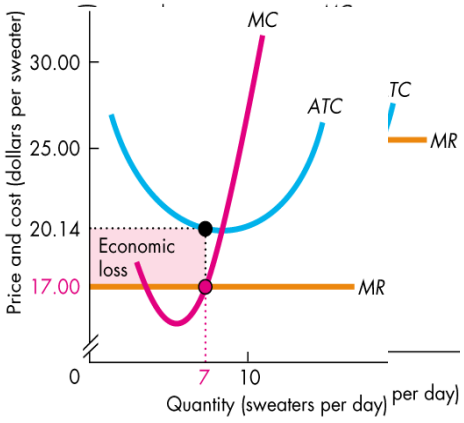
(b) Change in equilibrium

Three possible short-run outcomes



(a) Break even

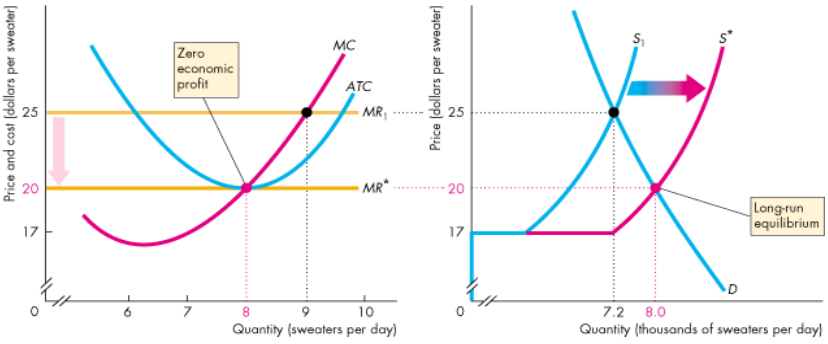
- In short-run equilibrium, a firm may make an economic profit, break even, or incur an economic loss.
- Only one of them is a long-run equilibrium because firms can enter or exit the market.



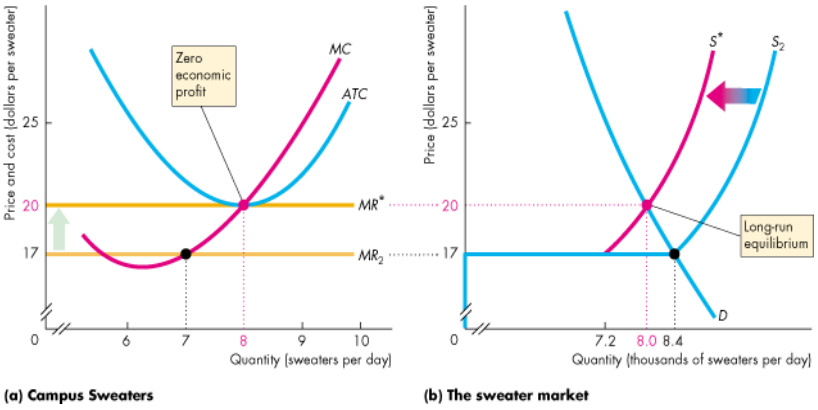
(c) Economic loss

Entry and Exit

- New firms **enter** an industry in which existing firms make an economic profit.
  - The market price falls and the economic profit of each firm decreases
- Firms **exit** an industry in which they incur an economic loss.
  - Market price rises and the economic loss incurred by the remaining firm decreases
- Entry and exit stop when firms make zero economic profit.



(a) Campus Sweaters **(b) The sweater market**



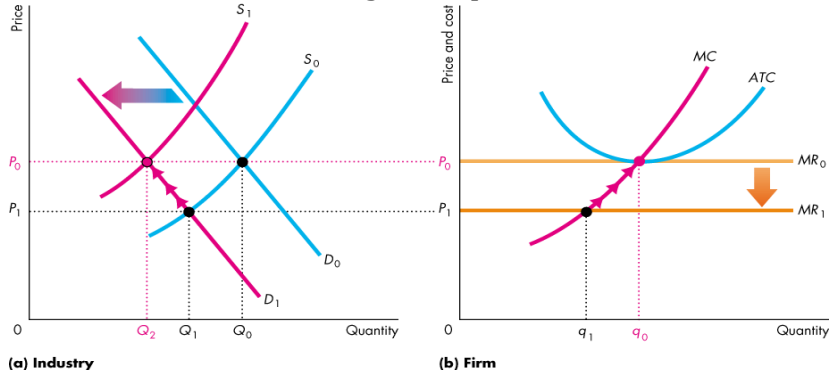
(a) Campus Sweaters (b) The sweater market

Changing Tastes and Advancing Technology

- The demand for and supply of some items increase and the demand for and supply of others decreases
- The market for recorded music illustrates changes in demand that arise from changing tastes and changes in supply that arise from advances in technology
- The next slide shows some interesting facts

A Permanent Change in Demand

- A decrease in demand shifts the market demand curve leftward. The price falls and the quantity decreases.
- Figure 12.10 illustrates the effects of a permanent decrease in demand when the market is in long-run equilibrium.



(a) Industry (b) Firm

External Economies and Diseconomies

- **External economics:** factors beyond the control of an individual firm that lower the firm's costs as the market output increases
- **External diseconomies:** factors outside the control of a firm that raise the firm's costs as the market output increases.
- With no external economics or external diseconomies, a firm's costs remain constant as the market output changes

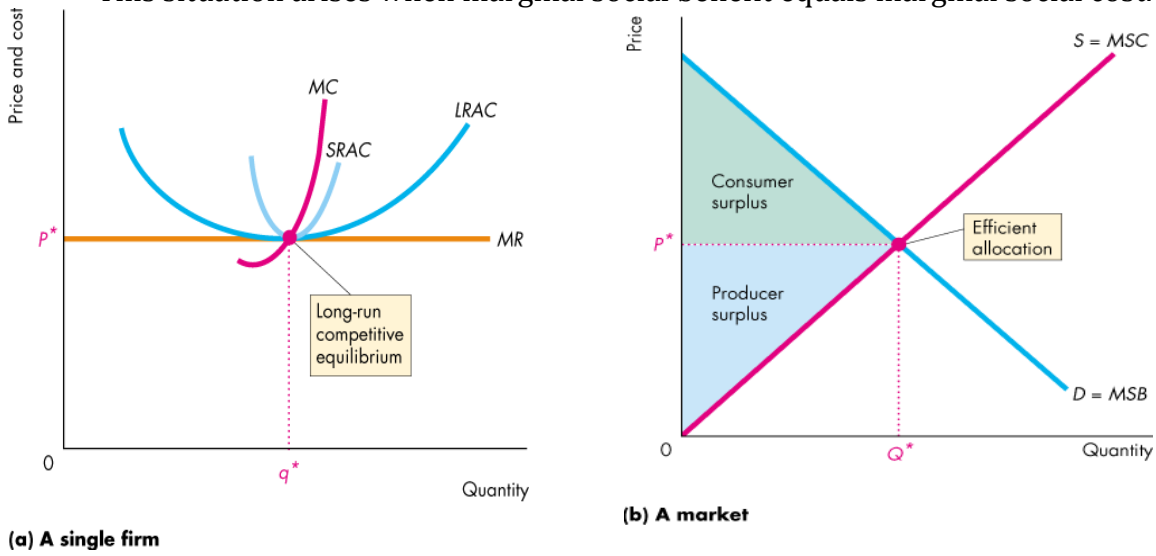
Constant Cost industry *Increasing-Cost Industry* *Decreasing-Cost Industry*

Technological Change

- New technologies are constantly discovered that lower costs.
- A new technology enables firms to produce at a lower average cost and a lower marginal cost—firms' cost curves shift downward.
- Firms that adopt the new technology make an economic profit.
- New-technology firms enter and old-technology firms either exit or adopt the new technology.
- Industry supply increases and the industry supply curve shifts rightward.
- The price falls and the quantity increases.
- Eventually, a new long-run equilibrium emerges in which all firms use the new technology, the price equals minimum average total cost, and each firm makes zero economic profit.

Efficient Use of Resources

- Resources are used efficiently when no one can be made better off without making someone else worse off.
- This situation arises when marginal social benefit equals marginal social cost.



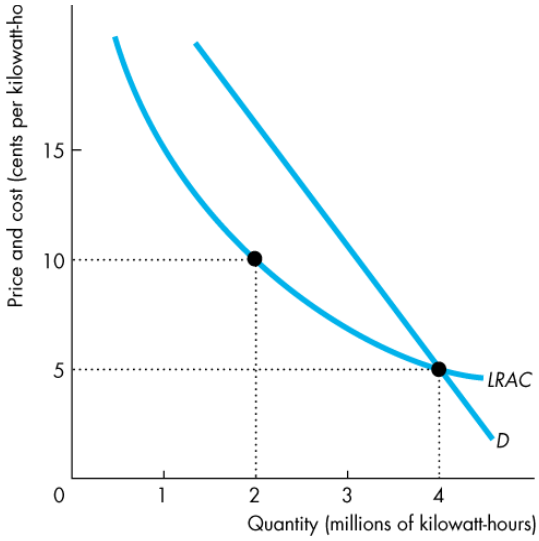
(a) A single firm

(b) A market

Chapter 13: Monopoly

A **monopoly** is a market:

- That produces a good or service for which *no* close substitute exists



- There is only one firm in the industry : contrast to perfect competition because there is large number of firms competing against each other
- Industry/market demand is the firms demand
- To maximize outputs MR=MC
- Monopolies also set the price (price maker)
- In which there is *one* supplier that is protected from competition by a barrier preventing the entry of new firms.
- A price setter, not a price taker
- Must fix prices for themselves
- to sell a larger output, they must set a lower price
- MR is less than prices
- Maximize profit if you produce where MR equals MC
- Price x quantity = total revenue
- Firms will never operate when MR is negative
- Elasticity change in quantity demanded over change in price
- When MR is negative it is inelastic demand
- Demand curve is downward sloping
- Main goal is to maximize profit

How Monopoly Arises

A monopoly has two key features:

- **No close substitutes**
  - If a good has a close substitute, even if only one firm produces it, that firm effectively faces competition from the producers of the substitute.
  - A monopoly sells a good that has no close substitutes.
- **Barriers to entry**
  - A constraint that protects a firm from potential competitors are called **barriers to entry**.
  - Three types of barriers to entry are
    - Natural
    - Ownership
    - Legal

Natural Barriers to Entry

- Natural barriers to entry create natural monopoly.
- A **natural monopoly** is an industry in which economies of scale enable one firm to supply the entire market at the lowest possible cost.

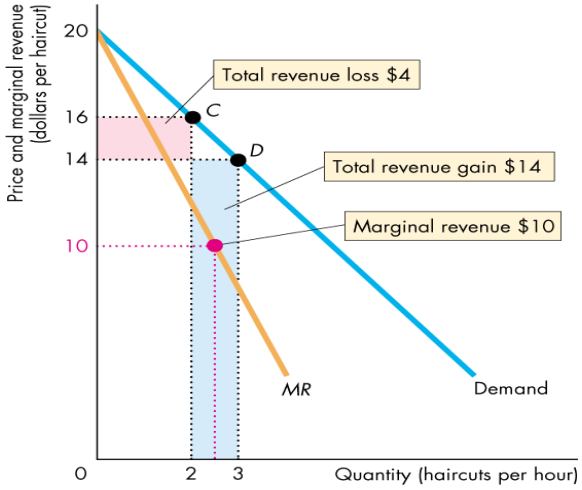
Monopoly Price-Setting Strategies

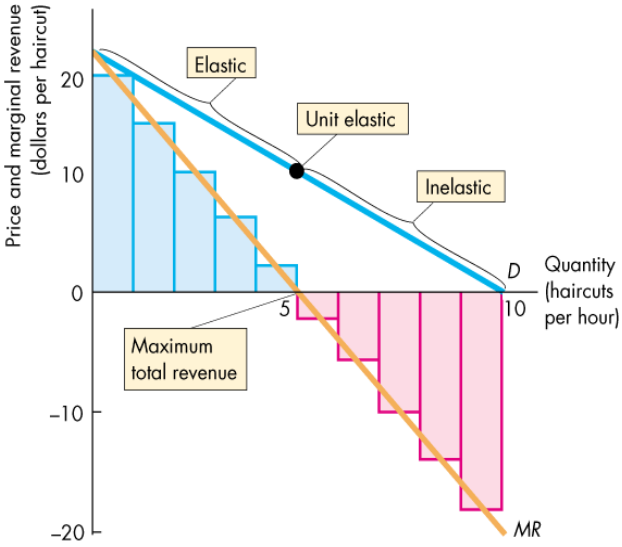
- For a monopoly firm to determine the quantity it sells, it must choose the appropriate price.
- There are two types of monopoly price-setting strategies:

- A **single-price monopoly** is a firm that must sell each unit of its output for the same price to all its customers.
- Firm produces output at which MR=MC
- Economic profit is the profit per unit multiplied by quantity produced
- When there are profits in perfect competition, new firms enter, but in monopoly since new firms can't enter, the firm will continue to make profits
- Firms have an incentive to prevent entry to keep their profits high
- If it incurs a loss, it might shut down
- **Price discrimination** is the practice of selling different units of a good or service for different prices. Many firms price discriminate, but not all of them are monopoly firms.

Price and Marginal Revenue

- A monopoly is a price setter, not a price taker like a firm in perfect competition.
- The reason is that the demand for the monopoly's output is the market demand.
- To sell a larger output, a monopoly must set a lower price.
- Total revenue, *TR*, is the price, *P*, multiplied by the quantity sold, *Q*.
- Marginal revenue, *MR*, is the change in total revenue that results from a one-unit increase in the quantity sold.
- For a single-price monopoly, marginal revenue is less than price at each level of output. That is,
- $MR < P$.

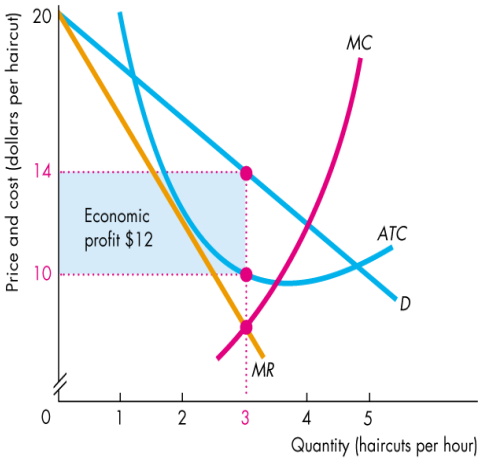




(a) **Demand and marginal revenue curves**

In Monopoly, Demand Is Always Elastic

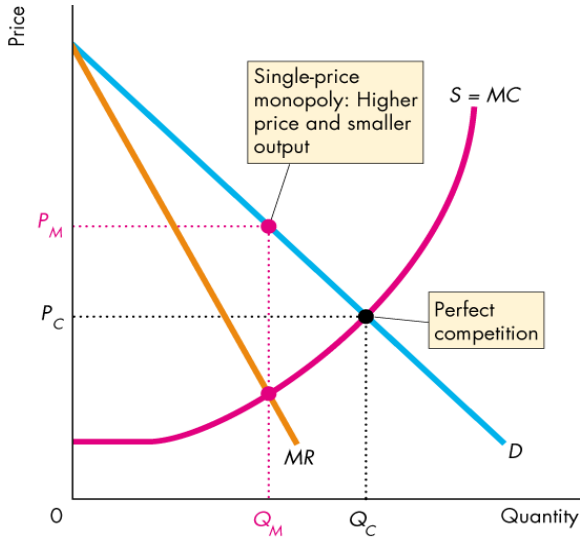
- A single-price monopoly never produces an output at which demand is inelastic.
- If it did produce such an output, the firm could increase total revenue, decrease total cost, and increase economic profit by decreasing output.



(b) Demand and marginal revenue and cost curves

Price and Output Decision

- The monopoly faces the same types of technology constraints as the competitive firm, but the monopoly faces a different market constraint.
- The monopoly selects the profit-maximizing quantity in the same manner as a competitive firm, where *MR* = *MC*.
- The monopoly sets its price at the highest level at which it can sell the profit-maximizing quantity

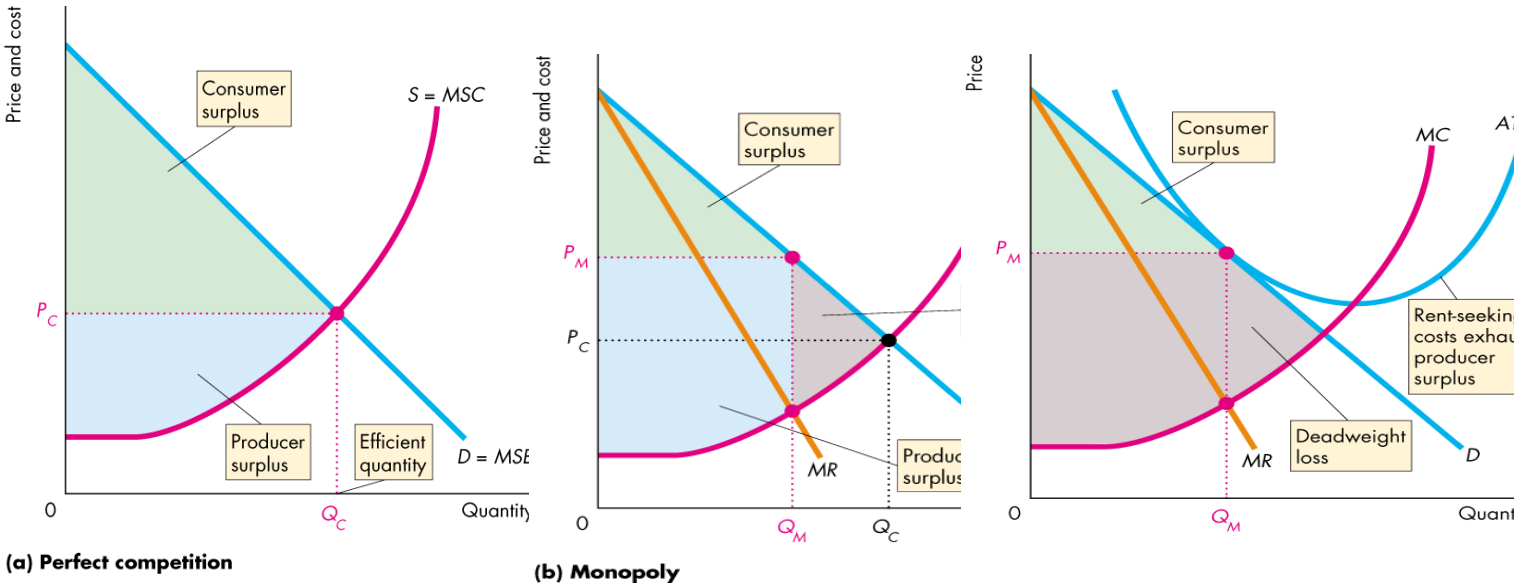


Comparing Price and Output

- Figure 13.5 compares the price and quantity in perfect competition and monopoly.
- The market demand curve, *D*, in perfect competition is the demand curve that the firm in monopoly faces.
- Equilibrium output occurs where MR=MC
- Equilibrium price occurs o the demand curve at the profit- maximizing quantity
- Perfect competition is better for consumers rather than monopoly in terms of pricing

Efficiency Comparison

- Figure 13.6(a) shows the efficiency of perfect competition.
- Deadweight cost is associated with monopoly
- The market demand curve is the marginal social benefit curve, *MSB*, and the market supply curve is the marginal social cost curve, *MSC*.
- So competitive equilibrium is efficient: *MSB* = *MSC*.
- The efficient outcome is maximizing social benefit – consumer surplus + producer surplus
- Monopoly doesn't generate an efficient outcome
- Monopoly generates deadweight costs so for society, its better for perfect competition



Rent Seeking

- Any surplus—consumer surplus, producer surplus, or economic profit—is called **economic rent**.
- **Rent seeking** is the pursuit of wealth by capturing economic rent.
- Rent seekers pursue their goals in two main ways:
    - Buy a monopoly—transfers rent to creator of monopoly.
    - Create a monopoly—uses resources in political activity.

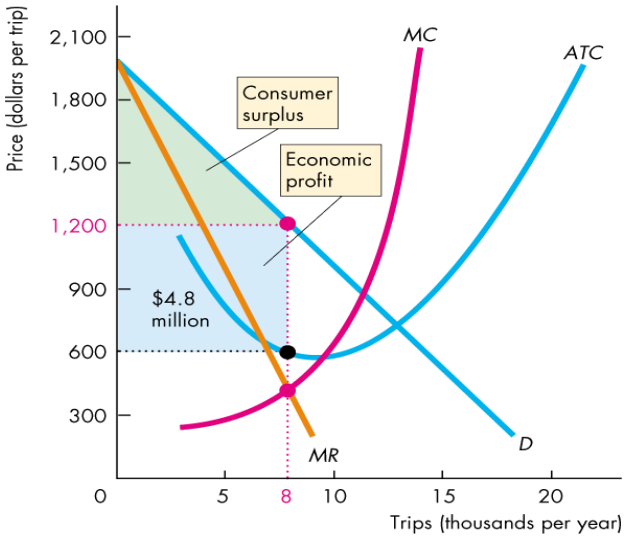
Price Discrimination

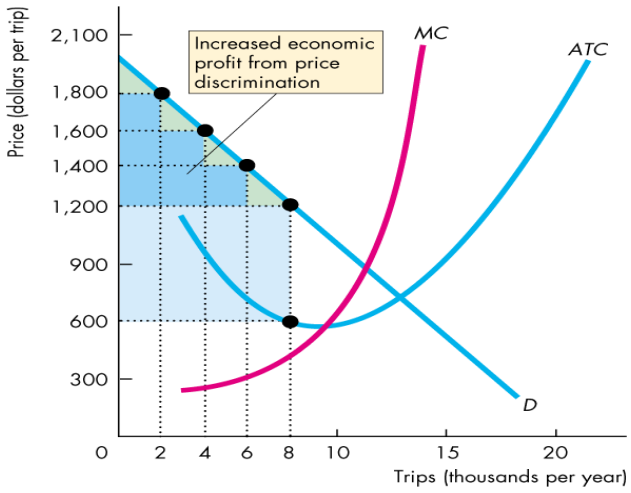
- Price discrimination is the practice of selling different units of a good or service for different prices.
- Same cost, but charging at different price
- Different price for the same good not associated with costs
- Price differences that arise from cost differences ARE NOT PRICE DISCRIMINATION
- You can sell at the maximum price a consumer is willing to pay
- You can have different prices for different consumers (for teenagers or adults- they are willing to pay different amounts)
- Allows you to target different sections of market and charge different prices
- To be able to price discriminate, a monopoly must:
    1. Identify and separate different buyer types.
    2. Sell a product that cannot be resold.
- Price differences that arise from cost differences are not price discrimination.

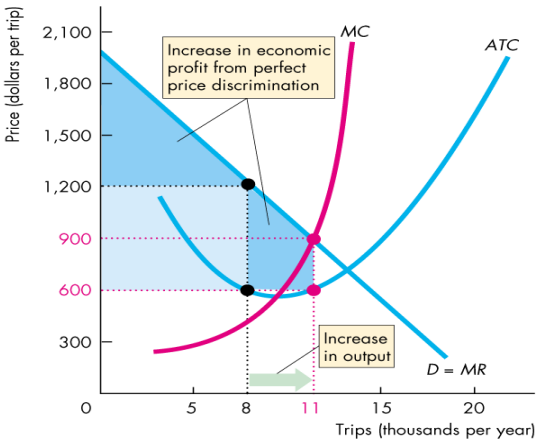
Capturing Consumer Surplus

- Price discrimination captures consumer surplus and converts it into economic profit.
- A monopoly can discriminate

- Among units of a good. Quantity discounts are an example. (But quantity discounts that reflect lower costs at higher volumes are not price discrimination.)
- Among groups of buyers. (Advance purchase and other restrictions on airline tickets are an example.)







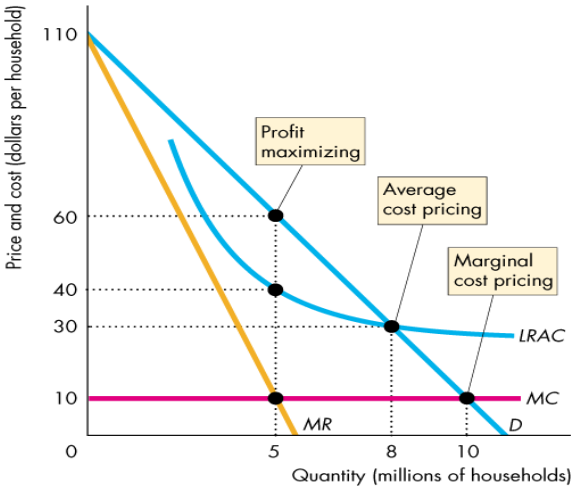
Efficiency and Rent Seeking with Price Discrimination

- The more perfectly a monopoly can price discriminate, the closer its output is to the competitive output ($P = MC$) and the more efficient is the outcome.
- But this outcome differs from the outcome of perfect competition in two ways:
  1. The monopoly captures the entire consumer surplus.
  2. The increase in economic profit attracts even more rent-seeking activity that leads to inefficiency.

Two theories about how regulation works are

Social interest theory: the political and regulatory process relentlessly seeks out inefficiency and regulates to eliminate deadweight loss.
Capture theory: regulation serves the self-interest of the producer, who captures the regulator.

Efficient Regulation of a Natural Monopoly
When demand and cost conditions create natural monopoly, the quantity produced is less than the efficient quantity.
How can government regulate natural monopoly so that it produces the efficient quantity.
Marginal cost pricing rule is a regulation that sets the price equal to the monopoly's marginal cost.
The quantity demanded at a price equal to marginal cost is the efficient quantity.



Monopoly Regulation

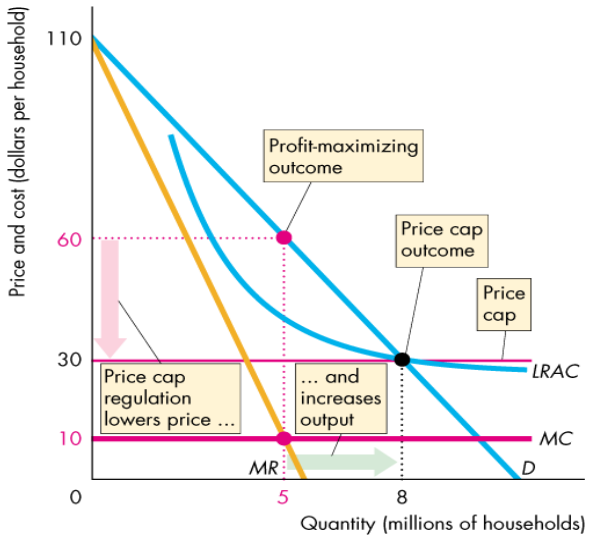
- Implementing average cost pricing can be a problem because it is not possible for the regulator to be sure what the firm's costs are.
- Regulators use one of two practical rules:
  - Rate of return regulation
  - Price cap regulation

Rate of Return Regulation

- Under **rate of return regulation**, a firm must justify its price by showing that its return on capital doesn't exceed a specified target rate.
- This type of regulation can end up serving the self-interest of the firm rather than the social interest because …
- the firm's managers have an incentive to inflate costs and use more capital than the efficient amount.

Price Cap Regulation

- A **price cap regulation** is a price ceiling.
- The rule specifies the highest price that the firm is permitted to charge.
- This type of regulation gives the firm an incentive to operate efficiently and keep costs under control.
- Figure 13.12 shows how a price works.



- Compared to perfect competition, monopolists product smaller quantity and charge a higher price

Natural monopoly:

- One firm that puts a product into households (example: pipelines)
- The quantity produced is less than the efficient quantity
- The firm is told what to charge
- They allow the firm to charge a price where it cuts the demand curve- average cost pricing rule – the sole provider

Monopolistic Competition:

- A large number of firms compete
- Each firm produces a differentiated product
- Firms compete on product quality, price and marketing
- Firms are free to enter and exit the industry
- Large number of firms—each firm only has a small market share and therefore has limited market power to influence the price of the product. Each firm is sensitive to the average market price but they don't pay attention to the actions of other therefore no one firms actions directly affect the actions of other firms
- There are too many firms so they cant get together and discuss prices therefore collusion or conspiring to fix prices is high
- Firms compete in three areas- quality, price and marketing
- The demand for each firms products are downward sloping but there is a tradeoff between price and quality
- A firm must market its product by: advertising and packaging
- Maximize profit when MR=MC
- Downward sloping demand curve
- Efficient when MSB=MSC
- Earns profit when price is greater than average total cost
- When existing firms are making vast profits, new firms will enter the industry

- In the long run, the firm maximizes profits where MB=MC
- Demand curve shifts leftward and they start producing less
- On the positive side, there many varieties of the product available and consumers like variety
- When price is greater than marginal cost there is a markup so MSB does not equal MSC (negative)

Chapter 15-Oligolopy:

- Each firm must pay attention to what the other firms are doing
- How will rival firms responds to my lower price
- Natural or legal barriers prevent entry of new firms
- A small number of firms compete- number of firms is small enough that is important to pay close attention to rival firms
- Duopoly- 2 firms in the market
- Market demand at the least cost
- Legal oligopoly might arise when demand and costs lave room for a larger number of firms
- Firms are interdependent- they have to pay attention to what the other firms are doing
- Cartel- an illegal group of firms acting together to limit output, raise price, and increase profit
- If firms enter into agreement which allows them to raise the price and make profit—collusive agreement
- Governments try to make sure this doesn't happen

Oligopoly Games:

- Strategic behavior of firms-take into account what the other members of the game are going to do
- Dilemma: rules, strategies, payoffs, outcome
- Rules: describe the setting, actions and consequences—no communication between prisoners
- Payoffs: suspected of a more serious crime and offered a deal-if each confess they each receive 3 years in jail, if you only confess you get a payoff a benefit for you
- Strategies: confess to larger crime, or deny the crime
- Payoff matrix- a table that shows the payoffs for every possible action by each player of every possible action by the other player
- Each does what is in their own best interest
- Cartel cost curve is the horizontal sum of marginal cost and average total cost= economic profit for each firm